

**Maternal and Child Health Services
Title V Block Grant Program
Title V Application**

II – Needs Assessment

TABLE OF CONTENTS

TABLE OF CONTENTS..... 1

A. BACKGROUND AND OVERVIEW 2

B. FIVE YEAR NEEDS ASSESSMENT 4

B.1. Process for Conducting Needs Assessment 4

 Semi-decennial Comprehensive Needs Assessment..... 4

 Other Needs Assessments within the Family Health Section 14

B.2. Needs Assessment Partnership Building and Collaboration 14

 DPH Internal Need Assessment Process..... 15

 DPH External Community-Centered Needs Assessment Process..... 16

 Strengths and Limitations 18

 Collaborations Established Through Other Needs Assessments 19

B.3. Assessment of Needs of the MCH Population Groups 20

 State Characteristics..... 20

 Children and Adolescents 29

 Children and Youth with Special Health Care Needs (CYSHCN)..... 37

 Pregnant Women, Mothers, and Infants 39

 Needs Assessment Highlights..... 45

B.4. MCH Program Capacity by Pyramid Levels 46

 DIRECT HEALTH CARE SERVICES..... 46

 ENABLING SERVICES 51

 POPULATION-BASED SERVICES..... 58

 INFRASTRUCTURE-BUILDING SERVICES 61

B.5. Selection of State Priority Needs 65

 Recommended Priority Needs from DPH Internal Needs Assessment 65

 Final DPH Nine State Priority Needs 69

C. NEEDS ASSESSMENT SUMMARY 77

D. HEALTH STATUS INDICATORS..... 79

E. OUTCOME MEASURES 80

REFERENCES..... 81

A. BACKGROUND AND OVERVIEW

The priority needs presented in the next section were identified through a comprehensive needs assessment during August 2004 through May 2005, to identify state MCH priorities, to arrange programmatic and policy activity around these priorities, and to develop state performance measures to monitor the success of these efforts. The MCH needs assessment was designed to be population-based, community-focused, and framed within a family context.

The MCH Director established an MCH Needs Assessment Planning Committee to assist in the oversight and direction of the needs assessment. The Planning Committee included staff from the various MCH programs, staff from the Health Information Systems and Reporting Division, and staff from the Health Education, Management, and Surveillance Division.

In order to include key stakeholders in a meaningful and integral part of the needs assessment, DPH staff identified and convened an initial collaborative meeting with many invited state agencies and community and professional organizations. The MCH Director presented an overview of the MCH Block Grant and the required five-year needs assessment at the initial collaborative meeting. This collaborative group, which met several times over a six-month period, also provided oversight of the community centered needs assessment.

The Planning Committee determined that the needs assessment process would include two components—1) DPH Internal Needs Assessment, and 2) Community-Centered Needs Assessment. The DPH Internal Needs Assessment process gathered data and reports housed at DPH, interpreted the data for programmatic implications, and recommended 7-10 state priority needs. The Community Centered Needs Assessment process identified community level data and reports, and all methods of collecting community data. This provided a forum for community input into the determination of the state priority needs.

Each Internal Needs Assessment workgroup was instructed to recommend 5 priority needs for a total of 15 priority needs to be considered by the DPH Planning Committee. It was part of the Planning Committee's charge to reduce the recommended 15 priority needs to 7-10 state priority needs. The Planning Committee, after much discussion and consideration, drafted a set of state priority needs, which were subsequently considered along with those identified by the Community Centered Needs Assessment.

In the Community Centered Needs Assessment, both qualitative and quantitative methods were part of the comprehensive needs assessment process. John Snow Institute (JSI) was hired by DPH through a competitive process to conduct the Community-Centered Needs Assessment with oversight from DPH. Demographic, economic, health, and survey data were used to develop a health profile for target populations including Children & Adolescents, Children & Youth with Special Health Care Needs (CYSHCN), and Pregnant Women, Mothers, & Infants. This information was used in focus group discussions conducted by JSI to gather additional feedback on the health needs of women and children from providers and consumers. Engaging the various stakeholder groups facilitated the inclusion of their insights and experience of their practical experiences and served as a valuable reality check. A concerted effort was made to engage providers, advocates and consumers both in identifying priority needs and in successful solutions to identified problems.

The Planning Committee met in late May 2005, to review the identified priority needs from the Internal and Community Centered Needs assessment components to assure that the three

population groups were appropriately included and establish measurable State Performance Measures. The MCH program selected seven priority needs from the list of potential areas for improving maternal and child health. Criteria used to select top priorities include the likelihood that the intervention will result in improved maternal and child health outcomes, the feasibility of success, and alignment with federal MCH priorities. The DPH Planning Committee added an eighth priority need regarding health disparities because it was identified repeatedly as a repeated important issue across the MCH population. The DPH Planning Committee also wanted to ensure recognition of the priority need identified through the collaborative work of the six Region I states “to develop indicators that measure the collective assets of their early childhood health systems,” specifically focusing on “their collective assets regarding child care health consultants (CCHC),” and, therefore, has added this as a ninth priority need.

The nine identified State Priority Needs are similar in many ways to those identified 5 years ago. The similarities include the need to address data capacity issues, reduce injuries to children and adolescents, improve child adolescent health status with an added focus on overweight/obesity, enhance CYSHCN services especially family support services, increase access to health care for women and children, and reduce the health disparities that continue to exist specifically in the areas of teen pregnancy, low birth weight, prenatal care, breastfeeding, and infant mortality. The one change was the removal of the priority need related to asthma diagnosis and management, as DPH has enhanced its capacity to more effectively address this issue through the now well-established DPH Asthma Program. Lastly, the inclusion of the asset-based measurement efforts among all the Region I states is a change from the needs assessment completed five years ago.

B. FIVE YEAR NEEDS ASSESSMENT

B.1. Process for Conducting Needs Assessment

Semi-decennial Comprehensive Needs Assessment

The Connecticut Department of Public Health (DPH) conducted its semi-decennial comprehensive needs assessment from August 2004 through May 2005, as required by the Title V Maternal and Child Health Block Grant, to re-assess and identify state MCH priorities, to arrange programmatic and policy activity around these priorities, and to develop state performance measures to monitor the success of their efforts. This needs assessment was designed to be population-based, Community-Centered, and framed within a family context.

To ensure that a comprehensive, coordinated, and effective MCH plan of action would be developed from the needs assessment process, DPH determined that the MCH needs assessment would consist of two components—1) DPH Internal Needs Assessment, and 2) Community-Centered Needs Assessment. The DPH Internal Needs Assessment process would gather data and reports within DPH, interpret data for programmatic implications, and recommend 7-10 state priority needs. The Community-Centered Needs Assessment process would identify community level data and reports, and all methods of collecting community data. This would also provide a forum for community input during determination of the state priority needs. These two components were reconciled into a single, final set of priorities.

The MCH Director established an MCH Needs Assessment Planning Committee within DPH to provide oversight and direction of the DPH Internal Needs Assessment. The Planning Committee included staff recruited from the various MCH programs, staff from the Health Information Systems and Reporting Section, and staff from the Health Education, Management, and Surveillance Section. The Planning Committee established three separate workgroups:

- Children and Adolescents (C & A Workgroup);
- Children and Youth with Special Health Care Needs (CYSHCN Workgroup); and,
- Pregnant Women, Mothers and Infants (PWM&I Workgroup).

Workgroup members numbering 6 to 12 each were recruited from multiple programs within DPH. These volunteers, from multiple programmatic units within DPH, each contributed approximately 15-20 hours to establish a set of priorities for consideration by the Planning Committee.

The Planning Committee, after much discussion and consideration, then drafted the DPH 2005-2006 state priority needs. The issues recommended by the 3 separate workgroups were incorporated into the priority needs as potential performance measures.

Independently, the Community-Centered Needs Assessment used both qualitative and quantitative methods to inform the comprehensive needs assessment process. John Snow Institute (JSI) was hired by DPH to conduct the Community-Centered Needs Assessment. Demographic, economic, health, and survey data were used to develop a health profile for the three MCH target populations. This information was used in focus group discussions conducted

by JSI to gather additional feedback on the health needs of the MCH population groups from providers and consumers. Anecdotal information from participants in community listening sessions and key informants reinforced findings of the data analysis. This information also provided relevant information about hidden populations such as immigrants, refugees and undocumented populations for whom little data is available. Participants generated recommendations for improving the health of women and children.

Results of the Community-Centered Needs Assessment were presented to staff of the Family Health Section of DPH and reconciled with high priority needs for improvement identified through the DPH Internal Needs Assessment. A final list of priority needs was generated and ranked based on established criteria. A reasonable number of priority needs were targeted for implementation over the next 5-years. Goals, objectives and action steps were drafted and performance measures were identified to support program monitoring and evaluation for all high priority needs.

The MCH Needs Assessment Planning Committee met in late May 2005, to review the priority needs and to ensure that the three population groups were appropriately included, and to establish measurable State Performance Measures.

Quantitative and Qualitative Methods Used in the Needs Assessment

As part of the DPH Internal Needs Assessment, workgroup members in the three separate workgroups gathered data by conducting interviews with programmatic staff involved in selected topic areas, and then presented the results of those interviews during workgroup meetings. The source of the information was reviewed by the workgroup for its validity and value to the needs assessment, and to determine how it could help to assess the need for direct health care, enabling, population-based, and infrastructure building services. Existing programs were discussed, including how they currently address the identified needs, and where there may be gaps in services. Strengths of existing programs were also identified. The interview process sought to identify the most significant health problems in the topic area, as well as documentation of data or research related to health status problems.

A matrix developed by Mary Peoples-Shep, Anita Farel, and Mary Rogers (Peoples-Sheps, et al, 1996) was adapted to assist in the identification and prioritization of issues. The matrix considered the following factors for each health issue:

Extent of the problem

Examined data measuring the extent of the problem, including the number of people affected, incidence rates and prevalence rates. If available, examined trends in these data for several years.

Based on available data, the program staff person assigned a score for this matrix criterion using a scale of 1 to 5 (score value definitions were pre-defined).

Duration of the problem

Examined how long the problem has been at the observed level and in what ways the levels have changed over time. Trend data examined for the extent of the problem were analyzed. Based on available data, the program staff person assigned a score for the *Increasing Trends* matrix criterion using a scale of 1 to 5 (score value definitions were pre-defined).

Expected future course

Considered what is likely to happen to the problem if no intervention takes place. The program staff person assigned scores for the *Severity of Consequences* and *Acceptability* matrix criteria. Both scores used a scale of 1 to 5 (score value definitions were pre-defined).

Variation

Examined how the extent of the problem varies across population groups (e.g. specific racial or age groups) and geographic areas. This information was incorporated into the scoring for the *Extent of the Problem* matrix criterion.

Additional Matrix Criteria

Documented target goals of what the level should be (if applicable) and its source.

Considered if the health status problem is part of:

- MCHB Health Status Capacity Indicators
- Current MCHB State Priorities
- MCHB National Performance Measures
- Current MCHB State Performance Measures

This information was incorporated into the scoring for the *Healthy People 2010* and *State Priority* matrix criteria.

By using a scoring system that included a weighting scheme for each factor, the matrix process provided an objective method to prioritize important health issues. The matrix technique was not intended to generate the final list of state priority needs, but it served as a tool in the prioritization process. The three workgroups met independently and each established rules for developing priorities. Within each workgroup, considerable deliberation and consensus building was required, and workgroup members devoted many hours to develop priorities. The work of each of these three workgroups is discussed below.

The Children and Adolescent Workgroup (C&A Workgroup) first reached agreement on the definition of the population focus group and potential topic areas affecting this focus population. The C&A Workgroup defined their population as children age 1 to 18 years with the assumption that the Pregnant Women, Mothers and Infants Workgroup would address infants under age 1. The C&A Workgroup also agreed upon twenty-two topic areas (**Table 1**) that would be assessed to identify health status problems appearing to have reached unacceptable levels in this age group.

**Table 1
Topic Areas of Interest
Child & Adolescent Workgroup**

Health Conditions/Services	Behavioral Risks	Injury
Asthma	Adoption of Healthy Habits	Unintentional Injury
Mental Health	Adolescent Health	Intentional Injury including
Oral Health	Substance Abuse	Suicide, Abuse & Neglect, Violence
Overweight/Obesity	Tobacco	
Health Insurance Access	Teen Pregnancy	Environmental
Well care/preventive care	STDs	School Health (Indoor Air Quality)
School Readiness	HIV/AIDS	Lead Poisoning
Day Care	Abstinence Only	
Immunizations	Family Planning	

The C&A Workgroup discussed and prioritized the evolving list of identified health problems. As each topic area was discussed, workgroup members distilled and researched data, and translated it to a format comparable to that for the other topic areas. An example of the extensive work required to quantify these health factors is the data submitted for the topic area Overweight/Obesity. National data (1999-2000 NHANES), statewide data from the 2003 Youth Risk Behavior Survey, and 2003 local data from studies completed in the cities of Bridgeport and Hartford were used to score the health factors associated with this topic area. The most conservative estimate of prevalence for this example was that obtained from local survey data, and these data were entered into the matrix as consensus scores were assigned to this topic area.

In many instances, an interviewed DPH staff person’s passion for the issues related to their topic area reflected a clear bias in the DPH staff person’s scoring. The decision was made then, therefore, to reach a consensus score among the Workgroup members using the scoring from the DPH staff person, modified by an objective review of the data and research submitted. Workgroup members agreed to apply similar scoring methods across the topic areas, and to try to reach as much objectivity as possible in the scoring.

Using similar techniques, The Children and Youth with Special Health Care Needs Workgroup (CYSHCN Workgroup) agreed upon twelve topic areas (**Table 2**), and gathered data and information on health status problems identified among the children and youth with special health care needs population. The CYSHCN Workgroup reviewed the six National indicators listed below to ensure that the Workgroup would not choose the same health status indicators in their needs assessment.

1. All CYSHCN will receive regular ongoing comprehensive care within a medical home.
2. All families of CYSHCN will have adequate public and/or private insurance to pay for the services they need.
3. All children will be screened early and continuously for special health care needs.
4. Families of CYSHCN will participate in decision making at all levels and will be satisfied with the services they receive.
5. Community-based service systems will be organized so families can use them easily.
6. All youth with special health care needs (YSHCN) will receive the services necessary to make transitions to all aspects of adult life.

**Table 2
Topic Areas of Interest
Children and Youth with Special Health Care Needs Workgroup**

Needs and Services	Data & Surveillance
Newborn Screening	Databases
Multi-agency Coordination	Birth Defect Registry
Respite	Classification of CYSHCN
Nutrition	
School Based Services	
Vision	
Day Care	
Dental	
Emergency Services	

Similar matrix scoring techniques were used, and, after careful consideration and discussion, the top five priority areas were identified. The Workgroup felt that the five areas identified reflected the important issues discussed during the interviews with staff and would also provide valuable data for identifying the needs and evaluating the services for this population group.

The Pregnant Women, Mothers and Infants Workgroup (PWM&I Workgroup) developed a list of twenty-nine topic areas (**Table 3**), and gathered data and information to identify health status problems among the pregnant women, mothers and infants populations.

In their initial discussions, the PWM&I Workgroup decided to group certain problems under one heading because they were so closely related. These were 1) Prenatal Care: Non Adequate Prenatal Care and Late/No Prenatal Care; 2) Low and very low birth weight; 3) Fetal and Infant Mortality; and 4) Primary and Repeated Births to Teens: Births to Teens, Repeated Births to Teens 15-17, and Repeated Births to Teens 18-19.

**Table 3
Topic Areas of Interest
Pregnant Women, Mothers, & Infants Workgroup**

Perinatal Outcomes	Risks	Other
Pre-term Delivery	Late/No Prenatal Care	Breastfeeding
Low Birthweight	Non Adequate Prenatal Care	Mental Health/Perinatal Depression
Very Low Birthweight	Short Inter-pregnancy Interval	Domestic Violence/IPV
Infant Mortality	Poor/No Health Insurance	Unintentional Injury
Infant Morbidity	Smoking During Pregnancy	FIMR
Maternal Mortality	Alcohol Use During Pregnancy	Bereavement Services (SIDS)
	Births to Teens	Perinatal Oral Health
	Repeated Births to Teens, 15-17	Exposure to Environmental Toxins
	Repeated Births to Teens, 18-19	Immunization Registry (Non-Enrollment)
	Births to Older Moms	STDs
	Very low Birthweight not born	Perinatal HIV/AIDS:Vertical
	At high-risk hospitals (Level III)	Transmission
		Hepatitis B-HBsAg+ women & perinatal
		Transmission

The Children and Adolescent, and Children and Youth with Special Health Care Needs workgroups each recommended 5 priority needs. The Pregnant Women, Mothers and Infants workgroup submitted 10 priority needs due to the group’s concern that some of the health issues were already being tracked by national performance measures. The Planning Committee decided that, if an issue were already being tracked by a national performance measure, it could be included in the priority needs, but it would not become a state performance measure.

In the Community-Centered Needs Assessment, both qualitative and quantitative methods were employed in conducting a comprehensive maternal and child health needs assessment. A health profile was developed for target populations including women, pregnant women, children, adolescents and children with special health care needs. To augment available data, focus groups were convened with providers and consumers, and interviews were conducted with statewide and regional stakeholders to better understand the health needs of hidden populations such as immigrants, refugees and undocumented populations; understand unique regional concerns; and to identify strategies for improving maternal and child health. Because of its largely

collaborative process, this assessment is more fully described in **Section B.2. Needs Assessment Partnership Building and Collaboration.**

In selecting high priority needs to target, participants employed criteria including: 1) the likelihood that targeting the area for improvement would contribute to improved health and well-being of women and children in Connecticut; 2) the feasibility of implementing strategies to achieve desired outcomes; and 3) appropriateness of targeting the area for improvement based on Federal Maternal and Child Health program priorities and guidelines.

Sources Used and Limitations

The DPH Internal Needs Assessment used a wide variety of data sources to assess information across the numerous topic areas described above for each of the three workgroups based on the MCH populations.

The Children and Adolescents Workgroup

This workgroup reviewed data from:

- 1999-2000 NHANES estimates for overweight or obese among 6-19 yr olds
- Local study data (Bridgeport and Hartford) of Kindergarten, 6th grade and 11th grade overweight estimates 2003
- CT Youth Risk Behavioral Survey 2003 (% adolescent attempting suicide, % adolescents considered suicide, % adolescents in physical fight in past 12 months, % of adolescents in a fight and needed treatment, % of adolescent who have engaged in sexual intercourse)
- Pregnancy rates among 15-17 year olds
- Incidence of STD's among adolescents
- Birth rates among teens especially age 15-17 years
- Number of youth and schools with abstinence education
- Percent of children identified with mental health disorder in a single year
- 2002 CT Youth Tobacco Survey
- Suicide rates among 15-19 year olds
- % of family violence incidents where children were present or involved (CT Crime Statistics 2001)
- Unintentional mortality among CT children and adolescents
- Motor vehicle crash deaths among children under 20 years
- Immunization rates
- Rates of perinatal transmission of AIDS/HIV
- Vital Statistics

Several of the topic areas were not scored because there was a lack of data: Lack of access to dental care for uninsured, underinsured and minority populations; poor oral health; lack of comprehensive asthma management; extent of the risk lead poisoning; lack of sufficient preventive & acute medical care; and teen mother's health status during pregnancy. Four other topic areas were tabled by the Workgroup because either the topic area was essentially being addressed by other specific topic areas or were areas where an existing initiative would address the topic: adolescent health; perinatal oral health; school readiness; school health (indoor air quality-IAQ).

Data sources used by the CYSHCN Workgroup revolved around health status problems not covered by the six National Performance Measures for the CYSHCN. And, the workgroup, in consideration of the twelve topic areas outlined in **Table 2**, combined the Birth Defects Registry and the Databases topics. A data integration plan has been developed within the Department, and its goal is the creation of an electronic integrated database within DPH that combines information from child health databases including the Birth Defects and CSHCN Registries, into a single comprehensive database of child health information. The integrated database would have varied levels of access control, and would contain high-quality retrospective data on newborns and children. The CYSHCN Workgroup also decided to combine Dental Screening, Vision Screening and Nutrition Screening under the broader topic heading Classification of CYSHCN, in the interest of approaching all of these as direct health care services and with the intent of gathering data from the School Based Health Centers.

CYSHCN Workgroup

The CYSHCN workgroup reviewed data that was representative of infrastructure building, direct health care service and enabling services to identify the priority needs of this population. These sources were:

- Existing and planned Newborn Screening, especially as it relates to the plans for education of families, hospitals and primary care physicians
- Current and planned activities within DPH to create an electronic linked comprehensive database of child health information that would enhance public health assessment and assurance activities of CYSHCN.
- Existing and planned activities within DPH to assure that all children in the state are screened for special health care needs using a standardized screening tool.
- Survey data of CYSHCN families including their need for respite care.

The CYSHCN Workgroup was unable to address Emergency Services for this population group due to lack of available data.

Pregnant Women, Mothers and Infants Workgroup

This workgroup reviewed data from:

- Infant Mortality – Mortality rates among infants less than one year and associated risk factors. *Source: CT Vital Records*
- Births to Teens – Birth rates among teens 15-19 years (overall), 15-17 years, and 18-19 years and associated risk factors/birth outcomes. *Source: CT Vital Records*
- Repeated Births to Teens 15-17 – Birth rates to teens 15-17 years who have had one more child prior to this birth and associated risk factors/birth outcomes. *Source: CT Vital Records*
- Repeated Births to Teens 18-19 – Birth rates to teens 18-19 years who have had one more child prior to this birth and associated risk factors/birth outcomes. *Source: CT Vital Records*
- Births to Older Moms – Birth rates to women 40+ years and associated risk factors/birth outcomes. *Source: CT Vital Records*

- Non-Adequate Prenatal Care – Percent of mothers not receiving adequate prenatal care (as defined by the Adequacy of Prenatal Care Utilization Index) and associated risk factors/birth outcomes. *Source: CT Vital Records*
- Late/No Prenatal Care – Percent of mothers receiving late prenatal care (2nd or 3rd trimester) or no prenatal care and associated risk factors/birth outcomes. *Source: CT Vital Records*
- Low Birthweight – Percent of infants weighing less than 2,500 grams and associated risk factors/birth outcomes. *Source: CT Vital Records*
- Very Low Birthweight – Percent of infants weighing less than 1,500 grams and associated risk factors/birth outcomes. *Source: CT Vital Records*
- Preterm Delivery – Percent of infants delivered before 37 weeks gestation and associated risk factors/birth outcomes. *Source: CT Vital Records*
- Short Inter-pregnancy Interval – Percent of women whose last pregnancy was within 6 months of this pregnancy and associated risk factors/birth outcomes. *Source: CT Vital Records*
- Smoking During Pregnancy – Percent of mothers reporting smoking during the pregnancy and associated risk factors/birth outcomes. *Source: CT Vital Records*
- Alcohol Use During Pregnancy – Percent of mothers reporting using alcohol during the pregnancy and associated risk factors/birth outcomes. *Source: CT Vital Records*
- Immunization Registry (Non-Enrollment) – For the years 1998-2001, examined the percent of children in each birth cohort not enrolled in the Connecticut Immunization Registry and Tracking System (CIRTS).
- STDs – Number of cases and rates of gonorrhea, chlamydia, and syphilis among women in CT. *Source: DPH STD Program*
- Perinatal HIV/AIDS: Numbers and rates of HIV+ infants and vertical transmission (HIV transmitted from mother). *Source: DPH HIV/AIDS Perinatal Surveillance project.*
- Hepatitis B – Number and percents of HBsAg+ women & infected infants (perinatal transmission). *Source: DPH Hepatitis B Program*
- Breastfeeding – Rates of initiation and duration of breastfeeding among CT mothers, overall and by race. *Source: Ross Mothers' Survey*
- Maternal Mortality – Number of maternal deaths in CT (1991-2001). *Source: DPH Pregnancy-Related Mortality Surveillance Program*
- Poor/No Health Insurance – Payor sources for newborns delivered in CT hospitals (1993-2001) – government and self-pay; health insurance coverage as reported in the 2000 US Census.
- Very Low Birth weight not born at high-risk hospitals (Level III) – Percent of very low birth weight infants not born at high-risk hospitals. *Source: CT Vital Records*

Similar to the other two workgroups, several of the topic areas were not scored by the PWM&I Workgroup because there was a lack of data: Infant Morbidity; Bereavement Services

(SIDS); FIMR; Mental Health/Perinatal Depression; Domestic Violence/Intimate Partner Violence (IPV); Perinatal Oral Health. In two topic areas, the PWM&I Workgroup decided the topic area was much larger than just the populations focused upon in this workgroup, and did not appear to be a significant problem specific to pregnant women, mothers and infants: Unintentional Injury; Exposure to Environmental Toxins.

