

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

II – Needs Assessment

TABLE OF CONTENTS

B. FIVE YEAR NEEDS ASSESSMENT.....	2
B.1. Process for Conducting Needs Assessment.....	2
Goals and Vision.....	2
Leadership.....	2
Methodology.....	2
Methods for Assessing Three MCH Populations.....	4
Methods for Assessing State Capacity.....	9
Data Sources.....	9
Linkages between Assessment, Capacity, and Priorities.....	10
Dissemination.....	10
Strengths and Weaknesses of Process.....	10
B.2. Partnership Building and Collaboration Efforts.....	11
B.3. Strengths and Needs of the Maternal and Child Health Population Groups and Desired Outcomes.....	14
B.4. MCH Program Capacity by Pyramid Levels.....	24
Direct Health Care Services.....	24
Enabling Services.....	26
Population-Based Services.....	31
Infrastructure-Building Services.....	35
B.5. Selections of State Priority Needs.....	38
List of Potential Priorities.....	38
Methodologies for Ranking/Selecting Priorities.....	40
Priorities Compared with Prior Needs Assessment.....	40
Priority Needs and Capacity.....	42
MCH Population Groups.....	46
Priority Needs and State Performance Measures.....	48
B.6. Outcome Measures – Federal and State.....	52
C. ANNUAL NEEDS ASSESSMENT SUMMARY.....	53
Appendices.....	55
Appendix A.....	56
Appendix B.....	59

B. FIVE YEAR NEEDS ASSESSMENT

B.1. Process for Conducting Needs Assessment

The needs assessment included a Department of Public Health (DPH) Internal Needs Assessment and a Community Centered Needs Assessment. The DPH Internal Needs Assessment process incorporated analysis of data and identification of significant health problems of all programs serving the Maternal and Child Health (MCH) population across the Agency. Feedback on the health needs of women and children was obtained from providers and consumers. The MCH Title V Program established a Stakeholders' Committee to consider the internal workgroup findings and community data and recommend 7-10 state priority needs. DPH established the state performance measures for the selected priority areas.

Goals And Vision

The Connecticut (CT) MCH Title V program aligned itself with the Health Resources Services Administration (HRSA) Maternal and Child Health Bureau in its pursuit of two ultimate goals: improved outcomes for CT's MCH population and strengthening partnerships. The needs assessment process was based on an inclusive framework, which allowed DPH and its partners (providers, other state agencies, and consumers) to seek and review information/data from a variety of sources (internal workgroups, focus groups, phone and online surveys). The information/data discussed was utilized to identify gaps in service, select priorities, establish performance objectives and measures, and allocate resources. The needs assessment laid the groundwork that will help guide decision-making for the Title V program and its partners when evaluating progress, identifying barriers and establishing new strategies to address continued or new priority needs when allocating resources. CT's vision is to work synergistically with providers and MCH state and community leaders so that services are coordinated, efficient, and effective resulting in the MCH population having access to and receiving quality preventive and primary care services throughout the life course.

Leadership

The MCH Title V Program established a leadership team for the needs assessment process. It consisted of the Title V Director, Children and Youth with Special Health Care Needs (CYSHCN) Director, supervisors within the DPH Family Health Section (FHS), epidemiologists, and program staff. The Title V Director and leadership team sought input from stakeholders at all levels of the statewide system of care. The team established the plan and identified methods to gather and review information to be used for the needs assessment from multiple sections at DPH, other state agencies, community based organizations, advocacy organizations, and consumers. DPH staff facilitated each of the internal workgroup meetings. An independent contractor facilitated the activities pertaining to the community needs assessment process including focus groups, telephone and online surveys, and Stakeholders' Committee meetings.

Methodology

Three internal workgroups were established to review data and programs for each target population: Children & Adolescents (C&A), CYSHCN, and Pregnant Women, Mothers & Infants (PWMI). Each workgroup was facilitated by at least one FHS staff member. The workgroups were instructed to recommend health priority areas for the three target populations

to be considered by the Stakeholders' Committee. Quantitative and qualitative programmatic and population-based data was analyzed to determine capacity for health care services for the target population groups. Data relevant to each population group was obtained from DPH program reports and federal, state, and local sources. Workgroup members gathered additional data by conducting interviews with program staff and presented the information to the entire workgroup. The members reviewed information for its validity and value to help assess the need for direct health care, enabling, population-based and infrastructure building services. The criteria utilized to guide the groups with their decision-making when ranking priority need areas include: 1) what programs and services are essential; 2) which of those are available; and 3) which are desired.

The DPH contracted with the Connecticut Economic Resource Center (CERC) to conduct the Community Centered Needs Assessment and facilitate the Stakeholders' Committee meetings. DPH identified and convened a Stakeholders' Committee to be an integral part of the needs assessment process. Representatives from state agencies, community and professional organizations were invited to participate on the committee. Parents and consumers were also invited to be part of the committee.

Consumers and providers participated in focus groups and surveys (online and by phone). These methods provided opportunities for the community to offer feedback and identify the health needs of the targeted MCH populations.

Results of the internal DPH Internal Needs Assessment and the Community Centered Needs Assessment were shared with the Stakeholders' Committee in May 2010. Stakeholders utilized the following criteria to guide their decision-making when selecting state priority needs areas: 1) the likelihood that targeting a health area would contribute to improved health and well-being of the MCH population in CT; 2) the feasibility of implementing strategies to achieve desired outcomes; and 3) appropriateness of targeting the area for improvement based on Federal MCH program priorities and guidelines. A comprehensive list of health priority areas were reviewed with the Committee who selected the following nine MCH priorities for 2011-2015:

- 1) Enhance Data Systems
- 2) Improve Mental/Behavioral Health Services
- 3) Enhance Oral Health Services
- 4) Reduce Obesity among the three target MCH populations
- 5) Enhance Early Identification of Developmental Delays, Including Autism
- 6) Improve the Health Status of Women, related to depression
- 7) Improve Linkages to Services/Access to Care
- 8) Integrate the Life Course Theory throughout all state priorities
- 9) Reduce Health Disparities within the three MHC target populations

DPH established State Performance Measures for each priority area based on the feedback from the Stakeholders.

Methods for Assessing Three MCH Populations

The DPH Internal Needs Assessment was designed to analyze information related to the three MCH target populations and identify priority needs areas that would be reviewed by the Stakeholders' Committee. An internal workgroup was established for each of the three target population groups: PWMI; C&A; and CYSHCN.

