

Statewide 5-Year Maternal and Child Health Needs Assessment
Alabama
Fiscal Year 2004-05

Prepared by:
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SECTION 1 PROCESS FOR CONDUCTING NEEDS ASSESSMENT

Overall Methodology

In fiscal years (FYs) 2004 and 2005, the State of Alabama (State) conducted a 5-year maternal and child health (MCH) needs assessment. This assessment is subsequently termed the “FY 2004-05 MCH Needs Assessment” or “Needs Assessment.”

The Alabama Department of Public Health (ADPH, or Health Department), through the Bureau of Family Health Services (Family Health Services, or Family Health), was the lead agency for assessing needs pertaining to two of the Title V populations: pregnant women, mothers, and infants; and children. The Alabama Department of Rehabilitation Services (ADRS), through the Division of Children’s Rehabilitation Service (CRS), was the lead agency for the assessment of children and youth with special health care needs (CYSHCN). The Director of Family Health Services’ Epidemiology and Data Management Branch (Epi/Data Branch) coordinated Family Health’s components of the Needs Assessment; and CRS’s MCH Occupational Therapy Program Specialist coordinated that organization’s components. The two coordinators collaborated with one another, and each was a member of the other organization’s needs assessment advisory group. (Appendix 1 to this needs assessment, termed “Appendix NA-1,” lists and defines all acronyms and shortened terms used in this report.)

Overview of Family Health Services’ Needs Assessment Process

Family Health Services’ needs assessment process consisted of several major components:

- Assemblage of and analysis of qualitative data from 12 community discussion groups.
- Implementation of and analysis of data from two mail surveys (one of primary providers of health care; one of non-medical organizations serving women of childbearing age, children

and youth, or families).

- Analysis of vital statistics and U.S. Census Bureau (Census) data.
- Child death review.
- Infant mortality review.
- Review of certain information from user-friendly websites (for instance, the Centers for Disease Control and Prevention’s (CDC’s) Youth Risk Behavior Survey.¹
- Assemblage of Family Health Services’ MCH Needs Assessment Advisory Group (MCH Advisory Group, or Advisory Group), followed by analysis of the group’s input pertaining to potential MCH priority needs.

Ongoing Needs Assessment: Family Health Services

Ongoing needs assessment is crucial to informed policy and decision making. One way that Family Health Services seeks to assure ongoing needs assessment is to recruit and retain personnel who can devote time to needs assessment: in particular, State-level analytic staff and Regional Perinatal Coordinators. Currently, Family Health’s MCH analytic staff available for statewide MCH needs assessment consist of a doctorally prepared epidemiologist and a masters-prepared public health research analyst, each located in Family Health’s Epi/Data Branch. Efforts to augment this staff are described in Section 4. Further, in fiscal year (FY) 2002 Family Health created and filled five Regional Perinatal Coordinator positions, one for each of the State of Alabama’s (State’s) perinatal regions. Each of these positions is filled by a nurse and is administratively located in the State Perinatal Program (Perinatal Program), which is located in Family Health Services. Each Regional Perinatal Coordinator’s duties include regional needs assessment and infant mortality review.

Additionally, the administrative location of the Alabama Child Death Review System in Family Health Services facilitates ongoing needs assessment. Epi/Data Branch, Perinatal Program, and Child Death Review staff consult as feasible regarding statewide and regional needs assessment.

A second way that Family Health Services assures ongoing needs assessment is to circulate reports of each statewide 5-year MCH needs assessment to the following groups, with invitations to comment: the State Perinatal Advisory Council; the MCH Advisory Group; and certain Health Department (including Family Health) staff at the State, area, and county levels. As well, in collaboration with key members of the MCH Advisory Group, Family Health will seek to prepare and distribute a shorter, user-friendly report of the Needs Assessment to a variety of readerships. Additional meetings of the MCH Advisory Group will be contingent on potential productivity of such meetings, as perceived by group members and Family Health staff, as well as resources for convening such meetings.

Ongoing needs assessment will occur through several other means as well. First, emerging needs will continue being discussed whenever indicated at periodic meetings of Family Health Services' Management Team.^a Second, the Epi/Data Branch will continue coordinating preparation of the MCH Services Block Grant annual reports/applications (*MCH Annual Reports/Applications*), which entails some components of needs assessment. Third, the Epi/Data Branch will continue increasing MCH data capacity through linkage and analysis of certain MCH databases, under the auspices of the State Systems Development Initiative (SSDI) Project. Additional needs assessment activities by Epi/Data Branch staff will be contingent on the balance among personnel resources and competing responsibilities.

Interface Between MCH Needs Assessment and *MCH Annual Reports/Applications*

As stated above, preparation of *MCH Annual Reports/Applications* entails some components of

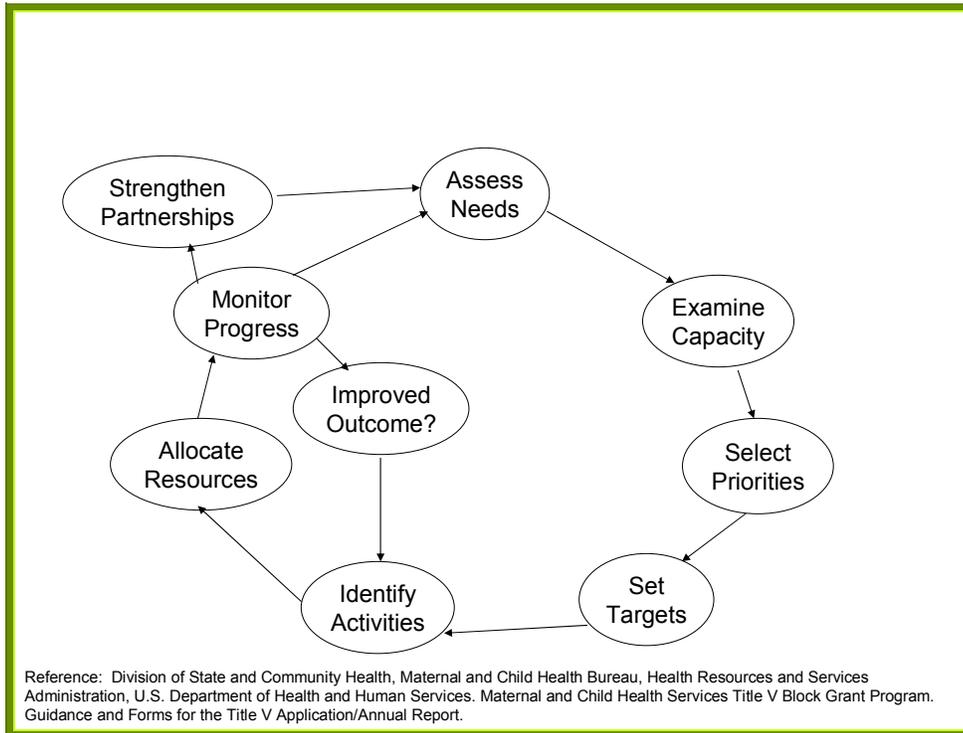
needs assessment. For example, as previously stated, analysis of vital statistics data is one component of needs assessment. Family Health Services' analysis of vital statistics and Census data goes beyond, but also includes, the multiple vital statistics- and Census-based performance measures, health status indicators, and health systems capacity indicators that comprise part of the *MCH Annual Reports/Applications*. As well, while coordinating the FY 2004-05 Needs Assessment process, Epi/Data Branch staff have reviewed all pertinent *MCH Annual Reports/Applications* indicators, regardless of the data source. Only the indicators deemed most pertinent to the identified priority needs, and deemed not to overlap with more salient findings, are reported here, however.

Implementation of the Needs Assessment Cycle: Family Health Services

The cyclical nature of needs assessment, as described in the guidance for the *MCH Annual Reports/Applications*, has components shown in Figure 1 (next page).² Discussion of each component, as implemented by ADPH, follows Figure 1. (In this document, figures are placed as close to the pertinent narrative as feasible, but often the most feasible placement is on the page after the pertinent narrative, and occasionally even later in the narrative.)

^a Family Health's Management Team consists of Family Health's Director, four Division Directors, and four Deputy Division Directors. One of the Division Directors is also Family Health's Deputy Director and Title V Director.

Figure 1. Overview of the MCH Needs Assessment, Planning, and Monitoring Process



The 5-year FY 2004-05 MCH Needs Assessment provided an opportunity to broadly assess needs. As part of assessing needs, Family Health staff analyzed several pertinent databases, including ADPH vital statistics databases and newly collected Health Department databases. As well, they queried pertinent on-line databases to the degree feasible, reviewed online Census reports, and contacted several State organizations for findings on specific indicators.

Family Health Services examined capacity during the FY 2004-05 MCH Needs Assessment and will continue assessing capacity to respond to identified and emerging needs. Family Health’s examination of capacity is discussed under “Family Health Services’ Assessment of Capacity.”

Based on findings from the Needs Assessment and input from the MCH Advisory Group, Family Health Services selected seven MCH priority needs. As part of this process, in February 2005

the Epi/Data Branch Director suggested seven MCH priority needs to Family Health’s Management Team and presented the rationale for these selections. These priority needs, listed and discussed in Section 5, were approved by the Management Team. (CRS selected three priority needs during their assessment.)

Though this step is not shown in Figure 1, Family Health selected five State-negotiated performance measures (SPMs): based on consideration of the identified priority needs, available databases, non-duplication of required national performance measures (NPMs), and feasibility of tracking progress on the measures. (CRS selected two SPMs.) As allowed in guidance for *MCH Annual Reports/Applications*,² Family Health will set targets for the newly selected SPMs by the end of FY 2005. Targets for currently operative NPMs and SPMs were set by FY 2000 and then periodically reviewed, revised if indicated, and updated to include additional years. Targets are typically set by the Director of the Epi/Data

Branch, sometimes in consultation with Health Department staff responsible for activities pertaining to a given measure. While selecting SPMs or setting targets for either NPMs or SPMs, activities to address those measures were identified and/or reviewed by responsible Health Department staff. Further, additional activities or strategies for addressing newly selected MCH priority needs were discussed at the previously mentioned February 2005 meeting of Family Health's Management Team. The priority needs approved at that meeting will be considered as anticipated FY 2006 resources are allocated.

As shown in Figure 1, the needs assessment cycle includes two secondary feedback loops, in addition to the main cycle. One secondary loop involves identifying activities, allocating resources, and monitoring progress (on performance and outcome measures). Preparation of the *MCH Annual Reports/Applications* provides an annual, structured opportunity to review activities designed to address priority needs and specific measures, review allocation of resources, and monitor progress on performance and outcome measures. As well, these issues are periodically reviewed as indicated throughout any given FY by responsible Health Department staff including, but not limited to, members of Family Health's Management Team. Another secondary loop involves monitoring progress, strengthening partnerships, and assessing needs. Clearly, partners are crucial to needs assessment, and collaborative needs assessment strengthens partnerships. For example, by perception, the opportunity for busy health care professionals and health care consumers from varied settings and scattered locations to communicate face-to-face was a major strength of the January 2005 MCH Advisory Group meeting.

Overview of Children's Rehabilitation Service's Needs Assessment Process

Children's Rehabilitation Service (CRS) convened a Needs Assessment Advisory Committee (CRS Advisory Committee), which met three times during 2003-04 to assist CRS in planning and implementing the CYSHCN portion of the State's FY 2004-05 MCH Needs Assessment, as well as with analyzing and prioritizing the results. CRS pursued three distinct methodologies, described

later in Section 1 under "Quantitative and Qualitative Methods."

Collaborative Processes

Ongoing collaborations of Family Health Services staff and/or CRS staff with persons from other organizations are discussed in Section III.E of the *MCH Services Block Grant FY 2004 Annual Report/FY 2006 Application (MCH 2004 Report/2006 Application)*.³ Only collaborations specific to the FY 2004-05 MCH Needs Assessment are described here.

Family Health Services' Collaborative Processes

Advisory Group to Family Health Services

The previously mentioned MCH Advisory Group was the primary means by which Family Health Services engaged in collaboration specific to the FY 2004-05 MCH Needs Assessment. The group convened only one time, in January 2005. Family Health sought to assure that a variety of organizations that had shown concern for the health of the Title V populations were represented, by inviting organizations or individuals from four basic categories: 1) organizations or consultants outside of the Health Department ("External Organizations"), including State agencies, secular nonprofit groups, faith-based groups, civic groups, and academic institutions; 2) members of families with children ("Health Care Consumers"); 3) Health Department staff from outside of Family Health Services ("other Health Department staff"), and 4) Family Health staff.

Representatives from over 30 external organizations were invited to join the MCH Advisory Group and to suggest a health care consumer whom Family Health Services would invite to join the Advisory Group. Additionally, Family Health staff, Health Department staff from the State Children's Health Insurance Program and the Minority Health Section, and Health Department Public Health Area Social Work Directors were invited to suggest health care consumers to be invited. Invitations were first extended circa August 2004, and additional organizations or individuals were invited as they were identified. By early January 2005, about 100 individuals--including persons from external organizations, staff from the Health Department's

central and area offices (including Family Health), and health care consumers--had been invited. Sample letters of invitation to External Organizations and to Health Care Consumers are in *Selected Tools for MCH Needs Assessment*, a compilation of tools used in the State's FY 2004-05 MCH Needs Assessment, which is available upon request.⁴

Per the meeting roster, 66 individuals attended the January 2005 meeting of the MCH Advisory Group: 17 (including administrative support staff) representing Family Health staff, 14 representing other Health Department staff, six representing health care consumers, and 29 representing external organizations. Of the 29 individuals representing external organizations, 15 were from private organizations, nine from State agencies or offices, and five from academic institutions.

The MCH Advisory Group included persons from around the State. Specifically, 51.5 percent of the attendees worked in Montgomery, and 42 percent worked elsewhere. (Workplace location for 6 percent of attendees could not be determined from the roster.) Information about workplace location for various groups of attendees is footnoted.^b

Identifying and recruiting health care consumers for the Advisory Group proved far more difficult than recruiting representatives from the Health Department or external organizations. However, further input from health care consumers was obtained via community discussion groups convened by the Health Department, described under "Quantitative and Qualitative Methods."

The Advisory Group meeting was convened in Montgomery and lasted 4.5 hours, including an on-site lunch. The agenda included an overview of findings pertaining to pregnancy and infancy,

^bOf the 31 individuals representing the Health Department (17 Bureau and 14 non-Bureau staff), 19 were employed and located at the State-level central office in Montgomery (the State capital), four were employed at the State level but stationed outside of Montgomery, and eight were employed by Health Department Public Health Area offices or by local health departments. (One or more Health Department staff members were invited from each of the State's 11 Public Health Areas.) Three of the six individuals who were invited or who self-identified as health care consumers were from Montgomery, and the others were from three different locations. Of the 15 individuals representing private organizations, five were located in Montgomery, seven were located elsewhere, and three did not give their address. Of the nine individuals representing State agencies or offices other than the Health Department, six were located in Montgomery, two were located elsewhere, and one did not report an address. Four of the five individuals representing academic institutions were from the University of Alabama at Birmingham or an affiliate, and the other was from Auburn University at Montgomery.

the mail surveys, community discussion groups, and childhood and adolescence. (The agenda is also in *Selected Tools for MCH Needs Assessment*.⁴)

At the Advisory Group meeting, several Family Health Services staff members presented findings. The Director of Family Health then presented 14 potential MCH priority needs, which had been selected based on these findings. As detailed under "Quantitative and Qualitative Methods," Advisory Group members were asked to rank these needs, and their rankings formed the basis for Family Health Services' selection of seven priority needs.

Other Collaborations: Family Health Services
Though not designed specifically for the FY 2004-05 MCH Needs Assessment, the Perinatal Program and the Alabama Child Death Review System entail ongoing collaboration at, respectively, regional and judicial levels. As previously stated, each of these programs is administratively located in Family Health Services, which facilitates incorporation of findings from infant death review and child death review into ongoing needs assessment. Methods for these reviews are described under "Quantitative and Qualitative Methods." Additionally, Epi/Data Branch staff consult with several other organizations to obtain information for certain indicators reported in the *MCH Annual Reports/Applications*.

Children's Rehabilitation Service's Collaborative Processes

CRS's collaborative processes are described in Section 4.

Quantitative and Qualitative Methods

Quantitative and qualitative methods were used in the Needs Assessment. Particular analytic techniques varied according to the data source. Only some analyses included formal statistical assessment in the form of p-values (sometimes termed "p" when presenting findings in Section 3) or confidence intervals (sometimes termed "CIs" in Section 3). Unless stated otherwise in the description of methods for particular findings, neither confidence intervals nor statistical testing

was performed. Many analyses focused on general pictures and, if available, patterns over time or across groups, rather than statistical precision (as shown by confidence intervals) or significance (as shown by p-values).

Methods: Family Health Services

Most databases analyzed by Family Health Services involved quantitative, rather than qualitative, methods. However, Family Health's Needs Assessment process generated several major sources of qualitative data: 1) the electronic database from the transcribed discussions of ten community discussion groups, 2) the qualitative description of proceedings from two discussion groups comprised of Hispanic individuals, and 3) transcribed responses to open-ended questions on two mail surveys, discussed later under this section.

To elaborate, key phrases in discussions by Family Health Services' ten non-Hispanic discussion groups, which constituted qualitative data, were classified as detailed later under "Crosscutting Studies," then analyzed quantitatively. Proceedings from the discussion groups comprised of Hispanic individuals were analyzed qualitatively and reported by the facilitator. Comments provided by some respondents to the two mail surveys were typed into word processing documents, then reviewed by the Director of the Epi/Data Branch for general impressions. Due to time constraints, comments from the mailed surveys could not be meticulously classified and analyzed quantitatively.

In the following discussion, components of Family Health Services' Needs Assessment are organized according to the Title V population(s) to which they mainly pertained. Most components of Family Health's assessment pertained to two or three Title V populations so are labeled "Crosscutting Studies."

Studies Regarding Pregnant Women, Mothers, and Infants

Infant Mortality Review

Alabama's first statewide use of the fetal and infant mortality review model occurred in FY 2004-05. The main purpose of this review was to identify barriers that might prevent very low birthweight (under 1,500 grams, or under about 3

pounds 5 ounces) babies from being born at a perinatal center (in this report, defined as a hospital with a full-time neonatologist, a neonatal intensive care unit, and two obstetricians). Cases for potential review were randomly selected for each of the five Perinatal Regions, according to criteria specified by Perinatal Program staff. All cases were infant (under one year) deaths that occurred in 2002. (Unless specified otherwise, in this report years refer to calendar years.) With one exception, all cases were deaths of very low birthweight infants—some of whom had been born at a perinatal center and some of whom had not. The exception was for Perinatal Region 4, where babies who were not very low birthweight and were not born at a perinatal center were also sampled.

Of 84 deaths of very low birthweight infants randomly selected for potential review, 61 were reviewed by early FY 2005. Each Regional Perinatal Coordinator conducted record reviews for deaths of selected infants from her region, and each Regional Perinatal Advisory Council formed the Regional Case Review Team. The Regional Case Review Teams identified issues pertaining to the deaths reviewed and made recommendations arising from issues that could be addressed. These issues and recommendations are briefly summarized in Section 3, under "Qualitative Data for Pregnant Women, Mothers, and Infants."

To build on findings from the FY 2004-05 Infant Mortality Review, the Regional Perinatal Advisory Councils recommended additional reviews focusing on deaths of moderately low birthweight (1,500-2,499 gram) infants. These reviews were not part of the FY 2004-05 MCH Needs Assessment, but are to be conducted by FY 2006.

Pregnancy Risk Assessment Monitoring System

The Pregnancy Risk Assessment Monitoring System (PRAMS) is a mail survey of new mothers, with telephone follow-up attempted on persons who do not respond to the mailed survey. PRAMS is supported by CDC, under cooperative agreement. Each month about 180-200 Alabama residents who had a live-born baby 2-4 months before the sampling date are selected for the survey sample. Mothers who gave birth to babies of low birthweight and mothers whose delivery

was paid for through the Alabama Medicaid Agency (Medicaid Agency, or Alabama Medicaid) are over sampled. Reported estimates have been weighted to represent all live births occurring in Alabama in the specified year. Rather than analyzing electronic PRAMS databases, Epi/Data Branch staff used publications prepared by the Health Department's Center for Health Statistics that showed PRAMS findings in 2000, 2001, and 2002.⁵ Confidence intervals reported in these publications were used when interpreting salient findings.^c

Studies Regarding Children and Youth *Child Death Review*

Legislation creating the Alabama Child Death Review System (Child Death Review) was enacted in 1997 and mandated the review of all unexpected or unexplained deaths of children in Alabama from birth through 17 years of age. Under this mandate, deaths of children and youth due to such causes as motor vehicle incidents, drowning, fire, sudden infant death syndrome (SIDS), child abuse, suicide, and suffocation are reviewed. Deaths from prematurity, birth defects, and terminal illnesses are not reviewed under this mandate.

All of the State's 41 Judicial Circuits have a Local Child Death Review Team Chairperson, and in FY 2004 there were nearly 60 Local Child Death Review Teams in the State. Child Death Review is administratively located in Family Health Services, and Child Death Review staff assign all cases meeting mandated criteria to a Local Child Death Review Team. The local team may submit their data collection forms to Family Health Services via postal mail, fax, or online. Completed forms have been received for 82 percent of the CY 2002 deaths assigned for review, up from 64 percent for circa 1998 assigned deaths. CY 2003 and 2004 cases have been assigned for review but, since two years elapses before some cases have been reviewed and reported, completion rates have not been computed.

^c Confidence intervals for all PRAMS-based estimates are 95 percent intervals and were computed as: CI = percent +/- (1.96 x standard error). Percents and standard errors were calculated using SAS and SUDAAN statistical packages provided by CDC.

Youth Risk Behavior Survey

Youth Risk Behavior Surveillance (YRBS) consists of a national school-based survey conducted by CDC and state, territorial, and local school-based surveys conducted by health and education agencies. The survey has been conducted in odd years, beginning with 1991. Generally, YRBS data represent students in grades 9-12 in public and private schools in the 50 states and the District of Columbia. Findings are weighted estimates based on samples of students. Each estimate therefore reflects some degree of random statistical error. Findings (point estimates and confidence intervals) and a full description of methods are obtainable from a CDC website.⁶ In Alabama, YRBS is conducted only in public high schools.

As part of Alabama's 5-Year MCH Needs Assessment, Epi/Data Branch staff reviewed findings for all YRBS indicators from 1993, or the earliest year for which data were collected, through 2003. Race-specific and sex-specific findings were reviewed for Alabama and for the U.S. Per this review, the status of many indicators did not markedly and consistently change in Alabama over the surveillance period. In such cases, this report depicts findings only for 2003. In most cases, findings in this report are stratified according to geographic area (U.S. versus Alabama), sex, or race. Because of small numbers in the statistical sense, the CDC website for YRBS does not typically report Alabama-specific findings for persons of races other than African American or white, or for Hispanics.

Statistical significance of differences was assessed in selected cases, with differences being considered significant if 95 percent confidence intervals did not overlap or touch. This criterion for statistical significance tends to be conservative: that is, p-values may be significant when corresponding confidence intervals do not touch or overlap.

A full discussion of findings from YRBS is beyond the scope of this report. Accordingly, from one to several key indicators from five of the seven main YRBS topic areas are included in Section 3 of this report. The topic areas included in this report are: unintentional injuries and violence, tobacco use, alcohol and other drug use;

sexual behaviors, and physical activity. (Dietary behaviors and “other,” though reviewed by Family Health Services’ Needs Assessment Coordinator, are not included in this report.) Within a topic, decisions regarding which and how many indicators to include in this report were usually subjective. Indicators deemed to have particular import for Family Health Services’ programs or policies, and/or to illustrate the import of a group of related indicators, were given highest priority.

Crosscutting Studies

Census Data and Vital Statistics

Census data were utilized as reported by the U.S. Census Bureau.

Vital statistics data were analyzed using appropriate techniques, depending on the purpose of an analysis, the data source, and the number of events being reported. In some cases Epi/Data Branch staff analyzed electronic vital statistics databases, and in others they used pertinent sources published by the Health Department’s Center for Health Statistics. In many cases, 3-year rates, risks, or prevalences were computed in order to minimize random statistical variation that often occurs with state-level data, particularly mortality data. Although characteristics of births may remain fairly stable from year to year, births were also often described for 3-year periods so that findings on births would correspond to findings on mortality.

Whenever indicated, specific methods or sources pertaining to findings from the Census or from vital statistics are detailed in proximity to presentation of those findings. However, methods for the mail surveys and the community discussion groups are mainly described here, in Section 1, in order to provide a backdrop for findings from these studies, which are described in several places in Section 3. For the same reason, descriptions of organizations responding to the mail surveys and demographics of the discussion groups (for groups and for individual discussants) are described here.

Mail Surveys

Family Health Services conducted two mail surveys in FY 2004. Discussions of each survey follow, and are followed by a common discussion of analytic methods. Questionnaires for each

survey are in *Selected Tools for MCH Needs Assessment*.⁴ Further, certain characteristics of the responding organizations and practices are described here, under the subheading for the pertinent survey.

MCH Organizations Survey

Family Health surveyed Alabama non-medical organizations serving women of childbearing age, children and youth, and/or families (MCH Organizations Survey). Certain Public Health Area staff (usually the Area Social Work Director) provided names, and generally addresses, of non-medical organizations to receive the survey. The survey questionnaire was mailed to 1,169 organizations (excluding 86 undeliverable mailings), 424 of which returned basically completed surveys: for a response rate of 36.3 percent.

Respondents to the MCH Organizations Survey came from all of the State’s 11 Public Health Areas, though not in proportion to the distribution of the State’s population. For example, just 4 percent of the respondents were located in Area 4 (in north-central Alabama), though 15 percent of the State’s population reside in Area 4.⁷

Respondents were asked to check one phrase that best described their organization. The 424 respondents described their organizations as follows (2 percent did not answer):

- 37 percent as private nonprofit businesses or services.
- 24 percent as public agencies.
- 12 percent as public educational institutions.
- 7 percent as associations, civic groups, or faith-based groups.
- 13 percent as “other” types of organizations.
- 3 percent as private for-profit businesses or services, and 2 percent as private educational institutions.

Respondents were asked to check the phrase that best described the main issue addressed by their organization. Responses were distributed as follows: social services, 30 percent; education, 17 percent; mental health, 7 percent; physical health,

5 percent; spiritual health, 4 percent; training and/or employment, 3 percent; “other,” 33 percent; and unreported, 1 percent.

Respondents were asked to indicate whether their organization provided three broad categories of service (yes/no options for each category). Responses were distributed as follows: 50.5 percent directly provided one-on-one services to individuals, 26 percent directly provided community-wide outreach or education, and 13 percent funded other organizations or individuals who served adult women of childbearing age, children, youth, or families. Although quantitative data from the MCH Organizations Survey were reviewed by Family Health Services’ Needs Assessment Coordinator, only qualitative responses to open-ended question are reported in this document. Handouts of slides of quantitative findings, which were presented at the meeting of the MCH Advisory Group, are available upon request, however.⁸

Primary Providers Survey

Family Health surveyed Alabama primary health care providers serving women of childbearing age, children, or youth (Primary Providers Survey). The survey questionnaire was mailed to 1,458 physicians or county health department nursing supervisors who were potentially providing primary care to the maternal and child population.^d Physicians receiving the questionnaire were comprised of three groups: members of the Alabama Chapter of the American Academy of Pediatrics, members of the Alabama Academy of Family Physicians, and registrants for the Alabama Section, American College of Obstetricians and Gynecologists’ 2000 Annual Meeting. Of the 1,458 potential respondents, 345 returned questionnaires that answered at least several questions of interest, for a response rate of 24 percent. Two of the 345 returned questionnaires were mostly incomplete because they did not apply to the respondents’ practices, so are excluded from analyses reported here. However, qualitative comments provided by one of these two respondents, as well as by a provider who returned a questionnaire that was blank except for a brief comment, were reviewed.

^d Excluded from the count of 1,458, which is the denominator for the response rate, are nine undeliverable mailings and 24 mailed questionnaires that were returned incomplete or virtually incomplete because the addressees were deceased, or were not providing care to the maternal and child population, or, in one case, had just entered practice.

Respondents to the Primary Providers Survey came from all of the State’s 11 Public Health Areas. Though the geographic distribution of respondents did not necessarily match the distribution of providers throughout the State, the match appears better than for the MCH Organizations Survey. Specifically, the proportion of respondents who said they were from Area 4 (16 percent) closely matched the proportion of the State’s population who reside in Area 4 (15 percent in 2003). Further, the proportion of respondents who said they were from Area 11 (12 percent) roughly approximated the proportion of the State’s population living in Area 11 (9 percent in 2003).

Respondents to the Primary Providers Survey were asked to check one phrase describing their practice or facility. Based on responses, 42 percent of the respondents were in a group practice, 27 percent in a solo or two-physician practice, 16 percent in a public health setting, 4 percent in a hospital-based ambulatory care setting, 2 percent in a community health center, and 8 percent in an “other” setting.

Respondents were also asked to check one phrase describing the scope of their practice. Per their responses, 35 percent of respondents practiced pediatrics, 34 percent family medicine, 6 percent obstetrics and gynecology, and 3 percent obstetrics but not gynecology. Seven percent of respondents described their practice as multi-specialty, and fourteen percent as “other.” (One percent did not answer.)

Analysis of Mailed Surveys

Analyses of these databases were purely descriptive and basically consisted of proportions. Neither confidence intervals nor p-values were calculated. However, results were analyzed according to salient characteristics. Some analyses of the MCH Organizations Survey, for example, pertained to specific Title V populations: such as females of childbearing age, infants or toddlers, and children and youth. Some analyses of the Primary Providers Survey pertained to one of three provider groups corresponding to specific Title V populations: respectively, providers of prenatal or obstetrical care, providers of care to nonpregnant adult females of childbearing age, and providers of care to infants, children, or

youth. (These three provider groups overlapped, since a single physician could provide care to pregnant women, non-pregnant adult females, and infants, children, and youth.) Presentation of all findings from analysis of these mail surveys is beyond the scope of this report; instead, particularly salient findings are discussed in Section 3.

Community Discussion Groups: Family Health Services

The Health Department convened 20 community discussion groups in FY 2004. Conveners of these groups included several Family Health Services' staff members; the Hispanic Outreach Coordinator for ALL Kids, Alabama's Children's Health Insurance Program; and several Public Health Area or local health department staff members. All of the conveners had attended a September 2003 training event, "Public Forums on Public Health: A Workshop." This 6.5-hour training was presented by Donna J. Petersen, MHS, ScD, then a Professor at the University of Alabama at Birmingham School of Public Health. Evaluations of the training were quite positive.

Proceedings from ten of the discussion groups were thoroughly analyzed using qualitative and quantitative techniques. These ten groups were selected because they had recordings that could be transcribed and because they collectively represented a range of health care consumers.⁹ Proceedings from two groups comprised of Hispanic or Latino individuals could not be transcribed by Family Health Services staff because of language issues, but were reviewed and reported in a qualitative manner by the Hispanic Outreach Coordinator for ALL Kids. Respective discussion of the ten groups whose discussions were transcribed and the two Hispanic/Latino groups follows. (In this report, "Hispanic" is used to refer to Hispanic or Latino individuals or populations.) General review and reporting of

⁹ Because many recordings were not clear, transcribing a single recording often took nearly three of an administrative support assistant's working days. Further, meticulous review and classification of each transcribed discussion into discrete phrases, issues, and sub-issues typically consumed twelve or more hours of the analyst's time. With limited staff, it was necessary to select certain discussions for transcription and analysis. Criteria used when selecting groups for analysis included whether a recording was available, whether the group represented a population targeted for discussion, and whether discussions from similar groups had already been transcribed. For instance, after transcribing two discussions by teens, a decision was made to prioritize proceedings from discussions including other age groups. Further, a discussion by health care professionals was not transcribed because input from professionals was obtained through mailed surveys and the MCH Advisory Group.

remaining discussion groups will occur by early FY 2006.

The manual prepared by Family Health Services for use when conducting community discussion groups is available upon request.⁹ The manual includes checklists for planning and preparation, pre-discussion forms, questions for discussion, and post-discussion forms.

The Ten Transcribed Discussion Groups: Family Health Services

The ten groups included a total of 156 discussants. Findings from the community discussion group database are described in Section 3, but the analytic methods and composition of these groups are described here, as a backdrop to those findings. Analytic methods are described first, characteristics of groups next, and characteristics of individual discussants last.

Transcriptions were meticulously reviewed and classified into 1,356 key phrases (remarks or key word combinations). Each key phrase was treated as a unit of observation and classified into one of five main issues or an "unclear" category, one of thirteen sub-issues or an "unclear" category, and one of numerous facets. Additionally, each phrase was classified with respect to whether it implied a strength or cause for concern. As a corollary, issues, sub-issues, and facets could be described in terms of strength or cause for concern. Further, based on the question that each pertained to, some phrases could be classified according to certain Title V populations (women of childbearing age, infants under 1 year of age, children 1-12 years of age, or teenagers). The phrases and their classifications were entered into a Microsoft® Access database,¹⁰ which was imported into a SAS® database.¹¹ After having been carefully classified and imported into SAS® in this manner, the qualitative data were then quantitatively analyzed. The data entry; classification of discussions into phrases, issues, sub-issues, and strength versus weakness; and analysis of data were performed by Family Health Services' Needs Assessment Coordinator.

Remarks, not individuals, comprised the unit of analysis. Therefore, characteristics of the ten groups are of interest, since a small group and a

large group conceivably could generate about the same number of remarks.

The ten groups consisted of a high school (grades 9-12) health education class, a teen club formed under the auspices of the Federation of Black Women's Club, three faith-based groups, three groups of staff from child day care centers and parents having children in these centers, a county health department prenatal class, and members of a Native American community (the Atmore/Poarch Community). The groups were collectively located in seven of the State's 11 Public Health Areas. Further, one or more groups were held in each quadrant (northwest, northeast, southwest, and southeast) of the State, though none of the ten groups were convened in the extreme northwest or northeast or in Mobile County, a heavily populated area in the southwestern corner of the State.

Demographic information was available for 122 discussants: though not available for one discussion group that included 25 students in a ninth- through twelfth- grade health education class, who are assumed to have been teenagers, and for nine individuals who did not return demographic forms. Two of the ten groups were comprised solely of adolescents. Of the remaining eight groups, six were predominately 20 through 44 years of age, one was predominately 65 years of age or older, and one did not have a predominant age group. (For the purpose of describing the groups, "predominately" is used only if 60 percent or more of the group had a characteristic.)

Remaining group characteristics can be described for only the nine groups for which demographic forms were available:

- All nine groups were predominantly female.
- Three groups were predominantly white, five predominantly African American, and one predominantly Native American.
- One question asked, "Were you invited to this meeting as a member of a particular group?" Respondents who checked "yes" were asked to check one of six options describing the group. Based on their responses to these questions, one group was predominantly

faith-based, one predominantly a residential community, and one predominantly an "other" group. (Members of discussion groups that were recruited through faith-based entities did not necessarily indicate that they had been invited as a member of a faith-based group.)

- Regarding self-described point of view, one group was predominantly conservative and one eclectic. Remaining groups did not have a predominant point of view as defined by the question asked (which provided checkbox options of mainly conservative, mainly moderate, mainly liberal, or "mixture of the above").
- Regarding annual household income, six groups' predominant income was less than \$35,000 per year, one group's at least \$35,000 but less than \$75,000 per year, and one group's \$75,000 or more per year. One group did not have a predominant income category.

The following information pertains to characteristics of individuals, rather than groups. Of the 147 discussants for whom age was reported on demographic forms or assumed (based on being in a high school health education class), age distribution in years was as follows:

- 37 percent were 19 or younger.
- 34 percent were 20 through 44.
- 15 percent were 45 through 64.
- 14 percent were 65 or older.

Of the 122 individual discussants who returned demographic surveys, other self-reported characteristics were distributed as follows:

- 84 percent were females, and 16 percent males. Thus, whether counting groups' characteristics or individuals' characteristics, males were underrepresented in the discussion groups.
- 35 percent were white, 55 percent African American, and 9 percent Native American.

- One individual was Hispanic.
- 30 percent were invited as a member of a faith-based community, 15 percent as a member of a residential community, 5.0 percent as a member of a professional group, 4.1 percent as a member of a civic group, 2.5 percent as a member of an advocacy group, and 23 percent as a member of an “other” group. Additionally, 9 percent said they were invited as a member of a group but did not specify the type of group, 9 percent said they had not been invited as a member of a particular group, and 3.3 percent did not answer the question.
- 33 percent were eclectic (“mixture of the above”) in their point of view, 28 percent mainly conservative, 22 percent mainly moderate, and 11 percent mainly liberal. Seven percent did not report point of view.
- Annual household income was reported as less than \$25,000 by 34 percent, at least \$25,000 but less than \$35,000 by 19 percent, at least \$35,000 but less than \$75,000 by 25 percent, and \$75,000 or more by 12 percent. Ten percent did not answer the question about income.

The Two Hispanic Discussion Group: Family Health Services

With respect to Family Health Services’ Needs Assessment process, the two discussion groups comprised of Hispanic individuals were conducted, analyzed, and reported by the Hispanic Outreach Coordinator for ALL Kids, the State’s Children’s Health Insurance Program, which is administered through the Health Department’s Office of Children’s Health Insurance. Procedures described in an early draft of the previously referenced manual prepared by Family Health Services for conducting community discussion groups were utilized to the degree feasible, but adapted to be more culturally sensitive.

The two discussion groups were held at two locations: one in Huntsville (in north Alabama) and one in Hoover (central Alabama). Both groups were held in conjunction with a health fair targeting the Hispanic population, and both were

held in November 2003. Discussants, gathered by general invitation, were not proficient in the English language. The facilitator was fluent in Spanish and English, so could translate questions on the demographic form into Spanish and help discussants with completion of forms. Discussions were conducted in Spanish, recorded, and later translated into English. Counting both groups, including two persons who left during the discussions because they were from Tennessee, there were eleven discussants.

Ten of the discussants were 20 through 44 years of age, and one was from 45 through 65 years of age. Six discussants were females, and five were males. Nine discussants described their annual household income as being less than \$25,000, and one as being at least \$25,000. (One did not report income.)

MCH Advisory Group’s Rankings of Priority Needs

As discussed under “Advisory Group to Family Health Services,” Family Health Services’ Director presented 14 potential MCH priority needs to attendees at the January 2005 meeting of the MCH Advisory Group. Using forms developed for that purpose, attendees were then asked to select and rank five top priority needs, first as individuals and later by consensus as one of five breakout groups. (The forms are in *Selected Tools for MCH Needs Assessment*.⁴) Two of the groups were designated for External Organizations, one for Health Care Consumers, one for Health Department Staff (not located in Family Health Services), and one for Family Health Services Staff. (One attendee designating herself as a parent did not join the Health Care Consumers group, and one member of an external organization joined the Health Care Consumers Group.) Attendees were given the option of suggesting additional priority needs and ranking them among the top five.

Following the meeting, Family Health Services’ Needs Assessment Coordinator computed two total scores^f for each suggested MCH priority

^f Total scores were calculated as follows: one total score for the rankings of four breakout groups, and one total score for the rankings of all non-Bureau individuals submitting their rankings. When a potential priority need was ranked first, it was given a score of 5; when ranked second, a score of 4, when ranked third, a score of 3; when ranked fourth, a score of 2; when ranked fifth, a score of 1. These scores were then summed to obtain a total score. Thus, the higher the total score for a particular issue across the four groups, the higher the priority assigned to that issue

need. One total score was based on rankings across four of the breakout groups, so reflected the overall ranks according to breakout group consensus, following discussion within the breakout group. The second total score was based on rankings across all individuals who were not Family Health staff and who submitted a completed form for ranks, so reflected overall rankings by individuals, prior to discussion within breakout groups. (Since the purpose of the meeting was for public input, rankings by Family Health staff members were not included in either total score.) *The higher the total score for a potential MCH priority need, the higher the priority collectively assigned to that need* by the breakout groups or individuals reflected in the score.

The seven MCH priority needs selected by Family Health Services basically reflect MCH Advisory Group rankings, analyzed as just described. However, final wording of the seven prioritized needs was tempered by concerns identified through review of written comments by MCH Advisory Group members, conversations or follow-up correspondence with two members of the Advisory Group, conversations with facilitators for two breakout groups, and input from Family Health's Management Team. The rationale for selection of each priority need is discussed in Section 5.

Methods: Children's Rehabilitation Service

As previously stated, CRS convened a Needs Assessment Advisory Committee (CRS Advisory Committee), which met three times during 2003 and 2004 to assist the agency in planning and implementing the CYSHCN portion of the Needs Assessment, as well as with analyzing and prioritizing the results. Members included representatives from other State agencies and providers critical to the system of care for CYSHCN, CRS administrative staff, the State Youth Consultant, and parents of CYSHCN. The total membership of the Committee was 64, with an average attendance of 32 members at each meeting. With the input and varied expertise of

the various stakeholders in the group, CRS pursued three distinct methodologies in gathering quantitative and qualitative data to determine the priority needs of Alabama's CYSHCN:

- Qualitative data were gathered from the family and youth perspective through open forums held throughout the State at varying times and days of the week to accommodate family and youth schedules. Eight family forums were held during August through October 2004 at seven sites throughout the State. Forums were located in Huntsville, Dothan, Opelika, Demopolis, Mobile, Birmingham, and Gadsden. (Note Appendix Figure 4 in Appendix NA-2.) One of the eight forums was conducted in Spanish language, and was held in Birmingham concurrently with the English language forum. A youth forum was held in September, also in Birmingham. All sites were accessible public facilities, such as community meeting centers, churches, libraries, a hotel, and a children's hospital. The forums were hosted by Family Voices of Alabama, which also provided refreshments and reimbursements for transportation and child care. Facilitators contracted through the MCH Department of the University of Alabama at Birmingham (UAB) School of Public Health conducted the English family forums, while a private pediatrician of Hispanic origin and a youth advisor conducted the Spanish and youth forums, respectively. The UAB facilitators compiled a written report from all forums as well as a summary report on statewide trends. Although attendance at several forums was negatively impacted by a natural disaster in the State (Hurricane Ivan), a total of 83 family members and youth participated statewide. CRS also held family forums as a part of the 1999 needs assessment methodology; however, additions for 2004 included the forum conducted in Spanish language and the youth forum.
- Qualitative and quantitative data were gathered from the perspective of providers of care and care coordination for CYSHCN through county-level surveys. These surveys were slightly modified from a survey used in both the 1994 and 1999 MCH needs

across the groups, with each group submitting one form showing their group's rankings. Similarly, the higher the total score for a particular issue across individuals, the higher the priority assigned to that issue by the MCH Advisory Group as a whole, with each person who was not a Family Health staff member having one vote.

assessments to facilitate analysis and comparison over time. Data gathered through the surveys included information on availability of health care and related services for CYSHCN; on perceived barriers to care; and on the status of family-centered care, youth involvement, care coordination, cultural competence, and strategic planning related to this population. CRS staff facilitated completion of the surveys through meetings with partner agencies in the counties, interviews, and phone calls for additional input. In addition to parents, other commonly cited participants included representatives from the Health Department, Alabama Department of Human Resources, Alabama Department of Mental Health and Mental Retardation, the Alabama Early Intervention System, and local school systems. The CRS district supervisors and office coordinators completed the surveys during Fall 2004. Follow-up was conducted with county-level staff for clarification and to address missing information in January 2005. The responses were analyzed and the results were compared with the information obtained for CYSHCN from the 1994 and 1999 surveys.

- Quantitative and qualitative data was also gathered from the perspective of youth with special health care needs (SHCN) through a statewide survey. A survey was adapted from a tool created by the North Carolina Title V Program as a part of their 1999 needs assessment process. The tool was slightly modified for use in Alabama and targeted youth with SHCN ages 12-21 years. The surveys were made available in the 15 CRS community-based offices and to partner agencies between August and November 2004. Surveys were mailed to the CRS Youth Advisory Committee as well as to a random sample of youth enrolled in the Children with Special Health Care Needs (CSHCN) Program. Data were gathered from 229 completed surveys (35% response rate) and the results were tabulated in January 2005. As the youth survey was a new addition to the needs assessment methodology for 2004, results will be

considered as a baseline for the next needs assessment cycle and any interim updates.

The final CRS Advisory Committee meeting occurred in February 2005, focusing on a presentation of the analyzed data and a discussion of priority needs for CYSHCN. Committee members considered a list of suggested priority needs and were allowed to add or alter based on their interpretation of the information presented. Members ranked the top five priority needs for CYSHCN and these rankings were compiled to generate a summary report.

CRS State Office administrative staff, two district supervisors, and two local parent consultants participated in a one-day planning meeting to review the Needs Assessment data and the summary report from the Advisory Committee. The requirements for CRS Block Grant reporting, the six national performance measures for CYSHCN, and information concerning the development of performance measures were also discussed. The group sought to determine the top priority needs for CYSHCN in the State that CRS has the mission and the capacity to address. Through a group consensus process, five areas under three priorities were identified for improvement. Four State-negotiated performance measures were drafted, including appropriate measurement strategies. In subsequent follow-up meetings, the group selected two performance measures for further development and planning based on available resources and areas of greatest need. Annual targets for the upcoming 5-year period were set, and annual plan activities were drafted to address the existing national and new State performance measures. The proposed priority needs, national and State performance measures, and annual plan activities were presented to the CRS Administrative Team and the State Parent Advisory Committee for approval.

Assessment of Capacity

Assessment of Capacity: Family Health Services

As previously stated, Family Health Services examined capacity during the FY 2004-05 MCH Needs Assessment. For instance, in FY 2004

Family Health’s Executive Committee and the Director of the Epi/Data Branch reviewed the ten essential public health services, using the Capacity Assessment for State Title V (CAST-5) model.¹² Due to urgent competing priorities, a formal report of this CAST-5 process was not produced, but salient issues arising during the process were considered during the FY 2004-05 MCH Needs Assessment. Additionally, during the previously mentioned February 2005 meeting of Family Health’s Management Team, at which seven suggested MCH priority needs were approved, the Management Team briefly considered capacity to meet those needs. By October 2005, a meeting of the Management Team and Family Health Services’ Branch Directors will be convened to more fully discuss Family Health’s capacity to address Family Health’s seven MCH priority needs. At this meeting, salient findings from the FY 2004-05 MCH Needs Assessment, findings for certain health systems capacity indicators included in the *MCH Annual Reports/Applications*, relevant information from the FY 2004 CAST-5 process, and any newly emerging developments in the health care environment will be considered. Information reviewed during assessment of capacity covers all levels of the Core Public Health Services Pyramid, shown in Figure 2,² located at the end of Section 1.

Further, periodic meetings of Family Health’s Management Team provide a venue for assessment of capacity to meet identified and emerging MCH needs. Additionally, the State Health Officer meets annually with administrators of each of the Health Department’s 11 Public Health Areas, for the purpose of discussing budgetary status. These meetings are attended by Health Department bureau and office directors, including Family Health Services’ Director or Deputy Director. MCH needs and capacity to meet those needs often arise in the context of discussing budgets. Moreover, preparation of the budgetary portions of the *MCH Annual Reports/Applications* provides an opportunity to specifically assess financial capacity to meet needs of the Title V populations.

Family Health Services’ assessment of Capacity is further discussed in Section 4.

Assessment of Capacity: Children’s Rehabilitation Service

CRS’s assessment of capacity is discussed in Section 4.

Sources, Limitations, and Strengths

Sources, Limitations, and Strengths: Family Health Services

Literature sources are cited under “References.” Data sources used by Family Health Services are discussed earlier, under “Quantitative and Qualitative Methods.” To recap according to Title V population, the data sources were:

- For pregnant women, mothers, and infants—infant mortality review forms and the PRAMS database.
- For children and youth—child death review forms and the YRBS database.
- For two or more Title V populations—Census reports, Health Department electronic vital statistics files, the MCH Organizations Survey database, the Primary Providers Survey database, the Community Discussion Groups electronic database, a qualitative report on the two community discussion groups comprised of Hispanic individuals, and open-ended comments provided by respondents to the two mail surveys.

Limitations and Strengths of National Databases

Limitations of vital statistics data are well known so are not discussed here. Discussions regarding limitations of national databases—specifically, PRAMS, YRBS, and Census data are reasonably accessible in reports pertaining to these databases, so are not fully discussed here. However, one limitation of PRAMS and two limitations of YRBS, though obvious, merit particular mention. PRAMS is based on surveys of mothers of live-born babies, so does not address risk markers for fetal death. YRBS is limited to high schools, so does not describe health-related behavior of high school dropouts or home-schooled children. Further, in Alabama, YRBS excludes students attending private schools.

Limitations and Strengths of Family Health Services' Databases

Limitations of databases developed by Family Health Services, specifically for the purpose of the FY 2004-05 MCH Needs Assessment, merit particular discussion. Methods pertaining to these databases are previously described under "Quantitative and Qualitative Methods."

Limitations and Strengths: Mortality Reviews

A clear limitation of mortality reviews is that only certain deaths are reviewed. Deaths to be reviewed are selected according to legislative criteria (in the case of child death review) or criteria selected by Family Health Services or other stakeholders (in the case of infant mortality review). Further, reports are not received on about 18 percent of cases assigned for child death review. The limitations of the mortality review databases are counterbalanced, however, by a singular strength. That is, each database is the result of a data collection process involving local or regional case review teams who are determined to identify potentially preventable causes of death. Further, Family Health's infant death review includes review of clinical records by the Regional Perinatal Coordinators, and child death review includes review of hard copies of the death certificates. Each of these sources provides information not included in electronic files.

Limitations and Strengths: Family Health Services' Mail Surveys

The major limitations of the two databases on mail surveys are:

- Though Family Health Services sought to represent diverse MCH organizations from around the State, sampling procedures for the MCH Organizations Survey were based on available directories and subjective decisions, rather than random or systematic sampling. For the Primary Providers Survey, only physicians who were members of the Alabama Chapter of the American Academy of Pediatrics, members of the Alabama Academy of Family Physicians, or registrants at a particular professional meeting for obstetricians or gynecologists were surveyed.
- Except for one part of the Primary Providers Survey (which was adapted from the American Academy of Pediatrics' *Medical*

Homes Services Survey, Periodic Survey of Fellows #44, 2000), the survey questions have not been validated. That is, most of the questions have not been rigorously tested or evaluated to assure that the questions are clear and elicit answers reflecting actual practice.

- Each survey had a sub-optimum response rate: 36 percent for the MCH Organizations Survey, and 24 percent for the Primary Providers Survey.

Findings from the mail surveys should not, therefore, be assumed to represent MCH organizations or primary providers throughout the State. These surveys have counterbalancing strengths that made them an important part of the FY 2004-05 MCH Needs Assessment, however. First, respondents included persons from most of the State's 67 counties. Secondly, an opportunity was provided for many professionals concerned with the well-being of Title V populations to express their views and describe their services. Though most recipients of a questionnaire did not respond, many did. Accordingly, each mail survey provides information that is available from no other source.

Limitations and Strengths: Family Health Services' Qualitative Data

The database for the ten non-Hispanic discussion groups has several limitations. One is that the discussants were selected based on feasibility, rather than on systematic sampling of the population. A second notable limitation, true of any qualitative database, is that classification of remarks into key phrases, issues, sub-issues, and strength versus cause for concern inherently requires subjective decisions. Further, because only one analyst was available to classify the discussions in this manner, potential classification bias could not be assessed. Another limitation inherent in any discussion group database is that conversations and concerns are multifaceted, and each group is unique. No method of classifying remarks can capture all concerns, and the concerns of a particular group may not be evident in the overall picture.

On the other hand, the database on the ten discussion groups has several strengths. These

include meticulous review of remarks, absence of between-person inconsistency in classifying remarks, inclusion of information on strengths as well as weaknesses, reasonable variation in geographic distribution of the groups (previously described under “Quantitative and Qualitative Methods”), and inclusion of discussants from various age groups and demographic or ethnic groups. Further, the ten-group database includes information allowing stratified analysis of major issues arising—according to the main composition of a discussion group with regard to age, race, or income—if such analysis is deemed to be informative and appropriate in the future. (Analyses performed to date have not stratified according to these characteristics.)

As previously stated, proceedings from the Hispanic community discussion groups and comments provided on returned mailed questionnaires were analyzed in a qualitative manner. To date, proceedings from the Hispanic community discussion groups have been analyzed more thoroughly than the qualitative comments obtained through mailed surveys. However, the Hispanic discussion groups and the two mail surveys all provide qualitative information that is not available from other sources.

Limitations and Strengths: Input from MCH Advisory Group

Methods for obtaining input from the MCH Advisory Group have several related limitations that have not yet been mentioned. Basically, all of these limitations pertain to time constraints and/or Family Health Services’ staffing limitations. First, handouts for the meeting could not be distributed for advance review by attendees. Secondly, the 4.5 hours allotted for the meeting did not allow full presentation of key Needs Assessment findings. For this reason and because handouts were not distributed in advance, attendees did not have sufficient opportunity to review and digest all findings that may have been of interest to them. Finally, the very full agenda left insufficient time for substantial discussion by attendees during the plenary presentations, and a few individuals would have liked to have had more time for the breakout group discussions.

Family Health’s method of obtaining and analyzing input from the MCH Advisory Group

had several major strengths, however. As previously discussed under “Collaborative Processes,” a variety of organizations from around the State were represented, and several health care consumers attended. Secondly, via a form for that purpose, each individual was given an opportunity to express his or her views on MCH priority needs. Finally, the breakout groups allowed discussion of priority needs, followed by input based on group consensus. In sum, as one discussant stated on his or her evaluation form, the meeting involved “all of us in developing priorities.”

MCH Advisory Group members will be invited to provide further comment as part of ongoing needs assessment. Evaluation forms from the January meeting will be fully analyzed by early FY 2006, and results will influence plans for any future meetings.

Limitations and Strengths: Children’s Rehabilitation Service

Limitations: CRS

The weaknesses in CRS’s Needs Assessment process were largely due to resource limitations and included:

- The inability to achieve more public awareness and support for the family and youth forums to increase attendance.
- The inability to obtain wider participation in the youth survey from youth who are not enrolled in the State CSHCN program to increase the generalizability of the results to all youth with SHCN in the State.

Strengths: CRS

The strengths of the methodology utilized in CRS’s component of the FY 2004-05 MCH Needs Assessment included:

- The collaboration of families and other key stakeholders in the development of the procedures.
- The effort to obtain wide family input through the family forums.
- The addition of a forum conducted in the Spanish language to increase cultural competence.

- The addition of a youth forum and a youth survey in an effort to obtain youth input.
- The utilization of a similar county-level survey in 1994, 1999, and 2004 for comparison over time.
- The widespread participation and interaction of partner agencies in the completion of the county-level survey to generate a more accurate picture of the services available and the barriers to care in each county.

Overall Weaknesses and Strengths

Specific limitations and strengths pertaining to particular methods or databases are previously discussed under “Sources, Limitations, and Strengths.” In this conclusion to Section 1, nonuse or limited use of two important databases is discussed. Discussion of these two databases is followed by a broad discussion of limitations and strengths, including recap of previously mentioned issues.

Limited Use of Two Databases

A major limitation in the FY 2004-05 Needs Assessment is nonuse or limited use of two very informative databases. The first of these is the database for the 2001 National Survey of Children with Special Health Care Needs.¹³ This survey was sponsored and primarily funded by the Maternal and Child Health Bureau (MCHB) of the U.S. Health Resources and Services Administration, and conducted by CDC’s National Center for Health Statistics (NCHS). Selected findings from this survey were used by CRS, but not fully analyzed by that organization’s staff. Using the NCHS website for this purpose and SAS® programs made available on the website, a member of Family Health Services’ Epi/Data Branch performed simple frequencies of selected variables. Competing responsibilities, however, precluded careful interpretation of these frequencies and, therefore, their inclusion in the FY 2004-05 Needs Assessment.

The circa 2003 National Survey of Children’s Health, also sponsored by MCHB and conducted by NCHS, produced an important database that has not yet been utilized by Family Health

Services or CRS. This survey was designed to complement the 2001 National Survey of Children with Special Health Care Needs.¹⁴ As of March 2003, the website¹⁵ for the National Survey of Children’s Health was not expected to be fully functional until May 2005. Had that database become available in May as expected, competing priorities from May onward would have prevented Epi/Data Branch staff from thoughtfully analyzing data from the survey and integrating findings into this report of the FY 2004-05 MCH Needs Assessment. Accordingly, whether the database has become accessible to State-level staff has not yet been explored by Family Health Services.

However, Epi/Data Branch staff plan to explore these databases, especially the National Survey of Children’s Health database, in FY 2006 and incorporate key findings into ongoing needs assessment.

Overall Weaknesses and Strengths: Family Health Services

Weaknesses: Family Health Services

Specific limitations of methods and databases are previously discussed under “Sources, Limitations, and Strengths.” To recap some of these limitations:

- In some cases a database did not include certain subgroups relevant to the issues being studied. For instance, the PRAMS database had no data on pregnancies ending in a fetal death, and the YRBS database had none on high school dropouts or, for Alabama, on home-schooled youth or youth in private schools. For the two mail surveys, low response rates precluded generalization of findings to the entire target population for each respective survey.
- Selection of persons from whom to obtain input was influenced by feasibility, rather than based on rigorous systematic sampling. This limitation pertains to the two mail surveys and the community discussion groups.
- Classification of remarks from the community discussion groups necessarily entailed subjective judgments.

- Qualitative data from the open-ended questions in the mail surveys have been reviewed for general impressions, but have not been analyzed in a meticulous, systematic fashion.
- Time constraints limited the MCH Advisory Group's opportunity to fully digest findings presented or to discuss issues at length.
- Neither p-values nor confidence limits were computed for some findings.

An important, previously unmentioned, weakness of the FY 2004-05 MCH Needs Assessment is that none of the sources used provided information on the prevalence of homeless families or the needs of these families. Feasible ways to include information on health-related needs of the State's homeless families, as part of ongoing needs assessment, should be sought by Family Health staff.

Strengths: Family Health Services

The Needs Assessment process utilized a variety of databases—some preexisting and some newly collected, some quantitative and some qualitative, some (like vital statistics) basically universal and some (like infant mortality review and child death review) non-universal but providing information not available elsewhere. With one exception, the variety of databases and approaches used compensated for the limitation of any single database or approach. The exception pertains to homelessness, which was not pointedly addressed by any of the approaches used.

The community discussion groups, mail surveys, and MCH Advisory Group collectively provided substantial and diverse public input. Taken together, these approaches provided individuals from diverse backgrounds or settings with opportunity to participate in the Needs Assessment. That is, individuals invited to participate included persons from the State's two predominant racial groups (white and African American), persons from two minority ethnic groups (Hispanic and Native American), professionals from a variety of organizations around the State, and health care consumers from around the State. Per still incomplete review of open-ended comments provided by community

discussion group members, this opportunity was appreciated by many. For instance, in response to an evaluation-form question asking what the discussant liked best about the meeting, one community discussion group participant wrote, "They gave us the opportunity to express our feelings about issues that concern me." Another discussant's response to the same question was: "The chance to let my opinion be heard, & being able to learn a little from others opinions."

The variety of data sources used in the Needs Assessment assured that information was provided about all Title V populations and all MCH service levels shown in Figure 2. Further, data collection and management methods employed for the mail surveys and the community discussion groups allow analysis of data according to specific Title V populations, as well as classification of findings according to the MCH service levels shown in Figure 2. Additionally, questions asked in the mail surveys and community discussion groups allowed input on strengths, as well as weaknesses, of the health care system. Further, because information was obtained from a variety of sources, the selection of each of the seven MCH priority needs identified by Family Health Services was based on a variety of information—never on a single data source.

**Overall Weaknesses and Strengths:
Children's Rehabilitation Service**

Limitations: CRS

As previously stated, the weaknesses in CRS's Needs Assessment process were largely due to resource limitations. These limitations pertained to limited resources for promoting attendance at forums and the limited representation, in the youth survey, of youth who were not enrolled in the State CYSHCN program.

Strengths: CRS

As previously stated, the strengths of CRS's methodology included collaboration of families and other key stakeholders in the development of procedures; the obtainment of input from families, Hispanics, and youth; the ability to compare county-level surveys over time; and the involvement of partner agencies in completion of the county-level surveys.

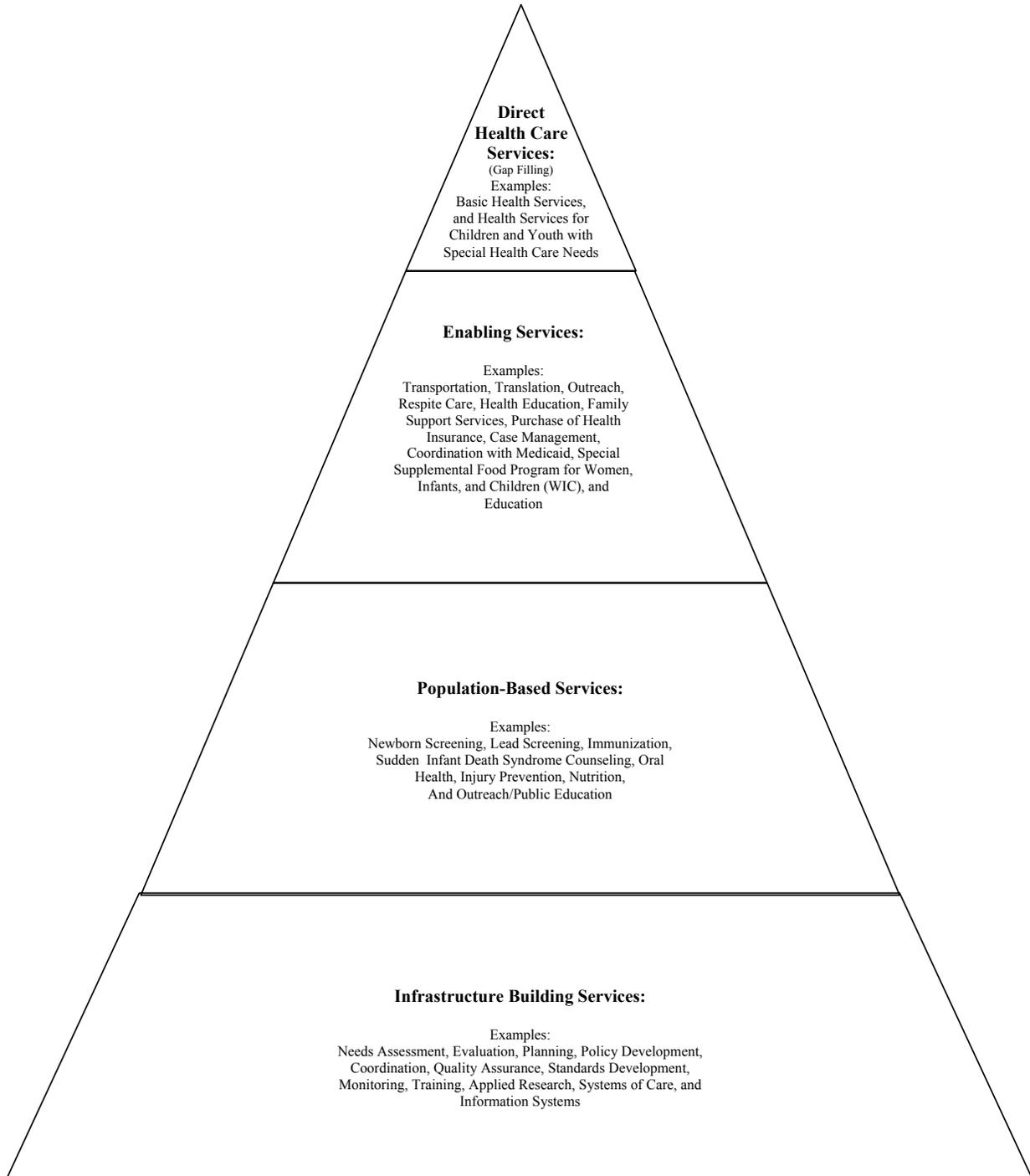
A Collaborative, Panoramic Picture

In sum, the methods, data sources, and collaborations that comprised the FY 2004-05 MCH Needs Assessment process collectively provided a panoramic picture of the needs of Title V populations residing in Alabama. This picture has enabled Family Health Services and CRS to select priority needs in an evidence-based manner, and provides a knowledge base that both

organizations look forward to building upon through ongoing needs assessment.

The State's FY 2004-05 MCH Needs Assessment provides a panoramic picture and a knowledge base to build upon in the future.

Figure 2. Core Public Health Services Delivered by MCH Agencies



Reference: Division of State and Community Health, Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Department of Health and Human Services. Maternal and Child Health Services Title V Block Grant Program. Guidance and Forms for the Title V Application/Annual Report. May 31, 2003.

Note: Minor stylistic revisions have been made, and the proportion of the pyramid allotted to each level differs from the original. As depicted, the proportion of the pyramid comprised by a given level does NOT reflect the proportion of Title V expenditures that are directed to that level.

SECTION 2 PARTNERSHIP BUILDING AND COLLABORATION DURING NEEDS ASSESSMENT

Partnerships

In accordance with federal guidance for this needs assessment report, “formal and informal collaboration processes and partnerships”² for the purpose of needs assessment have been discussed under “Collaborative Processes” in Section 1. The collaborative processes described in Section 1 focused on collecting and analyzing quantitative and qualitative data, reporting and considering findings, and selecting and identifying MCH priority needs. General capacity to address needs was considered as the priority needs were selected, but assessment of capacity will continue as feasible, via collaborations within Family Health Services, collaborations among various Health Department units, and collaborations with external entities. As previously stated, MCH Advisory Group members will be invited to provide further comment as part of ongoing needs assessment. Discussion of overall strengths and weaknesses of the FY 2004-05 MCH Needs Assessment process is located in Section 1.

Here in Section 2, additional partnerships of Family Health Services and/or CRS with other entities are discussed. Partnerships and collaborations discussed in Section 2 often included some components of the needs assessment cycle, but were not developed for the specific purpose of a comprehensive, statewide needs assessment. These partnerships occurred in the context of the Family Health Services and the CRS seeking to accomplish their respective missions and identify and address MCH priority needs, rather than under an overall plan or method for partnering with particular programs.

In order to accomplish their missions, the Family Health Services and/or the CRS have partnered with many programs on a variety of issues. These programs included other MCH programs, other Health Resources and Services Administration

(HRSA) programs, other Health Department programs, other governmental agencies, and private organizations. (Many of these entities were represented on the MCH Advisory Group and/or CRS’s Needs Assessment Advisory Committee.) The purposes of specific partnerships varied, but often continue and include assessment of capacity and/or implementation of activities to help meet important MCH needs on an ongoing basis.

Discussion of some of these partnerships follows. Because many of the partnerships *preceded* formal identification of MCH priority needs through the FY 2004-05 MCH Needs Assessment process, a given partnership does not necessarily address a specific priority need as formulated in Section 5. In the future, current partnerships will be enhanced as feasible to address newly identified priority needs.

MCH Programs

Children and Youth with Special Health Care Needs

In Alabama the Title V MCH Program is administered by the Health Department, through Family Health Services. Family Health does not directly administer aspects focusing on CYSHCN but contracts with CRS, which administers services to this population. As a corollary, CRS staff performs needs assessment for CYSHCN. As discussed under “Overall Methodology” in Section 1, Family Health Services’ and CRS’s respective Needs Assessment Coordinators collaborate with one another, and each is on the other organization’s needs assessment advisory group. Further, a parent consultant for CRS was a member of the MCH Advisory Group’s Health Care Consumers Group.

The Family Health Services’ and the CRS’s Needs Assessment Coordinators collaborated in the preparation of this Needs Assessment report.

Specifically, CRS's Needs Assessment Coordinator submitted material pertaining to that organization's components of the Needs Assessment to Family Health Services' Needs Assessment Coordinator, who integrated CRS's material into Family Health's Needs Assessment report. The two coordinators collaborated with one another if any content-related issues arose as material was being integrated.

Many partnerships of CRS with other entities are discussed in Section III.E of the *MCH 2004 Report/2006 Application*, as well as in Part 4 of this document. The following discussion focuses on certain partnerships of ADPH with other organizations. To avoid undue duplication, this discussion is generally limited to partnerships that are not fully discussed in other parts of this document or in Section III.E of the State's *MCH 2004 Report/2006 Application* (exceptions are noted).

Teen Pregnancy Prevention

The Health Department's teen pregnancy prevention programs are administratively located in Family Health Services' Division of Women's and Children's Health. The Director and Deputy Director of this division are members of the MCH Advisory Group and of Family Health's Management Team. Further, Family Health's Needs Assessment Coordinator also serves as Coordinator/Contributing Editor for the *MCH Annual Reports/Applications*. In this role, she collaborates with directors of specific Family Health teen pregnancy prevention programs, as well as with Women's and Children's Health Division's Director and Deputy Director. Thus, Family Health staff responsible for teen pregnancy prevention programs have been involved in needs assessment and in preparation of the *MCH Annual Reports/Applications*.

Further, in March 2005 the Director of Family Health Services provided a letter of support to the Alabama Campaign to Prevent Teen Pregnancy, with respect to a proposal that the Campaign staff were writing. In this letter, he stated that Family Health looks forward to expanding existing collaborative efforts with the campaign, to include consultation regarding a network of services in Butler, Elmore, and Montgomery Counties.

Healthy Start

Two federally funded Healthy Start projects are located in Alabama, each in a major urban area. One project, administered by the Jefferson County Department of Public Health, is located in Birmingham, in north-central Alabama. The other project is located in Mobile, in the southwestern corner of the State, and is administered by the Mobile County Health Department. Certain members of both health departments' staff (though not the directors of their Healthy Start Programs) were invited to join the MCH Advisory Group, and two members of Mobile County Health Department's staff joined the group.

The Birmingham Healthy Start Program provides services and educational programs to eliminate barriers to health care for pregnant women and their children and to reduce Birmingham's infant mortality rate. The Director of Family Health Services is on the Advisory Consortium for the Birmingham-based Healthy Start program.

The Mobile Healthy Start Program, Teens Empowered Through Education and Nurturing (TEEN), has several components: family support, mentoring, wellness outreach, and health care. In early FY 2005 the Director of the Epi/Data Branch provided consultation, via phone and e-mail, to the Mobile Healthy Start Program regarding sources of information on teen pregnancy and health-related behaviors of youth.

These two Healthy Start programs partner to provide funds for the Director of Family Health Services or his designee to attend the national annual Healthy Start conference. Further, in FY 2004 Child Death Review staff teamed with the Birmingham and Mobile Healthy Start programs to fund hospital-based parent education programs on shaken baby syndrome, at each program site. The Birmingham and Mobile Healthy Start programs each provided \$21,000 for their own site's operation of the educational program, and Child Death Review matched those funds by giving \$21,000 to each program. The hope is that the Birmingham- and Mobile-based parent education programs on shaken baby syndrome will provide impetus for an eventual statewide program involving most delivery hospitals.