Community-Centered Needs Assessment

In the Community-Centered Needs Assessment, data was obtained from national and state health-related data sources to generate a general health profile for each of the target populations. A demographic and socio-economic profile of the state’s maternal and child health population was compiled from the United States Census Bureau’s 2000 Census. The profile characterized women, children, and adolescents on a statewide-, county-, and municipality-level by age, gender, race/ethnicity, foreign-born status, and household living situation. The profile also provides information on income, poverty and educational status. Additional data were collected from sources such as:

- Department of Health and Human Service, Maternal and Child Health Bureau
- Women’s Health USA
- Child Health USA
- Center for Disease Control and Prevention’s National Center for Health Statistics
- Behavioral Risk Factor Survey System (BRFSS)
- Youth Risky Behavior Survey System (YRBS)
- Vital Statistics
- Kaiser Family Foundation
- State Health Facts
- Annie E. Casey Foundation
- Kids Count Dataset
- Connecticut Department of Public Health, Family Health Division
- Connecticut Department of Education
- Strategic School Profiles by District 2003-04

In addition to these established secondary data sources, data were also extracted from existing state reports provided by the Family Health Section. These reports were developed by various public agencies, community coalitions, and private advocacy organization throughout the state.

The health profile was prepared using maternal and child health indicators such as health insurance status, access to care indicators, prevalence of chronic disease, and leading causes of death as well as population specific indicators such as mammography rates, immunization rates, birth rates, and prenatal care rates. Emphasis was put on reporting indicators where Connecticut’s women and children or specific segments of the population fared worse than the nation as a whole or where there were large disparities between majority White (non-Hispanic) populations and minority populations in the state.

Key findings were drawn primarily using comparative analysis techniques in order to identify geographic subsets of the population that were demographically or socio-economically different

or that fared worse compared to the state or the national indicator value. A comparative analysis was also used to identify health disparities between racial and ethnic groups.

Regional listening sessions and key informant interviews were conducted to obtain both statewide and regional perspectives on key issues that impact the health and well-being of women and children, as well as to identify opportunities for improving maternal and child health.

The needs assessment incorporated both quantitative and qualitative data collection methods to document current health concerns. While the assessment was comprehensive and involved stakeholders representing the broad maternal and child health interests in the state, methods and procedures were limited by resources, time and available information. The following is a brief summary of key strengths and weaknesses of current methods and procedures used in conducting the needs assessment.

Key strengths of the assessment process included:

- Using both quantitative and qualitative data collection methods to inform the needs assessment process, using data analysis, matrix scoring, focus groups, and key informant interviews.
- Engaging various stakeholder groups whose insights and experience provided practical experience and served as a valuable reality check. A concerted effort was made to engage providers, advocates and consumers in both identifying priority needs and successful solutions to identified problems.
- Partnering with community-based organizations to invite community providers to participate in regional listening sessions. These collaborations ensured broad based participation of a diverse group of agencies serving the maternal and child health needs of their communities.
- Soliciting input on health concerns and priority needs on a regional basis to include both urban and rural communities. This approach highlighted unique geographic issues, which were not readily apparent from available data sources.
- Analyzing a broad range of health status and socio-economic indicators from available federal, state and private data bases to generate a profile of maternal and child health.

Weaknesses of the needs assessment process included:

- Limited consumer input. Although various strategies for incorporating consumer input into the needs assessment process were considered, logistical difficulties proved insurmountable. Initially, consumer input was going to be obtained through a standardized survey instrument to be distributed through MCH partners, statewide. Difficulties getting consensus regarding the number and types of questions on the survey instrument, however, and subsequent approvals in a timely fashion, led to the decision to engage consumers through regional focus groups. While one consumer focus group was ultimately arranged, plans to conduct regional sessions were unsuccessful.
- Lack of local level data for all relevant health status indicators. Federal and state datasets were employed to generate a maternal and child health profile. In general, data was not available at the community level but was limited to the county and statewide level and in some instances, for selected, major municipalities.
- Interviews conducted with staff devoted to a specific topic area could introduce bias into the prioritization process. This potential bias was minimized by independent assessment of data validity by the workgroup members.

Other Needs Assessments within the Family Health Section

The semi-decennial comprehensive needs assessment was designed specifically to re-assess and identify state MCH priorities. Other needs assessments were conducted over the past five years, which also informed the state MCH priorities. These statewide needs assessments resulted in plans with recommendations. The plans, at varying levels of approval within DPH, which are more fully discussed in **Section B.3. Assessment of Needs of the MCH Population Groups**, were:

- Adolescent Health Plan, which addressed the health needs of Children and Adolescents.
- Suicide Prevention Plan, which also addressed the health needs of Children and Adolescents.
- Perinatal Health Plan, which addressed the health needs of Pregnant Women, Mothers, and Infants.
- Genomics Action Plan, which also addressed the health needs of Pregnant Women, Mothers, and Infants

In addition, a needs assessment of CYSHCN were generated for this MCH population, and needs assessments for sharing child health data and database integration within DPH were conducted for the MCH Children and Adolescent population. Also, an assessment of genetics literacy across the entire Region I was also conducted for the Pregnant Women, Mothers, and Infants population.

B.2. Needs Assessment Partnership Building and Collaboration

To include key stakeholders in a meaningful and integral part of the five-year maternal and child health needs assessment, DPH staff identified and convened an initial collaborative meeting (Needs Assessment Planning Committee) with many invited state agencies and community and professional organizations. This initial meeting was held at the Legislative Office Building, in Hartford, in October 2004. The MCH Director presented an overview of the MCH Block Grant and the required semi-decennial needs assessment. Connecticut's approach to the needs assessment encompassed the DPH Internal Needs Assessment (detailed below) and the External Community-Centered Needs Assessment was also described. This collaborative group, which met several times over a six-month period, also provided oversight of the Community-Centered needs assessment.

State agencies that were invited to participate in the collaborative meetings, included: Social Services (administers the State Medicaid program, co-funds the state Healthy Start and Intimate Partner Violence Prevention programs with DPH), Children and Families, Mental Retardation (CT's Part C, ECP partner, CYSHCN/Medical Home project), Mental Health and Addiction Services (participates on the DPH Perinatal Depression Screening Workgroup, Perinatal Advisory Committee), Office of Policy and Management (ECP partner), Education (ECP partner, coordinated school health activities), Commission on Children (ECP partner), and Medicaid Managed Care Council (a legislative entity- not a state agency).

In addition of state agencies, community and professional agencies participated in the meeting, including: Child Health and Development Institute of Connecticut (Medical Home partner), CT Association for Human Services, CT Voices for Children, Hispanic Health Council (administers DPH funded Comadrona program, partnered on teen Latina pregnancy prevention project), March of Dimes (perinatal oral health partnership, Healthy Mothers/Healthy Babies Coalition partnership,) New Haven Healthy Start, School Based Health Center Association, Connecticut Primary Care Association (Health Care for the Homeless, CT Youth Health Services Corp), Capitol Region Conference of Churches, Catholic Family Services, United Way of CT/Infoline (Title V's MCH Information and Referral Service), American College of Obstetrics and Gynecology (perinatal oral health initiative), and the American Academy of Pediatrics (Medical Home collaborator). Please see MBCHG Application, Section E, State Agency Coordination, for a full list of collaborators.

In an effort to build new partnerships and enhance existing partnerships, DPH began last year preparing its community partners for the collaborative needs assessment process. In particular, DPH signed a collaborative Agreement with the Community Foundation for Greater New Haven, New Haven Healthy Start Program (NHHSP), and as part of the agreement, NHHSP staff agreed to participate in the community phase of the five-year needs assessment process.

DPH Internal Need Assessment Process

The MCH Director, through the established MCH Needs Assessment Planning Committee, designed the DPH Internal Needs Assessment with the purposeful collaborative approach to analyze information across the three MCH populations and identify priority needs for these population groups. The collaborative strategy included the formation of three separate workgroups to address each of the MCH populations. Each workgroup included approximately 6-12 members with representation from throughout DPH including the Office of Emergency Medical Services, Divisions of Community Based Regulations, Family Health, Environmental Health, Health Information Systems and Reporting, Health Education, Management and Surveillance, and Infectious Disease.

The Internal Workgroups met 6-10 times over a three-month period from September 2004 to November 2004. At these meetings, the workgroup members identified sources of MCH data and information housed at DPH relevant to the population group, including exiting programmatic information, reports and data sources.

Workgroup members gathered additional data by conducting interviews with programmatic staff and presented the information to the entire workgroup. The members reviewed information for its validity and value to the needs assessment, and determined how it could help assess the need for direct health care, enabling, population-based and infrastructure-building services. Existing programs were discussed, including how they address the identified needs and where there may be gaps in services. Strengths of existing program were identified, as well as gaps and needs. In total, each volunteer member of the workgroups contributed 15 to 20 hours to the assessment process.

DPH External Community-Centered Needs Assessment Process

In addition to the DPH internal needs assessment described above, the MCH Director and the MCH Needs Assessment Planning Committee also planned the Community-Centered Needs Assessment to ensure that a community-focused assessment would be incorporated in the process. The DPH hired a contractor, John Snow, Inc. (JSI) to complete this external component of the needs assessment. The external assessment provided a forum for community input into the determination of the state priority needs. Community data were collected through a set of two survey processes. JSI staff engaged stakeholders representing the broad-based maternal and child health interests in the state including state and local health agencies, community providers, social service agencies, schools, and consumers. Focus groups were convened with providers and consumers, and interviews were conducted with statewide and regional stakeholders to: better understand the health needs of hidden populations such as immigrants, refugees and undocumented populations; understand unique regional concerns; and to identify strategies for improving maternal and child health. Community Listening Sessions and Key Informant Interviews, which are more fully discussed below, were conducted to obtain both statewide and regional perspectives on key issues impacting the health and well-being of women and children, as well as to identify opportunities for improving maternal and child health. Summary comments and recommendations of these Community-Centered Assessments are discussed in **Section B.3. Assessment of Needs of the MCH Population Groups**, for each of the three MCH population groups.

Community Listening Sessions

During March and April, 2005, JSI conducted a set of five listening sessions in five towns across the state (**Table 4**) within separate counties. A total of 79 participants representing a broad array of stakeholders were involved in the sessions, including local health officials, advocacy organizations, primary and early care providers, social service agencies, agencies serving CSYCN, and representatives from homeless/transitional housing agencies. In addition to the listening session conducted in New Haven of professional and advocacy organizations, a second, separate listening session was conducted exclusively of consumers. Fourteen consumers attended this listening session.

Listening Sessions were conducted to solicit community feedback and input regarding the health, well-being and service needs of women, mothers, families and children in the region. Specifically, the focus of the discussion was the identification of gaps or barriers in the health system contributing to poor health outcomes to target for improvement. All listening sessions were co-hosted by DPH and a local agency. Each listening session was two hours in length and began with a brief presentation summarizing major health status indicators for the five target populations that are the focus of maternal and child health activities, including:

- Women's Health
- Maternal Health
- Child Health (2-12 years old)
- Adolescent Health (13-19 years old)
- Children with Special Health Care Needs

**Table 4
Community Listening Sessions**

Town	County	Number of Participants	Representation
Bridgeport	Fairfield	19	Bridgeport Community Health Center, Southwestern AHEC, Bridgeport Hospital, Park City OBGYN, St. Vincent's Medical Center, Health Net of Northeast, Bridgeport Dept of Health, SW AHEC, Greater Bridgeport Adolescent & Pregnancy Program, Trumbull-Monroe Health District, DSS, ABCD, WE Community Health Center, Stratford health Department, Fairfield Dept of Health
New Haven	New Haven	22	The Comm Found for Greater New Haven, Fair Haven Community Health Center, McCabe Center, New Haven Dept of Health, Student Parenting & Family Services, WELL, The Consultation Center, Yale School of Nursing, HealthNet, St. Raphael Hospital, New Haven FIMR, Planned Parenthood of CT, New Haven Public Schools, Yale Hospital
New London	New London	13	Head Start, Stonington Comm Center, Riverfront Children's Center, VNA Southeastern CT, Community Partnerships, Women's Center of SECT, CHAMP Ledgelight
Waterbury	New Haven	9	Staywell Health Center, Naugatuck Valley Health District, Waterbury Hospital, Waterbury Dept of Health
Willimantic	Windham	16	Generations Family Health Center, Windham Hospital, ACCESS Agency WIC Program, Windham Brd of Ed SBHC, GFHC, Head Start Program, Windham Regional Community Center, Windham Healthy State Home-based, Nurturing Families
Total		79	

After the presentation, participants were surveyed for comments, strengths, and weaknesses of the current MCH health care system, using the following discussion points:

- Based on the information presented, what do you see as the most important MCH needs for DPH to address in the next five years and why?
- What populations are most in need of services? What are the demographic characteristics of the core populations that you serve? Are there any emerging or “hidden populations” that may be small in number but have great needs?
- What is missing from the results you heard?
- With respect to MCH services, what works well in your area?
- With respect to MCH services, what does not work so well in your area?
- What do you recommend as next steps for DPH in addressing the MCH needs in your area?

Key Informant Interviews

Key informant telephone interviews were conducted of ten maternal and child health experts within Connecticut to solicit feedback and input regarding the priority issues, unmet needs, service gaps, barriers to access, “hidden populations,” and recommendations for improvement. A list of key informants was developed with the assistance of the Family Health staff and included primary health care providers, maternal and health program personnel, public officials, and representatives from advocacy organizations. The respondents represented: 1) state agencies, such as the Permanent Commission on the Status of Women, Office of Child Advocate, and Dept of Mental Retardation; 2) state organizations, such as the CT Primary Care Association, CT Association of School-Based health Centers, and Planned Parenthood of CT; and 3) local organizations, such as New Haven Healthy Start, Community Health Centers in Willimantic and Hartford, and a School-Based Health Center in Hartford. Interviews were conducted using a structured guide to ensure that information was collected consistently across interviewees, but care was also taken to ensure opportunity for open-ended, free flowing conversation on the topic.

Strengths and Limitations

While the external Community-Centered Needs Assessment involved extensive collaboration with stakeholders representing the broad maternal and child health interests in the state, partnerships were impacted by limitations in resources, time and available information. In addition, the largely collaborative DPH Internal Needs Assessment was limited. The following is a brief summary of key collaborative strengths and weaknesses.

Key strengths in partnership building included:

- Building partnerships within DPH among multiple programs, from across multiple sections and bureaus.
- Engaging various stakeholder groups whose insights and experience provided practical experience and served as a valuable reality check. A concerted effort was made to engage providers, advocates and consumers in both identifying priority needs and successful solutions to identified problems.
- Partnering with community-based organizations to invite community providers to participate in regional listening sessions. These collaborations ensured broad based participation of a diverse group of agencies serving the maternal and child health needs of their communities.

Weaknesses in collaboration building included:

- Limited consumer input. Although various strategies for incorporating consumer input into the needs assessment process were considered, logistical difficulties proved insurmountable. Initially, consumer input was going to be obtained through a standardized survey instrument to be distributed through MCH partners, statewide. Difficulties developing and getting the survey instrument approved led to the decision to engage consumers through regional focus groups. While one consumer focus group was ultimately arranged, plans to conduct regional sessions were unsuccessful.

Collaborations Established Through Other Needs Assessments

During the past five years, and in preparation for a number of strategic plans, the FH section has established a variety of *ad hoc* partnerships and forged broad-based collaborations with many stakeholders. Collaborations were nurtured in the needs assessments that led to the statewide Adolescent Health Plan, Comprehensive Suicide Prevention Plan, Genomics Action Plan, and Perinatal Health Plan. Some of these collaborations, such as that established for the Perinatal Health Plan, are on-going, and planned action steps are being implemented. Other collaborations could be re-established for future planning and implementation activities.

During development of a draft Adolescent Health Plan, a Strategic Planning Committee, representing a range of key stakeholder perspectives, was convened and played a key role in the development of the Plan. This group consisted of representatives from the following organizations: Connecticut Children's Medical Center, Connecticut Voices for Children, Connecticut Dept. of Children and Families, Prevention Services, Connecticut State Dept. of Education, Connecticut Dept. of Mental Health and Addiction Services, Connecticut Dept. of Mental Retardation, Connecticut Dept. of Public Health, Tobacco Control, Connecticut Dept. of Public Health, AIDS and Chronic Diseases, Connecticut Dept. of Public Health, Family Health Division, Connecticut Dept. of Public Health, Infectious Diseases, Connecticut Dept. of Public Health, Health Education, Management & Surveillance Section, Connecticut Dept. of Social Services, HUSKY Programs, Connecticut Dept. of Social Services, Social Work & Prevention Services, Connecticut Primary Care Association, Connecticut Parent Teacher Association, Fair Haven Health Center, Greater Bridgeport Adolescent Pregnancy Program, Inc., Human Services Council, School-Based Health Program, Legislative Medicaid Council, Planned Parenthood of Connecticut, and St. Francis Hospital Medical Center.

During development of the State of Connecticut Comprehensive Suicide Prevention Plan (Connecticut State Department of Public Health, 2005a), an Interagency Suicide Prevention Network (Network) was created. The State of Connecticut Department of Public Health facilitated the Network with consistent support from the Connecticut Judicial Branch and its Judicial, Court Support Services Division. This Network was composed of representatives from many state agencies, including: State of Connecticut Judicial Branch, Court Support Services Division, United Way of Connecticut, State of Connecticut Department of Social Services, State of Connecticut Department of Mental Health and Addiction Services, Central Connecticut State University, Department of Criminology/Criminal Justice, Connecticut State Department of Education, State of Connecticut Department of Children and Families, Connecticut Commission on Aging, St. Francis Hospital and Medical Center, Mental Health Association of Connecticut, Inc., Office of the Child Advocate, University of Connecticut Health Center, School of Medicine.

During its development of the Perinatal Health Plan for Connecticut (Connecticut State Department of Public Health, 2005b), staff in the Family Health Section assembled a Statewide Perinatal Health Advisory Committee that included the: Connecticut Hospital Association, Connecticut Women's Consortium, March of Dimes, Connecticut Chapter, Real Dads Forever, University of Connecticut Health Center, Community Foundation for Greater New Haven, City of New Haven Health Department, East Shore District Health Department, Planned Parenthood of Connecticut, Inc., Department of Mental Health and Addiction Services, Connecticut Primary

Care Association, Connecticut Department of Children and Families, Permanent Status on the Commission of Women, University of Connecticut Health Center, Connecticut Department of Social Services, and American Academy of Pediatrics.

The Genomics Action Plan, itself developed through the cooperative efforts of multiple units within DPH, was informed by several statewide assessments, and among those assessment strategies was the convening of a set of genetics stakeholders meetings. This set of meetings featured meetings of professionals from many areas requiring specialized training in genetics. These specialties included The CT Genetic Stakeholders Advisory Group was comprised of three clinicians, two academics, two family representatives, three industry representatives, two ethics and law expert, and one genetics epidemiologist. Its strength is the degree of professional expertise that informed the Plan. Its weakness is its lack of clinical genetics counselors.

Recently, a regional genetics educational collaborative was established, through NERGG, Inc, a New England Regional Genetics Group. Funded by HRSA, this unique and energetic collaborative performed an assessment of genetics literacy needs among the members. The collaborative is composed of genetics and newborn screening genetics staff from the departments of health of each of the six New England states, including Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut. The strength of this collaborative is the natural cohesion felt by the group through many years of informal collaborative discussions. Its weakness is its current dependence on principle investigators for financial support to address the needs it identifies.

B.3. Assessment of Needs of the MCH Population Groups

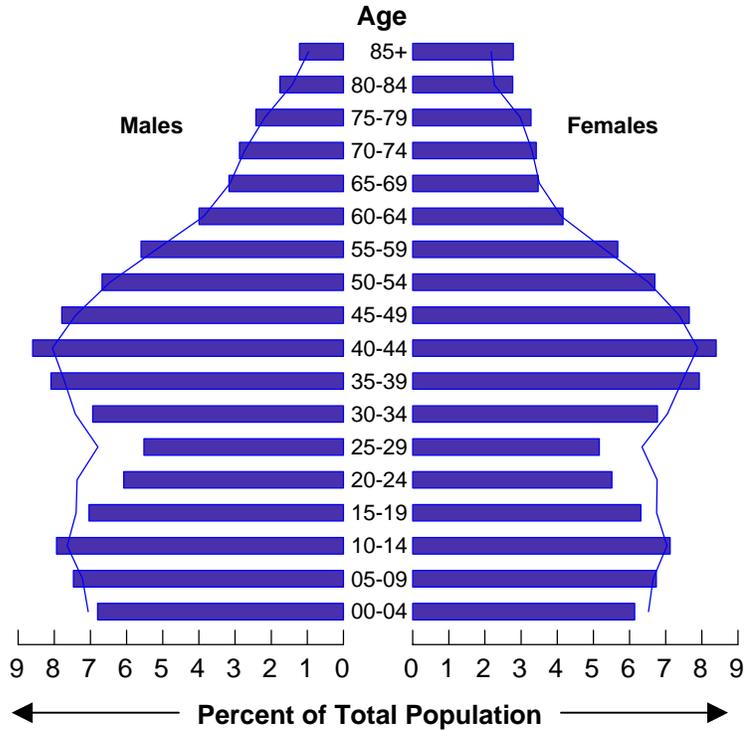
This section contains discussions and information from a variety of sources. Information is organized into overall state data, in addition to the three MCH population groups. The most current demographic and population information from the US Census are presented in this section. In addition, the most current information from within DPH is used, including BRFSS data results and vital statistics data. Also, results of needs assessments conducted within the past five years to inform statewide health plans are discussed. In addition to these sources, results of the Community-Centered Needs assessment are presented. Results of the internal DPH Needs Assessment are discussed in **Section B.4. Selection of State Priority Needs**.

State Characteristics

Demographics

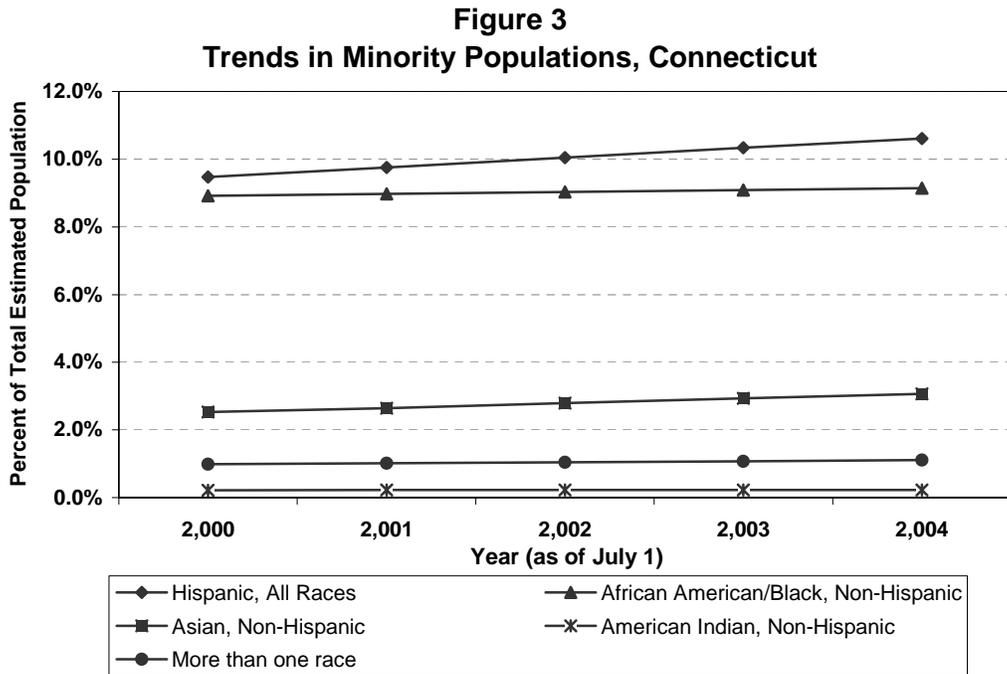
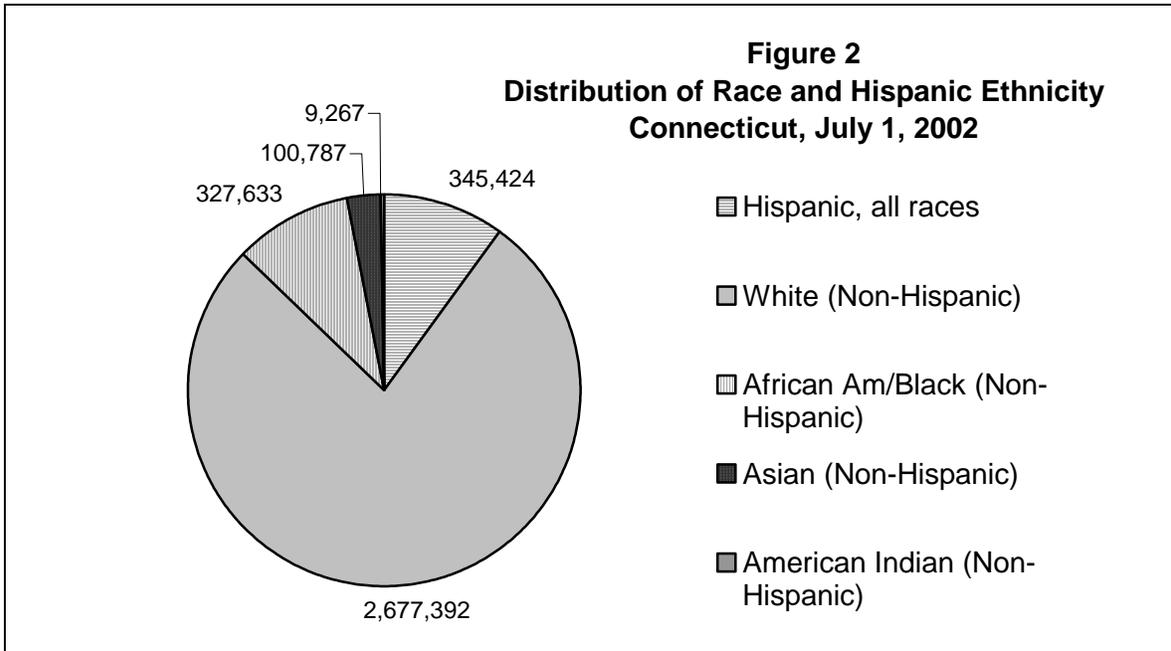
Connecticut is located in southern New England and is nestled between the metro areas of Boston and New York. Nearly 3.5 million people were living within the borders of Connecticut in 2002 (US Census Bureau, 2003a), and approximately 28% of the population was less than 20 years old (US Census Bureau, 2003a). Of those between the ages of 20 and 44, 50% were women. Relative to the US population, Connecticut was home to a smaller percentage of individuals between ages 15 to 34, and a greater percentage of individuals who were at least 35 years old (**Figure 1**; US Census Bureau, 2003a, 2005). The greatest disparity between the Connecticut and national percentages was with those individuals aged 20 and 29, in which far fewer individuals in this age group lived within the state.