The Internal Workgroups met 6-10 times over a ten-month period from February 2009 through November 2009. Each workgroup included between 6-12 members representing different DPH programs. Each member contributed approximately 20 hours to the process. Data relevant to each population group was obtained from DPH program reports and federal, state and local sources. Workgroup members gathered additional data by conducting interviews with program staff and presented the information to the entire workgroup. 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. The DPH Internal Needs Assessment Workgroups used different data sources (Appendix A) to assess information across the topic areas described above for each of the three MCH populations.

A matrix developed by Mary Peoples-Sheps, 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 area:

Extent of the problem

Examined data measuring the extent of the problem, including the number of people affected, incidence rates and prevalence rates. Based on available data, the work group members 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 work group members 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 work group members 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

The matrix provided an objective method to help build consensus and identify significant health status problems. It served as a tool to highlight health issues of concern and assisted the Workgroup members to remain focused and prevent the tendency to raise tangential issues. The three workgroups met independently and each established rules for developing significant health status problems. When selecting significant health status problems, participants employed criteria including: 1) the likelihood that targeting the area for improvement would contribute to improved health and wellbeing of the MCH population in CT; 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.

Children and Adolescent Workgroup

The **C&A Workgroup** defined their population as children age 1 to 18 years. The C&A Workgroup agreed upon the following selected areas:

- 1) Decrease the rates of CT residents hospitalized due to asthma including reducing the disparity of rates between racial and ethnic populations.
- 2) Implement strategies to identify children and adolescents whose mental health status is at risk and provide a source for care.
- 3) Implement strategies to reverse the increasing obesity trend using evidence based activities
- 4) Implement strategies to reduce the prevalence of dental caries
- 5) Implement strategies to reverse the trend of increasing rates of Gonorrhea and Chlamydia, especially among high-risk populations

Children and Youth with Special Health Care Needs Workgroup

The final priorities chosen by the CYSHCN Workgroup and their associated issues were:

- 1) Implement strategies to increase access to mental and behavioral health services
- 2) Implement strategies to reduce the prevalence of dental caries
- 3) Improve the quality of health data systems associated with CYSHCN
- 4) Improve the quality of birth defect data systems
- 5) Improve access to primary health care among undocumented state residents

Pregnant Women, Mothers and Infants Workgroup

The final priorities chosen by the PWMI Workgroup were:

- 1) Improve the quality of health data systems associated with maternal and infant health
- 2) Improve the health status of women

- 3) Improve the health of the mother and fetus during pregnancy to improve birth outcomes.
- 4) Improve Infant Health

The External Community Centered Needs Assessment consisted of focus groups, phone and online surveys. Key findings indicated that the PWMI population encounters difficulty accessing needed health care services primarily due to cost, socio-economic conditions, ethnic issues and geographic locations.

Focus Groups

Ten focus groups were convened; nine with consumers and one with providers.

Summary of Focus Groups discussions by locations/organizations

<i>Consumers Groups</i>	# of Participants (male/female)
Born Again Evangelistic Outreach Ministry Groton, CT	11 (all female)
Bloomfield Early Learning Center, Bloomfield, CT	14 (all female)
Epilepsy Foundation of CT, Middletown, CT	11 (all male)
New Haven Healthy Start, The Community Foundation for Greater New Haven, New Haven, CT	10 (all female)
Community Health Services, Hartford, CT	20 (5 males/15 females)
Northwestern CT Community College, Winsted, CT	12 (3 males/9 females)
Community Health & Wellness Center of Greater Torrington, Inc., Torrington, CT	2 (1 male/1female)
Real Dads Forever, Hartford, CT	8 (all male)
Favor, Inc., Rocky Hill, CT	6 (all female)
<i>Providers Group</i>	
Cromwell, CT	15 (3 males/12 females)

Results from a 38-question consumer focus group survey showed:

- 100% reported that a safe and healthy place to live was the most important thing to ensure the health of them and their family
- 62% of all participants had children between 1- to 12-years-old
- 78% were responsible for making doctor and dental appointments for the family
- 52% use a private doctor for their children’s routine medical care
- 47% were single
- 73% were female
- 43% had HUSKY/Medicaid
- 68% reported having high blood pressure
- 86% of those participants age 50 and older have not had colon cancer screening
- 53% used the ER for a non-emergency in the last year
- 58% said that cost was the number one barrier for receiving the health care services for them and their family
- 31% said transportation was a major barrier in receiving health care

Provider Focus Group

One provider focus group was conducted by CERC with the members of the MCH Advisory Group. A total of 15 providers from various state, local, and community agencies were in attendance. Providers indicated that the health care delivery system (for the MCH population) is complicated. They believe that:

- There are several agencies offering the same or similar services; however, providers identified the need for more coordination of service delivery
- Direct communication between state agencies needs to occur more frequently
- Funding to implement MCH programs properly has not been brought to scale

Phone Survey

One of the requirements of the needs assessment is to survey families in CT to gather information about:

- Awareness of MCH funded programs
- Types of services used and if needs are met
- Accessibility of services
- Barriers to accessing care
- Perceived quality of services
- Quality of service provided by staff

The survey respondents comprised a random sample of 600 adults who were 18 to 65 years old, CT residents, and lived in households that met income criteria (up to 300% of Federal Poverty Level). The sample of 600 respondents included 200 people from each of the following groups:

- 1) Females with a child/children 18 years or under living at home or not;
- 2) Females without a child/children 18 years or under and not pregnant; and
- 3) Males.

All of the phone interviews were completed in September 2009. Interviews were conducted in English or in Spanish, as preferred by the respondent. Respondents were contacted Monday through Friday between 4:00 pm and 9:00 pm, and Saturday between 10:00 am and 4:00 pm.

- 42% of male respondents and 50% of female respondents were raising a child or teenager
- Twelve respondents (2%) were raising CYSHCN

Key Findings

- Having a safe and healthy place to live was seen as most important for keeping families healthy. Most respondents indicated that this was easy to do. (Phone calls were made only to LAN phone lines, which implied people interviewed had a home).
- Affordable costs for health insurance and dental care were also seen as being imperative for keeping families healthy and were generally seen as very important.
- Not having enough money and being able to take time off from work were found to be the greatest barriers to receiving health care services.
- Service Satisfaction: Respondents were most frequently satisfied with Community Health Centers (CHC) service followed by Medicaid/Welfare and Food Stamps.