Maternal and Infant Programs

Issues pertaining to maternal and infant health are addressed through the Perinatal Program, which is administered through Family Health Services. Involvement of this program's staff in needs assessment is discussed in several places in Section 1 (mainly under the subheadings, "Ongoing Needs Assessment, Family Health Services" and "Studies Regarding Pregnant Women, Mothers, and Infants." To recap, the Director and staff of the Perinatal Program are involved in needs assessment at the statewide and regional level, especially through infant death review. Epi/Data Branch staff, State Perinatal Program staff, and Child Death Review staff consult as feasible regarding statewide and regional needs assessment. Further, the Director of the State Perinatal Program facilitated one of the breakout groups at the January 2005 meeting of the MCH Advisory Group, and particularly advised the Family Health Services' Needs Assessment Coordinator regarding prenatal care for uninsured persons.

Family Planning

Family Health Services administers the State's federally funded Title X Family Planning Program. The Director of this program also directs the Women's and Children's Health Division, one of Family Health Services' four divisions. In this capacity, she is a member of Family Health's Management Team and the MCH Advisory Group—both of which provided opportunity for involvement in the selection of MCH priority needs. Further, Family Health's Needs Assessment Coordinator and other Epi/Data Branch staff have assisted with two previous Title X needs assessments, and pertinent material from this report of the FY 2004-05 MCH Needs Assessment will probably be integrated into the next Title X needs assessment report, expected to be due in FY 2006.

Other MCH Programs

Other State MCH programs administratively located in Family Health Services include the Supplemental Nutrition Program for Women, Infants, and Children (WIC); the Child Death Review Program, the Oral Health Program, the Newborn Screening Program (which focuses on metabolic and hematologic screening), the Newborn Hearing Screening Program, the Lead

Program, the Healthy Child Care Alabama Project, and the Abstinence Program. Directors of several of these programs are on the MCH Advisory Group, and the immediate supervisor of remaining directors of these programs serves on the Advisory Group. A member of the Child Death Review Program presented at the January 12 meeting of the MCH Advisory Group. Further, the Director of the Healthy Child Care Alabama Project facilitated the Advisory Group's Health Care Consumer breakout group's meeting and participated, along with Family Health's Management Team, in Family Health Services' selection of seven MCH priority needs. Family Health's Needs Assessment Coordinator annually collaborates with several of these program directors regarding the *MCH Annual Reports/Applications*' performance measures pertaining to their respective programs.

Further, the State's SSDI Project is administratively located in Family Health Services' Epi/Data Branch. This project is designed to increase MCH data capacity and maintain Family Health's capacity to perform needs assessment and meet annual reporting requirements pertaining to the MCH Services Block Grant. The Director of the Epi/Data Branch serves as Coordinator/Contributing Editor for the *MCH Annual Reports/Applications*, as well as Family Health's Needs Assessment Coordinator. Placement of the SSDI Project in the Epi/Data Branch, therefore, promotes efficient utilization of SSDI resources and integration of findings from SSDI databases into ongoing needs assessment.

Because of its collaboration with staff from several other HRSA programs that are discussed next, further description of the Healthy Child Care Alabama Project is merited. This project was developed to promote the health of children by supporting people who take care of other people's children—whether in a child care center or a home, and whether the caregiver is a relative, a friend, or a worker in a child care center. Program staff seek to promote access to medical care for children, promote the health of children, and reduce the risk of childhood injuries or infectious illnesses, especially among children enrolled in child care centers. The program's staff include seven nurse consultants who collectively serve forty counties. In FY 2004 the nurse consultants

provided a total of 1,947 health and safety trainings or educational sessions for child care providers. In addition, the nurse consultants collectively made 5,668 contacts with providers of child care. Some of these contacts included on-site consultation.

Other Health Resources and Services Administration Programs

Primary Health Care

When indicated, case managers/care coordinators located in county health departments refer low income patients to Primary Health Care clinics throughout the State. The Director of the Alabama Primary Health Care Association was invited to join, but did not join, the MCH Advisory Group. During the FY 2004-05 MCH Needs Assessment process, however, Family Health Services' Needs Assessment Coordinator obtained input from the Health Department's Office of Primary Care and Rural Health Development. Further, the Director of Family Health's Healthy Child Care Alabama Project serves on the Board of Directors for Health Services, Inc., which provides primary care for nine clinics in central Alabama.

Immunodeficiency Virus (HIV)/Acquired Immunodeficiency Syndrome (AIDS)

Though most persons with HIV/AIDS receive health care through community-based organizations, collaboration among Health Department staff makes case management available to individuals with HIV/AIDS who choose to receive services through the Health Department. Social work staff located in Family Health Services' Professional Support Division provide quarterly training and ongoing consultation to all Health Department case managers who provide services to HIV-positive individuals. Case management services are reimbursed by the Medicaid Agency for HIV-positive individuals with Medicaid coverage; and the HIV/AIDS Division, located in the Health Department's Bureau of Communicable Disease, allocates some of the State's Ryan White funds to support case management for persons with HIV/AIDS who are not enrolled in Medicaid. The HIV/AIDS Division also provides funding for prescription medications through their Alabama Drug Reimbursement Program for HIV-positive

individuals without Medicaid or other insurance coverage for the cost of drugs.

Further, the Health Department's Bureau of Home and Community Services administers a new, Medicaid-funded HIV/AIDS Waiver. Some county health department case managers provide services to persons enrolled in this HIV/AIDS Waiver Program, which is a small program designed to serve patients with AIDS who would be eligible for placement in a nursing home if the Waiver services were not provided.

Other Health Department Programs

Chronic Disease Prevention and Health Promotion

Most of the Health Department's programs pertaining to chronic disease are administered through the Department's Bureau of Health Promotion and Chronic Disease (HPCD). The director of that bureau's Tobacco Control Program was invited to join, but did not join, the MCH Advisory Group. However, at the request of the Director of the Tobacco Control Program, several Health Department staff members collaborating with that program attended the September 2003 training event on community forums (previously discussed under "Community Discussion Groups: Family Health Services").

Healthy Child Care Alabama Project staff collaborate with staff from HPCD's Cancer Prevention Program to teach the Sun Safety Program to children attending child care centers, the children's parents, and the providers of child care. Further, the Director of the Bureau's Social Work Program and staff from HPCD and Alabama's State Children's Health Insurance Program (Alabama SCHIP, or SCHIP—also called ALL Kids) are engaging in discussions about making case management/care coordination available to SCHIP-enrolled children who experience multiple hospitalizations or emergency room visits for uncontrolled asthma.

In March 2005, the Breast and Cervical Cancer Program, previously located in HPCD, was administratively relocated to Family Health Services. Decisions on how to most efficiently and effectively implement this program are in progress. Administrative functions of the program are currently coordinated by the Director of Plan

First, Family Health Services' Family Planning Program.

Injury Prevention and Control

A staff member from the Health Department's Injury Prevention Division, which is located in HPCD, serves on the MCH Advisory Group. Her evaluation form of the January meeting of the Advisory Group was signed (though the forms were designed to be confidential) and stated, "Felt like my vote counted," and "...I feel like we are in this together."

Staff from Family Health Services' Healthy Child Care Alabama Project collaborate with Injury Prevention staff on various endeavors: for instance, a fire prevention program for children attending child care centers, the children's parents, and the child care providers. Additionally, Healthy Child Care staff collaborated with Injury Prevention staff on a safety fair for fourth graders in Montgomery and surrounding counties, scheduled for April 2005.

Immunization

The Health Department's Immunization Division is located in the Bureau of Communicable Disease. At 24 Health Department sites, since June 2004 Family Health Services' WIC Division has partnered with the Immunization Division to provide *Golden Books* to mothers who bring their child's immunization record when coming for WIC certification or recertification. The Immunization Division provides funds for the books, and WIC provides the Immunization Division with a list of persons receiving the books. Immunization Division staff hope that this program will update their immunization registry in a more timely way and reduce the number of postcards that need to be sent to notify caregivers that their child's vaccinations are not up to date. The *Golden Books* Project is one way that Alabama WIC participates in the national WIC Healthy Children Ready to Read Initiative.

Vital Records and Health Statistics

Staff from Family Health Services and the Health Department's Center for Health Statistics, especially that center's Statistical Analysis Division, collaborate often. These collaborations include:

- Participation by the Director of the Statistical Analysis Division in the MCH Advisory Group.
- Inclusion of findings from PRAMS in the FY 2004-05 MCH Needs Assessment.
- On an annual basis, the Center for Health Statistics' provision to the Epi/Data Branch of electronic vital statistics files for the previous years, for direct analysis by Epi/Data Branch staff.
- When indicated, consultation among staff in the Statistical Analysis Division and the Family Health Services on findings from electronic files or in annual publications by the Center for Health Statistics.

State Children's Health Insurance Program

Alabama's SCHIP, also called ALL Kids, is administered through the Health Department's Office of Children's Health Insurance. Since the planning for SCHIP began (in FY 1997), the Family Health Services and the CRS have each been heavily involved in SCHIP's efforts by serving on workgroups to develop enhancement packages and recommendations on how the program should work. As previously discussed under "Chronic Disease Prevention and Health Promotion," staff from Family Health Services, HPCD, and SCHIP are discussing how to make case management/care coordination available to SCHIP-enrolled children with uncontrolled asthma. Further, Healthy Child Care Alabama staff provide information about ALL Kids and applications for ALL Kids to workers in child care centers and to parents of children attending these centers.

SCHIP was invited to join the MCH Advisory Group but, due to the transfer of a staff member to another Health Department unit, could not send anyone to the January 2005 Advisory Group meeting. However, SCHIP staff and Epi/Data Branch staff collaborate to include pertinent information about SCHIP in the *MCH Annual Reports/Applications*.

Advisory Groups, Governmental or Public Agencies or Organizations, and Private Organizations

Multifaceted Partnerships

MCH Advisory Group

The MCH Advisory Group, discussed in Section 1, is the primary way that Family Health Services is partnering with others for the purpose of needs assessment. As stated in Section 1, 29 of the persons attending the January 2005 MCH Advisory Group meeting represented external organizations. Government organizations represented included CRS, the Alabama Department of Human Resources, the Alabama Department of Mental Health and Mental Retardation, the Medicaid Agency, and the Alabama Department of Children's Affairs. Educational or academic organizations represented included Head Start, a city school system, and two universities, including several affiliates of one.

Private organizations represented at the Advisory Group included an organization addressing needs of Hispanic populations; a faith-based organization serving low-income communities in Montgomery; VOICES for Alabama Children; Gift of Life, a Montgomery-area public and private sector partnership to provide perinatal services for pregnant women and their babies, regardless of ability to pay; Childcare Resources, a Birmingham-based organization partnering with others to make quality child care happen in four north-central Alabama counties; three family resource or family guidance centers; the Alabama Partnership for Children; the Monsky Developmental Clinic; and the Alabama Chapter of the March of Dimes. Additionally, a Regional Perinatal Advisory Council was represented.

The State Perinatal Advisory Council

Per the State statute establishing the State Perinatal Program, this program operates under the State Board of Health and the State Perinatal Advisory Council (SPAC). SPAC represents the Regional Perinatal Advisory Councils, whose role in infant death review is described in Section 1, and advises the State Health Officer in the planning, organization, and implementation of the Perinatal Program. Family Health Services convenes meetings of SPAC, typically on a quarterly basis, and Perinatal Program staff

engage in activities to address concerns of SPAC and the Regional Perinatal Advisory Councils.

Periodic Inter-Agency Meetings

Staff from Family Health Services, CRS, the Medicaid Agency, and three affiliates of UAB meet three times a year to discuss MCH issues of interest. UAB affiliates represented at the meeting are the School of Public Health's MCH Program, the Pediatric Pulmonary Center, and the Sparks Clinics (the latter a single organization including several clinics). Sparks Clinics serves individuals, including children and youth, with or at risk for developmental disabilities, as well as the families of these individuals.

Hospitals

The Family Health Services' Women's Health Branch collaborates with two of the five major perinatal referral hospitals and one High Risk Follow-up and Tracking Clinic to address the need for family planning services for a targeted high risk population. Linkages to services are provided for mothers of infants who are admitted to the two hospitals' neonatal intensive care units and/or receive services from the follow-up clinic. The Health Department contracts with these hospitals and the clinic for their staff to provide family planning counseling and referral to Plan First providers and care coordinators for family planning services.

Staff from Family Health's Child Health Branch collaborate with delivery hospitals around the State to assure that newborns receive appropriate biochemical and hearing screening.

Nutrition Education Partnership

Family Health Services' WIC Division collaborates with the U.S. Department of Agriculture, the State Department of Human Resources, the Alabama Cooperative Extension System, and the State Department of Education to develop and implement the Alabama Integrated Nutrition Education Partnership Plan. This plan was developed by the Healthy Alabama Nutrition and Physical Fitness Coalition.

State Agency Partnerships

As previously mentioned, several State agencies (Department of Human Resources, Department of Mental Health and Mental Retardation, the

Medicaid Agency, and the Alabama Department of Children's Affairs) are represented on the MCH Advisory Group. A School Nurse Consultant for the State Department of Education was invited to join the Advisory Group but could not attend the January meeting. At the local level, Health Department case managers/care coordinators collaborate with staff from several State agencies, as indicated. A description of selected partnerships with specific State agencies follows.

Alabama Medicaid Agency

The Family Health Services and the Medicaid Agency partner on a variety of issues. For instance, several Health Department units, including Family Health Services, and the Medicaid Agency collaborate to identify Medicaid-eligible infants and pregnant women and help with their applications for Medicaid coverage. Additionally, the Health Department, including the Family Health Services' Women's Health Branch, and the Medicaid Agency have partnered to implement Plan First, an 1115(a) Family Planning Waiver that began in October 2000. This waiver expanded Medicaid eligibility for family planning services for women aged 19-44 years to 133 percent of the federal poverty level.

Alabama Department of Human Resources

The Health Department and the Alabama Department of Human Resources (Human Resources Department) partner in a number of ways. For instance, the Human Resources Department refers women to the Health Department for family planning services. Further, the Human Resources Department is the grantor for Family Health Services' Healthy Child Care Alabama Project, discussed earlier in Section 2 under "Other MCH Programs" and "Other Health Department Programs." Funding for this program was awarded by the Human Resources Department through a competitive grant application process. Additionally, Human Resources Department staff have been very active in the Early Childhood Comprehensive Systems Planning Project, which is spearheaded by the Director of the Healthy Child Care Alabama Project. Further, the Director of the Healthy Child Care Alabama Project serves on the Human Resources Department's State Child Care Advisory Board.

Alabama Department of Education

The Alabama Department of Education (Education Department) also has representatives on the Early Childhood Comprehensive Systems Planning Project. Further, Healthy Child Care Alabama Nurse Consultants refer parents of CYSHCN aged 3 years or older to the responsible school system's special education department. Moreover, in collaboration with the Education Department, the Health Department has begun updating the *Alabama School Health Services Manual*.

The Perinatal Program has partnered with the Education Department since 2003, when folic acid educational programs were provided at conferences for postsecondary students. Perinatal Program staff gave presentations to students and provided educational materials for classroom use. Additionally, the Perinatal Program Director developed a folic acid curriculum to be used in middle and high school science, health, and family consumer science classes. The curriculum is currently available on the Education Department's and the Health Department's websites.

Further, in 2004 the Perinatal Program Director developed a curriculum for kindergarten through grade 12 to raise awareness of the importance of breastfeeding, entitled *Mother's Milk*. The director met with Education Department administrators from science, social studies, health, and family consumer science to plan the curriculum and encourage the administrators to include the topic in the Alabama Courses of Study. The curriculum was completed early in FY 2005 and is currently on the Education Department's and the Health Department's websites.

The Perinatal Program is partnering with the Education Department's school nurse programs and is providing continuing education on the importance of preconceptional health. In FY 2005 perinatal coordinators planned and delivered workshops that included information about how to counsel students regarding abstinence, folic acid, the effects of tobacco and other substances, and the importance of breastfeeding. Additionally, the Perinatal Program Director will be delivering presentations at two statewide education conferences in July 2005. The title of the

presentations is *Premature Birth: The Impact on Learning*.

At the local level, various collaborations occur between the Health Department and the Education Department. For example, in some counties (38 counties in FY 2004) local Health Department staff provide abstinence-based adolescent pregnancy prevention classes in schools to which they are invited. Also at the local level, Health Department social workers receive referrals, for children with health problems, from schools. Additionally, local Health Department social workers sometimes interface with teachers and counselors when children have sickle cell disease, asthma, and other chronic conditions that educators may not fully understand.

Private Organizations

The mission of the Alabama Chapter of the March of Dimes (Alabama March of Dimes) is central to Family Health Services' concern for pregnant women, mothers, and infants. The Executive Director of Alabama March of Dimes serves on the MCH Advisory Group. Further, the March of Dimes provided funds to purchase incentives (Wal-Mart gift cards) for persons to attend the community discussion groups held by Family Health Services as part of the FY 2004-05 MCH Needs Assessment. Family Health Services' Perinatal Program staff collaborate with Alabama March of Dimes on the March of Dimes' campaign to reduce the prevalence of prematurity. The initial planning phase of this partnership was completed by December 2002. In January 2003 simultaneous press conferences were held in the State's five perinatal regions to announce the campaign on prematurity. The partnership continues. For instance, in FY 2004 the Director of Family Health, the Director of the Perinatal Program, and several other Family Health Services' staff members attended the "Advocacy Day at the State Capitol" press conference—convened by Alabama March of Dimes in partnership with several other organizations.

Via contract, the Health Department disperses some MCH Title V funds (about \$86,500 in FY 2003) to the Monsky Developmental Clinic, which serves children with special health care needs in Montgomery and the surrounding area.

Results, Strengths, and Weaknesses of Collaborative Efforts

As previously stated, formal and informal collaboration and partnerships for the purposes of needs assessment are discussed under "Collaborative Processes" in Section 1. As also previously stated, Section 2 describes a variety of partnerships that included some components of the needs assessment cycle, but were not developed for the specific purpose of comprehensive, statewide needs assessment. As a corollary, the partnerships described in Section 2 preceded formal identification of MCH priority needs through the FY 2004-05 MCH Needs Assessment process, so do not necessarily address a specific priority need as formulated in Section 5.

Overall weaknesses and strengths of collaboration developed as part of the FY 2004-05 MCH Needs Assessment process are described in the conclusion to Section 1. To reiterate, the methods, data sources, and collaborations that comprised the FY 2004-05 MCH Needs Assessment process collectively provided a panoramic picture of the needs of the Title V populations residing in Alabama. This picture has enabled Family Health Services to select priority needs in an evidence-based, collaborative manner, and provides a knowledge base that Family Health looks forward to building upon through ongoing needs assessment. The MCH Advisory Group was a key player in identifying priority needs. As previously stated, a limitation of the FY 2004-05 MCH Needs Assessment process is that the MCH Advisory Group did not include anyone from an organization serving homeless persons.

Addressing the identified priority needs will require ongoing partnerships, however. The collaborations described in Section 2, along with the MCH Advisory Group's involvement, demonstrate a wide range of ongoing partnerships among Family Health Services staff, other Health Department staff, and other organizations. These partnerships form an invaluable network to be maintained and enhanced as Family Health builds upon the FY 2004-05 MCH Needs Assessment, assesses capacity to address priority needs identified in that assessment, and implements

activities to address those priority needs. Additionally, Family Health Services will consult other potential partners as feasible—for example, partners who can advise on the health care needs of homeless maternal and child populations.

In conclusion to Section 2, the MCH Advisory Group, CRS’s Advisory Committee, and other partnerships described in Section 1 and/or Section 2 collectively comprise a dynamic, effective, and crucial part of the State’s infrastructure to perform the core public health functions of assessment, policy development, and assurance.

Collectively, the MCH Advisory Group, the CRS Advisory Committee, and other partnerships in which Family Health Services and CRS engage are crucial to performance of the core public health functions.

SECTION 3 ASSESSMENT OF NEEDS OF THE MATERNAL AND CHILD HEALTH POPULATION GROUPS

Needs of the three administratively defined State MCH population groups were assessed according to methods described in Section 1. Here in Section 3, salient findings from the FY 2004-05 MCH Needs Assessment are presented, according to the State MCH population group to which findings pertain. Some findings cut across population groups, however. Thus, findings are organized under the following categories:

- Demographics and Health Status: Crosscutting Populations.
- Findings: Pregnant Women, Mothers, and Infants.
- Findings: Children and Youth.
- Qualitative Findings: Pregnant Women, Mothers, and Infants; Children and Youth.
- Findings: CYSHCN.^a

In some cases, discussions in this section are based on numbers shown on forms in the *MCH 2004 Report/2006 Application*, as well as in earlier *MCH Annual Reports/Applications* to which current numbers are compared. Hard copies of these reports are or soon will be available upon request.^b

Demographics and Health Status: Crosscutting Populations

All references to health status indicators or health systems capacity indicators use the numbering system used in recent *MCH Annual*

^a Though administratively defined as a third population, CYSHCN are in reality a subgroup of children and youth.

^b The final version of the *MCH 2004 Annual Report/2006 Application* is expected to be available in hard copy by December 2005, and expected to be on line by early 2006 (<https://performance.hrsa.gov/mchb/mchreports>). Hard copies of the *MCH 2004 Annual Report/2006 Application* or pertinent pages from earlier *MCH Annual Reports/Applications* can be obtained by calling 334-206-5943 or e-mailing acowden@adph.state.al.us.

Reports/Applications. Discussions are based on the most recent numbers available at the time of the writing. Because some numbers for 2004 are not available to Family Health Services as the following discussions are being written, some narrative discussion does not include numbers reported in the *MCH 2004 Report/2006 Application*.

Infants, Children, and Youth: Race and Ethnicity

The age, racial, and ethnic distributions of Alabama residents from birth through 24 years of age are shown on Form 21 of the *MCH 2004 Annual Report/2006 Application*. Form 21 shows population numbers for this entire age range and for six age groups within this range: under 1 year, and 1-4, 5-9, 10-14, 15-19, and 20-24 years.

As shown for Health Status Indicator (HSI) #06A, an estimated 1,550,411 persons from birth through 24 years of age resided in Alabama in 2004. Nearly two-thirds (65 percent) of these persons were white, one-third (33 percent) African American, and a few (2.6 percent) of other or of more than one race. Comparing numbers over time—specifically, to the Year 2000 Census—is problematic because persons of unknown race were classified differently for 2004 than for 2000. Specifically, the Year 2000 Census reports numbers for a category that includes persons whose race is other than the categories shown in HSI #06A or is unknown. On the other hand, the numbers for 2004 are from the Census Bureau's population estimates, which allocate persons of "other or unknown" race into a race category.^c

Even so, the reported increase in the number of Asians residing in Alabama is of interest. Specifically, the reported number of Asians

^c Population numbers for 2000 and 2004 were provided by the University of Alabama Center for Business and Economic Research. Numbers for 2000 are based on the U.S. Census in that year, and numbers for 2004 are population projections. Numbers for 2000 are shown on Form D2 of the *MCH 2001 Annual Report/2003 Application*. Numbers for 2004 are shown on Form 21 of the *MCH 2004 Annual Report/2006 Application*. Percents reported in narrative were derived from the population numbers.

residing in Alabama increased by 6 percent: from 11,532 in 2000 to 12,180 in 2004. An increase of this magnitude is credible. As discussed later in this section, under “Live Births According to Race and Maternal Age,” in Alabama the number of live-born Asian infants increased by 28 percent. As also discussed there, a large Korean automotive manufacturer has recently established a presence in the State.

Again comparing 2004 to 2000, the numbers of Alabama children and youth from birth through 24 years of age declined by 0.8 percent or, by 12,623 individuals in this age group. Though small in terms of a percent change, the proportion of the State’s population that is comprised of children and youth has been slowly declining for several years. As stated in the *MCH 2003 Report/2005 Application*, children and youth 19 years of age or younger comprised 28.5 percent of Alabama’s population in 1999, versus 29.0 percent in 1994.

Table 1 shows numbers reported for HSI #06B for 2000 and 2004. The following discussion compares numbers in 2004 (which are projections) to those in 2000 (which are not projections). An estimated 45,423 Hispanic persons from birth through 24 years of age resided in Alabama in 2004, which is a 19 percent increase over 2000.^d The increase predominantly occurred in persons 14 years of age and younger. Again comparing 2004 to 2000, the number of Hispanic residents aged 20-24 years increased by just 1.9 percent, and the number aged 15-19 years declined by 1.3 percent.

Table 1. Number of Hispanic/Latino Alabama Residents from Birth Through 24 Years of Age, 2000 and 2004

Age Group (Years)	2000	2004*
Less than 1	1,745	2,641
1-4	6,978	9,227
5-9	6,899	9,033
10-14	5,601	7,567
15-19	7,022	6,929
20-24	9,841	10,026
0-24 (Total)	38,086	45,423

*Numbers are projections.

The preceding numbers indicate a continued need for culturally sensitive approaches to addressing health-related issues in Hispanic children and

^d Overall all percent changes over time were estimated using a multiplicative model: $([\text{indicator's value for the later time period} - \text{indicator's value for the earlier time period}] / \text{indicator's value for the earlier time period}) \times 100$ percent.

youth. Further, though the projected number of 15-19 year-old Hispanic/Latino Alabama residents in 2004 declined slightly relative to 2000, the number in 2004 (6,929) was 70 percent higher than the projected number in 1999 (4,080). More strikingly, the projected number of 20-24 year-old Alabama Hispanic residents in 2004 (10,026) was 2.5 times greater than the corresponding estimated number in 1999 (4,039). The higher projected number of 20-24 year-old Hispanic youth in 2004 relative to the 1990s reinforces the need to assure that the Hispanic population can access family planning services and obtain health insurance coverage for prenatal and perinatal care.^e Moreover, as 10-14 year-old Hispanic youth become young adults, access to health care for young adult Hispanic individuals will increase in importance.

According to population projections, more Hispanic children and youth, including young adults, resided in the State in 2004 than in 2000. These findings indicate a continuing need for culturally sensitive approaches to addressing health-related issues in Hispanic children, youth, and young adults, as well as measures to promote access to health care for this population.

Infants, Children, and Youth: Certain Household or Community Characteristics

HSIs #09A and #09B, which pertain to children and youth from birth through 19 years of age and are also on Form 21, show four household or community characteristics for the State as a whole. These characteristics pertain to single parent headship of households, foster home care, juvenile crime, and dropouts from high school. Additionally, HSIs #10-12, also on Form 21, show household or community characteristics, collectively pertaining to population concentration and poverty level.

^e The farther the years for which projections are made from the Census year on which the projections are based, the less accurate the projections are. Projections of the number of Hispanic residents in Alabama in the late 1990s probably substantially underestimated the actual number of Hispanic residents. The apparent undercount in the 1990s, however, does not negate the need for services for Hispanic individuals now living in the State, and the number of these individuals is higher than it was thought to be in the late 1990s.

Numbers reported for HSIs #9A and #9B come from a number of external organizations, and the Epi/Data Branch does not have details on how these organizations estimated numbers. Further, these indicators may be statistically unstable in populations whose race is other than white or African American, due to relatively small numbers in these groups. With these caveats in mind, only salient findings (for HSIs #9A and #9B) in which we have reasonable confidence follow. (In this report, the first-person “we” and the possessive “our” typically refer to the Family Health Services’ Needs Assessment Coordinator, other Family Health analytic staff, and/or the State’s Title V Director.) All findings pertain to 2004:

- Of children and youth aged 0-19 years, 30 percent were in a household headed by a single adult: 18 percent of white children/youth and 57 percent of African American children/youth. Hispanic children and youth were slightly less likely to have lived in a single-parent household than non-Hispanic children and youth (26 percent versus 30 percent).
- Of children and youth aged 0-19 years, 0.5 percent (5,594) lived in a foster home: 0.3 percent of white children and 0.7 percent of African American children. Ninety-eight Hispanic children and youth lived in a foster home, or 0.2 percent of that population.
- The juvenile crime arrest rate was 4,629 arrests per 100,000 children/youth aged 10-19 years: 4,024 arrests per 100,000 white children/youth and 5,677 arrests per 100,000 African American children/youth. The ethnic-specific juvenile crime arrest rate is not available for Alabama.^f
- 3.8 percent of high school students dropped out of school. We have strong reservations about the accuracy of the numbers received, reported on Form 21, regarding the race-specific prevalences of dropping out of high school.

^f Numbers provided to the Bureau were for 3 age categories: under 18 years, 18 years, and 19 years. Under the assumption that most arrests would have been of youth aged 10 years or older, the denominator includes only persons 10-19 years of age.

Infants, Children, and Youth: Enrollment in Certain Programs

HSIs #9A and #9B are to show information regarding enrollment in five government programs: Temporary Assistance to Needy Families (TANF), Medicaid, SCHIP, Food Stamps, and WIC. Of these indicators, at this writing (June 2005), numbers are available to Family Health Services for Medicaid and WIC only. Discussion comparing 2004 to 2000, all pertaining to 0-19 year-old children and youth, follows:

- Per enrollment numbers received from the Medicaid Agency, 487,989 children and youth were enrolled in the State’s Medicaid program in FY 2004: a 25 percent increase over 2000 (when 390,885 were enrolled). The number enrolled increased more for white than for African American children and youth (by 32 percent, versus by 14 percent). The number of individuals served also increased more for white children/youth than for African American children/youth (by 52,350 individuals, versus by 30,760 individuals).
- In FY 2004, 208,647 children were enrolled in WIC: 2.3 times the number in FY 2000 (when 91,181 were enrolled). Again, the number served increased more for whites than for African Americans (by 2.6-fold versus by 2.0-fold). The number of individuals served also increased more for whites than for African Americans (by 67,169 individuals, versus by 45,174 individuals).
- In 2004, 5,984 Hispanic children and youth were enrolled in Medicaid: a 39 percent increase over 2000 (when 4,304 were enrolled). Also in 2004, 482,006 non-Hispanic children and youth were enrolled in Medicaid, a 28 percent increase over 2000 (when 377,547 were enrolled). Thus, the increase in Medicaid enrollment was not solely due to enrollment of Hispanic children and youth. The Health Department does not have a 2000 baseline showing the numbers enrolled in WIC according to ethnicity.

The aforesaid increases imply that outreach efforts of WIC, Alabama Medicaid, and Alabama SCHIP have met with notable success. With respect to

the latter, 79,407 persons were enrolled in SCHIP in FY 2004.

Outreach to enroll eligible children and youth in Medicaid and in WIC has met with notable success.

Infants, Children, and Youth: Geographic Living Areas

HSI #10, shown on Form 21, pertains to the geographic living area for all Alabama children and youth aged 0 through 19 years. In 2004, 72.2 percent of Alabama children and youth lived in metropolitan statistical areas (MSAs). This proportion is very slightly higher than it was reported to be in 2000 and 2001, when 70.1 percent of Alabama children and youth lived in an MSA. In June 2003, the U.S. Office of Management and Budget announced an initial update to statistical area definitions based on new standards and results of the 2000 Census. This update took effect immediately and, relative to the prior decade, added 49 new MSAs nationally.¹⁶ With this change, two Alabama counties (Baldwin and Dale, with a combined 0-14 year-old population of 3,370 in 2003) are no longer in an MSA, and eight counties (Walker, Bibb, Chilton, Greene, Hale, Lowndes, Geneva, and Henry, with a combined 0-14 year-old population of 43,383 in 2003) have been added to MSAs. (Corresponding county-specific numbers for 10-19 year-old children/youth are not readily available.) Nevertheless, the net effect of these changes in MSA definitions probably did not account for the slight increase in the proportion of Alabama children and youth residing in MSAs.

Counties classified into an MSA may be rural, however. Therefore, another and perhaps more informative way of looking at population concentration is to classify counties as urban, rural, or frontier, which is also part of HSI #10. No Alabama resident aged 0 through 19 years lived in a frontier area in any of the three surveillance years. In 2004, 55 percent of Alabama children and youth in this age group lived in urban areas, and 45 percent lived in rural areas. These proportions are unchanged compared to 2001 but reflect a somewhat less urbanized population than in 2000, when 60 percent of individuals in this age group lived in urban areas.

However, with numbers for only three reporting years, this change does not necessarily signal a trend. (Corresponding numbers for 2002 are not readily available.) An estimated 70 percent of all (regardless of age) Alabama residents lived in metropolitan areas in 2004, while 83 percent of U.S. residents lived in metropolitan areas in 2000 (using 2003 MSA definitions).¹⁷ This is consistent with the fact that much of the State is viewed as being rural in nature. On the other hand, Alabama's overall population density is slightly higher than that for the U.S. Specifically, reported as population per square mile of land area, in 2003 Alabama's population density was 89, versus the nation's density of 82. Compared with other states and ranking from high to low (with 1 being the highest density), Alabama ranked 23rd in population density.¹⁸

Infants, Children, and Youth: Poverty Levels

HSIs #11 and #12, shown on Form 21, pertain to the percent of the State's population at various levels of the federal poverty level (FPL). Numbers reported on Form 21 for these indicators are population projections that assume a distribution similar to that during the 2000 Census. Projections for 2004 indicate that 15 percent of the State's population, and 22 percent of the State's population aged 0 through 19 years, were below 100 percent of the FPL.

The preceding finding regarding 0-19 year-old children and youth is quite consistent with another source: The Current Population Survey report states that, in 2003, 22 percent of Alabama residents under the age of 18 years were below 100 percent of the FPL, compared to 18 percent of U.S. residents under 18 years of age.¹⁹ Also of interest is the proportion of families below 100 percent of the FPL. Per the Current Population Survey, in 2003, 12 percent of Alabama families, versus 10 percent of U.S. families, had household incomes below 100 percent of the FPL.²⁰

Health insurance reports published online by the U.S. Census Bureau provide a means for tracking the estimated percentage, as 3-year averages, of children under 19 years of age whose household incomes are at or below 200 percent of FPL. For Alabama, this estimate remained stable at 44.6 percent in 1997-99 and 1998-2000, increased to

46.0 percent in 1999-2000, then declined slightly to 43.7 percent in 2000-02 and 42.9 percent in 2001-03 (versus 38.2 percent for the U.S.).²¹ Considering the margin of statistical error, these changes in Alabama were not statistically significant. Additional years of data will be necessary to determine whether the proportion of Alabama children and youth living in low-income households is declining, however slowly. Further, as has been true in the past, compared to the U.S., Alabama children and youth are more likely to live in low-income households, whether defining “low income” as below 100 percent or below 200 percent of the FPL.

Findings: Pregnant Women, Mothers, and Infants

For the most part, discussion in Section 3 of pregnant women, mothers, and infants focuses on findings, rather than on implications of the findings or the Health Department’s activities to address corresponding issues. Activities pertaining to many MCH issues are discussed in the *MCH 2004 Report/2006 Application*. Further, when appropriate, salient activities pertaining to indicators described in Section 3, as well as major implications of findings presented here, are described in Section 4 or Section 5 of this Needs Assessment report.

Live Births According to Race, Ethnicity, and Maternal Age

HSIs #07A and #07B

HSIs #07A and #07B enumerate live births according to maternal age and, respectively, race and ethnicity. However, this discussion is based on numbers for 2003,^g which are compared to those for 1999, and Form 21 shows numbers for 2004. In this report, unless stated otherwise, counts of births pertain to live births to Alabama residents, and the race of an infant is presumed to be that of the mother. Because HSIs #07A and #07B exclude infants whose mothers’ age was not

reported, all discussion of these HSIs pertains to infants whose mothers’ age was reported.^h

Live Births According to Race and Maternal Age

In 2003, 59,351 infants were born alive to Alabama residents: 2,710 fewer (or 2.5 percent less) than in 1999. About two-thirds (68.5 percent) of the 59,351 infants born in 2003 were white, nearly one-third (30 percent) were African American, and relatively few (1.5 percent) were of another or unknown race.

The racial composition of Alabama newborns changed slightly in 2003, compared to 1999: with white infants and Asian infants comprising slightly more of all live births, and African American infants comprising slightly less of all live births. Details of this change follow. Comparing 2003 to 1999, the number of live-born white infants declined by 2.5 percent (1,021 fewer infants) and the number of live-born African American infants by 9 percent (1,860 fewer infants).ⁱ On the other hand, over the same period the number of live-born Asian infants increased by 28 percent: from 456 infants in 1999 to 585 infants in 2003 (129 additional infants). Therefore, comparing 2003 to 1999, white infants comprised a slightly higher percentage of all live births (68.5 versus 67 percent), African American infants a slightly lower percentage (30 percent versus 32 percent), and Asian infants a slightly higher percentage (0.99 percent versus 0.73 percent).

We speculate that the increase in births of Asian infants in Alabama is partly due to the increased presence of manufacturing facilities for a large Korean automotive manufacturer in the State. For instance, in April 2002, this manufacturer announced that it would construct an automotive assembly and manufacturing plant in Montgomery.²² As of August 2004, this automotive manufacturer was working directly with about 30 companies in Alabama.²³ Although persons previously residing in Alabama are being hired to work in these facilities, the State has welcomed Korean employees of the auto

^g As of April 11, 2005, numbers for 2004 are not available. Preliminary numbers for 2004 will be reported on Form 21 when they become available, but not discussed in this narrative.

^h Maternal age was unreported for only 5 infants in 2003. Available vital statistics records did not report a “multiple race” category.

ⁱ The number of live-born infants of other or unreported race increased by 171 infants. Adding the race-specific absolute changes (-1,021 white infants, -1,860 African American infants, and +171 infants of other or unreported race) totals to -2,710 infants

manufacturer who have come to help establish and manage the new manufacturing facilities.

Comparing 2003 to 1999, most of the decline in numbers of live births occurred among babies born to adolescent mothers. That is, comparing 2003 to 1999, 1,821 fewer infants were born alive to mothers aged 19 years of age or younger. Comparing the same years, 900 fewer infants were born alive to mothers aged 20-34 years, and 11 additional infants were born alive to mothers aged 35 years or older.

The decline in the number of live births to adolescents occurred in both white infants and African American infants. Comparing 2003 to 1999, 780 fewer infants were born alive to white mothers aged 19 years or younger, a decline of 14.5 percent. Comparing the same years, 1,039 fewer infants were born alive to African American mothers aged 19 years or younger, a decline of 22 percent. Declines in numbers of live births were most striking for younger adolescents. That is, comparing 2003 to 1999, the number of live births to females 17 years of age or younger declined by 22 percent among white infants and 24 percent among African American infants. In 2003, 3.5 percent of live births to white females, and 8 percent of live births to African American females, were born to younger adolescents (respectively, down from 4.3 percent and 9 percent in 1999). Adolescent pregnancy rates, which count fetal deaths and elective abortions, as well as live births, are reported later in this section.

Live Births According to Ethnicity and Maternal Age

Again comparing 2003 to 1999, the number of live births declined among non-Hispanic individuals, overall and within each age group reported in HSI #07B. On the other hand, the number of live births to Hispanic females residing in Alabama increased by 86 percent, or by 1,378 infants. The increase in live births to Hispanic females occurred for each maternal age group, as well as for all ages combined.

In Alabama, the increase in Hispanic births began over a decade ago. Specifically, the number of live births to Hispanic Alabama residents had previously increased from 344 in 1990, to 1,595 in

1999: a 4.6-fold increase (or an increase of 364 percent). This number further increased to 2,972 in 2003, or 86 percent above the number in 1999. In 2003, 5.0 percent of live births were to Hispanic females, compared to 0.5 percent in 1990 and 2.5 percent in 1999.

Methods Note #1: Population-Based Estimates for Late 1990s

Certain indicators, including some of the pregnancy-related indicators that follow, are computed by dividing the number of events in the numerator (for example, the number of live births) by the population from which the events arose. Caution should be exercised when comparing population-based rates over time, since the farther away from the Census, the less accurate the population estimates and associated rates become. Conventionally used population denominators for 1991-1999 were estimated by projecting forward from the 1990 Census. Because population projections for the late 1990s appear to be too low, estimated population-based rates for the late 1990s may be spuriously high. On the other hand, population denominators for 2000 are based on the 2000 Census, and those for subsequent years on projections or estimates derived from the Census 2000.²⁴ As a corollary, any decline in a population-based rate for the 2000s, compared to rates in the 1990s that use conventional population denominators, may be wholly or partly explained by what were probably spuriously low population projections for the late 1990s.

This reporting artifact makes interpretation of trends extremely problematic, particularly for the black and other population, since population projections for the black and other population may have been especially underestimated for the late 1990s. For example, per population projections for 1999, 270,541 black and other females aged 15-44 years resided in Alabama. Per the 2000 Census, however, 315,999 black and other females in this age group resided in Alabama, up 17 percent from the projection for 1999. Comparing 2001-03 to 1996-98 without adjusting for this reporting artifact, the reported fertility rate for black and other females in Alabama declined by 20 percent. However, the number of live births (to black and other women, which comprises the numerator for the fertility rate) declined by 6 percent, much less than the reported fertility rate declined—suggesting that much of the apparent decline in the fertility rate in this population was spurious.

To address this reporting artifact, Epi/Data Branch staff developed adjusted population estimates for the 1990s, by assuming a constant annual percent change (using the model described in Methods Note #3) between the 1990 Census count and the 2000 Census count. Comparing 2001-03 to 1996-98, using adjusted population estimates as denominators for 1996 through 1998, the fertility rate for black and other Alabama females declined by 12 percent: notably less than the corresponding decline (of 20 percent) when using unadjusted denominators for the late 1990s. Of these two estimated percent declines—20 percent when using unadjusted population denominators for the 1990s versus 12 percent when using adjusted population denominators for the 1990s—we believe that the estimated decline of 12 percent more closely reflects the true decline. For this reason, in this Needs Assessment report, **unless stated otherwise, population-based estimates for the 1990s are based on “adjusted” population denominators that assume a constant annual percent change between the 1990 and 2000 Census counts.**

Because of the use of adjusted denominators for the 1990s, population-based rates or percentages reported here for the 1990s

may differ somewhat from those reported by the Health Department's Center for Health Statistics. Further, in their 2003 publications the Center for Health Statistics reported Census population projections, whereas their 2001 and 2002 publications reported population estimates provided by the University of Alabama's Center for Business and Economic Research (CBER). Because these publications used CBER estimates for 2001 and 2002 and because comparability of denominators is important when describing trends, this report uses CBER population estimates for 2003, which may yield slightly different rates or percentages than those reported by the Department's Center for Health Statistics.

The reporting artifact for population estimates and the use of CBER versus Census population estimates or projections does not affect estimates that count live births in the denominator, since live births are recorded in vital records. Therefore, denominators that count live births are not adjusted, but are instead based on live birth records.

Methods Note #2: Selected Terms: Analysis of Subgroups Defined According to Race

Whenever Epi/Data Branch staff directly analyzed electronic databases, if deemed appropriate findings can be reported for the total population, for white individuals, for African American individuals, and (if numbers are deemed large enough) for individuals of other races. When reporting these findings, the terms "black" and "African American" are used interchangeably. In many cases, however, reported findings are based on numbers obtained from publications by the Health Department's Center for Health Statistics that combine African Americans and persons of other races, excluding whites. These publications typically report race-specific findings for "white" and "black and other," so are reported here using the same terminology.

As derived from HSI #06A in the *MCH 2004 Report/2006 Application*, in 2004, when excluding multiracial infants, African Americans comprised 96.9 percent of infants whose race was other than white. When including multiracial infants in the denominator, African Americans comprised 91.9 percent of infants who were of a race other than white or who were multiracial.

Certain Pregnancy-Related Indicators

General Fertility Rate

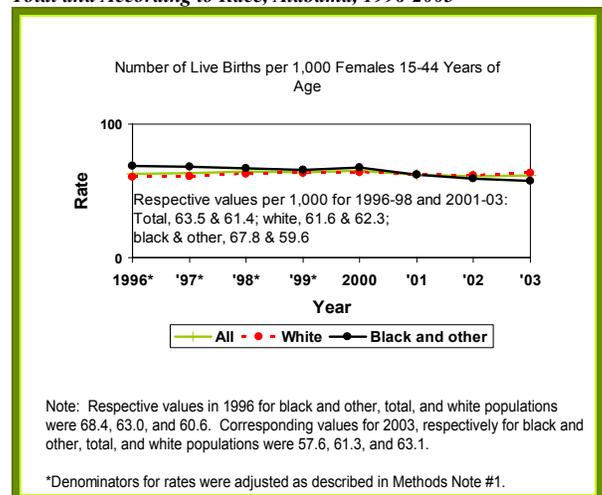
The general fertility rate is the number of live births per 1,000 females 15-44 years of age in the specified population. General fertility rates for 1996-2003 in Alabama are shown in Figure 3 for all women, white women, and black and other women. Among all Alabama females, the rate for 2001-03 was 3.3 percent lower than that for 1996-98, for an average annual decline of 0.7 percent. Comparing 2003 to 2000, the fertility rate declined by an average of 2.0 percent per year.^j

^j Unless the number of events (in the numerator on which a rate or percentage is based) is below 20, trend lines in figures in this report typically depict rates for individual years. However, even rates that are based on several hundred events can fluctuate markedly from year to year, for no explained reason other than variation that is "random" in the statistical sense. For this reason and for simplification, discussion in this narrative often compares 3-year periods: comparing the rate for the last 3 years of the surveillance period combined to the rate for the first 3 years of the surveillance period combined.

(Methods Note #3 describes how average annual increases or declines were estimated.) With respect to the total number of individuals, 59,356 infants were born alive to Alabama residents in 2003.

Over the surveillance period, the fertility rate changed little for white Alabama residents and declined for black and other Alabama residents. Comparing 2001-03 to 1996-98, fertility rates in Alabama increased by 1.0 percent for white females and declined by 12 percent for black and other females. As a corollary, the racial gap in the fertility rate diminished and even reversed slightly. That is, in 1996-98 in Alabama, the fertility rate among black and other women was 10 percent higher than that for white women. Conversely, in 2001-03 the rate for black and other women was 4.2 percent lower than that for white women. In 2001-2003, reported as the number of live births per 1,000 females aged 15-44 years, the fertility rate was 61.4 for the total population of females, 62.3 for white females, and 59.6 for black and other females.

Figure 3. General Fertility Rates
Total and According to Race, Alabama, 1996-2003



Adapted from reports by the Center for Health Statistics, Alabama Department of Public Health

Methods Note #3: Estimation of Average Annual Increase or Decline

The estimated average rate of increase or decline assumes a straight-line increase or decrease between the earliest year of the stated period and the latest year of the period. The model is multiplicative, not additive. Specifically, for all performance measures, the estimated average annual increase or average annual decline was based on a multiplicative factor derived as follows: (indicator's value for latest year of period / indicator's value for earliest year of period) to the power of (1/[latest year - earliest year]). If this factor is termed "f," the average annual percent change is (f - 1) times 100 percent. For example, if a

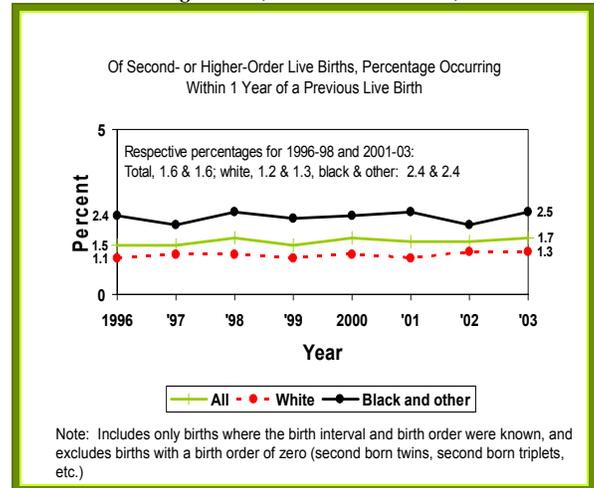
performance measure were 70 percent in 1996-98 (or circa 1997) and 76 percent in 2001-03 (or circa 2002), $f = (76/70)$, to the power of $(1/[2002 - 1997])$, or $1/5$ —that is, 1.08571 to the power of $1/5$, yielding a factor of 1.017. The average annual percent change would then be $(1.017 - 1) \times 100$ percent, or +1.7 percent, for an average annual increase of 1.7 percent. If the value of a performance measure was declining, for example from 63.4999 per 1,000 in 1996-98 to 61.3905 per 1,000 in 2001-03 (as was the case for the total fertility rate), f would be 0.993, and the average annual percent change would be $(.993 - 1) \times 100$ percent, or -0.7 percent, for an average annual decline of 0.7 percent.

Short Inter-Pregnancy Interval

Among both white and African American women, an interpregnancy interval of 18 to 23 months is associated with the lowest risk for adverse perinatal outcomes.²⁵ Accordingly, it has been suggested that women, especially those who are poor and young, should be advised of the potential harm to their infants of short interpregnancy intervals.²⁶ Pertinent indicators available to Family Health Services are the respective percentages of second- and higher-order births that occurred less than one year and two years after a previous live birth.²⁷ Figure 4 depicts trends in the percentages of infants born alive, in second- or higher-order births, within one year of a previous live birth. (First-order births and births of unknown order are not included in this indicator.) As shown in Figure 4, of all second- or higher-order live births to Alabama residents in 2003, 1.7 percent were within one year of the previous live birth. Corresponding race-specific percentages were 1.3 percent for white infants and 2.5 percent for black and other infants.

Comparing 2001-03 to 1996-98 in Alabama, this indicator remained the same (at 2.4 percent) for births to black and other residents and increased by 10 percent (from 1.2 percent in 1996-98 to 1.3 percent in 2001-03) for births to white residents. Accordingly, the racial gap for this indicator narrowed slightly. That is, in 2001-03, black and other second- or higher-order live births were 1.9 times more likely than white births to have occurred within one year of a previous live birth, down from being 2.1 times more likely in 1996-98. With respect to total number of individuals, in 2003 in Alabama, 577 live-born infants were born within one year of a previous live-born sibling.

Figure 4. Live Birth Interval of Less than One Year Total and According to Race, Alabama Live Births, 1996-2003



Adapted from reports by the Center for Health Statistics, Alabama Department of Public Health

Live Births from Unintended Pregnancies

In 2002, 48 percent, or nearly half, of live-born infants were from unintended pregnancies (95 percent CI: 45%-51%).²⁸ Considering the margin of statistical error, this percentage has not significantly changed since 1993, the earliest year for which this indicator is reported for Alabama. As well as not changing for the total population, the indicator has not significantly changed for white or for black and other individuals. The estimated percentage of black and other live-born infants who were from unintended pregnancies declined in 1998, 1999, and 2000, but then rose again in 2001. (None of these changes were statistically significant.)

Among Alabama live-born infants in 2002, 37 percent of white infants and 69 percent of black and other infants were from unintended pregnancies. Throughout the surveillance period, black and other live-born infants were from about 1.6 to 2.1 times as likely as their white counterparts to be from unintended pregnancies, and these differences were statistically significant.

Throughout the surveillance period, the live-birth prevalence of unintended pregnancy differed, nearly always significantly, according to several other characteristics as well. For instance, of women having live-born infants in 2002, intendedness of the pregnancy differed as follows:^k

^k None of these characteristics were independently assessed as risk markers.

- Teen mothers (19 years and younger) were more likely than adult mothers to have been unintentionally pregnant (77.5 percent of teen mothers versus 42.5 percent of adult mothers).
- Less educated mothers were more likely than more educated mothers to have been unintentionally pregnant (62.5 percent of mothers with less than a high school education, 54 percent of mothers with a high school education but no further education, and 36 percent of mothers with education beyond high school).
- Unmarried mothers were more likely than married mothers to have been unintentionally pregnant (75 percent of unmarried mothers and 34 percent of married mothers).
- Medicaid-enrolled mothers were more likely than remaining mothers to have been unintentionally pregnant (64 percent of Medicaid-enrolled mothers versus 34 percent of remaining mothers).

Adolescent Pregnancy

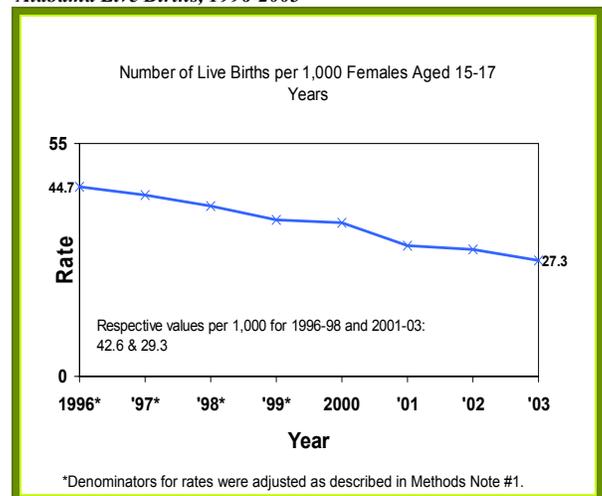
Various socioeconomic disadvantages and suboptimal health outcomes, including infant mortality, have been linked with adolescent pregnancy. Though these links are not necessarily causal, some factors that predispose an adolescent to become pregnant may also place her infant at higher risk of death. Prevention of adolescent pregnancy is generally desirable, therefore, to allow the adolescent additional time to mature and avail herself of social and economic opportunities before assuming the responsibilities of motherhood. Moreover, even though links between adolescent pregnancy and adverse pregnancy outcomes should not be assumed to be causal, having an adolescent mother is an important indicator of infants who may be at greater risk of morbidity and mortality.

What follows are respective discussions of the adolescent live birth rate for the total population; the repeat adolescent live birth rate for the total population, for white adolescents, and for black and other adolescents; and the adolescent pregnancy rate for the total population, for white adolescents, and for black and other adolescents.

Adolescent Live Birth Rate

Figure 5 shows the live birth rate for adolescents aged 15-17 years, which is National Performance Measure (NPM) #08. Comparing 2001-03 to 1996-98, this rate declined by 31 percent. That is, in 2001-03, 29 out of every 1,000 females aged 15-17 years gave birth to a live-born infant, compared to 43 per 1,000 in 1996-98. Respective discussions of the repeat teen live birth rate and the adolescent pregnancy rate, according to race, follow Figure 5. With respect to total numbers of individuals in 2003, in that year 1,660 infants were born alive to Alabama females aged 15-17 years.

Figure 5. Adolescent Live Birth Rate, 15-17 Years of Age
Alabama Live Births, 1996-2003



Adapted from reports by the Center for Health Statistics, Alabama Department of Public Health

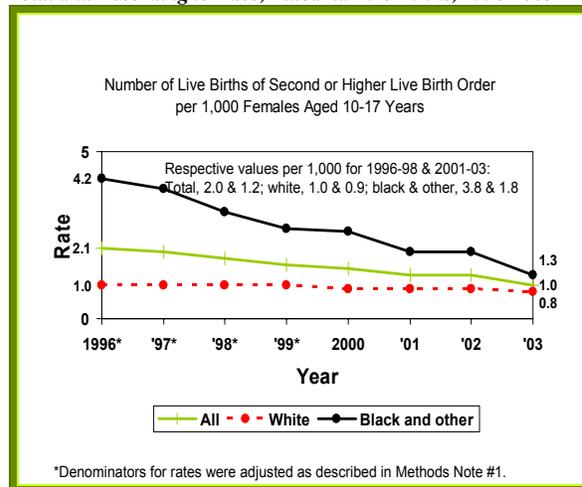
Repeat Adolescent Live Birth Rate

Repeat adolescent pregnancies especially merit monitoring, since they may represent missed opportunities by health care providers to encourage prevention of pregnancy. The repeat adolescent live birth rate (number of live births of second or higher live birth order to adolescents aged 10-17 years, per 1,000 such female adolescents) for 1996-2003 is shown in Figure 6, for all Alabama females in this age group and according to race. The repeat adolescent live birth rate declined notably for each population studied, and especially for black and other 10-17 year-old females. Among all 10-17 year-old Alabama females, the rate for 2001-03 was 39 percent lower than it had been in 1996-98 (number of second or higher live births per 1,000 females aged 10-17 years: 1.2 in 2001-03 versus 2.0 in 1996-98). Over the same period, this rate declined

by 13 percent for white adolescents and by 53 percent for black and other adolescents. Due to the marked decline in the repeat adolescent pregnancy rate among black and other adolescents, the racial gap for this indicator narrowed substantially, though it was not erased. That is, in 2001-2003, 10-17 year-old black and other females were 2.0 times more likely to have a repeat live birth, whereas they had been 3.7 times more likely in 1996-98. With respect to total numbers of individuals, 256 Alabama females aged 10-17 years had a second or higher order live-born infant in 2003.

Figure 6. Repeat Adolescent Live Birth Rate, 10-17 Years of Age

Total and According to Race, Alabama Live Births, 1996-2003



Adapted from reports by the Center for Health Statistics, Alabama Department of Public Health

Adolescent Pregnancy Rate

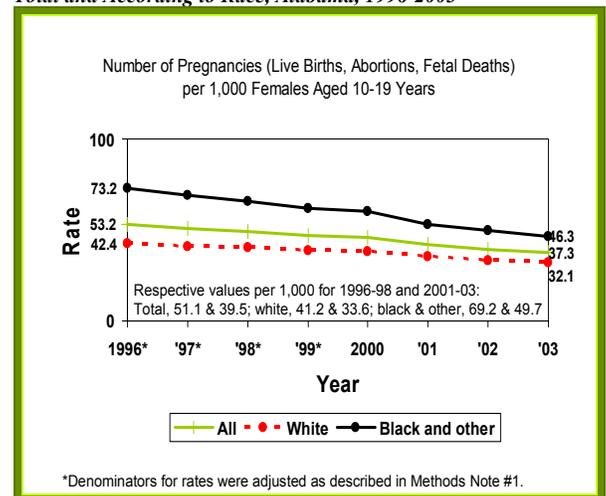
The two preceding indicators (adolescent live birth rate and repeat adolescent live birth rate) count only live births, while the adolescent pregnancy rate counts live births, induced abortions, and estimated fetal losses. Because it provides a more complete count of pregnancies, the adolescent pregnancy rate is the preferred indicator for monitoring progress on prevention of teen pregnancy. The adolescent pregnancy rate (number of pregnancies per 1,000 females aged 10-19 years) for 1996-2003 is shown in Figure 7, for all Alabama females in this age group and according to race.

The adolescent pregnancy rate declined substantially over the surveillance period. Comparing 2001-03 to 1996-98, the rate declined by 23 percent for the total population of adolescent females, by 18 percent for white

adolescent females, and by 28 percent for black and other adolescent females. Because the rate declined slightly more for black and other adolescent females than for their white counterparts, the racial gap narrowed somewhat. That is, in 2001-03 black and other adolescent females were 1.5 times more likely than white adolescent females to have been pregnant (as measured by live births, induced abortions, or fetal deaths reported for the period), whereas in 1996-98 they had been 1.7 times more likely than white adolescent females to have been pregnant. Among 10-19 year-old females in 2001-03, adolescent pregnancy rates were as follows: 39 pregnancies per 1,000 adolescent females for the total population, 34 pregnancies per 1,000 white adolescent females, and 50 pregnancies per 1,000 black and other adolescent females. With respect to total numbers of individuals in 2003, 11,957 Alabama females aged 10-19 years were reported to have been pregnant in that year.

Figure 7. Adolescent Pregnancy Rate, 10-19 Years of Age

Total and According to Race, Alabama, 1996-2003



Adapted from reports by the Center for Health Statistics, Alabama Department of Public Health

Methods Note #4: Distinction Between “Estimated Fetal Losses” and “Fetal Deaths”

“Estimated fetal losses,” a component used in determining the number of estimated pregnancies, is an estimate of the total number of fetal losses regardless of the gestational age of the fetus. Estimated fetal losses is computed as the sum of 20 percent of births and 10 percent of induced terminations of pregnancy, a widely used formula developed by the Alan Guttmacher Institute. Estimated fetal losses differs from the term “fetal deaths,” as used in this report and in publications by the Center for Health Statistics, Alabama Department of Public Health. While Alabama law defines fetal death to include all gestations, only fetal deaths of at least 20 weeks in gestation are required to be reported by Alabama law. Therefore, in this report “fetal deaths” refers to deaths of at least 20 weeks in gestation that are reported to the

Alabama Department of Public Health (Reference: County Health Profiles, Alabama 2000. Center for Health Statistics, Alabama Department of Public Health, June 2002).²⁹ Fetal deaths, not estimated fetal losses, comprise the numerator for the fetal death rate, discussed later in this section.

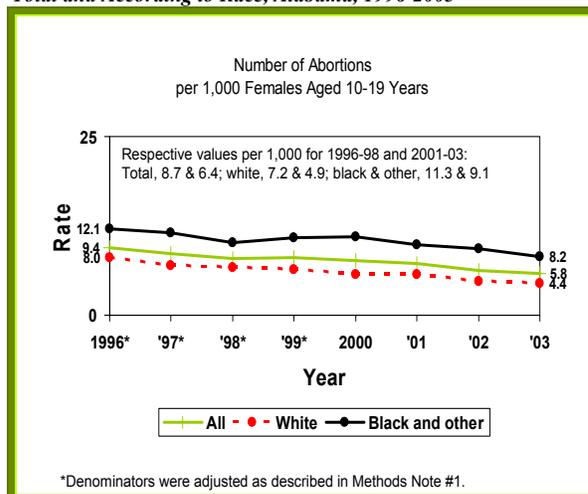
Abortion Rates

In our view, as access to and appropriate utilization of pregnancy prevention methods increases, abortion rates should decline. Induced abortion rates are discussed first for adolescents and then for adults.

Abortion Rate Among Adolescents

Figure 8 depicts abortion rates from 1996–2003 for Alabama females aged 10–19 years, for the total population and according to race. The rate declined for each of the three groups studied. That is, comparing 2001–2003 to 1996–98, in Alabama the abortion rate declined by 25.5 percent for the total population of adolescent females, by 32 percent for white adolescent females, and by 19 percent for black and other adolescent females. Among 10–19 year-old Alabama females in 2001–03, abortion rates were as follows: 6 abortions per 1,000 adolescent females for the total population, 5 abortions per 1,000 white adolescent females, and 9 abortions per 1,000 black and other adolescent females. With respect to reported numbers of individuals, in 2003 a total of 1,871 abortions were performed on Alabama females aged 10–19 years.

Figure 8. Abortion Rate, Females 10–19 Years of Age Total and According to Race, Alabama, 1996–2003

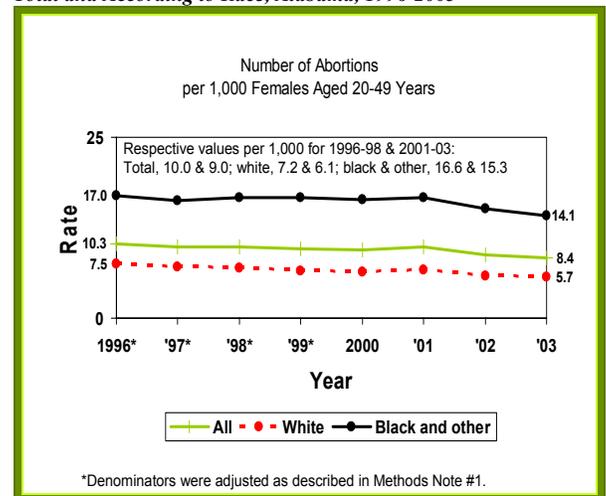


Abortion Rate Among Adults

Figure 9 depicts abortion rates from 1996–2003 for Alabama females aged 20–49 years, for the total population and according to race. The rate

declined for each of the three groups studied. That is, comparing 2001–2003 to 1996–98, in Alabama the abortion rate declined by 10 percent for the total population of adult females, by 15 percent for white adult females, and by 8 percent for black and other adult females. Among 20–49 year-old Alabama females in 2001–03, abortion rates were as follows: 9 abortions per 1,000 adult females for the total population, 6 abortions per 1,000 white adult females, and 15 abortions per 1,000 black and other adult females. With respect to reported numbers of individuals, in 2003 a total of 8,254 abortions were performed on Alabama females aged 20–49 years.

Figure 9. Abortion Rate, Females 20–49 Years of Age Total and According to Race, Alabama, 1996–2003



Methods Note #5: Time Period Studied; Combination of Years; and Statistical Significance.

Throughout this document, mortality numbers discussed or presented include the latest year for which such numbers are available to Family Health Services. The latest year available depends on the time of the writing, the purpose of the analysis (see comments on birth cohort linked versus period linked files, in Methods Note #6), and the group or subgroups studied. (Sometimes findings are available for the total population, but not for subgroups of interest.)

Where numbers of deaths are especially small in the statistical sense (less than 20 in one or more of the years studied), in this document rates are sometimes reported for three years combined, rather than for single years. Numbers pertain to Alabama residents unless stated otherwise. In the case of infant (under 1 year of age) deaths, the infants were born to Alabama residents.

Statements pertaining to statistical significance of differences in mortality are based on comparison of 95 percent Fleiss quadratic confidence intervals³⁰ unless stated otherwise. That is, differences are deemed to be statistically significant only if the confidence intervals do not overlap. Because statistical significance of differences was assessed in only certain cases, differences should be assumed to be statistically significant only if stated to be so.

Maternal Mortality and Morbidity

Maternal Mortality

In this report, “maternal” mortality or deaths refer to deaths attributed to pregnancy, childbirth, or the puerperium. In 2001-03 in Alabama, the maternal mortality rate was 0.95 maternal deaths per 10,000 live births, 25 percent below the corresponding rate of 1.17 maternal deaths per 10,000 live births in 1998-2000. This decline was not statistically significant, however. Numbers of maternal deaths are very small in the statistical sense, ranging from 3 to 10 deaths per year during the surveillance period.

Because of these small numbers, race-specific estimates of maternal mortality are especially imprecise, so are likely to vary extremely from year to year or even from one several-year period to another. Combining a 5-year period, in 1998-2002 the maternal mortality rate among black and other women was 1.49 maternal deaths per 10,000 live births, or 1.9 times the corresponding rate for white women (0.78 deaths per 10,000 births). Though not statistically significant, the higher maternal mortality rate among African Americans is cause for concern. Over this 5-year period in Alabama, the numbers of maternal deaths were 16 among white women and 15 among black and other women. Maternal mortality rates reported here presumably underestimate true maternal mortality rates to an unknown degree, since they are based solely on death certificate data. Though few in number as reported here, these deaths are part of a broader issue, maternal morbidity.

Maternal Morbidity

From the PRAMS database, the Health Department’s Center for Health Statistics reports on several indicators pertaining to maternal morbidity. Discussion of these indicators follows, and confidence intervals for estimates are shown in Table 2. When discussing PRAMS findings, “mothers” pertains to women having a live-born infant in the specified year(s).

Of Alabama mothers delivering live-born infants in 2000, 69 percent reported having a medical problem during pregnancy. Of those mothers with a medical problem, 33 percent reported preterm labor; 31 percent reported severe nausea, vomiting, or dehydration; 22 percent reported kidney or bladder infection, 19 percent reported

high blood pressure; 15 percent reported vaginal bleeding, and 8 percent reported having diabetes.

Again of those mothers who experienced a medical problem, 35 percent visited a hospital and stayed less than a day, 22 percent stayed from one to seven days, 4 percent stayed longer than seven days, and 34.5 percent stayed in bed for more than two days at the advice of a doctor or nurse. Per comparison of confidence intervals, none of the hospitalization or bed rest indicators differed significantly over the last three PRAMS surveillance years.

Table 2. Medical Problems, Hospital Visits or Stays, and Bed Rest During Pregnancy, Alabama PRAMS, 2002

Group	Experience During Pregnancy	Percent (95% Confidence Interval*)
All mothers	Had 1 or more medical problems during pregnancy	69.2 (66.3-72.1)
Mothers who had 1 or more medical problems during pregnancy: type of medical problem	Had preterm labor	33.4 (30.6-36.3)
	Had severe nausea, vomiting, or dehydration	31.2 (28.4-34.1)
	Had kidney or bladder infection	22.3 (19.7-24.8)
	Had high blood pressure	19.4 (17.0-21.8)
	Had vaginal bleeding	15.2 (13.1-17.4)
	Had diabetes	8.0 (6.3-9.7)
Mothers who had 1 or more medical problems during pregnancy: hospital stay or bed rest	Were in hospital or emergency room less than 1 day	34.7 (31.3-38.2)
	Were in hospital 1-7 days	22.2 (19.2-25.1)
	Were in hospital longer than 7 days	3.9 (2.9-5.0)
	Stayed in bed for more than 2 days, on advice of doctor or nurse	34.5 (31.0-38.0)

* These confidence intervals were calculated as being plus/minus 1.96 times the standard error, using SAS and SUDAAN statistical packages provided by CDC.

PRAMS indicators pertaining to hospitalization and bed rest were examined according to race (white and African American) for 2000, 2001, and 2003. White and African American mothers consistently differed for only one of the four hospitalization or bed rest indicators shown in Table 2: hospitalizations for longer than seven days. During the above three years, from 4.3-4.5 percent of African American mothers, versus from 1.6-3.8 percent of white mothers, were hospitalized during the pregnancy for longer than seven days. The racial difference was statistically significant in 2000, but not in 2001 or 2002.³¹

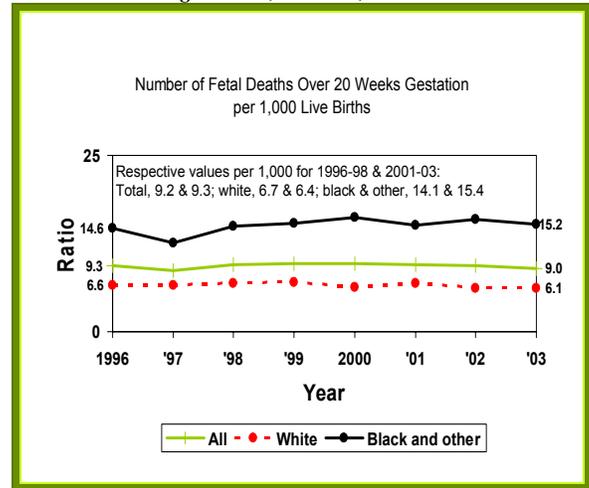
Fetal Death Ratio

As stated in Methods Note #4, as used in this report, “fetal deaths” pertains only to fetal deaths of at least 20 weeks in gestation that are reported to the Health Department. The fetal death ratio, reported as the number of fetal deaths per 1,000 live births in the specified group, is shown in Figure 10 for the total population and according to race.