Figure 1
Age Distribution of the US and Connecticut Populations
Males and Females, July 1, 2002



Percent Population in Connecticut (bars) versus United States (lines).
Source: US Census Bureau, 2003a, 2005.

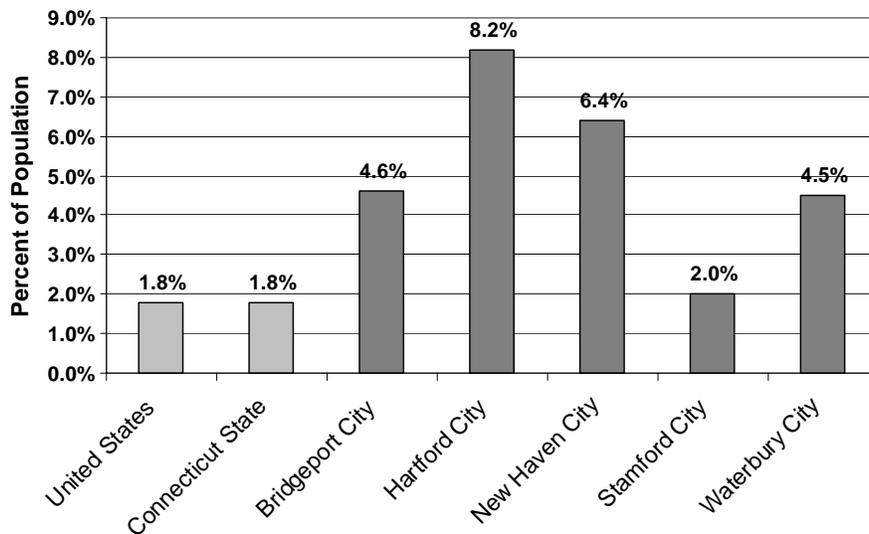
Within the state of Connecticut in 2002, 77% of the population was reportedly White (non-Hispanic) (**Figure 2**; Stone, 2004). The remainder of the population was comprised of minority populations. Within this sub-group, the largest fraction was among those reportedly of Hispanic origin, comprising 10% of the total population and 43% of the minority population. Another 9% of the total population was African American/Black (non-Hispanic) (39% of the minority population). These two minority groups were followed by Asian and American Indians of non-Hispanic origin, comprising 3% and 1%, respectively, of the total population. Population estimates since the 2000 census indicate that the contribution of the minority populations to Connecticut's total population is growing (**Figure 3**; US Census Bureau, 2004). For instance, the Hispanic population increased in relative size by 12% in the years 2000 through 2004, while the total population of the state increased only 2.7%. If this rapid rate of growth continues within Connecticut, the health issues of minority populations within Connecticut, and particularly of the Hispanic population, are not likely to diminish without intervention strategies.



Detailed race/ethnicity population estimates at the town level are not provided by the US Census Bureau in postcensal years. This limits the degree of demographic information possible for focused groups. Efforts are underway within DPH to obtain postcensal detailed estimates (C. Stone, Family Health, DPH; L. Mueller, Health Information Systems Reporting, DPH). Currently, however, detailed information is limited to decennial figures. Discussion of Connecticut's towns and cities is, therefore, limited to figures obtained from the 2000 census.

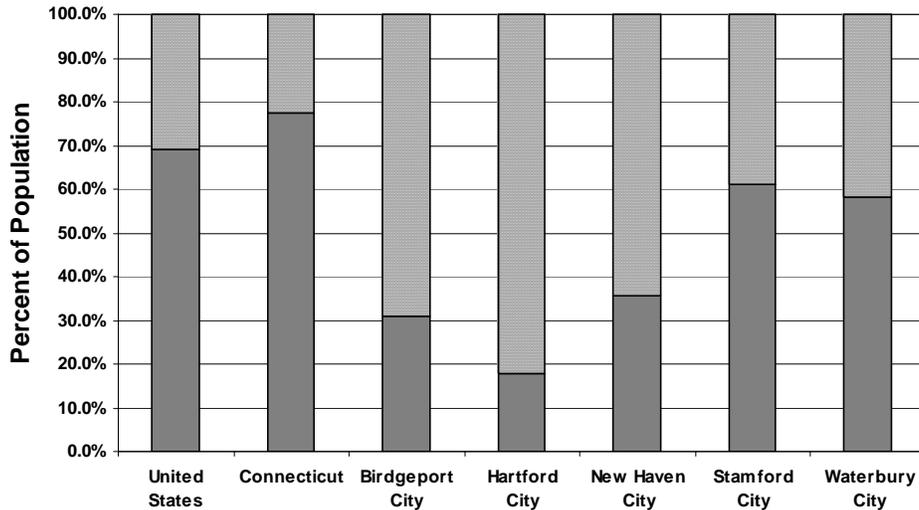
Within Connecticut's largest cities, such as Bridgeport, Hartford, and New Haven, the age distributions in the 2000 census varied significantly, relative to the overall state distribution (US Census, 2000). People in these urban areas were much more likely to be less than 45 years old. These geographic areas had smaller proportions of older adults. For instance, the proportion of children less than 18 years old who were living in Bridgeport and Hartford were 28.2% and 30.0%, respectively, compared to 24.7% for the state. The proportion of young adults in the cities of Bridgeport and Hartford were 42.3% and 42.5% respectively, compared to 38.4% for the state. Further, the proportion of women of childbearing age in Bridgeport and Hartford were 23.8% and 24.5%, respectively, compared to 21.3% for the state. Also, only 1.8% of families with children were led by a single mother in the state, compared to 4.6% in the city of Bridgeport, 8.2% in the city of Hartford, and 6.4% in the city of New Haven (**Figure 4**). Further, whereas 0.3% of families with children were led by a single father, the percentage was 0.9% in the city of Bridgeport, 1.0% in the city of Hartford, and 0.7% in the city of New Haven. These figures indicate that MCH health issues are likely to be more focused in these geographic areas.

Figure 4
Percentage of Families led by Single Mothers
Selected Connecticut Cities, 2000



Although only 23% percent of Connecticut’s population in 2000 was composed of minority groups, many of Connecticut’s larger cities had a much larger proportion non-White residents than the state overall (**Figure 5**; US Census Bureau, 2000). In the cities of Bridgeport, Hartford, and New Haven, for instance, White (non-Hispanic) residents were in the minority, and only 17.7% of Hartford’s population was White (non-Hispanic). In the cities of Bridgeport and Hartford, the Hispanic population was the largest population group, followed closely by the African American/Black (non-Hispanic) population. In Bridgeport 31.9% of the population was Hispanic and 29.2% was African American/Black (non-Hispanic). In Hartford 40.6% of the population was Hispanic and 36.0% of the population was African American/Black (non-Hispanic). In the city of New Haven, over 35% of the population was African American/Black, while 35.7% were White (non-Hispanic).

Figure 5
Percent of White, non-Hispanic and Non-White Residents
Selected Cities of Connecticut, 2000



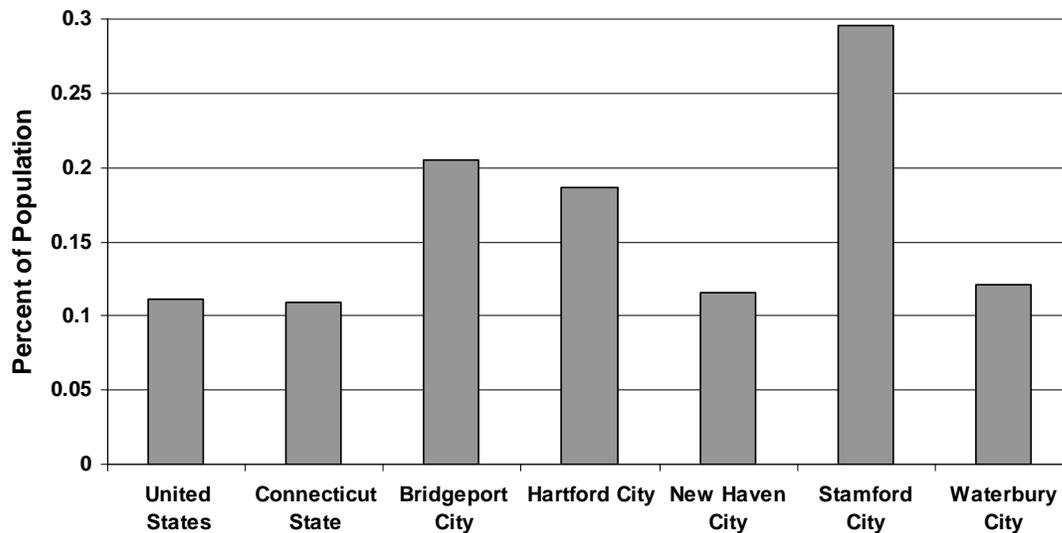
■ White (Non-Hispanic) ■ Non-White

White – those self-reported as White, non-Hispanic; Non-White – remainder of the population, including those self-reported as any other single race (non-Hispanic), or Hispanic (any race), or multiple races

In 2000, Connecticut’s foreign-born population made up a smaller proportion of the state’s population compared to the population in the US (US Census Bureau, 2000). There were roughly 370,000 foreign-born residents in Connecticut, representing 10.9% of the state’s population (**Figure 6**). Connecticut’s foreign-born population lived predominantly in Connecticut’s urban areas. In 2000, 30.9% of Stamford’s population was foreign born compared to 20.5% of Bridgeport’s population and 18.6% of Hartford’s population. Many of Connecticut’s foreign-born population were reportedly from Latin America and Europe. In 2000, 38.1% of Connecticut’s foreign population was born in a European country and 34.7%

were born in Latin America. Nineteen percent were born in Asia, and the remaining 7.2% were reportedly born in Africa or Oceania. A significant proportion of Connecticut's foreign-born population lived in households that were linguistically isolated, meaning that no one living in the household spoke English well. Over 4% of Connecticut's households were linguistically isolated, compared to 13.3% of households in the city of Bridgeport and 15.9% of households in Hartford. 7.7% of households in New Haven, 8.3% of households in Stamford, and 8.9% of households in Waterbury.

Figure 6
Percent Foreign Born
Selected Cities of Connecticut, 2000



With a median household income of \$55,004, Connecticut was ranked fifth in the nation in the census 2000 (US Census Bureau, 2003b) that year. Within many of Connecticut's cities, however, the median income was considerably lower. For instance, 30.6% of Hartford's population lived in poverty, as did 24.4% of New Haven's population, 18.4% of Bridgeport's population, and 16% of Waterbury's population. Nearly 40% of Hartford's population lived below 200% of the Federal Poverty Level, as did 33.2% of New Haven's population, 29.8% of Waterbury's population, and 29.6% of Bridgeport's population. Obtaining adequate health care is likely to be an obstacle in these urban areas.

Health Care Issues

During the years 2001 through 2003, men, women, and children in Connecticut were more likely to have adequate health insurance coverage compared to their counterparts nationwide (D. Aye, Health Information Systems & Reporting, DPH, personal communication; Kaiser Family Foundation, 2005). Disparities were observed, however, between Connecticut's White (non-Hispanic) populations and its minority populations. For instance, only 6.0% of White (non-

Hispanic) women (aged 18 years and older) were without health insurance compared to 22.0% for African American/Black (non-Hispanic) and Hispanic women in this age group. Also, 8.3% of White women (aged 18-44) did not have any health insurance, compared to 23.4% of African American/Black (non-Hispanic) and Hispanic women in the same age group.

In year 2002, women of all age and race/ethnicity categories in Connecticut were more likely to receive adequate primary care services than their counterparts nationwide (D. Aye, Health Information Systems & Reporting, DPH, personal communication; Kaiser Family Foundation, 2005). However, within the state, there were disparities between White (non-Hispanic) and minority populations. For instance, whereas nearly 92% of Connecticut's White (non-Hispanic) women (aged 18 and over) had at least one health care provider, only 75% of African American/Black (non-Hispanic) and Hispanic women in this age category claimed a health care provider. Also, African American/Black (non-Hispanic) women (aged 18 and over) reported that they were nearly 3 times as likely to go without needed care in the last 6 months, compared to White (non-Hispanic) women.

Health Behaviors

In 2002, Connecticut's women (aged 18 years and older) were less likely to smoke than women in the same age group nationally (19.4% vs. 23.0%; D. Aye, Health Information Systems & Reporting, DPH, personal communication). Also, African American/Black and Hispanic women in Connecticut were less likely to smoke cigarettes than their counterparts nationally. In the same year, however, 6.3% of women in Connecticut were reportedly heavy drinkers (as defined by drinking, on average, more than one alcoholic drink per day), compared to 4.6% their counterparts nationally.

Within the state, White (non-Hispanic) women aged 18 to 44 years old were more likely to binge drink alcohol than African American/Black (non-Hispanic) and Hispanic women of the same age group. White (non-Hispanic) women in this age group were also more likely to be heavy drinkers (D. Aye, Health Information Systems & Reporting, DPH, personal communication).

In 2002, Connecticut's White (non-Hispanic) women were more than twice as likely to get some leisure time physical activity/exercise in the past 30 days than their African American/Black (non-Hispanic) and Hispanic counterparts (D. Aye, Health Information Systems & Reporting, DPH, personal communication). Nearly 80% of White women in Connecticut (18 years old and older) received some physical activity in the past 30 days, compared to 58.7% of African American/Black (non-Hispanic) and Hispanic women of the same age group. White (non-Hispanic) women of childbearing age in Connecticut were much more likely to exercise than the overall population of adult women, particularly White (non-Hispanic) women; 84.3% of White women of childbearing age (aged 18-44) received some physical activity in the past 30 days, compared to 59.2% of African American/Black and Hispanic women of childbearing age.

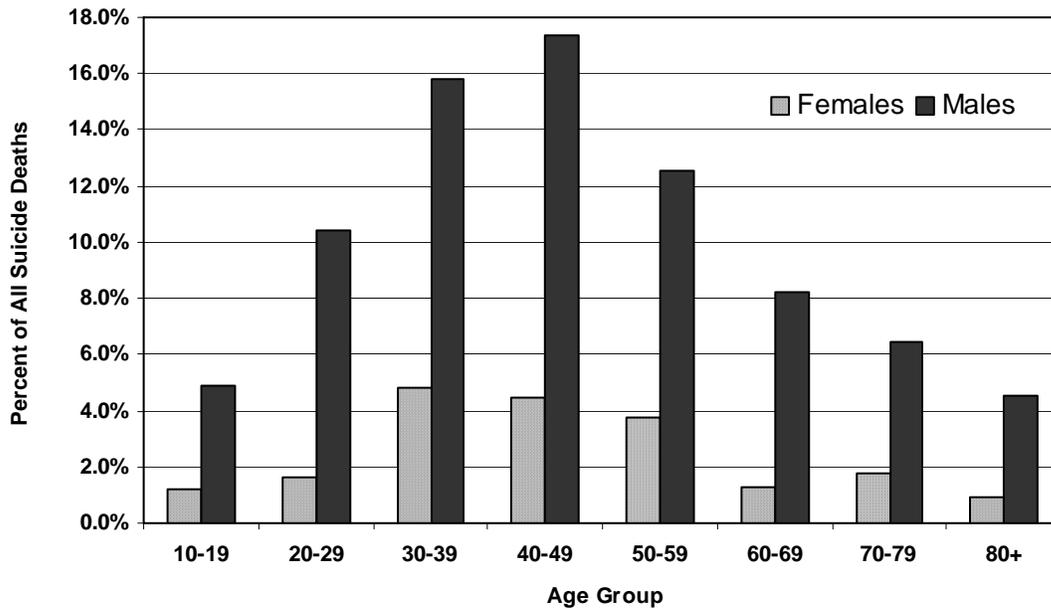
The state's overall population maintains an active lifestyle, however, over the years 2001 through 2003, nearly half of adult women in Connecticut of all races and ethnicities reported being overweight or obese, as characterized by the Body Mass Index (BMI), using the national Centers for Disease Control's standard assessment criteria (D. Aye, Health Information Systems & Reporting, DPH, personal communication). Over 44% of all adult women (aged 18 and over) reported being either overweight or obese; 26.8% reported being overweight, and 17.5% reported

being obese. Women of childbearing age were less likely to be overweight or obese, while older women were more likely to be overweight or obese. Over 37% of women (18 to 44 years old) were either overweight or obese, compared to 50.5% of women over 45 years old. Also, over 40% of adult White (non-Hispanic) women (aged 18 and over) reported being either overweight or obese, compared to 66.2% of African American/Black women (non-Hispanics), and 50.5% of Hispanics in this age group. These data indicate that obesity continues to be an issue within the state.

Intentional Injury

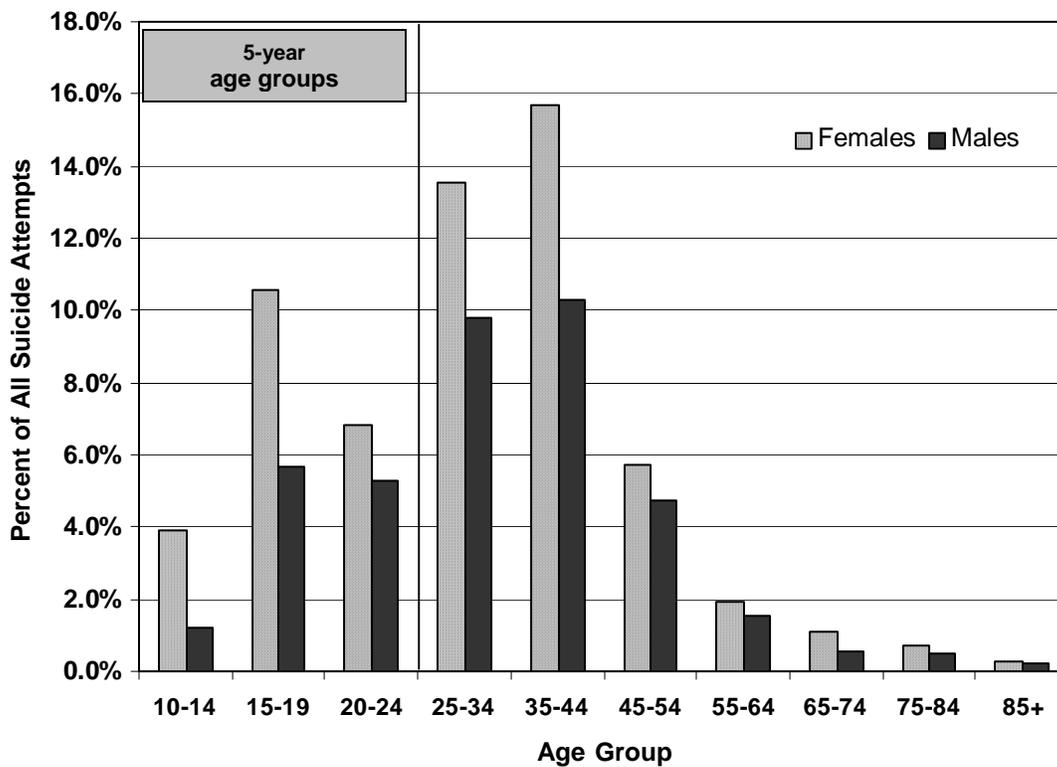
Intentional injury is an increasing concern within the state of Connecticut. Over 48% of the 4,105 suicide attempts within Connecticut during 1999 occurred between the ages of 25 and 44 years (**Figure 7**; L. Mueller, Health Information Systems & Reporting, DPH, personal communication). Of these, over 59% were attempted by women. A disproportionate number of suicide attempts also occurs among women aged 10 through 19 years; 978 attempts were reported among women, contrasted with only 276 among men.

Figure 7
Suicide Mortality in Connecticut
1999-2001



The disparity between men and women with suicide attempt is reversed with suicide mortality (**Figure 8**; Connecticut State Department of Public Health, 2005). Although the absolute numbers for suicide mortality are 10-fold lower over the three-year period from 1999 through 2001 than for suicide attempt, suicide mortality is far more likely among men than among women. For both genders, the highest number of suicide mortality cases occurred between the ages of 20 and 49 years, accounting for 42% of all suicide mortality. Within this age group, 22% of all suicide mortality occurred among women.

Figure 8
Suicide Attempts in Connecticut
1999



HIV/AIDS

Intravenous drug use led to the largest prevalence of HIV cases (Connecticut Department of Public Health, 2003a). During 2004, 34.6% of all cases were reported to be among intravenous drug users. Also, of the more than 13,000 cases of AIDS diagnosed in the state since 1980, only 1.3% were reported in children under 13 years old (Connecticut Department of Public Health, 2003b).

Community-Centered Needs Assessment of Women in Connecticut

- Listening session participants identified that the major health concerns for women include increasing rates of obesity and overweight; lack of access to mental health, oral health and specialty care services; decreasing use of routine and preventive services; and increasing rates of substance abuse and violence.
- Listening session participants identified as major health concerns both perceived and actual barriers to routine and preventive services for women.
- Listening session participants reported that real cost barriers exist for low-income and uninsured residents for services not available in community health centers, especially oral health, mental health and specialty services.
- Listening session participants stated that, in general, primary care services are available in urban areas, but populations that are likely to perceive barriers to access include undocumented residents, refugees, teens, and foreign-born residents.
- Listening session participants stated that rural areas have a lack of primary care providers, resulting in poor compliance with routine and preventive services.
- Key informant respondents were most concerned about the lack of access to health care services due to un-insurance and high out-of-pocket expenses. As a result, women are not receiving routine and preventive care, as well as follow-up screening and testing services.
- Key informant respondents reported concern about high rates of obesity contributing to chronic diseases, and about a lack of access to mental health and oral health services.

Children and Adolescents

Health Statistics

Connecticut's overall rank is seventh among all states in the US. Within Connecticut, 22% of children in 2001 were living in families where no parent had full-time, year-round employment, compared to 25% for families nationwide (The Annie E. Casey Foundation, 2005). This figures represents a decrease of 3% since 1996. From 1996 to 2001, the child death rate decreased 39% from 23 deaths per 100,000 to a rate of 14. The rate in 2001 was nearly half that of the national rate. The Teen birth rate within Connecticut decreased from 1996 to 2001 38%, from 24% in 1996 to 15% in 2001. Additionally, the percent of children living in poverty decreased from 14% in 1996 to 10% in 2001, a value 6% lower than the national percent. In 2002, the most recent year for which mortality data were finalized, the Connecticut childhood mortality was roughly two-thirds the national average. In Connecticut, the mortality rate was 13.1 deaths per 100,000 population compared to 21 for the nation overall (L. Mueller, DPH; Kochanek, 2004).