- More than one-quarter of respondents made at least one Emergency Room (ER) visit within the past year for non-emergencies.
- Most respondents (96%) receiving selected services (medical services, dental services, assistance with health insurance applications) felt that they were treated fairly.
- Hypertension was the most common chronic condition reported. Almost half of respondents 50 years or older have had hypertension diagnosed by a doctor.

Consumer Online Survey

The DPH developed and administered a web-based survey for consumers, rating their opinions about the importance of health care issues, services that were utilized, and satisfaction with the services. The web-based survey was available from January 2010 through March 2010. It was made available in English and Spanish to more than 50 community and nonprofit organizations across CT. The goal was to secure at least 200 completed surveys. Participants completing the survey were offered the chance to enter a drawing for one of five \$50 gift certificates. A total of 207 respondents answered some or all of the questions. The demographics of the respondents include:

- Sixty-four percent (132 respondents) were female; 12 percent (25 respondents) were male; and 24 percent (50 respondents) did not answer the question identifying their gender.
- Thirteen percent (26 respondents) identified themselves as Hispanic; 58% (120 respondents) were not Hispanic; and 29% (61 respondents) did not answer the question related to ethnicity.
- Twenty-six percent were Black-African American; 36% were white; 3% were multi-racial; 7% identified themselves as other; and 27% did not answer that question.
- Eight percent of the respondents indicated that they did not have insurance at the time of the survey.

Key Findings

- Having a safe and healthy place to live was important in keeping nearly all of the respondents' families healthy, along with having access to affordable healthy food. Other important factors included having affordable health and dental insurance, and access to providers.
- 109 respondents identified the following barriers to receiving health care services: not having enough money (32%); transportation (19%); and getting time off from work for health care appointments (19%).
- Almost 60%, of the 207 respondents indicated that they have a doctor for routine care.
- Fifty-nine percent of the respondents indicated that they take their children to a private doctor's office for routine medical care; 29% of the respondents seek care for their children at a community health center; 7% use an outpatient clinic and 4% reported going to an emergency room when seeking care for their children.
- Service Satisfaction: Respondents were most frequently satisfied with InfoLine 2-1-1 followed by Food Stamps, community health centers and Medicaid/Welfare.
- Thirty eight percent of the respondents indicated that they or a family member used the emergency room (ER) for a non-emergency.

Partner Agencies and Organizations

DPH developed and administered an online survey for partner agencies and organizations (Please see Appendix B) providing specialized services to the MCH population. A link to the survey was e-mailed, followed by phone calls as an attempt to increase participation. The survey was conducted between September 2009 and April 2010 during which time 16 surveys were completed. The survey required the respondent to self identify. This lack of anonymity may have contributed to the low response rate. The paucity of respondents precludes drawing any inferences about the population at large, however some highlights include:

Access to care barriers most encountered by clients as perceived by surveyed service providers are:

- Transportation (11)
- Child care (8)
- Money (8)
- Health insurance (8)
- Can't find provider (5)
- Time off (4)

Respondents were asked to list the top three unmet needs of their clients. The complete list includes:

- Housing (9)
- Child care (5)
- Primary care (4)
- Transportation (4)
- Health insurance (3)
- Oral health (3)
- Parenting (3)

See Appendix B for the executive summaries of the Focus Groups; Consumer On-line; Telephone Survey; and Online Partner Agency Surveys.

Methods For Assessing State Capacity

The key findings from the Internal DPH Workgroups, focus groups and surveys were shared with the Stakeholders' Committee. The Stakeholders' Committee considered the data presented and then selected the nine state priority needs areas to improve maternal and child health for the three target populations. The DPH developed state performance measures to correspond to the priorities selected by the Stakeholders' Committee. The Needs Assessment will be shared with consumer members of the Maternal Child Health Advisory Group and Medical Home Advisory Committee.

Data Sources

As discussed in the "Methods for Assessing Three MCH Populations" section, data sources can be found in Appendix A.

Linkages between Assessment, Capacity, and Priorities

The needs assessment process included a DPH Internal Needs Assessment and a Community Centered Needs Assessment in which the strengths and needs of the three target MCH population groups were assessed. During this process, capacity to address the identified needs was also examined to assure that programs and/or systems existed that could address these needs. The MCH Title V Program's Stakeholders' Committee utilized this information to select the state's nine state priority needs.

Dissemination

Multiple efforts were made to engage stakeholders (including consumers) in the Needs Assessment process as identified in the Methodology section of the Needs Assessment. Consumer/public input was shared with Stakeholders and taken into consideration when the nine state priority needs were identified.

The 2011 MCH application including the Needs Assessment will be shared with the public by posting the application on the DPH web site and will be shared with advisory group committees. Input into Title V activities will be encouraged throughout the year through involvement of individuals and families in various advisory groups and task forces.

Plans for dissemination of the final needs assessment report include, but are not limited to the following:

- The final needs assessment document will be posted on the CT DPH web site. Notification will be sent to all local health departments, state agency partners, advisory committee members and stakeholders.
- A presentation on the needs assessment and the Title V Block Grant annual report will be presented to the MCH and Medical Home Advisory Committee members on September 21, 2010. The needs assessment will help guide the advisory committee work plans for the next several years.
- A presentation on the needs assessment and the Title V Block Grant annual report will be given to the CT Public Health Association in a forum with representatives from local health and community based organizations.

Strengths And Weaknesses of Process

The following is a summary of strengths and weaknesses of methods and procedures used in conducting the needs assessment.

Strengths:

- Using both quantitative and qualitative data collection methods to inform the needs assessment process, using data analysis, matrix scoring, focus groups, and web-based and telephone surveys
- Use of the matrix to assist Workgroup members to remain focused and build consensus
- Analyzing data from federal, state and local sources
- Engaging key stakeholders, providers, and consumers
- Increased interagency collaboration (commitment of Internal Workgroups)
- Diversity of survey participants

- Stakeholders' Committee actively participated in selecting the State Priority Needs Areas

Weaknesses:

- Securing responses to both the web based consumer and partner agency surveys
- Barriers encountered during focus groups included: language, literacy level and cultural differences
- Standardized phrasing of questions utilized during telephone survey may have impacted the responses
- Scheduling of focus groups

B.2. Partnership Building and Collaboration Efforts

Multiple efforts were made to engage stakeholders (including consumers) in the Needs Assessment process as identified in the Methodology section of the Needs Assessment. Consumer/public input was shared with Stakeholders and taken into consideration when the nine state priority needs were identified. CT's approach to the needs assessment encompassed the External Community-Centered Needs Assessment and the DPH Internal Needs Assessment. The DPH Internal Needs Assessment process included a collaborative intra-agency approach with representation from programs which included: Vital Records, Diabetes, Obesity, Injury Prevention, WIC, Tobacco, Asthma, Oral Health, Nutrition, Mental Health, Environmental Health, Shaken Baby Syndrome, HIV/AIDS, Primary Care, Immunizations, Cancer, and Infectious Diseases/STD. The Community Centered Needs Assessment process included obtaining information from focus groups and the administration of phone and online surveys to consumers and providers. This two-pronged approach resulted in the identification of nine state priority need areas and the development of the corresponding state performance measures.