Comparing 2001-03 to 1996-98, in Alabama this ratio declined by 4.9 percent for the white population and increased by 9.7 percent for the black and other population. Among the black and other population in Alabama, however, the ratio dropped to 12.6 fetal deaths per 1,000 live births in 1997, which is the lowest value for this population since 1945 and makes 1996-98 an unsuitable baseline. (We do not have findings for prior to 1945.) Comparing 2001-03 to 1998-2000, a more suitable baseline, the fetal death ratio for births to black and other Alabama residents remained basically the same (in 1998-2000 and 2001-03 respectively, 15.5 and 15.4 fetal deaths per 1,000 live births). Over the same period, the fetal death ratio for births to white Alabama residents declined by 5.3 percent.

The potential for reporting artifacts complicates interpretation of trends in reported fetal deaths. Classifying moribund (about to die) newborns as fetal deaths versus live-born infants who soon expire is not straightforward, even with use of the World Health Organization’s definition of a live birth. As well, classifying gestational age as being 20 weeks versus around 19 weeks may not be straightforward. Considered in the context of the potential for reporting artifacts, recent trends in the State’s fetal death ratio have no clear implications for prenatal or perinatal health care.

Figure 10. Fetal Death Ratio
Total and According To Race, Alabama, 1996-2003



Methods Note #6: Birth and Death Files

The Department analyzes two basic types of live birth files: period linked files and birth cohort linked files. In a period linked file the numerator file consists of all infant (under 1 year of age) deaths of babies who died during the specified year or period, for example, 2002, that have been linked to their corresponding birth certificates—whether the birth occurred in that year (per this example, 2002) or the previous year (per this example, 2001). In contrast, in the birth cohort linked file for 2002, for example, the numerator file consists of all infant deaths to babies born in 2002, whether the death occurred in 2002 or 2003. For both types of files, the denominator file is the natality file for the specified year (per this example, 2002), which contains all the reported live births for that year.

Because birth cohort linked files have methodological advantages and are generally somewhat more complete and more fully edited than the Department’s period linked files, most of the live-birth- and infant-death-related findings reported here for years through 2002 are based on analysis by Epi/Data Branch staff of birth cohort linked files. Because birth cohort linked files have not been prepared for 2003, any findings for that year are based on period files. Certain assumptions are required for interpretation of infant mortality estimates from period linked files, and these assumptions become increasingly less valid as the size of subgroups being analyzed diminishes. Thus, most infant mortality findings reported here are for 2002 or earlier years, not for 2003. Findings based on analysis by Family Health staff of birth cohort linked files through 2002 or period files for 2003 are likely to differ slightly from corresponding estimates shown on the forms of the MCH 2004 Report/2006 Application. The reason for these differences is two-fold. First, birth and mortality data reported on forms are necessarily based on the Department’s period files. Secondly, when analyzing 2003 period files, Family Health staff selected infant deaths based on the mother’s residence, while the statistical files described later in this text box select deaths based on the decedent’s residence.

Because of the methodological advantages of the birth cohort linked files, Family Health’s analytic staff consider them preferable for describing infant mortality when performing needs assessment and have used them whenever feasible. On the other hand, period linked files are available in a more timely fashion and are less time consuming to prepare than are birth cohort linked files. (Birth cohort linked files cannot be prepared until several months after the close of the year following the births, in order to wait until the first birthday of all infants in the cohort and allow time to receive reports on those who died before their first birthday.)

Methods Note #7: Regarding Births

Unless stated otherwise (for fetal deaths for example), all findings pertain to infants born alive, during the specified 1-year or 3-year reporting period, to Alabama residents. Counts are according to the number of infants, so mothers delivering multiple live-born infants are counted more than once. Race is according to the mother's race.

The rationale for often combining three years of data is to minimize statistical imprecision, which, other things being equal, increases as the size of the subgroup analyzed decreases.

The source of payment for delivery designation is based on birth certificate data. Alabama's birth certificate includes an item inquiring about the main source of payment for birth, with the following check box items: Medicaid, private insurance, self pay, and other. **Presumably, many of the "self pay" group have no health insurance and are unable to pay the cost of delivery.** Mothers whose delivery was funded by Medicaid are referred to in this document as Medicaid-enrolled mothers, though many of them were probably not enrolled in Medicaid at the beginning of their pregnancy.

Maternal Characteristics, Risk Markers for Infant Death, and Health Care Issues

Initial discussion under this heading presents a wide-angle snapshot of a 3-year period, rather than a description of trends or a focused description of one or two subgroups. Later discussion, under "Trends in Risk Markers for Infant Death," describes trends in selected indicators.

Relationship Among Race, Source of Payment for Delivery, and Maternal Age

Reducing disparities in health status is a major concern of the State, as well as the Nation. Accordingly, many indicators pertaining to infant mortality have been respectively analyzed by race and, as a surrogate for socioeconomic status, source of payment for delivery. Additionally, many of these indicators have been analyzed by maternal age.

Figures 11-14 respectively depict the percentage of infants who were from Medicaid-funded deliveries (44 percent), who were from "self-pay" deliveries (2.9 percent), who were born to adolescent mothers (14.5 percent), and who were born to adolescent mothers who had previously been pregnant (3.9 percent). In addition to showing the overall percentage of all infants having the characteristics depicted, the point of Figures 11-14 is to show that the subgroup-

defining characteristics (race, source of payment, and maternal age) are related to one another. Accordingly, any racial differences, for example, in access or outcome may be partly or even largely due to socioeconomic differences. Similarly, differences among maternal age groups may be partly due to socioeconomic differences, rather than maternal age per se. Elaboration on the relationship among the subgroups studied follows.

Deliveries of African American babies were more likely to be Medicaid funded than deliveries of white babies or babies of other races. Similarly, deliveries of babies born to an adolescent mother were more likely to be Medicaid funded than deliveries of babies born to an older mother (Figure 11). Deliveries of infants of other races were more likely to be self pay than deliveries of white or African American infants (Figure 12). African American babies and babies whose delivery was funded by Medicaid were more likely to have an adolescent mother than, respectively, white babies and babies whose mothers had private insurance (Figure 13). Similarly, African American babies and babies whose mothers were enrolled in Medicaid were more likely to have an adolescent mother who had previously been pregnant than were, respectively, white babies or babies whose mothers had private insurance (Figure 14).

Figure 11. Medicaid-Funded Deliveries
Total and According to Maternal Race and Age
Alabama Live Births, 2001-03

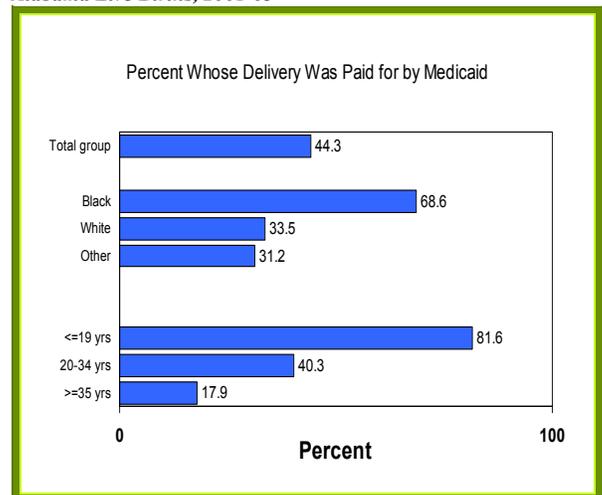


Figure 12. Self-Pay Deliveries
Total and According to Maternal Race and Age
Alabama Live Births, 2001-03

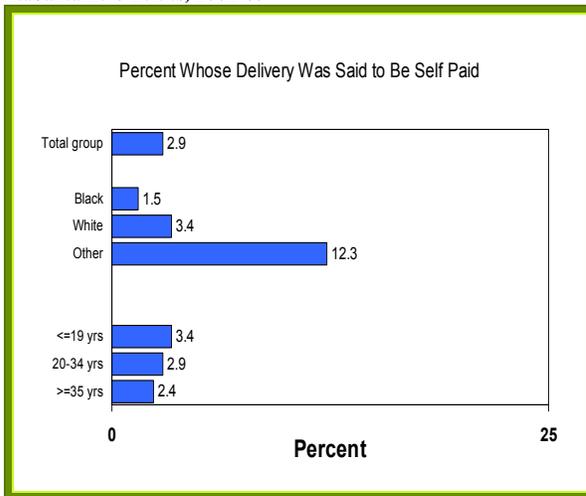


Figure 13. Adolescent Mothers
Total and According to Race and Source of Payment for Delivery,
Alabama Live Births, 2001-03

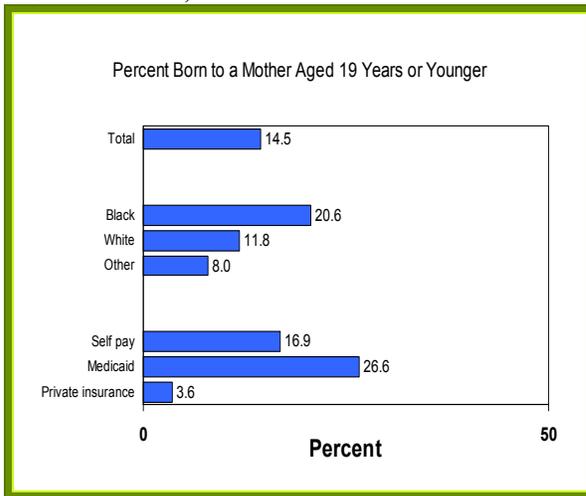
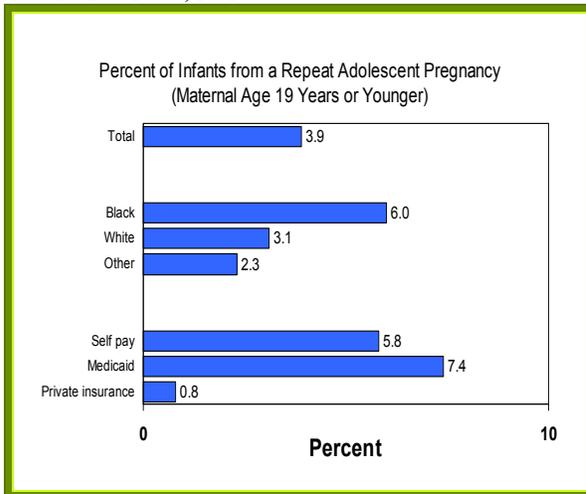


Figure 14. Repeat Adolescent Pregnancy
Total and According to Race and Source of Payment for Delivery,
Alabama Live Births, 2001-03



What follows is a discussion of certain risk markers for infant death, according to race, source of payment for delivery, and maternal age.

Certain Risk Markers and/or Health Care Issues Concerning Pregnancy and Infancy
History of Previous Live-Born Infant Who Died

Of infants born in 2003, 1.4 percent were born to a mother who had previously had a live-born child who later died. Compared to white mothers or mothers of other races, African American mothers were more likely to have previously had a live-born infant who later died (1.9 percent of African American mothers versus 1.2 percent of white mothers and 1.3 percent of other mothers). With respect to source of payment for delivery, mothers who “self paid” for the delivery were more likely to have had a previous live-born infant who died than either mothers with Medicaid or mothers with private insurance. Medicaid-enrolled mothers were more likely to have this history than privately insured mothers. Specifically, of infants born alive in 2001-03, the respective percentages whose mothers had previously had a live-born infant who died were as follows: total group, 1.4 percent; self-pay delivery, 2.0 percent, Medicaid-covered delivery, 1.6 percent; and private-insurance-covered delivery, 1.1 percent (no figure).

Tobacco Use During Pregnancy

Tobacco use during pregnancy is depicted in Figure 15. Mothers of 12 percent of infants had used tobacco during the pregnancy. African American mothers and mothers of other races were less likely to have used tobacco during the pregnancy than white mothers were. In fact, white mothers were nearly three times more likely to have used tobacco during the pregnancy than African American mothers (Figure 15). Medicaid-enrolled and self-paying mothers were more likely than privately insured mothers to have used tobacco during the pregnancy, and older adolescent mothers more likely than any other age group to have done so.

Hispanics were less likely to have used tobacco during the pregnancy than non-Hispanics. When concurrently stratifying according to race, source of payment for delivery, and ethnicity (Hispanic versus non-Hispanic), tobacco use during the pregnancy was highest among white non-Hispanic

Medicaid-enrolled mothers, white non-Hispanic self-paying mothers, and non-Hispanic Medicaid-enrolled mothers of “other” (than white or African American) races (not shown in figures).

Specifically, in 2001-03

- In the white, non-Hispanic Medicaid-enrolled group, mothers of 34 percent of infants had used tobacco during the pregnancy.
- In the white, non-Hispanic self-paying group, mothers of 26 percent of infants had used

tobacco during the pregnancy.

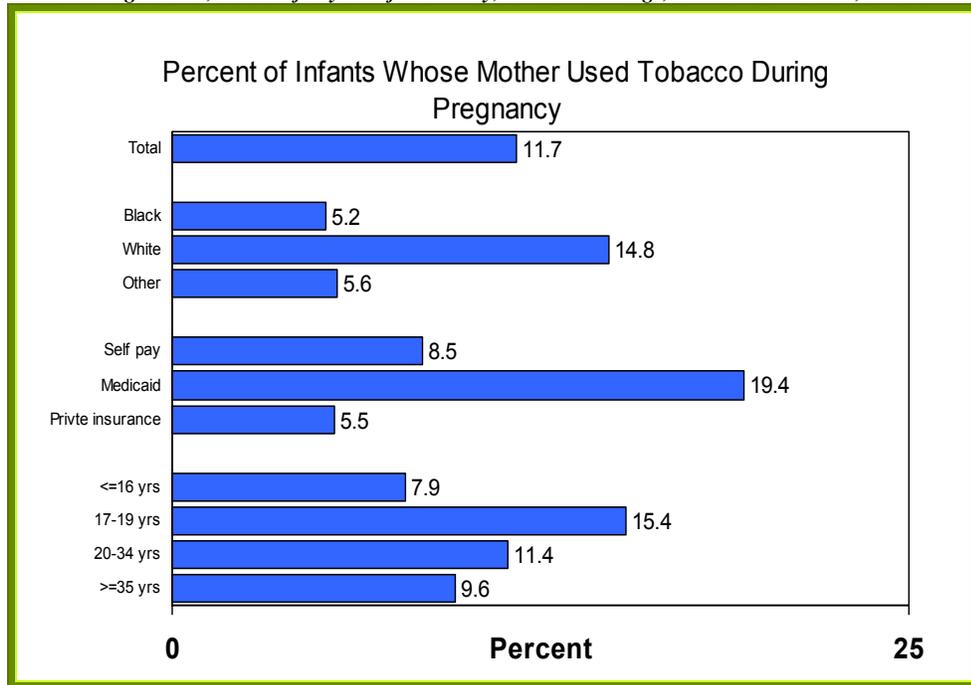
- In the “other” (neither white nor African American), non-Hispanic Medicaid group, mothers of 14 percent of infants had used tobacco during the pregnancy.

Trends in tobacco use during pregnancy are described later in this report, under “Trends in Risk Markers for Infant Death.”

Alabama Live Births, 2001-03
One-third of white, non-Hispanic Medicaid-enrolled mothers had used tobacco during the pregnancy.

Figure 15. Tobacco Use During Pregnancy

Total and According to Race, Source of Payment for Delivery, and Maternal Age, Alabama Live Births, 2001-03



Prenatal Care

Figures 16-18 depict percentages of infants whose mothers had received late prenatal care, defined as beginning after the first trimester; had received inadequate prenatal care, defined per the Kessner Index; and had received no prenatal care. (Mothers receiving no care are also counted among those receiving inadequate care.) Of the total population of mothers, 16 percent had received late prenatal care, 5.1 percent inadequate prenatal care, and 1.2 percent no prenatal care.

Of the three subgroups defined by race (white, African American, and other), African American women were most likely to begin receiving prenatal care after the first trimester, with 25 percent of them receiving late prenatal care. On the other hand, women of other races were most likely to receive inadequate prenatal care and to receive no prenatal care: with 10 percent of them receiving inadequate care and 3.6 percent of them receiving no care.

Of the three subgroups defined by source of payment for delivery (self pay, Medicaid, and private insurance), self-paying mothers were most likely to receive insufficient prenatal care, regardless of how “insufficient” was defined. Specifically, 37 percent of self-paying mothers had received late prenatal care, 34.5 percent of them inadequate care, and 18 percent of them no care. Self-paying mothers comprised 7 percent (1,934/27,821) of the mothers receiving late prenatal care, 14 percent (1,463/10,202) of those receiving inadequate care, and 35 percent (738/2,107) of those receiving no care.

Again regardless of how insufficient care was defined, Medicaid-enrolled mothers were more likely to receive insufficient care than privately insured mothers. Specifically, 26 percent of Medicaid-enrolled mothers had received late prenatal care, 7 percent of them inadequate care, and 1.0 percent of them no care.

Of the four subgroups defined by maternal age (16 years or younger, 17-19 years, 20-34 years,

and 35 years or older), the youngest adolescents were most likely to have received insufficient prenatal care. Specifically, 39.5 percent of them had received late care, 12 percent of them inadequate care, and 2.2 percent of them no care.

The issues of inadequate or no prenatal care among Hispanic mothers are discussed later in this report. Trends in the receipt of inadequate prenatal care and of no prenatal care are also discussed later, under “Trends in Risk Markers for Infant Death.”

About one-third of “self-paying” mothers had received inadequate prenatal care. Eighteen percent of them had received no prenatal care. Self-paying mothers comprised about one-third of all the mothers who had received no prenatal care.

Figure 16. Late Prenatal Care
Total and According to Race, Source of Payment for Delivery, and Maternal Age, Alabama Live Births, 2001-03

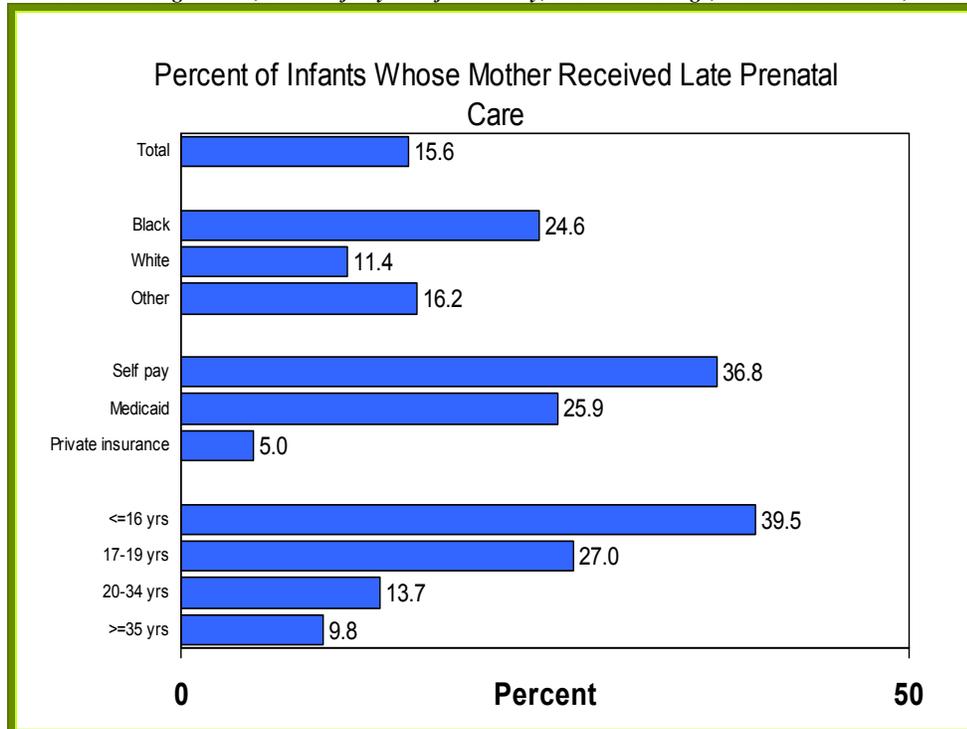


Figure 17. Inadequate Prenatal Care

Total and According to Race, Source of Payment for Delivery, and Maternal Age, Alabama Live Births, 2001-03

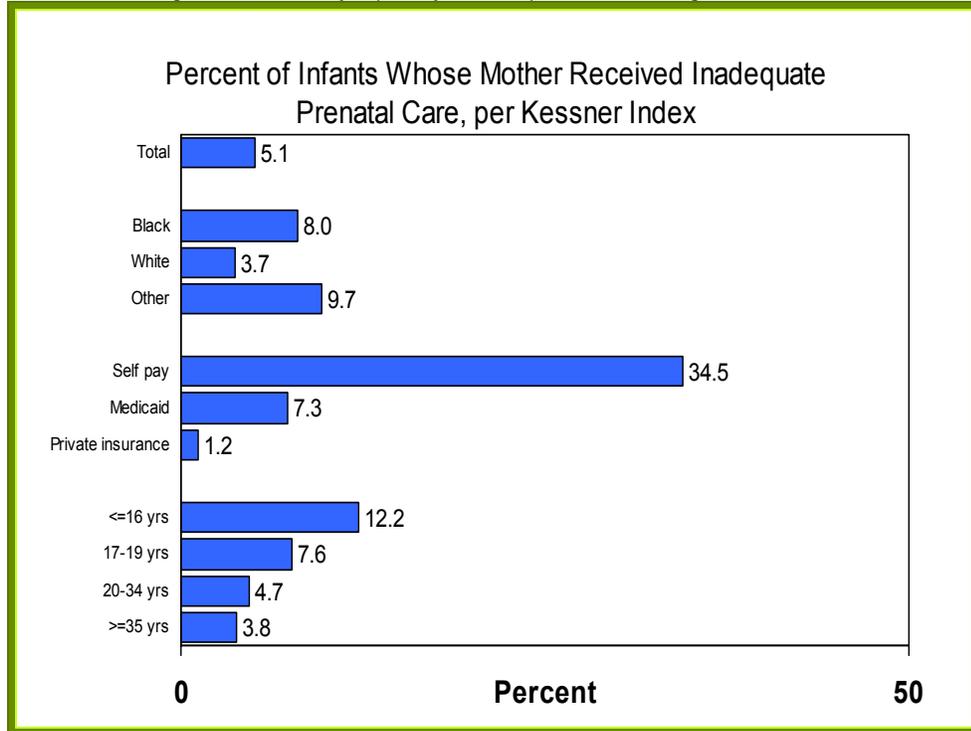
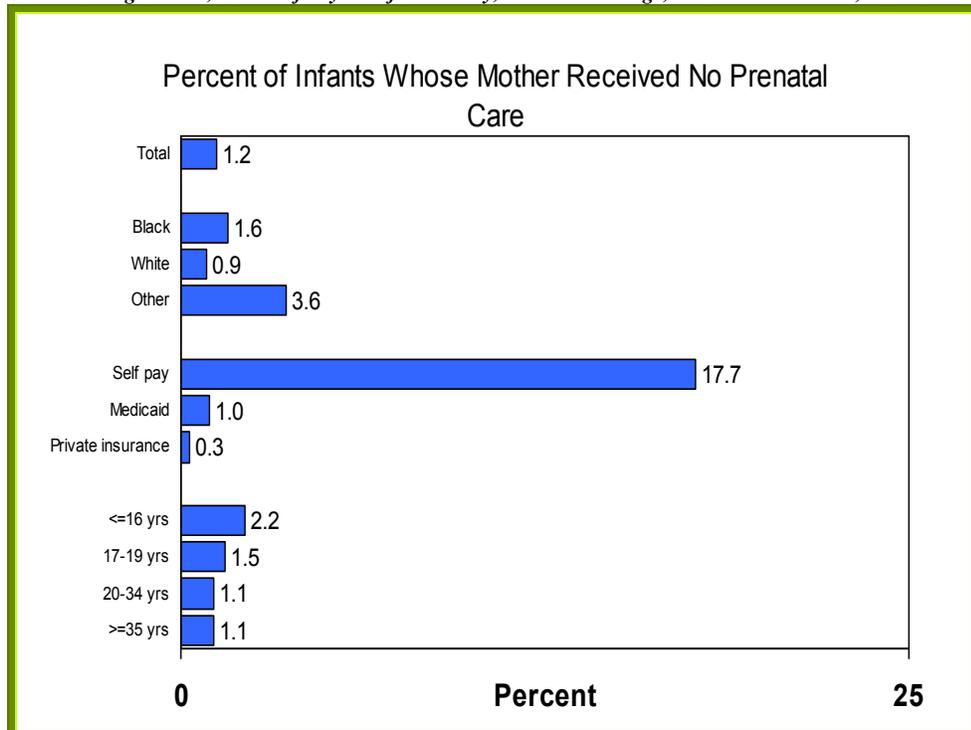


Figure 18. No Prenatal Care

Total and According to Race, Source of Payment for Delivery, and Maternal Age, Alabama Live Births, 2001-03



Very Low Birthweight Births at Perinatal Centers

A major goal of the State Perinatal Program is to assure that very low birthweight (VLBW, or less than 1,500 grams, or less than about 3 pounds 5

ounces) infants are born at facilities with the resources to provide appropriate care. These facilities are often termed perinatal centers, defined for this report as any teaching or non-teaching hospital with one or more full-time

neonatologists, a neonatal intensive care unit, and two or more obstetricians. We do not have the information to classify out-of-state hospitals, so may slightly underestimate the percentage of VLBW infants who are actually born at a perinatal center.

Eighty-one percent of VLBW infants were delivered at a perinatal center located in Alabama (Figure 19). Regarding race, VLBW infants of other races were slightly less likely to be born at a perinatal center than VLBW white or African American infants were. Regarding source of payment for delivery, VLBW infants of self-paying mothers and of Medicaid-enrolled mothers were slightly less likely to be born at a perinatal center than those of privately insured mothers. Regarding maternal age, VLBW infants of adolescent mothers were slightly less likely to be born at a perinatal center than those of older mothers.

Trends in the proportion of VLBW infants who were *not* born at a perinatal center are discussed later, under “Trends in Risk Markers for Infant Death.”

Pregnancy Outcomes

Multiple Births

Infants from multiple births (twins, triplets, etc.) are more likely than those from singleton births to be born prematurely and/or to be low birthweight,³² placing them at greater risk of infant death. Infants from multiple births comprised 3.4 percent of all Alabama residential live births in 2001-03 (not depicted graphically). African American mothers and white mothers were more likely than mothers of other races to have multiple births (3.7 percent of African American mothers, 3.2 percent of white mothers, and 2.0 percent of other mothers). Privately insured mothers were more likely than self-paying or Medicaid-enrolled mothers to have multiple births (3.9 percent of privately insured mothers, 2.8 percent of Medicaid-enrolled mothers, and 2.2 percent of self-paying mothers). The proportion of multiple births increased with maternal age: from 1.4 percent for younger adolescents (16 years old and

younger) to 4.6 percent for mothers aged 35 years and older.

Trends in the prevalence of multiple births are discussed later, under “Trends in Risk Markers for Infant Death.”

Very Low Birthweight

As discussed later under “Birthweight and Infant Death,” VLBW infants are far more likely to die than normal birthweight infants. In 2001-03, 2.0 percent of all Alabama live-born infants were VLBW (Figure 20). African American babies were 2.5 times more likely than white babies to be VLBW (3.5 percent versus 1.4 percent). One percent (25/2,309) of babies of other races were VLBW.

Regarding source of payment for delivery, babies of self-paying mothers were most likely to be VLBW, followed by babies of Medicaid-enrolled mothers. Babies of self-paying mothers were 2.1 times more likely than babies of privately insured mothers to be VLBW (3.4 percent versus 1.6 percent).

Regarding maternal age, babies of younger adolescents were most likely to be VLBW (2.9 percent), followed by babies of mothers aged 35 years and older, who were followed by babies of older adolescents. Babies of younger adolescents were 1.5 times more likely than babies of 20-34 year-old mothers to be VLBW.

Trends in the prevalence of VLBW are also discussed later, under “Trends in Risk Markers for Infant Death.”

Alabama Live Births

African American babies, babies from “self-pay” deliveries, and babies of mothers aged 16 years and younger were most likely to be very low birthweight. Babies from Medicaid-paid deliveries were also at high risk of being very low birthweight.

Figure 19. Birth of Very Low Birth Weight Infants at a Perinatal Center Located in Alabama
Total and According to Race, Source of Payment for Delivery, and Maternal Age, Alabama Live Births, 2001-03

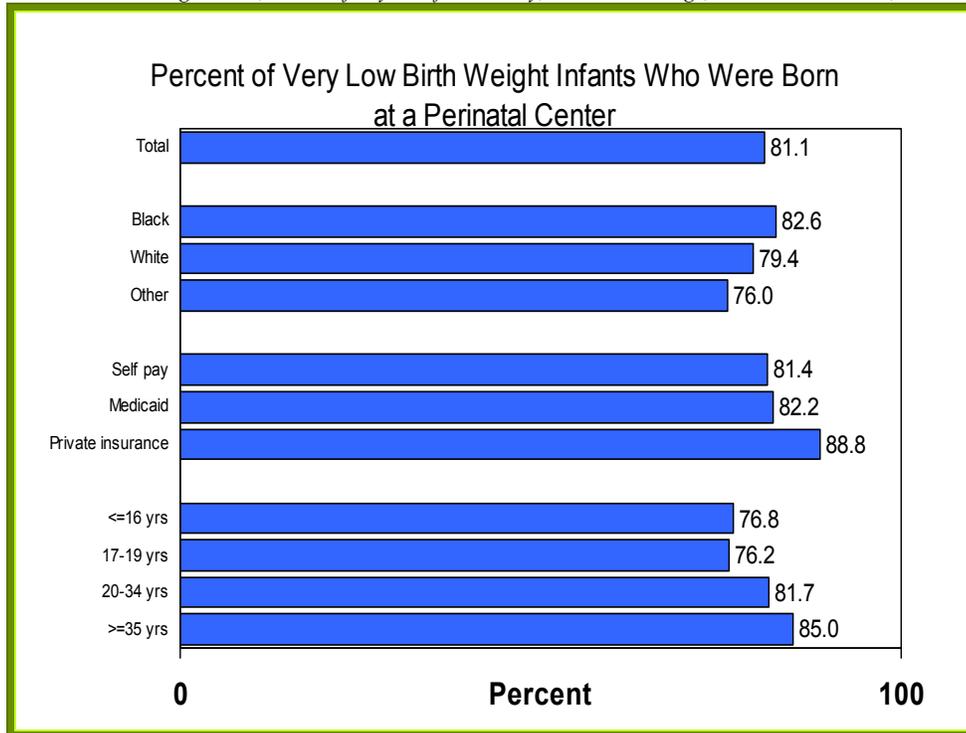
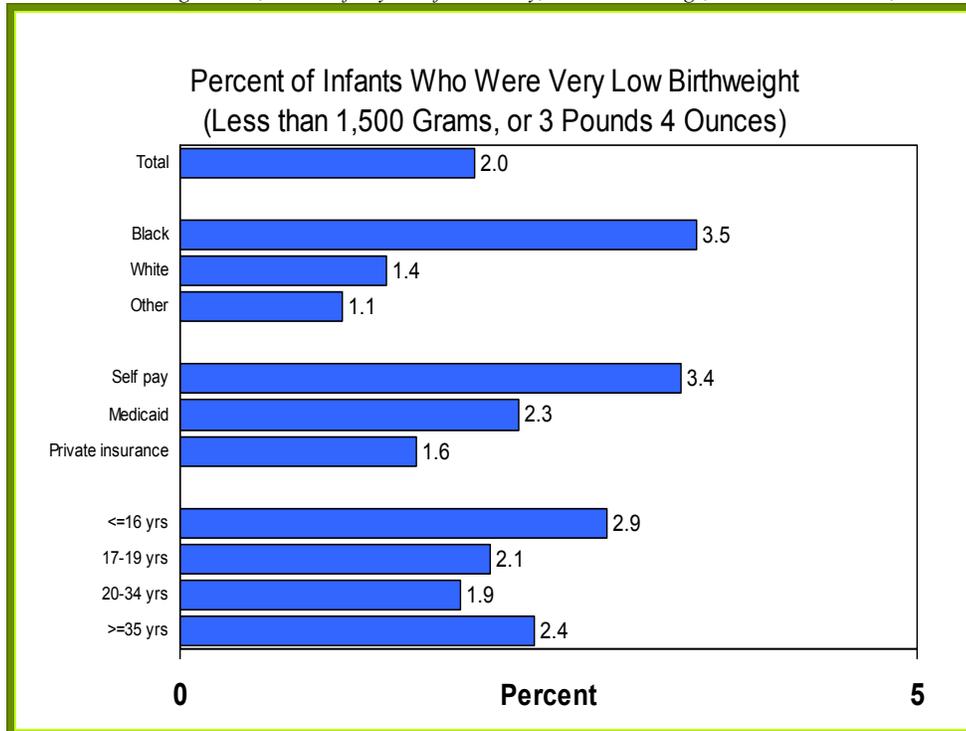


Figure 20. Prevalence of Very Low Birthweight
Total and According to Race, Source of Payment for Delivery, and Maternal Age, Alabama Live Births, 2001-03



Infant Mortality

Of the 182,340 infants born alive in 2000-02 to Alabama residents, 1,682 (or about 561 per year) died before reaching their first birthday. Nearly two-thirds (64 percent) of these 1,682 deaths occurred before 28 days of age. Further, about one-third (34 percent) of these 1,682 deaths occurred at less than 24 hours of age.

Infant Deaths (Less Than One Year of Age)

In this report, “infants” or “infancy” pertains to the first year of life, before the first birthday. “Risk of infant death” is the number of live-born infants who die before reaching their first birthday, reported per 1,000 live births. About nine out of every 1,000 babies born alive to Alabama residents in 2000-02 died during infancy (Figure 21). Nearly 15 out of every 1,000 African American babies died during infancy, which was 2.2 times the corresponding risk for white babies.¹ About 11 out of every 1,000 babies of Medicaid-enrolled mothers died during infancy, which was 1.7 times the corresponding risk for babies of privately insured mothers. About 16 out of every 1,000 babies of self-paying mothers died during infancy, which was 2.4 times the corresponding risk for babies of privately insured mothers. Nearly 17 out of every 1,000 babies of mothers aged 16 years and younger died during infancy, which was 1.9 times the corresponding risk for babies of 20-34 year-old mothers. Further, nearly 19 out of every 1,000 babies of adolescents who had previously been pregnant died during infancy, which was 2.1 times the risk for all babies of 20-34 year-old mothers.

Infant deaths were also studied for singleton infants. The racial gap for singleton infants was the same as that for all infants. Socioeconomic gaps were slightly wider for singleton infants than for all infants. That is, compared to singleton infants of privately insured mothers, singleton infants of Medicaid-enrolled mothers were 1.85 times more likely to die, and singleton infants of

self-paying mothers were 2.75 times more likely to die.

The following narrative describes infant deaths according to age at death.

Neonatal Deaths (Less than 28 Days of Age)

“Risk of neonatal death” is the number of live-born babies who die before reaching 28 days of age, reported per 1,000 live births. Nearly six out of every 1,000 babies born alive to Alabama residents in 2000-02 died during the first four weeks of life (Figure 22). Patterns for neonatal deaths were similar to those for infant deaths. That is, during the first 28 days of life African American babies were more likely to die than white babies; babies of self-paying mothers were more likely to die than babies of Medicaid-enrolled mothers, who were more likely to die than babies of privately insured mothers; and babies of younger adolescents were more likely to die than babies of older adolescents, who were more likely to die than babies of remaining mothers. A minor difference in patterns was that babies of mothers aged 35 years and older were slightly more likely than babies of 20-34 year-old mothers to die before 28 days of age, whereas their risk of overall infant death had been identical to those of 20-34 year-old mothers.

Very Early Neonatal Deaths (Less than One Day of Age)

About three of every 1,000 babies born alive in 2000-02 to Alabama residents died during the first day of life (Figure 23). The racial gap was wider for these very early neonatal deaths than for neonatal deaths overall or for infant deaths overall. Specifically, African American babies were 3.1 times more likely to die during the first day of life than white babies were. Otherwise, patterns for these very early neonatal deaths were similar to those for overall neonatal deaths.

Postneonatal Deaths (After 27 Days but Less than One Year of Age)

“Risk of postneonatal death” is the number of live-born babies who die after 27 days but before one year of age, reported per 1,000 live births. About three of every 1,000 babies born alive in 2000-02 to Alabama residents died during the postneonatal period (Figure 24). With one

¹ Nineteen babies born to Alabama residents whose race was other than white or African American died in 2000-02, for a risk of 8.5 infant deaths per 1,000 live births. However, the 19 deaths are few in the statistical sense, so do not meet national standards for precision of risks. That is, risk of infant death in this population may show a great deal of random (in the statistical sense) variation over time, even when computing risks for 3-year periods.

exception (older mothers versus 20-34 year-old mothers), disparities were in the same direction for postneonatal deaths as they were for neonatal deaths. However, in some cases the width of the gap differed according to age at death.

The width of the gap most notably differed by age at death for comparisons regarding source of payment for delivery. Specifically, babies of self-paying mothers were 3.0 times more likely than

those of privately insured mothers to die during the postneonatal period, compared to being 2.2 times more likely than the privately insured group to die during the neonatal period. Further, babies of Medicaid-enrolled mothers were 2.7 times more likely than those of privately insured mothers to die during the postneonatal period, compared to being 1.3 times more likely than the privately insured group to die during the neonatal period.

Risk of infant death was especially high for, respectively, babies of adolescent mothers who had previously been pregnant, babies of mothers 16 years of age and younger, babies of “self-paying” mothers, and babies of African American mothers.

The racial gap was widest for deaths occurring during the first day of life. Gaps according to source of payment for delivery, a surrogate for socioeconomic status, were widest during the postneonatal period.

Figure 21. Risk of Infant (Under 1 Year of Age) Death
Total and According to Race, Source of Payment for Delivery, and Maternal Age, Alabama, 2000-02

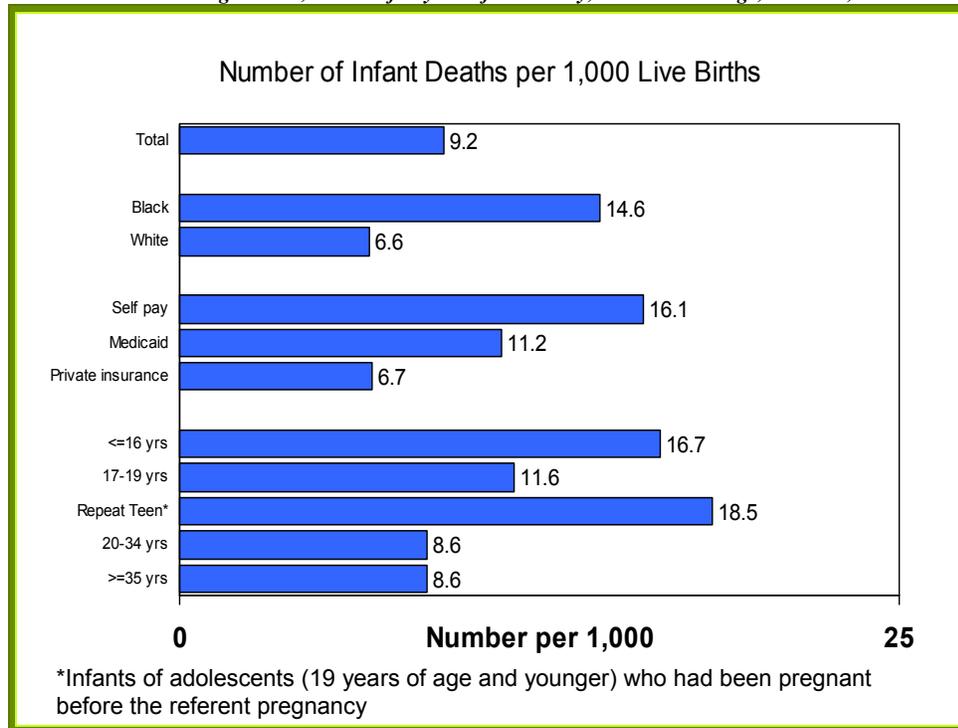


Figure 22. Risk of Neonatal (Under 28 Days of Age) Death
Total and According to Race, Source of Payment for Delivery, and Maternal Age, Alabama, 2000-02

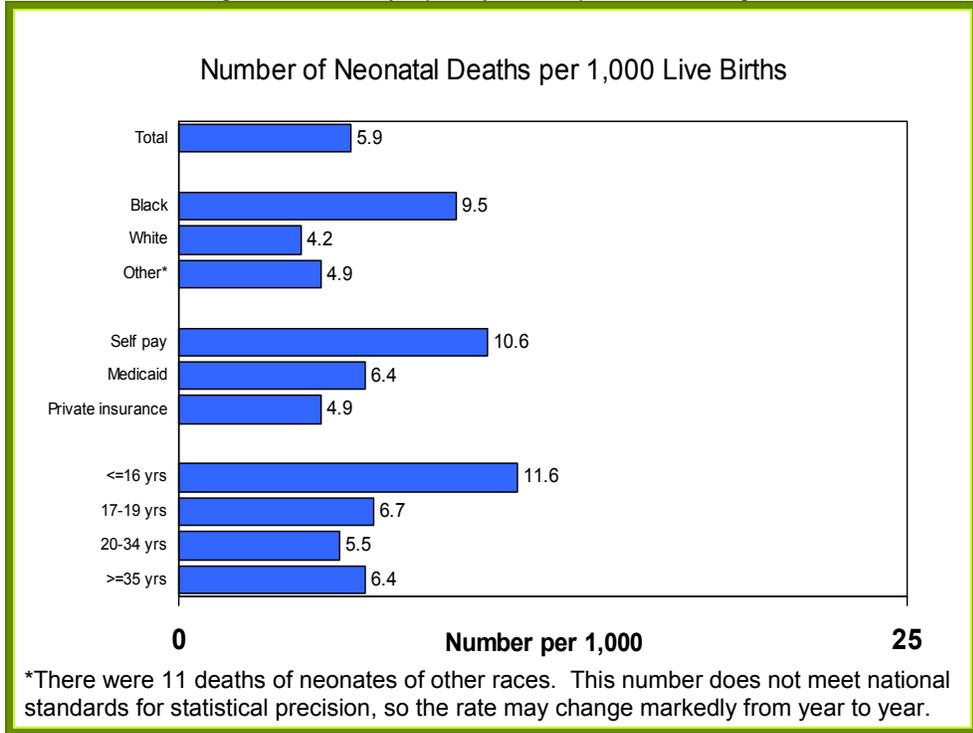


Figure 23. Risk of Very Early Neonatal (Under 1 Day of Age) Death
Total and According to Race, Source of Payment for Delivery, and Maternal Age, Alabama, 2000-02

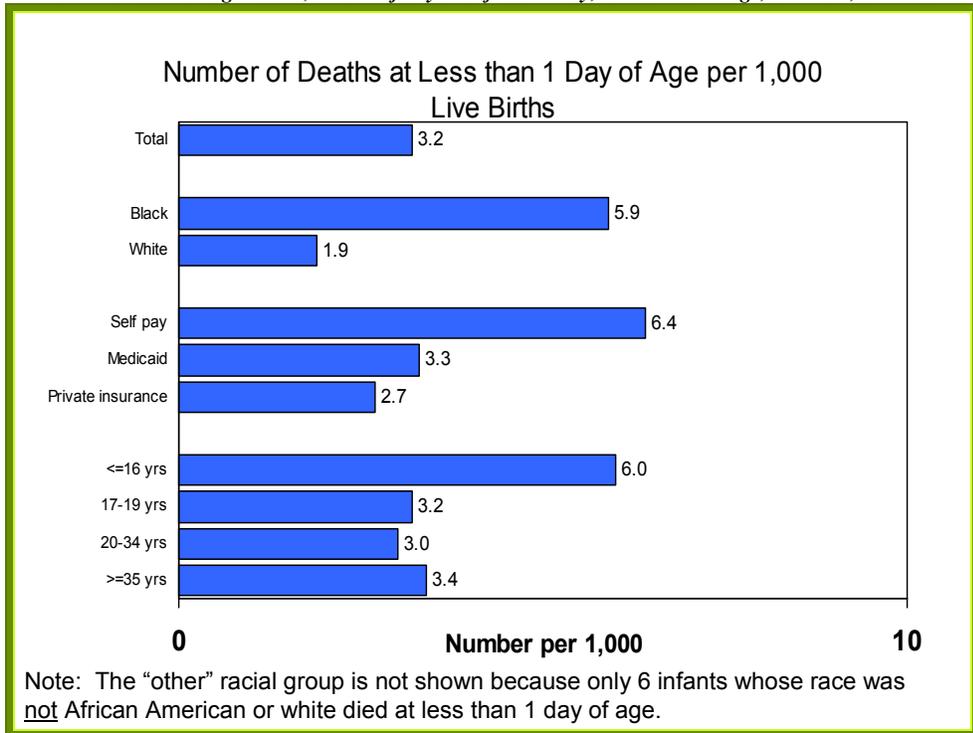
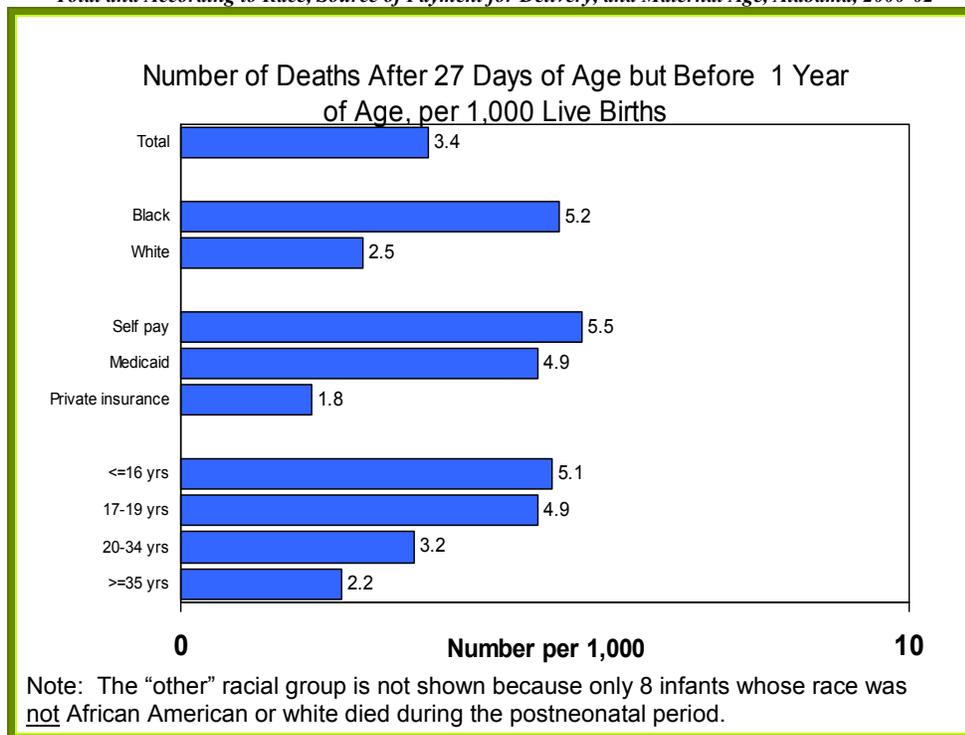


Figure 24. Risk of Postneonatal (28-364 Days of Age) Death
Total and According to Race, Source of Payment for Delivery, and Maternal Age, Alabama, 2000-02



Birthweight and Infant Death

As shown in Figure 25, over half (55 percent) of the babies who were born to Alabama residents in 2000-02 and died before their first birthday were VLBW. Thirty percent of the babies from this birth cohort who died during infancy were of normal birthweight (2,500-4,249 grams), and 14 percent of the infants who died were moderately low birthweight (1,500-2,499 grams). (See text box for approximate conversion of grams to pounds and ounces.)

<i>Approximate Conversion of Grams to Pounds/Ounces</i>	
<u>Grams</u>	<u>Approximate Pounds/Ounces</u>
500.....	1 pound 2 ounces
750.....	1 pound 11 ounces
1,500....	3 pounds 5 ounces
2,500....	5 pounds 9 ounces
4,250....	9 pounds 7 ounces

Infant deaths among the 2000-02 birth cohort were analyzed for several birthweight categories: three VLBW sub-categories (less than 500 grams, 500-749 grams, and 750-1,499 grams), moderately low birthweight (1,500-2,499 grams), and normal birthweight (2,500-4,249 grams). Except for the under-500-gram category, each of these categories

was further analyzed according to race and source of payment for delivery. A discussion of salient findings from this analysis follows. Birthweight-specific risks of infant deaths for other (than white or African American) races and for babies of self-paying mothers are very imprecise due to small numbers in the statistical sense. Discussions according to race or source of payment for delivery, therefore, focus on two racial groups and on two source-of-payment groups.

As expected, risk of infant death declined dramatically as birthweight increased. Nearly all (89 percent) of the tiniest babies, those weighing less than 500 grams at birth, died during infancy. Not quite half (45 percent) of the babies with birthweights of 500-749 grams died during infancy (Figure 26). Due to their relative rarity, infant deaths in the higher birthweight categories are reported per 1,000 live births, rather than as percents. Among 750-1,499 gram newborns, 74 of every 1,000 died during infancy (Figure 27). Among moderately low birthweight infants, 16 of every 1,000 died (Figure 28). Among normal birthweight infants, three (3.2) of every 1,000 died (Figure 29). Overall, VLBW (less than 1,500 gram) infants were 78 times more likely to die than normal birthweight infants (248.0 deaths per 1,000 versus 3.2 deaths per 1,000).

Alabama, 2000-02

Over half of the infant deaths were of very low birthweight babies. Very low birthweight infants were 78 times more likely to die than normal birthweight infants.

Within the 500-749 gram group and within the 750-1,499 gram group, respective risks of infant death did not markedly differ between the two racial groups or between the two source-of-payment groups (Figures 26-27). However, African American moderately low birthweight babies were 15 percent less likely than white moderately low birthweight babies to die during infancy (Figure 28). On the other hand, African American normal birthweight babies were 1.5 times more likely than white normal birthweight babies to die during infancy (Figure 29).

Moderately low birthweight babies of Medicaid-enrolled mothers were 15 percent more likely than moderately low birthweight babies of privately insured mothers to die during infancy (Figure 28). More strikingly, normal birthweight babies of Medicaid-enrolled mothers were 2.5 times more likely than normal birthweight babies of privately insured mothers to die during infancy (Figure 29).

Alabama, 2000-02

African American normal birthweight infants were 1.5 times more likely to die than white normal birthweight infants.

Normal birthweight infants of Medicaid-enrolled mothers were 2.5 times more likely to die than normal birthweight infants of privately insured mothers.

Figure 25. Infant Deaths According to Birthweight
Alabama, 2000-02 Birth Cohort

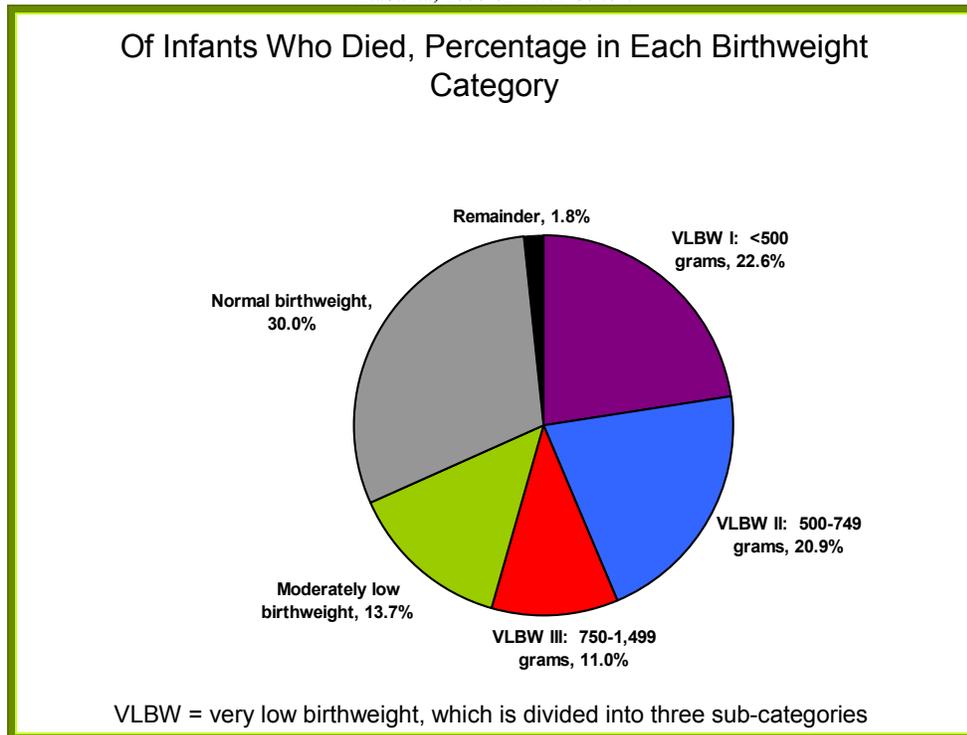


Figure 26. Risk of Infant Death: Very Low Birthweight Infants Weighing 500-749 Grams
Total and According to Race and Source of Payment for Delivery, Alabama, 2000-02 Birth Cohort

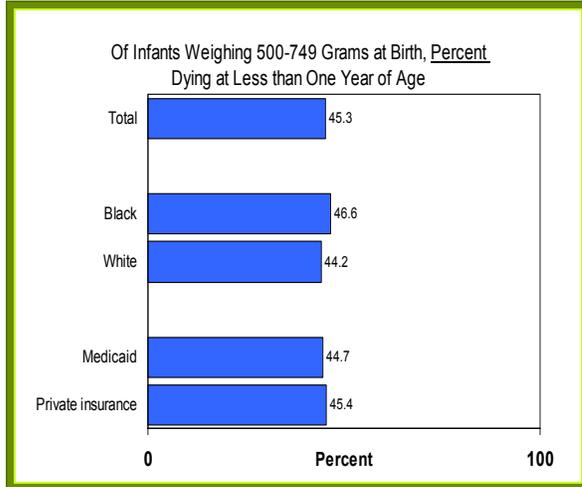


Figure 27. Risk of Infant Death: Very Low Birthweight Infants Weighing 750-1,499 Grams
Total and According to Race and Source of Payment for Delivery, Alabama, 2000-02 Birth Cohort

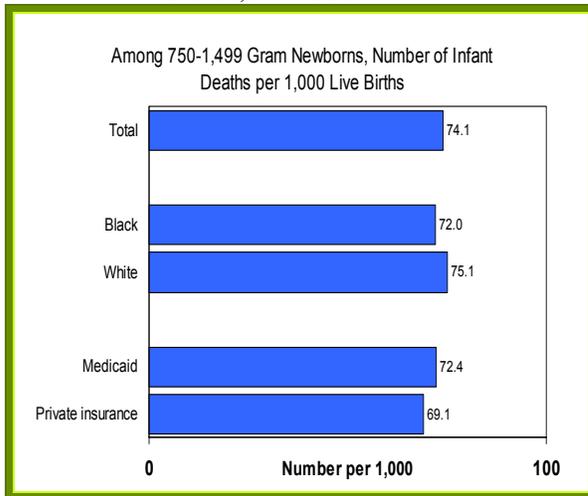


Figure 28. Risk of Infant Death: Moderately Low Birthweight Infants
Total and According to Race and Source of Payment for Delivery, Alabama, 2000-02 Birth Cohort

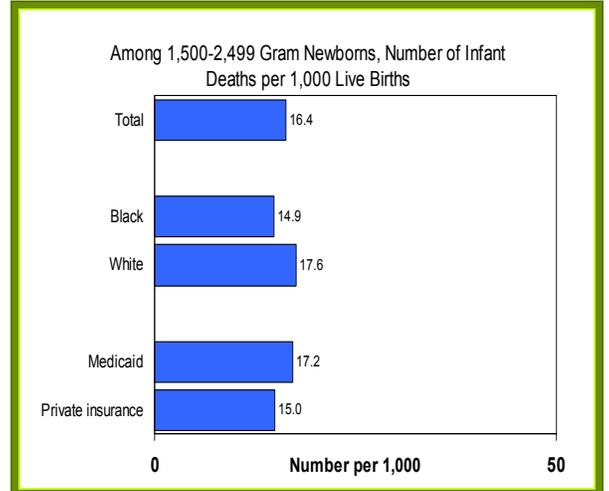
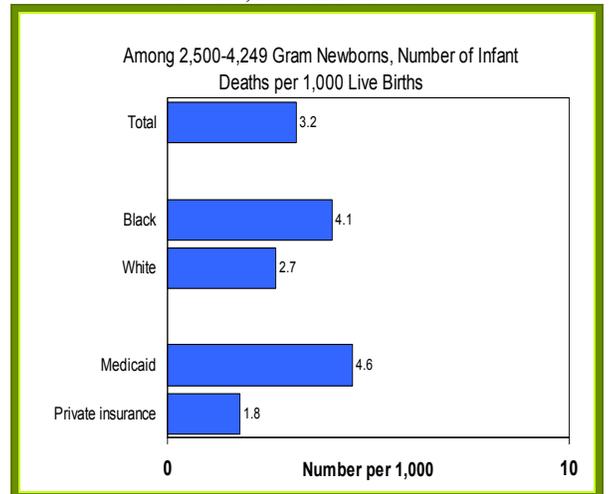


Figure 29. Risk of Infant Death: Normal Birthweight Infants
Total and According to Race and Source of Payment for Delivery, Alabama, 2000-02 Birth Cohort



Causes of Infant Death

The International Classification of Diseases, 10th revision (ICD-10) system was used to classify infant deaths according to cause. Figure 30 depicts certain causal categories for infant deaths of babies born in 2000-02 to Alabama residents. Two categories basically tied as leading causes of death: congenital anomalies, which caused 18 percent of deaths, and “disorders related to short gestation and low birthweight, not elsewhere classified,”³³ which caused 17 percent of deaths. (In this document, the preceding category is sometimes termed “prematurity.”) As a corollary

to the “not elsewhere classified” qualification, many deaths that may be related to VLBW are classified elsewhere. For this reason, Epi/Data Branch staff adapted a classification system described by Dollfus and associates,^{m,34} to develop a “conditions often related to

^m Conditions often related to prematurity” consisted of the following causes of death: respiratory distress syndrome; interstitial emphysema, pulmonary hemorrhage, chronic respiratory disease, and other respiratory conditions—all originating in the perinatal period; and necrotizing enterocolitis of the fetus and newborn. These categories were selected by translating some of the conditions deemed by Dollfus and associates to be prematurity-related to corresponding ICD-10 codes.

prematurity” category. This category, subsequently termed “prematurity-related conditions,” caused 12 percent of deaths. Seven percent of all deaths were attributed to sudden infant death syndrome (SIDS), and 6 percent of deaths to maternal factors and complications of pregnancy, labor, and delivery (subsequently termed “pregnancy/delivery complications”). Four percent of deaths were attributed to, respectively, external causes and to infections specific to the perinatal period.

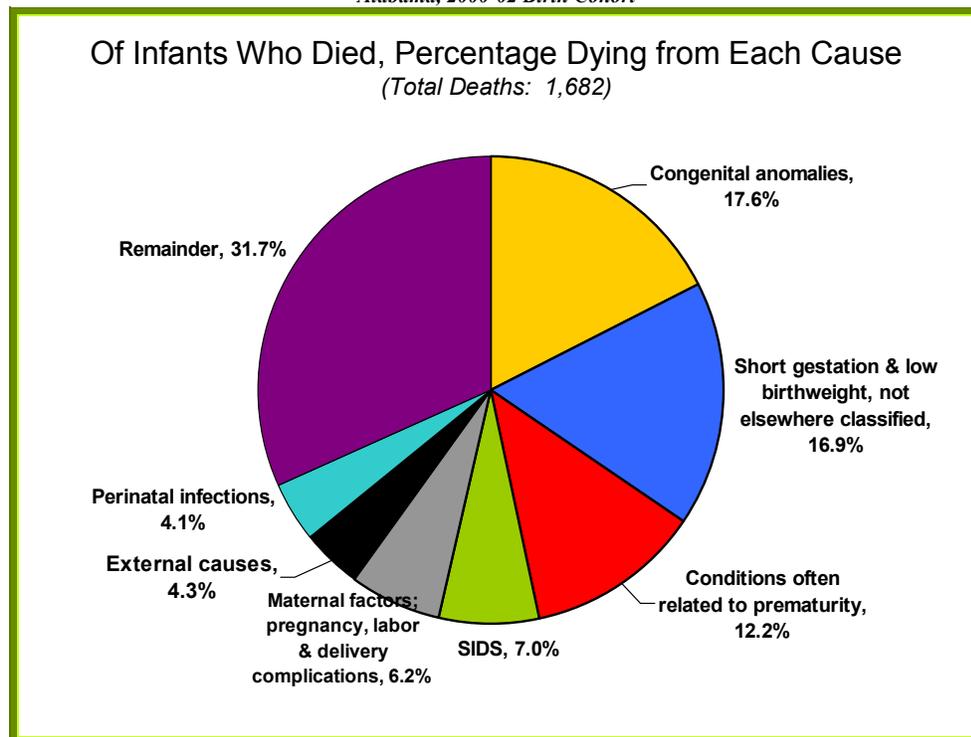
Alabama, 2000-02
Prematurity and prematurity-related conditions were collectively the most common cause of death, followed by congenital anomalies, followed by SIDS.

remaining deaths, 28.5 percent were attributed to various conditions originating in the perinatal period, 21.5 percent to ill-defined and unknown causes, 10 percent to diseases of the digestive system, 9 percent to diseases of the circulatory system, and 9 percent to certain infectious and parasitic disease.

As expected, VLBW newborns comprised nearly all (97 percent) of the babies who died from disorders related to short gestation and low birthweight, not elsewhere classified. However, VLBW babies accounted for most of the infant deaths in three other categories as well: 87 percent of deaths due to prematurity-related conditions, 88 percent of deaths due to effects of maternal factors and complications of pregnancy, labor, and delivery; and 85.5 percent of deaths due to perinatal infections.

Remaining deaths, which comprised 32 percent of deaths among the 2001-02 birth cohort, were attributed to a variety of causes. Of the 534

Figure 30. Infant Deaths According to Cause
Alabama, 2000-02 Birth Cohort



Figures 31-33 depict stratified risks of infant death due to three causal categories, respectively: disorders related to short gestation and low birthweight, SIDS, and external causes. These three categories were selected for graphic depiction because disparities in deaths due to

these causes were more marked or more frequent than for other categories shown in Figure 30. Subgroups with fewer than 10 deaths from the stated cause are not depicted in these figures.

The following discussion is ordered according to the groups being compared, rather than according to specific causes, and mentions some causes not depicted in figures that follow. The more notable disparities are mentioned for each comparison.

All differences noted in this discussion were significant (p-value less than or equal to 0.05, according to the Cochran Mantel Haenszel statistic, as computed by SAS® software¹¹), but even statistically significant differences are generally mentioned here only if they are deemed salient and involve at least 20 deaths in each subgroup being compared. (Exceptions are noted.) To reiterate, this discussion pertains to infant (under 1 year of age) deaths among a 3-year birth cohort, the 2000-02 Alabama residential live birth cohort. Previously mentioned relative risks for infant death due to all causes are reiterated, in order to provide a context for corresponding cause-specific comparisons.

Racial Disparities

African American babies were 2.2 times more likely to die before their first birthday than white babies. This racial disparity was especially wide for two causal categories: short gestation and low birthweight, and pregnancy/delivery complications. Specifically, compared to white infants, African American infants were 4.3 times more likely to die from short gestation and low birthweight, and 3.3 times more likely to die from the effects of pregnancy/delivery complications. Further, African American infants were 2.9 times more likely to die from perinatal infections than white infants. (Nineteen babies of other races died as infants, so cause-specific risks were presumably too unstable for meaningful comparison to another group.)

Alabama, 2000-02
Compared to white infants, African American infants were 4.3 times more likely to die from disorders related to short gestation and low birthweight, and 3.3 times more likely to die from the effects of pregnancy/delivery complications.

Socioeconomic Disparities

We consider source of payment for delivery to be a surrogate for socioeconomic status. In this

discussion of socioeconomic disparities, insurance status pertains to the mother's status at the time of delivery. "Self-paid" deliveries typically include many deliveries for which the provider was not reimbursed. Babies of self-paying mothers were 2.4 times more likely to die before their first birthday than babies of privately insured mothers. This socioeconomic gap was especially wide for deaths due to short gestation and low birthweight, with infants of self-paying mothers being 4.3 times more likely to die from short-gestation/low birthweight than infants of privately insured mothers (Figure 31).

Babies of Medicaid-enrolled mothers were 1.7 times more likely to die before their first birthday than babies of privately insured mothers. This gap was especially wide for two causes of death: SIDS, and externally caused injuries or conditions. Specifically, compared to infants of privately insured mothers, infants of Medicaid-enrolled mothers were 3.9 times more likely to die from SIDS and 3.8 times more likely to die from externally caused injuries or conditions. (Fifty-one infants of Medicaid-enrolled mothers, versus 15 infants of privately insured mothers, died from injuries or conditions inflicted by external causes.) Further, infants of Medicaid-enrolled mothers were 2.5 times more likely to die from perinatal infections than infants of privately insured mothers (43 infants of Medicaid-enrolled mothers, versus 19 infants of privately insured mothers).

Alabama, 2000-02
Compared to infants of privately insured mothers, infants of Medicaid-enrolled mothers were 3.9 times more likely to die from SIDS, and 3.8 times more likely to die from externally caused injuries or conditions.

Disparities According to Maternal Age

Infants of mothers aged 16 years and younger were 1.9 times more likely to die than infants of mothers aged 20-34 years. Although some corresponding disparities were especially wide for certain causes of death (short gestation and low birthweight, shown in Figure 31, and perinatal infections), the pertinent cause-specific numbers of deaths of infants born to these youngest mothers are small (17 due to short

gestation/low birthweight, 6 due to perinatal infections).

Infants of mothers aged 17-19 years were 1.3 times more likely to die than those of 20-34 year-old mothers. This gap was widest for SIDS (Figure 32).

Infants of mothers aged 35 years and older were at the same risk of death as those of mothers aged

20-34 years. Though they were 1.4 times more likely to die from congenital anomalies than infants of 20-34 year-old mothers, this difference was not statistically significant (p-value = 0.06). At the other extreme, only two infants of mothers aged 35 years and older died of SIDS, making infants of older mothers much (77 percent) less likely to die of SIDS than those of 20-34 year-old mothers.

Figure 31. Risk of Infant Death Due to Disorders Related to Short Gestation and Low Birthweight, Not Elsewhere Classified

Total and According to Race, Source of Payment for Delivery, and Maternal Age, Alabama, 2000-02 Birth Cohort

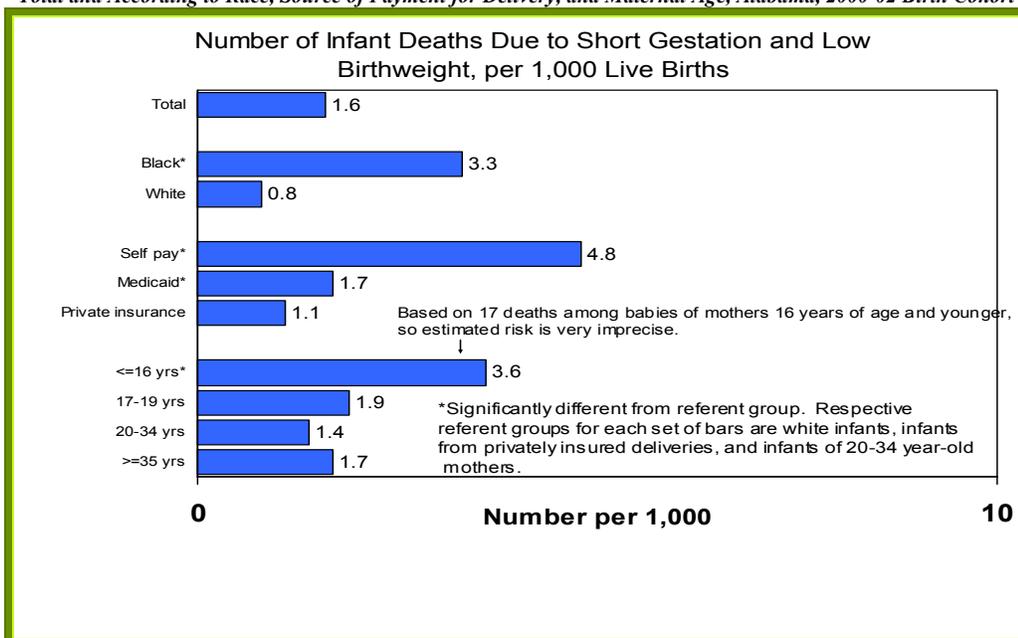


Figure 32. Risk of Sudden Infant Death Syndrome

Total and According to Race, Source of Payment for Delivery, and Maternal Age, Alabama, 2000-02 Birth Cohort

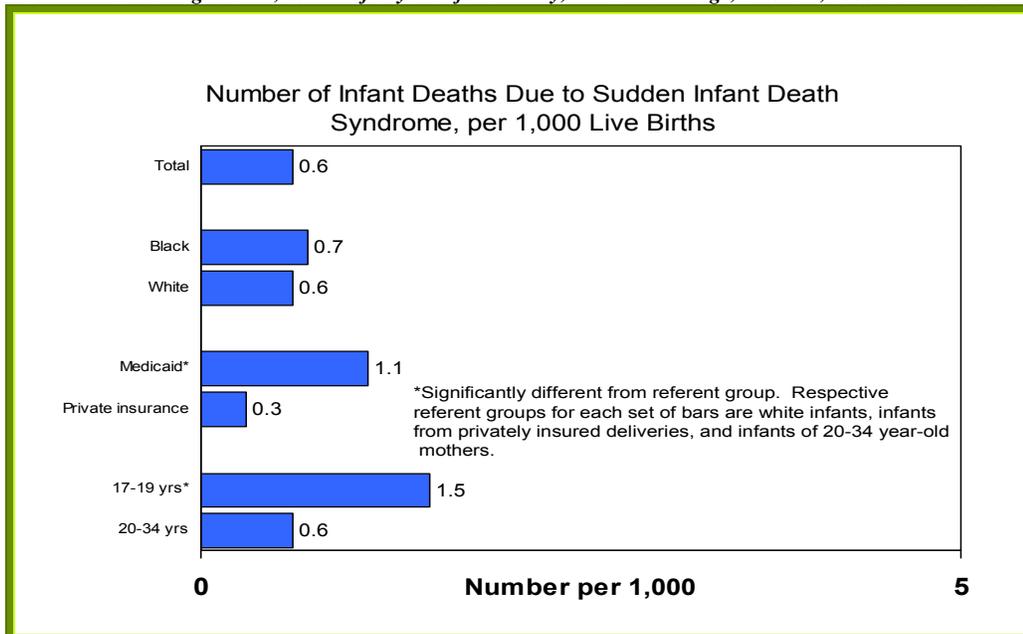
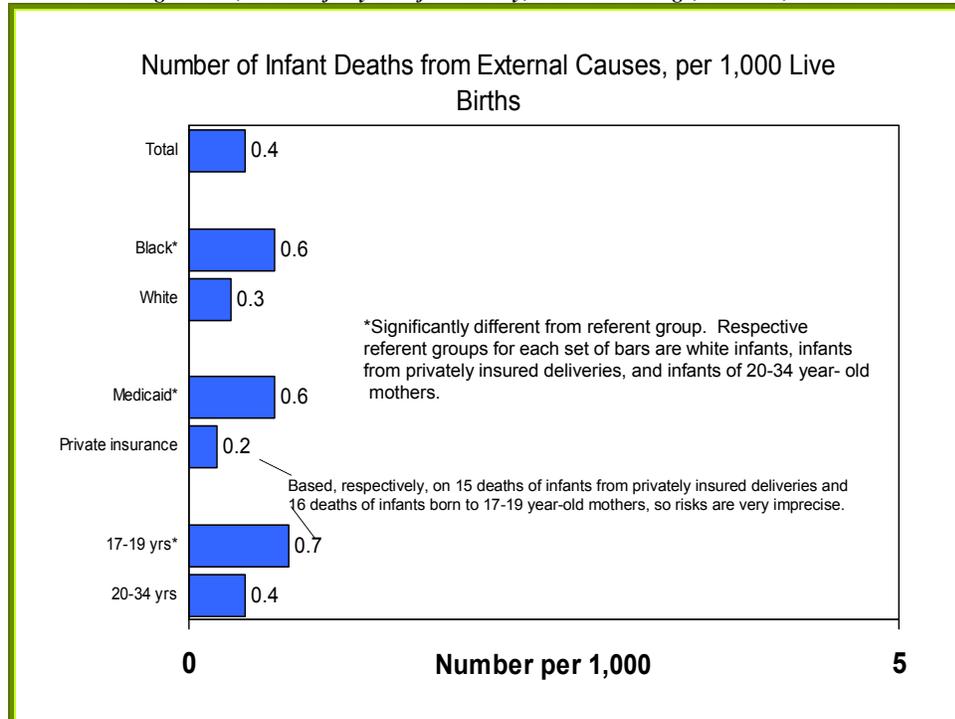


Figure 33. Risk of Infant Death from Externally Caused Injuries or Conditions Total and According to Race, Source of Payment for Delivery, and Maternal Age, Alabama, 2000-02 Birth Cohort



Effect Modification and Disparities in Infant Mortality

In effect modification, the relationship between a characteristic and an outcome of interest (for example, maternal age and infant mortality) differs, according to a third characteristic (for example, race). The potential for effect modification is explored by stratifying according to the third characteristic (for example, race) when assessing the relationship between the characteristic and outcome of interest (for example, maternal age and infant death).