An estimated 8.9% of Connecticut children under the age of 18 were reported to have asthma in 2001 (Connecticut State Department of Public Health, 2004a). Asthma hospitalization rates were highest for children aged 0 to 4 years, and for African American/Black and Hispanic children of any age. Hospitalization rates and emergency room visit rates for children with asthma were disproportionately high in the five largest cities and among low-income towns. From 1995 through 2000, the rate of emergency room visits decreased steadily among children

less than 15 years old. The percent of children with asthma whose families were greatly or moderately affected by the child's health condition was higher than the national percentage (18.7% in the state *versus* 16.3% nationally) (Child and Adolescent health Measurement Initiative, 2005), indicating that work in this area needs to continue.

A lower percentage of students in the 9th to 12th grades were in a physical fight in Connecticut than the nation as a whole (Connecticut State Department of Public Health, 2004b; Kaiser Family Foundation, 2005). Over 29% of high school students surveyed were in a physical fight in Connecticut compared to 33% of students nationwide. High school students surveyed (9th to 12th graders) in Connecticut were as equally likely as students in the US overall to have carried a weapon on school property. Over 6% of high school students had carried a weapon in school.

Although child well-being within Connecticut ranked well compared to other states in the US, improvements in three notable areas were not observed between 1996 and 2001 (Connecticut State Department of Public Health, 2004b; Kaiser Family Foundation, 2005). The rate of teen deaths (aged 15 to 19 years) by accident, homicide, and suicide increased from 39 deaths per 100,000 in 1996 to a rate of 40. The percent of teens aged 16 to 19 who were high school dropouts increased by 1% (5% in 1996 and 6% in 2001). In 2003, there was no change in the percent of teen not attending school and not working (6%). In addition, the percent of Connecticut's 9th to 12th grad students surveyed who used marijuana was slightly higher than the percentage of the nation's adolescents who used the drug (26.2% for Connecticut *versus* 22.4% nationally). In addition, the percent of Connecticut's 9th to 12th graders who described themselves as slightly or very overweight was 29.8%, compared to 29.6% nationally.

While many children within Connecticut lived in affluent homes and attended schools boasting high academic achievement, nearly 86,000 lived below the poverty level (US Census Bureau, 2003c). In the city of Hartford, over 40% of the children were estimated to be living in poverty (Children's Defense Fund, 2002), a figure surpassed only by one other city in the nation with a population over 100,000. Also, students in Connecticut's poor urban communities fared worse with respect to available resources and performance measurement as compared to its more affluent communities (Connecticut State Department of Education, 2005), and these children were far more likely to have parents without high school diplomas and to live in households that do not speak English (Connecticut State Department of Education, 2005). These data suggest that health issues among children and adolescents in urban environments must be culturally sensitive and must address family systems.

Adolescent Health Plan

The Department of Public Health (DPH) has long recognized the need to have a coordinated, integrated, and statewide approach to improving the health of its youth. Therefore, in the fall of 2004, DPH hired Policy Studies Inc. (PSI) to facilitate the development of a draft Adolescent Health Strategic Plan. Now under consideration by the Commissioner, the draft Plan was designed to set priorities, goals and related strategies so as to guide the Department in its effort to improve the health of Connecticut youth over the next decade. The draft Plan was conceived through a comprehensive and participatory long-range strategic planning process. This process included an assessment of adolescent health needs in Connecticut, identification of existing

programs and assets serving youth in the state, and a best practices review. Assessment of adolescent health needs included interviews with key stakeholders serving youth as well as input from adolescents themselves. Youth input was collected through an informal survey process as well as one discussion group.

At the outset of the planning process, an Adolescent Health Strategic Planning Committee, representing a range of key stakeholder perspectives, was convened and played a key role in the development of the Plan (see **B.2. Needs Assessment Partnership Building and Collaboration**). This working group provided ongoing expertise to the planning process and included representatives from multiple state agencies, a variety of organizations that serve youth, and a diverse group of adolescent healthcare providers. Over the course of five working meetings, the Planning Committee identified three priority issues of critical importance to adolescent health in Connecticut. The Committee utilized a number of factors to inform their decision. These factors included: important social, technological, economic and social trends shaping the health and well-being of Connecticut adolescents; cross-cutting issues affecting the state’s ability to achieve adolescent health and well-being; positive youth development opportunities; feasibility of addressing the issue as well as consequence of not addressing the issue; frequency of the issue; whether the issue was being addressed adequately by other initiatives; and lastly, the Center for Disease Control and Prevention’s *21 Critical Health Objectives* for adolescents and young adults (US Department of Health and Human Services, 2000). It is important to note that the Plan was designed to also address other health issues not included in the *21 Critical Health Objective*, as the Committee believed that they were of major concern to Connecticut’s adolescents.

The draft Adolescent Health Strategic Plan emphasizes activities that will increase access to healthcare for adolescents, improve their environments; increase the role of schools in improving adolescent health, promote overall positive adolescent health states, improve adolescents’ transition to adulthood, and improve collaborative relationships. The priority issues, which need to be implemented, and which are at least partially represented in the MCH Priorities (see **B.5. Selection of State Priority Needs**) are:

Priority Issue #1: Provide adolescents with the support, options, and resources they need to successfully transition to healthy, empowered, and productive adulthood.

Goal 1.1: Connecticut adolescents are empowered to assume responsibility for their health and behavior.

Goal 1.2: Connecticut adolescents and their families and caregivers have access to timely and affordable health and mental health services that are culturally, medically, developmentally and linguistically appropriate.

Goal 1.3: Parents and guardians, providers and adolescents have meaningful opportunities to participate in policy decisions affecting adolescent health.

Priority Issue #2: Enhance communication, coordination and collaboration among stakeholders in adolescent health.

Goal 2.1: Programs and agencies serving youth (including efforts that are both public and private, and that are at the federal, state and local levels) have the mechanisms and opportunities to share data and information including best practices, challenges, and lessons learned in research and service delivery.

Goal 2.2: Adolescents receive coordinated, integrated physical health and mental health services.

Goal 2.3: Appropriate data are collected and available on adolescents to inform decision-making about adolescent health.

Priority issue #3: Improve adolescent health and well-being.

Goal 3.1: Programs, services and information that create a culture of prevention and positive mental health are available to adolescents and their families and to healthcare providers and educators.

Goal 3.2: All adolescents who need mental health services have access to these services and utilize the services.

Goal 3.3: Adolescents achieve and maintain healthy nutrition and physical activity/fitness.

Goal 3.4: Adolescents abstain from using alcohol, marijuana, tobacco and other substances.

Goal 3.5: All adolescents who need substance abuse treatment have access to timely, affordable, and culturally, medically, developmentally and linguistically appropriate services.

Goal 3.6: Adolescents adopt behaviors that support healthy sexuality.

Goal 3.7: Adolescents live in neighborhoods and go to schools that are violence-free.

Comprehensive Suicide Prevention Plan

Another plan that was recently developed to address rising health issues in the state is the Suicide Prevention Plan. Now endorsed by the Commissioner and available for public viewing (Connecticut Department of Public Health, 2005a), this plan contains recommendations for three distinct age groups: Children and Adolescents, Adults younger than 65 years old, and adults aged 65 and over. Recommendations for Children and Adolescents, some of which are reflected in the MCH priority needs (see **B.5. Selection of State Priority Needs**) are:

Promote Awareness That Suicide Is Preventable And That Mental Health Is Important To Overall Health

- Promote a public awareness campaign that promotes the adult role in facilitating the mental health of children and youth
- Use non-traditional service providers and community partners to develop appropriate messages and strategies to reach diverse populations
- Enhance and facilitate training for children and youth, parents and caregivers, professionals on child development, substance abuse, coping skills, life skills, mental health issues, conflict resolution, competition and stress relieving strategies
- Promote awareness among adults of key male and female methods of suicide attempts and completions among children and youth
- Promote awareness of issues specific to children and youth who may be victimized by their peers because they are perceived to be not acceptable.

Promote, Develop and Implement Effective Prevention Strategies

- Facilitate more early mental health prevention and intervention such as early childhood services and specialized nursery schools
- Encourage providers to discuss firearm safety with caregivers and include in client assessment

- Promote participation of schools and local agencies in local systems of care
- Expand after school and other positive youth activities
- Increase awareness of the significance of self-mutilating and cutting behaviors among children and youth.

Promote Improved Access to Behavioral Health Care

- Conduct rapid assessment and planning of care for children, youth and their caregivers
- Ensure that clinical care is provided in the least restrictive environment
- Ensure timely access to behavioral health care
- Provide increased community-based services
- Reduce over-utilization of out of home care
- Promote system changes to expand the scope of services in schools
- Assess utilization of school-based mental health and substance abuse services
- Ensure that caregivers and gatekeepers are educated about Husky and Medicaid coverage for children and youth
- Promote support of the appropriate use of clinical behavioral health interventions prior to the use of psychotropic medications
- Increase knowledge of the efficacy of the use of multiple psychotropic medications in children
- Increase collaboration between state agencies- education, public health, mental health and addiction services, judicial, children and families, mental retardation and social services
- Maintain and implement measures to ensure family/caregiver input is solicited, respected and heeded at the treatment, planning and evaluation level
- Develop and implement effective transition plans with participation of parents/caregivers and community service providers.

Virtual Child Health Bureau Needs Assessment

In Fall, 2004, DPH executive staff expressed goals for improved and enhanced communications between and across programs that reduces barriers to effectiveness and efficiency across programs. To address these goals, the Virtual Child Health Bureau (VCHB) was formed in Fall, 2004. The virtual bureau is in the process of developing a Plan to coordinate its activities. With a special emphasis on child health, the Virtual Bureau of Child Health (VCHB) has as its mission collaborations across branches within DPH to ensure optimum health of all children in the state.

Within the VCHB, an interdepartmental group of database users and managers was formed in Fall, 2004, called the VCHB Data Committee. The Data Committee now seeks to find meaningful ways to share child health information broadly across the Department. Using needs identified by staff across DPH, the Data Committee drafted a set of recommendations in Spring, 2005, which may help guide its progress toward this goal. These recommendations, shown below, need to be discussed, adopted and implemented. Some of these recommendations complement the state MCH priorities identified for the next five years (see **Section B.5. Selection of State Priority Needs**).

I. Capacity and Systems Building

- Short Term*
1. Investigate data collection and recording to avoid duplication and to increase efficiency (improve ease of reporting).
 2. Make available and encourage training activities for programmatic and analytic staff in computer/database access and in data analysis and evaluation skills, using TRAIN and other venues.
- Long Term*
1. Ensure that both data manager and epidemiologist staff positions are established for large databases. This is needed because the roles are distinct and efficient use of the databases requires both levels of expertise.
 2. Improve information technology support, and increase staffing.
 3. Develop an analytical unit skilled in special analysis, cluster analysis, and simulation modeling.
 4. Develop an Information Technology floater system that assists large, specific, and time-limited projects.
 5. Develop a strategy to collect reportable information from multiple locations simultaneously (one stop reporting).

II. Communication within DPH and Marketing outside DPH

- Short Term*
1. Plan and implement an initial marketing strategy to inform public and stakeholders about what we are doing. The strategy should foster better collaboration and provide quicker access to information to the public, health providers, legislators, medical facilities, institutions, and health professionals. The strategy should include a feedback mechanism.
 2. Improve communication between programs.
 3. Develop a strategy to raise awareness of other available data – ensure programs target specific health issues.
- Long Term*
1. Based on Planning Committee recommendations, develop a broad marketing strategy.

III. Data Sharing and Measurement

- Short Term*
1. Plan and implement a methodology to share data across programs (HIP-Kids). The methodology should include a cross reference of children receiving comprehensive services, and should include appropriate protection of personal identifiers.
 2. Encourage staff to include support for data sharing activities in grant applications.
 3. Require managers to include data-related and data sharing activities in work plans and annual reports.
 4. Establish and periodically review meaning information, including baseline data of Connecticut, to prioritize short, medium, and long term strategic planning activities (including environmental issues).

Long Term

1. Identify community resources and make appropriate connections outside DPH, *i.e.* day care licensing working with police.
2. Expand HIP-Kids to include other areas within DPH, such as child care services, etc.

Needs Assessment for Database Integration within DPH

Within the Connecticut Department of Public Health (DPH), fourteen mandated health-related databases containing personal identifiers are managed and stored at separate, local sites, and eleven of these contain child-health data. Data are not currently linked, resulting in multiple independent data “silos” within DPH. The Data Committee identified that a Department-wide data system is needed that integrates all the child health data from within the DPH, discussed earlier as HIP-Kids (Recommendation III.1 above). One first, most important step to fulfilling this need is to develop a core Health Informatics Profile for Children (HIP-Kids) within DPH of child health data. The core HIP-Kids, with varied levels of access control, would be composed of a limited number of databases, and would contain high-quality retrospective data on newborns and children that includes results of metabolic and infectious disease tests, congenital abnormalities, hearing screening results, birth and death records, and immunization status. It would be capable of expansion to include other child health databases within DPH, without interfering with the functions of the existing databases in the Department. It would also simplify data sharing for assurance and assessment public health functions across divisions by use of a customized and user-friendly reporting system.

The task of fostering the development of a HIP-Kids was adopted in early Fall, 2004 by an intersectional Data Committee, through the Virtual Bureau of Child Health within DPH. Co-chaired by L. Mueller (Health Information Systems & Reporting, DPH) and M. Cavacas (Family Health, DPH), and under DPH executive charge, the current HIP-Kids project is intended to increase the value of existing DPH child health databases by creating a new DPH resource, a composite of linked child health information, which will become a permanent archive and be available on an on-going basis for health surveillance and monitoring. Aggregate, de-identified statistics will be available to individual users from this system without providing access to any person-specific data, and requests for record-level data could be made available to public health researchers, following appropriate and standard review to ensure confidentiality.

Moving toward the goal of creating HIP-Kids, and after receiving executive support in November, 2004, L. Mueller (Health Information Systems & Reporting, DPH) and M. Cavacas (Family Health, DPH) have successfully contracted with Scientific Technologies Corporation using existing funds within DPH (HRSA SSDI grant). This public health services company will develop a technical strategic plan by September, 2005 to develop the fully completed HIP-Kids, and a short-term strategic plan to develop the core HIP-Kids. The three-year technical plan will include hardware, software, and architectural needs, data discovery, data quality, standardized coding, database maintenance and disaster recovery. The plan will also address issues in security and confidentiality. A component of the plan will involve development of a core component of HIP-Kids using databases of the highest data quality and/or priority within DPH. The following seven databases will be linked to create the core HIP-Kids: 1-4) the Child Health Profile, which, when completed, will include newborn screening results, newborn hearing screening results,

Birth Defects Registry, and Children with Special Health Care Needs Registry; 5-6) Birth Records and Death Records; and 7) the Immunization Registry. With additional funding, other child health databases within DPH could be added to the core HIP-Kids data system.

With executive and broad programmatic staff support, and a technical strategic plan, the HIP-Kids data system within the Connecticut Department of Public Health is poised for development. Funds are needed to implement the plan. A group of external stakeholders are also needed to help guide the implementation. Continued contact with other states is also needed, such as Missouri and Rhode Island, who have successfully completed similar projects, as well as with national experts in public health data integration, such as Dave Ross and Ellen Wild of the Public Health Informatics Institute.

Community-Centered Needs Assessment of Children (2 to 12 Years Old) in Connecticut

- Listening session participants identified numerous health issues for children, many of which were associated with poor early childhood care and development. As a result, participants emphasized the need to provide early intervention with families to promote effective parenting skills such as home visiting programs. Teen parents were a high priority group to be targeted.
- Listening session participants were very concerned about obesity among children and the difficulty of correcting the problem among older children. Good diet and physical activity must be introduced from birth. This requires educating parents about establishing healthy behaviors early in a child’s life.
- Listening session participants were concerned about the increase in behavioral and mental health problems observed in children. There is a major shortage of mental health providers, especially for young children.
- Listening session participants gave high priority to addressing oral health needs of children at an early age as a critical and cost-effective service need.
- Listening session participants reported that children three years and older are not receiving routine and preventive care as recommended. Out-of-pocket costs and a lack of understanding of appropriate health seeking behavior for young children were identified as likely reasons for decreasing use of health services.
- Listening session participants noted that uninsured children are generally undocumented. Participants were concerned about the negative impact on child health as a result of any changes in eligibility for Medicaid.
- Key informant respondents expressed that the most frequently identified health concerns for children included high rates of obesity and poor nutrition, and lack of access to oral and mental health services.
- Key informant respondents acknowledged that high rates of obesity contribute to high rates of chronic illness including asthma and diabetes. Other concerns include the need for age appropriate, comprehensive health and sex education, greater awareness of routine and preventive services, access to specialty care, and injury prevention.

Community-Centered Needs Assessment of Children (13 to 18 Years Old) in Connecticut

- Listening session participants reported that the health status of adolescents is impacted by high drop out rates, teen pregnancy, violence (bullying, fighting and gangs), obesity, lack of physical exercise, diabetes, substance abuse, poor oral health, and high rates of behavioral and mental health problems including suicide.
- Listening session participants expressed concern that unless the teen is pregnant or needs a physical for school, adolescents do not seek primary care services. As a result, school health nurses have become the main source of primary care for adolescents.
- Listening session participants were concerned about the high level of sexual activity contributing to high teen pregnancy rates. Participants cited the need for health education and age-appropriate sexual education.
- Listening session participants believed that teens and teen parents would benefit greatly from case managers who would help to ensure that these populations and their families received the services they need and that teens are linked to resources in the community.
- Listening session participants reported that teen parents are in need of parenting skills development.
- Listening session participants reported a lack of adolescent mental health services among adolescents. Key informant respondents expressed access to mental and oral health services, the need for comprehensive health and sex education, obesity and poor nutrition contributing to chronic diseases, sexually transmitted infections, substance abuse, and intentional and unintentional injuries.

Children and Youth with Special Health Care Needs (CYSHCN)

Health Statistics

During the years 2000-2002, Connecticut had a higher prevalence of CYSHCN than the nation across nearly all demographic and socio-economic variables, including gender, age, race/ethnicity, and poverty status (Data Resource Center for Child and Adolescent Health, 2005). Overall, 13.9% of all children 0 to 17 year old in Connecticut were considered CYSHCN compared to 12.8% of children nationwide.

- Children aged 5 years and younger were the least likely to be classified as CYSHCN, followed by children 6 to 11 years old, and children aged 12 to 17.
 - Children 0-5 years of age (CT = 9.2%, US = 7.8%)
 - Children 6-11 years of age (CT = 15.4%, US = 14.6%)
 - Children 12-17 years of age (CT = 17.1%, US = 15.8%)
- Girls were less likely to be classified as CSHCN than boys.
 - Male (CT = 15.9%, US = 15.0%)
 - Female (CT = 11.9%, US = 10.5%)

- African American/Black (non-Hispanics) children were the least likely to be classified as CYSHCN, followed by Hispanics, and White (non-Hispanic) children, who were the most likely to be classified.
 - Hispanics (CT = 11.2%, US = 8.6%)
 - White (non-Hispanic) (CT = 15.1%, US = 14.2%)
 - African American/Black (non-Hispanic) (CT = 11.7%, US = 13.0%)
- Children across all federal poverty levels (FPL) were nearly equally likely to be classified as CYSHCN.
 - Children 100%-199% of FPL - CT = 14.2%, US = 13.6%
 - Children 200%-399% of FPL - CT = 14.6%, US = 12.8%)
 - Children 400% of FPL or greater - CT = 14.5%, US = 13.6%
- Compared to CYSHCN nationwide, Connecticut's CYSHCN report that they were:
 - Less likely to have their condition affect their activities (CT = 21.3%, US = 23.2%)
 - Less likely to absent from school due to illness (CT = 13.8%, US = 15.8%)
 - Less likely to be uninsured (CT = 2.0%, US = 5.2%)
 - More likely to receive the care they need (CT = 88.3%, US = 82.3%)
 - Less likely to rely on the ED for care (CT = 8.5%, US = 9.3%)
- More likely to have a medical home (CT = 93%, US = 89%)
- More likely to receive family centered care (CT = 73%, US = 66%)
- Less likely that their condition caused financial problems for their family (CT = 18%, US = 21%)

Statewide Needs Assessment of CYSHCN

The Department began an assessment of the Children and Youth with Special Health Care Needs program in 2002 to identify the state's capacity to provide care coordination, advocacy and family support based on the MCHB definition of CYSHCN. This assessment has resulted in a new statewide infrastructure and capacity building strategy to meet the Healthy People 2010 and President's Freedom Initiative goals.

In September of 2003 a needs assessment study on gaps and barriers to services for children with special health care needs (CSHCN) was completed (Connecticut State Department of Public health, 2003). The report identified four recommendations. These included: to create local/regional networks of parents so that parents can become better trained to advocate and address their child(ren)'s needs; enhance and expand respite service providers for CSHCN; establish Centers that would serve the function of coordination and linkage for statewide CSHCN activities; and identify ways in which interagency collaboration would enhance the community-based system of care.

A process of evaluation was completed in January of 2004 of those pediatric practices participating in the Medical Homes Learning Collaborative (MHLC), the current two CSHCN Centers, and the role of Infoline in information sharing and referral.

The evaluation of the two CSHCN Centers summarized that the Centers were providing services to only a small fraction of the number of children identified with special health care needs. As a result of this study, the contracts with the two CSHCN Centers were revised to

enhance relationships with medical homes, Infoline, care coordination and community-based resource support as outlined in the President’s New Freedom Initiative regarding the care of CSHCN.

Community-Centered Needs Assessment of CYSHCN in Connecticut

- Listening session participants agreed that children with special health care needs are generally well served by the health care system with the one caveat that those with minor to moderate delays or disabilities were less likely to receive the full array of services they needed.
- Listening session participants reported that autism and asthma are increasing problems.
- Key informant respondents who were advocates for children with special health care needs identified a number of continuing needs. Of greatest concern was the need for greater respite and home care services to support families and avoid the need to institutionalize children with complex health problems.
- Key informant respondents identified that inadequate insurance coverage was a barrier to accessing oral health and specialty care.
- Key informant respondents reported a lack of pediatric providers who are skilled in the management of chronic conditions and complex health issues.
- Key informant respondents identified the need for more prescreening and education about autism, the need for sex education for the developmentally disabled, and better coordination of care.

Pregnant Women, Mothers, and Infants

Prenatal Care

Overall, in 2002, women in Connecticut were more likely to receive adequate prenatal care in the first trimester relative to women nationally. There were large disparities, however, between White (non-Hispanic) women and African American/Black (non-Hispanic) or Hispanic women. Over 89% of all mothers in Connecticut received prenatal care in the first trimester, compared to 83.7% of mothers nationwide (L. Mueller, Health Information Systems & Reporting, DPH, personal communication; Kaiser Family Foundation, 2005). White (non-Hispanic) mothers in Connecticut were more likely to receive prenatal care in the first trimester than White (non-Hispanic) mothers nationally, 92.4 vs. 88.6%. African American/Black (non-Hispanic) and Hispanic mothers in Connecticut were more likely to receive prenatal care in the first trimester than their national counterparts African American/Black mothers (82.8% statewide vs. 77.4% nationally for African American/Black mothers, and 77.0% statewide versus 76.7% nationally for Hispanic mothers).

There were 41,996 births in Connecticut during the year 2002 (L. Mueller, Health Information Systems & Reporting, DPH, personal communication). Of these births, 65% were to White (non-Hispanic) women, 17% were to Hispanic women, 11% were to African American/Black (non-Hispanic) women; 2,946 (7.1%) were to teen mothers; and 3,245 or 7.8%

were low birth weight. Of these births, 4,739 (11.5%) were born to mothers who received late or no prenatal care, and 6,220 received inadequate prenatal care, based on the Adequacy of Prenatal Care Utilization (APNCU) Index. The overall birth rate per 1,000 women was lower in Connecticut than it was for the nation as whole (12.1 in Connecticut, compared to 13.9 for the US). Women of all races were less likely to give birth in Connecticut than their racial/ethnic counterparts nationwide (Sutton, PD et al, 2004).