DPH convened an initial collaborative meeting with state agencies, community based and professional organizations. State agencies participating in the process included: CT Office of Rural Health (ORH), Commission on Children (COC), Department of Developmental Services (DDS)-Birth to Three, Department of Social Services (DSS)-The Children's Trust Fund, and Department of Children and Families (DCF). In addition, community and professional agencies participating in the process include: Connecticut March of Dimes (MOD), New Haven Federal Healthy Start, Parents Available to Help (PATH), UCONN Center on Disabilities (Connecticut Family Voices and Connecticut Kids as Self Advocates), Connecticut Association of Directors of Health, Connecticut Association of School Based Health Centers (CASBHC), Hartford Health and Human Services Department (HHHSD), Hispanic Health Council (HHC), Centering Healthcare Institute (CHI), Child Health and Development Institute of Connecticut (CHDI), and Carey Consulting. Consumers also participated in this process and were provided stipends as incentives to encourage participation.

Medicaid for Mothers and Children

HUSKY is administered through the state's Department of Social Services (DSS). Considerable collaboration is taking place between the Department of Social Services and the Department of Public Health to align the HUSKY MCO program, the DSS Primary Care Case Management Pilot, and the Title V Connecticut Medical Home Initiative for CYSHCN to increase care coordination capacity, improve access to public insurance, and to improve quality and efficiency.

DSS is represented on, and actively involved in, the Medical Home Advisory Council (MHAC), and representatives from each of the HUSKY managed care plans attend MHAC meetings. DPH staff participate on the legislative Medicaid Managed Care Council and its Primary Care Case Management Subcommittee. DSS staff frequently participate in care coordination conference calls and MHAC Family Experience Workgroup meetings; providing information regarding eligibility and access.

Under the state's Medicaid program, grants are made to hospitals, clinics, local health departments, and other organizations to expand and enhance health services to low income pregnant women and children, and to assist qualifying women in obtaining Medicaid coverage for themselves and their children.

Healthcare for Uninsured Kids and Youth (HUSKY) is CT's health insurance plan for children up to age 19 and families. In 1997 when the federal government created the State Children's Health Insurance Program (SCHIP), CT 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 DSS and private health plans. HUSKY A covers pregnant women (with income under 250% of the FPL) and children in families with income under 185% of the federal poverty level. Parents and relative caregivers can also obtain comprehensive benefits. HUSKY A provides preventive pediatric care for all medically necessary services. The basic HUSKY package includes preventive care, outpatient physician visits, inpatient hospital and physician services, outpatient surgical facility services, short-term rehabilitation and physical therapy, skilled nursing facility care, home health care and hospice care, diagnostic x-ray and laboratory tests, emergency care, durable medical equipment, eye care and hearing exams.

Mental and behavioral health services and dental services, are carved out and administered through Administrative Service Organizations (CT Behavioral Health Partnership, and CT Dental Health Partnership). Pharmaceuticals are administered directly through the Department of Administrative Services.

The Office of Oral Health is the department's conduit to the national organizations relating to oral health; Association of State and Territorial Dental Directors (ASTDD), American Academy of Pediatric Dentists (AAPD), American Dental Association (ADA), and American Dental Hygienists Association (ADHA). The Office of Oral Health follows national best practice models and initiatives of national organizations relating to the maternal child health populations. The Office of Oral Health staff regularly consults national organizations. The Office of Oral Health staff are included on state and national committees such as the Office of Head Start and American Academy of Pediatric Dentistry Dental Home Initiative and the ASTDD councils (Healthy Aging Committee). The CT DPH Home by One Program is an emerging best practice on AMCHP's Innovation Station.

The FHS of DPH has been actively involved with the Knowledge to Practice grant awarded to Boston University for the Region 1 community of states. Two sets of symposia were conducted in 2007 and 2009, and a final mini-symposium is planned in November 2010. On November 28,

2007, DPH hosted a mini-symposium to MCH partners in a set of presentations on the life course approach to maternal and child health. Fourteen partners joined DPH to hear a keynote presentation by Dr. Neal Halfon, and panel response by Dr. Milt Kotelchuck and Deborah Allen, ScD. Dr. Halfon's recent conceptual work attempts to define a developmentally focused model of health production across the life course and to understand the implications of life course health development for the delivery and financing of health care. His Life Course Health Development model has been used to inform new approaches to health promotion, disease prevention, and developmental optimization. On March 24, 2009, representatives from the MCHBG programs, MCHBG Children with Special Health Care Needs, and the DPH Obesity program participated in a bi-directional audio-visual presentation from Boston University on the life course theory and its application to the medical home. Participants defined childhood obesity from a life course perspective and how a medical home was important to address this public health problem. The group assessed the current state of medical homes in the State, identified gaps, and developed a set of recommendations for adapting medical homes in Connecticut to address childhood obesity. The upcoming planned symposium will introduce life course theory to other programs within DPH and share ways in which life course theory can be incorporated into their work.

HUSKY B provides health care for children without employer-sponsored coverage for a sliding fee. As part of HUSKY B, HUSKY Plus provides supplemental benefits for CYSHCN enrolled in HUSKY B. Services include Multidisciplinary teams (Pediatricians, Advanced Practice Nurses, Benefits Specialists, Family Resource Coordinators and Advocates) who work with families to identify their child's care needs and the resources to meet those needs. Community-based mental health and substance abuse services to children and youth with intensive behavioral health needs are also offered under HUSKY Plus.

Continued collaboration and partnership building will be necessary to address the state's priority needs as we evaluate successes, identify gaps and barriers and allocate resources to meet the changing needs of the MCH population.