If pertinent effect modification exists, non-awareness of this phenomenon can lead to unwarranted assumptions that, in turn, lead to unrealistic expectations. On the other hand, awareness of any pertinent effect modification promotes a more realistic understanding of whether a particular intervention will reduce racial or socioeconomic *disparities* in an outcome. As a corollary, if planners seek to reduce the racial gap in infant mortality, they need to know what characteristics are associated with high infant mortality *within* the African American population.

The purpose of Figure 34, therefore, is to depict risk of infant death according to maternal age,

stratified by race. For both African American babies and white babies, infants of adolescents who had previously been pregnant were significantly more likely to die than those of 20-34 year-old mothers. Additionally, for both African American babies and white babies, infants of mothers aged 16 years and younger were at higher risk of death than infants of 20-34 year-old mothers. (The latter relationship was statistically significant within the white population, but not within the African American population.ⁿ) In *neither* race were infants of older mothers (35 years and older) significantly more or less likely to die than infants of 20-34 year-old mothers (not shown in figures).

When comparing infants of 17-19 year-old mothers to those of 20-34 year-old mothers, associations with infant mortality differed according to race. White infants of 17-19 year-old mothers were 1.7 times more likely to die

ⁿ African American infants born to a mother aged 16 years or younger were just 9 percent more likely to die than African American infants born to a mother aged 20-34 years (16.0 deaths per 1,000 versus 14.6 deaths per 1,000, with the difference not being statistically significant). On the other hand, white infants born to a mother aged 16 years or younger were 2.9 times more likely to die than white infants born to a mother aged 20-34 years (17.4 deaths per 1,000 versus 6.0 deaths per 1,000, with the difference being statistically significant).

than white infants of 20-34 year-old mothers (10.2 deaths per 1,000, versus 6.0 deaths per 1,000). On the other hand, African American infants of 17-19 year-old mothers were at *about the same risk* of death as African American infants of 20-34 year-old mothers. (African American infants of 17-19 year-old mothers were nine percent *less* likely to die than African American infants of 20-34 year-old mothers, though this difference was not statistically significant.) Thus, preventing pregnancy among African American teens aged 17-19 years should not, in and of itself, be expected to reduce the racial infant mortality gap during the next few years. *Though African American infants of 17-19*

year-old mothers were at high risk of death, so were African American infants of 20-34 year-old mothers. To reduce racial disparities in infant mortality, therefore, modifiable risk factors and/or health systems issues affecting African American mothers of *all* ages and their babies need to be effectively addressed.

To reduce the African American versus white racial disparity in infant mortality, modifiable risk factors and/or health systems issues affecting African American mothers of all ages and their babies need to be effectively addressed.

Figure 34. Risk of Infant Death
According to Race and Maternal Age, Alabama, 2000-02 Birth Cohort

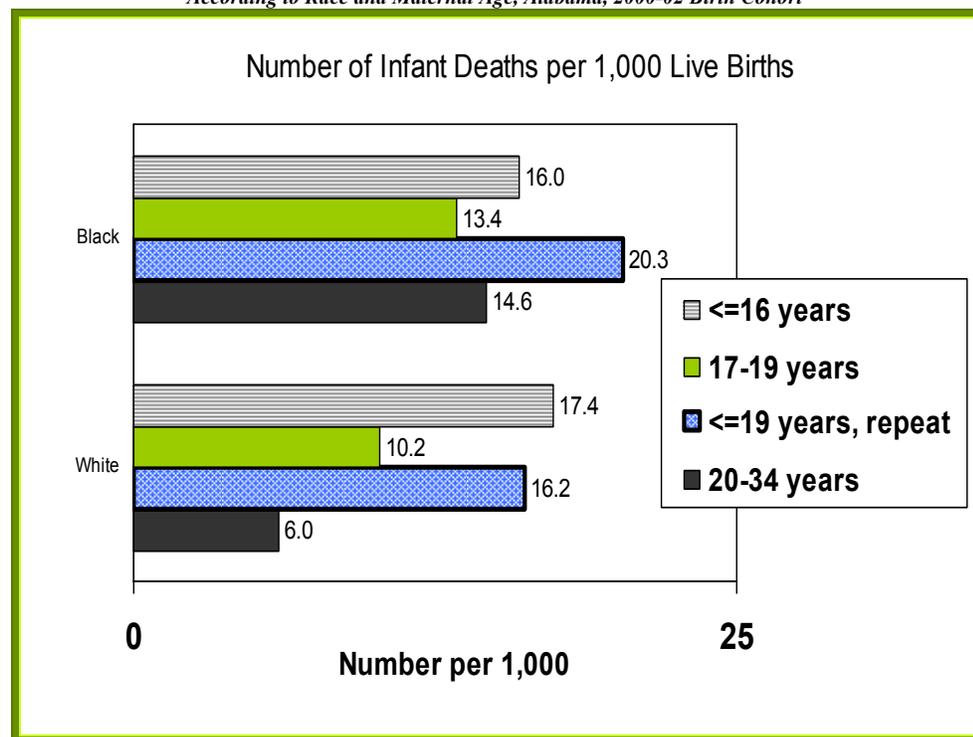


Figure 35 also depicts risk of infant death according to maternal age, but stratifies by source of payment for delivery as a rough surrogate for socioeconomic status. Within each payment-source group, infants of adolescent-mothers were more likely to die than infants of 20-34 mothers, but the association between 17-19 year-old motherhood and infant mortality was weak within the Medicaid group, moderate within the privately insured group, and not statistically significant within either group.

Findings depicted in Figure 35 are consistent with conclusions from a study of Alabama residential live births (1991-1994) with respect to adolescent pregnancy, infant mortality, and source of payment for birth.³⁵ The authors of this article (one of them the Family Health Services' Needs Assessment Coordinator) concluded that programs to prevent infant mortality should *not* set an objective of notably reducing *infant mortality* in the short term, especially in the Medicaid population. They further concluded that, with respect to prevention of adolescent pregnancy, any long-term objectives pertaining to

infant mortality be set very cautiously, if at all. Instead, major goals and objectives of programs to prevent adolescent pregnancy should focus on the pregnancy rate itself and, if deemed appropriate, adverse characteristics linked with adolescent pregnancy. The authors' conclusions pertain to infant mortality in particular, not to other adverse characteristics linked with adolescent pregnancy. Their conclusions, therefore, do *not* conflict with Family Health Services' view that prevention of adolescent pregnancy is generally desirable, in order to allow the adolescent additional time to mature and avail herself of social and economic opportunities before assuming the responsibilities of motherhood.

Prevention of adolescent pregnancy is generally desirable, in order to allow the adolescent time to mature and avail herself of social and economic opportunities before becoming a mother. However, programs to prevent adolescent pregnancy should not be expected to notably reduce infant mortality in the short term, especially in African Americans or in Medicaid enrollees.

Figure 35. Risk of Infant Death
According to Source of Payment for Delivery and Maternal Age, Alabama, 2000-02 Birth Cohort

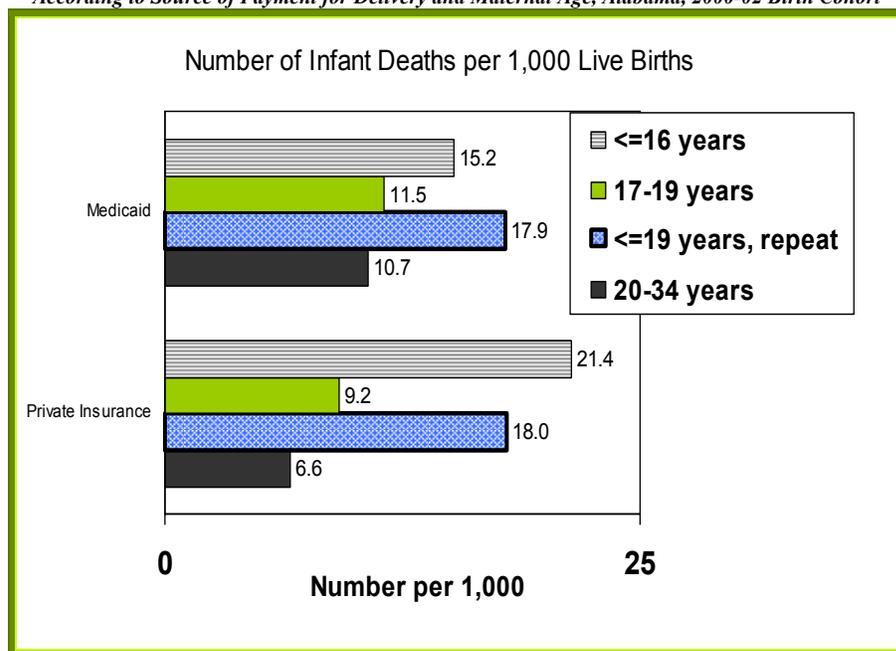
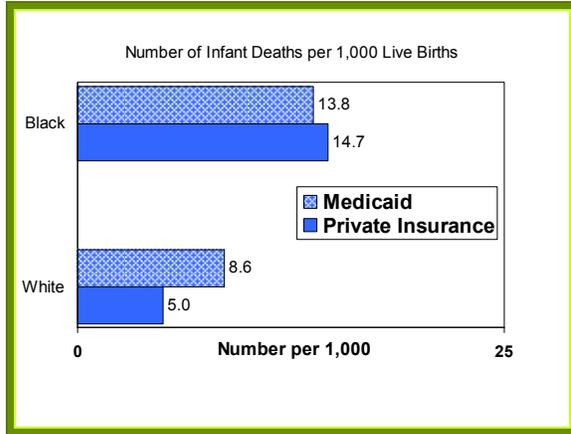


Figure 36 depicts an intriguing example of effect modification. In this case, the relationship between socioeconomic status (as very roughly measured by source of payment for delivery) and infant mortality differs strikingly according to race. Among white infants, the expected relationship is observed: White infants of Medicaid-enrolled mothers were 1.7 times more likely to die than white infants of privately insured mothers. However, such was not the case for African American infants. African American infants of Medicaid-enrolled mothers were at *about the same risk* of death as African American infants of privately insured mothers. In fact,

African American infants of Medicaid-enrolled mothers were six percent *less* likely to die than African American infants of privately insured mothers, though this difference was not statistically significant. A similar phenomenon occurred among the 1995-97 Alabama residential live birth cohort (studied as part of the FY 2000 needs assessment³⁶), so patterns depicted in Figure 36 may have been fairly consistent over recent years. (By the end of FY 2005, analyses corresponding to Figure 36 will be performed for singletons only, since—as discussed later in Section 3—multiple births are more common

among privately insured mothers than among Medicaid enrolled-mothers.)

Figure 36. Risk of Infant Death
According to Race and Source of Payment for Delivery, Alabama, 2000-02 Birth Cohort



The findings depicted in Figure 36 are consistent with views expressed more than a decade ago by a group who studied preterm delivery and low birthweight among first-born infants of African American and white college graduates. Specifically, the researchers said that their findings were in agreement with those of previous studies, supporting the conclusion that racial disparity in reproductive outcomes cannot be exclusively attributed to disparity in social class as usually measured. They further concluded that considering race as a component of social class permits a search for and examination of social/environmental mechanisms capable of producing the racial disparity in reproductive outcomes.³⁷

More recently, another group of researchers concluded that eliminating racial disparities in infant mortality will require development of etiological pathways that explain why, compared to white Americans, African Americans have higher preterm-birth rates and higher infant mortality rates among term infants.³⁸ What these social/environmental mechanisms and etiological pathways may be is beyond the scope of any studies or comprehensive literature review performed by Family Health Services staff. Further, Family Health staff have not assessed whether reporting of live births of moribund (about to die) infants might differ according to socioeconomic status and/or race, and such assessment is beyond what can be determined by study of vital statistics files alone.

The African American versus white disparity in infant mortality is not exclusively due to disparity in social class as usually measured. Eliminating this disparity will require examination of contributing social and environmental mechanisms and etiological pathways.

MCH Indicators According to Ethnicity

As detailed earlier under “Live Births According to Ethnicity and Maternal Age,” the number of live births to Hispanic residents of Alabama has increased markedly in recent years. Knowing the prevalence of pregnancy-outcome-related indicators in the Hispanic population is important, not only in order to better understand the health status of Hispanics, but to better understand how recent immigration may affect trends in these health-related indicators. Several indicators have been studied by comparing white Hispanic mothers to white non-Hispanic mothers. These comparisons were limited to whites in order to avoid mixing racial and ethnic issues, because 95.0 percent of Hispanic live births in 2001-03 were to white mothers. White Hispanic mothers were more likely than white non-Hispanic mothers to have the following characteristics:

- Maternal age 19 years and younger—Mothers of 16 percent of white Hispanic infants, versus 11.5 percent of white non-Hispanic infants, were aged 19 years and younger.
- History of a live-born child who had died—Mothers of 2.0 percent of white Hispanic infants, versus 1.1 percent of white non-Hispanic infants, had previously had a live-born child who had died.
- No prenatal care—Mothers of 7 percent of white Hispanic infants, versus 0.5 percent of white non-Hispanic infants, had received no prenatal care.
- Inadequate prenatal care—Mothers of 23 percent of white Hispanic infants, versus 2.5 percent of white non-Hispanic infants, had received inadequate prenatal care, which includes those with no prenatal care.

On the other hand, also in 2001-03, white Hispanic mothers were less likely to have the following characteristics than white non-Hispanic mothers:

- Tobacco use during pregnancy—Mothers of 1.3 percent of white Hispanic infants, versus 16 percent of white non-Hispanic infants, had used tobacco during the pregnancy.
- Multiple births—1.8 percent of white Hispanic infants, versus 3.3 percent of white non-Hispanic infants, were from multiple births.

In 2001-03, white Hispanic newborns were slightly less likely to be VLBW than white non-Hispanic newborns (1.2 percent versus 1.4 percent), though the difference was not statistically significant. In 2000-02 (the latest years for which the Health Department has a live birth cohort file linked to infant deaths), white Hispanic infants were only slightly more likely to die than white non-Hispanic infants, and the difference was not statistically significant. During that period, the risks of infant death for white Hispanics and white non-Hispanics were, respectively, 7.0 and 6.6 deaths per 1,000 live births.

The previous findings suggest that ethnicity should be considered when assessing trends in certain indicators: especially those pertaining to prenatal care and to tobacco use during pregnancy. Ethnicity is, therefore, again discussed later, under “Trends in Risk Markers for Infant Death.”

Trends in Risk Markers for Infant Death

To the degree that risk markers for infant mortality are causal, their prevalence influences the likelihood of death. Even if a risk marker *per se* is not causally linked with infant mortality, it identifies populations of women at high risk of poor pregnancy outcome or of infants at high risk of death. Accordingly, surveillance of indicators that have historically been risk markers in the general population (even if not within all subpopulations) is an important component of MCH needs assessment. **All findings under “Trends in Risk Markers for Infant Death” pertain to Alabama residential live births.**

Surveillance of risk markers over time focused on six characteristics, classified into three issues and listed next:

- Health-related behavior—tobacco use during pregnancy.
- Health care access and/or utilization— inadequate prenatal care, no prenatal care, and birth of VLBW infants at somewhere other than a perinatal center.
- Pregnancy outcome—multiple births and birthweight.

Most of the above indicators have been depicted graphically for a 3-year period, 2001-03, according to race, source of payment for delivery, and maternal age, as follows: tobacco consumption, Figure 15; inadequate prenatal care, Figure 17; no prenatal care, Figure 18; and VLBW, Figure 20. However, the preceding figures do not stratify according to ethnicity and do not describe trends over time.

Methods Note #8: Risk Markers for Infant Death

Data sources were computerized live birth cohort files. Findings were reviewed for individual years from 1996 through 2003, as well as for two 3-year periods: 1996-98 and 2001-03. Unless stated otherwise, under this subheading, any changes over time that are quantified as a percent increase or decrease were statistically significant: that is, had a p-value of 0.05 or less per comparison of the aforesaid 3-year periods, based on the Cochran-Mantel Haenszel statistic.¹¹ (Significance of between-subgroup differences was not assessed.) Figures are included only for findings that were deemed to be especially notable. To avoid overcrowded figures, findings are depicted only for populations of particular interest, rather than for all populations studied. For the same reason, some figures do not show findings for the total population. Though figures depict findings for individual years, the narrative often describes findings for the 3-year periods rather than individual years, in order to minimize the effect of yearly variations that may be random in the statistical sense.

Generally speaking, trends were assessed for three racial groups (white, African American, and other) and three source-of-payment groups (privately insured, Medicaid-enrolled, and self-paying. Trends among babies of “other” races or babies of self-paying mothers are not necessarily described here if numbers were small or trends were not statistically significant, however. Where stated, subgroups were further classified according to ethnicity. As is true throughout this document, “**self pay**” or “**self-paying**” **pertains to deliveries reported by the birth certificate as being “self pay”—but many of these deliveries presumably represent care for which the provider was not reimbursed financially.**

Percent changes are based on a multiplicative model. Statements regarding the percent change per year assume a constant percent change, based on the technique described in Methods Note #3.

Note: The following five indicators all pertain to characteristics that are generally considered to be suboptimum: *VLBW, inadequate prenatal care, no prenatal care, birth of a VLBW baby at somewhere other than a perinatal center, and tobacco use during pregnancy.* Accordingly, *declines over time are interpreted as improvement, and increases over time are interpreted as worsening.* Unless stated otherwise, changes over time that are discussed in the narrative were statistically significant.

“other” group, the decline was not statistically significant.)

Because Hispanics are less likely to use tobacco during pregnancy than non-Hispanics, trends in tobacco use among non-Hispanics (excluding persons of unknown ethnicity) were assessed, in order to remove the effect of immigration. Excluding Hispanics did not affect trends in African Americans. The decline still occurred among other non-Hispanic groups, but to a lesser degree. For example, among all non-Hispanics, tobacco use during pregnancy declined by 5 percent (rather than 8 percent): from 12.8 percent in 1996-98 to 12.1 percent in 2001-03. Similarly, among non-Hispanic whites, tobacco use during pregnancy declined by 6 percent (rather than by 10 percent): from 16.6 percent in 1996-98 to 15.6 percent in 2001-03.

Trends in Health-Related Behavior: Tobacco Use During Pregnancy

Figure 37 shows trends in tobacco use during pregnancy for the total population and according to race. In the total population, the proportion of babies whose mothers had used tobacco during the pregnancy declined by 8 percent: from 12.6 percent in 1996-98 to 11.7 percent in 2001-03 (Figure 37). Among white babies, this proportion declined by 10 percent: from 16.3 percent in 1996-98 to 14.8 percent in 2001-03. Among African American babies, the proportion declined by only 3 percent and was not statistically significant. Among babies of other races, the proportion whose mothers had used tobacco during the pregnancy declined by 18 percent: from 6.9 percent in 1996-98 to 5.6 percent in 2001-03. (Due to the relatively small size of the

Alabama Live Births, 1996-2003
Use of tobacco during pregnancy declined (improved) minimally among African Americans, but was less common in African Americans than in persons of white or other races. This indicator declined slightly in the total population, among whites, and among persons of other races.

Figure 37. Tobacco Use During Pregnancy
Total and According to Race, Alabama Live Births, 1996-2003

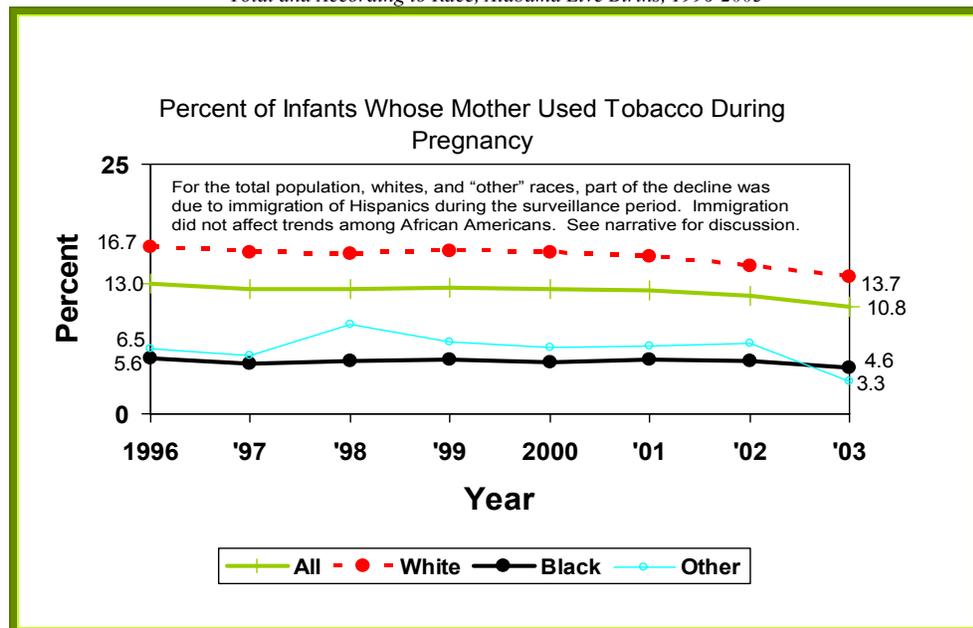
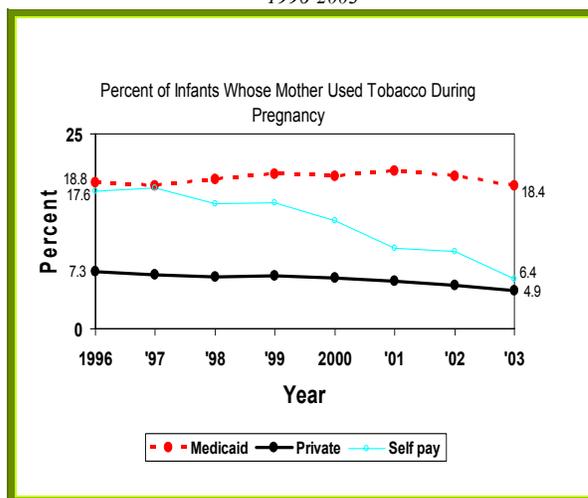


Figure 38 shows trends in tobacco use during the pregnancy according to source of payment for delivery. In the Medicaid population, the proportion of babies whose mothers had used tobacco during the pregnancy increased by 4 percent: from 18.7 percent in 1996-98 to 19.4 percent in 2001-03. In the privately insured population, this proportion declined by 20 percent: from 7.0 percent in 1996-98 to 5.5 percent in 2001-03. Among babies whose delivery was said to be self-paid, the proportion whose mothers had used tobacco during the pregnancy declined by 50 percent: from 17.2 percent in 1996-98 to 8.5 percent in 2001-03.

When limiting the study population to non-Hispanics, trends were in the same direction as shown in Figure 38, but sometimes to a different degree. In the non-Hispanic Medicaid population, the proportion of babies whose mothers had used tobacco during the pregnancy increased by 6 percent (rather than by 4 percent): from 19.0 percent in 1996-98 to 20.1 percent in 2001-03. Excluding Hispanics did not influence trends in the privately insured population. In the non-Hispanic self-paying population, the proportion of babies whose mothers had used tobacco during the pregnancy declined by 12 percent (rather than by 50 percent): from 21.3 percent in 1996-98 to 18.9 percent in 2001-03.

Figure 38. Tobacco Use During Pregnancy

According to Source of Payment for Delivery, Alabama Live Births, 1996-2003



Alabama Live Births, 1996-2003

Use of tobacco during pregnancy increased (worsened) slightly among Medicaid-enrolled women. This indicator declined (improved) among women who “self paid” for the delivery and among privately insured women.

Concerning Medicaid-covered births in 2001-03, about one of every five mothers had smoked during the pregnancy.

Trends in Health Care Access and/or Utilization

The Hispanic population in Alabama has increased in numbers over the past several years and, anecdotally, recent Hispanic immigrants often have no health insurance and delay getting prenatal care. Further, conceivably, Hispanics who are eligible for Medicaid coverage may not obtain coverage until the pregnancy is fairly advanced. For this reason, analyses pertaining to prenatal care further stratified certain groups (total, white, Medicaid-enrolled, and self-paying) according to ethnicity. The purpose of these analyses was two-fold: (1) to better understand how well (or poorly) Hispanic pregnant women are accessing prenatal care, and (2) to better understand the impact of recent immigration on indicators pertaining to prenatal care. The following discussion of findings pertaining to prenatal care terms all persons not reported as being Hispanic (including persons of unreported ethnicity) as “non-Hispanic.”

In 2003, 46 percent of Hispanic babies were born to self-paying mothers: up from 21 percent in 1996. The following bulleted findings illustrate the importance of ethnically competent prenatal care, as well as the potential impact that recent immigrants to Alabama may have on the proportion of pregnant women who access care. Concerning live births to Alabama residents, births to Hispanic mothers comprised:

- 1.6 percent of all births in 1996, and 5.0 percent of all births in 2003.
- 1.5 percent of all births to Medicaid-enrolled mothers in 1996, and 3.5 percent of all births to Medicaid-enrolled mothers in 2003.

- 15 percent of all births to self-paying mothers in 1996, and 61 percent of all births to self-paying mothers in 2003.

Inadequate Prenatal Care

Analyses focused on the proportion of infants whose mothers had received inadequate prenatal care, per the Kessner Index. This approach was used because we are particularly interested in women who clearly receive inadequate care, though we recognize that some women receive “intermediate” care in terms of adequacy. Even minimal changes in this indicator affect a notable number of women. For example, based on the Kessner Index, the proportion of babies whose mothers had received inadequate prenatal care declined minimally: from 5.6 percent in 1996-98 to 5.1 percent in 2001-03. Though small in terms of a risk difference, this decline meant that, among women having a live-born infant in 2001-03, 809 fewer women received inadequate prenatal care than would otherwise have been the case. Further, inferences in the next two text boxes are supported by review (*not* presented here) of trends in receipt of *adequate* prenatal care.

The overall trend in the proportion of infants whose mothers had received inadequate prenatal care masks the experience in various subgroups defined by race and, where feasible, ethnicity. Accordingly, Figure 39 shows trends in the percentage of infants whose mothers had received inadequate care: for non-Hispanic whites,

Hispanic whites, African Americans, and persons of other races. Trends in the receipt of inadequate prenatal care minimally improved for non-Hispanic whites, slightly improved for African Americans, notably worsened for Hispanic whites, and somewhat worsened for persons of other races. Details follow.

Among non-Hispanic whites, this indicator improved minimally: from 3.1 percent in 1996-98 to 2.5 percent in 2001-03. Among Hispanic whites, however, the proportion of babies whose mothers had received inadequate prenatal care worsened notably: from 14.0 percent in 1996-98 to 22.7 percent in 2001-03. Thus, of white Hispanic babies born in 2001-03, more than one in five were born to a mother who had received inadequate prenatal care. (Findings for all Hispanics are depicted in Figure 40.) Among African Americans, the proportion of babies whose mothers had received inadequate prenatal care improved slightly: from 10.2 percent in 1996-98 to 8.0 percent in 2001-03. Among other races, the proportion of babies whose mothers had received inadequate prenatal care worsened somewhat: from 6.4 percent in 1996-98 to 9.7 percent in 2001-03.

Alabama Live Births, 1996-2003
Access to and/or utilization of prenatal care has improved slightly for African Americans, but has worsened for Hispanic whites.

Figure 39. Inadequate Prenatal Care
Total and According to Race and Ethnicity, Alabama Live Births, 1996-2003

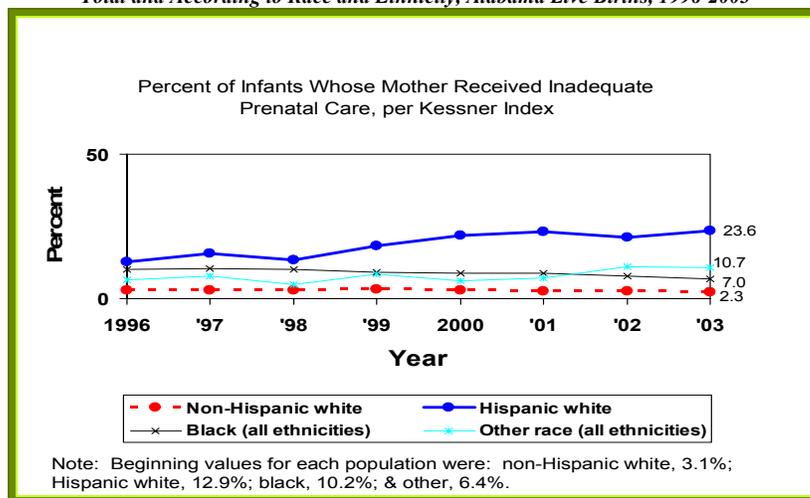


Figure 40 shows trends in receipt of inadequate prenatal care for the total population and the Medicaid-enrolled population, according to ethnicity, and for self payers. Trends in the receipt of inadequate care slightly improved for all non-Hispanics and Medicaid-enrolled non-Hispanics. However, trends in this indicator worsened for all Hispanics, and somewhat worsened for Hispanic Medicaid enrollees and for self-payers. Details follow.

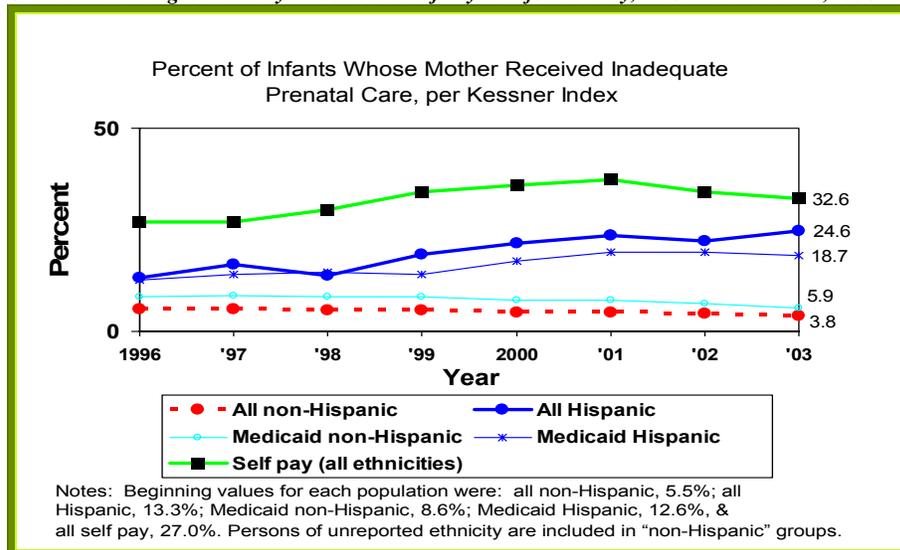
Among non-Hispanics, this indicator improved slightly: from 5.4 percent in 1996-98 to 4.3 percent in 2001-03. Conversely, among Hispanics, the proportion of infants whose mothers had received inadequate prenatal care worsened: from 14.5 percent in 1996-98 to 23.5 percent in 2001-03. Among infants of non-Hispanic Medicaid enrollees, the proportion of infants whose mothers had received inadequate care improved slightly: from 8.6 percent in 1996-98 to 6.8 percent in 2001-03. Conversely, among infants of Hispanic Medicaid-enrollees, this indicator worsened: from 13.8 percent in 1996-98 to 19.3 percent in 2001-03. Among infants of self-paying mothers, the indicator also worsened: from 27.9 percent in 1996-98 to 34.5 percent in 2001-03. Though not shown in figures, the worsening among the self-paying population was mainly, though not completely, driven by worsening of this indicator in the Hispanic self-

paying population. Specifically, among the Hispanic self-paying population, the proportion of babies whose mothers had received inadequate prenatal care increased by half (51 percent): from 24.8 percent in 1996-98 to 37.5 percent in 2001-03. The corresponding proportion among babies of non-Hispanic self-paying mothers increased by only 7 percent: from 28.7 percent in 1996-98 to 30.7 percent in 2001-03, and was not statistically significant. (However, the percentage of mothers who had received adequate prenatal care worsened slightly for both Hispanic and non-Hispanic self-paying mothers.) With respect to privately insured mothers, in 1996-98 and 2001-03 respectively, only 1.4 percent and 1.2 percent of these infants were born to mothers who had received inadequate care (not shown in figures).

Alabama Live Births, 1996-2003
Access to and/or utilization of prenatal care has improved slightly for Medicaid-enrolled non-Hispanics. Access has worsened for all Hispanics, for Medicaid-enrolled Hispanics, and for Hispanic women whose delivery was said to be self paid.

In 2001-03, about one out of every three Hispanic women who “self paid” for their delivery had received inadequate prenatal care.

Figure 40. Inadequate Prenatal Care
 Total and According to Ethnicity and/or Source of Payment for Delivery, Alabama Live Births, 1996-2003



To recap salient findings depicted or discussed thus far under “Trends in Health Care Access and/or Utilization”:

- Babies born to Hispanic mothers comprised 5.0 percent of all live births in 2003: up from 1.6 percent in 1996.
- The proportion of Hispanic newborns whose mothers received inadequate prenatal care worsened: from 14.5 percent in 1996-98 to 23.5 percent in 2001-03. Thus, in 2001-03, nearly one of every four Hispanic babies was born to a mother who had received inadequate prenatal care. Also in 2001-03, among Hispanic babies of self-paying mothers, about one of every three was born to a mother who had received inadequate care.
- In 2003, 46 percent of Hispanic babies were born to mothers whose delivery was said to be self paid: up from 21 percent in 1996. As previously stated, Family Health Services staff consider self-paid deliveries to be a rough surrogate for uncompensated maternity care.
- Further, in 2003, Hispanic infants comprised 61 percent of all babies for whom delivery was said to be self paid.

From the previous observations, the following is inferred:

- Access to prenatal care has worsened for Hispanic women.
- This worsening has mainly been driven by recent immigrants’ lack of health insurance.
- Other factors remaining the same, providing recent immigrants with health insurance coverage for prenatal care should increase their access to prenatal care and reduce the number of deliveries for which the provider is not financially compensated.

Alabama Live Births, 1996-2003
Recent Hispanic immigrants’ lack of access to prenatal care has mainly been driven by lack of health insurance. Providing these persons with health insurance for prenatal care should notably increase their access to such care and reduce the number of deliveries for which the provider is not compensated.

No Prenatal Care

Though not depicted in figures, trends in the proportion of infants whose mothers had received no prenatal care were analyzed in the same manner that trends regarding inadequate care were analyzed. (As previously stated, Figure 18 depicts 2001-03 values for this indicator, according to race, source of payment for delivery, and maternal age—but not according to ethnicity.) With one notable exception, trends in the proportion of infants whose mothers had received no care were in the same direction as corresponding trends for inadequate care. The exception pertains to the total population. In the total population, the proportion of babies whose mothers had received no prenatal care increased, though minimally: from 1.1 percent in 1996-98 to 1.2 percent in 2001-03. (The corresponding proportion for inadequate care declined, though minimally.)

Several findings regarding trends in this indicator merit particular mention. Comparing 2001-03 to 1996-98:

- Among all Hispanic infants, the proportion whose mothers had received no prenatal care increased 3.3-fold: from 2.4 percent in 1996-98 to 8.0 percent in 2001-03.
- Among Hispanic infants whose delivery was said to be self paid, the proportion whose mothers had received no prenatal care increased 3.1-fold: from 5.8 percent in 1996-98 to 17.6 percent in 2001-03.
- Among infants of other (than white or African American) races, the proportion whose mothers had received no prenatal care increased 3.3-fold: from 1.1 percent in 1996-98 to 3.6 percent in 2001-03.

- For the self-paid delivery group, regardless of whether the mother was Hispanic or not, mothers of 18 percent of babies born in 2001-03 had received no prenatal care.

Alabama Live Births

For 2001-03 births that were said to be self paid, mothers of 18 percent of babies had received no prenatal care. This percentage was the same for Hispanic and non-Hispanic mothers.

VLBW Births Not Occurring at a Perinatal Center

As previously stated, a major goal of the State Perinatal Program is to assure that VLBW infants are born at perinatal centers: defined for this report as any teaching or non-teaching hospital with one or more full-time neonatologists, a neonatal intensive care unit, and two or more obstetricians. Figure 19 shows, for 2001-03, the proportion of VLBW babies who were born at a perinatal center located in Alabama, according to race, source of payment for delivery, and maternal age. We assessed trends in proportion of VLBW babies who were not known to be born at a perinatal center, which is the converse of Figure 19. (Because the Health Department does not have the information to classify out-of-state hospitals, this proportion may slightly over-estimate the proportion of Alabama residential live births that do not occur at a perinatal center.)

The proportion of VLBW infants who were not born at a perinatal center located in Alabama improved: declining from 27 percent in 1996-98 to 19 percent in 2001-03. The magnitude and direction of improvement did not notably vary among groups stratified by race or source of payment for delivery. In 2001-03, the proportion of VLBW infants who were not born at a perinatal center varied slightly among the groups studied, but these slight differences can be derived from Figure 19. In 2001-03 the percentage of Hispanic VLBW babies who were not born at an Alabama perinatal center was the same as that for non-Hispanic VLBW babies: 19 percent.

Trends in Multiple Births and Very Low Birthweight

As stated under *Birthweight and Infant Death*, among Alabama infants born in 2000-02, VLBW infants were 78 times more likely to die than normal birthweight infants. Infants from multiple births (twins, triplets, etc.) were 9.7 times more likely to be VLBW than singleton infants (15.3 percent versus 1.6 percent in 2001-03). Trends in VLBW should, therefore, be viewed in the context of multiple births.

Multiple Births

Figure 41 shows trends in multiple births for all babies, for white babies, and for African American babies. The proportion of babies who were from multiple births increased from 2.92 percent in 1996-98 to 3.35 percent in 2001-03, an increase of 15 percent overall, or 2.8 percent per year. The proportion of African American babies who were from multiple births increased from 2.92 percent in 1996-98 to 3.72 percent in 2001-03: an increase of 27 percent overall, or 5.0% per year. The proportion of white babies who were from multiple births increased from 2.93 percent in 1996-98 to 3.21 percent in 2001-03: an increase of 10 percent overall, or 1.8 percent per year. ***Thus, the prevalence of multiple births increased much more among African Americans than among whites over the surveillance period.*** Consequently, by 2001-03 multiple births were more common among African Americans than among whites.

Figure 41. Prevalence of Multiple Births
Total and According to Race
Alabama Live Births, 1996-2003

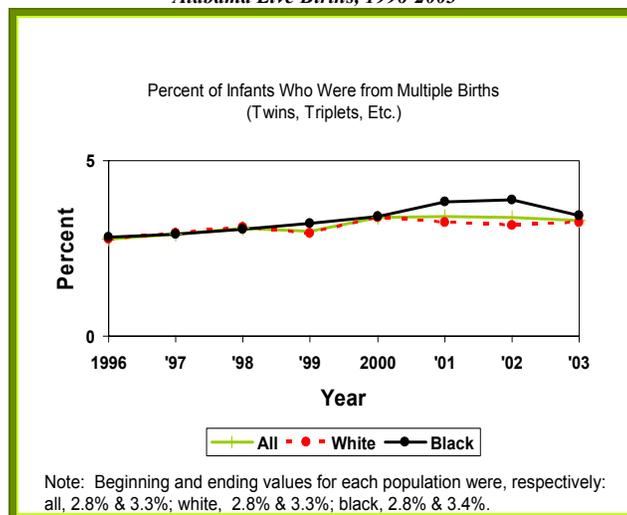
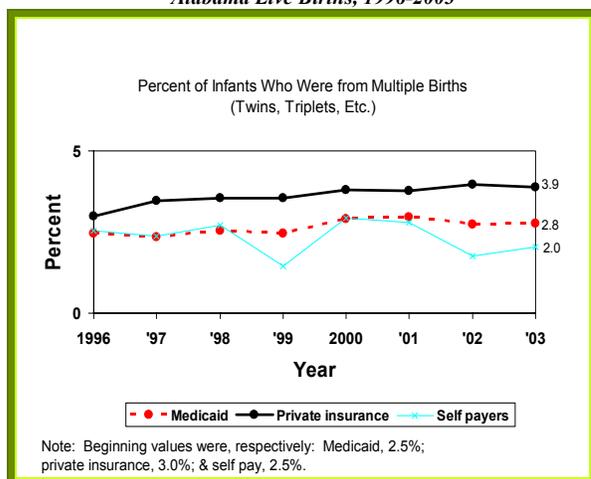


Figure 42 shows trends in multiple births for babies of Medicaid-enrolled mothers, babies of privately insured mothers, and babies of self-paying mothers. Among babies of privately insured mothers, the proportion who were from multiple births increased from 3.34 percent in 1996-98 to 3.87 percent in 2001-03: an increase of 16 percent overall, or 3.0 percent per year. Among babies of Medicaid-enrolled mothers, the proportion who were from multiple births increased from 2.45 percent in 1996-98 to 2.82 percent in 2001-03: an increase of 15 percent overall, or 2.9 percent per year. Throughout the surveillance period, multiple births were more common among privately insured mothers than among Medicaid-enrolled mothers. Among self-paying mothers, trends in multiple births were neither consistent nor statistically significant.

Figure 42. Prevalence of Multiple Births
According to Source of Payment for Delivery
Alabama Live Births, 1996-2003



Very Low Birthweight

As would be expected in light of the increase in multiple births, the prevalence of VLBW increased over the surveillance period. Among the total population, including multiple and singleton births, the proportion of babies who were VLBW increased from 1.9 percent in 1996-98 to 2.0 percent in 2001-03. Though statistically significant and of concern, the increase was not dramatic: 4.8 percent overall, or 0.9 percent per year. With respect to race, the largest increase occurred among African American babies: 3.3 percent and 3.5 percent of whom were VLBW in 1996-98 and 2001-03, respectively. Trends in VLBW in the other two racial groups and in the

three source-of-payment groups were not statistically significant.

To remove the effects of the increase in multiple births, trends in VLBW were assessed for singleton births. Of the three singleton racial groups studied, only African Americans experienced a notable increase in the prevalence of VLBW. That is, in 1996-98 and 2001-03 respectively, 2.8 percent and 2.9 percent of singleton African American babies were VLBW: for an overall increase of 4.5 percent, or 0.9 percent per year. Though this increase was not statistically significant (p-value = 0.10), VLBW among singleton African American infants continues to merit particular surveillance. With respect to source of payment, the only singleton group that experienced an increase in VLBW were babies of self-paying mothers, but the increase was far from being statistically significant (p-value = 0.59). Nevertheless, VLBW among singleton babies of self-paying mothers also merits particular monitoring since 3.0 percent of those born in 2001-03 were VLBW (up from 2.8 percent in 1996-98).

Trends in Risk of Infant Death

Risks of infant, neonatal, and postneonatal death among the Alabama 2000-02 birth cohort are graphically depicted earlier in this report, in Figures 21, 22, and 24. Trends in these risks, among Alabama residential live births from 1996-2002, were studied according to race (white and African American) and according to source of payment for birth. (As previously stated, 2002 is the latest year for which the Health Department has a birth cohort file linked to infant deaths.) After reviewing trend lines for individual years, Epi/Data Branch staff compared 2000-02 to 1996-98. In other words, they compared 3-year rates that were spaced four years apart: circa 2001 to circa 1997. Of the trends in mortality discussed under this subheading, five were statistically significant:

- The decline in risk of infant death and risk of neonatal death in the total population.
- The decline in risk of infant death and risk of neonatal death among white babies.
- The decline in risk of neonatal death among babies of Medicaid-enrolled mothers.

Comparing 2000-02 to 1996-98, risk of infant death declined by 8 percent: from 10.0 deaths per 1,000 live births in 1996-98, to 9.2 deaths per 1,000 live births in 2000-02. Over this same period, risk of neonatal death declined by 10 percent and risk of postneonatal death by just 3 percent.

Among African Americans, over the same period, risk of infant death declined by only 2 percent: with risk of neonatal death declining by 6 percent and risk of postneonatal death increasing by 8 percent.

Among babies of Medicaid-enrolled mothers, again over the same period, risk of infant death declined by 7 percent: with risk of neonatal death declining by 12 percent and risk of postneonatal death remaining the same. Trends in the privately insured group were quite similar to those in the total population. In the self-pay group, risk of infant death declined by 18 percent, but this decline was mainly due to Hispanics comprising proportionately more of this group over time. When limiting the study population to non-Hispanic infants whose delivery was self-paid, risk of infant death declined by only 3 percent.

Trends in Infant Death Among Singletons

Trends in infant, neonatal, and postneonatal mortality were also studied for singleton infants. Comparing 2000-02 to 1996-98, trends for singleton infants were similar to those for all infants in all but one of the study groups: the non-Hispanic Self Pay group. Among singleton infants born to non-Hispanic mothers said to have paid for their deliveries, risk of infant death increased by 6 percent, risk of neonatal death increased by 9 percent, and risk of postneonatal death remained the same. Of particular note, among African American singleton infants, risk of infant death declined by 4 percent (similar to the 3 percent decline among all African American infants), and risk of neonatal death increased by 8 percent (the same as among all African American infants).

Alabama Live Births: 2000-02 Versus 1996-98 ***The most notable declines in risk of death were for:***

- ***Risk of infant death and risk of neonatal death in the total population and among white babies.***
- ***Risk of neonatal death among babies of Medicaid-enrolled mothers.***

Alabama Live Births: 2000-02 Versus 1996-98 ***Due to an increase in risk of postneonatal death, risk of infant death declined by only 3 percent among African American babies.***

Trends in Birthweight-Specific Risk of Infant Death

Birthweight-specific risks of infant death are depicted earlier in Figures 26-29. Trends in infant death were studied for three birthweight categories: 500-1,499 grams (VLBW, but excluding weights of less than 500 grams), 1,500-2,499 grams (moderately low birthweight), and 2,500-4,249 grams (normal birthweight). Comparing 2000-02 to 1996-98:

- In the 500-1,499 gram group, risk of infant death declined by 16 percent, from 194.4 deaths per 1,000 in 1996-98 to 164.1 deaths per 1,000 in 2000-02. (Control for birthweight in 30-gram increments *within* this category did not notably change this finding.)
- In the moderately low birthweight group, risk of infant death declined by 7 percent, from 17.5 deaths per 1,000 in 1996-98 to 16.4 deaths per 1,000 in 2000-02.
- In the normal birthweight group, risk of infant death declined by 6 percent, from 3.4 deaths per 1,000 in 1996-98 to 3.2 deaths per 1,000 in 2000-02

Of the preceding birthweight-specific declines in risk of infant death, the decline in the 500-1,499 gram group was statistically significant, and the declines in the other two birthweight groups were not. Nevertheless, all these declines could be considered encouraging.

Trends in birthweight-specific risks of infant death were assessed according to race (white, and African American) and according to source of payment for delivery (private insurance, and Medicaid). In most cases, the decline was greater (though not significantly greater) in the 500-1,499 gram group than in the other two birthweight categories. The exception was the privately insured group. In this group, risk of infant death declined by 4 percent among 500-1,499 gram babies, increased by 6 percent among moderately low birthweight babies, and declined by 18 percent among normal birthweight babies. (None of these trends were statistically significant, and patterns were similar in the non-Hispanic privately insured group.). Risk of infant death did not decline among normal birthweight Medicaid-enrolled babies or normal birthweight African American babies.

Maternal and Infant Profiles for the State and Perinatal Regions

Periodically, depending on staff availability, Family Health Services' Epi/Data Branch prepares maternal and infant profiles for the State and for each of the State's five perinatal regions. The profiles are developed for perinatal regions, rather than other geographic classifications, in order to contribute to the information base for State Perinatal Program staff. As previously stated, Perinatal Program staff includes five Regional Perinatal Coordinators, whose duties include regional needs assessment and infant mortality review. Draft maternal and infant profiles are included in Appendix NA-3.

Preliminary findings for certain indicators are shown, according to perinatal region, in Figures 43-46. As shown in Figures 43-44, Region 1 (in northern Alabama) had the highest proportion of live births to Hispanic mothers, as well as the highest proportion of deliveries that were reported as being self paid.

Figure 43. Ethnicity

According to Perinatal Region, Alabama Live Births, 2001-03

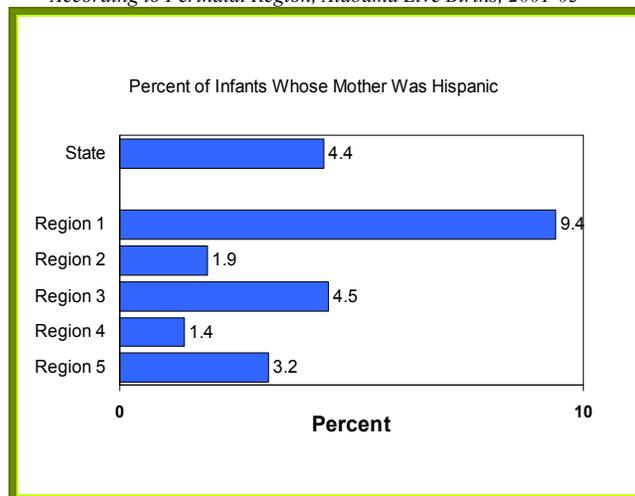
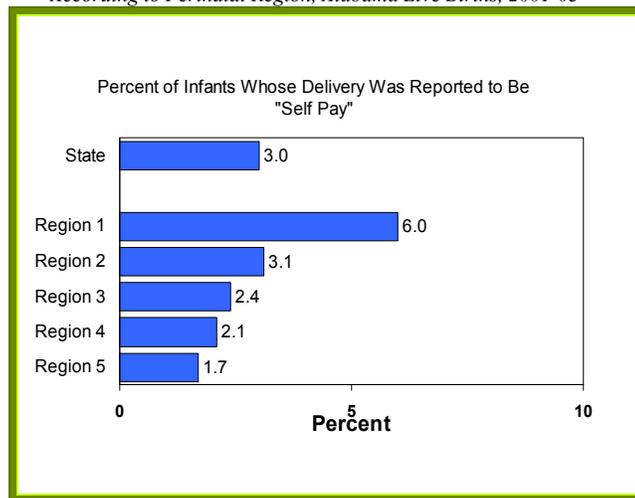


Figure 44. "Self Pay" Deliveries

According to Perinatal Region, Alabama Live Births, 2001-03



As shown in Figure 45, Region 5 (in south-central and southeastern Alabama) had the lowest percentage of VLBW babies who were born at perinatal centers. As shown in Figure 46, Region 1 had the highest percentage of mothers who had received no prenatal care. In 2000-02, risk of infant death in each Perinatal Region ranged from 7.5 deaths per 1,000 live births in Region 1 to 12.6 deaths per 1,000 live births in Region 2 (mainly in west-central Alabama). Statistical significance has not been assessed for any of the preceding comparisons.

Figure 45. Occurrence of Very Low Birthweight Births at a Perinatal Center
According to Perinatal Region, Alabama Live Births, 2001-02

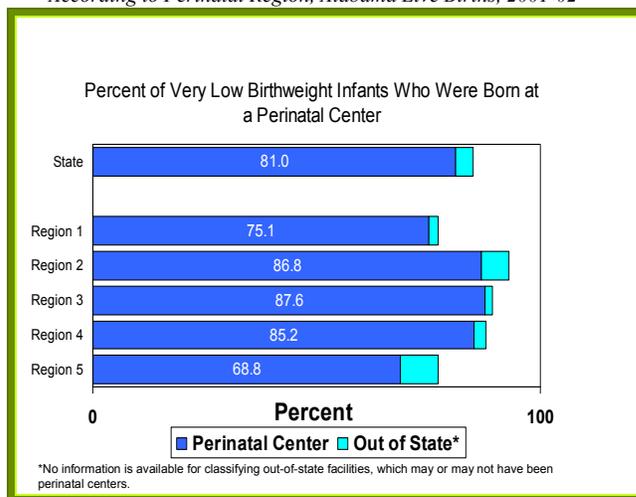
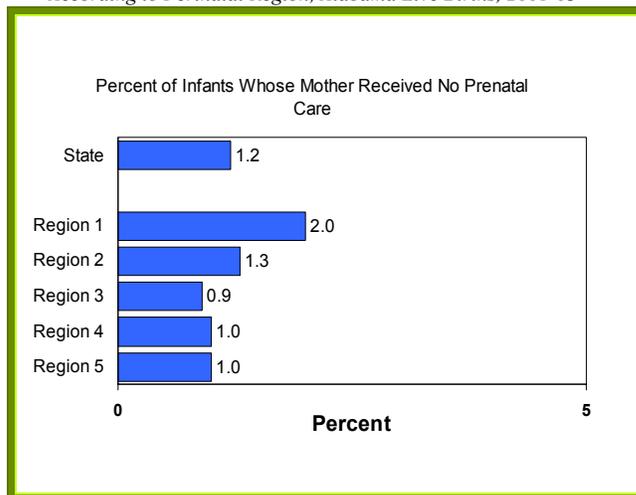


Figure 46. No Prenatal Care
According to Perinatal Region, Alabama Live Births, 2001-03



The main purpose of the regional maternal and infant profiles is to describe pertinent indicators within each region, rather than to compare regions. However, if sufficient analytic staff are available and the product would be deemed helpful by Regional Perinatal Coordinators, in FY 2006 the Epi/Data Branch will prepare slides and handouts that graphically depict selected indicators according to perinatal region. Additionally, if requested by the Regional Perinatal Coordinators and staffing resources permit, the Epi/Data Branch will prepare a fact sheet for the State and for each perinatal region.

Selected PRAMS Findings

The methods underlying PRAMS, which surveys mothers of live-born infants, are described in Section 1. Further, PRAMS findings regarding

medical problems in pregnancy are described earlier in Section 3. Here, findings for several additional PRAMS indicators are described. Generally, findings are described for only 1 year, 2002, unless findings in that year were statistically different from those in 2000 or 2001. (The exception pertains to the infant's sleeping position, for which trends over time are depicted.)

PRAMS on Prenatal Care

Rather extensive discussions of prenatal care occur earlier in Section 3. PRAMS collected information on prenatal care from the mother's perspective. One PRAMS question was: "Did you get prenatal care as early in your pregnancy as you wanted?" Of mothers surveyed in 2002, 79.1 percent (95% CI: 76.1-81.6) responded affirmatively. The converse of this finding, that about 21 percent of respondents did not get care as early as they wanted, is reasonably consistent with Figure 16, located earlier in Section 3. Figure 16 shows that mothers of 16 percent of Alabama babies born in 2001-03 had received late prenatal care.

A follow-up question posed to mothers who did not get care as early as they wanted was: "Did any of these things keep you from getting prenatal care as early as you wanted? (Check all that apply.)" Among mothers giving birth in 2002 who did not get care as early as they wanted, the top five reasons and percentages of women to whom they applied were as follows:

- "I didn't know that I was pregnant (40.3 percent).
- "I couldn't get an appointment earlier in my pregnancy (25.2 percent).
- "I didn't have enough money or insurance to pay for my visits (19.1 percent).
- "I had no way to get to the clinic or doctor's office (11.6 percent).
- "I didn't have my Medicaid card (11.3 percent)."

PRAMS on Dental Care

Periodontitis during pregnancy has been linked with preterm birth. Though this link has not clearly been shown to be causal, it is appropriate

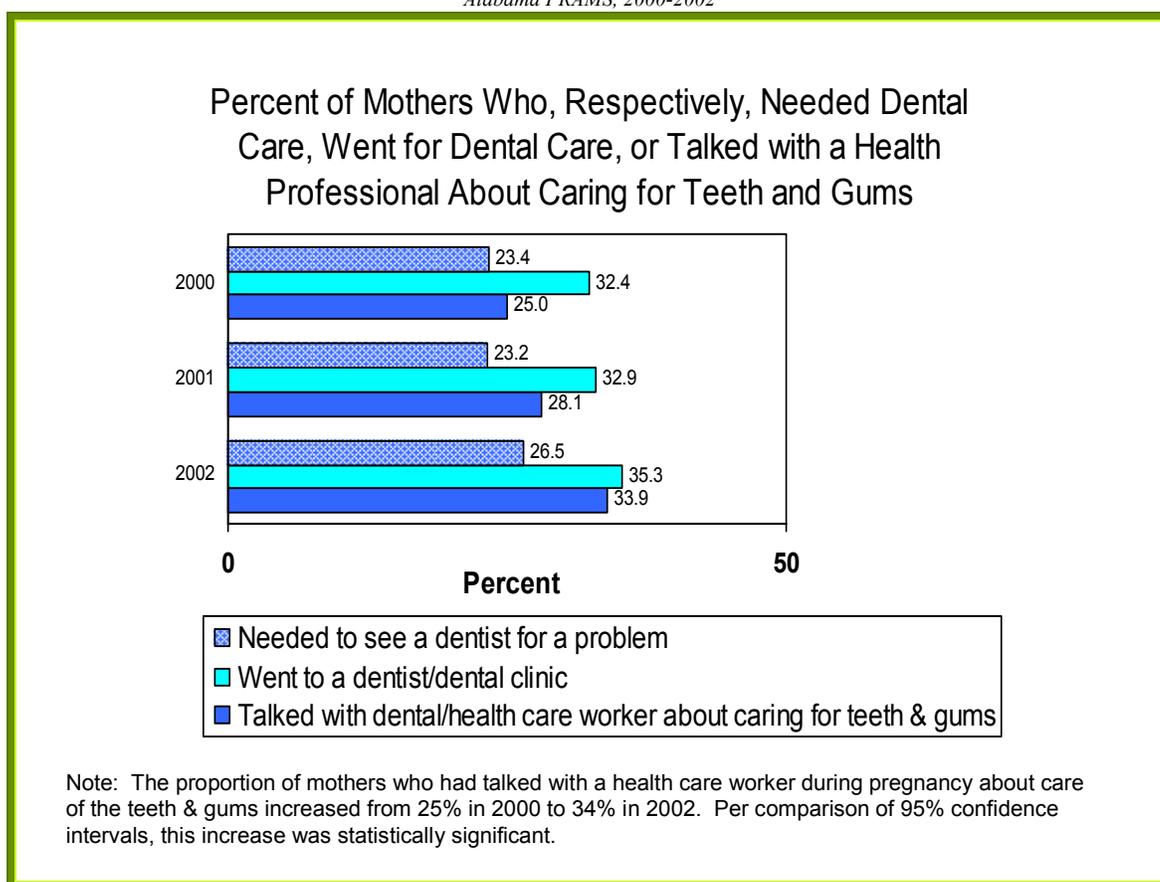
to advise expectant mothers about the importance of good oral health.³⁹ PRAMS asked two questions on dental care. The first asked the respondent to indicate (yes or no to each) whether, during the pregnancy:

- “I needed to see a dentist for a problem.
- “I went to a dentist or dental clinic.
- “A dental or other health care worker talked with me about how to care for my teeth and gums.”

Responses to the above question are depicted in Figure 47, for 2000, 2001, and 2002. As shown

in Figure 47, the proportion of mothers who had talked with a health care worker during pregnancy about care of the teeth and gums increased significantly: from 25 percent in 2000 to 34 percent in 2002. The increase is encouraging but, even so, about two-thirds of mothers giving birth in 2002 had not talked with a health care worker during the pregnancy about care of the teeth and gums, which is cause for concern. Further, per another PRAMS question, 61.7 percent of respondents to the 2002 survey had not had their teeth cleaned by a dental professional during the 6 months preceding the PRAMS interview.

Figure 47. Dental Care During Pregnancy
Alabama PRAMS, 2000-2002



PRAMS on Baby’s Sleeping Position

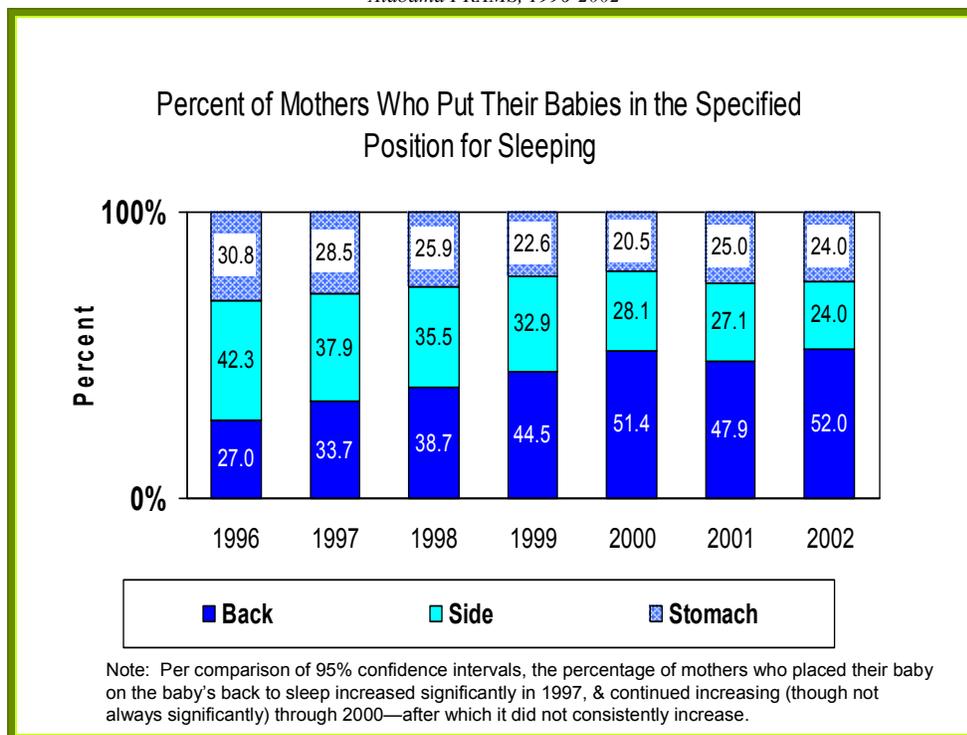
PRAMS asked the mother, “How do you *most often* lay your baby down to sleep now?” Respondents were asked to check one answer, indicating whether they placed the baby on his or her side, on his or her back, or on his or her stomach. Responses for consecutive years from 1996 through 2002 are shown in Figure 48. As shown or stated there, the percentage of mothers

who placed their baby on the baby’s back to sleep increased significantly in 1997, and continued increasing (though not always significantly) through 2000—after which it did not consistently increase. Thus, in 2002, 52 percent of mothers were placing the baby on his or her back to sleep. An additional 24 percent of mothers were placing the baby on the baby’s side to sleep. However, 24 percent were placing the baby on his or her

stomach to sleep. The evidence regarding the benefits of placing babies on their back or side to sleep justifies continued efforts to reach this latter group--those placing the baby on the stomach to

sleep—with the American Academy of Pediatrics’ recommendation to position infants on their back or side to sleep.

Figure 48. Baby’s Sleeping Position
Alabama PRAMS, 1996-2002



PRAMS on Breastfeeding

PRAMS asked several questions about breastfeeding. Based on responses to these questions, among new mothers in Alabama in 2002, 43 percent had not breastfed the infant, 5.4 percent had breastfed for less than one week, 29 percent had breastfed for one week or more, and 23 percent were still breastfeeding at the time of the survey.

One question asked, “Did you ever breastfeed or pump breast milk to feed your new baby after delivery?” Based on responses to this question, 57.5 percent of mothers in Alabama in 2002 had initiated breastfeeding (without regard to duration). This percentage has been increasing since 1993, when it was 45 percent. Throughout the surveillance period, white mothers were more likely than African American mothers to have initiated breastfeeding. In 2002, 68 percent of white mothers, versus 37 percent of African American mothers, had initiated breastfeeding.

Other Indicators or Data Sources: Pregnant Women, Mothers, and Infants

Certain indicators that are reported in the *MCH Annual Reports/Applications* pertain to pregnant women, mothers, and infants. As well, qualitative data from the community discussion groups and mail surveys offer information about this population. Discussion or cross-references about these sources follows.

Performance, Health Status, and Health Systems Capacity Measures

Several of the national performance measures (NPMs), health status indicators (HSIs), national outcome measures (NOMs) or health systems capacity indicators (HSCs) specified in the *MCH 2004 Report/2006 Application* are pertinent to the pregnant woman’s, mother’s, and infant’s health status or access to health care. Issues pertaining to the following NPMs are discussed earlier in Section 3, though often based on a different measurement than (and sometimes on the

converse of) that used in the *MCH Annual Reports/Applications*:

- NPM #8, which pertains to the live birth rate for teens.
- NPM #11, which pertains to breastfeeding.
- NPM #15, which pertains to VLBW.
- NPM #17, which pertains to the delivery of VLBW infants at perinatal centers.
- NPM #18, which pertains to early prenatal care.
- HSIs #02A and #02B, which respectively pertain to VLBW in all live births and in singleton live births.
- HSIs #06A, #06B, #07A, #07B, #09A, #09B, #10, #11, and #12—all of which pertain to demographics.
- NOMs #01, #02, #03, and #04, which pertain to infant mortality (including the racial infant mortality gap, neonatal mortality, and postneonatal mortality).

Findings described thus far in Section 3 do not directly address HSIs #01A and #01B, which pertain to low birthweight, HSI #05B, which pertains to chlamydia, HSC #04, which pertains to the Kotelchuck Index, and NOM #05, which pertains to the perinatal mortality rate.

The State's perinatal mortality rate in 2002-04, reported as the number of fetal deaths at 28 or more weeks gestation plus the number of infant deaths at less than 7 days of age, per 1,000 live births plus fetal deaths, was 8.3 deaths per 1,000. (Numbers for 2004 are provisional, making the 3-year rate provisional.) Due to a reporting change in 2000, the surveillance period did not include enough years of data for trends to be assessed well. NOM # 05 was not tracked as part of the FY 2004-05 MCH Needs Assessment. Instead, fetal deaths and very early (under 1 day of age) neonatal deaths, discussed earlier in Section 3, were tracked.

With respect to chlamydia, in Alabama in 2004, the chlamydia rate was 9.6 cases per 1,000 women

aged 20-44 years. Though this was the highest rate during the surveillance period (2000-2004), the indicator showed no consistent trend. Specifically, reported as the number of cases per 1,000, from a baseline of 9.5 in 2000, the rate declined to 8.7 in 2001, rose to 9.5 in 2002, declined to 8.9 in 2003, then peaked to 9.6 in 2004.

The discussion in Section 3 focuses on VLBW, rather than low birthweight, because the former is a much stronger predictor of infant mortality. Due to feasibility, discussions in Section 3 regarding the adequacy of prenatal care are based on the Kessner Index, rather than the Kotelchuck Index. Indicators regarding low birth weight (HSIs #01A and #01B) and the Kotelchuck Index (HSC #04) are reported on forms in the *MCH 2004 Report/2006 Application*, but did not play a key part in the FY 2004-05 MCH Needs Assessment.

The following indicators pertaining to infants are discussed in Section 4, which pertains to capacity:

- NPM #01, which pertains to newborn metabolic and hematologic screening, and NPM #12, which pertains to newborn hearing screening.
- HSC #02, which pertains to screening of Medicaid-enrolled infants, and HSC #03, which pertains to screening of SCHIP-enrolled infants.

Qualitative Data for Pregnant Women, Mothers, and Infants

Infant Mortality Review

The process for conducting infant mortality reviews in each of the State's five Perinatal Regions is described in Section 1. As stated there, deaths of 61 VLBW infants who died in 2002 were reviewed by early FY 2005. The deaths reviewed were divided into two groups, those born at a perinatal center and those born outside a perinatal center. Results of the reviews were identification of issues surrounding the pregnancies, plus recommendations from the case review teams to positively impact such pregnancies and births. A brief summary of these recommendations (also provided under NPM #17 in the *MCH 2004 Report/2006 Application*) follows.

All five case review teams agreed that few of the deaths of VLBW infants were preventable in terms of medical and hospital care given at delivery or, subsequently, during hospitalization. However, each team identified issues surrounding the pregnancies that could be addressed through community actions or strengthening of the health care system. Salient recommendations regarding VLBW infants, made by the Regional Perinatal Advisory Councils, pertained to: 1) improvement of risk assessment procedures, 2) provision of preconceptional counseling, 3) improvement of social services referrals, and 4) further strengthening of the system of regionalized perinatal care.