The birth rate for Connecticut’s teens in 2002 was 25.5 per 1,000, compared to the US rate of 43.0 (L. Mueller, Health Information Systems & Reporting, DPH, personal communication; Kaiser Family Foundation, 2005). White (non-Hispanic) teens, African American/Black (non-Hispanic) teens, and Asian/Pacific Islander teens in Connecticut were less likely to give birth than their national counterparts. However, Hispanic teens in Connecticut were more likely to give birth than Hispanics nationwide. Hispanics teens were almost 8 times more likely to give birth than White (non-Hispanic) teens, and African American/Black (non-Hispanic) teens were nearly 5 times more likely to give birth than White (non-Hispanic) teens. These data suggest that health issues among Connecticut’s teen mothers need to be sensitive to the state’s minority population.

In 2002, Connecticut women were less likely to have pre-term births and have babies who are born at low birth weight (LBW) or very low birth weight (VLBW) than women nationally (L. Mueller, Health Information Systems & Reporting, DPH, personal communication; Kaiser Family Foundation, 2005). However, there were racial/ethnic disparities in perinatal health indicators within the state:

- Preterm Births as a Percent of Live Births
 - All Births, 9.5%
 - White Births (non-Hispanic), 9.1%
 - African American/Black Births (non-Hispanic), 12.4%
 - Hispanic Births, 9.6%

- LBW Births as a Percent of All Live Births (< 2,500 grams)
 - All Births, 7.8%
 - White Births, = 6.7%
 - African American/Black Births (non-Hispanic), 12.8%
 - Hispanic Births, 8.0%

- VLBW Births as a Percent of All Live Births (< 1,500 grams)
 - All Births, 1.6%
 - White Births (non-Hispanic), 1.2%
 - African American/Black Births, 3.4%
 - Hispanic Births, 1.9%

Selected Risk Factors

In 2002, pregnant women in Connecticut were less likely to smoke than their counterparts nationwide across all age and race/ethnicity groups, except that Hispanics in Connecticut were more likely to smoke than Hispanics nationwide (L. Mueller, Health Information Systems &

Reporting, DPH, personal communication; Kaiser Family Foundation, 2005). Overall, 7% of pregnant women in Connecticut smoked cigarettes, compared to 11.4% of pregnant women nationwide. Older pregnant women (aged 30-34, and 35 years and older) were the least likely to smoke, and teenage pregnant women (aged 18-19) were most likely to smoke, while young teens (less than 19 years old), and young adult women (aged 20-29) fell in between. In the same year, pregnant Asian women were the least likely to smoke, with less than 1% of this minority population smoking during pregnancy. Hispanic pregnant women were the second least likely group to smoke (6.6%), followed by White and African American/Black women (8.0%). American Indian women were the most likely to smoke during pregnancy (6.3%).

In 2002, Connecticut's infant mortality rate was lower than the rate nationwide (L. Mueller, Health Information Systems & Reporting, DPH, personal communication; Kaiser Family Foundation, 2005). Within the state, the infant mortality rate was 6.5 deaths per 1,000 live births, compared to 7.0 deaths for the nation overall. Mortality rates for Connecticut's White (non-Hispanic) infants were better than that for White (non-Hispanic) infants nationwide (5.3 per 1,000 live births statewide versus 5.7 nationwide). In sharp contrast, African American/Black (non-Hispanic) infants were *more* likely to die in their first year than their counterparts nationwide; whereas the mortality rate for African American/Black (non-Hispanics) was 14.4 per 1,000 live births, the rate nationwide was 14.0.

Perinatal Health Plan for Connecticut

The Perinatal Health Strategic Plan (Connecticut State Department of Public Health, 2005b) was developed within a larger context of maternal child health care planning on behalf of DPH. Needs assessments included a literature review explored genetic and newborn screening, preconceptional health, adequacy and access to perinatal care, consumer cited barriers to perinatal care, pregnancy and depression, and women's and men's health impacting pregnancy and birth outcomes. Issues germane to perinatal health such as racial disparities, teenage pregnancy and infant mortality were also explored in the literature review. The assessments resulted in a set of goals:

- Goal 1: Reduce perinatal health disparities, particularly preterm/low birth weight births and infant and fetal mortality between and among racial and ethnic groups.
- Goal 2: Improve access to a continuum of health care services for underserved and/or unserved women of child bearing age.
- Goal 3: Enhance and encourage male involvement in the continuum of women's health care from preconceptional, prenatal through postnatal periods.
- Goal 4: Reduce pregnancies and poor birth outcomes among adolescents.
- Goal 5: Reduce unintended pregnancies for all women.
- Goal 6: Reduce recognized birth-related risk factors for children with special health care needs.
- Goal 7: Improve the state's system capacity to collect high quality maternal child health data and disseminate in a timely manner.
- Goal 8: Improve access to mental health, substance abuse treatment and dental health services which can improve the overall health for pregnant and postpartum women.

Goal 9: Improve inter-provider communication strategies regarding perinatal health care delivery.

Genomics Action Plan

Needs assessments to inform the Genomics Action Plan were performed in June 2004, soliciting input separately from physicians, consumers, and genetics professionals. Two of the three reports generated as a result of the needs assessments had a sufficient number of responses to be deemed a valid sample of the groups surveyed. The affected family returns were too low, however, to be considered valid and plans are underway to release the survey in an electronic format to generate a larger response. The primary hurdles, as perceived by the genetics professionals, include lack of funding and insurance reimbursement for services, insufficient numbers of genetic professionals to support the state's clinical needs, and the need to increase both consumer and health professional educational efforts." Several findings consistent with the Genetics Professional Survey were identified including the need for more professional education, better reimbursement for genetic services and increased access to genetic services. About half of the respondents felt that statewide availability of affordable genetic services should be the state's public health departments top genetics related priority. The respondents are interested in advancing their genetic knowledge, particularly in the areas of at-risk patient identification (71.9%), advances in genetic technology (65.5%), resources for genetic testing, evaluation and counseling (59.7%), and genetic screening issues (56.1%). They want to continue using the methods they have employed in the past to learn this information, including: by reading medical journals, consulting with experts, grand rounds and local medical meetings.

The Department of Public Health in Connecticut now has a statewide Genomics Action Plan, and many of the needs previously identified for pregnant women, mothers, infants, and children with special health care needs are addressed in the plan. Endorsed by the Commissioner in Spring, 2004, the final version of the plan will soon become available. Actions steps in the plan were informed by the statewide needs assessments described above, as well as from an external Genetics Stakeholders Advisory Group. A set of four priorities have been identified, each with goals and sequential objectives. These priorities are outlined below. Work needs to continue on each of the priorities.

Priority I Infrastructure: Establish a formal, stable, and sustainable infrastructure that promotes the integration of genomics within all affected areas of public health across the lifespan, and agency-wide.

- Goal 1. Create an Office of Genomics within DPH that has agency-wide reach and experienced Directorship.
- Goal 2. Establish external and internal interdisciplinary genomics advisory capacity within DPH.
- Goal 3. Promote genomic public health interests by engaging the public and mobilizing community partnerships at the state and local levels to identify those communities that could benefit from genetic programming and provide feedback about related needs and attitudes within the state.
- Goal 4. Develop policies and practices and support legislation that ensures quality genomics programs throughout the state, and that address the ethical, legal and social implications of expanding genomics such as privacy and discrimination issues.

Priority II Genomics Education: Educate the public about genomics, and ensure a public health and sufficient healthcare workforce that is competent in genomics.

Goal 1. Design, coordinate, and implement public, professional and consumer education efforts.

Goal 2. Inform the general public and policymakers about genetics and its impact on health.

Goal 3. Develop, maintain, and assure availability of a public health and healthcare workforce that is competent in genetics.

Goal 4. Partner with health departments in other states to develop educational materials that could be shared regionally.

Priority III. Services: Assure equal access to, and appropriate use of genomic services across the lifespan.

Goal 1. Create provisions for needed high-quality, culturally competent genetic services, and help provide linkages for those needing services and services of high quality.

Goal 2. Assure access to genetic services across the lifespan and across a broad range of conditions including infectious and chronic diseases.

Goal 3. Ensure that an adequate infrastructure is in place to strengthen the newborn screening capacity and address future needs.

Priority IV. Data Integration: Develop a database system of linked health databases that is capable of monitoring health status, and that is enhanced with genetic information.

Goal 1. Develop a Health Informatics Profile for Connecticut Children (HIP-Kids) of child health databases inside DPH.

Goal 2. Develop a strategy to expand the HIP-Kids to ensure childhood well-being with linked databases outside of DPH and to link health information across the lifespan.

Goal 3. Identify genetics information within the HIP-Kids currently available within DPH.

Goal 4. Seek ways to collect new genetic information from existing data sources.

Priority V. Improved Health Outcomes: Research, identify and monitor health problems linked to genomics.

Goal 1. Use health data linked across divisions to identify genetic risk factors that enhance existing public health programs and that indicate development of new programs throughout the life span.

Goal 2. Develop new strategies for linking genetics with adverse health outcomes within the state.

Goal 3. Analyze the scientific merit and adverse health outcomes of genetic tests.

Goal 4. Ensure scientific accuracy of genetics materials.

Regional Genetics Education Committee

Each of the six New England (NE) regional states reports a need for genetics literacy among healthcare and public health workers, and among the general public, including families of children affected by genetic disorders. This mutual interest in genetics literacy among the

regional states provides an ideal environment for collaborative efforts to offer genetics educational opportunities across the six states and collectively within the region. To meet educational objectives identified by the six states in the NE region, a collaborative infrastructure is needed that is capable of assessing needs, developing programs and strategies in genetics education, and evaluating the effectiveness of newly developed educational efforts. This Committee was recently formalized in a recently HRSA-funded Regional Collaborative grant. A collaboration of this magnitude will require regular interactions to build infrastructural strength. In addition to the monthly “meetings,” these personal interactions could be fostered with annual retreats. During the retreats, Committee members could discuss current and past efforts in collaboration and novel ideas or emerging practices, such as distance learning, for future educational efforts. The Committee could also plan future collaborative efforts in genetics education. In addition, travel to national meetings will allow Committee members the opportunity to seek out genetics and newborn screening educational efforts in progress across the country.

In June, 2005, the collaborative recently prioritized and performed cost-benefit analysis among a set of “Wish List” items identified by each state to identify six educational opportunities that could be funded by the HRSA Collaborative grant. The analysis included considerations of impact on the focused population, feasibility, affordability, sustainability, and acceptability. The resulting six immediate needs, ranked by cost-effectiveness, were identified as priority needs across the entire region. Those needs were:

1. Expand state Genetic Resource Directories into a single regional directory
2. Translate consumer genetic newborn screening educational materials into several languages identified by the states as high in priority
3. Promote a family health history initiative among the general public and medical professionals
4. Develop and make available a distance learning program about newborn screening for medical professionals
5. Develop and offer a genetic 101 educational program for public health professionals.
6. Offer a regional Public Health Genetics conference for public health and medical professionals.

Community-Centered Needs Assessment of Pregnant Women, Mothers, & Infants in Connecticut

- Listening session participants were most concerned about access to prenatal care and the need to promote first trimester outreach. Late term prenatal care is associated with poor birth outcomes, especially among teens.
- Listening session participants emphasized the need for client centered, culturally sensitive prenatal services. Major barriers include the lack of adequate translation services, fear of disclosure for pregnant adolescents (especially Hispanics), substance abuse, and lack of awareness about the importance of early prenatal care.
- Listening session participants expressed serious concern about the potential negative impact on maternal health outcomes as a result of potential changes in Medicaid eligibility. Even with Medicaid coverage, women have difficulty accessing specialty services such as ultrasound and laboratory services.

- Listening session participants were about obesity contributing to increased risk for fetal anomalies and challenges in patient management (e.g., delivery).
- Listening session participants were concerned about the lack of mental health services for pregnant and post-partum women.
- Listening session participants were concerned about the need for greater access to screening and mental health services linked with prenatal and post partum care.
- Key informant respondents were concerned about a lack of first trimester prenatal care, poor parenting skills, and the need for more preconception education.

Needs Assessment Highlights

Quantitative and qualitative needs assessment processes from a variety of internal and external activities, in addition to published statistical analysis, generated consistent findings of the major health problems impacting the three MCH populations and infrastructure needs within DPH. Highlights, many of which were included among the final DPH state priority needs (see **Section B.5. Selection of State Priority Needs**), include:

- Large health disparities between White and minority populations. Compared to national statistics, Connecticut residents report good health status overall. Significant health disparities, however exist among the African American/Black and Hispanic populations, which experience dramatically lowered health status.
- Prevalence of overweight and obesity. High rates of obesity contribute to poor health status and the emergence of high rates of chronic disease. Over 40% of White women and 57% percent of African/American/Black and Hispanic women are overweight or obese in Connecticut. Nearly 30% of children and adolescents are overweight or obese.
- Substance abuse. High rates of substance abuse exist within the state, including high rates of heavy drinking (CT=6.3% vs. US=4.6%) and smoking (CT=23% vs. US 14%) among women 18 years and older, and high rates of marijuana use among 9th to 12th graders (26% *versus* 22%) as compared with national rates.
- High rates of intentional injury and violence. Although lower than national averages, 29% of 9-12 graders report being in a fight in the past 12 months and 6% of 9-12 graders report carrying a weapon to school in the past 30 days. Providers report high rates of behavioral health problems among children including aggressive and violent behavior.
- Late and inadequate prenatal care among young and teenage mothers and minority populations. While 8% of White women do not receive prenatal care in the first trimester, 18% and 23% of African American/Black and Hispanic women, respectively, do not receive prenatal care in the first trimester. African American/Black women give birth to more low birth weight babies than White (non-Hispanic) women, and infant deaths rates are higher. Parenting education among this population group is also needed.
- High rates of asthma among children. Ten percent of Connecticut children have asthma, compared with 8% nationally.

- Delays in seeking care by hidden populations. In general, the hidden populations, which include undocumented, immigrants, and refugees, are not seeking routine and preventive care due to both perceived and actual barriers. Failure to seek routine and preventive services in a timely manner contributes to poor health outcomes and a greater burden on the health care delivery system.
- Lack of access to health care for low income and uninsured populations. Six percent of White women are without health insurance and nearly one quarter of African American/Black and Hispanic populations lack health insurance. Even women with health insurance lack access to mental health, oral health and specialty care services including follow-up procedures and testing due, in part, to high out-of-pocket expenses.

Other needs among the MCH populations that were identified include genetics literacy, enhanced data systems, enhanced family support services for CYSHCN, and improved DPH communication at the community level.

B.4. MCH Program Capacity by Pyramid Levels

DIRECT HEALTH CARE SERVICES

DPH Licensure Data

The DPH licenses many types of health care professionals and the licensure database can provide information on the number of health care providers in Connecticut. The strength of this database is its universality, i.e. all who practice in regulated professions must by law be licensed by the Department of Public Health. This “strength” becomes a weakness when looking for counts of physicians serving CT residents because it actually results in overcounts of persons truly practicing in the state. In 2005, only 75.9% of MD’s with CT licenses listed a CT address (**Table 5**). The current licensure database includes persons: a) now residing outside the state who want to keep their license documents current in case they should want to practice if/when they’re in CT again; b) retired; c) working in academia, research, the insurance industry or other non-clinical employment; and d) temporarily on leave from their practice while e.g. raising children or recovering from a medical condition.

**Table 5
Distribution of CT Physician Licensees by State of Residence, 2005**

MD License Address	Number of Licensees	% of all Licensees
Connecticut	11,780	75.9%
Bordering States (RI, NY,MA)	1,968	12.6%
Other U.S. States	1,685	10.9%
Outside the United States	92	0.6%
Total All CT Physician Licensees	15,525	100.0%

Source: CT Department of Public Health, Bureau of Health Care Systems, 2005

Health Workforce Comparison with National Data

An overview of selected providers of health care in the State of Connecticut shows that there are adequate health professionals in the state when using the United States ratios per population as a standard (see **Table 6**).

**Table 6
Number of Health Providers, Ratio per 100,000 Population, and Rank Among All States,
Connecticut and US 2000***

Provider Type	Connecticut Total, 2000	Connecticut 2000	US 2000	Rank in US
Active Patient Care Physician	8,700	257	198	4th
Active Primary Care Physician	---	77	69	> USA
Physician Assistants	840	24.6	14.4	---
Licensed Registered Nurses	**41,700	940	780.2	---
Employed Licensed Practical/Vocational Nurses	7,280	213.4	240.8	29th
Nurse Practitioners	2,100	64.1	33.7	---
Certified Nurse Midwives	150	4.4	2.9	---
Certified Registered Nurse Anaesthetists (in 2003)	326	9.6	9.3	---
Practicing Dentists	2,262	66.3	63.6	17th
Practicing Dental Hygienists	3,260	---	---	> USA
Practicing Dental Assistants	3,100	---	---	> USA
Practicing Pharasists	2,500	73.3	---	28th
Pharmacy Technician	2,990	87.6	---	23rd
Psychiatrists	767	23.4	---	4th
Psychologists	2,010	58.9	---	6th
Social Workers	7,190	210.7	---	11th
Home Health Aides	11,340	332	---	3rd
Nursing Aides, Orderlies and Attendants	23,190	679.7	---	6th

*US and CT Data Source: US Dept of HHS, HRSA, Bureau of Health Professions (<http://bhpr.hrsa.gov/healthworkforce/reports/statesummaries/connecticut.htm>)

**more than 32,000 licensed RN employed in nursing

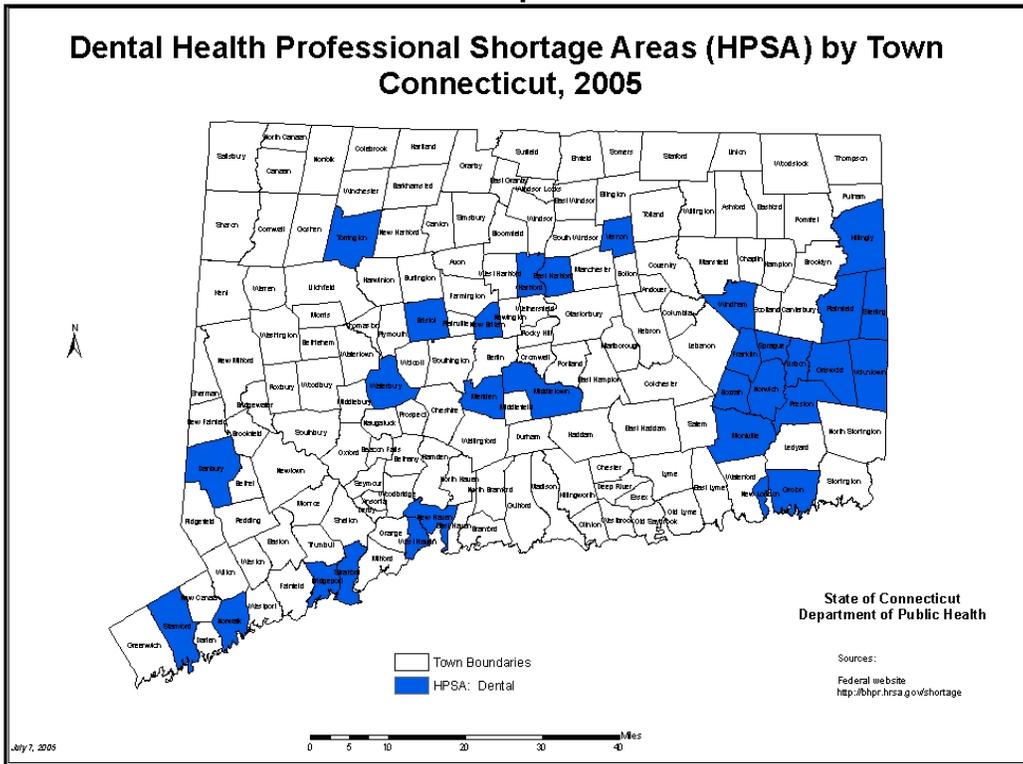
A DPH report on Health Workforce Shortages was completed in May, 2001 (Hofmann et al, 2001). The report used a operational definition of adequate workforce level that for physicians incorporated the number of office visits per year by a provider, waiting times, excessive use of emergency room facilities, and proportion of providers who do not accept new patients. While the study indicated that Connecticut has a high proportion of health care providers per population, a shortage of dentists was noted for specific population groups, low income, uninsured, underinsured, and those in rural areas.

Federal Shortage Designations

While there are adequate numbers of health care providers in Connecticut as a whole, Federal Shortage Designations, namely, Health Professional Shortage Areas and Medically Underserved Populations/Areas, are two cases-in-point where examination of sub-areas of Connecticut's population document serious needs in accessing primary care, dental, or mental health services for a defined group. Mapping of the state (see **Maps 1** through **Map 4**) shows that

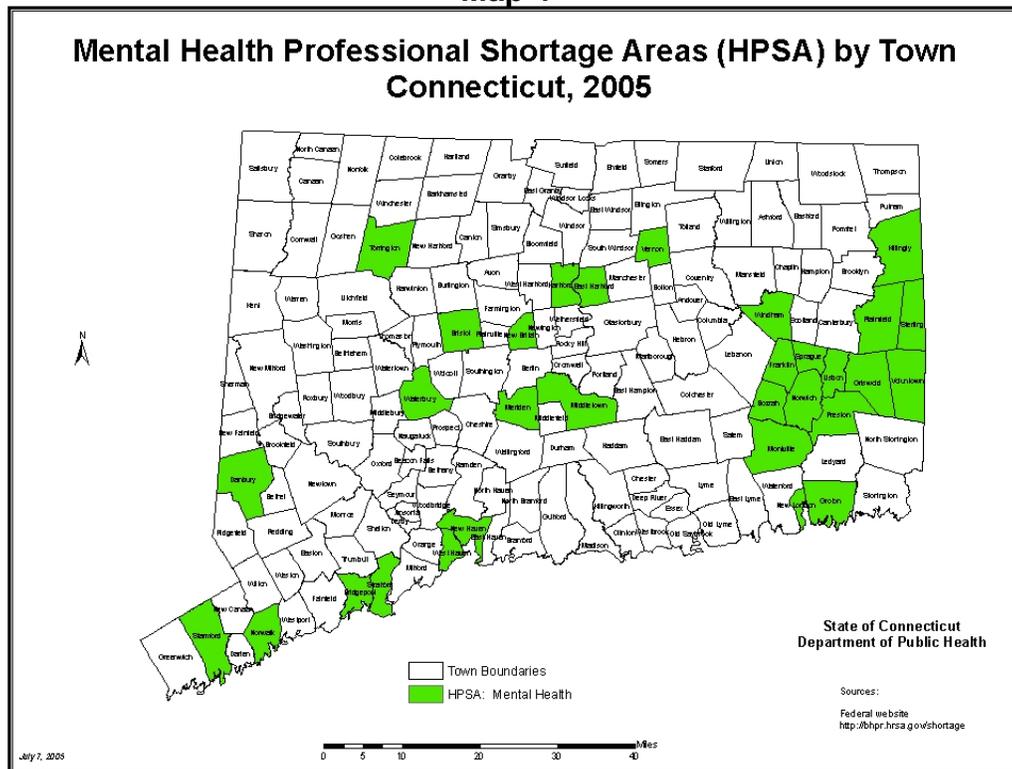
Map 3

Dental Health Professional Shortage Areas (HPSA) by Town
Connecticut, 2005



Map 4

Mental Health Professional Shortage Areas (HPSA) by Town
Connecticut, 2005



these designated areas are frequently, though not exclusively, in urban areas of our state. DPH through both federal and state funds promotes the continuation and expansion of these designations as well as several other programs to enhance access to care and provider placements in needy areas.

Federal Shortage Designations are not determined statewide, nor do they represent a pure measurement of full time providers. HPSA's (Health Professional Shortage Areas) and MUA's (Medically Underserved Areas) are the two major types of federal shortage designations. HPSAs and MUAs are good reflections of need and under-service in the area/group under study, but variables other than the number of physicians in an area are also factored into designation decisions. For example, a town could have a scarcity of physicians (1 physician serving 40,000 people), but not qualify as a HPSA because it didn't have >30% of its population under 200% of the federal poverty limit. Looking only at designated shortage areas in Connecticut would represent an undercount of the communities with physician shortages because there may be other Connecticut communities that could qualify for a federal shortage designation but have not yet been studied to submit the requisite data for federal determination, and some communities deemed not eligible for a federal shortage area could still have a need for providers, but not meet one of the other criteria for HPSA/MUA designation.

The number and distribution of federal designations in Connecticut are continually changing as a) existing designations are reviewed to determine if they continue to qualify for renewal, and b) new requests for recognition as a federally qualified shortage designation are processed.