B.3. Strengths and Needs of the Maternal and Child Health Population Groups and Desired Outcomes

Population Dynamics

In 2008, an estimated 3,501,252 people lived in CT. These residents were distributed among 169 towns. Whereas the majority of towns in CT had a population at or below the average town size of 20,717, 51 towns exceeded this average (*see Table below*). These towns were generally concentrated in three of the eight state counties (Fairfield County, Hartford County, and New Haven County). Thirty-one towns exceeded this average by one standard deviation, with a population of no more than 45,193, and twelve additional towns exceeded this average by two standard deviations (population up to 69,668). Only eight towns exceeded a population size of 69,668. These towns were Bridgeport (136,405), Hartford (124,062), New Haven (123,669), Stamford (119,303), Waterbury (107,037), Norwalk (83,185), Danbury (79,256), and New Britain (70,486).

County	Number of Towns	Number of Large Towns ¹	Number of Towns with High Unemployment ²	Large Towns with High Unemployment ³
Fairfield	23	12	2	Bridgeport, Stratford
Hartford	29	16	8	Bloomfield, Bristol, East Hartford, Hartford, New Britain
Litchfield	26	3	5	Torrington, Watertown
Middlesex	15	1	1	
New Haven	27	13	10	East Haven, Meriden, Naugatuck, New Haven, Waterbury, West Haven
New London	21	3	5	New London, Norwich
Tolland	13	2	1	
Windham	15	1	9	Windham
Total	169	51	41	

¹ - number of towns with an estimated population size that exceeds the statewide average of 20,717.
² - number of towns with an unemployment rate that exceeds the statewide average of 5.7%.
³ - identity of towns with both a population that exceeds 20,717 and an unemployment rate that exceeds 5.7%.

The statewide unemployment rate in 2008 was 5.7%, and 41 towns in the state had an unemployment rate that was greater than the statewide average. Towns with the highest unemployment rates included Hartford (10.9%), Waterbury (9.3%), Bridgeport (8.8%), and New Britain and New Haven (8.5%). These towns were also among the most populated in the state. Stamford, Norwalk and Danbury, however, were very large towns that did not have excessive unemployment rates. In addition, of the 41 towns with high unemployment, only 17 had a population size that exceeded the statewide average size. These data indicate that although large urban areas in the state have the greatest concentration of CT residents at risk for adverse social and medical outcomes, smaller geographies surrounding these larger towns are also of increased concern, as well as some rural areas of the state.

Maternal and Infant Poverty

Birth records do not contain specific socio-economic indicators, however they do record the method of payment for delivery of every birth in the state, including methods of public insurance. As a proxy for economic status, these data in calendar year 2008 indicate that of the 40,106 births to CT residents, 25,121 (63%) were paid by private insurance, and 12,043 (30%) were paid by public insurance (*see Table below*). An additional 4% (1,781) were either paid by the patient or were not paid and were absorbed by the state’s medical system. Further, among deliveries in the state during calendar year 2008 to non-Hispanic White/Caucasian women, 17% were paid by public insurance, and 2% were either self-paid or absorbed by the medical system. In sharp contrast, 57% of deliveries to non-Hispanic Black/African American women were paid by public insurance. Among deliveries to Hispanic/Latino women, 54% were paid by public insurance, and another 13% were either self-paid or were absorbed by the medical system. These data indicate that whereas areas of high need in earlier years were largely focused in large urban areas of the state, this need has spread into surrounding areas, and suggests that a two-tiered strategy of intervention may be needed to address perinatal health in the state; one tier focused on large urban areas, and a second tier focused on town adjacent to these urban areas.

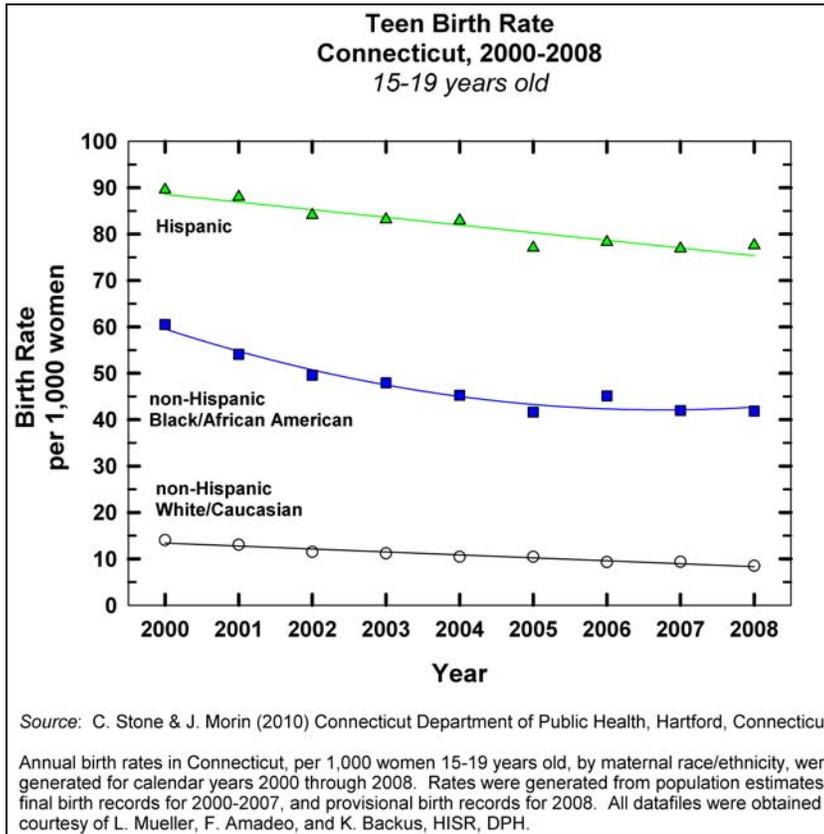
Births to Connecticut Residents Delivery Payment Source, 2008 *					
Maternal Race/Ethnicity	Method of Delivery Payment				Total
	Private Insurance	Public Insurance	None/ Self Pay	Unknown	
non-Hispanic White/Caucasian	18,286	4,025	465	630	23,406
non-Hispanic Black/African American	1,954	2,839	166	58	5,017
non-Hispanic Indian	153	39	1	5	198
non-Hispanic Asian/Other	2,036	467	55	53	2,611
Hispanic/Latino	2,631	4,638	1,091	302	8,662
Unknown	61	35	3	113	212
Total	25,121	12,043	1,781	1,161	40,106

* Source: C. Stone & J. Morin (2010) Connecticut Department of Public Health, Hartford, Connecticut. Data calculated from births to Connecticut residents in calendar year 2008, using provisional birth records provided courtesy of L. Mueller, F. Amadeo, & K. Backus, HISR, DPH.