Community Discussion Groups and Mail Surveys

As described in Section 1, under “Methods: Family Health Services” and/or “Crosscutting Studies,” the community discussion groups and comments on returned mailed surveys provided qualitative data. Further, as also stated in Section 1, some findings from the Health Department’s community discussion groups and two mail surveys can be stratified according to specific Title V populations. However, a broader picture from the qualitative data sources helps provide a context for discussion of findings in a particular Title V population. Further, integrated discussion across Title V populations is sometimes indicated. For this reason, qualitative data from Family Health Services’ discussion groups and mail surveys are discussed later in Section 3, under “Qualitative Findings: Family Health Services.”

Findings: Children and Youth

In the FY 2004-05 MCH Needs Assessment, key (sometimes overlapping) sources of information pertaining to children and youth were the following:

- Certain NPMs, SPMs, NOMs, HSIs, and HSCs reported in the *MCH 2004 Report/2006 Application*.
- Electronic death certificate files for the State.
- YRBS.

- Qualitative information from the previously referenced community discussion groups and two mail surveys.

Discussion of findings pertaining to children and youth is generally organized under three main subheadings:

- Race and Ethnicity of Children and Youth.
- Children and Youth’s Access to or Utilization of Health Care.
- Morbidity in Children and Youth.
- Mortality in Children and Youth.
- Youth Risk Behavior Survey.

Adolescent pregnancy, though a very important issue, is discussed earlier under “Findings: Pregnant Women, Mothers, and Infants” so is not revisited here. Services intended to prevent adolescent pregnancy are discussed in Section 4. Further, as previously stated, qualitative findings from the Health Department’s community discussion groups and mail surveys are discussed later in Section 3, under “Qualitative Findings: Family Health Services.”

Discussion of findings pertaining to children and youth mainly focuses on status of indicators, rather than on activities to address the indicators or on implications of findings for individual indicators. Activities pertaining to performance measures are fully discussed in the *MCH 2004 Report/2006 Application*. Additionally, where appropriate, salient activities are discussed in Section 4 of this Needs Assessment report. As well, major implications arising from findings for indicators are discussed in Section 5 or Section 6.

Race and Ethnicity of Children and Youth

Demographics of children and youth, including infants, are discussed earlier in Section 3, under “Demographics and Health Status: Crosscutting Populations.” As stated there, of Alabama residents from birth through 24 years of age in 2004, 65 percent were white, 33 percent African American, and 2.6 percent of other or of more than one race. Not discussed there are race and ethnicity of children and youth from 1-24 years of age in particular, or of the five age-specific

subgroups in this population, listed in HSIs #06A and #06B: 1- 4 years, 5-9 years, 10-14 years, 15-19 years, and 20-24 years. Within these age groups, racial distribution was very similar to that for the entire population from birth through 24 years of age. That is, depending on the specific age group: from 65 to 66 percent were white, from 31 to 33 percent were African American, and from 2.4 to 2.9 percent were of other or of more than one race.

As also discussed earlier in Section 3, based on tracking of HSI #06B as reported in several *MCH Annual Reports/Applications*, the number of Hispanic children and youth residing in Alabama has notably increased over the last several years. Generally speaking, of children and youth living in Alabama in 2004, Hispanic individuals comprised a smaller proportion of the population as age increased. That is, 4.4 percent of infants less than 1 year of age were Hispanic, and this proportion gradually declined as age increased, so that 2.2 percent of youth aged 15-19 years were Hispanic. However, 3.1 percent of youth aged 20-24 years were Hispanic.

Children and Youth's Access to or Utilization of Health Care

As stated in Section 1, analysis of the circa 2003 National Survey of Children's Health did not prove feasible during the State's FY 2004-05 MCH Needs Assessment. Several of the indicators routinely reported in the *MCH Annual Reports/Applications* provide information regarding health care systems issues, however, so are discussed or cross-referenced under this subheading. (Throughout this document, all NPMs, SPMs, HSCs, NOMs, and the State Outcome Measure are identified according to the numbers used in the *MCH 2004 Report/2006 Application*.) Qualitative findings pertaining to health care access or utilization issues are discussed later in Section 3.

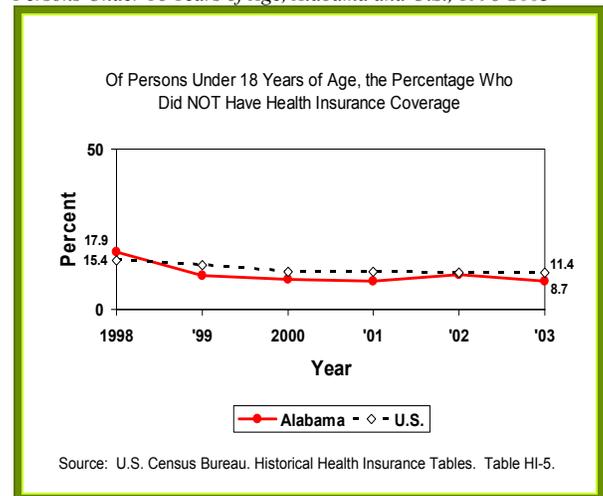
Health Insurance Coverage

With the possible exception of the very wealthy, one key determinant of access to health care is whether the individual has health insurance coverage. NPM #13, "Percent of children without health insurance," addresses this issue. Alabama SCHIP was first initiated, in incremental stages, in 1998, so was presumably not fully operational

until 1999. The prevalence of non-insurance among children and youth under 18 years of age has declined (improved) by half in the past several years: from 18 percent in 1998, to 9 percent in 2003.⁴⁰ This decline is depicted in Figure 49.

Family Health Services does not have estimates of the race- or ethnic-specific prevalence of being uninsured. However, outreach to enroll eligible children and youth in SCHIP or Medicaid includes outreach to Hispanic individuals.

Figure 49. Lack of Health Insurance
Persons Under 18 Years of Age, Alabama and U.S., 1998-2003



The prevalence of non-insurance among Alabama children and youth under 18 years of age has declined (improved) by half in recent years: from 18 percent in 1998, to 9 percent in 2003.

Receipt of Certain Services

Though no single service indicator gives an overall picture of health care access or utilization, each indicator discussed under this topic pertains to some component of health care access and/or utilization.

Care Coordination/Case Management

SPM #10: The percent of children, 0-9 years of age, enrolled in the Patient 1st Program who received case management services during the reporting year.

Family Health Services uses the terms "care coordination" and "case management" interchangeably, according to the program through which the activity is funded. Though SPM #10

becomes inactive in FY 2005, in the FY 2006-2010 needs assessment cycle this measure will be replaced by a very similar measure that has been updated to reflect current programs and uses the term “care coordination.”

Patient 1st is Alabama Medicaid’s primary care case management program. The proportion of 0-9 year-old Patient 1st enrollees who received care coordination services has increased gradually but consistently, from 0.8 percent in FY 2000 to 4.9 percent in FY 2005. The provision of care coordination services helps insure that children and youth enrolled in Medicaid’s Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Program acquire and fully benefit from the health and dental services available to them under Patient 1st. As discussed in Section 4, the Health Department is increasingly involved in care coordination of children and youth.

Medicaid-Paid Service to Children and Youth

NPM #14: Percent of potentially Medicaid-eligible children who have received a service paid by the Medicaid Program.

This indicator has remained about the same during the surveillance period (FYs 2000 through 2004), ranging from 84.5 percent in FY 2000 to 88 percent in FY 2002. In FY 2004, an estimated 87 percent of Alabama Medicaid-enrolled 1-21 year-old children and youth received a service that was paid for by the Medicaid Program.

As discussed in notes to NPM #14 in the *MCH 2004 Report/2006 Application*, selecting a denominator for this measure is extremely problematic. What is actually reported in this measure is the percentage of Medicaid-enrolled children and youth who received a Medicaid-paid service, which masks progress in the percentage of potentially Medicaid-eligible children who are served. (The number of Medicaid-eligible children who are not enrolled in Medicaid is unknown.) The number of children who are enrolled in Medicaid has increased by 30 percent in recent years: from 357,177 in FY 2000 to 463,226 in FY 2004. Similarly, the number of Alabama children who received a Medicaid-paid service increased by 34 percent: from 301,947 in FY 2000 to 403,378 in FY 2004. Quite likely, much of the increase in numbers of individuals

served is due to effective outreach by Alabama SCHIP and Alabama Medicaid.

Comparing 2004 to 2000, the number of Alabama children and youth who received a Medicaid-paid service increased by 34 percent.

Immunization of Toddlers

NPM #07: Percent of 19-35 month-olds who have received the full schedule of age-appropriate immunizations against measles, mumps, rubella, polio, diphtheria, tetanus, pertussis, Haemophilus influenza, and hepatitis B.

Several years ago, the estimated proportion of 19- to 35-month old children who had received the full schedule of the preceding vaccines increased notably, from 73 percent in 1999 to 79 percent in 2000. No consistent trends emerged from 2000 onward, when this indicator ranged from a low of 77 percent in 2002 to a high of 83 percent in 2004.⁴¹ Though the higher prevalence in 2004 of full vaccination of toddlers is encouraging, findings for at least one additional year are needed before we can conclude that the status of this indicator is indeed improving or, alternatively, is remaining basically static.

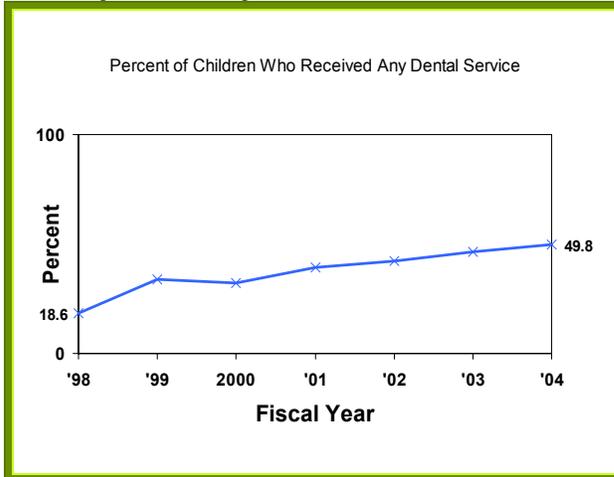
Dental Services

HSC #07: The percent of EPSDT-eligible children aged 6-9 years who have received any dental services during the year.

As shown in Figure 50, this indicator has increased dramatically, by 2.7-fold, since the baseline FY of 1998. Specifically, the proportion of Alabama EPSDT-enrolled 6- to 9-year-old children who received any dental services during the year increased (improved) from 19 percent in FY 1998 to 50 percent in FY 2004. Though the most dramatic improvement occurred in FY 1999, this indicator improved to some degree in all subsequent FYs except 2000. (Caveat: The number of potentially EPSDT-eligible children who are not enrolled in Medicaid is not known.)

The corresponding number of individuals served increased even more dramatically. That is, the number of EPSDT-enrolled 6- to 9-year-old children who received any dental service in a year more than quadrupled: from 11,361 individuals in FY 1998 to 46,860 individuals in FY 2004.

Figure 50. Receipt of Any Dental Service
EPSDT-Eligible Children Aged 6-9 Years, Alabama, FY 1998 – FY 2004



The number of EPSDT-enrolled 6- to 9-year-old Alabama children who received any dental service in a year more than quadrupled: from 11,361 children in FY 1998 to 46,860 children in FY 2004.

NPM # 09: Percent of third-grade children who have received protective sealants on at least one permanent molar tooth.

A direct-observation-based estimate for this indicator is available for only one recent year, 2003. Based on this survey, in FY 2003, 23 percent of Alabama third-graders had received protective sealants on at least one permanent molar tooth. This estimate is from a direct-observation survey of a representative sample of third-graders in Alabama public schools.

Morbidity in Children and Youth

Asthma

HSC #01: The rate of children hospitalized for asthma (ICD-9 Codes 493.0-493.9) per 10,000 children less than 5 years of age.

Making estimates for this indicator is problematic because the State does not have a representative, centralized hospital discharge database. However, for 2002 and 2003, Blue Cross and Blue Shield of Alabama (Alabama Blue Cross Blue Shield) and Alabama Medicaid each provided numbers for estimating the asthma hospitalization rate in preschool children enrolled in their respective plans. (At this writing, July 2, 2005, numbers for 2004 have not been received from Alabama Medicaid.) Based on a combined 2-year rate for

2002-03, for every 10,000 Alabama children 4 years of age or younger, about 79 hospitalizations for asthma occurred each year. Trends for this indicator cannot be described because there are reasonably credible data for only two years.

Chlamydia in 15-19 Year-Old Females

HSI #05A: The rate per 1,000 women aged 15-19 years with a reported case of chlamydia.

In 2004 the estimated chlamydia rate among Alabama 15-19 year-old females was 30.9 cases per every 1,000 females in this age group. Though this was the lowest rate during the surveillance period (2000-2004), and the highest rate occurred in the first year of the period (38.5 cases per 1,000 in 2000), the rate showed a saw-toothed pattern with no consistent trend.

Methods Note #9: Nonfatal Injuries

The State does not have a database from which to estimate the rate of nonfatal injuries. As stated earlier under HSC #01, Alabama does not have a centralized, representative hospital discharge database. Since Alabama Blue Cross Blue Shield and Alabama Medicaid have provided numbers for estimates on asthma hospitalization rates, the Epi/Data Branch inquired as to whether they could provide International Classification of Diseases-9-Clinical Modification (ICD-9-CM) codes regarding hospitalizations for certain injuries, according to ICD-9-CM "external causes of injury and poisoning codes" (E-codes). ICD-9-CM, rather than ICD-10-CM, was specified because the federal guidance for *MCH Annual Reports/Applications* specifies the use of ICD-9 codes for asthma hospitalization rates. However, in a phone conversation, the Alabama Blue Cross Blue Shield contact was asked to utilize whatever injury-related codes seemed most appropriate.

The specific E-codes requested were: for unintentional injuries, excluding those due to motor vehicle incidents—E800.0-E807.9, E826.0-E869.9, E880.0-E928.9, and E929.1-E929.9; for injuries due to motor vehicle incidents—E810.0-E825.9 and E929.0; for attempted suicide and self-inflicted injuries, E950.0-E959; for injury inflicted by others, excluding legal intervention, but including criminal neglect—E960.0-E969.

Alabama Medicaid has not yet responded to the request for data on injuries, which goes beyond any request that Family Health Services has made to that agency in the past. Alabama Blue Cross Blue Shield has responded, but that organization's E-code data on inpatient hospitalizations were very limited. Though Alabama Blue Cross Blue Shield could not provide the specific frequencies requested, the contact provided pertinent injury-related frequencies that could be provided. Since that information pertains to privately insured persons only, it was not used for estimating the rates required in HSIs #04A, #04B, and #04C. However, the information provided by Alabama Blue Cross Blue Shield is more than could be obtained from any other source, so is much appreciated and is included in the discussion that follows.

The estimated rates for HSIs #04A, #04B, and #04C are very rough, and Family Health Services has little confidence in them. The methods for arriving at these estimates are detailed in notes to these indicators, in the *MCH 2004 Report/2006 Application*. Briefly, the estimates of nonfatal injuries (for which the State does not have a database) were made by multiplying a factor times the corresponding fatal injury rate (for which electronic death certificate files serve as a numerator database). The factor assumes that the State's ratio of nonfatal injuries to corresponding fatal injuries is the same as Kentucky's ratio, which was derived from Kentucky's *MCH 2003 Report/2005 Application*.

To our knowledge, claims based on ICD-9 codes do not distinguish between fatal and nonfatal injuries. Therefore, the numbers reported presumably include fatal injuries, as well as nonfatal injuries. Nonfatal injuries probably account for most of the claims, however.

Mainly Nonfatal Injuries

Methods for arriving at estimates for HSIs #04A, #04B, and #04C are described in Methods Note #9, which immediately precedes this discussion. As stated in that note, ***the estimates for HSIs #04A, #04B, and #04C are very rough, and Family Health Services has little confidence in them.*** As also stated in Methods Note #9, claims based on ICD-9 codes presumably include both fatal and nonfatal injuries, but nonfatal injuries probably account for most of the claims.

Health Status Indicators on Nonfatal Injuries

HSI #04A: The rate per 100,000 of all nonfatal injuries among children aged 14 years and younger.

Per a very rough estimate, in 2003 the nonfatal injury rate among Alabama children/youth aged 14 years and younger was 123.2 injuries per 100,000 persons in this age group.

HSI #04B: The rate per 100,000 of nonfatal injuries due to motor vehicle crashes among children aged 14 years and younger.

Per a very rough estimate, in 2003 the rate of nonfatal injuries due to motor vehicle crashes among Alabama children/youth aged 14 years and younger was 22.8 injuries per 100,000 persons in this age group.

HSI #04C: The rate per 100,000 of nonfatal injuries due to motor vehicle crashes among youth aged 15 through 24 years.

Per a very rough estimate, in 2003 the rate for nonfatal injuries due to motor vehicle crashes among Alabama youth aged 15-24 years was 164.0 injuries per 100,000 persons in this age group.

Injuries Among Children and Youth Enrolled in Blue Cross and Blue Shield of Alabama

The following information is based on counts of patients for which E-code claims were submitted in 2004. The counts include all E-code claims submitted to Alabama Blue Cross Blue Shield for the specified age groups, using inpatient, outpatient, and emergency room diagnoses. Rates are based on the following denominators for the

number of Alabama Blue Cross Blue Shield enrollees in the specified age groups: 412,286 enrollees who were 14 years of age and younger, 269,546 enrollees who were 15-24 years of age, and 681,832 enrollees who were 24 years of age and younger.

- For unintentional injuries excluding those due to motor vehicle incidents, 226 claims were submitted for persons aged 14 years and younger, and 134 claims for persons aged 15-24 years. These claims convert to respective unintentional non-motor-vehicle injury rates of 54.8 injuries per 100,000 Alabama Blue Cross Blue Shield enrollees aged 14 years and younger, and 49.7 injuries per 100,000 enrollees aged 15-24 years.
- For motor-vehicle-related injuries, 56 claims were submitted for persons aged 14 years and younger, and 116 claims for persons aged 15-24 years. These claims convert to respective motor-vehicle-related injury rates of 13.6 injuries per 100,000 Blue Cross Blue Shield enrollees aged 14 years and younger, and 43.0 injuries per 100,000 enrollees aged 15-24 years.

For 0-24 year-old enrollees, 12 claims were submitted for self-inflicted injuries (including suicide), and 22 claims for injury inflicted by others. Due to small numbers in the statistical sense, rates are not presented for these injuries.

Alabama Blue Cross Blue Shield also provided numbers for ICD diagnosis codes 800-999: which include fractures, sprains, dislocations, contusions, internal and intracranial injuries, superficial injuries, foreign bodies, burns, spinal cord injuries, trauma; and poisoning by drugs, medicinal and biological substances, and toxic effects. These are not E-codes, so do not specify the external cause of the injury. Further, this group of codes presumably captures many minor injuries and is much broader than the codes on which HSI #04A is based, so rates based on this group of codes are expected to be much higher than any corresponding rates based on E-codes. Numbers of claims submitted for the aforesaid codes, and rates to which they convert, follow for two age groups of Alabama Blue Cross Blue Shield enrollees:

- For 0-14 year-old children and youth, 1,435 claims with the aforesaid codes were submitted, converting to an overall injury rate of 348.1 injuries per 100,000 enrollees in this age group. As expected, this broadly based rate is much higher than the rate reported for HSI #04A.
- For the 15-24 year-old group, 1,953 claims with the aforesaid codes were submitted, converting to an overall, again broadly based, injury rate of 724.6 injuries per 100,000 enrollees in this age group.

***Nonfatal Injuries in Children and Youth:
General Conclusions***

Per the previously stated caveats, available data on nonfatal injuries in Alabama children and youth are very limited. Further, numbers for Alabama Blue Cross Blue Shield enrollees are not purported to represent the entire State. Regardless of these limitations, when coupled with mortality indicators that are presented later, the previous numbers indicate that:

- Injuries among children and youth are an important public health problem.
- Motor-vehicle-related injuries are more common in the 15-24 year-old age group than in the younger age group.

Injuries among children and youth are an important public health problem. Motor-vehicle-related injuries are more common in 15-24 year-olds than in younger children and youth.

Mortality in Children and Youth

Table 3 shows total number of deaths and corresponding mortality rates among Alabama children and youth in 2001-03 for the following age groups: 1-4 years, 5-14 years, 15-19 years, and 20-24 years. The population denominators are not shown, but are based on estimates provided by Alabama’s Center for Business and Economic Research.

Table 3. Total Number of Deaths and Corresponding Rates, According to Age Group, Alabama Children and Youth, 2001-03

Population, According to Age and Race	Number of Deaths	Rate per 100,000 (Number of Deaths per 100,000 Residents in Age Group)
1-4 Years		
Total	294	40.8
White	174	37.9
Black and other	120	46.0
5-14 Years		
Total	441	23.2
White	269	22.2
Black and other	172	25.0
15-19 Years		
Total	891	90.4
White	610	96.8
Black and other	281	78.9
20-24 Years		
Total	1,229	129.9
White	750	122.8
Black and other	479	142.7

As shown in Table 3, for the total group and each racial group, the highest mortality rate was experienced by the 20-24 year-old age group (130 deaths per 100,000 persons), followed by the 15-19 year-old age group (90 deaths per 100,000 persons), followed by the 1-4 year-old age group (41 deaths per 100,000 persons). In all but one age group, the mortality rate among African American and other youth was from 13 to 21 percent above that for white youth. The exception was the 15-19 year-old group. In this group, mortality among African American and other youth was 19 percent less than that among white youth. (Of the preceding comparisons, only the latter—that for the 15-19 year-old age group—was statistically significant per non-overlapping Fleiss 95 percent confidence intervals.)

Although the 20-24 year-old group experienced the highest age-specific mortality rates among the preceding groups, the FY 2004-05 MCH Needs Assessment focused on children and youth, rather than young adults. For this reason, with the exception of unintentional injuries, the following discussion of mortality generally focuses on children and youth from 15-19 years of age.

Figures 51-53 respectively show the leading causes of death for three age groups: 1-4 years, 5-14 years, and 15-19 years. In each case, the most

frequent cause of death was unintentional injuries: which caused 42 percent of all deaths among 1-4 year-old children, 48 percent of all deaths among 5-14 year-old children and youth, and 57 percent of all deaths among 15-19 year-old youth. In each age group, unintentional injuries were the leading cause of death among whites and among African Americans. (Race-specific causes of death are not shown in pie charts.) The ranking of remaining leading causes of death often differed according to age and race.

Among 1-4 year-old children in Alabama, homicide caused 8 percent of all deaths, malignant neoplasms 6 percent, congenital anomalies 5.5 percent, and diseases of the heart 5.4 percent. The second and third leading causes of death among white 1-4 year-old children were malignant neoplasms (8 percent) and congenital anomalies (7 percent), followed closely by homicide (6 percent) Second and third leading causes among African American and other 1-4 year-old children were homicide (10 percent) and diseases of the heart (9 percent).

Among 5-14 year-old children and youth in Alabama, malignant neoplasms caused 9 percent of deaths, congenital anomalies and diseases of the heart 6 percent each, homicide 2.9 percent, and suicide 1.8 percent. The second and third leading causes of death among white 5-14 year-old children were again malignant neoplasms (12 percent) and congenital anomalies (4.8 percent), followed closely by diseases of the heart (4.5 percent) Second and third leading causes among African American and other 5-14 year-old children and youth were congenital anomalies (9 percent) and diseases of the heart (7.5 percent).

Among 15-19 year-old youth in Alabama, homicides caused 12 percent of deaths, suicide 7.5 percent, malignant neoplasms 4.0 percent, and diseases of the heart 2.9 percent. Second and third leading causes of death among white 15-19 year-old youth were suicide (9 percent) and homicide (4.1 percent). Second and third causes among African American and other 15-19 year-old youth were homicide (28.5 percent) and malignant neoplasms (6.4 percent). Suicide was the cause of 4.6 percent of deaths of 15-19 year-old African American and other-race youth.

To recap salient causes of deaths in 2001-03, that are generally deemed to be preventable, among Alabama children and youth:

- Unintentional injuries were the leading cause of death in all children and youth, regardless of age and race.
- Homicides caused 8 percent of deaths among 1-4 year-old children, 28.5 percent of deaths among 15-19 year-old African American and other youth, and 4 percent of deaths among 15-19 year-old white youth.
- Suicide caused 9 percent of deaths among 15-19 year-old white youth and 5 percent of deaths among 15-19 year-old African American and other youth.

Salient preventable causes of death were unintentional injuries in all age groups, regardless of race; homicides in 15-19 year-old African American youth; and suicide in 15-19 year-old youth, though more so in white youth.

Figure 51. Cause of Death
1-4 Year-Old Children, Alabama, 2001-03

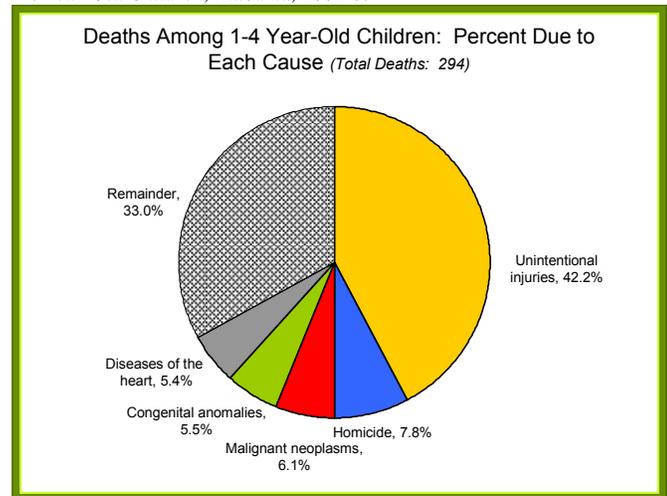


Figure 52. Cause of Death
5-14 Year-Old Children and Youth, Alabama, 2001-03

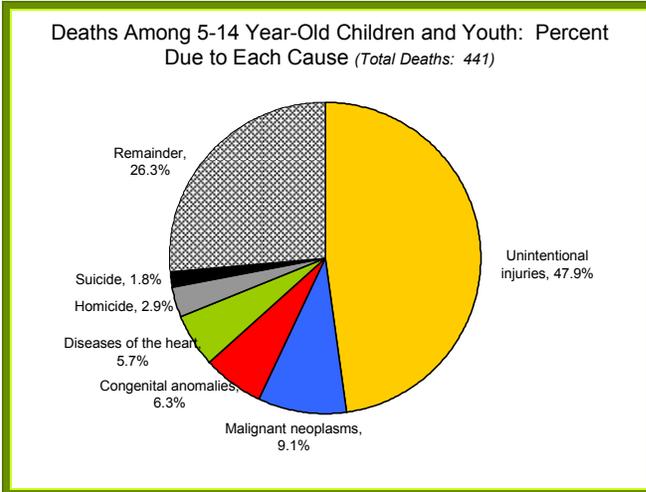


Figure 53. Cause of Death
15-19 Year-Old Youth, Alabama, 2001-03

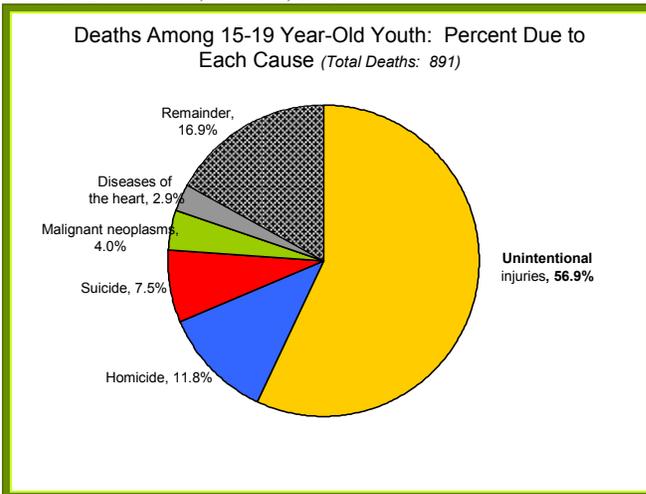


Figure 54 shows unintentional injury death rates for 15-19 year-old Alabama youth, reported as the number of deaths per 100,000 youth in the specified age and race group. Rates are shown for overlapping 3-year periods. The death rate from unintentional injuries was higher among white 15-19 year-olds than among their African American and other-race counterparts during the entire surveillance period. Overall declines, comparing 2001-03 (or circa 2002) to 1998-2000 (or circa 1999)—were as follows: 8 percent for the total population, 8 percent for whites, and 5.5 percent for African Americans and other races. Though these overall declines were not statistically significant, after the baseline the rates declined in most 3-year periods. (The exceptions were increases among white youth in 2000-02 and African American and other youth in 2001-03).

Figure 54. Unintentional Injury Death Rate
15-19 Year-Old Youth, Alabama, 1998-2000 - 2001-03

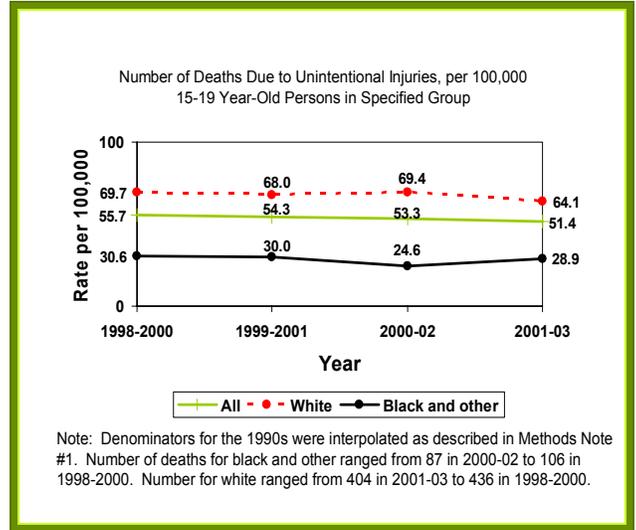


Figure 55 shows the distribution of deaths due to unintentional injuries among 15-24 year-old Alabama youth in 2001-03, according to type of injury. Of the 1,079 deaths due to unintentional injuries, 74 percent were due to injuries sustained in motor vehicle crashes, 7 percent to poisonings, 3 percent each to drownings and firearms, and 2 percent to smoke, fire, and flames.

Figure 55. External Causes of Unintentional Injuries
15-24 Year-Old Youth, Alabama, 2001-03

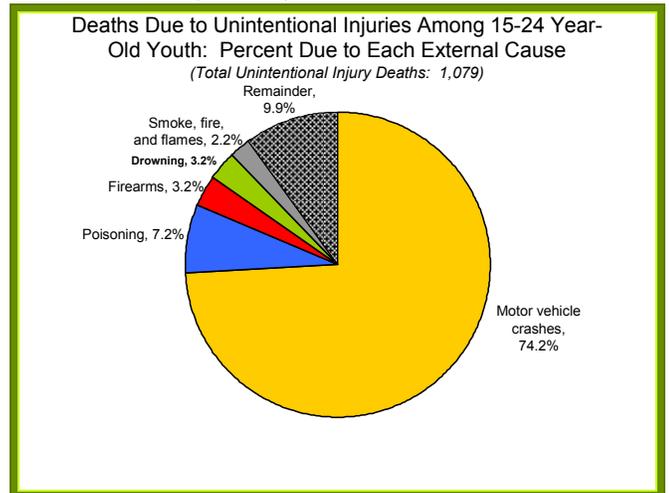
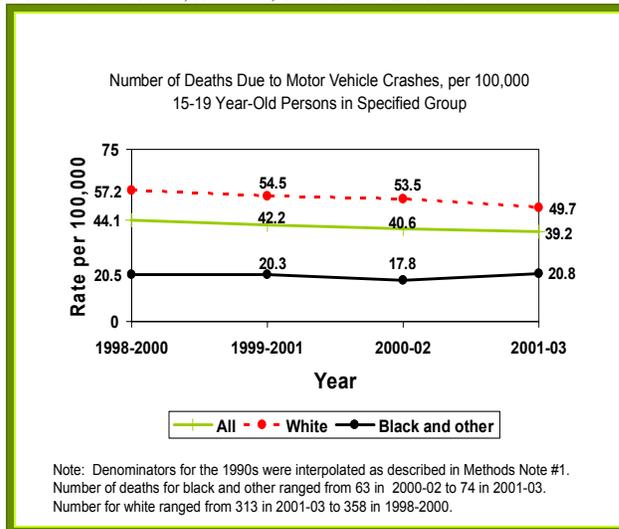


Figure 56 shows the rates of deaths due to motor vehicle crashes among 15-19 year-old Alabama youth, again reported as the number of deaths per 100,000 youth in the specified age group in overlapping 3-year periods. Again, rates were higher for whites than for African American and other races throughout the surveillance period. Indeed, the patterns shown in Figure 55 for motor vehicle crash death rates probably drive the

corresponding patterns for unintentional injuries (Figure 54.) Overall declines in the motor vehicle crash death rates for 15-19 year-old Alabama youth, comparing 2001-03 to 1998-2000, were as follows: 11 percent for the total population, 13 percent for whites, and 1.4 percent for African Americans and other races. Though none of the overall declines was statistically significant, after the baseline period the rate among whites declined in all 3-year periods.

Figure 56. Motor Vehicle Crash Injury Death Rate
15-19 Year-Old Youth, Alabama, 1998-2000 - 2001-03



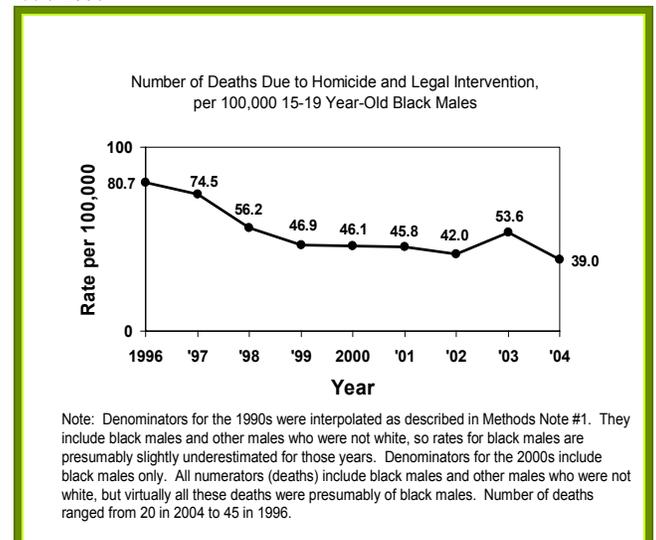
In the current needs assessment cycle (FYs 2001-2005), Alabama's State outcome measure has been the rate of deaths among African American 15-19 year-old males due to homicide and legal intervention, and this measure will be carried into the next needs assessment cycle (2006-2010). As shown in Figure 57, this rate has notably declined. Comparing 2002-04 to 1996-98, the rate declined by 36 percent (from 70 deaths per 100,000 in 1996-98 to 45 deaths per 100,000 in 2002-04), and the decline was statistically significant (per comparison of Fleiss 95 percent confidence intervals). Per provisional numbers, in 2004 the homicide/legal intervention death rate among 15-19 year-old African American males living in Alabama was 39.0 deaths per 100,000 males in this population: about half what the rate had been in 1996. Counting individuals, in 2004, deaths of 20 Alabama 15-19 year-old African American males were attributed to homicide or legal intervention.

Because the Alabama Child Death Review System (described in Section 1) reviews only certain

deaths, the system's findings are not expected to correspond precisely with vital-statistics-based findings. However, their findings, which pertain to unexpected deaths, are consistent with the fact that motor vehicle crashes are a major cause of preventable deaths in children and youth. Specifically, as of December 15, 2004, of the 1,118 cases that had been reviewed by the system since 2000, about one-third (34 percent) involved vehicular deaths.

The homicide/legal intervention death rate among 15-19 year-old African American males has declined by 36 percent: from 70 deaths per 100,000 in 1996-98 to 45 deaths per 100,000 in 2002-04.

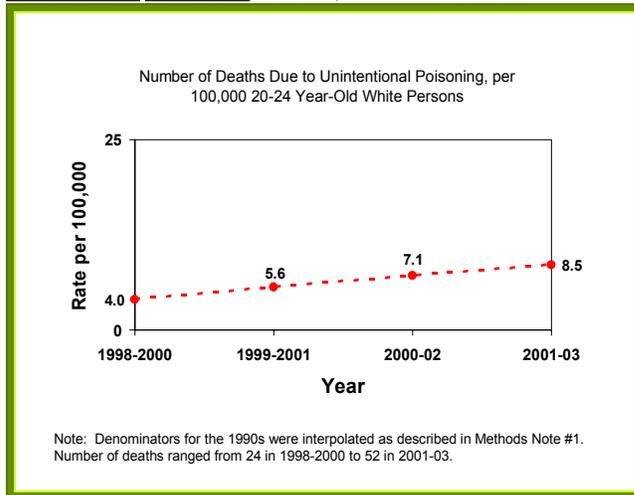
Figure 57. Homicide and Legal Intervention Death Rate
15-19 Year-Old African American Males, Alabama, 1996-2004



As shown in Figure 58, the rate of deaths attributed to unintentional poisoning of white 20-24 year-old youth has more than doubled: from 4.0 deaths per 100,000 white 20-24 year-old youth in 1998-2000, to 8.5 deaths per 100,000 in 2001-03. Though numbers are small in the statistical sense, the increase was quite steady, and the overall increase was statistically significant (per non-overlapping Fleiss 95 percent confidence intervals). This marked increase is cause for great concern. In 2001-03, of the 52 deaths among this population attributed to unintentional poisoning, 40 were due to "accidental poisoning by and exposure to other and unspecified drugs,

medicaments and biological substances.” Because this category is so general, information, including qualitative and anecdotal information, from other sources is clearly needed. (In any 3-year period during the surveillance period, only 2-3 deaths of African American and other-race Alabama 20-24 year-olds were attributed to poisoning.)

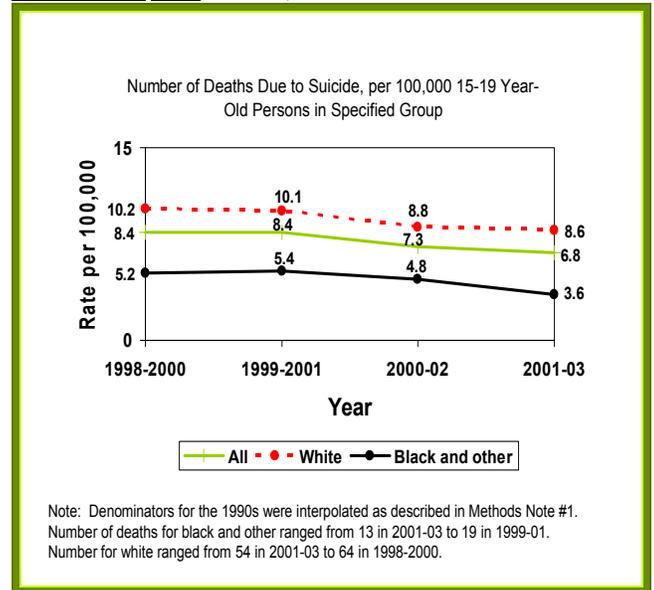
Figure 58. Death Rate for Unintentional Poisoning
20-24 Year-Old White Youth, Alabama, 1998-2000 - 2001-03



The death rate from unintentional poisoning has doubled among white 20-24 year-old Alabama youth: from 4 per 100,000 in 1998-2000, to 8.5 per 100,000 in 2001-03. In 2001-03, 52 deaths in this population were attributed to unintentional poisoning.

Figure 59 shows the suicide death rate among 15-19 year-old Alabama youth, according to race. Rates were higher for whites than for African American and other races throughout the surveillance period. Overall declines in the suicide death rates for 15-19 year-old Alabama youth, comparing 2001-03 to 1998-2000, were as follows: 19 percent for the total population, 16 percent for whites, and 29 percent for African Americans and other races. Though none of these overall declines was statistically significant, from the baseline period, the rate among white 15-19 year-olds declined (often slightly) in all years. Due to few numbers of deaths in the statistical sense, the estimated rate among African American and other 15-19 year-olds may be very imprecise.

Figure 59. Suicide Death Rate
15-19 Year-Old Youth, Alabama, 1998-2000 - 2001-03



Youth Risk Behavior Survey

Though some aspects of personal health are mainly beyond the individual’s control, an individual’s choices often influence his or her health. Even more so, a population’s health-related behavior influences the prevalence of morbidity and the risk of death in that population. Further, knowledge about a population’s health-related behavior helps to determine what behaviors need to be addressed in order to better promote that population’s health. For these reasons, YRBS has been a key part of the State’s assessment of health-related needs among high-school-aged youth.

The Epi/Data Branch’s approach to reviewing YRBS indicators and selecting those few indicators to be included in this report is discussed in Section 1, under “Methods: Family Health Services.” More specifically, indicators were chosen out of concern regarding morbidity, deaths, and/or failure to achieve potential due to any of the following:

- Motor vehicle crashes.
- Externally directed violence.
- Self-inflicted injuries.
- Tobacco, alcohol, and other drugs.
- Premature and/or unprotected sexual activity.

➤ Physical inactivity.

Generally speaking, trends over time in an indicator are discussed or depicted only if notable changes have occurred. Similarly, race- or sex-specific findings are generally discussed or depicted only if findings notably differ according to those characteristics. Some figures show 95 percent confidence intervals obtained from the YRBS website. We deemed differences to be statistically significant if confidence intervals did not overlap. However, we deemed consistent patterns to be notable, even if differences over time or between groups of interest were not statistically significant. If addressed in narrative or text on slides, statistical significance is discussed only for Alabama, or Alabama in comparison to the U.S., not for the U.S. itself. When discussing YRBS, “students” refers to high school students and, in Alabama, to public high school students. Though findings for the U.S. are sometimes depicted in narrative and/or discussed, all narrative information pertains to Alabama students unless stated otherwise.

Motor Vehicle Crashes

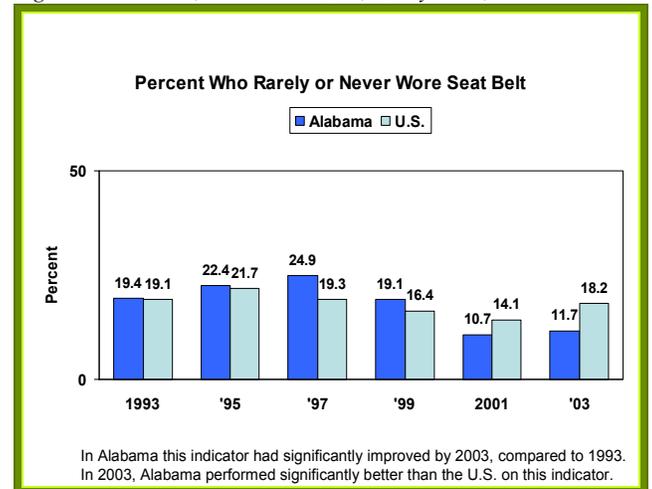
With respect to motor vehicle crashes, YRBS indicators of particular interest are those pertaining to seat belt use and to driving under the influence of alcohol.

Seat Belt Use

Figure 60 depicts the percentage of Alabama and U.S. high school students who rarely or never wore seatbelts, for alternate years from 1993-2003. (YRBS is conducted every two years). In 2003, 12 percent of Alabama students had rarely or never worn seatbelts when riding in a car driven by someone else, compared to 18 percent of U.S. students. The status of this indicator was significantly better in Alabama in 2003 than it had been in 1993. In Alabama the prevalence of having rarely or never worn seat belts was higher among male students than among female students in all six of the years studied. In 2003 in Alabama, 14 percent of male students and 9 percent of female students had rarely or never worn a seatbelt. In that same year in Alabama, 16 percent of African American students and 9 percent of white students had rarely or never worn a seatbelt.

Figure 60. Rarely or Never Wore Seat Belt When Riding in Car Driven by Someone Else

High School Students, Alabama and U.S., Survey Years, 1993-2003



Drinking and Driving

During the 30 days preceding the 2003 survey, 29 percent of Alabama high school students had ridden in a car or other vehicle one or more times with a driver who had been drinking alcohol. This prevalence was significantly better than in 1993, when 40 percent of Alabama students had engaged in this behavior.

In Alabama, during the 30 days preceding the 2003 survey, 19 percent of male high school students and 9 percent of female students had driven a vehicle after drinking alcohol, and this difference was statistically significant. With respect to race, again in Alabama during the 30 days preceding the 2003 survey, 16 percent of white students and 9 percent of African American students had driven a vehicle after drinking alcohol, and this difference, too, was statistically significant.

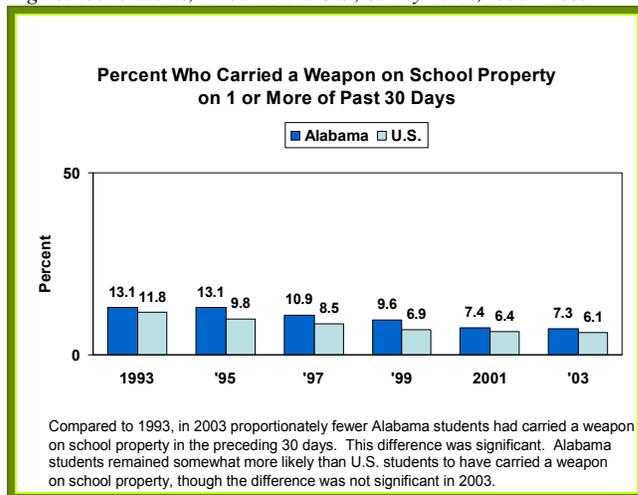
Seatbelt usage has improved among Alabama high school students.

Externally Directed Violence Weapons on School Property

As depicted in Figure 61, in 2003, 6 percent of Alabama students had carried a weapon on school property in the preceding 30 days, and this percentage was significantly lower (better) than it had been in 1993. Throughout the surveillance period, Alabama students were somewhat more likely than U.S. students to have carried a weapon on school property.

Figure 61. Recently Carried a Weapon on School Property

High School Students, Alabama and U.S., Survey Years, 1993 - 2003



Alabama male students were more likely than Alabama female students to have carried a weapon on school property: in 2003, 12 percent of male students versus 2.8 percent of female students, with the difference being statistically significant.

In Alabama, during the 12 months preceding the 2003 survey, 8 percent of African American students and 6 percent of white students had been threatened or injured with a weapon (e.g., a gun, knife, or club) on school property. In five of the six years studied, African American students were more likely than white students to have been threatened or injured in this manner, though the difference was not statistically significant in 2003.

In 2003 versus 1993, proportionately fewer Alabama students had recently carried a weapon on school property.

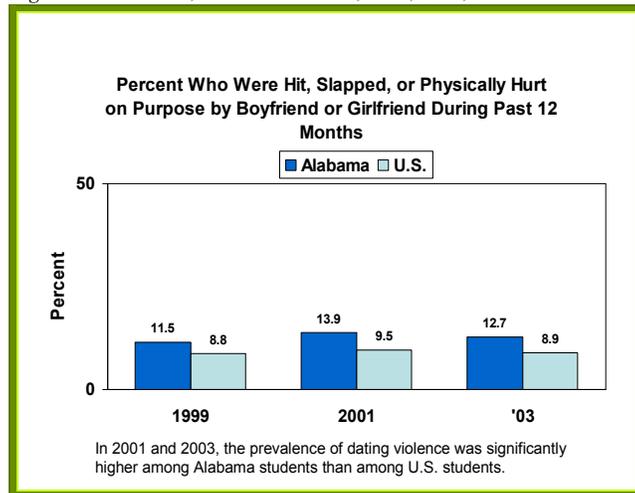
Dating Violence

As shown in Figure 62, Alabama students were more likely than U.S. students to have been hit, slapped, or physically hurt on purpose by their boyfriend or girlfriend during the 12 months preceding the survey. In 2003, 13 percent of Alabama students, versus 9 percent of U.S. students, said they had experienced this situation.

In 2003, Alabama students were more likely than U.S. students to have been hit, slapped, or physically hurt on purpose by their boyfriend or girlfriend in the past 12 months.

Figure 62. Hit, Slapped, or Physically Hurt by Boyfriend or Girlfriend

High School Students, Alabama and U.S., 1999, 2001, 2003



Forced Sexual Intercourse

Per the 2003 YRBS in Alabama, 16 percent of females and 6 percent of males said that they had been forced physically to have sexual intercourse when they did not want to. (The question regarding forced sexual intercourse pertains to whether the student had ever experienced such violence.)

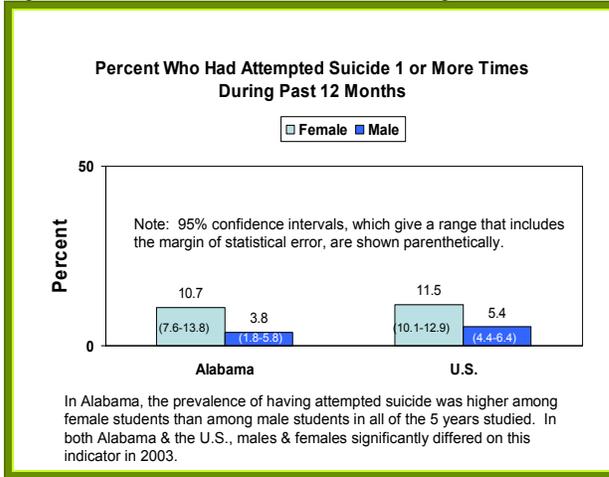
Attempted Suicide

As shown in Figure 63, in 2003 in Alabama, 11 percent of females and 3.8 percent of males had actually attempted suicide during the 12 months preceding the survey. In both Alabama and the U.S., males and females significantly differed on this history. A gender gap in this direction was present in Alabama in all of the five survey years studied.

Notwithstanding the fact that the suicide death rate among 15-19 year-old Alabama youth has been higher among white youth than among African American and other-race youth (Figure 59), the prevalence of having attempted suicide in the 12 months preceding the survey was higher among Alabama African American students than among Alabama white students in five of the six survey years studied. For example, per the 2003

survey in Alabama, 10 percent of African American students and 6 percent of white students had attempted suicide during the previous 12 months. (The difference was not statistically significant.)

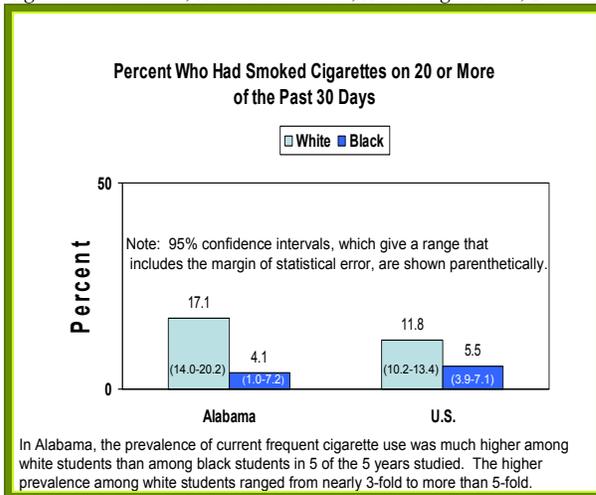
Figure 63. Attempted Suicide
High School Students, Alabama and U.S., According to Sex, 2003



Tobacco, Alcohol, and Other Drugs
Current Frequent Cigarette Use

As shown in Figure 64, in 2003 in Alabama, 17 percent of white students versus 4 percent of African American students had smoked cigarettes on 20 or more of the 30 days preceding the survey, and this difference was statistically significant. Further, in Alabama the prevalence of current frequent cigarette use was higher among white students than among African American students in all five of the survey years studied. The higher prevalence among white students ranged from nearly 3-fold to more than 5-fold.

Figure 64. Current Frequent Cigarette Use
High School Students, Alabama and U.S., According to Race, 2003



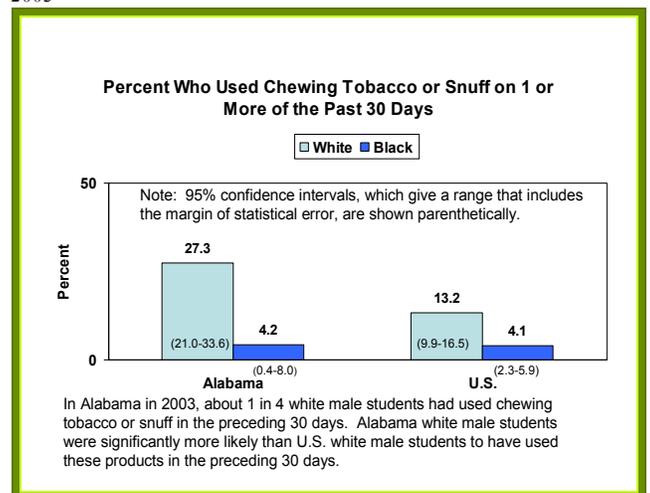
As also shown in Figure 64, in 2003 white Alabama students were significantly more likely than white U.S. students to have been frequently using cigarettes. This had not been the case in the four preceding survey years, when the prevalence of current frequent cigarette use had been about the same in Alabama as in the U.S. However, in 2003 the prevalence of current frequent cigarette use dropped among U.S. students, but not among Alabama students.

White Alabama students were more likely to have frequently used cigarettes than African American Alabama students and white U.S. students.

Current Smokeless Tobacco Use

As shown in Figure 65, in 2003 in Alabama, one in four (27 percent of) white male high school students had used chewing tobacco or snuff in the 30 days preceding the survey. This prevalence was more than twice that for U.S. white male students, and more than six times that for African American male students in Alabama. These wide differences were statistically significant, whether comparing Alabama white male students to U.S. white male students, or comparing Alabama white male students to Alabama African American male students.

Figure 65. Current Smokeless Tobacco Use
Male High School Students, Alabama and U.S., According to Race, 2003

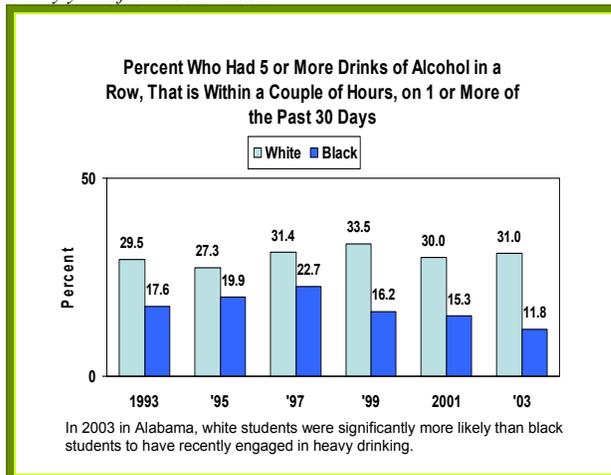


One in four white male high school students in Alabama had recently used chewing tobacco or snuff, more than twice the proportion for the U.S.

Episodic Heavy Drinking

As shown in Figure 66, in Alabama, white students were consistently more likely to have recently engaged in heavy drinking than African American students were, and this difference was statistically significant in 2003. In that year, 31 percent of white students and 12 percent of African American students had had five or more drinks of alcohol in a row during the 30 days preceding the survey.

Figure 66. Episodic Heavy Drinking
High School Students, Alabama, According to Race,
Survey years from 1993 - 2003



Other Drug Use

Among Alabama public high school students in 2003:

- 18 percent had used marijuana during the 30 days preceding the survey.
- 4.1 percent of white students and 1.2 percent of African American students had used some form of cocaine during the 30 days preceding the survey. A racial gap in this direction was present in all six of the survey years studied. Further, from the 1993 baseline year, such cocaine use has significantly increased among white students, from 1.6 percent in 1993 to 4.1 percent in 2003.
- 13 percent of white students and 4.7 percent of African American students had used inhalants to get high one or more times in

their life. This usage among white students was significantly lower than in 1995, when it had been 21 percent.

- 4.3 percent of male students and 0.8 percent of female students had used heroin one or more times in their life.
- 11 percent of white students and 3.0 percent of African American students had used methamphetamines one or more times in their life. This difference was significant and in the same direction in all three survey years for which this drug was studied.
- 11 percent of white students and 6 percent of African American students had used Ecstasy (MDMA) during their lifetime. This difference was statistically significant.
- 26 percent of students had been offered, sold, or given an illegal drug on school property during the 12 months preceding the survey.

In Alabama, white students were more likely than African American students to have recently engaged in heavy drinking. They were also more likely than African American students to have recently used cocaine; to have ever used inhalants to get high; and to have used heroin, methamphetamines, and Ecstasy.

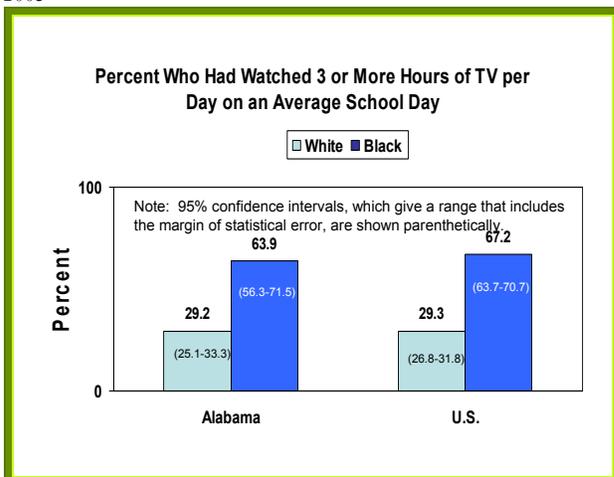
Current Sexual Activity

In Alabama in 2003, about half (51 percent) of African American students and over one-third (36 percent) of white students had had sexual intercourse during the three months preceding the survey. This difference was statistically significant. 2003 was the first year in which Alabama data were collected on this indicator.

Television Habits

As shown in Figure 67, in Alabama in 2003, 64 percent of African American students and 29 percent of white students had watched television three or more hours per day on an average school day. This difference was statistically significant. Race-specific findings for Alabama and the U.S. were quite similar.

Figure 67. Time Spent Watching TV
High School Students, Alabama and U.S., According to Race, 2003



In Alabama and the U.S., African American students were more likely than white students to have watched 3 or more hours of TV on an average school day.

**Other Indicators and Data Sources:
 Children and Youth**

Several indicators pertaining to children and youth that are reported in the *MCH Annual Reports/Applications* are not addressed in the preceding discussion, precisely as measured in the *Annual Reports/Applications*. However, the preceding discussion addresses most of the issues that these indicators are intended to track. Examples follow.

NPM #10 and HSI #03B: The rate of deaths caused by motor vehicle crashes among children aged 14 years and younger.

Figure 56 tracks the death rate from injuries sustained in motor vehicle crashes for 15-19 year-old youth, for whom mortality due to this cause was higher than for persons aged 14 years and younger (in 2001-03, 39.2 deaths per 100,000 among 15-19 year-olds, versus 5.9 per 100,000 among persons aged 14 years and younger).

NOM #06: The child death rate per 100,000 children aged 1 through 14.

Table 3 shows death rates in 2001-03 among Alabama children and youth for the following age groups, in years: 1-4, 5-14, 15-19, and 20-24. As shown there, mortality was higher in 15-19 year-

olds than in the two younger age groups. Accordingly, surveillance of mortality among children and youth, presented in Section 3, focused on 15-19 year-old youth.

HSI #03A: The death rate per 100,000 due to unintentional injuries among children aged 14 years and younger.

As shown in Figures 51-53, compared to the two younger age groups (1-4 years and 5-14 years), proportionately more deaths of 15-19 year-olds were caused by unintentional injuries. For this reason, our tracking of the unintentional injury death rate focused on 15-19 year-old youth. In 2001-03 in Alabama, the respective unintentional injury death rates were 51.4 deaths per 100,000 among 15-19 year-olds, versus 14.0 deaths per 100,000 among persons aged 14 years and younger.

HSI #03C: The death rate per 100,000 from unintentional injuries due to motor vehicle crashes among youth aged 15 through 24 years.

As stated under “Mortality in Children and Youth,” although the 20-24 year-old group experienced the highest age-specific mortality rates among the four age groups shown in Table 3, discussion of mortality in children and youth in this report generally focuses on youth from 15-19 years of age. A notable exception is the rather striking increase in the rate of deaths attributed to unintentional poisoning of white 20-24 year-old youth, depicted in Figure 58. Per HSI #03C, in 2001-03, the death rate from motor vehicle crashes among 15-24 year-olds was 41.5 deaths per 100,000 youth in this age group. This was, as expected, higher than the corresponding death rate among persons aged 14 years and younger (5.9 deaths per 100,000) and 15-19 year-olds (39.2 deaths per 100,000).

HSIs #08A and #08B: Deaths of infants and children 0 through 24 years, enumerated by age subgroup and race, then by age subgroup and ethnicity.

Death rates according to age and race are shown in Table 3, albeit for different age groups than specified by HSI #08A. Per HSI #08B, 37 deaths of Hispanic individuals 1-24 years of age occurred in 2004. Using numbers from HSI #08B as the numerator and those from HSI #06B as the denominator, the death rate in 2004 among

Alabama 1-24 year-olds, according to ethnicity, was 86.5 deaths per 100,000 among Hispanics and 67.2 per 100,000 among non-Hispanics. The difference was not statistically significant; further, due to immigration of Hispanics into Alabama, population estimates may underestimate the number of Hispanic residents in the State, which would cause overestimation of mortality rates among Hispanics. Tracking mortality rates among Hispanic individuals is, therefore, fraught with methodological problems. Estimating mortality rates for Hispanic infants is not especially problematic since, by perception, recent immigrants seek birth certificates for infants born in the State. As stated earlier in Section 3, under “MCH Indicators According to Ethnicity,” the risks of infant death for white Hispanics and white non-Hispanics were, respectively, 7.0 and 6.6 deaths per 1,000 live births.

Qualitative Findings: Family Health Services

As discussed in Section 1, the Family Health Services Needs Assessment process generated several sources of qualitative data. One of these sources was infant mortality review, and conclusions of the case review teams are summarized earlier in Section 3, under “Other Indicators or Data Sources: Pregnant Women, Mothers, and Infants.” The following discussion focuses on findings from three databases, for which methods are detailed in Section 1:

- Ten community discussion groups, for which an electronic database was developed and analyzed quantitatively.
- Two discussion groups comprised of Hispanic individuals, which were analyzed and reported in a qualitative fashion.
- Two word processing databases collectively including all responses to the two mail surveys’ open-ended questions, which were broadly reviewed by the Family Health Services’ Needs Assessment Coordinator.

Ten Community Discussion Groups

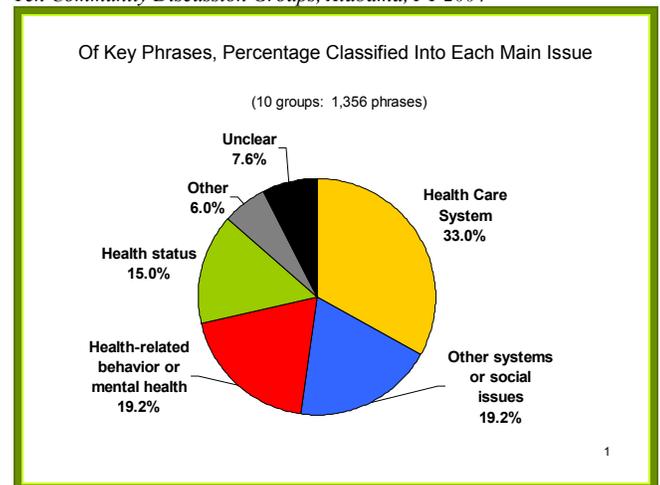
Demographic characteristics of the 156 participants in the ten analyzed community discussion groups are described in Section 1. As stated there, transcribed proceedings were

reviewed and classified into 1,356 key phrases (remarks or key word combinations). Each phrase was treated as a unit of observation and classified into one of five main issues or an “unclear” category, one of 13 sub-issues or an “unclear” category, and one of numerous facets. Additionally, each phrase was classified with respect to whether it implied a strength or cause for concern. Further, some of the phrases could be classified according to certain Title V populations. The following information is based on quantitative analysis of key phrases classified in the preceding manner.

As shown in Figure 68, one-third of the key phrases pertained to the health care system; about one-fifth each to, respectively, other systems or social issues and to health-related behavior or mental health issues; 15 percent to health status, and 6 percent to other issues. Eight percent of the phrases were either unclear per se or did not have clear implications.

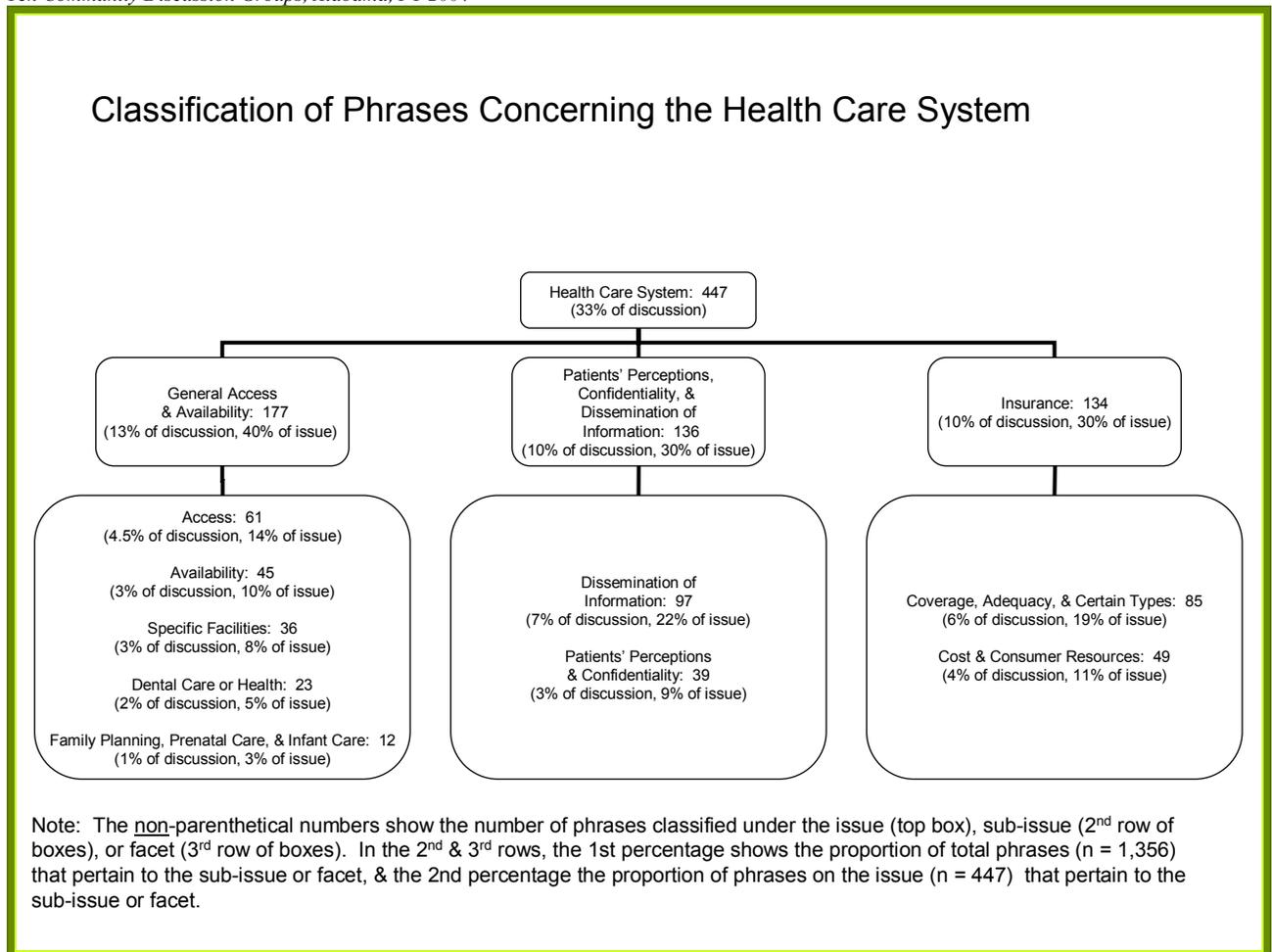
Figure 68. Main Issues

Ten Community Discussion Groups, Alabama, FY 2004



Each of the four leading main issues (health care system, other systems or social issues, health-related behavior or mental health, and health status) was further quantified with respect to the distribution of sub-issues within that issue, and the distribution of facets within those sub-issues. Figure 69 depicts this distribution for the main issue “health care system,” which, as previously stated, comprised one-third of all phrases. That is, the 447 remarks classified into the health care system issue are further classified into sub-issues, and the sub-issues into facets.

Figure 69. Phrases Concerning the Health Care System
Ten Community Discussion Groups, Alabama, FY 2004



As shown in Figure 69, the 447 phrases pertaining to the health care system were further classified as follows:

- 177 phrases, or 40 percent of the phrases about the health care system, pertained to general access and availability.
- 136 phrases, or 30 percent of the phrases about the health care system, pertained to patients' perceptions of how they were treated when they presented for health care or to the need for dissemination of information about health-related issues.
- 134 phrases, or 30 percent of the phrases about the health care system, pertained to health insurance coverage or lack thereof.

As also shown in Figure 69, the 177 phrases pertaining to access to and/or availability of health care concerned several issues: access, availability, specific facilities in which discussants received care, and dental care or dental health. Few of the phrases were specifically concerned with family planning, prenatal care, or care of the infant.

“Patients’ perceptions, confidentiality, and dissemination of information” is a catchall category having two basically unrelated components, which are quantified in Figure 69. Most of the phrases classified into this sub-issue pertained to the need for dissemination of health-related information—whether to the patient or to the general public. Some of the phrases classified into this category, however, pertained to patients’ perceptions about the attitude of their health care providers or to concerns about confidentiality and privacy. Specifically, some discussants raised

issues concerning the importance of being treated with respect by providers (including all staff) whenever they needed to visit a health care facility.

As further shown in Figure 69, most phrases about health insurance concerned coverage or lack of coverage, adequacy of coverage if one was enrolled in an insurance plan; and particular types of insurance. As well, some phrases pertained to the cost of insurance and to the issue of limited consumer resources and competing demands (other than health care) for those resources.

The remaining three leading issues (other systems or social issues, health-related behavior or mental health, and health status) were also further classified in the manner shown for the “health care system” main issue. Detailed depiction of sub-issues and facets for each of these three main issues is beyond the scope of this report, however. Instead, a brief discussion of salient components of these main issues follows.