EPSDT Enrollment

National data report that nearly 33% of children under 6 years of age and 25% of children and adolescents under 21 are covered through Medicaid's Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) (Georgetown University, 2005). In Connecticut for 2004, 93,116 children (33.5 %) under age six and 274,773 or 27.6 % of children under 21 are covered through Medicaid's EPSDT program. Though children may be "covered" by Medicaid managed care, studies have shown that enrollment in the EPSDT program does not guarantee that children will actually receive services. The GAO in 2001 reported that in a ten-year HHS national study, 60% of enrolled children failed to receive any EPSDT services (Government Accounting Office, 2001). Connecticut's experience since 1997 has ranged from a low of 32.7 % of enrolled children receiving at least one initial or periodic screen to 2004's high of 46.9 %. These percentages would undoubtedly increase if ANY type of covered service (e.g. sick and hospital visits) were added to the CT counts of well-child periodic screening services. Many children still are not receiving appropriate screening services in a timely fashion. Barriers to care including real and perceived access issues and cultural competency remain areas for further study in our state. The number of children under age 21 enrolled in the EPSDT program in CT has increased by 42.5% since 1997 (192,822 children in 1997 to 274,773 children in 2004).

As stated above, Connecticut's EPSDT program, while still far from the goal of serving all children in a timely manner, has shown improvement over time in the face of ever-increasing enrollment. CT children's experience with EPSDT service utilization varies by age of the child, type of service provided, the race/ethnicity of the child, the MCO/health plan, and the county of residence.

Table 7 presents percent utilization by age for medical and dental services.

**Table 7
Percent of Medicaid Enrollees receiving EPSDT Services by Age Group
Connecticut, 2004**

Provider Type	Age group						
	<1	1-2	3-5	6-9	10-14	15-18	19-20
Medical Services	85.3	80.2	68.4	55.7	57.3	40.3	25.0
Dental Services	0.3	7.3	34.9	46.5	43.0	31.3	18.1

The EPSDT statistics taken from the latest CMS 416 clearly show that older children had fewer screens than younger children, and dental services were consistently less utilized than medical services across all ages.

ENABLING SERVICES

Children and Adolescents

Oral Health

The DPH Open Wide Curriculum, an oral health-training program for non-dental health and human service providers, will continue to be implemented. Priority for training will focus on providers who work with children age birth to five years.

The DPH Office of Oral Public Health is participating on a Dental Advisory Committee convened by the Department of Social Services to examine options to reduce the administrative burden on dentists in the state who are Medicaid providers.

School Based Health Centers (SBHC) Program

DPH contracts with 18 local School Based Health Center programs to operate 62 School Based Health Centers (SBHC) clinic sites serving students in grades pre-K-12 (**Map 5**). One new middle school site will be operational in fall 2005. SBHC's are licensed as outpatient facilities or hospital satellites. They offer services addressing the medical, mental and oral health needs of youth, including crisis intervention, health education, social services, outreach, and substance abuse prevention services.

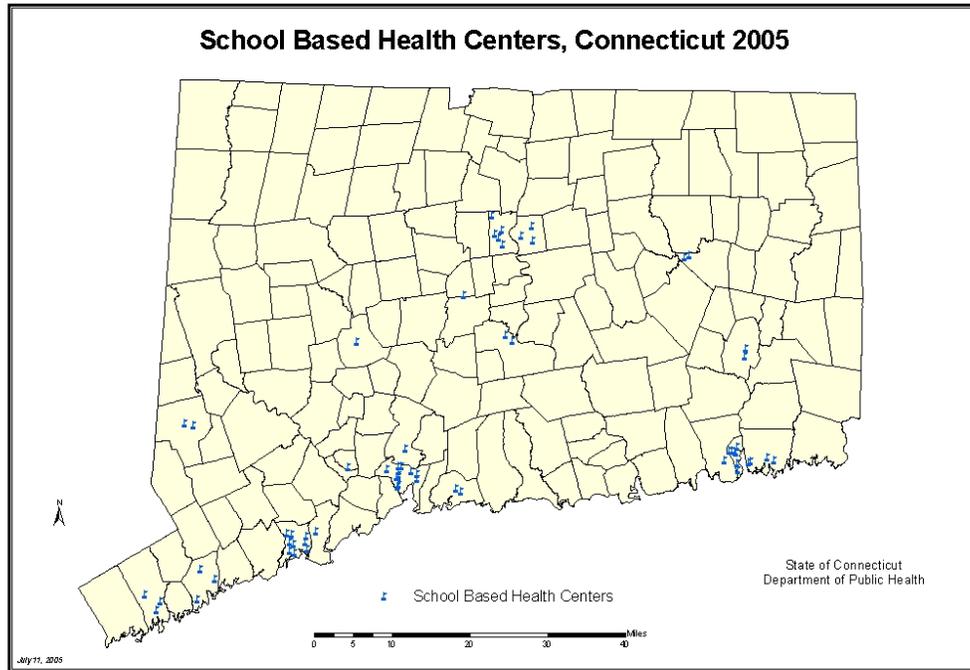
The School Based Health Center programs had 42,212 students enrolled during the 2003-2004 school year. 11,973 students were enrolled at elementary school sites, 8,635 were enrolled at middle school sites, and 21,604 were enrolled at high school sites.

Of the enrolled students, 19,439 students received services. 10,968 were female students and 8,459 were male students. 5,248 of the students were White, 6,134 were African American/Black, 411 were Asian/Pacific Islander, 93 were American Indian, 2,025 were Unknown, and 7,602 were Hispanic (Any Race).

Students served by the clinics made 88,733 visits. There were 23,926 visits for acute medical issues, which accounted for 27% of all visits. 25% of the visits were for reproductive health, exams and follow-up, injuries, and oral health. The remaining visits were for a variety of

health issues such as asthma, obesity, STD's etc. Overall, 62.3% of the visits were for medical issues, 33.5% were for behavioral issues, and 4.2% were for dental issues.

Map 5



Site Coordinators of School Based Health Centers meet periodically with DPH leadership and staff members to address grantee issues, training and technical assistance, information and resource sharing and input on overall project direction. CT SBHC's have formed a non-profit independent organization, the Connecticut Association of SBHC's, Inc., to advocate for this service delivery model.

School Based Health Centers provide age-appropriate reproductive health education to students identified as being high risk for sexual activity. Students who tested negative for pregnancy were provided reproductive health education and referrals for contraceptive services. SBHC's provides age appropriate reproductive health education, pregnancy testing, STD diagnosis and treatment, counseling and referrals to WIC, Healthy Start and Right From The Start. SBHC's screen and identify teens at risk for pregnancy to assure early diagnosis and referral.

Comprehensive mental health services are provided by SBHCs to enrolled students at all sites. SBHCs have policies and procedures in place that address Center-specific protocols for handling youth with suicidal thoughts and attempts. They continue to assure these mental health services through direct provision of care via on-site clinicians such as social workers, psychiatrists and psychologists and through referrals to community agencies such as local hospitals, child guidance centers and mental health centers.

School Based Health Centers continue to provide anticipatory guidance and mental health risk assessments at all locations. Other mental health services include crisis intervention, individual, family, and group counseling and referral and follow-up for specialty care. All

SBHC's offer services directed at high-risk populations, such as youth with suicidal thoughts/attempts.

Through the use of a specially designed Midyear report, SBHC sites reported on the following mental health related issues: successes in service delivery, trends, gaps/barriers, and potential solutions. Data is analyzed and used in planning future initiatives.

Thirty-five individual SBHC mental health clinicians received Master Therapist training funded by DPH. Clinicians may opt to attend workshops covering diverse mental health issues. A total of 52 workshop sessions were funded this year. A total of 26 therapists attended the workshop on bipolar disorder in adolescents. Efforts will continue to enhance data collection tools related to mental health service delivery at SBHC's.

A conference is planned for SBHC mental health clinicians, coordinators and billing personnel to enhance mental health coding procedures and documentation. SBHC Midyear reports are being analyzed to identify mental health trends, successes in service delivery, gaps, barriers, and potential solution. Mental health is identified as a priority area in the State Adolescent Health Strategic Plan.

SBHC will continue to provide asthma-related health services in all 62 sites. To address one of the barriers identified in the SBHC Midyear reports (lack of supplies by students) two more SBHC's will be joining the asthma urban school pilot project. As part of that project, they will be provided with free durable medical equipment such as tubing and nebulizers.

Abstinence-Only Education

The Abstinence-Only Education Program promotes abstinence from sexual intercourse as the only effective way to avoid teen pregnancy and sexually transmitted diseases. Targeting youths between the ages of 9-14, the program emphasizes social values and moral character development.

Children with Special Health Care Needs

Care Coordination

Care coordination, the core of both the Regional Medical Home Support Centers (RMHSC) and the medical homes will be enabled through by screening children for special needs and the complexity of these needs. RMHSC coordinators will facilitate care coordination activities, including inter-agency collaboration, and case management involvement in meeting the needs of the CYSHCNs.

Surveys of families and pediatric care providers identified the lack of awareness of community-based resources for CYSHCN. The Department convened meetings with The United Way's Infoline (2-1-1) Child Development Infoline (CDI) to assess its role as a source of referral for children with special health care needs. In 2004, CDI enhanced its ability to be the primary intake source for CYSHCN. CDI caseworkers assess the callers situation and make referral to CT Birth to Three System, Help Me Grow, Preschool Special Education, and/or the

RMHSC. The 211 component of Infoline funded as the state’s Maternal and Child health information and referral service continues to work closely with the RMHSCs on their community-based resource information system.

Family Networking

The Department has convened meetings with the regional family network members to assess their role through the Department of Mental Retardation in serving the needs of children with developmental disabilities. The Department will provide funds to enhance the Regional Family Networks (RFN) within the RMHSCs. The family support member will engage groups of parents and/or caregivers of CYSHCN whose primary responsibilities within this system primarily include family support services and quality assurance for the service delivery system. RFN will be available to answer families’ questions and provide parent-to-parent support, develop resource materials in list serve format of local and statewide resources, training, conduct family forums and assist with family partner recruitment and empowerment.

CT Medical Home Academy

In order to assess the current awareness of and interest in the medical home curriculum by other practitioners, a survey was developed in the spring of 2003 to determine: 1) the number of practices that are familiar with the medical home model; 2) the “user-friendliness” of the curriculum to practices that have used it; 3) the number of practices that are interested in learning more about medical homes.

Although the majority of respondents were not aware of the medical home curriculum, several practices are highly interested in learning more about its components. Providing additional information to these providers may lead to implementation of the medical home model of care in numerous practices statewide.

The Department of Public Health (DPH), through its partnership with the Child Health & Development Institute, contracted with the University of Connecticut Area Health Education Centers (AHEC) to develop and implement a Medical Home Academy for pediatric physicians, nurses, other allied health professionals, and families. The purpose of the Connecticut Medical Home Academy (MHA) was to improve care for the growing population of children and youth, including those with special health care needs. The MHA will help ensure that children and youth in the state of Connecticut will have care that is family-centered, systematic, coordinated and statewide. The DPH sponsored Medical Home Academy will address six components of the medical home one component will focus on family/professional partnership.

The Connecticut Medical Home Learning Collaborative (MHLC)

The pediatric providers participating in the MHLC endorsed that this structured collaborative learning effort allowed for the sharing of ideas, creative problem solving and collegiality. The MHLC helps the pediatric providers have a greater awareness of the complex needs of CSHCN, a more proactive approach towards parent involvement in decision making, incorporation of new practice service strategies, interest in consolidating and presenting case information in a standardized way, and the challenges in transitioning youth to adult practices.

The Connecticut Medical Home Learning Collaborative meets quarterly and has as its purpose the improvement of care for CYSHCN by implementing the AAP’s Medical Home concept. The MHLC is open to all providers interested in enhancing its services to meet the needs of the CYSHCN. A Medical Town News is published quarterly by DPH and posted on the DPH

website (www.dph.state.ct.us/bch/Family%20Health/cysch/cyshcn-edical%20home%20site.htm).

Reimbursement for Care Coordination Services

The MHLC identified the need to access reimbursement for care coordination activities as a value added service to children and youth with special health care needs. The Legislative Medicaid Managed Care Council Liaison and the Managed Care Ombudsman attended MHLC meetings to learn about the impact that utilizing the CSHCN Screener has had on improving the medical home serving CYSHCN. The Medicaid Managed Care Council, Medical Home Work Group Report of April 2005, concluded that CYSHCN and their families would benefit from having services provided at the primary care level. Their recommendation that DDS screen all children and youth as part of the EPSDT for special health care needs using a standardized definition, provide reimbursement for the time associated with identification and care coordination of CYSHCN and develop uniform standards for MCOs case management eligibility, care coordination services, and primary care provider care coordination billing and reimbursement procedures.

Funding for Extended Services and Respite Services

The present expenditures for the extended service funds for Children with Special Health Care Needs who are either uninsured or underinsured and under the 300% FPL appeared to be insufficient to meet the need. Although the use of these funds was diminished in 2003 to cover only durable medical equipment, prescriptive medications and special nutritional formulas, the program will change to a single fiduciary system to better evaluate the need in the new five regional systems. The CSHCN program also offered a limited number of vouchers for accessing respite services on a first come basis. The demand for respite was identified in the survey as a high priority for families. In the new regional system, the allocation of the limited respite funds will be based on need. Again, using a central fiduciary will enable the Department to further evaluate the need.

Pregnant Women, Mother and Infants

Medicaid

HUSKY (Healthcare for Uninsured Kids and Youth; State of Connecticut Department of Social Services; 2005) is Connecticut’s health insurance plan for children and families. In 1997 when the federal government created the State Children’s Health Insurance Program, Connecticut renamed part of its Medicaid program that serves children and low-income families “HUSKY A” and established the “HUSKY B” program for uninsured children with family income that exceeds the HUSKY A limits. Both HUSKY A and B are managed care programs, administered through the Department of Social Services and private health plans.

HUSKY A covers pregnant women and children in families with income under 185% of the federal poverty level. HUSKY A provides preventive pediatric care for all medically necessary services. It also covers parents and relative caregivers in families with income under 100% of federal poverty. There are 310,878 persons, including 218,420 children under 19 in HUSKY A as of May, 2005. HUSKY B provides health care for children without employer-sponsored

coverage for a sliding fee. There are 15,640 children under 19 in HUSKY B as of May, 2005 (Connecticut Voices for Children; 2005a).

In a January, 2005 review of 2003 HUSKY data, the Connecticut Voices for Children found that just over half of the children covered by HUSKY received well-child care in 2003, with the utilization rates being the lowest among older adolescents (aged 16-19 years) (Connecticut Voices for Children; 2005b). Utilization was lower for dental care, with only 47% of enrolled children having any dental care in 2003. While there have been improvements in dental care utilization rates during the past few years, fewer than half of enrolled children who are eligible for preventive dental care services through HUSKY A actually received these services (Lee; 2004).

There have been changes limit eligibility or enrollment. On July 1, 2005 families now only receive Transitional Family Assistance (TFA) for one year rather than two years. As of July 1, 2005 new and increased premiums will be imposed on children in HUSKY B. Also there is elimination of self-declaration of income mandating that applications received after July 1, 2005 show documentation of income. Fortunately there are changes that improve eligibility and enrollment, presumptive eligibility for HUSKY A children is being restored and now pregnant women experience expedited eligibility when enrolling in HUSKY A. Another improvement is that DSS is implementing increased income guidelines for parents and caretaker relatives with incomes between 100% and 150% of the federal poverty level effective July 1, 2005.

Healthy Start

The Health Start program is a collaborative effort between DSS and DPH that aims to reduce infant mortality, morbidity and low birthweight, and to improve healthcare coverage and access for children and eligible pregnant women. The state Healthy Start program is available statewide, however, case management services are provided to those women who meet financial eligibility guidelines.

Community Health Centers (CHC)

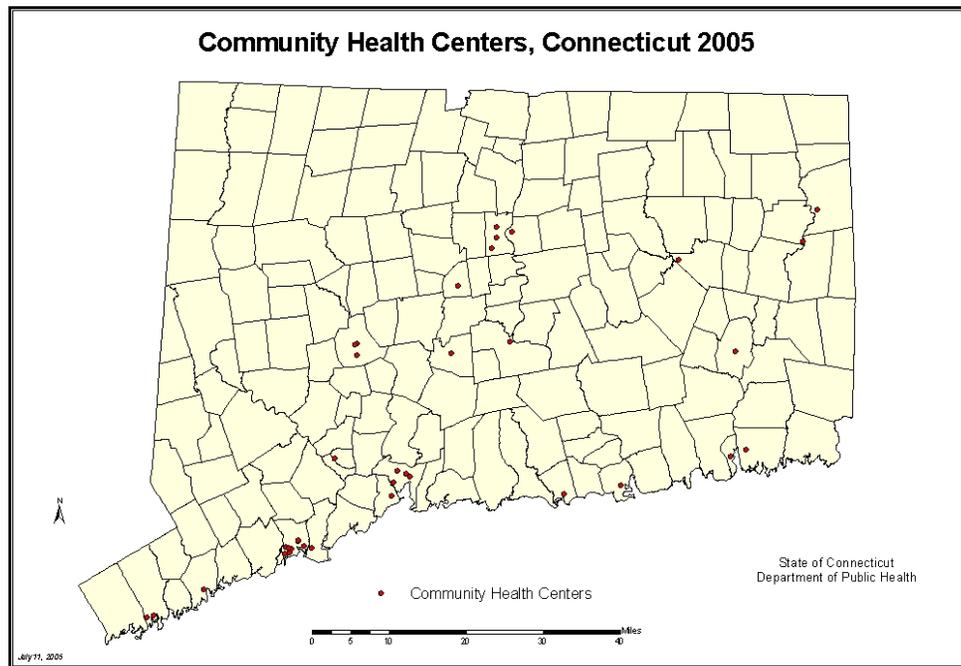
Twelve health care corporations receive partial funding through the Connecticut Department of Public Health to provide preventive and primary health care services through Community Health Centers (**Map 6**). As safety net providers, they deliver health care to individuals enrolled in Medicaid, Medicare, as well as the underinsured and uninsured from birth through old age. The Community Health Centers are primary care providers (PCP) for approximately 160,000 individuals. Services provided in the CHCs include the following essential elements of comprehensive health care: prevention, primary care, acute care, episodic care, care management of chronic health conditions of children and adults; behavioral health care; and dental/oral health care. CHCs provided quality health care through a culturally competent family practice model of care.

Some of the services provided by the CHCs include:

- 88% of children between the ages of 24 and 35 months were immunized in accordance with the AAFP, AAP, and ACIP, and also have a record of receiving lead and nutritional assessments.
- 91% of adolescents between the ages of 12 and 19 years received a behavioral risk assessment regarding substance abuse, sexual activity, and a nutrition assessment.

- 80% of women between the ages of 20 and 64 years who received a cardiovascular assessment and all appropriate cancer screenings for their age group.
- 94% of CHC clients age birth through eighteen years received an oral health screening and oral disease prevention instruction by a dental clinician within in the past 12 months.
- 67% of CHC clients age six through fifteen years have records that show they received protective sealants on the occlusal surfaces of their permanent molar teeth.
- 93% of CHC clients identified with untreated dental caries received treatment and/or referral for treatment to resolve this problem. Goal was 90%.

Map 6



Community Health Centers' Pediatric Primary Care Project

This project awards specific funding for Community Health Centers in Hartford, Middletown, Waterbury and New Haven to enhance provision for: outreach, health education, case management, transportation assistance, and multilingual/multicultural services, in addition to support for basic health services for uninsured and underinsured children. This comprehensive package of services is designed to improve the health status of the children served.

Comadrona

The Comadrona Program provides case management services to approximately 400 pregnant Latina and African-American women who reside in the greater Hartford area. The program is designed to assist this population in obtaining health-related services while enabling access to

health insurance to promote healthy birth outcomes.

POPULATION-BASED SERVICES

Pregnant Women, Mothers and Infants

Population based services in CT for pregnant women and Infants include: the Pregnancy Related Mortality Surveillance Program, newborn screening (metabolic and hearing –described in more detail under CSHCN), access to MCH information through the Title V mandated toll free MCH Information and Referral Services, and selected health information (breastfeeding, immunizations, and second-hand smoke), which is provided to all new parents via a mailing. During the last year, the capacity of the state lab has increased and the newborn screening program has expanded the number of diseases and disorders that all newborns are tested for. In January 2004, a check off box, indicating pregnancy within one year of death, was added to the death certificate to increase case ascertainment for the PRMS program.

Children and Adolescents

Oral Health Water Fluoridation

Dental caries (tooth decay), while largely preventable, are still one of the most common childhood diseases nationally and within CT. Caries is 5 times more prevalent than asthma and 7 times more prevalent than hayfever. Water fluoridation has been found to be a safe and effective means to prevent dental caries in communities. CT is required by law (19a-38-) to adjust the fluoride to optimal levels (0.8mg/l to 1.2mg/l) in public water supplies serving a population of 20,000 or more. There are 22 water systems in CT that are naturally fluoridated and 61 systems that supply fluoride adjusted water to its populations. More than 87 percent of CT residents benefit from community water fluoridation

Connecticut School Health Survey

The Connecticut School Health Survey (CSHS) is a collaborative effort of the Connecticut Department of Education and the DPH to gather important population based information on the health behaviors, attitudes, and conditions among Connecticut youth. The CSHS is comprised of the Youth Behavior Component and the Youth Tobacco Component. Both components are written surveys that are administered to randomly selected students in Connecticut following a protocol set up by the Centers for Disease Control. The CSHS is administered every other year, with the spring of 2005 being the most recent data collection year. More information and results of the CSHS are available on the DPH web site (<http://www.dph.state.ct.us/BCH/HISR/cshs.htm>).

Children with Special Health Care Needs

Genetic Laboratory Newborn Screening Program

The Goal of the genetic laboratory newborn screening (NBS) program is to screen all babies born in CT prior to discharge from birthing facilities or within the first 4 days of life for early identification of newborns at risk for selected genetic and metabolic diseases so that medical treatment can be promptly initiated to avert complications and prevent irreversible problems and death. This program also aims to educate and counsel the families about their child's genetic disorder and about the potential of having other or future children with this disorder.

Connecticut State Law mandates that all newborns delivered in Connecticut be screened for selected genetic and metabolic disorders. During the past 5 years the number of conditions screened for has expanded from eight to more than forty. The Newborn Screening Program consists of three components: Testing, Tracking, and Treatment. The Programs Tracking nurse consultants assure that all newborns delivered in Connecticut have specimens collected prior to discharge from the birthing facilities or within the first few days of life. An electronic newborn screening system (NSS) initiates a record for each newborn at the facility of birth and assigns a unique identifier (accession number). The facility of birth enters demographic information of the mother, newborn, and primary care provider. The NBS, Hearing, and Birth Defects Programs utilize this information while the program specific testing and reporting data are sent and utilized by the individual respective programs. Laboratory NBS specimens are picked up by UPS Courier at the birthing facilities and delivered to the state lab daily Monday –Friday. Specimens are tested at the Department of Public Health State Laboratory and all abnormal results are reported to the DPH Lab NBS Program staff. The nurse consultant reports the results to the primary care providers, assures referrals are made to the State funded Regional Treatment Centers, and requests follow up specimens in accordance with Lab NBS protocols. The Regional Treatment Centers provide comprehensive testing, counseling, education, treatment, and follow-up services for all newborns referred with suspect positive results.

- The Genetic Regional Treatment Centers continue to provide outreach and follow up services to Young women of child bearing age with PKU back into genetic specialty services to assure maintenance of special dietary needs prior to and during pregnancy as preventative measures to decrease risk factors to the unborn infant.
- The Lab NBS Program staff coordinates and provides educational programs, Guidelines for Birthing Facilities and Primary Care Providers, Disorder Protocols, educational printed and website materials, and technical assistance for: birthing facilities staff, primary care providers, and health professionals; and telephone educational assistance for families and the general public. Translation of NBS printed and web materials in other languages beyond Spanish are planned through the NERGG New England Collaborative Genetic Education Grant from HRSA. Program staff continues to conduct a variety of quality improvement studies, analysis and develop and implement plans of correction accordingly.
- The current Genetic Regional Treatment Center Genetic specialists have expanded genetic services as well as providing genetic educational programs to outlying birthing facilities during grand rounds and other conferences throughout the state.

- Transition of adolescents identified with a disorder has begun in the Regional Treatment Centers however; the move from pediatric primary care and specialty services to adult care has been difficult. CT continues to encourage and support transition services in the state funded regional treatment centers and develop partnerships and collaboration for applications for financial resources to provide education and support services for individuals with disorders, families, and the public.
- A child health profile has been established that maintains the demographics for the mother, newborn, and PCP. The NBS, Hearing, and Birth Defects Registry utilize this information and make edits concurrently to keep information accurate. The Birth Defects registry has developed a link to the vital records birth certificate information. The linkage of vital records birth certificates to the completed laboratory newborn screening results to verify that all CT newborns were screened needs to be established. The inclusion of the accession # for the laboratory screening specimen on the birth certificate electronic record would enable this to occur and is under discussion with the respective areas.
- Laboratory Newborn Screening staff continue to actively serve and participate in state, regional and national NBS conferences, surveys, and grant collaboratives.
- Laboratory NBS staff provided and will continue to provide support and technical assistance as CT met the state performance objectives of CT Genetic Planning Grant activities and MCHBG State Performance Measures. The Lab NBS Coordinator has been assigned to the Virtual Office of Genomics as CT moves toward implementation of the CT Genomic Action Plan.