Teen Pregnancy

Statistically significant disparities in teen birth rates have persisted in CT throughout the decade, particularly for non-Hispanic Black/African American and Hispanic teens between 15-19 years old, compared to non-Hispanic White/Caucasian teens (*see Figure, below*; $p < 0.001$). In 2008, one in every 13 Hispanic women between 15 and 19 years of age gave birth to a baby (78 per 1,000), a figure over nine times higher than that among non-Hispanic White/Caucasian women (8.5 per 1,000). The teen birth rate among non-Hispanic Black/African American women was over four times higher (41.8 per 1,000). Teen birth rates among all three race groups have decreased since calendar year 2000, however the decrease has become attenuated since 2005, particularly among non-Hispanic Black/African American women. Further analysis indicates that birth rate and median maternal years of education generally correlate in the state, and that geographic areas of both high and moderate population density are affected. High school dropout rates in some towns are less well correlated. These data suggest that prevention

strategies should include culturally-sensitive and messages of appropriate literacy that reach Hispanic and non-Hispanic Black/African American teens.



Sexually Transmitted Diseases

The rate of Chlamydia has increased steadily over the last five years, rising from 279 to 366 cases per 100,000 population. Subpopulations disproportionately affected by Chlamydia are 15-24 year-old females, with the highest incidence among Black/African American females, followed by Hispanic females. On average between 2004-2008, Black/African American females comprised the greatest proportion of Chlamydia cases, followed by Hispanic and White females. In 2008, Black/African American females constituted 32% of all female cases, followed by Hispanic (19%) and White females (16%). Historically, the greatest number of Chlamydia cases is found in urban areas, with the most cases reported in Hartford, New Haven, Bridgeport and Waterbury, respectively.

Although Gonorrhea rates had been decreasing between 2004-2007 (from 81.7 to 66.4 cases per 100,000 population), the rate increased again in 2008 to 80.0 cases per 100,000 population. Females continue to account for the majority of Gonorrhea cases in Connecticut. Subpopulations disproportionately affected by Gonorrhea are 15-29 year-old females, with the highest incidence among Black/African American females, followed by Hispanic females. In 2008, Black/African American females constituted 53% of all female cases, followed by Hispanic (11%) and White females (10%). Like Chlamydia, the greatest number of Gonorrhea cases is found in urban areas as well, with Hartford, New Haven, Bridgeport and Waterbury reporting the greatest number of cases.

Prenatal Care

Of all births to CT residents in 2008, 87% received prenatal care in the first trimester (early prenatal care; see **Table** below). When broken down by race/ethnicity, however, disparities are apparent. Whereas 91.4% of non-Hispanic White/Caucasian women received early prenatal care in 2008, only 79% of non-Hispanic Black/African American women and 80% of Hispanic/Latino women received early care. Further, whereas only 7% of non-Hispanic White/Caucasian women received care in the second or third trimester (late prenatal care), non-Hispanic Black/African American and Hispanic/Latino women were two times more likely to receive late prenatal care (17%). This degree of disparity among women of minority race/ethnicity persisted among those who did not receive any prenatal care.

Timing of Prenatal Care Initiation by Mother's Race and Ethnicity

Prenatal Care Initiation in Connecticut
by Race/Ethnicity
Connecticut, 2008

Time of Prenatal Care Initiation	Mother's Race and Ethnicity					All Race/Ethnicity
	non-Hispanic White/Caucasian	non-Hispanic Black/Af. Am.	Hispanic	non-Hispanic Other	Missing	
1st Trimester	91.4%	79.1%	79.8%	86.9%	86.3%	87.0%
2nd Trimester	7.0%	17.2%	17.3%	11.4%	9.0%	10.8%
3rd Trimester	0.8%	1.9%	2.2%	1.0%	1.4%	1.2%
No Prenatal Care	0.2%	0.5%	0.3%	0.3%	0.9%	0.3%
Missing	0.6%	1.4%	0.5%	0.4%	2.4%	0.7%

Source : K. Richardson (2010), Connecticut Department of Public Health, Hartford, Connecticut. Provisional birth records for 2008 were provided courtesy of L. Mueller, F. Amadeo, and K. Backus, HISR, DPH.

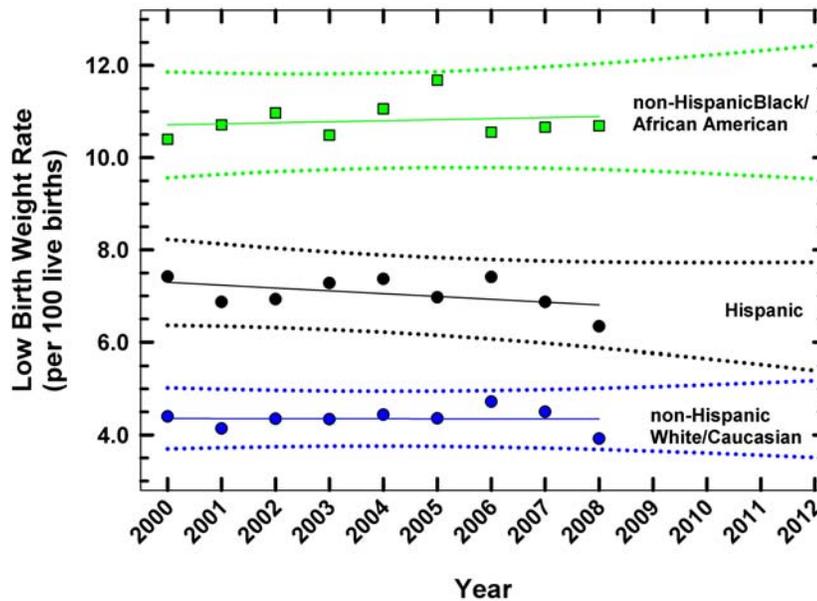
Low Birth Weight

Low birth weight rates among all singleton births have not changed statistically in the state since calendar year 2000 (see **Figure**, below). Among non-Hispanic White/Caucasian women, the low birth weight rate has remained constant at about 4.5 per 100 live births, and, in the absence of additional interventions, the rate is not expected to change significantly in the near future. Among Hispanic singleton births, the rate of low birth weight has decreased steadily since 2000, and in calendar year 2008, the low birth weight rate was 6.5 per 100 live births. This decrease, however, is expected to remain significantly greater than that among non-Hispanic White/Caucasian women. The singleton low birth weight rate among non-Hispanic Black/African American women exhibited a slight increasing trend since calendar year 2000, with a 2008 rate of 10.5 per 100 live births. The 2008 rate is 2.3 times higher than that among non-Hispanic White/Caucasian women. This increasing trend is expected to continue in the near future, resulting in increasing disparities.