As previously stated, phrases on “other systems and social issues” comprised 19 percent of all phrases. Of the 261 phrases classified into this main issue:

- 40 percent were about family and community issues,
- 29 percent about transportation for health care or the need to travel long distances for some care,
- 22 percent about teen parenting, young (not necessarily teen) parenting, and single parenting, and
- 10 percent about the educational system.

Phrases concerning health-related behavior or mental health also comprised 19 percent of all phrases. Of these 261 phrases:

- 38 percent were about a variety of health-related behavior, including utilization of care, individual responsibility, and general behavior or discipline;
- 36 percent about weight, nutrition, or exercise; and

- 26 percent about mental health or substance abuse, including illicit drugs, alcohol, and tobacco.

Phrases concerning health status comprised 15 percent of the discussion. Of these 203 phrases, 75 percent were about a variety of specific conditions or specific types of care needed, and 25 percent about overall health. Of the 152 phrases concerning specific types of care or conditions, 59 percent concerned noninfectious conditions, 16 percent infectious conditions, and 25 percent very specific types of needed care.

Of the total 1,356 phrases extracted from the ten community discussion groups, 63 percent (852 phrases) indicated cause for concern, 15 percent were neutral, and 12 percent indicated a strength. Two additional phrases specifically mentioned disparities, and the rest could not be classified regarding strength versus cause for concern. The remaining description of the ten community discussion groups focuses on the 852 phrases indicating cause for concern.

Of the 852 phrases indicating cause for concern, 15 percent were about certain specific types of care or conditions; 13 percent about the catchall category, dissemination of information and patients’ perceptions; 12 percent about health insurance, 11 percent about overall access and availability of care, 8 percent about “other” health-related behavior, and 7 percent about family and community. (“Other” health-related behavior does not include weight, nutrition, diet, or exercise.)

Of the 852 phrases indicating cause for concern, 114 could be identified as pertaining to women of childbearing age. In this group, the leading sub-issues were basically ranked as for the total population. The most notable exception was that transportation and distance-related issues arose as a concern, comprising 9 percent (ten phrases) of the 114 phrases about this population.

Of the total phrases indicating cause for concern, 129 could be roughly classified as pertaining to infants. The leading three concerns pertaining to infants were certain specific types of care or conditions (22 percent of the 129 phrases), nutrition or diet (15 percent of the 129 phrases),

and overall access to and availability of care (12, or 9 percent of, the 129 phrases).

Of the phrases indicating concern, 199 could be roughly classified as pertaining to 1-12 year-old children. With respect to this group, the three leading causes for concern were weight, nutrition, diet, or exercise (22 percent of the 199 phrases); certain specific types of care or conditions (14 percent of the 129 phrases), and teen or single parenting (13 percent of the 129 phrases).

Of the phrases indicating concern, 212 could be roughly classified as pertaining to teenagers. With respect to teens, two sub-issues tied as the leading causes for concern: mental health, including substance abuse; and family and community issues. Each of these sub-issues comprised 17 percent of the phrases indicating concerns about teens. The third leading cause for concern about teens was “other” health-related behavior. Again, “other” does not include behavior pertaining to weight, nutrition, diet, or exercise.

Ten Community Discussion Groups

With respect to children from about 1-12 years of age, discussants seemed especially concerned about weight, nutrition, diet or exercise. With respect to teens, discussants seemed especially concerned about mental health, including substance abuse, and family and community issues.

Two Hispanic Discussion Groups

The process for convening the two discussion groups comprised of Hispanic individuals is described in Section 1. As stated there, counting two persons who left a gathering because they were from Tennessee, there were a total of 11 discussants. Analysis and reporting of the discussions was qualitative in nature, and performed by the Hispanic Outreach Coordinator for ALL Kids, who convened and facilitated the groups.

The discussants considered the health of women of childbearing age to be worrisome, but the health of children to be more worrisome. In their experience, women typically do not think about

attention to their own health until care is particularly needed. One remark, translated, was “Only when we get sick is when we go to the doctor. Our priority is our children, for the women if there is money and time we go to the doctor.”

In the discussants’ experience, mothers are very concerned about the health of their babies and are

willing to take them to the doctor. Seeing the doctor is very expensive, however, so children are not taken for checkups, especially if the child was not born in the U.S. and does not qualify for health insurance. Further, many mothers do not know where to take their children, and transportation is often a problem.

In the countries the discussants immigrated from, they were accustomed to going to the pharmacy for medical advice. In the U.S., however, some immigrants are afraid to seek medical services because they are not documented as residents. Additionally, if they seek care, language is often a barrier. Communication between the health care provider and the individual seeking service is “100 percent essential.” Some, but not all, health care facilities have interpreters. Members of the Hispanic community learn about available services from one another, but accessing care is easier for Hispanic citizens of the U.S. than for non-citizens. Also, some do not like the doctor or the service received, so do not return for care.

Though the discussants felt that adolescents should have regular checkups, adolescents do not receive regular checkups because their parents perceive them as being well and there is no money to pay for a health checkup. One specific problem is that, though the schools require stipulation as to where to take the child in an emergency, some Hispanic parents have no idea what to tell the school about this.

The discussants felt that mental health services are needed. For example, they were not aware of services available to Hispanics for depression and other psychological problems. Many in the Hispanic community lack services, and some do

“...Our priority is our children, for the women, if there is money and time we go to the doctor.”

not know where the health department in their area is located. In general, they do not know where to go for health care or how to look for services.

In the experience of the discussants, the longest drive necessary to get basic health care is 30 minutes. Though the cost of care is a greater barrier than lack of transportation, transportation is also a concern and some do not have transportation.

As indicated by some of the preceding highlights, lack of health insurance and the high cost of health care were mentioned many times throughout the discussions. In the discussants' views, they do not earn enough to pay for health care insurance.

Paraphrases of some specific remarks follow:

- My daughter has bad teeth and needs dental care. Without a social security number, the dental clinics do not offer a payment plan.
- In my country health care is very inexpensive or free. You do not have to fill out as many forms.
- Here, we have to charge health care to our credit card or establish a payment plan that requires one hundred dollars per visit.
- The patient has to open up to establish the communication. The doctor should also open up! We have to educate the Americans. Why do they have to make us feel uncomfortable—then we do not feel like telling our problems?

In general, the discussants described the health care system as “fair.” They recommended better communication and better provision of information. One recommendation, translated, was a “center of information so we can call and inform ourselves of what we need.” The discussants appreciated the opportunity to participate in a discussion group, seeing it as a sign of interest and a positive approach: “It is good that they open up so we can tell them what we think.”

Hispanic discussants recommended “a center of information so we can call and inform ourselves of what we need.”

Responses to Open-Ended Questions on Mail Surveys

Review of the open-ended comments was superficial and very general. Overall impressions of the comments follow, first for the MCH Organizations Survey, and then for the Primary Providers Survey.

MCH Organizations Survey: Qualitative Input

Lack of health insurance, particularly when coupled with the high cost of medical care, including the cost of medication, was the leading concern. Although health insurance and cost of care collectively were clearly the leading concern, lack of transportation seemed to be the second leading concern. Another strong competitor for attention was concern about dental health and dental care, sometimes with respect to insufficient numbers of dentists who serve Medicaid-enrolled patients. Other concerns mentioned or implied, listed without regard to frequency, included the following:

- Insufficient provision of day care for children.
- Obesity.
- Family planning and teen pregnancy prevention, with several comments emphasizing the importance of approaches that emphasize abstinence.
- Substance abuse and/or dependence.
- Lack of awareness of available resources.
- A need for health education on a number of issues.
- A need for one-on-one enabling services, such as care coordination.
- A need for health care consumers to utilize care appropriately.

Another issue that arose fairly often was mental health. One respondent stated that “many youth and women in very low-income communities experience widespread hopelessness and feelings of powerlessness to improve their healthcare treatment.” Further, some of the concerns expressed implied a need for one-on-one enabling services, such as care coordination. One or two remarks concerned collaboration or partnerships among those serving families. One respondent stated, “The strength of the health care system in Talladega County lies in the partnerships and collaborations that have been developed across systems of service. Working together we are making an impact. This model works particularly well in an environment of reduced funding. . . . However, funding must support these collaborations and policies must reflect its value.” A remark by another respondent implied that such collaboration was lacking in his or her experience. Though only one remark was critical of providers of care, the message is important: that health care providers need to “. . . be more compassionate and courteous. Some clients are not knowledgeable of procedure and need a little more help. We are all human.”

Health care providers should be “compassionate and courteous. Some clients are not knowledgeable of procedure and need a little more help.”

Primary Providers Survey: Qualitative Comments

Some of the concerns expressed by respondents to the MCH Organizations Survey again arose among respondents to the Primary Providers Survey: particularly health insurance, transportation for health care, and availability of dental care and mental health services.

One concern that arose in the Primary Providers Survey, which had not clearly emerged in the MCH Organizations Survey, was the limited access of Medicaid enrollees to care provided by subspecialists or even some specialists. One respondent expressed it this way: “Limited options for Medicaid patients—Dental and specialty care.” Some of these concerns pertained to Medicaid policies on specialists or subspecialists, but at least one to lack of specialists willing to see Medicaid enrollees.

Many other comments pertained to Medicaid policies or programs: Some of these pertained to reimbursement issues, some to lack of continuity in programs, and some to strengths of the Medicaid Program. (Just before the survey, Alabama Medicaid’s primary care case management program had been terminated. The program has since been reinstated, however.) Some comments pertained to issues arising during the care of recent Hispanic immigrants. In conclusion, one respondent’s comments indicate the need that low-income communities have for services, as well as their willingness to utilize services: “Our services are low cost but we are overwhelmed. So many patients call every day the phone lines jam!”

Children and Youth with Special Health Care Needs

Secondary Data: CRS

The following secondary data relating to Alabama CYSHCN were gathered as a part of the Needs Assessment process:

- According to the National Survey of CSHCN, 20.27 percent of Alabama households with children include CYSHCN, comparable to 20.03 percent for the US. This corresponds to 128,337 Alabama households. It is estimated that 13.5 percent of children in Alabama are CYSHCN (12.8 percent nationally). Based on population estimates for Alabama, this translates to 152,648 CYSHCN in the State.
- Using information presented in the Annie E. Casey foundation publication, *Kids Count 2004*, children less than 18 years of age account for approximately 25 percent of Alabama’s population.
- In Alabama in FY 2004, there were 27,556 children under age 18 years receiving Supplemental Security Income (SSI) at any time during that year (approximately 2.5 percent of the total population under age 18 years). This figure represents an increase over the 23,722 recipients under age 18 years in FY 2000 (approximately 2.1 percent of the total population in this age range at that time). The percentage varied across the State from

the highest three counties of Perry, Wilcox, and Dallas (7.2 percent, 6.7 percent, 6.4 percent respectively) to the lowest two counties of Shelby and St. Clair (0.3 percent and 0.5 percent respectively). All three counties with the highest percentages are rural, southwestern counties located in the Black Belt region of the State. The two counties with the lowest percentage of SSI recipients aged 18 years and younger are urban counties in the northern portion of the State. The above counties differed

significantly in certain areas, notably in the percentage of the total child population that is Alabama Medicaid-eligible, the percentage of children receiving TANF, and the percentage of children living in poverty. The rural southern counties with a higher percentage of SSI recipients under the age of 18 years tended to show higher rates of the described indicators when compared to the urban northern counties with the lowest rates. Table 4 highlights these differences.

Table 4. Comparison of Counties with Highest and Lowest Percentages of SSI Recipients Under 18 years Selected Alabama Counties, Selected Years

County	% SSI under age 18 years*	% children under age 20 years receiving TANF**	% children under 18 years living in poverty§	% total child population eligible for Medicaid¶
Perry	7.2	5	49	66.0
Wilcox	6.7	10	48	68.7
Dallas	6.4	7	41	64.5
St. Clair	0.5	2	15	32.1
Shelby	0.3	1	7	13.1

* Numerator from Social Security Administration, 2003; denominator from 2000 Alabama census.

**Percentage of children under age 20 years in families receiving Aid to Families with Dependent Children/TANF, 2001, CLIKS: County-City-Community Level Information on Kids, Annie E. Casey Foundation.

§ Percentage of children under age 18 years living below the federal poverty threshold, 1999, CLIKS: County-City-Community Level Information on Kids, Annie E. Casey Foundation.

¶Percentage of total county population under age 21 years eligible for Alabama Medicaid, Alabama Medicaid Agency Statistics, 2004.

- In FY 2004 CRS served 21,831 CYSHCN under the age of 21 years. This represents approximately 14.3 percent of the estimated number of CYSHCN in the State. Of those enrolled in CRS, 3,824 are SSI recipients under the age of 16 years (36 percent of CRS enrollees who are under 16 years of age). For FY 2003, 595 CRS youth turned 16 years of age. Of these, 14.5 percent became Vocational Rehabilitation Service clients.
- In FY 2004 Alabama’s Early Intervention System served 4,351 infants and toddlers who had a 25 percent delay in development in at least one domain. This figure represents an approximate 4.5 percent increase over the 4,162 served in FY 2003.

county-level provider surveys, and youth surveys—are described next.

Open Forums (Family and Youth)

A discussion guide for the English, Hispanic, and Youth open forums was adapted from the format suggested in FOCUS on Children Community Planning Manual: Needs Assessment and Health Planning for Children, including Children with Special Health Care Needs (October 1996), published jointly by the University of Illinois at Chicago Division of Specialized Care for Children and the Illinois Department of Public Health through an MCHB-funded grant. A script was drafted for use in all forums, with a translation in Spanish and modifications for appropriateness for youth. The script was modified from that used in the 1999 needs assessment, with minor updates to capture current issues and trends. An optional demographic sheet was available at all forums, to be utilized to better describe forum participants and the CYSHCN for whom they provided care. (Open forum scripts and demographic sheets are in *Selected Tools for MCH Needs Assessment*.⁴) Family forum participants tended to be mothers of

Primary Data: CRS

Primary data were collected from families, youth, and providers to more adequately assess the current status of Alabama’s CYSHCN. Findings from three main methodologies—open forums,

CYSHCN with at least a high school education, a finding similar to that noted of participants in the National Survey of CSHCN. CYSHCN described were equally distributed across age ranges from birth to 18 years or greater. In an attempt to characterize the perceived level of disability or the impact of the disability upon the daily activities of the CYSHCN, a question was added to the demographic sheet related to a disability ranking. This question was presented exactly as it appears in the National Survey of CSHCN. Using the ranking scale from 0 (not at all severe) to 10 (very severe), over 70 percent of the CYSHCN were ranked above the moderate (4 or above) range (significantly higher than the 55 percent noted on the National Survey of CSHCN).

Families and youth commented on several areas of concern related to the service system for CYSHCN in Alabama and items represented in the Alabama data from the National Survey of CSHCN. Responses from the English and Spanish family forums were quite similar except for increased reporting of needs related to language barriers, immigration status, and perceived discrimination based on ethnicity. Youth responses tended to be more focused on independent living skills, social issues, and successful transition to adulthood. A full report from the open forums is available upon request (by e-mailing jpreskit@rehab.state.al.us). Discussion of responses follows, and is organized around the broad topics to which the responses pertained.

Family Needs

Generally families stated that, compared to families without CYSHCN, their families had many more needs. These included the need for better access to appropriate educational services; for programs or assistance to meet the greater financial costs for care and out-of-pocket expenses; and for a better statewide system to meet transportation needs, including costs and distances traveled. Needs were also reported for more support and resources for the family and the child or youth, including respite care, childcare, and counseling or other supports to assist with more complex interpersonal issues among family members. Finally, participants commented on the need for an improvement in public attitudes and

perceptions of CYSHCN in general.

Community Needs

Families felt that certain issues related to community involvement were prevalent across the State. In addition to a better understanding and acceptance of CYSHCN in general, needs included increased awareness of needed resources and supports to facilitate full inclusion of CYSHCN and their families into community and faith-based activities.

Medical and Health Services Needs

Responses centered on the need for more pediatricians with training in medical and behavioral management and care coordination related to CYSHCN, as well as for more providers of specialty services in rural areas.

Dental Services Needs

Families reported a need for acceptance of CYSHCN into more dental practices and a general need for better distribution of dental providers throughout the State in order to reduce travel costs. A common theme resounded for more dentists with specific knowledge of CYSHCN and their dental management needs, as well as a willingness to serve CYSHCN. Also, a significant concern related to inadequate reimbursement by dental plans for needed specialty dental appliances.

Educational Services Needs

Families of CYSHCN throughout the State expressed dissatisfaction with the educational system and related services. There was a perceived general need for inclusion of CYSHCN in school activities and for assuring accessibility on school campuses. Also, families voiced a clear concern related to the need for better funding for special education and for more coordinated transition and post-secondary services. Across several forums a need was expressed for more information for families on the legal rights of CYSHCN in educational settings. Specific needs included: specialized therapy providers in schools (physical therapy, occupational therapy, and speech), training for teachers and aides, quality care by school staff to meet the basic needs of CYSHCN (toileting, feeding, and social), more appropriate staff ratios, and improved

communication between schools and families.

Recreational Services Needs

Families in both large and small communities stated that recreational opportunities for CYSHCN are limited. Participants expressed a need for increased recreational opportunities in general, as well as for more opportunities for recreation with peers of the same age. Specific needs included removal of physical accessibility barriers and broadening of organized recreation program entry criteria to include children and youth with more severe disabilities.

Transportation Services Needs

Transportation was perceived as a barrier across all forums. Families reported the need for more affordable and available transportation options statewide and for overall improvements, particularly in rural areas.

Financial Needs

Although responses were varied, in general families reported a need to decrease the impact of medical and travel costs (decrease out-of-pocket expenses for non-covered or additional services or products and transportation) and to decrease barriers to opportunities for both parents to work.

Specialized Services

Needs were expressed in many areas including family counseling, care coordination, child care, respite care, mental health counseling, transportation, housing, and resources to assist families when a child is newly diagnosed.

Current Service Systems Needs

Families reported a need to improve care coordination systems statewide.

Youth

Youth participants felt that their needs were greater than were those of typically developing youth of a similar age. Their needs included improved resources to support the transition to adulthood, including information on finance management, insurance plans, independent living skills, marriage and family, and sexuality and disability. Overall the youth appeared to have good knowledge in all the areas discussed, with the exception of areas upon which they are dependent on their caregivers. The severity of the

special health care need also impacted their ability to be completely independent in many of the areas addressed.

Hispanic

As previously stated, the responses from the Hispanic forum were similar to those noted by participants in the English-speaking family forums, with the exception that language and citizenship issues create a significant barrier for Hispanic families with CYSHCN. In addition to the needs expressed by families in the English-speaking groups, the Hispanic families noted difficulties in building relationships with primary care providers due to language barriers. They also reported difficulty researching resources due to lack of information in Spanish, the need to bring a translator to many agencies to assist with applications and communication, and decreased access to social services due to the lack of bilingual professionals to assist families. Finally, there seemed to be a general mistrust of health care professionals by the Hispanic forum participants.

Table 5 (next page) depicts a summary of needs expressed across all forums.

County-Level Surveys

CRS staff facilitated the completion of surveys on a county-by-county basis, utilizing various methods to obtain input not only from the State CSHCN program, but also from agencies serving CYSHCN in the county. Feedback from participants concerning the process was positive in that many felt the experience was an excellent opportunity to collaborate with critical partners within the system of care for CYSHCN in the county. In fact, some participants commented that completing the surveys together highlighted areas in which only one agency provided a particular service—a critical knowledge in times of budget crises across many agencies providing services to CYSHCN and their families. In addition, the group completion allowed time for sharing of ideas and increased knowledge of resources available within the county. Given the increased number of participants and multi-agency involvement, the data are considered to be a valid representation of actual barriers and conditions at the county level. (The county-level survey tool is in *Selected Tools for MCH Needs Assessment*.⁴)

As in previous years, data were analyzed not only in aggregate, but also according to geographic categories. The delineations for Rural North, Rural South, and Urban county groupings were obtained from the report *Health Status of Rural Alabamians*, published by ADPH's Office of Rural Health, which based its designation on inclusion in an MSA. Statewide data from the FY 2004-05 MCH Needs Assessment were compared to that gathered during the 1994 and 1999 needs assessments whenever possible. Some differences in analyzed responses were noted by geographic region. In general, the three geographic regions differed significantly in median income, educational attainment, percentage of total child population that is Alabama Medicaid-eligible, percentage of children receiving TANF,

percentage of children receiving SSI, and percentage of children living in poverty. The Rural South had a higher percentage of SSI recipients, TANF recipients, and Medicaid-eligible persons, as well as a lower median income when compared to the Urban and Rural North. Persons in the Rural South were less likely to obtain a high school or higher education when compared to persons in Urban areas, and reported a median income of over \$4,500 to over \$11,000 less than their Rural North or Urban neighbors, respectively. Table 6 highlights these differences. Please refer to Appendix Figure 4 in Appendix NA-2 for a visual representation of geographic regions.

Table 5. Summary of Needs Expressed Across All Open (Family and Youth) Forums

Alabama, FY 2004

<i>General Topic of Need</i>	<i>Specific Needs Expressed</i>
Educational Needs	<ul style="list-style-type: none"> • Transitional plans, services and information. • Training for parents, students and school staff on legal rights and responsibilities. • Equal access statewide to specialty providers such as speech/language pathologists, occupational therapists, and physical therapists. • Pre-service or in-service required for school personnel on developmental, cognitive, and physical needs of CYSHCN.
Care Coordination	<ul style="list-style-type: none"> • Reduced amount of time between diagnosis and access to resources and support. • Family centered, community-based, central resource mechanism or system. • Larger network of care providers knowledgeable about resources, and sources of resource information.
Recreational Needs	<ul style="list-style-type: none"> • Increased community awareness and opportunities for CYSHCN to participate in parks-and-recreation activities and other age-appropriate activities. • Reduced physical barriers on playgrounds and other community-owned recreational sites.
Accessibility for Specialty Services	<ul style="list-style-type: none"> • More specialty providers distributed equitably across the State. • More affordable psychological and psychiatric services such as family and individual counseling.
Transportation	<ul style="list-style-type: none"> • Affordable, accessible public transportation. • Financial assistance for vehicle repair, upkeep and modifications.
Other	<ul style="list-style-type: none"> • Cultural/ language sensitivity. • Increased focus on training for youth, targeting responsibilities aligned with adulthood.

Table 6. Comparison of Selected Indicators by Geographic Area

Alabama, Selected Years

<i>Geographic Region (n = number of counties)</i>	<i>% SSI under age 18 years*</i>	<i>% children under age 20 years receiving TANF**</i>	<i>% children under 18 years living in poverty§</i>	<i>% total child population under 21 years eligible for Medicaid¶</i>	<i>Median household incomeδ</i>	<i>% total population with high school or higher educationθ</i>
Urban (n=21)	2.1	2.1	18	33.7	\$36,480	76.4
Rural North (n=21)	2.1	2.3	21.4	41.0	\$29,799	66.5
Rural South (n=25)	3.5	4.7	33.8	50.8	\$25,134	67.3

*Numerator from Social Security Administration, 2003; denominator from 2000 Alabama Census.

**Percentage of children under age 20 in families receiving Aid to Families with Dependent Children/TANF, (2001), CLIKS: County-City-Community Level Information on Kids, Annie E. Casey Foundation.

§Percentage of children under age 18 living below the federal poverty threshold, (1999), CLIKS: County-City-Community Level Information on Kids, Annie E. Casey Foundation.

¶Percentage of total county child population under age 21 years eligible for Alabama Medicaid (2004), Alabama Medicaid Agency.

δAlabama Cooperative Extension System, Urban Affairs & New Nontraditional Programs, Alabama A & M University; 2000 Alabama Census.

θUniversity of South Alabama-Center for Business & Economic Research; 2000 Alabama Census.

Barriers

One survey item provided a list of sixteen potential barriers to health care for CYSHCN. Respondents were to answer “yes” or “no” to indicate whether or not that particular item posed a barrier to CYSHCN in the county receiving the services that they need. Respondents were then asked to rank those barriers in order of impact. Responses were tabulated to obtain a percentage of counties that indicated the item was a barrier as well as the percentage of those that ranked the item as one of the top five barriers to health in the county. These two factors—the percentage of counties that responded “yes” the item is a barrier and the percentage that indicated the item was a top-five barrier—were used to rank the barriers statewide and by geographic region.

Statewide Barriers

For all 15 of the barriers that were also queried in the 1999 needs assessment, (16 potential barriers total; inadequate transition was newly included as a barrier for 2004), an increased percentage of counties reported the items to be barriers to health care when comparing 1999 and 2004 responses. There were several areas of progress when comparing 1994 and 2004 data, (costs for services, facilities with convenient hours and locations, adequacy of private insurance, and State policies); however, in general percentages were quite similar between the two points in time. Percentages for cultural/language barriers and for families being unsure of how to use the system represented increases across all three needs assessment cycles. These findings are not surprising given the increasing Hispanic population in the State and the often-changing complexity of the system of services for CYSHCN. See Appendix Table 1 (Appendix NA-4) for further information.

Barriers According to Geographic Area

Responses were stratified according to geographic region and data were compared to statewide findings as well as between groups. For all geographic regions and statewide, transportation was ranked as the number one barrier to care for CYSHCN. Differences were noted geographically in further rankings. For example, the barrier

related to private provider reluctance to accept Medicaid ranged from a statewide ranking of 6 to the number 7 ranking in Rural North and 10 for Rural South regions, but was ranked as the number 2 barrier in the Urban region. This variation is perhaps explained by the fact that more sources and choices for reimbursement are available to providers in urban areas. Also, the significantly lower ranking in the Rural South region may be associated with the fact that a greater percentage of the total population of children is eligible for Medicaid benefits, making it more likely that physicians and other providers in the region would accept Medicaid.

The barrier relating to the adequacy of the number and distribution of specific providers illustrates another example of this geographic variation. This barrier is ranked as one of the top five barriers statewide and for the Rural North and Rural South regions. However, it is ranked as number ten for the Urban region. This is also as expected given the centralization of pediatric resources around the two pediatric tertiary care centers in the State and localization of resources in and around urban areas. See Appendix Table 2, in Appendix NA-5, for further information.

In comparing barrier data geographically from 1999 and 2004, higher percentages of reporting were widely noted (indicating worse perceived performance related to the barrier). Increases were noted in twelve of fifteen (80 percent) barriers in the Urban region, six of fifteen (40 percent) barriers in the Rural North region, and in fourteen of fifteen (93 percent) barriers in the Rural South region. It is unclear as to the full explanation of these findings as well as the discrepancy noted in the Rural North region. Great strides have been made in the area of Healthy People 2010 planning and activity implementation as well as for increased insurance coverage and advocacy to other partners within the system of care for CYSHCN in the State. Uncertain economic times, changes to service systems, and potential overestimation in 1999 may contribute to the poor overall progress as suggested by these data. See Appendix Table 3, in Appendix NA-6, for further information.

Services

The county-level survey tool included questions related to the availability within each county of specific services that may be utilized by CYSHCN, as well as willingness of providers to serve this population. Comparisons could then be made between 1999 and 2004. Decreases in service availability were noted for allied health therapy services (physical therapy, occupational therapy, speech and language pathology), alcohol and drug abuse treatment, emergency care hospital services, long-term care, and child care facilities. Gains or stability in access were noted in well and sick child care, mental health treatment, emergency medical services, and early intervention services. Baseline data were gathered for dental services, adolescent care facilities, summer/after school care, pediatric subspecialty care, and respite care as these items were not included on the 1999 survey tool. The small number of counties reporting pediatric subspecialty care available and willing to serve CYSHCN (eight of 67 counties) illustrates the previously described centralization of specialty care in larger urban population centers.

An additional question was added to the 2004 survey tool to allow counties to indicate not only the service availability and willingness of providers to serve CYSHCN, but also the adequacy of that service in meeting the needs of CYSHCN in the county. Respondents were instructed to consider physical accessibility, appropriateness of provider numbers, waiting lists, cost, age range of service provision etc. in determining how well the service actually meets needs in the county. This provided rich information about the “real life” experiences for families and care coordinators in attempting to meet needs through service utilization, as well as a stark distinction between simple availability and true adequacy. See Appendix Table 4 in Appendix NA-7 for further information. Note the shaded column at the right side of the table for information related to reported adequacy for each service.

Appendix Figure 5 (Appendix NA-8) highlights availability and adequacy for selected services by county. Data appear to indicate more widespread service availability and adequacy than might be expected given the anecdotal experiences

described by individual families and the challenges noted by program staff in meeting needs within certain areas of the State. It is important to recall that results represent provider perceptions of availability and adequacy of services within the county.

Family and Youth Involvement

Fewer counties reported that trainings were conducted for providers related to family-centered care in 2004 (21) as compared to 1999 (29). Differences were also noted in the inclusion of families in the planning and implementation of these trainings. Budget limitations may in part explain these findings.

As questions concerning trainings related to youth involvement in care planning were added to the 2004 survey tool, these data are considered baseline. The number of counties reporting that trainings were conducted is similar to that seen for families, and similar challenges to the involvement of youth in planning and implementation were noted. (See Appendix Table 5, Appendix NA-9, for more information.)

Cultural Competence

Four items were included as representation of cultural competence. These are “providers reflect cultures in the county,” “training for health care providers in cultural diversity,” “translation assistance for families,” and “health promotion/education activities relevant to cultures in the county.” Improvements were noted between 1999 and 2004 in the number of counties that provided translation service assistance for families (38 versus 54) and in the number of counties that provided health promotion or education activities relevant to the specific cultures in the county (37 versus 44). See Appendix Table 5, in Appendix NA-9, for more information.

Care Coordination and Strategic Planning

Two additional items related to agencies in the county were: 1) whether agencies other than CRS were providing care coordination for CYSHCN, and 2) whether the county was involved in strategic planning for primary/specialized health care for CYSHCN. Both indicators showed progress across the needs assessment cycles. Ten more counties reported that agencies other than

CRS were providing care coordination in 2004 than in 1999; and an increase was noted over 1994, 1999, and 2004 in county involvement in strategic planning. The number of counties involved in strategic planning initiatives more than doubled from 17 in 1999 to 36 in 2004. This finding reflects in part the establishment of Children's Policy Councils in each county, charged with planning for the needs of all children and families. (See Appendix Table 5, in Appendix NA-9).

Youth Surveys

The survey was adapted from a tool created by the North Carolina Title V Program, Specialized Services Unit of the Division of Public Health. Original publication was possible through a grant from the CDC, Division of Birth Defects, Child Development, Disability, and Health Branch. It was utilized as a portion of the North Carolina 1999 needs assessment process. Permission was obtained to slightly modify the survey for use in Alabama. The instrument consists of 18 questions, with both open-ended and check box answers possible. The survey targets youth with SHCN (ages 12-21 years) and includes questions related to condition or disability, insurance, health status, school status, social activity, future plans, informational needs, supports, whether or not help was obtained in completing the survey, and basic demographics. (The youth survey tool is in *Selected Tools for MCH Needs Assessment*.⁴)

Of 650 surveys printed and available, 229 responses were returned (35 percent response rate). Methodology for dissemination was primarily passive, in that surveys were placed in strategic locations likely to be frequented by youth with SHCN. Active solicitation included a targeted mailing to the CRS Youth Advisory Committee and a random sample of youth enrolled in the program. Most surveys were completed from CRS specialty medical clinics or the randomized mailing; however, some were returned from placements in partner agencies. These included The Children's Health System in Birmingham, an adolescent medicine clinic, a pediatric pulmonary care center, a developmental evaluation and research clinic (Sparks Clinic-Civitan International Research Center), and the Alabama Department of Human Resources.

Results follow, presented by broad categories. In general, findings indicate that responses from these youth were quite similar to those that might be expected from typically developing peers in terms of social activity choices, future plans, and perceived health status, with the exception that they may have reported involvement in a smaller number of social activities. This group appears to be insured, to have a source of routine primary care, to be currently in high school, to live in parents' homes, and to be more likely to receive Medicaid benefits. Youth who completed the survey without help from any outside source were more likely to have future plans including completing college, working for pay, getting married, and having children than were those who needed help completing the items. Transition issues, including jobs, post-high-school educational opportunities, and finding adult care doctors were the most commonly reported needs for further information.

Demographics

Respondents were evenly distributed based on gender and across the targeted age ranges of the survey. Respondents were also evenly divided between white and African American race, with only ten youth indicating their race as any other category than these. The vast majority were currently in school, primarily high school, and continued to live in their parents' homes. Of the 226 who answered the question related to whether or not they received help in completing the survey, 123 (54 percent) indicated that they had received help of some kind. Overwhelmingly, this help was provided by a parent, and may have included assistance reading the questions, writing down the answers given by the youth, translating the questions into the youth's language, or answering the questions for the youth. In analyzing responses, the most commonly reported form of help was to answer the questions for the youth. In retrospect, it is unclear as to whether this question may have been misinterpreted and might have included writing answers given by the youth together with "answering" or if the values truly indicate that a significant portion of those receiving help actually had no input in the responses given.

Insurance

Within the group of respondents, only sixteen (7 percent) reported that they had no insurance. Several others reported no insurance, but indicated in a subsequent question that they had Medicaid, suggesting a lack of recognition of Medicaid as an insurance type. Of the 16 uninsured youth, 11 (69 percent) were ages 18 years and older. For those who indicated having insurance, 61 percent reported that they had Medicaid, as opposed to 37 percent private or All-Kids (State Children's Health Insurance Program).

Health Status and Health-Related Issues

A list of 18 conditions or disabilities was included. Respondents were to indicate which, if any, of the conditions applied to them. The most commonly reported conditions were seizures, cerebral palsy, and orthopedic conditions. These are conditions for which the CRS program has the largest specialty medical clinics provided, and therefore it is not surprising that they would be reported at a higher frequency among the youth respondents. In almost 50 percent of the returned surveys, the youth reported having only one condition. When stratifying data by whether or not the youth received help completing the survey, those who did not receive help had an average of one condition compared to an average of two conditions for those who did receive help.

The survey tool did not incorporate questions allowing youth to indicate the severity of any particular condition. Perceived health status and total number of conditions reported were used in data analysis as a rough proxy for severity; however, this method has limitations in that one diagnosis (for example, cystic fibrosis, hemophilia, traumatic brain injury) might have an equal impact on function as would a combination of others. Analyzing data stratified by number of conditions reported revealed several trends (for example, those with greater numbers of conditions reported were more likely to have had help completing the survey); however, advanced statistical analysis was not performed as a part of this Needs Assessment process. (Further analysis is to be completed at a later time.) Most youth indicated that they had a source of primary care, typically a physician's office, with only 4.8 percent indicating that they had no source of routine primary care. In 77 percent of the

responses, youth indicated that they had visited the physician 1-11 times over the preceding 12 months. Responses to an item related to perceived health status, 79 percent of youth reported that their health was "good," "very good," or "excellent."

Social Activity

Several survey questions related to social activity. Of those youth that responded, 75 percent stated they were "very" or "somewhat" socially active and 64 percent indicated that they were satisfied with their current level of social activity. A list of 18 social activities was included and youth were to indicate which, if any, of them they participated in. The two most commonly reported social activities were "watching television" and "listening to music." Youth who completed the survey without outside help reported participating in an average of 6.6 of the 18 social activities presented. Youth who received help completing the survey reported participating in an average of 5.4 of the 18 social activities presented. The Advisory Committee and CRS staff commented that both of these are perhaps lower numbers than might be expected of typically developing peers.

Future Plans

From a list of 11 potential future plans (choices for "don't know" and "none of these apply to me" were also possible), responses were stratified based on whether or not the youth received help completing the survey. For those who did receive help, 28 percent of youth reported that they planned to get married, 24 percent planned to have children, 54 percent planned to complete high school, 32 percent planned to complete college, and 44 percent planned to work for pay. This is in striking contrast to responses for those who did not receive help completing the survey: 62 percent of youth reported that they planned to get married, 58 percent planned to have children, 55 percent planned to complete high school, 62 percent planned to complete college, and 61 percent planned to work for pay. Reasons for these significant variations may include: Those who received help may be youth with more severe conditions, youth may think more independently if they were able to answer the survey without help, or youth may have different plans for themselves than those expressed by those who helped them complete the survey.

Information Needs

Youth were asked to consider a large list of topics and to indicate if they would like to receive more information on any of them. Regardless of whether or not the youth received help completing the survey, the top five requests were all related to transition issues. These topics included job/careers, post-high-school education opportunities, and finding adult specialty care physicians. “Becoming a parent” ranked higher on the list for those youth that did not receive help completing the survey than for those who needed help. This is consistent with the finding that youth who completed the survey without help were also more likely to report having children in their future plans.

Support Issues

One question asked the youth’s opinion about what they would like to see happen to support the health of youth with disabilities in Alabama. Nine choices were provided and youth were to use a Likert scale where 1= “not important,” 3=“important,” and 5=“very important.” All nine items were considered important and average rankings were similar for each item. However, youth indicated that they would like to have more

health education and information available in schools and the average ranking for this item was the highest (4 on the 1–5 scale).

Overall View of Secondary and Primary Data Concerning Children with Special Health Care Needs

Secondary data and primary data from providers, families of CYSHCN, and youth with SHCN were remarkably similar regarding the priority health problems, service gaps, and status of the present service system. In summary, the most significant priority health problems and service gaps were in the following areas: 1) inadequate access to care, including lack of transportation, knowledge of resources, adequate financing, and availability of providers (medical, dental, mental health, and allied health); 2) inadequate family and youth supports, which included inadequate access to respite care, care coordination, and childcare; and 3) inadequate integration of CYSHCN into their communities, which included inadequate educational and health-related services from public education, community recreational opportunities, and transition from school to work and independence.

SECTION 4

MCH PROGRAM CAPACITY

Information pertaining to capacity often cuts across levels of the MCH services pyramid and, as well, across Title V populations. For this reason, levels of the pyramid and even Title V populations are often combined for discussion of capacity. Further, much information pertaining to capacity has been presented in previous sections of this document and, as well, throughout the *MCH 2004 Report/2006 Application*. Rather than repeating all pertinent information, Family Health Services has chosen to recap some of the pertinent information in the narrative of Section 4.

As well, considerable information pertaining to capacity, that is not discussed elsewhere in this Needs Assessment report or succinctly discussed in the *MCH 2004 Report/2006 Application*, is presented here in Section 4. Further, in order to more succinctly summarize salient issues pertaining to capacity, Family Health Services has developed four summary tables, Tables 8-11, which pertain to pregnant women, mothers and infants, and to children. Some of the descriptions (for example, “good,” or “excellent”) are based on information presented elsewhere in this report or in the *MCH 2004 Report/2006 Application*, rather than in this section. Further, some descriptions of capacity are based on brief conversations with a key staff member in a program. Rather than being considered a final, comprehensive statement on current program capacity, these tables or enhanced tables will be reviewed and probably revised by key Family Health Services Staff by October 2005. Further, Family Health will request that, by March 2006, CRS participate in joint development of tables that include a column for CYSHCN, so that a concise, clearly organized, birds-eye view of capacity pertaining to all Title V populations is available.

The database for some of the narrative information about the State’s capacity to care for pregnant women, mothers, infants, children and youth is the Primary Providers Survey.

Methods for this survey, which was conducted by Family Health Services in FY 2004, are described in Section 1. In some cases information regarding an issue is presented earlier in this document, so is briefly recapped rather than detailed again.

DIRECT CARE: Pregnant Women, Mothers and Infants; Children and Youth

Crosscutting

Alabama Department of Public Health: Overall Description

The purpose of the Health Department is to provide caring, high quality, and professional services for the improvement and protection of the public’s health through disease prevention and the assurance of public health services to resident and transient populations of the State, regardless of social circumstances or the ability to pay.

The Health Department works closely with the community to preserve and protect the public’s health, to provide caring, quality services, and to serve the people of Alabama by assuring conditions in which they can be healthy. Alabama is divided into 11 Public Health Areas to facilitate coordination, supervision, and development of public health services and programs particularly suited to the needs of each area.

Public health services in Alabama are primarily delivered through county health departments. County health departments are located in each of Alabama’s 67 counties. Larger counties and counties with specific needs have more than one health department location. A wide variety of services, as well as valuable information, is provided at county health departments. Typical services and information include, but are not limited to, the following: child health services, dental services and community fluoridation programs, family planning, home care services,

immunization, treatment of sexually transmitted diseases, laboratory services, and nutrition, nursing, and social work services.

Linkages to Promote Access to Care

As described in Section III.A of the *MCH 2004 Report/2006 Application*, Alabama's Title V Program is administered by the Health Department, through Family Health Services. Family Health Services contracts with CRS, within the Alabama Department of Rehabilitation Services, which administers services to CYSHCN. In addition to the Title V Program, Family Health Services administers the Title X Family Planning Grant; the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); the State Perinatal Program; the Alabama Child Death Review System; and the State Dental Program. The Title V Program, as well as these other programs, serves all of the State's 67 counties. Through a wide variety of ways, many of which are discussed throughout the *MCH 2004 Annual Report/2006 Application*, as well as in Section 2 of this document, Family Health Services promotes provision of services to the Title V populations.

The State Perinatal Program is crucial to Family Health Services' efforts to serve pregnant women, mothers, and infants around the State, which is divided into five perinatal regions. The Perinatal Program has five Regional Perinatal Coordinators, who interact with the Regional Perinatal Advisory Councils, who make recommendations on perinatal concerns to the State Perinatal Advisory Council. The State Perinatal Advisory Council advises the State Health Officer in the planning, organization, implementation, and evaluation of the State Perinatal Program. The Perinatal Program is based on the concept of regionalization of health care, a systems approach in which program components in a geographic area are defined and coordinated to ensure that pregnant women and their newborns have access to care at the appropriate level. Regionalization of perinatal care is further discussed under NPM #17.

Financial Issues Affecting Access to Care

The financial status of families clearly affects their access to health care. Further, some of the qualitative findings described in Section III indicate that some families have insufficient financial resources to purchase health insurance or to pay for health care. However, financial status and insurance status are closely linked, and efforts to help persons access health care insurance entail enabling, population-based, and infrastructure-building activities. For this reason, limited family finances, the cost of health care, and health insurance are discussed under "Enabling Services."

Availability of or Access to Care

Availability of care does not insure access, yet the two are linked so are discussed together.

Preventive and Primary Care Services

The Primary Providers Survey included a section on "Certain Characteristics Pertaining to Accessibility, Care Coordination, and Patient Centeredness." Some of these characteristics, such as hours that services were provided, influence access to care. These findings were analyzed not only for the 343 total respondents, but for the 91 respondents engaged in solo practice, the 146 respondents engaged in group practice, and the 55 respondents who practiced in a county health department. Typically, the most marked differences according to type of practice were for health departments versus group practices. Accordingly, discussion of responses to questions about practices' characteristics report findings for all respondents, and sometimes for respondents engaged in group practice and respondents working in health departments.

Though the following findings are described in terms of the practice setting, they pertain to individual providers' description of their practices, and some respondents may have worked in the same practice. Practices' characteristics most pertinent to direct health care follow, and pertain to the proportion of respondents who said that their practice always or nearly always provided the service:

- 78 percent of all practices, 92.5 percent of group practices, and 20 percent of health departments provided telephone access 24 hours a day, 7 days a week.
- 57 percent of all practices, 79.5 percent of group practices, and 7 percent of health departments made staff available to see a patient in the middle of the night or on weekends for emergencies.
- 18 percent of all practices, 27 percent of group practices, and 7 percent of health departments provided weekday evening appointments.
- 27 percent of all practices, 50 percent of group practices, and 1.8 percent of health departments provided Saturday morning appointments.
- 45 percent of all practices scheduled extra time for an office visit when seeing a person with special needs. This did not differ much according to type of practice.

Thus, compared to (presumably private) group practices' staff, health departments' staff were much less likely to be available to patients during extended hours or on weekends.

Health departments were much less likely than private group practices to provide services to patients during extended hours or on weekends.

Specialty and Subspecialty Services

As stated in Section 3, a concern evident in the Primary Providers Survey was the limited access of Medicaid enrollees to care provided by subspecialists or even by some specialists.

Pregnant Women

Fifty-five respondents to the Primary Providers Survey indicated that they provided prenatal or obstetrical care. The survey asked these respondents if they had sometimes found that certain services were needed by their pregnant

patients but could not be obtained. For each service listed, respondents were asked to indicate, via a checkbox, whether they often, occasionally, or seldom found that the service was needed but could not be obtained. The percentage of respondents who said that they often found that a pregnant patient needed but could not obtain a service ranged from 0 percent for HIV to 18 percent for treatment of “other mental or social problems.” However, 5.5 percent of respondents said that they occasionally found that a pregnant patient needed but could not obtain treatment for HIV. Other percentages for this population of patients are shown in Table 7 (next page). Each percentage pertains to the percentage of respondents who said that they had often found that a particular service was needed but could not be obtained.

Nonpregnant Women of Childbearing Age

Of respondents to the Primary Providers Survey, 198 indicated that they provided basic health care to nonpregnant adult females of childbearing age. These providers were asked a question corresponding to the aforesaid question pertaining to pregnant women, but specifying nonpregnant females of childbearing age. Also, the item about obstetrical delivery was replaced with an item about pregnancy prevention counseling and/or prescriptions.

The percentage saying that they had often found that a nonpregnant female could not obtain a needed service ranged from 4.0 percent regarding treatment of HIV to 20 percent regarding treatment for nicotine dependence. Corresponding percentages for other services are shown in Table 7.

Infants, Children and Youth

A question about the frequency of patients needing but not being able to obtain services was also asked of the 307 Primary Providers Survey respondents who indicated that they provided basic health care to children and/or youth, 21 years of age or younger. To reiterate, the providers were asked, “Have you sometimes

found that the following services were needed by your practice's children/youth but could not be obtained?" The percentage indicating that they had often found that a patient needed but could not obtain a particular service ranged from 2.6 percent for treatment of HIV to 23 percent for dental exam or treatment. Corresponding percentages for other services are shown in Table 7.

Table 7. Services Often Found by Some Providers to Be Inaccessible for Patients

Alabama, Primary Providers Survey, FY 2004

Service Asked About	Percent of Respondents Saying that They Had Often Found that a Patient in the Specified Group Needed but Could Not Obtain the Service		
	Pregnant Women	Nonpregnant Women of Childbearing Age	Infants, Children, and Youth
Treatment for nicotine dependence	14.5 %	20.2 %	17.9 %
Treatment for alcohol abuse/dependence	10.9 %	14.6 %	14.3 %
Treatment for abuse/dependence of/on other drugs	12.7%	13.6 %	13.0 %
Measures to avoid domestic violence	10.9 %	7.6 %	9.8 %
Treatment for other mental or social problems	18.2 %	16.2 %	21.5 %
Treatment for HIV	0.0 %	4.0 %	2.6 %
Delivery (obstetrical)	3.6 %	*	*
Transportation for health care appointments	10.9%	12.6 %	9.1 %
Pregnancy prevention counseling or prescriptions	*	10.1 %	*
Dental examination or treatment	*	*	23.5 %
Pregnancy prevention services	*	*	5.5 %
Physical therapy	*	*	3.9 %
Assessment or treatment for hearing loss	*	*	3.6 %
Speech & language assessment or therapy	*	*	3.3 %

Note: 55 providers served pregnant women, 198 served nonpregnant adult females of childbearing age, and 307 served children and youth.

*The service was not inquired about for this population.

Screening of Infants Enrolled in Medicaid or the Children's Health Insurance Program

Two health systems capacity indicators pertain to whether infants enrolled in, respectively, Medicaid and the State Children's Health Insurance Program (HSCs #02 and #03), were screened in the reporting year. As described in form notes to these measures, in the *MCH 2004 Report/2006 Application*, the State's methods for estimating these measures are extremely problematic. Consequently, these measures were not utilized in the Needs Assessment process.

Pregnant Women, Mothers, and Infants; Children and Youth: Conclusions Regarding Access to Care

Based on percentages shown in Table 7, a reasonable conclusion is that appreciable numbers of pregnant women, nonpregnant women of childbearing age, and children and youth cannot obtain all the health care services that they need. These services include treatment for substance abuse or dependence, measures to avoid domestic violence, treatment for other mental or social problems, and transportation for health care appointments, as well as other services that were cited less often but are critical when needed.

Further, findings in Table 7 reflect some of the concerns expressed in Family Health Services' community discussion groups, described in Section 3. In particular, quantitative data from the Primary Providers Survey reflected the community discussion groups' concerns about how mental health issues, including substance abuse, and family and community issues impact teens. Hispanic discussants also expressed a need for mental health services. Additionally, as mentioned in Section 3, concerns about transportation and about substance abuse and/or dependence were evident in comments provided by respondents to the MCH Organizations Survey. Finally, as depicted in Section 3 (Figure 58), the rate of deaths attributed to unintentional poisoning has been increasing among 20-24 year-old white youth in Alabama.

Further, about one-fourth of the Primary Provider Survey respondents who cared for children and youth said that they had often found that a patient needed but could not access dental care. This finding is consistent with concerns about dental care that were expressed in a number of responses to open-ended questions in the MCH Organizations Survey and the Primary Providers Survey. Concerns about dental care were also expressed by some community discussion group participants. Some good news regarding dental care is discussed in Section 3, under “Children and Youth’s Access to or Utilization of Health Care.” Specifically, the number of EPSDT-enrolled 6-10 year-old Alabama children who received any dental service in a given year more than quadrupled from FY 1998 to FY 2004.

Because Table 7 shows that access to a variety of services is sometimes problematic, decisions regarding allocation of limited resources must be carefully made—so that support for one critical service does not adversely affect support for another that is equally critical. Though there is no simple answer as to how resources should be allocated, Family Health Services believes that care coordination helps patients to access a variety of health services and more fully benefit from those services. Family Health is, therefore, strongly committed to provision of care coordination services, which are discussed under “Enabling Services.” See Table 8 for summary of capacity pertaining to direct services for pregnant women, mothers, and infants, and for children and youth.

**Table 8. Salient Elements of MCH Capacity: Direct Services
Alabama Department of Public Health, FY 2005**

Component	Pregnant Women, Mothers, and Infants	Children and Youth
Availability/ accessibility of primary and preventive care	<p>Excellent for some, problematic for others. The private sector has both the desire and capacity to provide all the prenatal care required under the Sixth Omnibus Budget Reconciliation Act (SOBRA) Medicaid program. <u>The main gap pertains to persons who have no health insurance and insufficient resources to pay for health care</u>, particularly non-citizen immigrants, many of whom are working but do not earn enough to purchase health care insurance and meet other family responsibilities.</p> <p>See “Children and Youth” column.</p> <p>See earlier discussions in this section, located under the main heading “Direct Care,” respectively entitled “Alabama Department of Public Health: Overall Description” and “Availability of or Access to Care.”</p>	<p>Excellent for some, problematic for others. A concern is that, per public input from community discussion groups and the MCH Organizations survey, the cost of health care is sometimes prohibitive for working low-income families and for low-income women who have no children.</p> <p>See preceding column.</p>
Availability/ accessibility of specialty and subspecialty care	<p>Varied. In some areas of the State, families must travel long distances to get subspecialty care for children, and the waiting period for an appointment may be long. Further, options for subspecialty and, sometimes, even specialty care are said to be limited for Medicaid enrollees.</p>	<p>Varied. See “Pregnant Women, Mothers, and Infants” column.</p>

**Enabling Services:
Pregnant Women, Mothers and
Infants; Children and Youth**

**Consumers’ Resources, Health Insurance,
and Cost of Care**

Adequate health insurance coverage promotes access to health care. In the discussion groups convened as part of Family Health Services’

Needs Assessment, the topics of health insurance, cost of health care, and personal financial status often went hand in hand. For example, participants in the Hispanic discussion groups said that they did not earn enough to pay for health insurance, and that care was more expensive here than in the country they had come from. Further, as shown in Section 3 (Figure 69), in the ten community discussion groups, 10 percent of the total number of key phrases from the discussions pertained to health

insurance. Remarks on health insurance pertained to coverage versus non-coverage, adequacy of coverage that was present, the cost of health insurance and health care, and competing demands for a family's limited resources. Health insurance and cost of health care were collectively the leading concerns expressed by respondents to the MCH Organizations Survey, and were also of concern among respondents to the Primary Providers Survey.

As discussed in Section 2, Alabama's SCHIP is administered through the Health Department's Office of Children's Health Insurance, and Family Health Services and CRS have been heavily involved in SCHIP's efforts to enhance or expand services available through SCHIP. For example, discussions are ongoing about how to make care coordination available to SCHIP enrollees with uncontrolled asthma. Further, as discussed under NPM #18 in the *MCH 2004 Report/2006 Application*, Family Health Services and SCHIP staff are collaborating regarding the feasibility of expanding SCHIP coverage to include the unborn child. That is, plans are being considered to cover pregnant women whose household income does not exceed 133 percent of the FPL and who are not already eligible for coverage by another entity. The envisioned expansion of SCHIP would include the unborn child of non-citizen women whose children would be SCHIP-eligible. The envisioned expansion would, therefore, promote access to prenatal care for immigrants and perhaps others who would otherwise have no access or very limited access.

Primary Providers Survey: Enabling Services, Cultural Sensitivity, and Cultural Competence

Financial and insurance issues, though critical, are not the sole determinants of the degree to which an individual benefits from health care, however. For this reason, many of the practice characteristics inquired about in the Primary Providers Survey pertained to enabling services, cultural sensitivity, and/or cultural competence.

Responses to questions pertaining to enabling services but not necessarily to cultural sensitivity or cultural competence follow. What follows describes the percentage of respondents who said that their practice always or nearly always provided the service:

- 53 percent of all practices, 47 percent of group practices, and 84 percent of health departments offered a range of payment options, including sliding scales and/or payment plans upon request.
- 76 percent of all practices had a staff member who served as the primary coordinator of medical care for patients in the practice. This finding did not differ much according to the type of practice.
- 17 percent of respondents scheduled time with the patient or family to discuss the results of a previous visit to a specialist. This finding, too, did not differ much according to the type of practice.
- 36 percent of all practices, 29.5 percent of group practices, and 53 percent of health departments had a staff member who discussed potential needs patients might have for services such as financial services, respite care, equipment, transportation, etc.
- 50 percent of all practices, 44.5 percent of group practices, and 85.5 percent of health departments provided written information to patients or their families on a variety of issues affecting the patients' health.

The following characteristics are especially pertinent to cultural sensitivity and cultural competence:

- 78 percent of all practices involved patients or their families on a variety of issues affecting the patients' health. This indicator did not differ much among the types of practices.
- 32 percent of all practices, 21 percent of group practices, and 84 percent of health departments provided a translator for

patients for whom English was a second language that they did not speak fluently.

- 26 percent of all practices, 20 percent of group practices, and 58 percent of health departments distributed materials in the practice that were translated into the primary language that the patient or the patient's family used.
- 46 percent of all providers attempted to incorporate a patient's or family's beliefs and requests for alternative treatments. This finding did not differ much according to type of practice.
- 23 percent of all practices, 18 percent of group practices, and 42 percent of health departments had a systematic method of obtaining feedback from patients or their families regarding the care and services provided by the practice. Our rationale for relating systematic feedback to cultural sensitivity is this: that without systematic feedback, providers may not know how patients' perceive the care provider, associated staff, or the care that is received.

To recap the preceding, health departments were more likely than private group practices to provide some of the enabling services inquired about on the survey. Further, health departments were much more likely than private group practices to provide translators, provide materials in the language used by the patient, and to systematically obtain feedback.

Health departments were more likely than private group practices to provide some enabling services and some services demonstrating cultural competence.

Care Coordination

Care coordination, discussed in several places in the *MCH 2004 Report/2006 Application*, helps patients to access and obtain maximum benefit from needed health-related services. As a corollary, care coordinators may help persons access some of the services listed earlier, in Table 7, as having been inaccessible for some patients.

The Health Department's involvement in providing care coordination is strongly linked to Patient 1st, Alabama Medicaid's primary care case management program. Originally instituted in January 1997, Patient 1st was temporarily terminated in early FY 2004, then redesigned and incrementally reinstated. The redesigned program was fully implemented by February 2005. One Patient 1st design change had a major and positive impact on the Health Department. This design change allows Health Department care coordinators to receive referrals from a variety of sources, which has led to rapid expansion in the Department's provision of care coordination. Accordingly, the Health Department now has the opportunity to help children and adults access a wide variety of needed services.

For example, an article about care coordination in the July 2005 edition of *Provider Insider*, an Alabama Medicaid Bulletin, stated, "Alabama Medicaid Agency's EPSDT Care Coordination services are invaluable for the universal newborn hearing screening program." The Health Department is the sole provider of care coordination for Alabama Medicaid, and provides care coordination to adults, as well as to EPSDT-enrolled children. Family Health Services social work staff provide periodic training to certify Health Department social workers and nurses to provide care coordination.

See Table 9 for a summary of capacity with respect to enabling services for pregnant women, mothers, and infants, and for children and youth.

**Table 9. Salient Elements of MCH Capacity: Enabling Services
Alabama Department of Public Health, FY 2005**

Component	Pregnant Women, Mothers, and Infants	Children and Youth
Transportation	Varied. Transportation is lacking in some areas and for some socioeconomic groups.	Varied. See “Pregnant Women, Mothers, and Infants” column.
Translation	Varied, with the public health sector doing better than the private sector. Per the Primary Providers Survey, 32 percent of all practices, 21 percent of group practices, and 84 percent of health departments provide a translator.	Varied, with the public health sector doing better than the private sector. See “Pregnant Women, Mothers, and Infants” column.
Care Coordination	Good, with the chief concern being limited staff in some places, but program is expanding.	Good. See preceding column.
Health education/ outreach	Varied. Of respondents to Primary Providers Survey who served nonpregnant females of childbearing age, only 30 percent advised all or nearly all these patients about the importance of adequate folic acid consumption by women who could become pregnant.	Varied.
Purchase of Health Insurance	Good, with some concerns. Of particular concern are recent immigrants who do not qualify for Medicaid, as well as low-income families and low-income women who do not have children.	Excellent, but with room for improvement. In 2003 among persons under 18 years of age, 9 percent of Alabama children and youth, versus 11 percent of U.S. children and youth, were without health insurance.
Coordination with Medicaid	Excellent. Family Health Services and CRS meet three times a year with Medicaid and certain other key groups serving Title V populations. Further, Family Health and CRS meet with Medicaid on an as-needed basis, regarding specific issues that arise—for example, with respect to the Medicaid Family Planning Waiver, care coordination services, and other key programs.	Excellent. See preceding column.
Coordination with WIC	Excellent. WIC is located in the Bureau of Family Health Services, which facilitates coordination of WIC with other Title V programs.	Excellent. See preceding column.
Coordination with State Department of Education	Excellent. For example, as described in Section 2, State Perinatal Program staff have partnered with the State Department of Education about the importance of adequate folic acid consumption by females who could become pregnant. Further, Perinatal Program staff are partnering with school nurse programs and providing continuing education on preconceptional health, and the Director of the Perinatal Program developed a curriculum for K through 12 to raise awareness about the importance of breastfeeding.	Excellent, with some concerns. As stated in Section 2, the State Department of Education has representatives on the Early Childhood Comprehensive Systems Planning Project. A concern is that we are not aware of the degree to which key personnel from the educational system are familiar with and/or utilize findings from the Youth Risk Behavior Survey. Another concern is that Family Health Services has only 0.10 of a full-time position assigned to adolescent health per se. <u>Given that very limited allotment</u> , Family Health Services’ collaboration with the Education Department has been <u>outstanding</u> . However, allotment of, <u>at a minimum</u> , 0.20 FTEs to adolescent health would increase Family Health’s capacity to better address adolescent health issues, either through the Education Department or other avenues. Examples of issues that need attention include obesity in children, use of illicit substances by youth, use of chewing tobacco and snuff by white male high school students, and anger management. Further, qualitative information is needed regarding the apparent increase in deaths due to unintentional poisoning among white 20-24 year-olds (see Figure 58).

Direct and Enabling Services: CYSHCN

Financial Access

Financial issues continue to impact access to care for CYSHCN and their families. On the county-level provider survey, lack of health insurance was identified by 73 percent of the counties as a major access barrier for CYSHCN in the county, as compared to 64 percent in 1999. Of the 73 percent reporting lack of health insurance as a barrier, 76 percent reported it as one of the top five barriers in the county. Findings were similar across all three geographic regions. While ALL Kids (Alabama SCHIP), Medicaid, and other third-party insurers have combined to provide all but 9 percent of Alabama's children aged 0-18 years with coverage, the CRS's 2004 Needs Assessment survey results indicate areas of concern. In FY 2004, 17.7 percent of CRS enrollees were uninsured and relied solely on the State CSHCN Program for medical coverage, prescriptions, and durable medical equipment. Data from the youth survey indicate that lack of health insurance may be a more significant problem for older adolescents/youth. Of the 229 respondents, 16 (7 percent) indicated that they had no source of insurance. However, of those, 11 (69 percent) were 18 years or older.

The related problem of under-insurance for special needs (private insurers not adequately covering primary and specialty care) was identified as a barrier in 62 percent of the counties, slightly increased from the 57 percent reported in 1999. Underinsurance for habilitation and rehabilitation services is a problem for CYSHCN with private insurance coverage. CRS often provides additional financing for necessary services, such as augmentative communication devices, specialized therapies, and other durable medical equipment items. As previously noted, families reported during the open forums that costs of

travel to medical care and out-of-pocket expenses for non-covered or additional services, equipment, and supplies related to medical or dental care were significant concerns.

Private provider reluctance to accept Medicaid was significantly increased from the 54 percent of counties reporting the barrier in 1999 to 78 percent in 2004. In comparing geographic regions, however, large variations were noted. The barrier was reported in 95 percent of Urban counties, 76 percent of Rural North counties, and 64 percent of Rural South counties. Overall priority rankings of the barrier for each region also varied at 2, 7, and 10 respectively. Alabama Medicaid has experienced significant restructuring, leadership change, and budget constraints over the 5-year needs assessment cycle, with changing policy and provider reimbursement issues. Funding shortfalls, delayed payments, and programmatic changes from a previous version of Primary Care Case Management to a new system may have contributed to this finding.

Patient 1st, Alabama Medicaid's previously mentioned primary care case management program, was the first statewide attempt at managing primary care and was based on the medical home concept. Patient 1st assigned all Medicaid recipients, including CYSHCN, within a county to a medical home for management of health care needs, appropriate referrals for specialty care, and pre-authorization of specified Medicaid services. Primary care case management was instrumental in increasing access to primary care for Medicaid recipients, including CYSHCN, throughout the State.

As previously stated, Patient 1st was temporarily terminated in early 2004, but redesigned and fully reinstated by February 2005. The task force that planned the incremental reinstatement of Patient 1st included two representatives from CRS. The new Patient 1st has a similar structure to that of the previous Patient 1st program, and provides financial incentives to provide a true

medical home and perform EPSDT screenings. Graduated case management fees are determined by what components of care the primary medical provider agrees to provide: including medical home provision, EPSDT, immunizations, etc. The new program includes increased quality assurance efforts, performance-based goals, and a sharper focus on affecting behavior through providers' assumption of a more active role in patient education. CRS continues to work closely with Medicaid in implementing the new program as well as on all issues related to services for CYSHCN. CRS has been particularly active in the areas of hearing aids, augmentative communication devices, power wheelchairs, and dental services, including medically necessary orthodontia.

Alabama SCHIP, also called ALL Kids, provides health insurance to children under 19 years of age in families with incomes up to 200 percent of FPL who are not eligible for Medicaid. In addition to the basic benefits package, ALL Kids offers an expanded benefit package for CYSHCN, ALL Kids Plus. CRS has worked closely with ALL Kids staff to develop and implement this program. All CYSHCN who receive ALL Kids benefits and are enrolled in the CRS program are eligible for the enhanced coverage provided by ALL Kids Plus.

Alabama Blue Cross Blue Shield remains the dominant private sector insurer in the State, providing over 80 percent of private insurance coverage. Managed care organizations have not penetrated deeply into the insurance market in Alabama. Based on 2003 data obtained from the Kaiser Foundation, the Health Maintenance Organization penetration rate in Alabama is 3.4 percent compared to 23.7 percent for the United States. Both of the State's tertiary level pediatric hospitals are providers in nearly all the Health Maintenance Organization networks, as well as for Alabama Medicaid, Blue Cross Blue Shield, and ALL Kids.

Cultural Acceptability

Cultural and language barriers were reported as problematic by 64 percent of the counties in 2004, compared to 52 percent in 1999 and 32 percent of the counties in 1994. This steady increase is indicative of the growing diversity within the State. The State is beginning to address the problems with cultural diversity regarding access to care; however, results from the Spanish-speaking family forum indicate that cultural and language issues continue to present barriers in the service system for CYSHCN in the State. In the county survey, an increased number and percentage of counties reported the provision of translation assistance for families (57 percent in 1999 versus 81 percent in 2004) and health promotion/education activities relevant to the cultures in the county (55 percent in 1999 versus 66 percent in 2004). A slight decrease was noted in counties reporting that providers reflected the cultures in the county (76 percent in 1999 versus 72 percent in 2004) and that training was available to health care providers on cultural diversity (61 percent in 1999 versus 57 percent in 2004). CRS provides all of its brochures and informational materials in alternate formats, including Spanish language, and provides reimbursement for translation services. In addition, CRS contracts with AT&T for utilization of language translation lines to ensure timely access to interpreter services across the State.

Availability of Care

Across all open forums, families discussed availability of care as a significant issue in obtaining necessary services for their CYSHCN. One of the top five needs identified statewide was increased access to specialty services—not only the addition of specialty providers, but also better distribution of those providers throughout the State. In addition, families noted transportation issues related to the increased travel required to access specialty services, typically located in more urban settings.

Availability of care was also addressed through the county-level survey. The number and

distribution of specific types of providers were identified by 81 percent of counties as a significant barrier to health care, compared to 60 percent in 1999. In 2004 this barrier ranked in the top five for both the Rural North and Rural South geographic regions, as opposed to ranking number 10 in Urban counties. (See Appendix Table 2 in Appendix NA-5). This finding again supports the conclusion that specialty resources are centralized in larger population areas and highlights problems in the provision of health care and related services to children, including those with special health care needs, particularly in rural areas. In comparing 1999 and 2004 data, the percentage of counties reporting inadequate number and distribution of specific types of providers as a barrier increased across all geographic regions. (See Appendix Table 3 in Appendix NA-6.) Both the scarcity of resources in general and the disparity of these services between urban and rural settings increases difficulties for families through costs for transportation and time away from home and work for extensive travel and, as well, creates complex service systems in the State.

The following pertains to the statewide distribution of selected health care and related services, based on the county-level provider survey. Appendix Table 4 (Appendix NA-7) indicates the statewide distribution of selected health care and related services, based on the county-level provider survey. Of the 13 services for which 1999 data are also available, eight experienced a decrease in availability statewide. An emergency medical system exists in at least part of every county and well child care is available in all counties. An emergency care hospital is available in 88 percent of counties. Pediatric subspecialty care for CYSHCN is available in only 8 of Alabama's 67 counties, again illustrating the concentration of resources. Dental services are available to CYSHCN in 75 percent of counties and mental health diagnostic and treatment services are available in 81 percent of counties; however, treatment for alcohol and/or drug abuse is offered in only 42 percent of counties. As seen in other provider types, specialized allied health professionals

often utilized by CYSHCN are more frequently found in urban areas. Occupational therapy, physical therapy, and speech language pathology services are available for CYSHCN in 70 percent, 87 percent, and 82 percent of counties respectively.

Appendix Figure 5 (Appendix NA-8) presents service availability and access by county. When represented graphically by county, service availability and adequacy data for specific services appear to conflict with data from the general question related to inadequate number and distribution of providers as a significant barrier to receiving health services, as described previously. This may represent a general awareness on the part of providers as to the challenges of meeting service needs, but a difficulty identifying specific areas of weakness. In addition, as both indicators are based on provider perceptions, the discrepancies indicate a need for increased provider education related not only to the unique needs of CYSHCN but also to specific standards for comprehensive care provision for CYSHCN.

Although many of the services critical to the health and well-being of CYSHCN are centrally located in urban areas, CRS operates 15 community-based offices throughout the State to increase access to care for CYSHCN and their families. Through CRS staff, arrangements with local vendors, and service agreements with community providers and hospitals, CRS provides health care and related services to CYSHCN in every county within the State.

System Linkages

Tertiary Level Hospitals

Alabama's two tertiary level hospitals for children are The Children's Hospital of Alabama (TCHA) and the University of South Alabama (USA) Children's and Women's Hospital. Both institutions provide an extensive array of pediatric subspecialty services and have provider relationships with CRS, ALL Kids, Alabama Medicaid, Alabama Blue Cross Blue Shield, and most managed care organizations

operating in the State. TCHA has developed the Children's Health System consisting of TCHA inpatient services, a primary care provider network in the Birmingham, Anniston, Talladega, and Montgomery areas, and outpatient services for pediatric specialty care in Huntsville, Dothan, Montgomery, and the suburbs of Birmingham. Some pediatric subspecialists have relocated to these areas to staff the outpatient satellite clinics on a full-time basis, and other pediatric subspecialists periodically travel to the sites.

CRS has an office within the TCHA facility in Birmingham to facilitate referral for community-based care coordination and follow-up. These service systems have greatly increased access to pediatric subspecialty care for Alabama's CYSHCN.

Memorandums of Understanding

As part of its role to fill system gaps, CRS has in place memorandums of understanding with the Shriners' Hospitals for Children, TCHA, and the USA Children's and Women's Hospital to address the health, social and educational needs of Alabama's CYSHCN. These public/private partnerships were created to 1) identify clients eligible for the services of both partners but presently served by only one, and 2) identify unmet needs of clients served by either partner that could be met through utilization of the other's services/resources.

Through these agreements CRS provides community-based care coordination, family support activities, wrap-around services, and financial assistance as needed to CRS-eligible children receiving pediatric subspecialty care at these institutions, and to the children's families as well. CYSHCN served by all of the partners are encouraged to have a medical home and are assisted with placement as needed. Through the efforts of care coordinators and reports of clinic visits, the medical homes are kept current on the status of the child's specialty care. This system supports the provision of the coordinated, comprehensive services that are critical for this population of children.

Support for Several Programs

CRS provides Title V funding support to the Civitan International Research Center/Sparks Clinics in Birmingham, which provides multidisciplinary developmental evaluations for CYSHCN. In addition, CRS supports the Medical Genetics Programs at both UAB and USA through the provision of staff and facility space for satellite genetics clinics held at CRS clinics and other community locations as well as on-site in Birmingham and Mobile, respectively.

Population-Based Services

Population-Based Services: Pregnant Women, Mothers, and Infants; Children and Youth

Direct Management of Services and Programs

Population-based programs serving the Title V Program that are administratively located in Family Health Services include the following, and are discussed later in this section:

- The Newborn Screening Program.
- Alabama's Listening Universal Newborn Hearing Screening Program.
- Alabama Childhood Lead Poisoning Prevention Project.
- Healthy Child Care Alabama Project.
- Abstinence-only education programs, to reduce the occurrence of sexual activity among Alabama adolescents.
- Alabama Child Death Review System.
- The Oral Health Program, discussed in multiple places, including under NPM #09.
- WIC.