Newborn Hearing Screening

When the previous Needs Assessment was conducted CT had a newly implemented Universal Newborn Hearing Screening program in place. Legislation was passed for all birth hospitals to conduct universal hearing screening as a standard of care for all newborns. This population-based program was implemented statewide on July 1, 2000 and CT has made tremendous progress in the hearing screening program over the past five years to assure early hearing detection and intervention.

CT has 31 birth facilities that serve approximately 44,000 pregnant women and infants per year. All birth facilities utilize otoacoustic emission and/or automatic brainstem (ABR) response screening equipment. CT has a two-step program in which any infant that refers on the first hearing screen has the hearing screening repeated before discharge using the ABR method. Implementation of the two-step screening significantly reduced overall referral rates to 0.84%, and decreased parental anxiety from false-positive screens. Infants who do not pass the hearing screening at birth are referred to one of 19 diagnostic testing centers in the state. Through MCHB grant funding, CT standardized the diagnostic testing centers so that all had comparable testing equipment and capability, and provided support for audiologists to attend training on the diagnostic testing of infants. The average age of diagnosis over the past five years has averaged 2.19 months of age.

Infants identified with a hearing loss are referred at the time of diagnosis to the CT Birth to Three System, CT's IDEA, Part C early intervention program. Birth to Three has three specialty centers that provide services to families of infants who are deaf or hard of hearing. The centers are: the American School for the Deaf, CREC/Soundbridge, and the New England Center for

Hearing Assessment and Rehabilitation. The early intervention services, including the provision of hearing aides, are provided for the family, in the infant’s home or homelike environment. Since the implementation of the Universal Newborn Hearing Screening program, the average age of referral to early intervention has consistently been less than four months of age, well before the national goal of six months of age.

Data is collected from the birth hospitals via a state developed internet-based reporting system. The system is linked with the Newborn Bloodspot Screening and the Birth Defect Registry. Diagnostic evaluations are reported to the Department of Public Health on a designated reporting form. The UNHS tracking system has the capacity to generate reports necessary for the tracking and follow-up of infants in the screening, diagnostic and early intervention phases of the program. Hospital specific reports are generated and distributed quarterly to the birth hospitals. Hospital site visits are conducted annually and/or with any change in nurse managers.

Brochures were developed to educate families on the Hearing Screening and Diagnostic Follow-up processes. The materials are available in English and Spanish and are available on the DPH UNHS website.

CT participates in monthly CT Newborn Hearing Screening Task Force meetings. He group is comprised of audiologists, hospital nurse managers, families of infants identified with hearing loss, a neonatologist, early intervention staff, counselors for the deaf, UNHS staff and others. The group provides technical support, advocacy and expertise in all phases of the UNHS program.

INFRASTRUCTURE-BUILDING SERVICES

Pregnant Women, Mothers and Infants

Collaboration

DPH has a strong, functional intra- and interagency infrastructure for collaborative activities. For example, the Supplemental Security Income (SSI) program works collaboratively with DPH surrounding families who apply for SSI and their possible access to services and supports from the Children with Special Health Care Needs Program. Through our Federal Title V responsibilities, the CT DPH has been working closely with our state partners the SSI Disability Determination Unit at the Department of Social Services to optimize our working relationship. DPH Staff arranged a meeting with SSI/DDU staff to review the relationship between SSI/SSA and DPH specific to TitleV, provided to SSI/SSA an update of the Regional Medical Home Support Centers, received an update of the SSI/SSA on-line data system and the possibility of electronic information sharing, reviewed Memorandum of Understanding (MOU) language, and updated program fact sheets.

Some Ryan White and Title IV AIDS programs are housed at the Department of Public Health. Maternal and Child Health staff work collaboratively with social services, special education and early intervention programs through a variety of methods, such as; interagency councils, training workshops, conference planning and implementation. MCH staff and

vocational rehabilitation staff work together on issues facing children with special health care needs in Connecticut.

The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) is located in the Community Health Branch of DPH. An objective of the HRSA SSDI grant is to expand the linkage of the Birth and WIC files performed in 2003 to include a linkage with the state Medicaid eligibility files. In its second of three years, the SSDI grant calls for DPH staff to continue collaborations with DSS staff to share data that supports three addenda in a Memorandum of Understanding. The three addenda relate to identification of Medicaid births, DPH is also pursuing the use of a MPH summer student intern through an MOA with The University of Connecticut to complete an in-depth analysis of the birth-WIC- Medicaid linked data, information regarding children receiving lead screenings, children who receive Title V funds and are enrolled in the HUSKY A program. Future efforts may involve a fourth addendum related to asthma.

Children and Adolescents

Virtual Children Health Bureau/HIP Kids

The Virtual Child Health Bureau (VCHB) was formed in the fall of 2004 with its mission to collaborate across branches within DPH to ensure optimum health of all children in the State. Through the VCHB the Data Committee and with DPH executive support, DPH committed to create a Health Informatics Profile for Children (called HIP-Kids) that will contain high quality comprehensive health information on newborns and children. The HIP-Kids project is intended to increase the value of existing DPH child health databases by creating a new DPH resource, a composite of linked child health information, which will become a permanent archive and be available on an ongoing basis for health surveillance and monitoring. Aggregate, de-identified statistics will be available to individual users from this system without providing access to any person-specific data, and requests for record-level data could be made available to public health researchers, following appropriate and standard review to ensure confidentiality.

Activities leading to **HIP-Kids** are partially supported by HRSA SSDI funds, which have as an object to enhance the Family Health Section's programmatic data collection systems to enhance the DPH's ability to report on the MCHBG performance measures. These activities are also consistent with recommendations recently developed from a report by Words and Numbers, Inc, which was contracted to assess the data needs of the Family Health Section, and which included in its recommendation a need to develop a data driven decision-making framework that includes a structure for effective data management and utilization. Funds from SSDI are being used to outline the specific technical implementation steps to ensure the best data will be obtainable from the future **HIP-Kids** data system. DPH staff members are also involved in a Transformational Informatics grant application to the National Library of Medicine to seek implementation funds for **HIP-Kids**. Review of the NLM grant application is expected in November 2005

Early Childhood Partners

The Early Childhood Partners (ECP) Comprehensive Systems Plan aims to create an integrated service system that incorporates comprehensive health services, early care and

education, and family support and parent education to ensure the sound health and full development of all children. The system would provide for easy entry, clear navigation and appropriate supports for all families.

The key features of the Plan that will help these evolving state and local structures to drive system improvement include: specific service delivery strategies and policy prescriptions grounded in evidence-based practices; emphasis on building data capacity for accountability and evaluation; and technical assistance, professional development, and cross-training to build capacity across providers and communities. The plan envisions the creation of an Early Childhood Cabinet to support state-level strategic planning, service integration, and outcomes measurement. The ECP working through the Connecticut Department of Public Health Bureau of Community Health, Family Health Division will provide the technical blueprint for the Connecticut Early Childhood Cabinet that is currently pending before the legislature and could be created through Executive Order. The Cabinet will include the Commissioners of the departments with primary responsibility over early childhood services.

Children with Special Health Care Needs

Regional Medical Home Support Centers (RMHSC)

A process evaluation was completed in January of 2004 of those pediatric practices participating in the Medical Homes Learning Collaborative (MHLC), the current two CSHCN Centers, and the role of Infoline in information sharing and referral.

The evaluation of the two CSHCN Centers summarized that the Centers were providing services to only a small fraction of the number of children identified with special health care needs. As a result of this study, the contracts with the two CSHCN Centers were revised to enhance relationships with medical homes, Infoline, care coordination and community-based resource support as outlined in the President's New Freedom Initiative regarding the care of CSHCN.

Based on these evaluations and the goals of the Healthy People 2010 and the President's Freedom Initiative, the Department initiated a new community-based system of care for children and youth with special health care needs. This initiative complements the American Academy of Pediatrics belief that all children should have a medical home where care is accessible, family-centered, continuous, comprehensive, coordinated, compassionate and culturally competent.

Five RMHSCs will be contracted as of July of 2005. A benchmark number of CYSHCN to be served for the region and specifically of this number those with high complexity needs is defined in the contract. Through linkages with its region's medical home network (pediatric providers), the outcome is for the RMHSC to increase the numbers of children screened and identified with special health care needs in the region. It is expected that the RMHSC care coordinators will directly support the CYSHCN with high complexity needs, identified by the medical home, who does not have the ability to meet that level of CYSHCN.

The Department is working to provide a tool for medical homes to report and manage records of children and youth with special health care needs (CYSHCN), and for DPH to collect

information for surveillance and planning purposes. The new system, DocSite, will be available to the RMHSCs and medical home practitioners to manage and report patient information. This information will include: biographic, CYSHCN Screener and Complexity Index, diagnoses and conditions, specialists, treatment plans, emergency plans, family participation, care coordination, and other information as needed.

As this is a web-based system, patient information entered into the system will be available to users on a real-time basis. However, information on patients seen by a particular primary care provider (PCP) will only be accessible to that PCP. These activities are partially supported by HRSA SSDI funds, which have as an object the development and evaluation of a database for community-based providers who participate in the children with special health care needs Medical Home Learning Collaborative (MHLC). SSDI funds are being used to: increase the number of practices included in the Medical Home Learning Collaborative; conduct future Medical Home Academy trainings including practice in-services, videoconferences, webcasts, CD's and tapes; provide technical assistance and support to Medical Home practices using the DocSite system for reporting information on their CYSHCN population; to collaborate with the Virtual Children Health Bureau's Data Committee including the linkage of information on CYSHCN and the planned HIP-Kids system.

Sickle Cell Transition

The Department has granted the Hospital for Special Care in partnership with the University of Connecticut Health Center funds to conduct a statewide needs assessment of the Sickle Cell population.

Birth Defects Registry

Within the Family Health Section (FHS) of DPH, staff established the Connecticut Birth Defects Registry (CTBDR) and is working closely with birth facilities across the state. An electronic reporting system has been used by all birth facilities to report newborns with birth defects diagnosis to DPH before discharge, along with information on laboratory tests and hearing tests. This information is stored in FHS and are linked to EVR.

There were 29 out of 31 birthing facilities in the state using this electronic system to report birth defects information to DPH. Two birth facilities that don't use this system include University of Connecticut Health Center (UCHC) and the Yale New Haven Hospital. UCHC submits electronic files to DPH on a monthly and these data are loaded into the CTBDR database through an interface, and Yale New Haven Hospital fills out the hard-copy of forms and sends it to DPH to be entered manually into the CTBDR database.

As of March 2005, 29 out of 31 birth facilities have good compliance on reporting birth defects information to DPH. There are about 1,500 cases in the CTBDR database, a significant increase from 128 cases in December 2003, and the completeness of reporting is estimated as 85.4%. An ongoing effort is to incorporate the congenital anomalies identified from the EVRS into the CTBDR to further complete the case registration.

A web-based data system - DocSite has been proposed and used by medical homes and Regional Medical Home Support Centers (RMHSC) to collect and report information on Children and Youth with Special Health Care Needs (CYSHCN). This system incorporates the CYSHCN module in the system, including CYSHCN screener, CYSHCN complexity index, care coordination activity list, and family survey to facilitate PCPs and RMHSC to provide better

services to CYSHCN in the state. The data from this system will be used to populate the CYSHCN Registry in FHS, along with data from CTBDR for better planning and resource allocation.

B.5. Selection of State Priority Needs

As discussed in **Section B.1. Process for Conducting Needs Assessment**, the determination of the state MCH priority needs included both the Internal Needs Assessment and the Community-Centered Needs Assessment to ensure that a comprehensive, coordinated, and effective MCH plan of action would be developed. Each process independently generated a set of priorities needs.

The DPH Internal Needs Assessment was conducted by convening three separate workgroups to focus on the three MCH population groups. The priority needs identified by each workgroup were subsequently compiled by the Needs Assessment Planning Committee to generate the DPH 2005-2006 state priority needs.

Recommended Priority Needs from DPH Internal Needs Assessment

1. Reduce health disparities
 - a. Access to care
 - b. Racial/ethnicity
 - c. Geographic location

[Specific issues: teen pregnancy, low birthweight, prenatal care, breastfeeding, and infant mortality]
2. Enhance system capacity to identify and provide services to children and youth with special health care needs
 - a. Linked databases
 - b. Newborn screening
 - c. Classification of CYSHCN
 - d. Emergency services
 - e. Respite care
3. Enhance oral health services
 - a. Surveillance
 - b. Access
4. Enhance the mental health of mothers, children, and adolescents through collaboration and partnerships
 - a. Surveillance including perinatal depression
 - b. Access
5. Encourage the adoption of healthy habits among mothers, children, and adolescents
 - a. Early sexual activity
 - b. Teen pregnancy
 - c. Overweight/Obesity
 - d. Smoking, including during pregnancy
 - e. Substance abuse, including alcohol and drug

6. Reduce the frequency and/or severity of injuries to mothers, children, and adolescents
 - a. Domestic violence
 - b. Intentional injury including suicide, violence, and family violence
 - c. Unintentional injury
7. Improve data capacity related to maternal and child health issues
 - a. Data linkages (e.g., DPH’s Child Health Information Profile initiative)
 - b. Domestic violence
 - c. Family violence
 - d. Breastfeeding
 - e. Infant morbidity

The Community-Centered Needs Assessment was independently completed by John Snow, Inc. Key informants and listening session participants were invited to identify opportunities for improving maternal and child health in Connecticut. Participants identified a number of priorities for improvement and there was strong consensus among participants regarding overall goals and objectives.

JSI staff conducted a four hour retreat with staff of the Connecticut Department of Health to review needs assessment findings and opportunities for improvement and to select high priority needs to target for maternal and child health improvement. A list of recommendations reflecting the consensus of listening group participants and key informant interviews was generated. This list was reconciled against the list of priority needs generated from the DPH Internal Needs Assessment. This process of combining two separate lists of priority needs was accomplished by inviting retreat participants to select their top three priority needs of those presented. In selecting high priority needs to target, participants employed criteria including: 1) the likelihood that targeting the area for improvement would contribute to improved health and well-being of women and children in Connecticut; 2) the feasibility of implementing strategies to achieve desired outcomes; and 3) appropriateness of targeting the area for improvement based on Federal Maternal and Child Health program priorities and guidelines. Scores were tallied and the recommendations receiving the highest scores were chosen as priority needs for improvement. Two recommendations for improving maternal and child health received the highest number of votes and four additional recommendations tied for the same number of votes.

Combined Internal and External Recommended Priority Needs

A final list of potential areas identified during the retreat was generated and grouped into five overall goals. After reviewing these goals, MCH staff identified two additional goals to be included. The seven overall goals are:

- Reduce Health Disparities/Address Barriers to Care (Perceived and Actual)
- Promote Early Intervention Services
- Promote Healthy Behaviors
- Strengthen the MCH Public Health Infrastructure
- Facilitate Access to Health Services
- Reduce the Frequency and/or Severity of Injuries
- Enhance System Capacity to Identify and Provide Services to Children with Special Health Care Needs

A discussion of these goals, and specific objectives for each follows.

Reduce Health Disparities/Address Barriers to Care (Perceived and Actual)

Many disparities exist between the health of the White population and that of the African American/Black and Hispanic populations within Connecticut. Whether it involves infant health, health insurance access, oral health, and prenatal care, a greater proportion of adverse health outcomes are borne by the African American/Black and Hispanic populations. Many health disparities have been outlined in earlier sections of this document. This problem is not unique to Connecticut, but action must be taken at the state level to address these disparities.

Health disparities are a function of both perceived and actual barriers to care. For example, it has been noted that although primary care services are generally available in urban areas, selected populations including undocumented residents, refugees, and pregnant teens, do not seek needed services. These populations may not seek care because they fear the consequences, lack awareness of appropriate health seeking behaviors and the importance of routine and preventive care, and/or do not understand the role safety-net providers play in delivering health services to individuals who cannot afford to pay for services. Education and outreach is needed to address perceived barriers. At the same time, high out-of-pocket costs are real barriers, especially for low-income families that struggle to obtain basic needs. Specific objectives are identified for improving health outcomes by targeting specific populations identified with the greatest health disparities:

- Promote access to routine and preventive health services for hidden populations including undocumented, immigrant and refugee populations
- Promote access to routine and preventive health services among adolescents, especially pregnant teens
- Promote access to routine and preventive health services for African American and Hispanic/Latino populations.
- Promote access to routine and preventive health services for low income, uninsured populations.

Promote Early Intervention Services

Early intervention services are designed to address health problems as early as possible. Based on the results of the needs assessment, participants have emphasized the need to educate parents regarding healthy diet and exercise, as well as early childhood development. Good parenting is important for reducing obesity and behavioral health problems and promoting good oral health and cognitive development. Similarly, early prenatal care is critical for good birth outcomes. Specific objectives target early intervention services for high-risk populations to improve health outcomes:

- Increase utilization of first trimester prenatal care, especially among adolescents
- Improve parenting skills to support early childhood development
- Establish age appropriate, comprehensive sex education in schools
- Increase access to health and preconception education

Promote Healthy Behaviors

Connecticut’s Title V programs need to continue to provide targeted education and programmatic activities aimed at promoting healthy habits across all target populations. These include appropriate health seeking behavior, good nutrition and physical activity, responsible sexual behavior, and reduced drug and alcohol use. Specifically, the following are identified as specific objectives for promoting health behaviors:

- Promote appropriate health seeking behavior, especially routine and preventive services
- Promote good nutrition and exercise to reduce obesity
- Promote oral health care
- Promote smoking cessation
- Promote responsible sexual behavior
- Reduce alcohol, tobacco and drug use

Strengthen the MCH Public Health Infrastructure

Community providers and consumers have expressed concern about the erosion of the public health infrastructure and the safety-net system. Of greatest concern is the risk posed by reductions in Medicaid eligibility resulting in more uninsured residents. Community providers have also expressed the need for better collaboration and coordination among the MCH program and community partners. In addition to objectives identified by external stakeholders, MCH staff has added an objective for improving the data capacity to identify maternal and child health needs and monitor program impact.

- Communicate a statewide MCH vision to stakeholders
- Provide MCH data for decision making at the state and local levels including establishing a data warehouse that links MCH databases
- Better integrate MCH services with activities of other agencies and community providers serving women and children at the state and local levels
- Provide case management services to link clients to needed services
- Maintain and increase access to health insurance coverage
- Evaluate effectiveness of MCH programs

Facilitate Access to Health Services

All target populations lack access to selected health services due to a lack of available providers and cost barriers. Efforts need to be directed to meet the following objectives:

- Increase access to oral health services
- Increase access to mental health services
- Increase access to specialty care including follow-up testing and procedures
- Expand capacity of school-based health services
- Expand access to primary care in rural communities

Reduce the Frequency and/or Severity of Injuries

Injuries are the leading cause of death for Connecticut children and adolescents, and young adults between the ages of 1-34 years and a major cause of hospitalization. Objectives for reducing the frequency and/or severity of injuries include:

- Reduce domestic violence
- Reduce intentional injuries
- Reduce unintentional injury

Enhance System Capacity to Identify and Provider Services to Children with Special Health Care Needs

According to the federal Maternal and Child Health Bureau (MCHB), “Children with special health care needs are those who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and who also require health and related services of a type or amount beyond that required by children generally.” The extent of a child’s health care needs within this definition vary greatly, and estimates of the number of children with special health care needs differ based on the definition. According to the State and Local Area Integrated Telephone Survey (SLAITS) for children with special health care needs, there are an estimated 118,000 CYSHCN in Connecticut. Objectives for meeting the needs of CYSHCN include:

- Increase newborn screening
- Promote access to family support services including respite and home care
- Increase access to emergency services
- Classification of CYSHCN

Final DPH Nine State Priority Needs

The MCH program selected seven priority needs from the list of potential areas for improving maternal and child health. Criteria used to select top priorities include the likelihood that the intervention will result in improved maternal and child health outcomes, the feasibility of success, and alignment with federal MCH priorities. The DPH Planning Committee added an eighth priority need regarding health disparities as it was deemed a repeated imperative need across the MCH population. The DPH Planning Committee added the ninth priority need as part of the collaborative work of the Region I states to “measure the collective assets of their childhood health systems.” The nine priority needs are:

- Strengthen data collection and reporting to support state/local level decision-making and monitoring
- Establish collaborative relations with state and local partners to promote maternal and child health
- Reduce intentional injuries
- Improve adolescent health status
- Promote nutrition and exercise to reduce obesity
- Promote access to family support services including respite and medical home care for CYSHCN

- Increase access to quality pre-conception and parent education programs
- Reduce health disparities especially related to access to care, racial/ethnicity, geographic location [Specifically in the areas: teen pregnancy, low birth weight, prenatal care, breastfeeding, and infant mortality]
- Collaborate with other federal Region I states to develop indicators that measure the collective assets of their early childhood health systems, “specifically focusing on their collective assets regarding child care health consultants (CCHC).”

A description of each priority need follows.

Priority Need #1: Strengthen Data Collection and Reporting

Effective decision-making requires timely and useful data on maternal and child health. MCH has identified seven core datasets that comprise useful maternal and child health data. These datasets are not integrated or readily accessible. An internal working group has developed goals for establishing a warehouse to link MCH databases to support informed program planning and decision-making.

Activities:

1. Develop data warehouse to link MCH databases.
2. Train MCH staff to access data for decision-making.
3. Develop a web-based tool to permit public access of MCH datasets to support decision-making at the local level.

State Performance Measure #01:

State Performance Measure #01 has been developed to address the need to develop a data warehouse (called HIP-Kids) containing high-quality retrospective data on newborns and children. Of the fourteen mandated health-related databases within DPH, there are seven core databases containing unique identifiers that can be matched and include data that would contribute uniquely to HIP-Kids. These databases are: The Child Health Profile, consisting of Laboratory newborn genetic screening results, Birth Defects, Children and Youth with Special Health Care Needs (CYSHCN), and Newborn Hearing Screening databases (1-4); Birth Records (5); Death Records (6); and the Childhood Immunization Registry (7). The ability of the future HIP-Kids to provide comprehensive child health information should greatly enhance public health assurance and assessment activities within Connecticut. Public health assurance activities enhanced by HIP-Kids should include: 1) better coordination of medical services to all children and especially CYSHCN, through linkages with qualified medical home environments; 2) reduced health disparities among childhood disease prevention activities, through better outreach to the “hard-to-reach” populations; and 3) reduced need to disclose confidential information that is now necessary to generate local database linkages. Enhanced public health assessment activities should include: 1) an increased ability to evaluate population-based health activities within DPH; 2) improved data quality through better data validation and coordinated data improvement efforts; 3) enhanced comprehensive data accessibility to support grant activities, health programming, and to support data requests from sources outside DPH; and 4) enhanced analyzing, interpreting, monitoring, and reporting activities by staff because less time would be

needed to manage data. Creation of HIP-Kids should also make possible for the first time the support of new program activities that reach across Sections within DPH.

This State Performance Measure measures the cumulative number of databases incorporated into the integrated data warehouse, HIP-Kids, over the next five years. This measure is placed under the Infrastructure-Building level of the pyramid with the future opportunity to support Population-Based activities by the MCH programs for all three population groups: Pregnant Women, Mothers and Infants; Children; and Children and Youth with Special Health Care Needs.

Priority Need #2: Establish Collaborative Relations at State/Local Level

The MCH Program acknowledges that improving the health and well-being of women and children requires a collaborative response from state agencies and community providers. No one agency is able to address the complex health and social service needs of these vulnerable populations. For this reason, the MCH Program proposes to collaborate and coordinate with state and local stakeholders committed to improving the health of women and children. Specific issues best addressed through collaborations with state and local partners include increasing access to needed services such as mental health, oral health, specialty care and health services in rural communities, and expanding access to health insurance for low income populations.

Activities:

1. Identify collaborating partners at the state and local level (e.g., State agencies: DCF, DSS, DEd, DMR, DMHAS, Corrections, Labor, CSSD, Higher Ed; Local partners: MCH contract agencies, CBOs, Local Health Departments, Hospitals, private providers, associations; etc.)
2. Inventory existing collaborations.
3. Identify gaps in existing collaborations and opportunities for the MCH Program to affiliate with state and local partners (e.g., regional provider advisory groups).
4. Work with collaborating partners to identify common priorities and strategies for coordinating a response.
5. Communicate priorities to state and local partners to assure that partners are familiar with MCH goals.
6. Work with partners at state and local levels to implement interventions/strategies for improving maternal and child health.
7. Monitor effectiveness of collaborations and interventions.
8. Disseminate best practices and build on successes.