The average newborn hospitalization charge for a low birth weight baby in CT during 2006 was \$54,840, a figure 15-times higher than the charge for a baby born with a higher birth weight. These data indicate that culturally-sensitive interventions are needed to address low birth in the state, and that in absence of a concerted and coordinated response, low birth weight rates are not likely to be effectively reduced. Recent efforts to address low birth weight in the state, such as a strategic plan within the FHS, a report in progress on all activities within DPH that address low

birth weight, state legislation to monitor low birth weight as a consequence of the recession, and a recent emphasis on low birth weight within the Women’s Health Subcommittee of the Medicaid Managed Care Council, suggest that efforts surrounding low birth weight will continue in the future.

Trends in Low Birth Weight Rates
Connecticut, 2000-2008, by Race/Ethnicity



Actual low birth weight rates for years 2000-2008 (symbols) were evaluated for singleton births across the state. Births for 2008 were based on preliminary vital records reporting. Trends in LBW (solid lines) were determined by linear regression for years 2000-2008. Projected 95% confidence ranges of low birth weight rates, in the absence of additional interventions, were evaluated for years 2009-2010 (dotted lines).

Source: C. Stone (2010), Connecticut Department of Public Health, from birth records for calendar years 1995-2006, provided courtesy of L. Mueller, F. Amadeo, & K. Backus, HCQSAR, DPH.

Feto-Infant Mortality

The feto-infant mortality rate among babies born in CT during the calendar years 2005 through 2007 with a weight of at least 500 grams or 1.1025 lbs and a gestational age of at least 24 weeks was 6.9 per 1,000 live births and fetal deaths. Whereas the feto-infant mortality rate for babies born to non-Hispanic White/Caucasian women was 5.2, the rate for babies born to non-Hispanic Black/African American women was 2.5-fold higher (13.1 per 1,000 live births and fetal deaths), and the rate to Hispanic women was also elevated (8.1 per 1,000 live births and fetal deaths) (see **Table, below**). Disparities in feto-infant mortality rates persisted among deaths to very low birth weight births, fetal deaths, neonatal deaths, and postneonatal deaths. The greatest disparity was observed among deaths to very low birth weight babies, in which the mortality rate among babies born to non-Hispanic Black/African American women was 3.2 times higher than that among babies born to non-Hispanic White/Caucasian women.

**Fetal and Infant Death Rates, by Race/Ethnicity and Perinatal Period
per 1,000 live births and fetal deaths**

Connecticut Birth Cohort 2005-2007

Maternal Race/Ethnicity	Very Low Weight (500 - 1499 grams)	Fetal Deaths (24+ weeks)	Neonatal (< 28 days)	Post-Neonatal (28+ days)	Feto-Infant
Non-Hispanic White/Caucasian	2.26	1.40	0.79	0.70	5.16
Non-Hispanic Black/African American	7.35	2.90	1.01	1.82	13.08
Hispanic	4.04	1.82	0.99	1.23	8.07

Cohort birth records were linked to death files by Vital Records, and provided courtesy of L. Mueller, F. Amadeo, & K. Backus, HCQSAR, DPH.

Maternal race/ethnicity and birth weight for live births were obtained from birth records; weight for fetal deaths & perinatal period were obtained from death records. Mortality rates are per 1,000 live births and fetal deaths.

The data indicate that disparities exist in all aspects of the perinatal period of risk categories, and are especially pronounced in areas of maternal health and prematurity. Emphasis on preconception health, healthy behaviors, and early and adequate prenatal care for women of minority race/ethnicity are needed.

Maternal Depression

Information about maternal depression prevalence in CT is not readily available. Results of a point-in-time survey conducted in 2003, however, probed a variety of social risk factors for adverse births. The survey was conducted of women two to four months postpartum. Results of the survey revealed that a majority of respondents reported happy times with few or no problems (see **Table below**). Among non-Hispanic Black/African American women, 8.1% (95% CI: 2.4%, 13.7%) indicated that their pregnancy was one of the worst times in their life. This percent was nearly 3-times higher than that reported by non-Hispanic White/Caucasian women. Relative to non-Hispanic White/Caucasian women, a greater percentage of women of minority race and ethnicity reported that their pregnancy was a difficult time in their life. These results do not explore the reasons why women of minority race and ethnicity experience more difficulty, but recent publications indicate that social support structure is an important component to healthy maternal and birth outcomes.

**Experience During Pregnancy
Connecticut PRATS Sample, 2003**

Response	Race/Ethnicity					
	Non-Hispanic White/Cauc		Non-Hispanic Black/AA		Hispanic	
	%	95% CI	%	95% CI	%	95% CI
One of the happiest times of my life	36.2	(33.1, 39.3)	24.5	(15.2, 33.8)	39.1	(30.0, 48.2)
Happy time with few problems	45.8	(42.6, 49.1)	53.0	(42.4, 63.7)	43.2	(34.1, 52.4)
Moderately hard time	10.8	(8.8, 12.9)	7.9	(2.5, 13.3)	9.7	(4.3, 15.1)
A very hard time	4.4	(2.9, 5.8)	6.5	(1.4, 11.6)	6.4	(2.1, 10.8)
One of the worst times of my life	2.8	(1.6, 3.9)	8.1	(2.4, 13.7)	1.5	(0.0, 3.9)

Data obtained in response to PRATS question, "How would you describe the time during your pregnancy."

Source: Morin J (2007) *Pregnancy-Related Tracking System (PRATS), Round 2, Connecticut Department of Public Health, Hartford, CT.*

Oral Health

Maternal oral health is associated with birth outcomes and infant oral health. Maternal periodontal disease and dental caries, which are largely preventable through evidence-based

interventions, have been associated with increased risk of preterm birth, low birth weight, preeclampsia, and gestational diabetes. However, accessing dental care may not be viewed as important by women of childbearing age, even among those with insurance. A problem identified by DPH's Oral Health Program is that Connecticut women enrolled in HUSKY A are not accessing dental services despite having coverage.

Dental caries is a transmissible bacterial infection that is most often passed from mother to child through normal everyday interactions, such as testing temperature of the bottle with the mouth, sharing utensils when feeding or orally cleaning the pacifier or bottle nipple. Children are at greater risk when their mothers harbor high levels of bacteria. Consequently, children are affected as soon as their teeth erupt and can lead to oral health problems across the lifespan. In addition to the need for ensuring optimal maternal oral health, in order to prevent and/or treat infant and child dental caries, the need exists within Connecticut to increase the percent of infants receiving their first dental visit by age 1.