Programs discussed in this section that are not located in Family Health Services or in CRS include:

- The Health Department's Office of Primary Care and Rural Health Development.
- The Health Department's Nutrition and Physical Activity Unit, located in the Office of Professional and Support Services.
- The Immunization Division, located in the Health Department's Bureau of Disease Control.
- The Injury Prevention Division, located in the Department's Bureau of Health Promotion and Chronic Disease.

Coordination with Other Organizations

One way that the Family Health Services and CRS coordinate with other agencies and organizations in the provision of services is through regular (three times a year) meetings attended by staff from Family Health Services, CRS, Alabama Medicaid, UAB School of Public Health's MCH Department, UAB's Civitan Center, and TCHA's Pediatric Pulmonary Center. Through these meetings attendees keep abreast on activities of common concern and plan for coordinated initiatives affecting children. Moreover, two Family Health Services staff members (respective Directors of the Child Health and the Epi/Data Branches) serve on the Pediatric Pulmonary Center's Advisory Committee.

Multiple partnerships and collaborations with a variety of organizations are discussed in Sections 1 and 2 of this Needs Assessment report, as well as throughout the *MCH 2004 Report/2006 Application*.

Geographic Availability of Services

Geographic availability of certain services for CYSHCN is discussed earlier in this section, and maps are located in Appendix NA-8. Also included in Appendix NA-8 is a map of primary care physician shortages in Alabama by county. The Health Department's Office of Primary

Care and Rural Health Development facilitates and participates in activities to improve accessibility of primary care and promotes the health status and attainment of stable health care services for rural residents, with a special concern for minority and medically underserved populations. For example, in FY 2004 the Primary Care Section of the aforesaid office received a \$200,000 grant for the State Loan Repayment Program from the National Health Services Corps. This repayment program provides grants to offset educational loans for primary care physicians and general or pediatric dentists who will commit to practicing in critical health care shortage areas of the State.

In 2004, 62 of Alabama's 67 counties are designated as primary care physician shortage areas. Elimination of the shortages, as they existed in 2004, would have required an additional 242 physicians strategically placed in Alabama communities for an estimated 2 million underserved residents. All 67 counties were designated as dental health shortage areas for the low-income population. Essentially, the entire State was considered deficient in mental health care workers through designation of 22 Mental Health Catchment Areas.

In FY 2004, a demonstration program developed through the Office of Primary Care and Rural Health Development and funded by the Southern Rural Access Project provided a model for aggressively recruiting health professionals to live and work in Alabama's rural health communities. The program was administered through the State's area health education centers and employed a regional recruiter who received technical support from the Primary Care Section. Activities included organizing a community's civic leaders and its health institution leaders in collaborative activities to both recruit and retain health workers in the community.

Also in FY 2004, Office of Primary Care and Rural Health Development staff visited or contacted all of the State's primary care physician residency programs.

Funding Mechanisms for Services

Funding mechanisms for programs through which the Health Department serves the Title V populations, listed on Form 2 of the *MCH 2004 Report/2006 Application*, include the MCH Services Block Grant federal allocation, State MCH funds, and program income. As well, funding sources include a variety of federal grants, such as SPRANS, SSDI, CISS, Abstinence Education, WIC, AIDS, and Immunizations.

Newborn Screening

In 2004 the Alabama Newborn Screening Program, administratively located in Family Health Services, expanded screening for a panel of additional metabolic disorders, using tandem mass spectrometry (MS/MS). Tandem Mass spectrometry allows screening for amino acid, organic acidemia, and fatty acid oxidation disorders in a single process. Most importantly, it assists in detecting rare metabolic diseases prior to development of symptoms in infants, which allows for early intervention. With implementation of the added tests and with the State's newborn hearing screening program (described next), Alabama will comply with the March of Dimes recommendation that all newborns be screened for at least nine metabolic or inheritable disorders and for hearing loss.

During completion of a statewide pilot test panel of MS/MS, the current statewide reporting system was modified for reporting the additional results to primary care providers and for the provision of follow-up for infants who screen positive. Additional disorders will be incrementally added to the current screening panel until the full complement of 30 disorders is included in the screening. This newly implemented method of newborn screening will certainly advance early and continuous screening for certain special health care needs in the State as well as provide opportunities for the CSHCN program to enhance follow up and to engage in education and support services for families. The Alabama Newborn Screening Program is further discussed in the *MCH 2004 Report/2006 Application*, under NPM #01.

Alabama's Listening Universal Newborn Hearing Screening Program

This program is administratively located in Family Health Services. All 59 birthing hospitals in Alabama continue to have Universal Newborn Hearing Screening Programs in place. More than 95 percent of infants born in Alabama are screened for hearing loss before discharge from the hospital. About 5 percent of screened infants fail the initial screening. The goal of this program is to ensure that those infants receive appropriate follow-up and intervention services. According to the Hospital Newborn Screening Summary Report for 2004, over 99 percent of all babies born in Alabama hospitals were screened for inborn metabolic errors. This program is further discussed under NPM #12 in the *MCH 2004 Report/2006 Application*.

Alabama Childhood Lead Poisoning Prevention Project

In FY 2004, the Alabama Childhood Lead Poisoning Prevention Program, funded through CDC and administratively located in Family Health Services, collected reports of 14,595 blood lead screenings, which resulted in referral of 189 cases of elevated blood lead levels being referred for medical case management. Further, 66 houses were investigated for environmental lead hazards, and follow-up inspections were conducted on homes for which a child's blood lead level did not improve in a six-month period.

Healthy Child Care Alabama Project

This project is administratively located in Family Health Services, and is a collaborative effort between the Health Department and the Alabama Department of Human Resources. Through this program, seven registered nurse consultants work in a variety of community settings, in 40 of the State's counties. Their services include providing developmental, health, and safety classes, coordinating community services for some CSHCN, and identifying community resources to promote child health and safety. See Section 2 for further information about this program.

Abstinence-Only Education Programs

Two abstinence-only education programs, designed to reduce the occurrence of sexual activity among Alabama adolescents, are administratively located in Family Health Services. One, the Alabama Abstinence-Only Education Program, continued channeling federal funds to nine community-based projects in 2004. In that year, these projects provided abstinence-only education in the school setting to about 35,000 participants, 17 years of age and younger, in 34 of Alabama's counties. Activities were conducted in educational facilities, a public health care facility, and city/county/state social services organizations.

The second, the Alabama Community-Based Abstinence-Only Education Program, has the following goals: to reduce the proportion of adolescents who have engaged in premarital sexual activity, including but not limited to sexual intercourse; reduce the incidence of out-of-wedlock pregnancies; and reduce the incidence of sexually transmitted diseases among adolescents. Six community-based projects provided abstinence-only education for adult role models (community leaders, parents, faith-based individuals, teachers, counselors, educators, and health professionals), as well as 12- to 18-year-old adolescents, in 48 of Alabama's counties.

Alabama Child Death Review System

See Section 1 for discussion of The Alabama Child Death Review System, which is administratively located in Family Health Services and liaises with local Child Death Review Teams around the State. Staff from this program continue to work toward common goals with strategic partners, such as the Children First Trust Fund, Voices for Alabama's Children, the Alabama Suicide Prevention Task Force, and the Alabama Injury Prevention Council.

Oral Health

The Oral Health Branch is located in Family Health Services. Data collection continued to be a major focus of this branch in FY 2004. A

highlight in the State's efforts to promote oral health was the receipt, in FY 2004, of the federally funded "State Oral Health Collaborative Systems" grant. Funds from the grant were used to develop a model in Escambia County that included a broad range of oral health activity. Some of this program's objectives that were reached in FY 2004 included conducting dental screenings for K-12th grade students in Escambia County and Brewton City Schools, providing dental sealants for qualifying underserved children, and conducting a two-day forum on the oral health of Alabama Head Start children. Staff from the Oral Health Branch and faculty and dental students from the University of Alabama School of Dentistry screened about 4,400 children in K-12 for dental caries. Of those screened, about 22 percent were found to have dental caries and 8 percent had urgent dental needs.

Fluoridation data indicated that water systems throughout the State are experiencing problems maintaining optimal fluoridation levels. To address this problem, the Oral Health Branch applied for an additional federal grant, which will enable them to work cooperatively with the Alabama Department of Environmental Management to monitor and provide technical assistance to water systems that are experiencing problems with program compliance.

Nutrition Services

Two Health Department units are mainly responsible for spearheading the Department's nutrition activities: the Office of Professional and Support Services' Nutrition and Physical Activity Unit, and Family Health Services' WIC Division.

Activities conducted in FY 2004 by the Nutrition and Physical Activity Unit were based on the social-ecological model of behavior change, a model where multiple levels of influence address health problems. In that year, the unit provided health classes for individuals and family members in various community settings, including a lifestyle and wellness

center, housing communities in two counties, and children in a variety of settings.

WIC provides nutrition education, breastfeeding, and supplemental nutritious foods to pregnant, breastfeeding, and postpartum women; infants, and children up to age 5 years. WIC coordinated with and referred to other health and social programs and served as an adjunct to good health care of the aforesaid populations. In 2004 WIC initiated a 2-year Nutrition Education Plan emphasizing increasing physical activity and improving eating habits for WIC families, in an effort to combat Alabama's continuing problem of childhood obesity. Further, WIC provided 27,113 Farmers Market Nutrition Program checks to purchase Alabama-grown fruits and vegetables in 11 counties, from 414 authorized farmers at approved farmers markets.

Immunization Program

The Immunization Division, located in the Health Department's Bureau of Communicable Disease, provides vaccine statewide by using State and federal funds. The division participates in the Vaccines for Children Program, a federal entitlement program.

Further, it operates an immunization registry for the State, known as the Immunization Provider Registry with Internet Technology (ImmPRINT), which continues to grow. Activities of the Immunization Division are discussed under NPM #07, in the *MCH 2004 Report/2006 Application*.

Injury Prevention Program

The Health Department's Injury Prevention Division is located in the Bureau of Health Promotion and Chronic Disease. The division seeks to reduce death and disability from intentional and unintentional injuries through data collection and the coordination and implementation of health promotion and education programs. Current funded programs include injury surveillance, fire safety, motor vehicle safety, and a program to prevent violence against women.

See Table 10 for a summary of capacity with respect to population-based services for pregnant women, mothers, and infants, and for children and youth.

**Table 10. Salient Elements of MCH Capacity: Population-Based Services
Alabama Department of Public Health, FY 2005**

Component	Pregnant Women, Mothers, and Infants	Children and Youth
Newborn Screening for Metabolic and Hematologic Conditions	Excellent As reported for NPM #01, on Form 11 of the <i>MCH 2004 Report/2006 Application</i> , from 2000 onward, 100% of newborns who were screened and confirmed with condition(s) mandated by the newborn screening program (e.g., phenylketonuria and hemoglobinopathies) received appropriate follow up.	Not applicable
Newborn Hearing Screening	Excellent, with some reporting difficulties to be resolved. As reported for NPM #12, on Form 11 of the <i>MCH 2004 Report/2006 Application</i> , in 2002, 2003, and 2004 respectively: 93%, 96%, and 88% of infants born in Alabama delivery hospitals were screened for hearing impairment before hospital discharge. The lower percentage reported for 2004 was apparently due to technical difficulties in generating the reports on which numbers reported on Form 11 are based. Results obtained from hospitals at a later time indicate that the actual percentage was substantially higher than the 88% that was reported.	Not applicable.
Lead Screening	Excellent.	Excellent.
Immunization	Excellent, with room for improvement. The Immunization Division, located in the Health Department's Bureau of Communicable Disease, provides vaccine statewide by using State and federal funds. It participates in the Vaccines for Children Program, a federal entitlement program. Further, it operates an immunization registry for the State, known as the Immunization Provider Registry with Internet Technology (ImmPRINT), which continues to grow. Activities of the Immunization Division are discussed under NPM #07, in the <i>MCH 2004 Report/2006 Application</i> . As reported for NPM #07 in that report/application (on Form 11), in 2004, 83% of 19-35 month-olds in Alabama had received the full schedule of age-appropriate immunizations.	Excellent for preschool children, with room for improvement.
Oral health	Clearly improving, with concerns remaining. Per PRAMS, the percentage of mothers who had talked with a health care worker during pregnancy about care of the teeth and gums improved: from 25 percent in 2000 to 34 percent in 2002.	Improving, with concerns remaining. The percentage of Alabama EPSDT-eligible children who received any dental service in a given year improved: from 19 percent in FY 1998 to 50 percent in FY 2004.
<u>Population-Based Health Education and Outreach</u>	Varied, with concerns. For example, we are not aware of any recent, intensive, population-based outreach on the risks associated with placing a baby on his or her stomach to sleep. (In Alabama in 2002, about one-fourth of mothers were placing the baby on his or her stomach to sleep.)	Varied, with concerns. For example, we are not aware of any recent, intensive, population-based outreach on the risks associated with use of snuff and chewing tobacco. (In Alabama in 2003, about one-fourth of white male public high school students were using tobacco or snuff.)
Nutrition	Excellent, with some concerns about insufficient numbers of registered dietitians in some places. Two Health Department units are mainly responsible for spearheading nutrition-related activities. See description of their activities, provided earlier in this section.	Excellent, with some concerns about insufficient numbers of registered dietitians in some places. See preceding column.

**Population-Based Services: CYSHCN
Alabama's Universal Newborn Hearing Screening Program**

Alabama has been very successful in implementing a universal newborn hearing screening program without a State mandate. This program, which is administratively located

in Family Health Services, is discussed earlier in Section 4. Partners throughout the State, including CRS, provide follow-up services at the community-level. Alabama has an effective intervention system through private providers, the Alabama Institute for Deaf and Blind regional centers and school, the 15 CRS community-based district offices, and through

the Alabama Early Intervention System. The State has built considerable capacity to ensure screening for all newborns, tracking, follow-up, monitoring, and linkage to appropriate services for all infants with a confirmed hearing loss.

Healthy People 2010 Objectives for CYSHCN

In addition to the leadership role as the Title V CSHCN program in Alabama, CRS has also been identified as the lead agency for planning and implementing activities to meet the Healthy People 2010 objectives for CYSHCN. In the Spring of 2001, CRS established six workgroups, each addressing a different 2010 objective related to CYSHCN, and invited colleagues from outside CRS to facilitate each workgroup in an effort to assure multi-agency partnerships and participation in Alabama's Healthy People 2010 plan. These facilitators represent key agencies from the system of care for CYSHCN in the State, including: Alabama March of Dimes, Family Voices of Alabama, Alabama Chapter of the American Academy of Pediatrics, ALL Kids, Alabama Department of Mental Health and Mental Retardation, and a private consultant/advocate for youth with special health care needs representing the Southeastern Center for Systemic Change.

CRS State Office staff members serve as liaisons to support the various technical aspects of each workgroup. The workgroups themselves are composed of families, youth, and partners from other agencies related to CYSHCN in the State. Participants include UAB School of Public Health's Department of MCH, the Medicaid Agency, Individual and Family Support Council, families and youth, private pediatricians, and the UAB MCH Health Collaborative. The participation of youth with special health care needs and families of CYSHCN in the workgroups is supported through advisory fees, transportation reimbursement, and childcare supplements. All support to youth and families of CYSHCN is provided by CRS through Title V dollars and in-kind contributions. CRS also directs funds toward the maintenance of the workgroups, and

activities generated from them are noted in the *MCH 2004 Report/2006 Application*.

The goal for Alabama's 2010 plan is to create community-based service systems for CYSHCN and to assure family-centered care for all children in Alabama. This vision is based on the Department of Health and Human Services' Healthy People 2010's national objective to increase the proportion of States and territories that have community-based service systems for CYSHCN. Through the established structure of the workgroups targeting individual objectives and collaboration with its partners, CRS has facilitated the creation of Alabama's Healthy People 2010 Action Plan.

Each workgroup meets quarterly and has been charged with creating and implementing a strategic plan with action steps to assure achievement of their specific objective. A general meeting is held each fall for all workgroups to highlight success and focus on the completion of the overall plan for Alabama to meet the six Healthy People 2010 objectives for CYSHCN. Individual group goals are consolidated into the overall Alabama 2010 Action Plan for CYSHCN, which is updated and enhanced as each group makes progress in implementing activities. The planning document is dynamic, evolving as the workgroups continue to meet, complete action steps, and envision new activities and strategies over the next several years. The UAB School of Public Health's MCH Department assists with planning and evaluation strategies to document individual workgroup progress and overall progress toward implementation of Alabama's 2010 Action Plan.

Lack of Information on Resources and Health Needs

According to the county provider survey, the lack of information on resources and health needs was reported by 70 percent of the counties statewide, particularly noted in the Urban counties (81 percent), where the availability of multiple providers only increases the complexity of finding appropriate services. Similarly, the families' lack of understanding of how to use

the system was reported by 88 percent of the counties. The need for family-centered, community-based central resource systems, particularly to assist families at the time of a new diagnosis, was cited as well by families in the open forums. In addition to the families lacking information, the families themselves also noted that providers of health and related services within their communities also had lack of information about the specific and global needs of CYSHCN. This theme of lack of information also carried into school systems, where families reported a lack of awareness of legal rights and responsibilities as well as the need for improved communication between schools and families and for training for school staff and specialists in the basic needs of CYSHCN. Thus, education and outreach programs regarding resources and general needs of CYSHCN appear to be a significant need in the State.

Need for Integration of CYSHCN into Communities

Further, families of CYSHCN reported feeling isolated within their own communities, including churches, due to a lack of public awareness of disability issues and of the family supports necessary to enable more effective community integration. Recreational activities were often neither inclusive of CYSHCN nor physically accessible, and respite care was extremely limited. Active advocacy within communities through educational efforts to enhance awareness of and sensitivity to CYSHCN remains a crucial need in the State. Both families of CYSHCN and youth with SHCN reported the need for increased social acceptance, teaching skills for independence, and coordinated transition plans for post high school settings (work and community). The lower rankings of transitional needs on the county-level provider survey (reported in 66 percent of counties) contrasts with the report of families and youth. This may indicate a need for increased education and awareness of providers within the service system for CYSHCN related to the critical importance of

transition in the life of CYSHCN and their families.

Infrastructure-Building Services

Infrastructure-Building: Pregnant Women, Mothers, and Infants; Children and Youth

Local Delivery Systems for Public Health Services

See earlier discussions in this section, located under the main heading “Direct Care,” respectively entitled “Alabama Department of Public Health: Overall Description” and “Availability of or Access to Care.”

Family Health Services' Mission and Vision

The mission of Family Health Services is to protect and promote the health and safety of women, infants, children, youth, and their families through assessment of community status, development of health policy, and assurance that quality health services are available. Family Health Services' vision is that Alabama's families and the communities in which they live will be HEALTHY and SAFE. Recognizing that we cannot achieve our mission or bring about our vision alone, Family Health Services engages in many collaborative relationships. Using the conceptual model of the three core public health functions—assessment, policy development, and assurance—Family Health continues seeking to foster a paradigm shift around family health at all levels (State, area, and county) of the Health Department. Simply stated, this shift involves a move from direct health care services to enabling, community-based, or systems development services where appropriate. While seeking to foster this shift, Family Health Services recognizes that some county health departments will need to provide some personal health care services in the future as true "safety net" activities, under the function of assurance. A simple way to conceptualize the shift is to envision the movement of county staff out of the

building, across the threshold of the health department, and into the community.

Movement into the community has been hindered to some degree by budgetary constraints discussed in Section III.B of the *MCH 2004 Report/2006 Application*. Nonetheless, notable interaction occurred through community discussion groups convened as part of the FY 2004-05 MCH Needs Assessment process. As well as seeking to promote interaction with the community, Family Health Services seeks to foster an increased emphasis on enabling services, population-based services, and infrastructure-building.

The presence of a variety of MCH programs within Family Health Services provides a built-in mechanism for collaboration to promote comprehensive systems of services. As stated elsewhere, these programs include the Family Planning Program, the State Perinatal Program, the SSDI Project, the Healthy Child Care Alabama Project, WIC, and several other programs.

Training and Quality Assurance

In FY 2004 the Health Department's Office of Professional and Support Services coordinated all the Department's Health Insurance Portability and Accountability Act activities and worked closely with the aforesaid office's Training Unit to coordinate training activities for all departmental staff.

The primary goal of training was to provide quality education for all Health Department employees. Trainings were organized and managed through Auburn University at Montgomery, Tulane University, Emory University, the University of Alabama at Birmingham, the State Personnel Department, and the Alabama TechnaCenter. In FY 2004, 32 live workshops, 40 supervisory training sessions, 67 TechnaCenter courses, and 22 distance-based/satellite learning conferences were coordinated through the Training Unit.

In FY 2004 the Training Unit took the lead in coordinating the development of a Learning Content Management System. The system will automate the training process and improve the Department's workforce development program. The Department is required to implement a learning management system as part of its Preparedness Grant from CDC, and decided to create a robust system that would include all types of training.

With respect to family planning, the "model clinic" is a framework through which Family Health Services seeks to further assure the quality of family planning services provided by nurse practitioners. Key strategies that have been outlined include arrangements for continuing professional development of nurse practitioners, a proposed model to provide continuous monitoring of performance, standardization of examination rooms, hiring of two nurse practitioners to be the lead clinicians in, respectively, the northern and southern parts of the State, and peer chart review. Additionally, Family Health Services has hired a full-time public health physician, who will provide medical support, including coordination and management of the model clinic framework.

Further, annually conducted performance appraisals, based on pre-identified job responsibilities, are an important part of quality assurance.

Prenatal Care

As detailed in Section III.A of the *MCH Services 2004 Report/2006 Application*, the Health Department's role in directly providing prenatal care has markedly declined with Medicaid's current State Plan for Maternity Care, which was begun in June 1999 and fully implemented by October 1999. Specifically, the number of counties in which ADPH provides prenatal care as a subcontractor has declined from 14 circa FY 2000, to 10 by FY 2003, to 9 as of July 2004. The latter decline occurred because, as of May 1, 2004, prenatal care that had previously been provided by the Jefferson County Department of Health was transferred to

UAB. As a corollary, the number of patients receiving prenatal care in ADPH clinics has declined markedly.

By March 2005 it was determined that the private sector had both the desire and capacity to provide all the prenatal care required under the SOBRA Medicaid program. For this reason and because of financial and liability-related issues, ADPH decided to completely withdraw from providing prenatal care. Most county health departments made a parallel decision to no longer provide care coordination for pregnant patients, though a few county health departments may continue to work with private providers in the provision of care coordination services only.

An important way that the Health Department is seeking to promote access to prenatal care is discussed earlier in Section 4. That is, Family Health Services and SCHIP staff are collaborating regarding the feasibility of expanding SCHIP coverage to include the unborn child. Specifically, plans are being considered to cover pregnant women whose household income does not exceed 133 percent of the FPL and who are not already eligible for coverage by another entity. The envisioned expansion of SCHIP would include the unborn child of non-citizen women whose children would be SCHIP-eligible

Use of MCH Annual Reports/Applications Measures in Needs Assessment

Of all of the *MCH Annual Reports/Applications* measures pertaining to the first two Title V populations (pregnant women, mothers, and infants; and children), most are discussed in appropriate places throughout this Needs Assessment report. In some cases, Family Health Services used related measures that we considered more pertinent to assessing MCH needs in Alabama, rather than the precise measures reported in the *MCH Annual Reports/Applications*. For reasons explained earlier, several particular measures were not used at all in the Needs Assessment (HSIs #01A and #01B, HSCs #02-04). Additionally, Family

Health Services chose not to use SPMs that become inoperative in FY 2005.

Two other infrastructure-related measures not yet discussed merit mention, however: 1) income criteria for Medicaid and SCHIP, and 2) data capacity.

Income Criteria for Medicaid and SCHIP

HSCs #06A and #06B pertain to income criteria for enrollment in, respectively, Medicaid and SCHIP. These criteria, which have not changed for several years, are reported on appropriate forms in the *MCH 2004 Report/2006 Application*. To recap, the upper percent of poverty level parameter for Medicaid eligibility is 133 percent for infants, children aged 1-5 years, and pregnant women; and 100 percent for children aged 6-19 years. ALL Kids (Alabama's SCHIP) serves eligible infants, children, and youth from birth through age 18 years whose household income exceeds the Medicaid criterion for their age group but does not exceed 200 percent of the FPL. As just discussed, Family Health staff and ALL Kids staff are collaborating regarding the feasibility of expanding SCHIP coverage to include the unborn child.

MCH Data Capacity

HSCs #09A and #09B respectively pertain to data capacity and to surveillance systems, and are fully discussed in the *MCH 2004 Report/2006 Application*. One of the chief ways that Family Health Services seeks to increase data capacity, as measured in HSC #09A, is through SSDI, which is administratively located in the Epi/Data Branch and focuses on electronic linkage of live birth records to data from certain programs. Through SSDI, Family Health continues to increase MCH data capacity, and the SSDI Director, a senior-level Public Health Research Analyst, has enabled Family Health to develop and maintain substantial data capacity.

The State's difficulty in recruiting and retaining additional epidemiologists and research analysts slows progress toward further increasing MCH

data capacity, however. This difficulty is not limited to Family Health Services; and after researching the issue, the Health Department's Personnel Office recommended higher salaries (entry- through senior-level) for epidemiologists to the State Personnel Board. The

recommendation was approved by State Personnel and signed by the Governor circa June 2005. State Personnel is to further study the Public Health Research Analyst classification and determine what action should be taken concerning that classification.

**Table 11. Salient Elements of MCH Capacity: Infrastructure-Building Services
Alabama Department of Public Health, FY 2005**

Component	Pregnant Women, Mothers, and Infants	Children and Youth
Needs Assessment	Excellent. State Perinatal Program staff and Epi/Data Branch staff work collaboratively to perform ongoing statewide and regional needs assessment pertaining to pregnancy and infancy.	Good. Additional analytic (epidemiology and/or research analyst) full-time equivalents (FTEs) that are devoted to public health surveillance are needed. Further, additional personnel resources need to be devoted to surveillance of indicators pertaining to youth, and translation of that surveillance into appropriate public health action. As stated in Section 1, certain national databases could not be analyzed as part of the FY 2004-05 MCH Needs Assessment, due to insufficient numbers of analytic staff. The Alabama Child Death Review System, discussed earlier in this section, is a strength. One concern is the limited involvement of several key stakeholders in some locations of the State.
Evaluation, planning, policy development	Good. Evaluation is limited to some degree by the limited number of epidemiology/research analyst FTEs, discussed in the "Needs Assessment" row. The Family Health Services' Bureau Management Team will meet to discuss these issues by October 2005.	Good. See preceding column.
Coordination with Other Agencies	Excellent overall. Examples of partnerships, collaboration, and coordination of services are discussed throughout the <i>MCH 2004 Report/2006 Application</i> , and in Sections 1, 2, and 4 of this Needs Assessment report.	Excellent overall. See preceding column.
Internal Coordination	Good, with room for improvement. For example, there is need for further coordination and collaboration among the various data collection/analysis units in Family Health Services.	Good, with room for improvement. See preceding column.
Quality assurance, standards development, monitoring, training	Good, and improving. Family Health Services is seeking to develop a model clinic, for the purpose of improving the quality of family planning services provided by county health department nurse practitioners. See earlier discussion in Section 4. See earlier discussion in this section pertaining to the Health Department's Office of Professional and Support Services' activities regarding training of Health Department employees.	Good, with some excellent components. Quarterly training is provided, by Family Health Services staff, for care coordinators working in county health departments.
SSDI	Excellent, with a concern. SSDI, which focuses on linkage of live birth records to databases for certain programs, is located in the Epi/Data Branch so is an integral part of MCH needs assessment. The concern is that recruitment and retention of sufficient numbers of analytic staff have proven problematic (throughout the Health Department, as well as in Family Health). For this reason, SSDI objectives for FY 2006 may not be fully attained.	Not applicable.
State Perinatal Program	Excellent, would be enhanced if a perinatal educator were added.	Not applicable
State Child Death Review System	Excellent, with some concerns regarding limited involvement of stakeholders in some areas of the State.	Excellent, with some concerns regarding limited involvement of stakeholders in some areas of the State.

Infrastructure Building: CYSHCN

Constructs of a Service System for CYSHCN

The interagency group that comprised the CRS Needs Assessment Advisory Committee, youth with SHCN, and families of CYSHCN (through the advisory committee, surveys, and open forums) participated in the assessment process.

State Program Collaboration

Many collaborative mechanisms exist at the State level to coordinate State services available to CYSHCN. CRS represents the Title V CSHCN Program in numerous efforts, discussion of which follows.

Governor's Interagency Coordinating Council for Early Intervention Services (ICC)

ADRS is the lead agency in Alabama for the Part C initiative for infants and toddlers with developmental delay. The ADRS Commissioner represents the agency on the ICC. Other member agencies of the ICC participated in the CYSHCN portion of the FY 2004-05 MCH Needs Assessment. The ICC has developed coordinated policies and procedures, interagency training, monitoring standards for service delivery, and joint legislative budgetary requests, and has shared data on infants and toddlers with disabilities. CRS actively participates in this process, sitting on all ICC subcommittees for funding, personnel preparation and training conferences, public awareness, and program evaluation.

Alabama Children's Policy Council

This network of a State Children's Policy Council and local, county children's policy councils was established originally in 1975 and revamped in 1999. Under the coordination of the Department of Children's Affairs, each local children's policy council is chaired by the county's juvenile judge and has members from a diverse cross section of public and private individuals interested in the general needs of all children and families in the State.

The ADRS Commissioner is a part of the State Children's Policy Council, and ADRS staff

members participate in local children's policy councils in all 67 counties within the State to provide expertise related to the unique needs of CYSHCN. This partnership raises awareness of the importance of identification of CYSHCN, the specialized needs of this population, and the implications of these needs for resources in a local community. It also has an impact at the community level in supporting the inclusion of CYSHCN. Finally, the effort makes great strides in enhancing current infrastructure through a mutually beneficial opportunity for information gathering and collaboration.

State Perinatal Advisory Council

The State Perinatal Advisory Council has a significant role in the implementation of regionalization for neonatal intensive care in the State to ensure access to appropriate services. Included in this role is advising the State Health Officer in the planning, organization, and implementation of the Perinatal Program, which is administratively located in Family Health Services. The council is typically asked by Family Health Services to comment on the *MCH Annual Reports/Applications*.

State Head Start Advisory Committee for Children with Disabilities

Representatives from State agencies serving children, including CRS, meet quarterly with Head Start personnel to advise Head Start programs in accessing health, education, and welfare service systems. An interagency agreement between Head Start, including Early Head Start and Migrant Programs, and ADRS exists "to work collaboratively in identifying and serving children with disabilities from birth through age five and their families." Joint public awareness efforts; procedures for identification, referral, assessment and evaluation, and transition of young children with disabilities; procedural safeguards; interagency training; and resource and data sharing are specifically addressed in the agreement.

Alabama Head Injury Task Force

ADRS is the lead State agency for serving individuals with traumatic brain injury. The

Alabama Head Injury Task Force plans for the development and implementation of a statewide community-based system of services for children and adults with traumatic brain injury. Data sharing, financing issues, interagency training, and coordinated policies are pursued by this coalition of public and private agencies.

Alabama SCHIP

CRS has participated both as a provider of ALL Kids Plus Services and as an advocate for the unique needs of CYSHCN in policy development for general benefits packages. Currently, CRS is collaborating with ALL Kids to revise the Pediatric Health History form on the joint program application (ALL Kids, Alabama Medicaid, Alabama Caring Foundation) to include specific diagnoses eligible for services through the Title V CSHCN Program. As families complete this application, those specific diagnoses, if present, would trigger the mailing of an informational packet to families, including information about CRS.

Medicaid

CRS has an interagency agreement with Medicaid to provide Children's Specialty Clinic Services, including specialty medical and/or evaluation clinics, service coordination, outreach, related therapy services, patient education, orthodontic services, and replacement factor for clients enrolled in the Alabama Hemophilia Program. This has greatly increased access for CYSHCN with Medicaid to multidisciplinary team care throughout the State.

As of April 2005, CRS has become a preferred vendor for hearing aides and related supplies, providing comprehensive coordination for Medicaid-eligible CRS clients. In addition, CRS program specialists serve as reviewers for all requests throughout the State for Medicaid funding for power wheelchairs and augmentative communication devices. Members of the CRS State Office Staff meet quarterly with Medicaid staff members to discuss program and policy decisions likely to affect CYSHCN.

State Support for Communities

Community support is provided through several local planning processes, discussion of which follows.

District Coordinating Councils for Early Intervention Services

The role of the district councils is to conduct local needs assessments, coordinate services, and identify barriers to service for the State council. The State supports these councils through financial support for approved council activities and employment of full-time council coordinators. CRS provides office space for district service coordinators for children receiving early intervention services who are not yet part of a program and for administrative support personnel. CRS staff members participate on all the councils and support at the local level all initiatives of the ICC, such as public awareness campaigns and training activities for service providers and families.

Local Children's Policy Councils

As previously noted, ADRS staff participate in each county's Local Children's Policy Council to provide a voice for CYSHCN in needs assessments, community planning, and resource mapping for all children and families.

CRS Local Parent Advisory Committees

Each local office has an advisory committee to address family issues in the CRS community-based service system and to advise the office on service needs and family-centered care. Representatives from each committee make up the State Parent Advisory Committee, which advises CRS administrators on program and policy issues concerning family-centered care. These committees annually review the CRS State plan and progress toward meeting targets for the CRS performance measures.

CRS Local Offices

Each district office has the responsibility for supporting local, district, and regional health planning initiatives. Staff members serve on local councils that address health and/or youth and children's issues. CRS supports their

involvement financially and through performance standards, which expect each worker to be active in the assigned county. Additionally, each district office functions as a powerful resource network within its local community, responding to numerous requests for information regarding CYSHCN and available services.

Coordination with Other Health Components of Community-based Systems

Coordination within community-based systems is achieved through several means, listing and discussion of which follows.

Maternal and Child Health

In the previously discussed periodic (three times a year) inter-agency meetings, CRS administrative staff and program specialists meet with staff from Family Health Services and several other MCH entities (UAB School of Public Health, Pediatric Pulmonary Center, Leadership Education in Adolescent Health, and Leadership Education in Neurodevelopmental and Related Disabilities) to assure coordination of initiatives.

Memorandums of Understanding with Tertiary Children's Hospitals

Memorandums of understanding between CRS and the two tertiary care pediatric hospitals in the State are essential to the coordination of health components of community-based systems. CRS offices have liaison personnel who work with the staff of TCHA satellite offices located in their communities to ensure that children are referred and receive appropriate services from both providers. Copies of these agreements are available upon request.

The Alabama Hemophilia Program

This program is administered by CRS. Persons of any age with bleeding disorders are eligible to participate. Treatment centers in Birmingham and Mobile provide evaluation, treatment, patient education, care coordination, and allied health services. CRS receives federal Maternal and Child Health Bureau funds through a contract with Hemophilia of Georgia to promote

comprehensive care for this population. Programs collaborating with CRS in this effort include the Health Department's AIDS Program, Alabama Medicaid, local AIDS treatment clinics and consortia for Ryan White funding, and the two State genetics programs.

Medical Genetics Programs

The UAB and USA Medical Genetics Programs provide counseling and testing services for CYSHCN and their families through a network of community-based clinics throughout the State, often in conjunction with CRS.

The State has made great advances toward coordinating community-based services for CYSHCN over the last five years through the agreements with tertiary level providers, credentialing of local vendors for allied health services, and service agreements with community providers and hospitals. The development of further public/private agreements would continue the progress in this area.

Coordination of Health Services at the Community Level

The placement of CRS within ADRS facilitates the coordination of health services with other services at the community level for CYSHCN. CRS, as a division of ADRS, is co-located with the Alabama Early Intervention System, Vocational Rehabilitation Service, and the State of Alabama Independent Living Program in most locations throughout the State, which promotes the coordination of program planning and service delivery at the local level, as well as at the State level.

In order to provide a coordinated, team approach to early intervention, CRS sponsors 16 Alabama Early Intervention System programs statewide. CRS State Office staff members participate in the annual Provider Appraisal Review for these programs to ensure consistent quality and fiscal responsibility, provide technical assistance, and provide information to program coordinators on the benefits of referral to CRS for eligible infants and toddlers with special health care

needs. Special education, social services, and family support services are brought together by the Early Intervention District Community Councils at the community level as well. This mechanism has also increased collaboration regarding service coordination for other age groups.

CRS staff work individually with CRS youth turning 21 years of age to ensure linkage with adult health care providers and community service systems. The CRS State Adolescent Coordinator and the Vocational Rehabilitation Service State Transition Coordinator have established a State Transition Team and continue to lead efforts to identify obstacles and challenges in the referral and transition process, as well as to develop plans to address these issues. In an effort to strengthen the ADRS continuum of services by increasing the number of youth with special health care needs receiving services from CRS who are referred to, determined eligible for, and successfully placed into employment by Vocational Rehabilitation Service, the Transition Team visited each CRS and Vocational Rehabilitation Service office in the State. Information was solicited regarding the strengths and weaknesses of the referral system presently in place. In addition to this discussion, surveys were completed by staff members to identify perceived needs and barriers. A steering committee has been developed and workgroups will be organized around the identified weaknesses.

CRS has a long history of collaboration with the Alabama Easter Seal Society to enhance services for CYSHCN through community rehabilitation centers and Camp ASCCA, a year-round camp facility for children and adults with disabilities. CRS staff members volunteer their time to provide their specialized skills for various camps, and the agency supports camps for children with hemophilia through public awareness and the provision of educational materials and self-infusion teaching kits. CRS also has an extensive partnership with United Cerebral Palsy, including the employment of local parent consultants and public awareness

for Camp Adventure, a camp for children and youth with disabilities.

CRS actively promotes the development of community-based systems of care through its network of 15 district offices, which work with every county in the State to enhance local services for CYSHCN.

Quality Assurance and System Development

Quality assurance and systems development activities by CRS follow:

- Formal monitoring procedures for clinical sites and Quality Care Guidelines for 12 specific diagnostic conditions have been developed and implemented.
- Quality Improvement Teams in each district meet regularly to identify service delivery areas that need improvement and to formulate an improvement plan to address that need.
- Standards of care have been implemented for each specialty medical and evaluation clinic.
- The CRS Policy and Procedure Manual and the CRS Infection Control Manual were updated during 2004-2005 and are available in hard copy in each district office as well as on the ADRS internal website, where they are updated as needed.
- Patient satisfaction surveys are mailed monthly to families. Any expressed concerns are forwarded to the appropriate district supervisor for resolution.
- A credentialing process is used for enrolling specialty physicians, dentists, allied health care providers, and durable medical equipment providers. Clinic dictation is regularly reviewed by the appropriate staff therapist, program specialist, and/or medical consultants to ensure quality and appropriateness of coding for reimbursement. Documentation templates are being finalized for use by all

vendors who provide CRS-sponsored physical therapy, occupational therapy, or speech therapy to ensure that quality standards are met statewide and to relate progress to observable, measurable goals and objectives.

- CRS staff members participate in annual Provider Appraisal Review for all CRS-sponsored Alabama Early Intervention

System programs to ensure consistent quality and fiscal responsibility. Technical assistance is provided as needed throughout the year.

- Staff performance appraisals, based on pre-identified responsibilities and expected results, are conducted annually.

SECTION 5 SELECTION OF PRIORITY NEEDS

Development of Priority Needs

Selection Process

Family Health Services

Through the FY 2004-05 MCH Needs Assessment process, Family Health Services and CRS respectively identified seven and three MCH priority needs, with each agency identifying their needs through their components of the Needs Assessment. A review of the Needs Assessment process, discussed in Section 1, follows.

Family Health Services gathered information mainly through community discussion groups and two mailed surveys (the MCH Organizations Survey and the Primary Providers Survey) conducted in FY 2004, vital statistics data, Census reports, child death review, infant mortality review, PRAMS, and the Youth Risk Behavior Survey.

Further, Family Health organized the MCH Advisory Group, which convened in January 2005. At that meeting, Family Health presented to the Advisory Group key findings from the Needs Assessment, as well as 14 potential priority needs that, based on the key findings, had been identified by the Family Health Services' Needs Assessment Coordinator. Using forms located in *Selected Tools for MCH Needs Assessment*,⁴ attendees were then asked to select and rank five top MCH priority needs, first as individuals and later by consensus as one of five breakout groups. Attendees were given the option of suggesting additional priority needs and ranking them among the top five. Subsequently, the Family Health Services' Needs Assessment Coordinator reviewed the Advisory Group's individual and group rankings (excluding rankings from Family Health Services' staff) and, based on these

rankings, developed a total score for each potential priority need. (The higher the score, the higher the priority collectively assigned by the breakout groups or individuals reflected in the score.)

The seven priority needs selected by Family Health Services basically reflect MCH Advisory Group rankings. However, final wording of the seven prioritized needs was tempered by concerns identified through review of written comments by MCH Advisory Group members, conversations or follow-up correspondence with two members of the Advisory Group, conversations with facilitators for two breakout groups, and input from Family Health's Management Team.

Children's Rehabilitation Service

CRS convened the CRS Needs Assessment Advisory Committee on three occasions, and pursued three methodologies in gathering qualitative and quantitative data: nine open forums (seven for English-speaking families of CYSHCN, one for Spanish-speaking families of CYSHCN, and one for youth with SHCN), county-level surveys of providers of care and care coordination for CYSHCN, and a formal youth survey. Findings from these studies were presented at the final meeting of the CRS Needs Assessment Advisory Committee, and input from participants on suggested priority needs was obtained. Subsequently, the CRS State Office administrative staff members, two district office supervisors, and two CRS local parent consultants jointly reviewed the data and selected three MCH priority needs pertaining to CYSHCN that CRS has the mission to address.

Following are the ten priority needs selected for the FY 2006-2010 MCH needs assessment cycle. Though they are ordered according to the level of the MCH Services Pyramid to which

they mainly pertain, most priority needs involve activities at more than one level of the pyramid.

All findings briefly referenced in regard to certain priority needs pertain to Alabama. The findings are generally referenced as part of the rationale for identification of a particular priority need; specific findings and the years to which they pertain are discussed in appropriate places in this report.

Priority Needs for FY 2006-2010 Needs Assessment Cycle

As is evident from the priority needs per se and their organization according to levels in the MCH service-level pyramid, the priority needs cover the three major MCH population groups and relate to the four service levels of the pyramid.

Direct Services

1. *Improve health status of CYSHCN through increased access to comprehensive, quality primary and specialty care, and allied health and other related services.*

This priority need is similar to that identified in the previous needs assessment cycle, with modifications to include allied health and other related services in addition to primary and specialty medical care. Current Needs Assessment findings from open family/youth forums, county-level provider surveys, and youth surveys indicate that inadequate access to care for CYSHCN continues to be an issue throughout the State. Support for selection of this need includes transportation barriers, inadequate financing, inadequate distribution of providers, and the lack of specialized knowledge by all provider types related to care coordination, transition issues, behavioral management, and other unique needs of CYSHCN.

Enabling Services

2. *Assure appropriate primary care, including prenatal care, for all Title V populations—including low-income, immigrant, and minority groups.*

This broad indicator encompasses two of the priority needs from the FY 2000-2005 needs assessment cycle: to assure access to dental care, especially for low-income children; and to assure access to prenatal care, especially for low income, minority, and immigrant populations. The need is broadly stated in order to accommodate a variety of concerns, arising from Needs Assessment findings and MCH Advisory Group members' views, regarding the importance of all types of primary and preventive care for the Title V populations.

Prenatal care is specifically mentioned because of concerns—again arising from Needs Assessment findings and MCH Advisory Group members—regarding pregnant women who have neither health insurance coverage nor the means to pay for prenatal and obstetrical care. As shown in Section 3 (Figures 16-18), “self-paying” mothers (whether compared to privately insured or Medicaid-enrolled mothers) were most likely to receive insufficient prenatal care. As also discussed in Section 3, the proportion of Hispanic newborns whose mothers did not receive adequate prenatal care worsened during the surveillance period (Figure 40), and, in 2003, Hispanic babies comprised 61 percent of all babies whose delivery was said to be self paid.

Assurance of primary care entails activities pertaining to direct care, enabling services, and infrastructure-building services. One of the primary ways that Family Health Services seeks to assure access to primary care is through care coordination, however, which is why we place this priority need under “Enabling Services.”

Population-Based Services

3. *Promote evidence-based health education and outreach regarding high priority topics.*

This priority need encompasses a need identified in the FY 2000-2005 cycle: to promote health education and outreach regarding high priority topics, per qualitative and quantitative data. That is, “evidence-based” includes qualitative and quantitative data but, as well, includes literature review and other sources not clearly implied in the wording of the aforesaid need that was identified in FY 2000. As shown in Section 3, a few examples of behavior that should be addressed through health education and outreach include tobacco use during pregnancy (Figure 38), the need for good oral health care during pregnancy, as well as at other times (Figure 47), and appropriate sleeping position for the baby (Figure 48). Addressing this need requires enabling services, population-based services, and infrastructure-building services.

Though one-on-one health education is an enabling service and gathering of evidence is typically an infrastructure-building activity, outreach often entails statewide delivery of information (even if that information is targeted to a particular population). For that reason, this priority need is placed under “Population-Based Services.”

4. *Further reduce the adolescent pregnancy rate.*

This priority need is retained from the FY 2000-2005 needs assessment cycle. Although the live birth rate and repeat live birth rate among 15-17 year-old teens and the pregnancy rate among 10-19 year-old adolescents continued to decline (Section 3, Figures 5-7), adolescent pregnancy remains of great concern in Alabama. Various socioeconomic disadvantages and suboptimal health outcomes, including infant mortality, have been linked with

adolescent pregnancy. Though these links are not necessarily causal, some factors that may predispose an adolescent to become pregnant may also place her infant at higher risk of death. Prevention of adolescent pregnancy is generally desirable, therefore, to allow the adolescent additional time to mature and avail herself of social and economic opportunities before assuming the responsibilities of motherhood.

This priority need continues to be placed under “Population-Based Services,” because prevention of adolescent pregnancy pertains to health promotion and often entails statewide dissemination of information.

5. *Reduce the prevalence of violent behavior, including homicide and suicide, committed by or against children, youth, and women.*

This need encompasses, from a preventive aspect, a need identified in FY 2000: to reduce deaths of children and youth due to homicides. Further, again from a preventive aspect, this priority need addresses suicide, which is internally directed violence, and violence committed by or against women. As shown in Section 3, in 2001-03 homicide and suicide respectively caused 12 percent and 7.5 percent of deaths among 15-19 year-old youth (Figure 53). Also shown in Section 3 are the homicide and legal intervention death rate among 15-19 year-old African American males and the suicide death rate among 15-19 year-old youth (Figures 57 and 59). Though these rates are declining, they represent preventable losses of far too many lives.

Family Health Services’ strategies for addressing this priority need will mainly be through partnerships with others, which could be considered infrastructure-building in nature. The purpose of these partnerships is health promotion, however, and the means employed often include statewide dissemination of information. Accordingly, this priority need is placed under

“Population-Based Services.”

6. *Reduce the prevalence of high risk behaviors, including those predisposing to obesity, in adolescents.*

This newly identified priority need is not precisely related to any priority from the FY 2000-2005 needs assessment cycle.

Findings shown in Section 3 that support this priority need come from mortality data and Youth Risk Behavior Surveillance data. For example, in 2001-03 unintentional injuries caused 57 percent of deaths among 15-19 year-old youth, and motor vehicle crashes caused 74 percent of deaths among 15-24 year-old youth (Figures 53-54). Further, the death rate for unintentional poisoning has been increasing in 20-24 year-old white youth (Figure 58). Per the Youth Risk Behavior Survey, the proportion of youth who rarely or never wear a seat belt has dropped substantially (Figure 60), so high-risk behavior can be modified.

Behaviors among youth that need to be modified include cigarette use (Figure 64), smokeless tobacco use among white males (Figure 65), episodic heavy drinking (Figure 66), and use of illicit drugs (discussed in Section 3). Although the Needs Assessment did not focus on obesity, a breakout group that ranked this priority need as being first did so contingent on it encompassing obesity, which is known to be a problem in children and youth.

This priority need is also placed under “Population-Based Services,” based on the same rationale described for the priority need pertaining to reducing the prevalence of violent behavior.

Infrastructure-Building Services

7. *Reduce infant mortality, especially among African Americans.*

This priority need is nearly identical to an FY 2000-2005 needs assessment cycle priority, to reduce infant mortality in the

African American population. However, the wording has been revised to accommodate a concern for all preventable infant deaths, while continuing to recognize the need to reduce infant mortality among African Americans in particular. Respective risks of infant death were especially high for babies of adolescent mothers who had previously been pregnant, babies of mothers 16 years of age or younger, babies of “self-paying” mothers, and babies of African American mothers (Section 3, Figure 21). Because VLBW babies were 78 times more likely to die as infants than normal birthweight babies, this priority need is related to a need from the FY 2004-2005 needs assessment cycle that has not been carried forward to the new cycle: the need to reduce the prevalence of VLBW in the African American population.

This priority need is placed under “Infrastructure-Building Services” because Family Health Services’ main strategies for addressing this need will be through coordination and partnerships with others, which entail infrastructure-building activities.

8. *Improve the capacity of CYSHCN to be fully integrated into their communities to live, learn, work, and play.*

This priority need is continued from the previous needs assessment cycle and will offer additional opportunities for a multitude of program activities targeting community integration. Through the open forums, families of CYSHCN as well as youth with SHCN identified many frustrations related to inadequate integration into communities. Many concerns were discussed including inadequate services received from public education systems, lack of community recreational opportunities, and transition issues.

9. *Strengthen systems of family and youth support to enable Children and Youth with SHCN and their families to participate more fully in program and policy development, to identify resources, and to benefit from the services they receive.*

This priority need is similar to that identified in the previous needs assessment cycle, with modifications to include youth as well as a broader frame of reference. This need encompasses direct family and youth supports as well as enabling supports for participation in program decisions and policy development. It calls for planning and implementation of activities across all aspects of the service system for CYSHCN in the State. Through the youth surveys and open forums, families of CYSHCN and youth with SHCN reported a variety of needs for support services. These include direct social supports such as transportation assistance, respite care, family counseling, care coordination, childcare, and mental health counseling. In addition, participants identified needs for additional resources to assist families when the child is newly diagnosed, skills for successful transition to adult life, and for systems to ameliorate financial burdens and cultural/language barriers.

10. *Further develop the Title V Program's capacity to collect and analyze health-related data and translate findings into information for key stakeholders.*

Though certainly not all there is to needs assessment, collection and analysis of data and translation of findings into information for stakeholders constitute a crucial part of needs assessment. Without sufficient capacity to perform these tasks, "needs assessment" would perhaps be based more on the personal interests and experiences of a few contributors than on broadly based, objective assessment of needs. Further, data capacity is important to other components of infrastructure-building, specifically,

evaluation, quality assurance, monitoring, applied research, and information systems.

Nevertheless, we did not expect that public input (in this case, from the MCH Needs Assessment Advisory Group) would result in the selection of this priority need. Nor would it have, had this priority need not earned the highest ranking of the Health Care Consumer Group. In advance, Family Health Services had determined that consumer input would be given considerable weight in the selection of priority needs, which is why the small Health Care Consumer group's vote carried the same weight as votes of other, larger groups. Further, the facilitator of the Health Care Consumer breakout group (the Director of Family Health Services' Healthy Child Care Project, a registered nurse) stated that the consumers—after much discussion—decided that this priority need was crucial to the capacity to address other priority needs.

This priority need is placed under "Infrastructure-Building Services" because, by definition, needs assessment and evaluation are infrastructure-building services.

SECTION 6 SUMMARY

Alabama FY 2004-05 Maternal and Child Health Needs Assessment

MCH Priority Needs FY 2006-2010 Needs Assessment Cycle

1. **Improve health status of children and youth with special health care needs (CYSHCN)** through increased access to comprehensive, quality primary and specialty care, and allied health and other related services.
2. **Assure appropriate primary care**, including prenatal care, for all Title V populations—including low-income, immigrant, and minority groups.
3. **Promote evidence-based health education and outreach** regarding high priority topics.
4. Further **reduce the adolescent pregnancy rate**.
5. **Reduce the prevalence of violent behavior**, including homicide and suicide, committed by or against children, youth, and women.
6. **Reduce the prevalence of high risk behaviors**, including those predisposing to obesity, *in adolescents*.
7. **Reduce infant mortality**, especially among African Americans.
8. **Improve the capacity of CYSHCN to be fully integrated** into their communities to live, learn, work, and play.
9. **Strengthen systems of family and youth support** to enable CYSHCN and their families to participate more fully in program and policy development, to identify resources, and to benefit from the services they receive.
10. Further **develop** the Title V Program's **capacity to collect and analyze health-related data** and translate findings into information for key stakeholders.

Changes in MCH Priority Needs

The newly selected priority needs are listed in the adjacent column. A discussion of changes in priority needs, compared to those in effect during the FY 2000-2005 MCH needs assessment cycle, follows.

Priority Needs #4 and #8, which pertain to adolescent pregnancy and full integration of CYSHCN, are retained from the last cycle. Although no other priority needs are worded precisely as they were in the last cycle, several are similarly worded. Specifically, comparing the FY 2006-2010 priority needs to similar priority needs from the previous cycle:

- Priority Need #1 is similar to the previous priority to “Improve health status of Children with Special Health Care Needs through increased access to primary, specialty, and subspecialty care.” The purpose of the modification was to include allied health and other related services, in addition to primary and specialty care.
- Priority Need #2 encompasses the previous priority to “Assure access to prenatal care, especially for low income, minority, and immigrant populations,” but acknowledges the importance of all types of primary care.
- Priority Need #3 encompasses the previous priority to “Promote health education and outreach regarding high priority topics, per qualitative and quantitative data,” but implies a broader information base.
- Priority Need #5 encompasses the previous priority to “Reduce deaths of children and youth due to homicides,” but is concerned with a wider range of violent behavior.

- Priority Need #7 encompasses the previous priority to “Reduce infant mortality in the African American population,” but accommodates a concern for all preventable infant deaths.
- Priority Need #9 is similar to the previous priority to “Increase family participation in CSHCN policy making and in family-to-family support services,” but has a broader frame of reference, including the need for involvement of youth.

Two priority needs from the FY 2000-2005 needs assessment cycle have not been retained or specifically mentioned in the new priority needs. These are: to “Assure access to dental care, especially for low-income children,” and to “Reduce the prevalence of very low birth weight in the African American population.” However, because dental care is a component of primary care, it is accommodated by Priority Need #2, which concerns assurance of appropriate primary care. Because VLBW is a strong predictor of infant death, Priority Need #7, on infant mortality, is strongly related to the discontinued priority concerning prevention of VLBW in African Americans.

The discontinuation of two priority needs allowed the addition of two priority needs that were not recognized by the priorities established for the FY 2000-2005 cycle. These are Priority Need #6, which pertains to high risk behaviors in youth that are not necessarily violent in nature, and Priority Need #10, which pertains to data capacity.

Process for Determining MCH Priority Needs

Family Health Services determined the seven priority needs for two Title V populations: pregnant women, mothers, and infants; and children. Initially, Family Health gathered information through community discussion groups, two mailed surveys (the MCH Organizations Survey and the Primary Providers Survey), and various existing data sources. Family Health then presented key findings and 14 potential priority needs flowing from the

findings, at the single meeting of the MCH Needs Assessment Advisory Group. Members of the group were then asked to rank the priority needs (with the option of adding and ranking other priority needs), first as individuals and then by consensus within several breakout groups. The seven priority needs selected by Family Health Services basically reflect the rankings of attendees who were not Family Health staff members, though the Family Health Management Team and other key staff were consulted as priority needs were finalized.

CRS selected the three priority needs that specifically concern CYSHCN. CRS’s three methodologies for gathering new data included nine open forums, county-level surveys of providers of care and care coordination for CYSHCN, and a formal youth survey. Findings from these studies were presented at the third and final meeting of the CRS Needs Assessment Advisory Committee, where input from participants on suggested priority needs was obtained. Subsequently, CRS State Office administrative staff, two district office supervisors, and two CRS local parent consultants reviewed the data and selected three priority needs that CRS has the mission to address.

The FY 2004-05 MCH Needs Assessment process, through which the new priority needs were selected, was very similar to the FY 2000 needs assessment process. One component of Family Health Services’ FY 2000 process was omitted however. That is, though a random-digit-dial telephone survey of Alabama households with children was conducted in FY 2000, conducting such a survey was not deemed feasible or cost-effective as part of the FY 2004-05 process. Instead, as part of ongoing needs assessment in FY 2006, Family Health staff will analyze Alabama data from the circa 2003 National Survey of Children’s Health. Important additions to Family Health Services’ FY 2004-05 process, relative to the FY 2000 process, were 1) excellent reports from the facilitator of the two discussion groups comprised of Hispanic individuals, 2) the

holding of a discussion group largely comprised of Native Americans, and 3) thorough quantitative analysis of qualitative data from ten discussion groups.

Partnerships and Collaborations

A wide variety of partnerships and collaborations were inherent in both Family Health Services' and CRS' needs assessment processes. For each organization, the chief means of partnerships/collaborations with external groups were their respective needs assessment advisory groups. Specifically, 66 persons attended Family Health Services' MCH Needs Assessment Advisory Group meeting: 29 represented external organizations (private organizations, State agencies or offices, and academic institutions), 17 represented Family Health, 14 represented other Health Department units, and six represented health care consumers. The CRS Needs Assessment Advisory Committee had a total membership of 64 and met three times, with an average attendance of 32 members. Further, both Family Health and CRS partnered with others to conduct surveys and to hold community discussion groups or forums.

As previously stated in this summary, the priority needs selected by Family Health Services basically reflect the choices of MCH Advisory Group members who were not Family Health Services staff members, though key Family Health staff members were consulted as the priority needs were finalized. CRS's selection of priority needs was based on input from their Needs Assessment Advisory Committee, followed by review of the Advisory Committee's input by CRS staff and parent consultants.

Data-Based Signs Pointing to Priority Needs

Very briefly and without citing specifics, a few of the quantitative and qualitative findings pointing to selection of the following priority needs are mentioned next.

Priority Need #1: Improve health status of CYSHCN--Findings from the family/youth forums, county-level provider surveys, and youth surveys indicate that inadequate access to care for CYSHCN continues to be a problem.

Priority Need #2: Assure appropriate primary care--Mothers who "self paid" for delivery were most likely to receive insufficient prenatal care. In 2003, Hispanic babies comprised 61 percent of all babies whose delivery was said to be self paid.

Priority Need #4: Reduce the adolescent pregnancy rate—Though this rate has continued to decline, further decline is desirable.

Priority Needs #5 and #7: Reduce the prevalence of violent behavior; and Reduce infant mortality—The vital statistics findings presented on these indicators represent losses of young lives, with some of these losses being preventable.

Priority Need #6: Reduce the prevalence of high risk behaviors in adolescents—The Youth Risk Behavior Survey indicates that many adolescents engage in high risk behaviors. Further, in the community discussion groups, mental health, including substance abuse, family and community issues, and "other" health-related behavior were leading causes for concern about teens.

Priority Need #8: Improve the capacity of CYSHCN to be fully integrated—Through open forums, youth with SHCN and families of CYSHCN identified many frustrations related to inadequate integration into communities.

Priority Need #9: Strengthen systems of family and youth support—Through the youth surveys and open forums, families of CYSHCN and youth with SCHN reported a variety of needs for support services.

Priority Needs #3 and #10: Promote evidence-based health education and outreach; Develop capacity to collect and analyze health-related data—Many of the findings from Family Health’s Needs Assessment pertained to preventable deaths, and a few to preventable morbidity. These concerns should be addressed in an evidence-based manner. Further, the Health Care Consumer breakout group, part of the MCH Needs Assessment Advisory Group, selected collection and analysis of data as being of the highest priority.

Changes in State Capacity

From the perspective of Family Health Services, compared to July 2004 when the last *MCH Annual Report/Application* was submitted, the major change in State MCH capacity has been very positive. Specifically, a design change in Patient 1st, Alabama Medicaid’s primary care case management program, allows Health Department care coordinators to receive referrals from a variety of sources, which has led to rapid expansion in the Department’s provision of care coordination. Accordingly, the Health Department now has the opportunity to help children and adults access a wide variety of needed services.

A major change in the State CYSHCN Program’s capacity is the enhancement of the Universal Newborn Hearing Screening Program, administratively located in the Health Department and, specifically, within Family Health Services. Through collaboration with the Health Department, including Universal Newborn Hearing Screening Program staff, CRS has updated audiological testing equipment in its offices. In addition, staff audiologists are now available in all CRS district offices. Hearing Assessment Clinics have been implemented to provide assessment for children referred from the Universal Newborn Hearing Screening Program, those identified with risk factors for later onset of hearing loss, and those who failed a previous hearing screen. This follow up facilitates tracking and data sharing and, as well, assures that children with hearing loss are identified as soon as possible so that they may

be referred for early intervention services as needed. Finally, CRS has become a direct provider with the Medicaid Agency for audiological services, hearing aids, and related supplies, thereby providing better coordination of these services for Medicaid-eligible CRS clients.

SECTION 7 OUTCOME MEASURES

Status of Outcome Measures

All of the NOMs, as well as the State Outcome Measure, are depicted and/or discussed in Section 3 of this FY 2004-05 MCH Needs Assessment report—as measured by Family Health Services for Needs Assessment purposes. That is, in many cases 3-year rates, rather than the single-year rates shown on Form 12, are depicted and/or discussed. Further, for describing risks of infant deaths, birth cohort files were used whenever feasible because of their methodological superiority to period (death cohort) linked files (see Methods Note #6). Moreover, preliminary estimates for 2004 were not typically utilized in the Needs Assessment—partly because they were not available and, in the case of infant deaths, because of the aforesaid methodological reasons.

Indicators, as measured by Family Health Services, corresponding to the outcome measures, are listed next. The outcome measure to which each indicator basically corresponds is shown parenthetically. However, the estimates are not necessarily identical for reasons stated above. Information pertaining to the outcome measures is located in Section 3 as follows:

- Risk of infant death (NOM #01) is depicted, according to various stratifications, in Figures 21, 34, 35, and 36. Further, trends in risk of infant death are discussed under the subtitle, “Trends in Risk of Infant Death.”
- The risk ratio for infant death, comparing African American infants to white infants (NOM #02), is discussed under the subtitle, “Racial Disparities.”

- Risk of neonatal death (NOM #03) is depicted in Figure 22.
- Risk of postneonatal death (NOM #04) is depicted in Figure 24.
- The perinatal death rate (NOM #05) is discussed under the subtitle, “Performance, Health Status, and Health Systems Capacity Measures.”
- The child death rate (NOM #06) is not tracked for children and youth aged 1-14 years, but is instead shown in Table 3 for the following age groups, in years: 1-4, 5-14, 15-19, and 20-24.
- The rate of homicide and legal intervention deaths among African American adolescent males (State Outcome Measure #02) is depicted in Figure 57.

Relationships Among Activities and Measures

Program Activities and Performance Measures

Program activities designed to address the performance measures are detailed, under each performance measure, in the *MCH 2004 Report/2006 Application*. In some cases the relationship between a set of activities and a single performance measure is straightforward. For example, activities of Newborn Screening Program staff and the partnerships they form directly lead to follow up of all infants who are screened for and confirmed as having conditions identified through the screening program (NPM #01). Additionally, both national and State checklist-based performance measures are directly affected by activities of Family Health Services and CRS staff. On the other hand, for reasons discussed under NPM #15 (the prevalence of VLBW), activities designed to reduce the prevalence of VLBW have not had a

clear, measurable effect on that performance measure among the total population.

Relationship Among Performance Measures and Outcome Measures

The relationship among performance measures and outcome measures varies widely. For example, two performance measures are clearly, and to a large degree causally, related to infant mortality. These are NPM #15, which pertains to the prevalence of VLBW, and NPM #17, which pertains to the percentage of VLBW babies who are born at facilities with the resources to care for high-risk infants. NPM #10, which pertains to the death rate from motor vehicle injuries among persons aged 14 years or younger, is basically a component of NOM #06, the death rate among persons aged 1-14 years.

On the other hand, many performance measures affect quality of life and morbidity more than they affect outcome measures. For example, NPMs #02-06, which pertain to CYSHCN, may well prevent a few deaths of children and youth, but probably do not prevent sufficient numbers of deaths to notably affect the mortality rate among children and youth. However, these measures presumably reduce the prevalence of preventable morbidity and, as well, improve the quality of life of CYSHCN.

Collective Contributory Impact of Program Activities and Performance Measures on Outcome Measures

The relationship among program activities, performance measures, and outcome measures is complex and not at all straightforward. Typically, activities and performance measures that do affect mortality have a collective, incremental effect. Further, due to the myriad of factors that affect mortality (to which all the outcome measures pertain), the effect of any single intervention or even a group of interventions cannot often be rigorously assessed. Further, interventions should not be judged solely, and sometimes should not be judged at all, on whether they affect mortality. Measures and interventions that promote access

to health care—and, just as importantly, promote health and well being—merit consideration as the legislator and health care planner allocate resources.

Outcome Measures: Status Versus Targets

Table 12 lists the outcome measures; shows the estimate reported on Form 12, and shows the corresponding target.

Table 12. Performance Measures: Status and Targets Alabama, 2004

ID*	Description	Provisional Status in 2004	Target for 2004
NOM #01	The infant mortality rate per 1,000 live births	8.6	9.3
NOM #02	The ratio of the black infant mortality rate to the white infant mortality rate	1.9	2.0
NOM #03	The neonatal mortality rate per 1,000 live births	5.0	6.0
NOM #04	The postneonatal mortality rate per 1,000 live births	3.6	3.3
NOM #05	The perinatal mortality rate per 1,000 live births plus fetal deaths	8.0	13.4
NOM #06	The child death rate per 100,000 children aged 1 through 14	26.4	31.2
SOM #02**	The homicide/legal intervention death rate for 15-19 year-old African American males per 100,000 African American males aged 15-19 years	39.0	52.2

*Identification number

**State Outcome Measure #02

As shown in Table 12, the State surpassed targets for all but one of the outcome measures: the postneonatal mortality rate. The preference of the Epi/Data Branch has generally been to set targets for a 5-year period, and change them only if the reporting method has changed. (In an occasional exception, a target may be changed for other reasons, about midway through a 5-year needs assessment cycle.) In this way, Family Health Services can better assess progress on an indicator in relation to predetermined sequential targets, rather than targets that are frequently changed to match fluctuating rates. Because we do not change targets frequently, observed measures

sometimes surpass or fail to meet the target by a substantial amount.

Though Epi/Data Branch staff seek to set targets in the context of historical trends and the realities of the health care environment, setting targets entails subjective judgment. For this reason, actual trends are more important than whether a given target (which could be ambitious or modest) has been met. Trends in mortality indicators deemed by Family Health Services to be especially important are, therefore, discussed earlier, in Section 3.

As previously stated, the State did not meet its target for postneonatal mortality in 2004. Failure to meet this target is consistent with discussion, in Section 3, of age-specific infant mortality trends. That is, comparing 2000-02 to 1996-98 in Alabama, risk of neonatal death declined by 10 percent, but risk of postneonatal death by just 3 percent. Further, among African Americans, over that same period, risk of postneonatal death increased by 8 percent. Among babies of Medicaid-enrolled mothers, again during that same period, risk of neonatal death declined by 12 percent, but risk of postneonatal death remained the same.

Ongoing and Planned Activities

Throughout this document and the *MCH 2004 Report/2006 Application*, numerous ways that Family Health Services seeks to promote the health of pregnant women, mothers, and infants have been discussed.

The State Perinatal Program and the Child Death Review System

As previously stated, the Perinatal Program is a crucial part of Family Health Services' efforts to serve pregnant women, mothers, and infants around the State, and is actively involved in statewide infant death review. Further, the Child Death Review System reviews unexpected deaths of infants, children, and youth. Each of these programs—the State Perinatal Program

and the Child Death Review System—makes periodic recommendations regarding issues that need to be addressed in order to reduce the frequency of preventable deaths.

Care Coordination

Alabama's State Outcome Measure and all the NOMs pertain to mortality. Other key indicators merit consideration and well planned intervention, however. Of key importance are access to health care and the capacity to fully benefit from the care received. For this reason, both Family Health Services and CRS are committed to the provision of care coordination. As stated at the end of Section 6, a design change in Patient 1st has led to rapid expansion in the Health Department's provision of care coordination. Accordingly, the Department now has the opportunity to help children and adults access a wide variety of needed services. We believe that this expanded opportunity to provide care coordination has the potential to promote the well-being of individuals in all three Title V populations.

Adolescent Health

Family Health Services is keenly interested in the health and well-being of adolescents. As shown in Table 12, two outcome measures pertain to children and youth—one on mortality in persons 1-14 years of age, the other on the homicide/legal intervention death rate in African American adolescent males. Family Health's interest includes but goes beyond these two outcome measures: to encompass such issues as preventable deaths in adolescents, including the increased number of deaths of 20-24 year-old white males due to unintentional poisoning; the high usage of smokeless tobacco by white male high school students; mental health issues in adolescents, as evidenced by deaths due to suicide and concerns expressed in Family Health Services' community discussion groups; and adolescent pregnancy. Additionally, though not a focus of the FY 2004-05 MCH Needs Assessment, we share the emerging concern about obesity in children and youth.

To address some of these concerns, Family Health Services will consider slightly increasing the proportion of the Director of Healthy Child Care's time that can be devoted to adolescent health. (At present .10 of her time is allocated to adolescent health.) A registered nurse, the Healthy Child Care Alabama Project's Director collaborates effectively with school nurses. She and the Director of the Epi/Data Branch plan, in the future, to consider how obesity and some of the concerns identified in the FY 2004-05 MCH Needs Assessment pertaining to adolescent health might be addressed through the school system or other avenues.

Community Integration of Children and Youth with Special Health Care Needs

CRS promotes ongoing efforts toward the integration of CYSHCN to live, learn, work, and play within their communities. CRS is actively involved in providing education and outreach to local educational agencies and providers of care including medical home, specialty care, and ancillary health-related services. These efforts seek to increase access to high quality care and to build comprehensive service systems within the State that address the global needs of CYSHCN and their families. Throughout all planning efforts, CRS seeks to create opportunities to strengthen systems of family and youth support that may enable CYSHCN and their families to participate more fully in program and policy development, to identify resources, and to benefit from the services they receive.