State Performance Measure #02:

State Performance Measure #02 has been developed to address the need to establish collaborative relationships with state and local partners, and will be measured by the cumulative number of formal agreements, in the format of Memorandum of Agreements, collaborative agreements, state and local initiatives, etc, in each of the three population groups. This measure is placed under the Population-Based level of the pyramid for all three population groups: Pregnant Women, Mothers and Infants; Children; and Children and Youth with Special Health Care Needs.

Priority Need #3: Reduce Intentional Injuries

The increase in violence and intentional injuries poses a serious public health threat for all MCH target populations. Strategies for reducing the frequency and severity of intentional injuries are an MCH priority.

Activities:

1. Obtain and review injury data to identify populations at risk.
2. Evaluate gaps in delivering injury prevention interventions targeted to at-risk populations.
3. Work with program partners to implement programs/interventions to improve awareness, education, policies and interventions to reduce injuries.

State Performance Measure #03:

State Performance Measure #03 has been developed to reduce intentional injuries, and will be measured by the percent of 9th-12th graders, by race and ethnicity, who report being in a fight within the past 12 months. This measure is placed under the Population-Based level of the pyramid for the child and adolescent population.

Priority Need #4: Improve Adolescent Health Status

Adolescents of diverse racial and ethnic backgrounds and those of low socio-economic status who live in very rural sections of the state are at especially high risk for mental health, substance abuse and unintentional injuries. They need easy access to age-appropriate services and are often under-served due to the gap between pediatric and adult medical care services. School-based health centers are reaching a number of adolescents but are only available at some schools and not in others. In addition, there is a sub-population of adolescents who are not reached because they are not in school due to dropping out, being incarcerated or being migrant workers.

Activities:

1. Collaborate with Department of Education around unmet needs.
2. Bring together state agencies to coordinate mental health services for adolescents.
3. Increase and improve communication between school practitioners and community mental health and substance abuse providers.
4. Use data to advocate and promote policies to improve outcomes (e.g. Motor Vehicle data on adolescent car accidents).

State Performance Measure #04:

State Performance Measure #04 has been developed to increase the percent of adolescents 10-20 years old who receive services in school based health centers. This measure is placed under the Direct Health Care Services level of the pyramid for the child and adolescent population.

Priority Need #5: Promote Nutrition and Exercise to Reduce Obesity

Obesity and its consequences is now the top emerging public health issue in the state. Its importance as a priority health issue stems from several factors. Among these factors are: 1) It is an entirely preventable condition that is increasing across all major public health population groups for maternal and child health; and 2) It is now linked to an array of health problems such as heart disease and Type II diabetes that have long term implications for morbidity and mortality in Connecticut.

Obesity and the factors leading to it are comprised of a myriad of behavioral, socio-economic and environmental components making it an equally complex area to tackle. Everything from parenting skills to cultural influences to availability of food choices in schools contributes to it. Yet there is so much that can be done just to educate families and to increase awareness of its link to serious health risks starting in early childhood. Furthermore, obesity is an ideal health issue for community wide action that addresses all aspects of its prevalence among the much population.

Activities:

1. Collaborate with the Department of Education to promote culturally appropriate physical activity and nutrition in schools.
2. Collaborate with the newly created Obesity Program to address obesity across all programs.
3. Collaborate with local health departments and other community based partners to address local interventions and to mobilize communities.
4. Develop and implement a public awareness campaign (statewide).
5. Create/establish a comprehensive community plan to develop policies and practices in communities across the state.
6. Promote exercise and healthy eating through the Coordinated School Health Model.

State Performance Measure #05:

State Performance Measure #05 has been developed to reduce obesity and overweight in the child and adolescent population, and will be measured by the increase in the percent of schools that have used a program to reduce obesity/overweight through physical exercise and nutrition education programs. This measure is placed under the Population-Based level of the pyramid for the child and adolescent population.

Priority Need #6: Increase access to quality pre-conception and parent education programs.

Overall, as noted in **Section B.3** of this document, Connecticut's families and children fare well compared to their national counterparts with respect to key national indicators of maternal and child health. Birth rates in Connecticut are lower than national rates; there are proportionally fewer pre-term births; and there are smaller percentages of low birth weight babies. Connecticut children overall are also more likely to receive primary care services, including dental care and other routine and preventive services. However, there are great disparities in many of the key health indicators between certain segments of the state's population, particularly between teens and adult populations, and between White majority and minority populations. The causes of some of these disparities are linked to poverty, racism, and other societal problems but many of

the disparities are also clearly linked to lack of proper pre-conception education, parent education, and other parenting supports.

Young and inexperienced parents as well as parents with limited knowledge of healthy behaviors and habits need to have better access to formal, quality pre-conception and parenting education programs so that 1) unwanted pregnancies can be averted, 2) parents can learn and prepare to care for their unborn and newly born children prior to pregnancy and birth, and 3) young and inexperienced parents can learn how to properly care and provide for their newborns with respect to care and feeding as well as proper health seeking behaviors (e.g., immunizations, well baby visits, urgent care visits, oral health care, and proper nutrition/exercise).

Activities:

1. Identify and promote the development of quality pre-conception and parent education programs, particularly in the schools and in areas where there are high rates of teen births and/or large proportions of minorities.
2. Develop and disseminate culturally appropriate educational materials and educational curricula geared to teens and young adults that promote healthy sexual behavior, good parenting, and proper health seeking behaviors related to routine and preventive care.
3. Track the number of teens and young adults who receive quality pre-conception and parent education in schools and in other community settings.
4. Promote provider training and education programs geared to encouraging brief pre-conception counseling and parenting education and referral to community-based educational programs.

State Performance Measure #06:

State Performance Measure #06 has been developed to increase access to pre-conception education and parenting, and will be measured by the increase in the percent of women under 20 years of age, by race and ethnicity, receiving prenatal care in the first trimester. This measure is placed under the Population-Based level of the pyramid for the Pregnant Women, Mother and Infants population group. During the next year, further discussion will occur on this measure, and as a result, the state performance measure may be revised.

Priority Need #7: Promote access to family support services including respite and medical home care

As noted in **Section B.3** of this document, there could be as many as 118,000 children with special health care needs living in Connecticut. Many of these children and their families struggle every day to identify and access the family support services they need. Case management services, family counseling, home care, and respite care are just a few of the services these families need and often have trouble accessing in adequate amounts.

There are a number of agencies in the state that assist CYSHCN and their families by providing and facilitating family support services including respite care. These two major agencies are the Department of Public Health (DPH) and the Department of Mental Retardation (DMR). Great strides have been made to identify and serve families with CYSHCN in the state, particularly families with young children, but there are still many families who struggle, and efforts need to be made to: 1) improve access to family support and respite care; 2) increase the

overall service capacity and the resources available for home and respite care; and 3) support families who have trouble identifying respite providers.

Activities:

1. Collaborate with DMR to better coordinate family support services and respite care.
2. Collaborate with DMR to better track how much respite care is being provided, who is receiving the support, and the types of respite care providers that are providing the services.
3. Continue to educate and raise awareness of health and social service providers throughout the state on the resources that are available to families of CYSHCN.
4. Continue to educate parents of CYSHCN on the resources that are available. Distribute education materials on this topic. Special emphasis should be placed on assisting parents to identify respite care providers.
5. Collaborate with community-based organizations such as schools, faith-based organizations, and community centers to help them to reach out to and support families with CYSHCN.
6. Collaborate with colleges and universities in the state, particularly those with training programs for students who want to provide services to CYSHCN (e.g., Occupational therapy/ physical therapy programs, home health care training programs, etc.), to promote the development of respite care practicum programs that link students to families who need respite care services.

State Performance Measure #07:

State Performance Measure #07 has been developed to promote access to family support services including respite care and the medical home system of care for Children and Youth with Special Health Care Needs (CYSHCN). Performance will be measured by the increase in the percent of CYSHCN [? In the dph funded program] who receive respite and support services each year. This measure is placed under the Population-Based level of the pyramid for the Children and Youth with Special Health Care Needs population group.

Priority Need #8: Reduce health disparities especially related to access to care, racial/ethnicity, geographic location [Specifically in the areas: teen pregnancy, low birth weight, prenatal care, breastfeeding, and infant mortality]

Compared to national statistics, while Connecticut residents report good health status overall, large health disparities exist between the White population and that of the African American and Hispanic populations within Connecticut (see **Section B.3** of this document). This issue was also identified in the last semi-decennial needs assessment. Specifically, lack of access to health care for low income and uninsured populations differs across these populations. Even women with health insurance lack access to mental health, oral health and specialty care services including follow-up procedures and testing due, in part, to high out-of-pocket expenses.

Lack of access to basic needs negatively impacts overall health status of target populations. Low-income families are burdened by the high cost of housing and lack of access to transportation and day care, which take precedence over health care needs. There are delays in seeking care by hidden populations including undocumented, immigrants and refugees. In general, these populations are not seeking routine and preventive care due to both perceived and

actual barriers. Failure to seek routine and preventive services in a timely manner contributes to poor health outcomes and a greater burden on the health care delivery system.

Significant health disparities are documented with African American/Black and Hispanic populations experiencing dramatically poorer health status (see **Section B.3**). While the overall percent of births to teens has dropped in the last decade, especially among African Americans, there remain a greater percentage of pregnancies among teens in the African American and Hispanic populations when compared to white teens.

Similarly, adequacy of prenatal care has also improved over the past decade but African American and Hispanic women less often achieve adequate prenatal care (see **Section B.3**). Late and inadequate prenatal care especially among young and teenage mothers and minority populations contributes to poor birth outcomes. While 8% of White women do not receive prenatal care in the first trimester, 18% and 23% of African American/Black and Hispanic women, respectively, do not receive prenatal care in the first trimester. African American/Black women report higher rates of low birth weight babies (13% *versus* 7% of White women) and infant deaths per 1,000 live infants (17 *versus* 5 for White women).

State Performance Measure:

While there is no specific State Performance Measure developed for this priority need, the goal to reduce health disparities has been incorporated explicitly in two of the State Performance Measures, e.g. the reduction of intentional injuries, and the number of infants whose mother received prenatal care in the first trimester. And, all of Connecticut’s MCH programs collect racial and ethnic information of populations they serve with the overarching goal to monitor these programs are meeting the needs of all sub-populations.

Priority Need #9: Collaborate with other federal Region I states to develop indicators that measure the collective assets of their early childhood health systems, “specifically focusing on their collective assets regarding child care health consultants (CCHC).”

In the interest to further collaborate with the other federal region I states to address “asset-based community development activities,” Connecticut incorporated language drafted by Thomas Rice, UCLA, as place holder for the Child Care Health Consultants (CCHC) developmental early childhood performance measure.

State Performance Measure:

To be determined.

C. NEEDS ASSESSMENT SUMMARY

A statewide comprehensive MCH needs assessment was performed during August 2004 through May 2005 to identify state MCH priorities, to arrange programmatic and policy activity around these priorities, and to develop state performance measures for monitoring the success of these efforts. The MCH needs assessment was designed to be population-based, community-focused, and framed within a family context.

To include key stakeholders in a meaningful and integral part of the needs assessment, DPH staff identified and convened an initial collaborative meeting with many invited state agencies and community and professional organizations. This collaborative group, which met several times over a six-month period, also participated in oversight of the needs assessment. In addition, an internal Planning Committee was established, which determined that the needs assessment process would include two components: 1) a DPH Internal Needs Assessment, and 2) an external Community-Centered Needs Assessment.

The Internal Needs Assessment process was conducted during October and November, 2004, by establishing three separate workgroups of DPH staff, each with the task of assessing the needs of one of the three MCH population groups. For each MCH population group, existing strengths and weaknesses of MCH programs within DPH were discussed, and perceived needs were identified. Each perceived need was researched within the workgroups to validate the degree of need, and matrix scoring was used to limit those needs to a set of 5 priority needs. A total of 15 priority needs from the three workgroups were submitted to the internal Planning Committee. In turn, the Planning Committee reduced the recommended 15 priority needs to 7-10 state priority needs.

Both qualitative and quantitative methods were used for the Community-Centered Needs Assessment. John Snow Institute (JSI) was hired by DPH through a competitive process to conduct the Community-Centered Needs Assessment with oversight from DPH. The company first used demographic, economic, health, and survey data to develop a health profile for the MCH populations. This information was presented at five separate listening sessions held during March and April, 2005, and was followed by group discussions that provided feedback on the health needs of women and children, and that generated a set of qualitative needs for these population groups. The five listening sessions were conducted within five different counties within Connecticut, and participants included healthcare providers, local public health organizations, local health centers, and advocacy groups. An additional listening session was conducted exclusively for consumers. Engaging these stakeholder groups facilitated the inclusion of their insights and experience, and served as a valuable reality check. Finally, a select group of seven identified by DPH as being experts within the state were surveyed personally for MCH needs. All qualitative data were assembled into a composite document of health needs for the MCH population groups.

During May and June, 2005, the Planning Committee and MCH program staff were convened to reconcile the priority needs identified by both the Internal Needs Assessment and the Community-Centered Needs Assessment. A final list of nine priority needs were chosen, ensuring that the three population groups were appropriately included. Additional criteria for choosing the final priority needs included the likelihood that the intervention would result in

improved maternal and child health outcomes, the feasibility of success, and alignment with federal MCH priorities.

The final list of priority needs were:

1. Strengthen data collection and reporting to support state/local level decision-making and monitoring
2. Establish collaborative relations with state and local partners to promote maternal and child health
3. Reduce intentional injuries
4. Improve adolescent health status
5. Promote nutrition and exercise to reduce obesity
6. Promote access to family support services including respite and medical home care for CYSHCNs
7. Increase access to quality pre-conception and parent education programs
8. Reduce health disparities especially related to access to care, racial/ethnicity, geographic location [Specifically in the areas: teen pregnancy, low birth weight, prenatal care, breastfeeding, and infant mortality]
9. Collaborate with other federal Region I states to develop indicators that measure the collective assets of their early childhood health systems, “specifically focusing on their collective assets regarding child care health consultants (CCHC).”

The nine identified State Priority Needs are similar in many ways to those identified in the last MCH Needs Assessment conducted five years ago, which clearly demonstrates the need for ongoing efforts in these areas. The similarities include the need to address data capacity issues, reduce injuries to children and adolescents, improve child adolescent health status with an added focus on overweight/obesity, enhance CYSHCN services especially family support services, increase access to health care for women and children, and reduce the health disparities that continue to exist specifically in the areas of teen pregnancy, low birth weight, prenatal care, breastfeeding, and infant mortality. One priority need, that related to asthma diagnosis and management, is not included in the current list of state priority needs. This may reflect changes in DPH’s capacity to address issues in asthma, through the now well-established DPH Asthma Program.

While not explicitly stated as a state priority need, oral health services and mental health services, have been described as part of the activities under Priority Need #02, to establish collaborative relations with state and local partners to promote maternal and child health. It has been stated that specific issues like these would be best addressed through collaborations with state and local partners to increase access to these needed services.

The semi-decennial MCH needs assessment within Connecticut was conducted to ensure that a comprehensive, coordinated, and effective MCH plan of action would be developed. The needs assessment process consisting of both internal and external assessments ensured the success of this goal. Engaging the various stakeholder groups facilitated the inclusion of their insights and experience of their practical experiences and served as a valuable reality check. A concerted effort was made to engage providers, advocates and consumers to identify priority needs, as well as successful solutions to identified problems. The results of the semi-decennial MCH needs assessment, and the accompanying state MCH priority needs, were the result of contributing efforts from representatives of professional, consumer, and governmental organizations at the state, regional, and local levels.

D. HEALTH STATUS INDICATORS

The Connecticut Department of Public Health reviews health status indicators annually.

E. OUTCOME MEASURES

See Form 12 and Outcome Measure Detail Sheet, Supporting Documents Section 5.11.

REFERENCES

- African American Affairs Commission (2001) Healthy People 2010: Selected Health Disparity Areas: Baseline Data and Targets for the Year 2010, Hartford, Connecticut (<http://www.cga.ct.gov/aaac/Documents/Health%20Disparity.pdf>), last viewed on May 23, 2005.
- Children's Defense Fund (2002) Census 2000: Child Poverty Data for States, Counties, and Large Cities. (<http://www.childrensdefense.org/data/census00/pov/city.txt>).
- Connecticut State Department of Education (2005). Strategic School Profile 2003-2004, Hartford School District, Darien School District, Hartford, CT (<http://www.csde.state.ct.us/public/der/ssp/dist0304/district.htm>), last viewed on July 11, 2005.
- Connecticut State Department of Public Health (2003a). Cumulative HIV Cases by Sex, Race, and Risk/Mode of Transmission through December, 2004, Connecticut HIV/AIDS Surveillance Program, Hartford, CT (http://www.dph.state.ct.us/BCH/infectiousdise/2003/data/hiv_table1.htm); last viewed on July 11, 2005.
- Connecticut State Department of Public Health (2003b). Connecticut AIDS cases by year of report, and age at diagnosis with AIDS in percent of total for the category through December 31, 2004, Connecticut HIV/AIDS Surveillance Program, Hartford, CT (<http://www.dph.state.ct.us/BCH/infectiousdise/2003/data/table3.htm>); last viewed on July 11, 2005.
- Connecticut State Department of Public Health (2003c). Children with Special Health Care Needs, Hartford, CT (<http://www.dph.state.ct.us/bch/Family%20health/cyshcn/cshcn%20assessment%202003.pdf>); last viewed on July 7, 2005.
- Connecticut State Department of Public Health (2004a). Asthma in Connecticut: Update, May 2003, Bureau of Community Health, Hartford, CT (http://www.dph.state.ct.us/Publications/BRS/EOHA/asthma_update.pdf); last viewed on July 12, 2005.
- Connecticut State Department of Public Health (2004b). 2003 Youth Risk Behavioral Survey: Survey Summary, Health Information Systems and Reporting, Hartford, CT (<http://www.dph.state.ct.us/bch/HISRI/survey%20summary%20ct%202003%20yrbs.pdf>); last viewed on July 12, 2005.
- Connecticut State Department of Public Health (2005a). Comprehensive Suicide Prevention Plan, Family Health Section, Hartford, CT (<http://www.dph.state.ct.us/Publications/BCH/Family%20Health/suicidepreventionplan4-14-05final.pdf>); last viewed on July 12, 2005.
- Connecticut State Department of Public Health (2005b). Perinatal Health Plan for Connecticut, 2005-2009, Family Health Section, Hartford, CT (http://www.dph.state.ct.us/Publications/BCH/Family%20Health/2005_perinatal_plan.pdf); last viewed on July 12, 2005.
- Connecticut Voices for Children (2005a). HUSKY at a Glance. New Haven, CT (<http://www.ctkidslink.org/publications/h05huskyglance05.pdf>); last viewed on June 29, 2005.
- Connecticut Voices for Children (2005b). Ambulatory Care Utilization by Children Enrolled in HUSKY A in 2003. New Haven, CT (<http://www.ctkidslink.org/publications/h05ambcare01.pdf>); last viewed on June 29, 2005.

- Data Resource Center for Child and Adolescent Health (2005) National Survey of children with Special Health Care Needs: Connecticut, National Center for Health Statistics, Hyattsville, Maryland (<http://cshcndata.org/DesktopDefault.aspx?topic=stateprevalence&geo=Connecticut>); SLAITS discussion can be viewed at (<http://www.cdc.gov/nchs/about/major/slaits/cshcn.htm>); last viewed on July 12, 2005.
- Georgetown University (2005). MCH/EPSTD Distance Learning (<http://www.brightfutures.org/mchepsdt.html>); last viewed on July 6, 2005.
- Government Accounting Office (2001). Medicaid Stronger Efforts Needed to Ensure Children's Access to Health Screening Services. Government Printing Office GAO-01-749 (<http://www.gao.gov/new.items/d01749.pdf>); last viewed on July 6, 2005.
- Hofmann, M, O'Connell, B, Hooper, M (2001). Health Workforce Shortages – A Review of Available Data and Measures for Selected Professionals, Connecticut Department of Public Health, Hartford, CT (http://www.dph.state.ct.us/Commissioner/Work_Force/hwsfinal%20report.pdf); last viewed on July 6, 2005.
- Kaiser Family Foundation (2005). State Health Facts (<http://www.statehealthfacts.org/cgi-bin/healthfacts.cgi>); last viewed on July 12, 2005.
- Kochanek, KD, Murphy, SL, Anderson, RN, Scott, C (2004) Deaths: Final Data for 2002. National Vital Statistics Reports; Vol 53 no 5. National Center for Health Statistics, Hyattsville, Maryland.
- Lee, Mary Alice (2004). HUSKY A Provides Dental Care for More Children in 2003, Connecticut Voices for Children, April Ed, (<http://www.ctkidslink.org/publications/h05dental04.pdf>); last viewed on July 11, 2005.
- Lee, Mary Alice (2004). Child Health and Health Care Disparities in HUSKY A in 2003, June Ed, (<http://www.ctkidslink.org/publications/h05disparities06.pdf>); last viewed on July 11, 2005.
- Child and Adolescent Health Measurement Initiative (2005). National Survey of Children's Health, 2003: Connecticut State Profile, Data Resource Center on Child and Adolescent Health, National Center for Health Statistics, Hyattsville, Maryland (<http://www.nschdata.org>); last viewed on July 12, 2005.
- Peoples-Sheps, MD, Farel, A, Rogers, MM (1996). Assessment of Health Status Problems, Maternal and Child Health Bureau, HRSA,
- State of Connecticut Department of Social Services (2005). Healthcare for Uninsured Kids and Youth (<http://www.huskyhealth.com/>); last viewed on July 6, 2005.
- Stone, CL, Mueller, LM (2004). State-level Bridged Race Estimates for Connecticut, 2000 – 2002, Connecticut Department of Public Health, Office of Health Care Quality, Statistics, Analysis & Reporting, Hartford, CT.
- Sutton, PD, Mathews, TJ (2004). Trends in characteristics of births by State: United States, 1990, 1995, and 2000-2002. National Vital Statistics Reports; Vol 52 no 19. National Center for Health Statistics, Hyattsville, Maryland.
- The Annie E. Casey Foundation (2005). Kids Count 2004 Data Book Online (<http://www.aecf.org/kidscount/databook/indicators.htm>); last viewed on July 10, 2005.

- Urban Institute and Kaiser Commission (2005). Reports on Medicaid and the Uninsured estimates based on data from Medicaid Statistical Information System (MSIS) reports from the Centers for Medicare and Medicaid Services (CMS) (http://www.statehealthfacts.org/cgi-bin/healthfacts.cgi?action=profile&category=Medicaid+%26+CHIP&subcategory=&topic=&link_category=&link_subcategory=&link_topic=&welcome=0&area=Connecticut¬es=show&printerfriendly=0#pageto pic3); last viewed on July 11, 2005.
- US Census Bureau (2000). American FactFinder, Census 2000, (<http://factfinder.census.gov/home/saff/main.html?lang=en>); last viewed on September 15, 2005.
- US Census Bureau (2003a). State Characteristic Estimates (ST-EST2002-ASRO-02-09). Population Division, U.S. Department of Commerce, Washington, DC 20233, Press Release September 18, 2003 (<http://www.census.gov/Press-Release/www/2003/cb03-144.html>).
- US Census Bureau (2003b). Three-Year-Average Median Household Income by State: 2001-2003. Current Population Survey, 2002, 2003, and 2004 Annual Social and Economic Supplements, US Department of Commerce, Washington, DC 20233 (<http://www.census.gov/hhes/income/income03/statehi.html>).
- US Census Bureau (2003c). Poverty status by state: 2003 (POV46). Current Population Survey, 2004 Annual Social and Economic Supplements, US Department of Commerce, Washington, DC 20233 (http://pubdb3.cuensus.gov/macto/032004/pov/new46_100125_03.htm).
- US Census Bureau (2004). Annual Population Estimates and Estimated Components of Change for the United States and States: April 1, 2000 to July 1, 2004; NST_EST2004_ALLDATA, Population Estimates Program, US Department of Commerce, Washington, DC 20233 (http://www.census.gov/popest/national/files/NST_EST2004_ALLDATA.csv); last viewed on July 12, 2005.
- US Department of Health and Human Services (2000). Healthy People 2010. With Understanding and Improving Health and Objectives for Improving Health. 2 Vols. Washington, DC (<http://wonder.cdc.gov/data2010/>); last viewed on July 12, 2005.