Partners in Promoting Health

In closing, Family Health Services and CRS will continue seeking ways to promote the health of all three Title V populations. We will do this in partnership with one another, with other organizations, with communities, and with the individuals whom we seek to serve.

Appendix NA-1

Acronyms and Abbreviated Names

Acronyms and Abbreviated Names

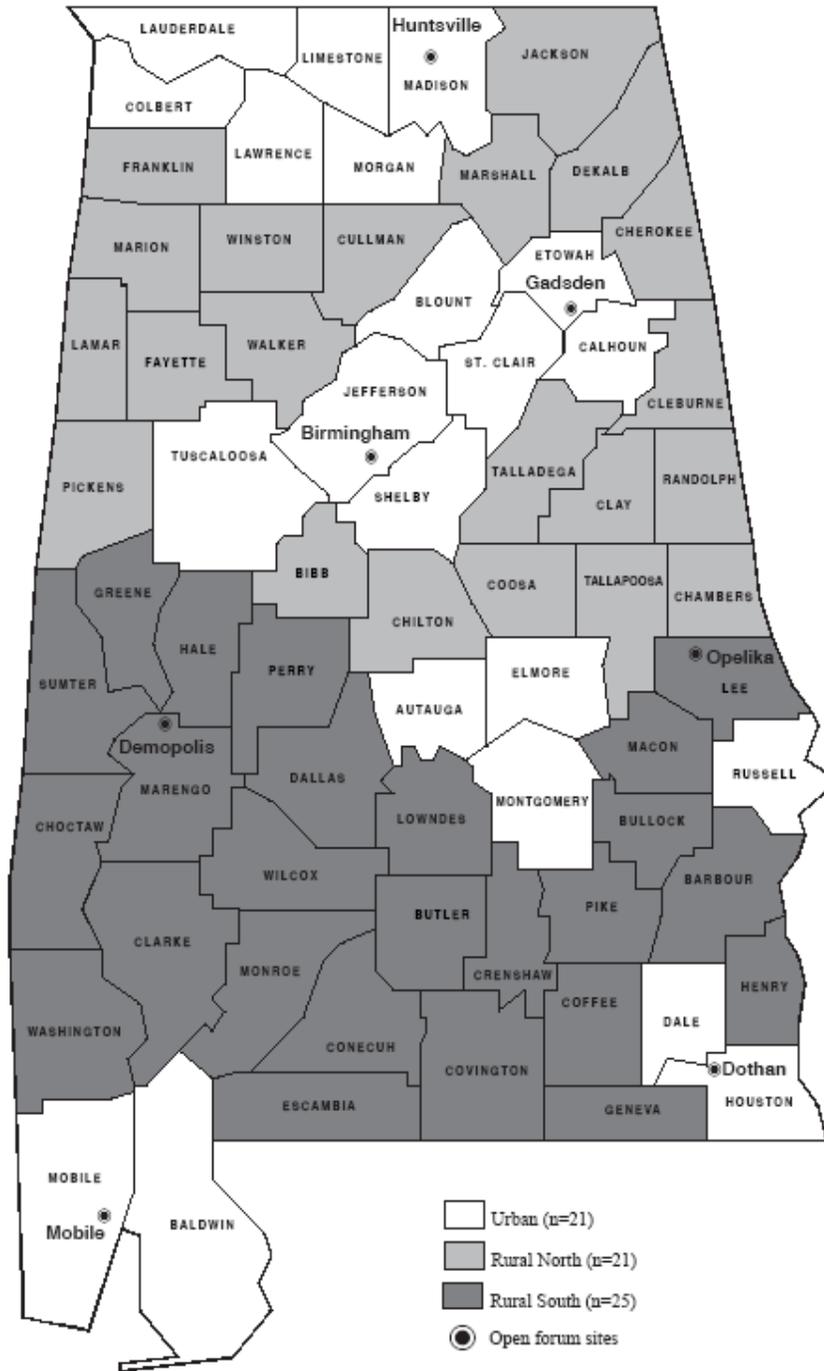
<u>Acronym/Name</u>	<u>Explanation</u>
ADPH	Alabama Department of Public Health
ADRS	Alabama Department of Rehabilitation Services
AIDS	Acquired immunodeficiency syndrome
Alabama Blue Cross Blue Shield	Blue Cross and Blue Shield of Alabama
Alabama March of Dimes	Alabama Chapter of the March of Dimes
Alabama Medicaid	Alabama Medicaid Agency
ALL Kids	State Children's Health Insurance Program
AMCHP	Association of Maternal and Child Health Programs
ASCCA	Alabama's Special Camp for Children and Adults
CAST-5	Capacity Assessment for State Title V
CBER	Alabama's Center for Business and Economic Research
CDC	Centers for Disease Control and Prevention
Census	U.S. Census Bureau
Child Death Review	Alabama Child Death Review System
CI	Confidence Intervals
CISS	Community Integrated Service Systems
CRS	Children=s Rehabilitation Service
CRS Advisory Committee	Children's Rehabilitation Service's Needs Assessment Advisory Committee
CSHCN	Children with special health care needs
CYSHCN	Children and youth with special health care needs
Education Department	The Alabama Department of Education
e.g.	For example
Epi/Data Branch	Epidemiology and Data Management Branch
EPSDT	Early and Periodic Screening, Diagnosis, and Treatment
Family Health	Family Health Services
Family Health Services	Bureau of Family Health Services
FPL	Federal poverty level
FTE	Full time equivalent
FY	Fiscal year
FY 2004-05 MCH Needs Assessment	State of Alabama 5-Year Maternal and Child Health Needs Assessment
Health Department	Alabama Department of Public Health
HIV	Human immunodeficiency virus
HPCD	Bureau of Health Promotion and Chronic Disease
HRSA	U.S. Health Resources and Services Administration
HSC	Health Systems Capacity Indicator
HSI	Health Status Indicator
Human Resources Department	Alabama Department of Human Resources
ICC	Interagency Coordinating Council for Early Intervention Services
i.e.	That is
IMMPrint	Immunization Provider Registry with Internet Technology
MCH	Maternal and child health
MCH Advisory Group	Family Health Services' MCH Needs Assessment Advisory Group
MCH Annual Reports/Application	MCH Service Block Grant Annual reports/application
MCHB	Maternal and Child Health Bureau
MCH Organizations Survey	Mail Survey of Alabama non-medical organizations serving women of childbearing age, children and youth, and/or families
MCH Pyramid	Pyramid developed by MCHB, depicting 4 levels of service
MCH Title V funds	Maternal and Child Health Services Block Grant funds
MDMA	Ecstasy (Methylenedioxymethamphetamine)
Medicaid Agency	Alabama Medicaid Agency
MSAs	Metropolitan Statistical areas
MS/MS	Tandem Mass Spectrometry
NCHS	National Center for Health Statistics
Needs Assessment	State of Alabama 5-Year Maternal and Child Health Needs Assessment
NOM	National Outcome Measures

NPM	National Performance Measure
P	P-values
Perinatal Program	State Perinatal Program
PRAMS	Pregnancy Risk Assessment Monitoring System
Primary Providers Survey	Mail survey of Alabama primary health care providers serving women of childbearing age, children, or youth
SCHIP	State Children=s Health Insurance Program
SHCN	Youth with special health care needs
SIDS	Sudden infant death syndrome
SOBRA	Sixth Omnibus Budget Reconciliation Act
SPAC	State Perinatal Advisory Committee
SPM	State Performance Measure
SPRANS	Special Projects of Regional and National Significance
SSDI	State Systems Development Initiative
SSI	Supplemental Security Income
State	State of Alabama
TANF	Temporary Assistance to Needy Families
TCHA	The Children=s Hospital of Alabama
TEEN	Teens Empowered Through Education and Nurturing
UAB	The University of Alabama at Birmingham
U.S.	United States
USA	University of South Alabama
VLBW	Very low birth weight
WIC	Special Supplemental Nutrition Program for Women, Infants and Children
YRBS	Youth Risk Behavior Survey
2004 Report/2006 Application	Alabama MCH Services Block Grant FY 2004 Annual Report/FY 2006 Application

Appendix NA-2

Figure 4:
State of Alabama by Geographic Region

Figure 4: State of Alabama by geographic region



Appendix NA-3

Maternal and Infant Health Profiles

Alabama Maternal and Infant Health Profile

Section A: Characteristics of Alabama Residential Live Births in 2001-2003

Note: The denominator for all percentages in Section A is the 178,522 babies born alive to Alabama residents in 2001-2003.

Race: 67.7% white, 30.9% African American, 1.3% other

Ethnicity: 4.4% Hispanic

Source of payment for birth: 49.2% private insurance, 44.3% Medicaid, 3.0% "self pay," 0.4% other, 3.1% unknown

Mother's age (years): 5.1% 17 or younger, 9.4% 18-19, 85.5% 20 or older

Tobacco use during pregnancy: 11.7%

Late or no prenatal care: 16.7%

No prenatal care¹: 1.2%

Very low birthweight (VLBW)²: 2.0%

Multiple births³: 3.4%

Section B: Other Natality Indicators, Alabama Residents, Selected Years

Pregnancy rate (fetal deaths, abortions, live births) for teens aged 15-17 years: 47.0 pregnancies per 1,000 females in this age group in 2000-2002

Of VLBW² live births, % occurring at perinatal centers⁴: 81.0% in 2000-2002 (Additionally, 4.0% were born at out-of-state institutions, which may be perinatal centers.)

Notes to Page:

With two exceptions (regarding child and adolescent mortality), this profile focuses mainly on the prenatal and perinatal periods and infant mortality. Unless stated otherwise, findings pertain to residential live births or, where stated, fetal deaths.

¹Subset of "late or no prenatal care"

²Under 1,500 grams, or under 3 pounds 5 ounces

³Twins, triplets, etc.

⁴Hospitals with a full-time neonatologist, a neonatal intensive care unit, and two or more obstetricians

⁵Risks are from birth cohort files linked to infant deaths occurring among the cohort. When available, they are preferable to and may differ from rates obtained from statistical files (and, therefore, from most published sources).

⁶Due to having fewer than 20 events in numerator, estimate does not meet National Center for Health Statistics' standards for precision.

⁷Sudden infant death syndrome

⁸Fetal deaths at 20 or more weeks gestation plus neonatal deaths under 7 days of age

⁹Live births are from statistical files, which generally differ slightly from birth cohort files.

Section C: Infant Mortality Among Babies Born Alive to Alabama Residents in 2000-2002⁵

Note: All risks in Section C are the number of deaths per 1,000 live births in the specified group and are from birth cohort files. Numerators and denominators are shown parenthetically. With one stated exception, risks are for all races combined.

Infant (under 1 year) mortality risk: 9.2 (1,682/182,340)

African American infant mortality risk: 14.6 (847/57,829)

Neonatal (under 28 days) mortality risk: 5.9 (1,071/182,340)

Early neonatal (under 24 hours) mortality risk: 3.2 (579/182,340)

Late neonatal (1-27 days) mortality risk: 2.7 (492/182,340)

Postneonatal (28-364 days) mortality risk: 3.4 (611/182,340)

Birthweight-specific infant mortality risks:

Very low I (500-749 grams): 453.0 (352/777)

Very low II (750-1,499 grams): 74.1 (185/2,495)

Moderately low (1,500-2,499 grams): 16.4 (231/14,116)

Normal (2,500-4,249 grams): 3.2 (504/158,925)

SIDS⁷ risk: 0.64 (117/182,340)

Section D: Other Mortality Indicators, Alabama Residents, 2001-2003

Note: Numerators and denominators are shown parenthetically.

Perinatal⁸ mortality rate: 13.4 deaths per 1,000 live births plus fetal (20 or more weeks gestation) deaths (2,418/180,173)

Mortality rate for children aged 1-14 years: 28.1 deaths per 100,000 children in this age group (735/2,620,074)

Homicide/legal intervention death rate for 15-19 year-old African American males: 39.7 per 100,000 African American males in this age group (71/178,716)

Fetal death (20 or more weeks gestation) ratio: 9.3 deaths per 1,000 live births⁹ (1,656/178,517)

Other Profiles Recommended for Review:

VOICES for Alabama's Children. Alabama Kids Count—2004 Report.

Center for Health Statistics, Alabama Department of Public Health. County Health Profiles, Alabama 2003. March 2005.

Section E: Vital Statistics Snapshot for Alabama Residential Live Births in 2003

Note: Unless showing a numerator and denominator parenthetically, the denominator for all percentages or rates in Section E is the 59,356 babies born alive to Alabama residents in 2003. All estimates are derived from statistical files.

Race of mother: 68.5% white, 30.1% African American, 1.4% other

Ethnicity of mother: 5.0% Hispanic

Source of payment for birth: 48.5% private insurance, 44.0% Medicaid, 3.7% "self pay," 0.4% other, 3.4% unknown

Mother's age (years): 4.8% 17 or younger, 9.1% 18-19, 86.1% 20 or older

Tobacco use during pregnancy: 10.8%

Late or no prenatal care: 16.1%

VLBW¹: 2.1%

Multiple births²: 3.3%

VLBW babies at perinatal centers³: 79.4% (965/1,216) (Additionally, 4.8% were born at out-of-state institutions, which may be perinatal centers.)

Live birth rate for teens aged 15-17 years: 27.3 live births per 1,000 females in this age group (2,660/97,295)

Infant mortality rate: 8.7 deaths per 1,000 live births (519/59,356)

Footnotes to Section E:

¹Under 1,500 grams, or under 3 pounds 5 ounces

²Twins, triplets, etc.

³Of very low birth weight (under 1,500 grams) live-born infants, the percent born at perinatal centers (hospitals with a full-time neonatologist, a neonatal intensive care unit, and two or more obstetricians)



Section F: Selected Performance and Outcome Measures, Alabama Residents, Selected Years

Note: All estimates are derived from live birth cohort files, and may differ slightly from findings derived from statistical files.

Measure, Year(s), (numerator/denominator)	Value	95% CI ¹
Adolescent (15-17 years) live birth rate ²		
1997.....(4,028/87,797)	45.9	44.5-47.3
1998.....(3,775/87,417)	43.2	41.9-44.6
1999.....(3,458/87,203)	39.7	38.4-41.0
2000.....(3,401/96,099)	35.4	34.2-36.6
2001.....(2,971/96,498)	30.8	29.7-31.9
2002.....(2,899/96,896)	29.9	28.9-31.0
% receiving early prenatal care ³		
1996.....(48970/60,466)	81.0	80.7-81.3
1997.....(49,798/60,898)	81.8	81.5-82.1
1998.....(50,939/62,031)	82.1	81.8-82.4
1999.....(51,482/62,074)	82.9	82.6-83.2
2000.....(52,130/63,174)	82.5	82.2-82.8
2001.....(49,526/60,294)	82.1	81.8-82.4
2002.....(48,888/58,872)	83.0	82.7-83.3
% VLBW born at perinatal centers ⁴		
1996.....(850/1,188)	71.6	68.9-74.1
1997.....(795/1,149)	69.2	66.4-71.8
1998.....(946/1,224)	77.3	74.8-79.6
1999.....(992/1,266)	78.4	76.0-80.6
2000.....(1,015/1,282)	79.2	76.8-81.3
2001.....(957/1,188)	80.6	78.2-82.7
2002.....(1,023/1,227)	83.4	81.1-85.4
Infant (under 1 year) mortality risk		
1996-1998.....(1,831/183,395)	10.0	9.5-10.5
1997-1999.....(1,784/185,003)	9.6	9.2-10.1
1998-2000.....(1,820/187,279)	9.7	9.3-10.2
1999-2001.....(1,730/185,542)	9.3	8.9-9.8
2000-2002.....(1,682/182,340)	9.2	8.8-9.7
Infant mortality risk among African Americans		
1996-1998.....(884/59,311)	14.9	14.0-15.9
1997-1999.....(867/59,466)	14.6	13.6-15.6
1998-2000.....(930/60,135)	15.5	14.5-16.5
1999-2001.....(875/59,297)	14.8	13.8-15.8
2000-2002.....(847/57,829)	14.6	13.7-15.7

Footnotes to Table

¹Fleiss quadratic 95% confidence intervals, per Epi Info 6 software, Version 6.04 b to c upgrade. Produced by the U.S. Centers for Disease Control and Prevention and the World Health Organization

²The number of residential live births to adolescents aged 15-17 years per 1,000 female adolescents in this age group

³Of live-born infants to Alabama residents, the percent whose mothers received prenatal care in the first trimester

⁴Of very low birth weight (under 1,500 grams) infants, the percent born at in-state perinatal centers (hospitals with a full-time neonatologist, a neonatal intensive care unit, and two or more obstetricians)

Produced by:
Alabama Department of Public Health
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The Bureau of Family Health Services appreciates the assistance of the Division of Statistical Analysis, Center for Health Statistics, Alabama Department of Public Health in the preparation of this report.

Date: August 24, 2005

Maternal and Infant Health Profile for Perinatal Region I, Alabama

Section A: Characteristics of Region I Residential Live Births in 2001-2003

Note: The denominator for all percentages in Section A is the 33,489 babies born alive to Region I residents in 2001-2003.

Race: 84.1% white, 14.0% African American, 1.9% other

Ethnicity: 9.4% Hispanic

Source of payment for birth: 52.6% private insurance, 39.4% Medicaid, 6.0% "self pay," 0.2% other, 1.8% unknown

Mother's age (years): 4.8% 17 or younger, 9.2% 18-19, 86.1% 20 or older

Tobacco use during pregnancy: 13.2%

Late or no prenatal care: 15.3%

No prenatal care¹: 2.0%

Very low birthweight (VLBW)²: 1.5%

Multiple births³: 3.1%

Section B: Other Natality Indicators, Region I Residents, Selected Years

Pregnancy rate (fetal deaths, abortions, live births) for teens aged 15-17 years: 43.4 pregnancies per 1,000 females in this age group in 2000-2002

OfVLBW² live births, % occurring at perinatal centers⁴: 75.1% in 2000-2002 (Additionally, 2.8% were born at out-of-state institutions, which may be perinatal centers.)

Notes to Page:

With two exceptions (regarding child and adolescent mortality), this profile focuses mainly on the prenatal and perinatal periods and infant mortality. Unless stated otherwise, findings pertain to residential live births or, where stated, fetal deaths.

¹Subset of "late or no prenatal care"

²Under 1,500 grams, or under 3 pounds 5 ounces

³Twins, triplets, etc.

⁴Hospitals with a full-time neonatologist, a neonatal intensive care unit, and two or more obstetricians

⁵Risks are from birth cohort files linked to infant deaths occurring among the cohort. When available, they are preferable to and may differ from rates obtained from statistical files (and, therefore, from most published sources).

⁶Due to having fewer than 20 events in numerator, estimate does not meet National Center for Health Statistics' standards for precision.

⁷Sudden infant death syndrome

⁸Fetal deaths at 20 or more weeks gestation plus neonatal deaths under 7 days of age

⁹Live births are from statistical files, which generally differ slightly from birth cohort files.

Section C: Infant Mortality Among Babies Born Alive to Region I Residents in 2000-2002⁵

Note: All risks in Section C are the number of deaths per 1,000 live births in the specified group and are from birth cohort files. Numerators and denominators are shown parenthetically. With one stated exception, risks are for all races combined.

Infant (under 1 year) mortality risk: 7.5 (253/33,842)

African American infant mortality risk: 12.3 (61/4,958)

Neonatal (under 28 days) mortality risk: 4.2 (143/33,842)

Early neonatal (under 24 hours) mortality risk: 1.9 (65/33,842)

Late neonatal (1-27 days) mortality risk: 2.3 (78/33,842)

Postneonatal (28-364 days) mortality risk: 3.3 (110/33,842)

Birthweight-specific infant mortality risks:

Very low I (500-749 grams): 490.6 (52/106)

Very low II (750-1,499 grams): 64.9 (24/370)

Moderately low (1,500-2,499 grams): 17.6 (45/2,552)

Normal (2,500-4,249 grams): 3.4 (101/29,744)

SIDS⁷ risk: 0.62 (21/33,842)

Section D: Other Mortality Indicators, Region I Residents, 2001-2003

Note: Numerators and denominators are shown parenthetically.

Perinatal⁸ mortality rate: 11.8 deaths per 1,000 live births plus fetal (20 or more weeks gestation) deaths (400/33,783)

Mortality rate for children aged 1-14 years: 25.5 deaths per 100,000 children in this age group (129/505,687)

Homicide/legal intervention death rate for 15-19 year-old African American males: 13.2 per 100,000 African American males in this age group (3/22,776)

Fetal death (20 or more weeks gestation) ratio: 8.8 deaths per 1,000 live births⁹ (296/33,487)

Other Profiles Recommended for Review:

VOICES for Alabama's Children. Alabama Kids Count—2004 Report.

Center for Health Statistics, Alabama Department of Public Health. County Health Profiles, Alabama 2003. March 2005.

**Section E: Vital Statistics Snapshot for Region I
Residential Live Births in 2003**

Note: Unless showing a numerator and denominator parenthetically, the denominator for all percentages or rates in Section E is the 11,219 babies born alive to Region I residents in 2003. All estimates are derived from statistical files.

Race of mother: 84.0% white, 13.9% African American, 2.1% other

Ethnicity of mother: 10.5% Hispanic

Source of payment for birth: 50.6% private insurance, 39.9% Medicaid, 7.6% "self pay," 0.1% other, 1.8% unknown

Mother's age (years): 4.5% 17 or younger, 8.7% 18-19, 86.8% 20 or older

Tobacco use during pregnancy: 11.6%

Late or no prenatal care: 15.3%

VLBW¹: 1.6%

Multiple births²: 2.9%

VLBW babies at perinatal centers³: 76.8% (136/177)
(Additionally, 2.3% were born at out-of-state institutions, which may be perinatal centers.)

Live birth rate for teens aged 15-17 years: 26.1 live births per 1,000 females in this age group (479/18,342)

Infant mortality rate: 7.6 deaths per 1,000 live births (85/11,219)

Footnotes to Section E:

¹Under 1,500 grams, or under 3 pounds 5 ounces

²Twins, triplets, etc.

³Of very low birth weight (under 1,500 grams) live-born infants, the percent born at perinatal centers (hospitals with a full-time neonatologist, a neonatal intensive care unit, and two or more obstetricians)



Section F: Selected Performance and Outcome Measures, Region I Residents, Selected Years

Note: All estimates are derived from live birth cohort files, and may differ slightly from findings derived from statistical files.

Measure, Year(s), (numerator/denominator)	Value	95% CI ¹
Adolescent (15-17 years) live birth rate ²		
1997.....(627/15,577)	40.3	37.2-43.5
1998.....(600/15,616)	38.4	35.5-41.6
1999.....(564/15,688)	36.0	33.1-39.0
2000.....(598/17,443)	34.3	31.7-37.1
2001.....(525/17,743)	29.6	27.2-32.2
2002.....(514/18,043)	28.5	26.1-31.0
% receiving early prenatal care ³		
1996.....(9,294/11,115)	83.6	82.9-84.3
1997.....(9,687/11,461)	84.5	83.8-85.2
1998.....(9,813/11,577)	84.8	84.1-85.4
1999.....(10,057/11,680)	86.1	85.5-86.7
2000.....(9,817/11,572)	84.8	84.2-85.5
2001.....(9,479/11,244)	84.3	83.6-85.0
2002.....(9,344/11,026)	84.8	84.1-85.4
% VLBW born at perinatal centers ⁴		
1996.....(106/152)	69.7	61.7-76.8
1997.....(130/169)	76.9	69.7-82.9
1998.....(132/167)	79.0	71.9-84.8
1999.....(126/167)	75.5	68.1-81.6
2000.....(121/173)	69.9	62.4-76.5
2001.....(125/170)	73.5	66.1-79.9
2002.....(131/159)	82.4	75.4-87.8
Infant (under 1 year) mortality risk		
1996-1998.....(246/34,153)	7.2	6.3-8.2
1997-1999.....(236/34,718)	6.8	6.0-7.7
1998-2000.....(252/34,829)	7.2	6.4-8.2
1999-2001.....(265/34,496)	7.7	6.8-8.7
2000-2002.....(253/33,842)	7.5	6.6-8.5
Infant mortality risk among African Americans		
1996-1998.....(62/5,197)	11.9	9.2-15.4
1997-1999.....(53/5,309)	10.0	7.6-13.1
1998-2000.....(68/5,354)	12.7	9.9-16.2
1999-2001.....(60/5,253)	11.4	8.8-14.8
2000-2002.....(61/4,958)	12.3	9.5-15.9

Footnotes to Table

¹Fleiss quadratic 95% confidence intervals, per Epi Info 6 software, Version 6.04 b to c upgrade. Produced by the U.S. Centers for Disease Control and Prevention and the World Health Organization

²The number of residential live births to adolescents aged 15-17 years per 1,000 female adolescents in this age group

³Of live-born infants to Alabama residents, the percent whose mothers received prenatal care in the first trimester

⁴Of very low birth weight (under 1,500 grams) infants, the percent born at in-state perinatal centers (hospitals with a full-time neonatologist, a neonatal intensive care unit, and two or more obstetricians)

Produced by:
Alabama Department of Public Health
Bureau of Family Health Services
Division of Professional Support
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Date: August 24, 2005

Maternal and Infant Health Profile for Perinatal Region 2, Alabama

Section A: Characteristics of Region 2 Residential Live Births in 2001-2003

Note: The denominator for all percentages in Section A is the 14,111 babies born alive to Region 2 residents in 2001-2003.

Race: 58.9% white, 40.1% African American, 0.9% other

Ethnicity: 1.9% Hispanic

Source of payment for birth: 41.0% private insurance, 47.6% Medicaid, 3.1% "self pay," 0.2% other, 8.1% unknown

Mother's age (years): 4.9% 17 or younger, 9.8% 18-19, 85.2% 20 or older

Tobacco use during pregnancy: 10.3%

Late or no prenatal care: 18.5%

No prenatal care¹: 1.3%

Very low birthweight (VLBW)²: 2.3%

Multiple births³: 3.4%

Section B: Other Natality Indicators, Region 2 Residents, Selected Years

Pregnancy rate (fetal deaths, abortions, live births) for teens aged 15-17 years: 40.7 pregnancies per 1,000 females in this age group in 2000-2002

OfVLBW² live births, % occurring at perinatal centers⁴: 86.8% in 2000-2002 (Additionally, 6.3% were born at out-of-state institutions, which may be perinatal centers.)

Notes to Page:

With two exceptions (regarding child and adolescent mortality), this profile focuses mainly on the prenatal and perinatal periods and infant mortality. Unless stated otherwise, findings pertain to residential live births or, where stated, fetal deaths.

¹Subset of "late or no prenatal care"

²Under 1,500 grams, or under 3 pounds 5 ounces

³Twins, triplets, etc.

⁴Hospitals with a full-time neonatologist, a neonatal intensive care unit, and two or more obstetricians

⁵Risks are from birth cohort files linked to infant deaths occurring among the cohort. When available, they are preferable to and may differ from rates obtained from statistical files (and, therefore, from most published sources).

⁶Due to having fewer than 20 events in numerator, estimate does not meet National Center for Health Statistics' standards for precision.

⁷Sudden infant death syndrome

⁸Fetal deaths at 20 or more weeks gestation plus neonatal deaths under 7 days of age

⁹Live births are from statistical files, which generally differ slightly from birth cohort files.

Section C: Infant Mortality Among Babies Born Alive to Region 2 Residents in 2000-2002⁵

Note: All risks in Section C are the number of deaths per 1,000 live births in the specified group and are from birth cohort files. Numerators and denominators are shown parenthetically. With one stated exception, risks are for all races combined.

Infant (under 1 year) mortality risk: 12.6 (184/14,598)

African American infant mortality risk: 20.5 (124/6,036)

Neonatal (under 28 days) mortality risk: 8.7 (127/14,598)

Early neonatal (under 24 hours) mortality risk: 5.2 (76/14,598)

Late neonatal (1-27 days) mortality risk: 3.5 (51/14,598)

Postneonatal (28-364 days) mortality risk: 3.9 (57/14,598)

Birthweight-specific infant mortality risks:

Very low I (500-749 grams): 485.3 (33/68)

Very low II (750-1,499 grams): 86.4 (19/220)

Moderately low (1,500-2,499 grams): 14.3 (18/1,262)

Normal (2,500-4,249 grams): 4.3 (54/12,595)

SIDS⁷ risk: 0.34⁶ (5/14,598)

Section D: Other Mortality Indicators, Region 2 Residents, 2001-2003

Note: Numerators and denominators are shown parenthetically.

Perinatal⁸ mortality rate: 16.2 deaths per 1,000 live births plus fetal (20 or more weeks gestation) deaths (230/14,240)

Mortality rate for children aged 1-14 years: 31.4 deaths per 100,000 children in this age group (66/210,463)

Homicide/legal intervention death rate for 15-19 year-old African American males: 16.4 per 100,000 African American males in this age group (3/18,281)

Fetal death (20 or more weeks gestation) ratio: 9.1 deaths per 1,000 live births⁹ (129/14,111)

Other Profiles Recommended for Review:

VOICES for Alabama's Children. Alabama Kids Count—2004 Report.

Center for Health Statistics, Alabama Department of Public Health. County Health Profiles, Alabama 2003. March 2005.

**Section E: Vital Statistics Snapshot for Region 2
Residential Live Births in 2003**

Note: Unless showing a numerator and denominator parenthetically, the denominator for all percentages or rates in Section E is the 4,640 babies born alive to Region 2 residents in 2003. All estimates are derived from statistical files.

Race of mother: 60.7% white, 38.2% African American, 0.9% other

Ethnicity of mother: 2.2% Hispanic

Source of payment for birth: 40.5% private insurance, 47.5% Medicaid, 3.3% "self pay," 0.2% other, 8.5% unknown

Mother's age (years): 4.4% 17 or younger, 9.4% 18-19, 86.2% 20 or older

Tobacco use during pregnancy: 10.2%

Late or no prenatal care: 18.5%

VLBW¹: 2.2%

Multiple births²: 2.7%

VLBW babies at perinatal centers³: 85.4% (88/103)
(Additionally, 5.8% were born at out-of-state institutions, which may be perinatal centers.)

Live birth rate for teens aged 15-17 years: 21.6 live births per 1,000 females in this age group (194/8,963)

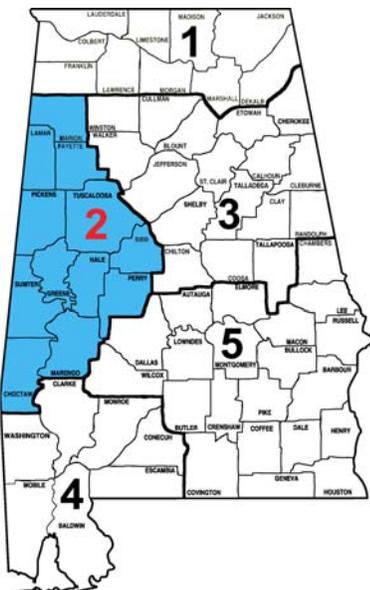
Infant mortality rate: 9.7 deaths per 1,000 live births (45/4,640)

Footnotes to Section E:

¹Under 1,500 grams, or under 3 pounds 5 ounces

²Twins, triplets, etc.

³Of very low birth weight (under 1,500 grams) live-born infants, the percent born at perinatal centers (hospitals with a full-time neonatologist, a neonatal intensive care unit, and two or more obstetricians)



**Section F: Selected Performance and Outcome Measures,
Region 2 Residents, Selected Years**

Note: All estimates are derived from live birth cohort files, and may differ slightly from findings derived from statistical files.

Measure, Year(s), (numerator/denominator)	Value	95% CI ¹
Adolescent (15-17 years) live birth rate ²		
1997.....(363/8,749)	41.5	37.5-45.9
1998.....(315/8,646)	36.4	32.6-40.7
1999.....(308/8,545)	36.0	32.2-40.3
2000.....(264/9,044)	29.2	25.9-32.9
2001.....(240/9,017)	26.6	23.4-30.2
2002.....(218/8,987)	24.3	21.2-27.7
% receiving early prenatal care ³		
1996.....(3,982/5,040)	79.0	77.9-80.1
1997.....(3,708/4,804)	77.2	76.0-78.4
1998.....(3,940/4,986)	79.0	77.9-80.1
1999.....(4,034/5,057)	79.8	78.6-80.9
2000.....(4,127/5,127)	80.5	79.4-81.6
2001.....(3,911/4,829)	81.0	79.8-82.1
2002.....(3,760/4,642)	81.0	79.9-82.1
% VLBW born at perinatal centers ⁴		
1996.....(98/127)	77.2	68.7-83.9
1997.....(91/108)	84.3	75.7-90.3
1998.....(105/123)	85.4	77.6-90.9
1999.....(99/120)	82.5	74.3-88.6
2000.....(113/131)	86.3	78.9-91.4
2001.....(95/112)	84.8	76.5-90.7
2002.....(95/106)	89.6	81.8-94.5
Infant (under 1 year) mortality risk		
1996-1998.....(140/14,830)	9.4	8.0-11.2
1997-1999.....(134/14,847)	9.0	7.6-10.7
1998-2000.....(163/15,170)	10.7	9.2-12.5
1999-2001.....(173/15,013)	11.5	9.9-13.4
2000-2002.....(184/14,598)	12.6	10.9-14.6
Infant mortality risk among African Americans		
1996-1998.....(73/6,298)	11.6	9.2-14.6
1997-1999.....(77/6,148)	12.5	10.0-15.7
1998-2000.....(108/6,248)	17.3	14.3-20.9
1999-2001.....(114/6,262)	18.2	15.1-21.9
2000-2002.....(124/6,036)	20.5	17.2-24.5

Footnotes to Table

¹Fleiss quadratic 95% confidence intervals, per Epi Info 6 software, Version 6.04 b to c upgrade. Produced by the U.S. Centers for Disease Control and Prevention and the World Health Organization

²The number of residential live births to adolescents aged 15-17 years per 1,000 female adolescents in this age group

³Of live-born infants to Alabama residents, the percent whose mothers received prenatal care in the first trimester

⁴Of very low birth weight (under 1,500 grams) infants, the percent born at in-state perinatal centers (hospitals with a full-time neonatologist, a neonatal intensive care unit, and two or more obstetricians)

Produced by:
Alabama Department of Public Health
Bureau of Family Health Services
Division of Professional Support
Epidemiology and Data Management Branch

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Acknowledgement:
The Bureau of Family Health Services appreciates the assistance of the Division of Statistical Analysis, Center for Health Statistics, Alabama Department of Public Health in the preparation of this report.

Maternal and Infant Health Profile for Perinatal Region 3, Alabama

Section A: Characteristics of Region 3 Residential Live Births in 2001-2003

Note: The denominator for all percentages in Section A is the 62,572 babies born alive to Region 3 residents in 2001-2003.

Race: 70.6% white, 28.4% African American, 1.0% other

Ethnicity: 4.5% Hispanic

Source of payment for birth: 54.7% private insurance, 41.8% Medicaid, 2.4% "self pay," 0.2% other, 0.9% unknown

Mother's age (years): 4.7% 17 or younger, 8.8% 18-19, 86.5% 20 or older

Tobacco use during pregnancy: 12.0%

Late or no prenatal care: 16.2%

No prenatal care¹: 0.9%

Very low birthweight (VLBW)²: 2.1%

Multiple births³: 3.4%

Section B: Other Natality Indicators, Region 3 Residents, Selected Years

Pregnancy rate (fetal deaths, abortions, live births) for teens aged 15-17 years: 48.0 pregnancies per 1,000 females in this age group in 2000-2002

OfVLBW² live births, % occurring at perinatal centers⁴: 87.6% in 2000-2002 (Additionally, 1.6% were born at out-of-state institutions, which may be perinatal centers.)

Notes to Page:

With two exceptions (regarding child and adolescent mortality), this profile focuses mainly on the prenatal and perinatal periods and infant mortality. Unless stated otherwise, findings pertain to residential live births or, where stated, fetal deaths.

¹Subset of "late or no prenatal care"

²Under 1,500 grams, or under 3 pounds 5 ounces

³Twins, triplets, etc.

⁴Hospitals with a full-time neonatologist, a neonatal intensive care unit, and two or more obstetricians

⁵Risks are from birth cohort files linked to infant deaths occurring among the cohort. When available, they are preferable to and may differ from rates obtained from statistical files (and, therefore, from most published sources).

⁶Due to having fewer than 20 events in numerator, estimate does not meet National Center for Health Statistics' standards for precision.

⁷Sudden infant death syndrome

⁸Fetal deaths at 20 or more weeks gestation plus neonatal deaths under 7 days of age

⁹Live births are from statistical files, which generally differ slightly from birth cohort files.

Section C: Infant Mortality Among Babies Born Alive to Region 3 Residents in 2000-2002⁵

Note: All risks in Section C are the number of deaths per 1,000 live births in the specified group and are from birth cohort files. Numerators and denominators are shown parenthetically. With one stated exception, risks are for all races combined.

Infant (under 1 year) mortality risk: 9.9 (632/63,704)

African American infant mortality risk: 16.9 (310/18,335)

Neonatal (under 28 days) mortality risk: 6.6 (420/63,704)

Early neonatal (under 24 hours) mortality risk: 3.7 (236/63,704)

Late neonatal (1-27 days) mortality risk: 2.9 (184/63,704)

Postneonatal (28-364 days) mortality risk: 3.3 (212/63,704)

Birthweight-specific infant mortality risks:

Very low I (500-749 grams): 560.0 (154/275)

Very low II (750-1,499 grams): 83.7 (71/848)

Moderately low (1,500-2,499 grams): 15.8 (76/4,800)

Normal (2,500-4,249 grams): 3.0 (168/55,590)

SIDS⁷ risk: 0.66 (42/63,704)

Section D: Other Mortality Indicators, Region 3 Residents, 2001-2003

Note: Numerators and denominators are shown parenthetically.

Perinatal⁸ mortality rate: 13.8 deaths per 1,000 live births plus fetal (20 or more weeks gestation) deaths (870/63,146)

Mortality rate for children aged 1-14 years: 25.6 deaths per 100,000 children in this age group (230/897,635)

Homicide/legal intervention death rate for 15-19 year-old African American males: 67.1 per 100,000 African American males in this age group (36/53,619)

Fetal death (20 or more weeks gestation) ratio: 9.2 deaths per 1,000 live births⁹ (576/62,570)

Other Profiles Recommended for Review:

VOICES for Alabama's Children. *Alabama Kids Count—2004 Report.*

Center for Health Statistics, Alabama Department of Public Health. *County Health Profiles, Alabama 2003.* March 2005.

**Section E: Vital Statistics Snapshot for Region 3
Residential Live Births in 2003**

Note: Unless showing a numerator and denominator parenthetically, the denominator for all percentages or rates in Section E is the 20,787 babies born alive to Region 3 residents in 2003. All estimates are derived from statistical files.

Race of mother: 71.3% white, 27.6% African American, 1.1% other

Ethnicity of mother: 5.1% Hispanic

Source of payment for birth: 54.2% private insurance, 41.3% Medicaid, 3.5% "self pay," 0.2% other, 0.8% unknown

Mother's age (years): 4.4% 17 or younger, 8.6% 18-19, 87.0% 20 or older

Tobacco use during pregnancy: 11.2%

Late or no prenatal care: 15.2%

VLBW¹: 2.1%

Multiple births²: 3.3%

VLBW babies at perinatal centers³: 83.9% (366/436)
(Additionally, 0.9% were born at out-of-state institutions, which may be perinatal centers.)

Live birth rate for teens aged 15-17 years: 26.3 live births per 1,000 females in this age group (853/32,415)

Infant mortality rate: 9.3 deaths per 1,000 live births (194/20,787)

Footnotes to Section E:

¹Under 1,500 grams, or under 3 pounds 5 ounces

²Twins, triplets, etc.

³Of very low birth weight (under 1,500 grams) live-born infants, the percent born at perinatal centers (hospitals with a full-time neonatologist, a neonatal intensive care unit, and two or more obstetricians)



Section F: Selected Performance and Outcome Measures, Region 3 Residents, Selected Years

Note: All estimates are derived from live birth cohort files, and may differ slightly from findings derived from statistical files.

Measure, Year(s), (numerator/denominator)	Value	95% CI ¹
Adolescent (15-17 years) live birth rate ²		
1997.....(1,279/30,284)	42.2	40.0-44.6
1998.....(1,254/30,114)	41.6	39.4-44.0
1999.....(1,132/29,960)	37.8	35.7-40.0
2000.....(1,135/31,673)	35.8	33.8-38.0
2001.....(969/31,921)	30.4	28.5-32.3
2002.....(922/32,168)	28.7	26.9-30.6
% receiving early prenatal care ³		
1996..... (17,333/20,702)	83.7	83.2-84.2
1997..... (17,739/20,988)	84.5	84.0-85.0
1998..... (18,270/21,448)	85.2	84.7-85.7
1999..... (18,143/21,486)	84.4	83.9-84.9
2000..... (18,328/21,919)	83.6	83.1-84.1
2001..... (17,508/21,181)	82.7	82.1-83.2
2002..... (17,197/20,604)	83.5	82.9-84.0
% VLBW born at perinatal centers ⁴		
1996..... (329/398)	82.7	78.5-86.2
1997..... (323/396)	81.6	77.3-85.2
1998..... (375/420)	89.3	85.8-92.0
1999..... (389/436)	89.2	85.8-91.9
2000..... (383/445)	86.1	82.4-89.1
2001.....(373/434)	85.9	82.2-89.0
2002.....(378/415)	91.1	87.8-93.6
Infant (under 1 year) mortality risk		
1996-1998.....(647/63,138)	10.2	9.5-11.1
1997-1999.....(655/63,922)	10.2	9.5-11.1
1998-2000.....(666/64,853)	10.3	9.5-11.1
1999-2001.....(665/64,586)	10.3	9.5-11.1
2001-2002.....(632/63,704)	9.9	9.2-10.7
Infant mortality risk among African Americans		
1996-1998..... (296/18,270)	16.2	14.4-18.2
1997-1999..... (306/18,578)	16.5	14.7-18.4
1998-1999..... (315/18,814)	16.7	15.0-18.7
1999-2001..... (334/18,675)	17.9	16.1-19.9
2000-2002..... (310/18,335)	16.9	15.1-18.9

Footnotes to Table

¹Fleiss quadratic 95% confidence intervals, per Epi Info 6 software, Version 6.04 b to c upgrade. Produced by the U.S. Centers for Disease Control and Prevention and the World Health Organization

²The number of residential live births to adolescents aged 15-17 years per 1,000 female adolescents in this age group

³Of live-born infants to Alabama residents, the percent whose mothers received prenatal care in the first trimester

⁴Of very low birth weight (under 1,500 grams) infants, the percent born at in-state perinatal centers (hospitals with a full-time neonatologist, a neonatal intensive care unit, and two or more obstetricians)

Produced by:
Alabama Department of Public Health
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Acknowledgement:
The Bureau of Family Health Services appreciates the assistance of the Division of Statistical Analysis, Center for Health Statistics, Alabama Department of Public Health in the preparation of this report.

Date: August 24, 2005

Maternal and Infant Health Profile for Perinatal Region 4, Alabama

Section A: Characteristics of Region 4 Residential Live Births in 2001-2003

Note: The denominator for all percentages in Section A is the 27,770 babies born alive to Region 4 residents in 2001-2003.

Race: 62.5% white, 35.7% African American, 1.7% other

Ethnicity: 1.4% Hispanic

Source of payment for birth: 44.9% private insurance, 50.4% Medicaid, 2.1% "self pay," 0.2% other, 2.4% unknown

Mother's age (years): 5.6% 17 or younger, 9.8% 18-19, 84.6% 20 or older

Tobacco use during pregnancy: 13.2%

Late or no prenatal care: 16.2%

No prenatal care¹: 1.0%

Very low birthweight (VLBW)²: 2.6%

Multiple births³: 3.9%

Section B: Other Natality Indicators, Region 4 Residents, Selected Years

Pregnancy rate (fetal deaths, abortions, live births) for teens aged 15-17 years: 49.4 pregnancies per 1,000 females in this age group in 2000-2002

OfVLBW² live births, % occurring at perinatal centers⁴: 85.2% in 2000-2002 (Additionally, 2.6% were born at out-of-state institutions, which may be perinatal centers.)

Notes to Page:

With two exceptions (regarding child and adolescent mortality), this profile focuses mainly on the prenatal and perinatal periods and infant mortality. Unless stated otherwise, findings pertain to residential live births or, where stated, fetal deaths.

¹Subset of "late or no prenatal care"

²Under 1,500 grams, or under 3 pounds 5 ounces

³Twins, triplets, etc.

⁴Hospitals with a full-time neonatologist, a neonatal intensive care unit, and two or more obstetricians

⁵Risks are from birth cohort files linked to infant deaths occurring among the cohort. When available, they are preferable to and may differ from rates obtained from statistical files (and, therefore, from most published sources).

⁶Due to having fewer than 20 events in numerator, estimate does not meet National Center for Health Statistics' standards for precision.

⁷Sudden infant death syndrome

⁸Fetal deaths at 20 or more weeks gestation plus neonatal deaths under 7 days of age

⁹Live births are from statistical files, which generally differ slightly from birth cohort files.

Section C: Infant Mortality Among Babies Born Alive to Region 4 Residents in 2000-2002⁵

Note: All risks in Section C are the number of deaths per 1,000 live births in the specified group and are from birth cohort files. Numerators and denominators are shown parenthetically. With one stated exception, risks are for all races combined.

Infant (under 1 year) mortality risk: 9.5 (270/28,490)

African American infant mortality risk: 14.2 (146/10,316)

Neonatal (under 28 days) mortality risk: 6.1 (175/28,490)

Early neonatal (under 24 hours) mortality risk: 3.5 (100/28,490)

Late neonatal (1-27 days) mortality risk: 2.6 (75/28,490)

Postneonatal (28-364 days) mortality risk: 3.3 (95/28,490)

Birthweight-specific infant mortality risks:

Very low I (500-749 grams): 248.4 (39/157)

Very low II (750-1,499 grams): 59.8 (26/435)

Moderately low (1,500-2,499 grams): 16.6 (38/2,285)

Normal (2,500-4,249 grams): 3.0 (73/24,614)

SIDS⁷ risk: 0.67⁶ (19/28,490)

Section D: Other Mortality Indicators, Region 4 Residents, 2001-2003

Note: Numerators and denominators are shown parenthetically.

Perinatal⁸ mortality rate: 11.4 deaths per 1,000 live births plus fetal (20 or more weeks gestation) deaths (319/27,975)

Mortality rate for children aged 1-14 years: 30.8 deaths per 100,000 children in this age group (127/412,801)

Homicide/legal intervention death rate for 15-19 year-old African American males: 46.8 per 100,000 African American males in this age group (14/29,912)

Fetal death (20 or more weeks gestation) ratio: 7.4 deaths per 1,000 live births⁹ (206/27,769)

Other Profiles Recommended for Review:

VOICES for Alabama's Children. *Alabama Kids Count—2004 Report.*

Center for Health Statistics, Alabama Department of Public Health. *County Health Profiles, Alabama 2003.* March 2005.

Section E: Vital Statistics Snapshot for Region 4 Residential Live Births in 2003

Note: Unless showing a numerator and denominator parenthetically, the denominator for all percentages or rates in Section E is the 9,216 babies born alive to Region 4 residents in 2003. All estimates are derived from statistical files.

Race of mother: 62.8% white, 35.3% African American, 1.8% other

Ethnicity of mother: 1.5% Hispanic

Source of payment for birth: 43.5% private insurance, 51.8% Medicaid, 2.3% "self pay," 0.2% other, 2.3% unknown

Mother's age (years): 5.4% 17 or younger, 9.7% 18-19, 84.9% 20 or older

Tobacco use during pregnancy: 12.4%

Late or no prenatal care: 15.0%

VLBW¹: 2.6%

Multiple births²: 3.9%

VLBW babies at perinatal centers³: 81.3% (196/241)
(Additionally, 2.5% were born at out-of-state institutions, which may be perinatal centers.)

Live birth rate for teens aged 15-17 years: 30.7 live births per 1,000 females in this age group (463/15,061)

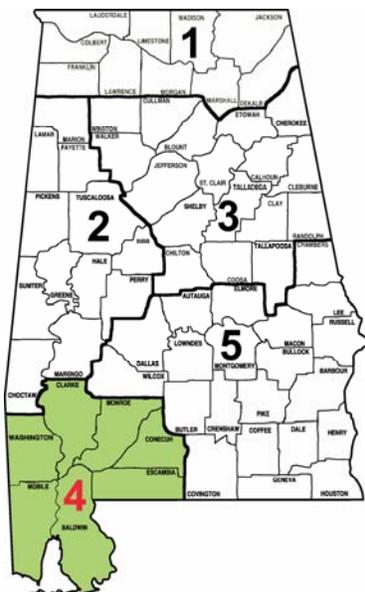
Infant mortality rate: 8.9 deaths per 1,000 live births (82/9,216)

Footnotes to Section E:

¹Under 1,500 grams, or under 3 pounds 5 ounces

²Twins, triplets, etc.

³Of very low birth weight (under 1,500 grams) live-born infants, the percent born at perinatal centers (hospitals with a full-time neonatologist, a neonatal intensive care unit, and two or more obstetricians)



Section F: Selected Performance and Outcome Measures, Region 4 Residents, Selected Years

Note: All estimates are derived from live birth cohort files, and may differ slightly from findings derived from statistical files.

Measure, Year(s), (numerator/denominator)	Value	95% CI ¹
Adolescent (15-17 years) live birth rate ²		
1997.....(650/13,864)	46.9	43.5-50.6
1998.....(639/13,801)	46.3	42.9-50.0
1999.....(596/13,727)	43.4	40.1-47.0
2000.....(574/14,630)	39.2	36.2-42.5
2001.....(517/14,773)	35.0	32.1-38.1
2002.....(488/14,917)	32.7	30.0-35.7
% receiving early prenatal care ³		
1996.....(7,508/9,580)	78.4	77.5-79.2
1997.....(7,663/9,706)	79.0	78.1-79.8
1998.....(7,714/9,854)	78.3	77.5-79.1
1999.....(7,786/9,747)	79.9	79.1-80.7
2000.....(8,035/9,936)	80.9	80.1-81.6
2001.....(7,737/9,411)	82.2	81.4-83.0
2002.....(7,661/9,143)	83.8	83.0-84.5
% VLBW born at perinatal centers ⁴		
1996.....(144/186)	77.4	70.6-83.1
1997.....(119/217)	54.8	48.0-61.5
1998.....(174/215)	80.9	74.9-85.8
1999.....(175/225)	77.8	71.7-82.9
2000.....(184/225)	81.8	76.0-86.5
2001.....(178/206)	86.4	80.8-90.6
2002.....(229/263)	87.1	82.3-90.8
Infant (under 1 year) mortality risk		
1996-1998.....(339/29,140)	11.6	10.4-12.9
1997-1999.....(334/29,307)	11.4	10.2-12.7
1998-2000.....(304/29,537)	10.3	9.2-11.5
1999-2001.....(276/29,094)	9.5	8.4-10.7
2000-2002.....(270/28,490)	9.5	8.4-10.7
Infant mortality risk among African Americans		
1996-1998.....(185/10,893)	17.0	14.7-19.6
1997-1999.....(185/10,891)	17.0	14.7-19.6
1998-2000.....(174/10,873)	16.0	13.8-18.6
1999-2001.....(157/10,571)	14.9	12.7-17.4
2000-2002.....(146/10,316)	14.2	12.0-16.7

Footnotes to Table

¹Fleiss quadratic 95% confidence intervals, per Epi Info 6 software, Version 6.04 b to c upgrade. Produced by the U.S. Centers for Disease Control and Prevention and the World Health Organization

²The number of residential live births to adolescents aged 15-17 years per 1,000 female adolescents in this age group

³Of live-born infants to Alabama residents, the percent whose mothers received prenatal care in the first trimester

⁴Of very low birth weight (under 1,500 grams) infants, the percent born at in-state perinatal centers (hospitals with a full-time neonatologist, a neonatal intensive care unit, and two or more obstetricians)

Produced by:
Alabama Department of Public Health
Bureau of Family Health Services
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The Bureau of Family Health Services appreciates the assistance of the Division of Statistical Analysis, Center for Health Statistics, Alabama Department of Public Health in the preparation of this report.

Date: August 24, 2005

Maternal and Infant Health Profile for Perinatal Region 5, Alabama

Section A: Characteristics of Region 5 Residential Live Births in 2001-2003

Note: The denominator for all percentages in Section A is the 40,580 babies born alive to Region 5 residents in 2001-2003.

Race: 56.4% white, 42.4% African American, 1.1% other

Ethnicity: 3.2% Hispanic

Source of payment for birth: 43.7% private insurance, 46.8% Medicaid, 1.7% "self pay," 1.3% other, 6.5% unknown

Mother's age (years): 5.7% 17 or younger, 10.0% 18-19, 84.3% 20 or older

Tobacco use during pregnancy: 9.3%

Late or no prenatal care: 18.6%

No prenatal care¹: 1.0%

Very low birthweight (VLBW)²: 2.0%

Multiple births³: 3.2%

Section B: Other Natality Indicators, Region 5 Residents, Selected Years

Pregnancy rate (fetal deaths, abortions, live births) for teens aged 15-17 years: 48.5 pregnancies per 1,000 females in this age group in 2000-2002

OfVLBW² live births, % occurring at perinatal centers⁴: 68.8% in 2000-2002 (Additionally, 8.4% were born at out-of-state institutions, which may be perinatal centers.)

Notes to Page:

With two exceptions (regarding child and adolescent mortality), this profile focuses mainly on the prenatal and perinatal periods and infant mortality. Unless stated otherwise, findings pertain to residential live births or, where stated, fetal deaths.

¹Subset of "late or no prenatal care"

²Under 1,500 grams, or under 3 pounds 5 ounces

³Twins, triplets, etc.

⁴Hospitals with a full-time neonatologist, a neonatal intensive care unit, and two or more obstetricians

⁵Risks are from birth cohort files linked to infant deaths occurring among the cohort. When available, they are preferable to and may differ from rates obtained from statistical files (and, therefore, from most published sources).

⁶Due to having fewer than 20 events in numerator, estimate does not meet National Center for Health Statistics' standards for precision.

⁷Sudden infant death syndrome

⁸Fetal deaths at 20 or more weeks gestation plus neonatal deaths under 7 days of age

⁹Live births are from statistical files, which generally differ slightly from birth cohort files.

Section C: Infant Mortality Among Babies Born Alive to Region 5 Residents in 2000-2002⁵

Note: All risks in Section C are the number of deaths per 1,000 live births in the specified group and are from birth cohort files. Numerators and denominators are shown parenthetically. With one stated exception, risks are for all races combined.

Infant (under 1 year) mortality risk: 8.2 (343/41,706)

African American infant mortality risk: 11.3 (206/18,184)

Neonatal (under 28 days) mortality risk: 4.9 (206/41,706)

Early neonatal (under 24 hours) mortality risk: 2.4 (102/41,706)

Late neonatal (1-27 days) mortality risk: 2.5 (104/41,706)

Postneonatal (28-364 days) mortality risk: 3.3 (137/41,706)

Birthweight-specific infant mortality risks:

Very low I (500-749 grams): 432.7 (74/171)

Very low II (750-1,499 grams): 72.3 (45/622)

Moderately low (1,500-2,499 grams): 16.8 (54/3,217)

Normal (2,500-4,249 grams): 3.0 (108/36,382)

SIDS⁷ risk: 0.72 (30/41,706)

Section D: Other Mortality Indicators, Region 5 Residents, 2001-2003

Note: Numerators and denominators are shown parenthetically.

Perinatal⁸ mortality rate: 14.6 deaths per 1,000 live births plus fetal (20 or more weeks gestation) deaths (599/41,029)

Mortality rate for children aged 1-14 years: 30.8 deaths per 100,000 children in this age group (183/594,049)

Homicide/legal intervention death rate for 15-19 year-old African American males: 27.3 per 100,000 African American males in this age group (15/54,879)

Fetal death (20 or more weeks gestation) ratio: 11.1 deaths per 1,000 live births⁹ (449/40,580)

Other Profiles Recommended for Review:

VOICES for Alabama's Children. *Alabama Kids Count—2004 Report.*

Center for Health Statistics, Alabama Department of Public Health. *County Health Profiles, Alabama 2003.* March 2005.

Appendix NA-4

TABLE 1:
Specific Barriers to Health Care for Children with Special Health
Care Needs in Alabama:
Comparison of 1994, 1999, and 2004 Statewide Data

TABLE 1: SPECIFIC BARRIERS TO HEALTH CARE FOR CHILDREN WITH SPECIAL HEALTH CARE NEEDS IN ALABAMA: COMPARISON OF 1994, 1999, AND 2004 STATEWIDE DATA

BARRIERS (listed in order of 2004 rankings)	1994 * % (n)	1999 * % (n)	2004 * % (n)
Transportation	97 (65)	93 (62)	97 (65)
Families unaware of importance of prevention and primary/specialty care	92 (62)	87 (58)	91 (61)
Families unsure how to use system	78 (58)	87 (58)	88 (59)
Number/distribution of specific types of providers is inadequate	85 (57)	60 (40)	81 (54)
Lack of child care	86 (58)	57 (38)	81 (54)
Costs of services too high	93 (62)	54 (36)	78 (52)
Private providers reluctant to accept Medicaid	63 (42)	54 (36)	78 (52)
Lack of health insurance	68 (46)	64 (43)	73 (49)
Lack of information on resources and health needs	68 (46)	57 (38)	70 (47)
Inadequate transition from pediatric to adult medical/ health care [†]	n/a	n/a	66 (44)
Cultural/language	32 (21)	52 (35)	64 (43)
Private insurers do not adequately cover primary and specialty care	82 (55)	57 (38)	62 (41)
Lack of facilities with convenient locations	69 (46)	42 (29)	52 (35)
Lack of facilities with convenient hours	56 (37)	39 (27)	46 (31)
State policy/ Administrative barriers	66 (44)	30 (20)	42 (28)
Other	71 (48)	12 (9)	22 (15)

*Percentage of counties ranking item as a barrier to health care. The number (n) of counties indicating item is a barrier is represented in parenthesis.

[†]Questions related to transition not asked on 1994 or 1999 survey.

Appendix NA-5

TABLE 2:
Comparison of FY 2004 Barriers by
Urban, Rural North, and Rural South Counties

TABLE 2: COMPARISON OF FY 2004 BARRIERS BY URBAN, RURAL NORTH, AND RURAL SOUTH COUNTIES

BARRIERS (listed by statewide rank)	STATEWIDE		Rank	URBAN		Rank	RURAL NORTH		Rank	RURAL SOUTH		Rank
	%*	% as top 5**		%*	% as top 5**		%*	% as top 5**		%*	% as top 5**	
Transportation	97	87	1	95	90	1	95	90	1	100	88	1
Families unaware of importance of prevention and primary/specialty care	91	39	2	81	24	5	91	32	2	100	56	2
Families unsure how to use system	88	49	3	91	42	3	86	44	5	88	59	4
Number/distribution of specific types of providers is inadequate	81	56	4	76	44	10	86	72	3	80	50	5
Lack of child care	81	28	5	76	31	11	76	19	8	92	30	3
Costs of services too high	78	52	6	76	63	9	86	56	4	72	39	6
Private providers reluctant to accept Medicaid	78	52	6	95	60	2	76	63	7	64	31	10
Lack of health insurance	73	76	7	76	75	8	76	88	6	68	65	7
Lack of information on resources and health needs	70	32	8	81	18	6	62	23	11	68	53	8
Inadequate transition from pediatric to adult medical/ health care	66	7	9	81	12	7	57	0	12	60	7	11
Cultural/language	64	30	10	86	33	4	67	36	9	44	18	13
Private insurers do not adequately cover primary and specialty care	62	54	11	71	60	12	62	46	10	52	54	12
Lack of facilities with convenient locations	52	54	12	57	33	13	33	57	15	64	69	9
Lack of facilities with convenient hours	46	26	13	57	8	14	43	33	14	40	40	14
State policy/ Administrative barriers	42	25	14	52	36	15	48	10	13	28	29	15
Other	22	20	15	29	33	16	14	33	16	24	0	16

* Percentage of counties ranking item as a barrier to health care

** Percentage of counties ranking item as a barrier to health care as one of the top 5 barriers in the county

Appendix NA-6

Table 3:
Comparison of 1999 and 2004 Barriers
Between Urban, Rural North, and Rural South Counties

TABLE 3: COMPARISON OF 1999 AND 2004 BARRIERS BETWEEN URBAN, RURAL NORTH, AND RURAL SOUTH COUNTIES

URBAN (listed by 2004 rank)	1999 %*	2004 %**	RURAL NORTH (listed by 2004 rank)	1999 %	2004 %	RURAL SOUTH (listed by 2004 rank)	1999 %	2004 %
Transportation	91	95	Transportation	100	95	Transportation	88	100
Private providers reluctant to accept Medicaid	76	95	Families unaware of importance of prevention and primary/specialty care	91	91	Families unaware of importance of prevention and primary/specialty care	80	100
Families unsure how to use system	86	91	Families unsure how to use system	100	86	Lack of child care	56	92
Cultural/language	57	86	Costs of services too high	71	86	Families unsure how to use system	76	88
Families unaware of importance of prevention and primary/specialty care	91	81	Number/distribution of specific types of providers is inadequate	71	86	Number/distribution of specific types of providers is inadequate	56	80
Lack of information on resources and health needs	81	81	Lack of health insurance	81	76	Costs of services too high	24	72
Inadequate transition from pediatric to adult medical/ health care ^t	N/A	81	Private providers reluctant to accept Medicaid	52	76	Lack of health insurance	40	68
Lack of health insurance	76	76	Lack of child care	43	76	Lack of information on resources and health needs	28	68
Costs of services too high	71	76	Cultural/language	52	67	Lack of facilities with convenient locations	28	64
Number/distribution of specific types of providers is inadequate	52	76	Private insurers do not adequately cover primary and specialty care	67	62	Private providers reluctant to accept Medicaid	36	64
Lack of child care	71	76	Lack of information on resources and health needs	67	62	Inadequate transition from pediatric to adult medical/ health care ^t	N/A	60
Private insurers do not adequately cover primary and specialty care	62	71	Inadequate transition from pediatric to adult medical/ health care ^t	N/A	57	Private insurers do not adequately cover primary and specialty care	44	52
Lack of facilities with convenient locations	43	67	State policy/ Administrative barriers	43	48	Cultural/language	48	44
Lack of facilities with convenient hours	43	62	Lack of facilities with convenient hours	67	43	Lack of facilities with convenient hours	16	40
State policy/ Administrative barriers	38	52	Lack of facilities with convenient locations	62	33	State policy/ Administrative barriers	12	28
Other	10	29	Other	24	14	Other	8	24

* Percentage of counties ranking item as a barrier to health care in FY 1999

** Percentage of counties ranking item as a barrier to health care in FY 2004

^t Item related to transition not asked in FY 1999

Appendix NA-7

Table 4:

Comparison of 1999 and 2004 Selected Service Availability for Children and Youth with Special Health Care Needs in Alabama

TABLE 4: COMPARISON OF 1999 AND 2004 SELECTED SERVICE AVAILABILITY FOR CHILDREN AND YOUTH WITH SPECIAL HEALTH CARE NEEDS IN ALABAMA

SERVICE	1999		2004		
	Number Counties Reporting "AVAILABLE"	Number Counties Reporting "SERVES CYSHCN"	Number Counties Reporting "AVAILABLE"	Number Counties Reporting "SERVES CYSHCN"	Number Counties Reporting "AVAILABLE" and "ADEQUATE ACCESS"* (%)
Dental services	**	**	62	50	37 (55)
Well child care	66	66	67	66	63 (94)
Care for sick or injured child	64	63	64	63	56 (84)
Mental Health diagnostic services and treatment	61	55	61	54	43 (64)
Alcohol abuse treatment	50	44	39	28	22 (33)
Drug abuse treatment	50	44	35	28	22 (33)
Emergency Care (Hospital)	61	61	59	59	54 (81)
Emergency Medical Services / 911 (Ambulance)	66	66	67	67	64 (96)
Early Intervention Services	64	64	67	67	53 (79)
Long-term care (nursing home)	62	42	58	38	31 (46)
Occupational Therapy	49	48	47	47	36 (54)
Physical Therapy	59	59	58	58	48 (72)
Speech / Language Pathologist	57	57	56	55	45 (67)
Child care facilities (day care)	66	56	64	42	36 (54)
Adolescent care facilities	**	**	20	11	10 (15)
Summer / after school care	**	**	52	36	30 (45)
Pediatric subspecialty care	**	**	9	8	5 (7)
Respite care	**	**	33	33	14 (21)

* Number of counties reporting that the service is available and that access is adequate to meet the needs of CYSHCN in the county.

** Questions related service were not included in 1999 survey

Appendix NA-8

Figure 5:
Distribution of Health Care Services and/or Professionals

Figure 5. Availability of Selected Services for CYSHCN (continued)

Figure 5e. Mental Health

- Not available for CYSHCN
- Available, inadequate access
- Available, adequate access

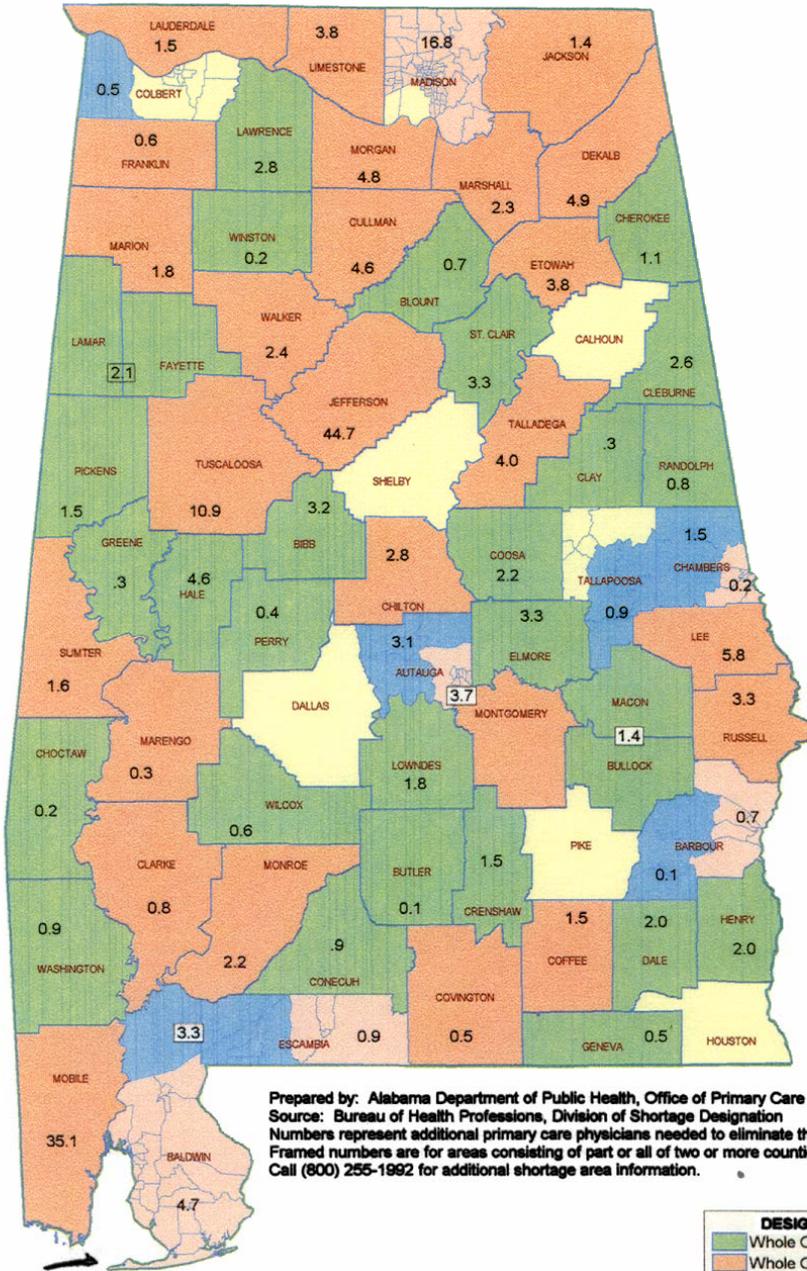


Figure 5f. Respite Care

- Not available for CYSHCN
- Available, inadequate access
- Available, adequate access



PRIMARY CARE PHYSICIAN SHORTAGES IN ALABAMA BY COUNTY FEBRUARY 2005



Prepared by: Alabama Department of Public Health, Office of Primary Care and Rural Health.
 Source: Bureau of Health Professions, Division of Shortage Designation
 Numbers represent additional primary care physicians needed to eliminate the shortage designation.
 Framed numbers are for areas consisting of part or all of two or more counties.
 Call (800) 255-1992 for additional shortage area information.

DESIGNATION TYPES	
Green	Whole County Pop. (Geo)
Orange	Whole County Low-Income Pop.
Light Blue	No HPSA Designation
Dark Blue	Sub-County Area Pop. (Geo)
Light Orange	Sub-County Low-Income Pop.
Yellow	Undesignated Sub-County Area

Appendix NA-9

Table 5:

Family and Youth Involvement, Cultural Competence, and Care Coordination and Strategic Planning for Children and Youth with Special Health Care Needs

TABLE 5

Family and Youth Involvement

		# Counties responding "YES"	Family Members Included in Planning	Family Members Included as Speakers	Family Members Included as Participants
Training for providers related to Family-Centered Care	1999	29 (43%)	21 (72%)	22 (76%)	24 (83%)
	2004	21 (31%)	12/21 (57%)	14/21 (67%)	18/21 (86%)
 					
		# Counties responding "YES"	Youth Included in Planning	Youth Included as Speakers	Youth Included as Participants
Training for providers related to Youth Involvement in Care Planning	2004	21 (31%)	6/21 (29%)	6/21 (29%)	17/21 (81%)

Cultural Competence

Mechanisms	# Counties responding "YES"	
	1999	2004
Providers reflect cultures in the county	51 (76%)	48 (72%)
Training for health care providers in cultural diversity	41 (61%)	38 (57%)
Translation assistance for families	38 (57%)	54 (81%)
Health promotion / education activities relevant to cultures in the county	37 (55%)	44 (66%)

Care Coordination and Strategic Planning for CYSHCN

	Number counties reporting "YES"			Commonly reported agencies
	1994	1999	2004	
Agencies other than CRS providing care coordination for CYSHCN	----	54	64	EPSDT case management-Health Department, EI, Headstart, DHR, DMHMR, school systems, Medicaid high-risk case management
County involvement in strategic planning for primary / specialized health care for CYSHCN	21	17	36	Children's Policy Council, DHR multi-needs team, EI, school system

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