Maternal Smoking

In 2005, Connecticut had its lowest rate of smoking among pregnant women. Connecticut's rate of 8.3% was the best in New England. Between 2004 and 2006, the smoking levels of pregnant women have been steadily decreasing throughout most racial groups: non-Hispanic Whites have gone from 6.8% to 6.3%; non-Hispanic Black/African Americans have gone from 7.2% to 6.8%; and Hispanics have gone from 6.0% to 5.1%.

Smoking during pregnancy increases the risk for many adverse outcomes, including low birthweight and preterm delivery. According to the American College of Obstetricians and Gynecologists, smoking is the most modifiable risk factor for poor birth outcomes. According to the Tobacco Use Prevention & Control Program, there exists a need in Connecticut for programs targeting low-income women - pregnant women in particular – because currently, Medicaid does not cover smoking cessation costs. Because smoking cessation may not be successful after the first attempt, the preconception period is an ideal time period to reduce this particular risk factor.

The 2003 timing in the implementation and 2004 expansion of the state's smoking ban appears to have been instrumental in the overall efforts to eliminate secondhand smoking and increase smoking cessation. Continued efforts to encourage cessation and prevention among this disparate group may further decrease complications normally associated with smoking during pregnancy and the overall health of women in general.

Immunizations

Historically, Connecticut has ranked the top in the nation for childhood immunization rates. In recent years, Connecticut has hit a plateau in its immunization rates, and some subpopulations have experienced a decline. The Immunizations program identified the decrease in Healthcare Effectiveness Data and Information Set (HEDIS) immunization rates by age 2 among CIRTS-enrolled children who are enrolled in Husky A and B as the major health status problem among the PWMI population group.

The 2000-2004 birth cohorts' HEDIS immunization rates were steadily increasing until the 2005 birth cohort. The rates of children fully immunized by age 2 dropped by 6% overall from the

2004 to the 2005 birth cohort for children enrolled in HUSKY A and B. It is unclear if this is a true decrease, or if it is related to changes in the HUSKY program. The HUSKY transition started December 1, 2007 and continued through February 1, 2009, decreasing to 3 Medicaid Managed Plans. This transition led to changes in children's plans and primary care providers. DPH has met with DSS to discuss strategies to increase immunization rates in this population.

Breastfeeding

Breastfeeding provides optimal nutrition for infants and is associated with decreased risk for infant morbidity and mortality as well as maternal morbidity (US Dept of Health and Human Services, Agency for Healthcare Research and Quality; 2007). Maternity practices in hospitals and birthing centers can influence breastfeeding behaviors during a period critical to successful establishment of lactation. All of CT's birth facilities have the option of reporting on the mother's intent to breastfeed. Since some mothers have not decided to breastfeed within twenty-four hours of birth, the hospital staff often leave this question unreported or report intent as "undecided". Breastfeeding rates in Connecticut are below the nation's *Healthy People 2010* targets, and reflect significant disparities in demographic and socioeconomic variables.

- Initiation: Among children born in 2005 in Connecticut, 74.5% initiated breastfeeding, just below the nation's HP 2010 objective of 75.0%, and slightly above the national rate of 74.2%.
- Duration: Breastfeeding rates in Connecticut dropped to 42.9% by 6 months of age and to 18.8% at 12 months for the 2005 birth cohort, lower than the HP 2010 targets (50.0% and 25.0%, respectively) and slightly below the corresponding national rates (43.1% and 21.4%, respectively).
- Exclusivity: Exclusive breastfeeding rates in Connecticut are lower than the HP 2010 targets of 40.0% at 3 months (36.4% in Connecticut) and 17.0% at 6 months (12.3% in Connecticut); nationwide, rates are even lower than those in Connecticut (31.5% and 11.9%, respectively).

In FFY09, the twelve regional CT WIC sites reported breastfeeding rates that exceeded the WIC goal of $\geq 55\%$, yet only two of the twelve sites met or exceeded the HP 2010 objective of 75%. CT birth facilities require further education on adhering to the standard clinical practice guidelines against routine bottle supplementation when breastfeeding. Only 9% of CT hospitals have comprehensive breastfeeding policies as recommended by the Academy of Breastfeeding Medicine. Only 9% of CT hospitals provide patients with post-discharge telephone or opportunity for a follow-up visit. DPH's Immunization Program now includes breastfeeding educational materials in the hospital discharge packet in all birth facilities. The information provides contact information for support and referral.

Preconception Care

Given that about half of all US pregnancies are not planned, by the time many women discover that they are pregnant, critical stages of fetal development have passed and opportunities for intervention have been missed. The need for women of childbearing age to achieve optimal health is essential for favorable birth outcomes. Preconception Care is specifically intended to reduce or eliminate risks among women of childbearing age and to optimize their health *prior* to conception.

Disparities exist during the preconception and interconception period, the prenatal period and at birth in CT. During the preconception and interconception periods, when a woman of childbearing age is not pregnant, information from the state's Behavioral Risk Factor Surveillance System (BRFSS, DPH), show that, whereas only about 9% of all non-Hispanic White/Caucasian women in the state during 2001-2005 combined were uninsured, close to 20% of non-Hispanic Black/African American women were uninsured (over 2 times higher; Gagliardi 2007). Among Hispanic women, the percent of uninsured women was even higher (36%, or 4 times higher). In addition, using the state's Pregnancy Risk Assessment Tracking System (PRATS 2003), it was estimated that of those who responded, 11.8% of non-Hispanic White/Caucasian women had no insurance just prior to pregnancy, while four times more non-Hispanic Black/African American and nearly as many Hispanic women had no insurance just before pregnancy. Further information from the PRATS survey indicated that, of those who responded, 4.3% of non-Hispanic White/Caucasian women with insurance were enrolled in Medicaid just before pregnancy. In sharp contrast, over 6 times more non-Hispanic Black/African American women with insurance were enrolled in Medicaid, and almost 8 times more Hispanic women with insurance were enrolled in Medicaid (Persistent Disparities in CT's Perinatal System of Care Report, 2010).

The March of Dimes, American Academy of Pediatrics and the American College of Obstetricians and Gynecologists endorse PCC as a means to improve pregnancy outcomes. DPH can help accomplish this by integrating Preconception Care and Life Course Theory into, and collaborating with, other programs in order to improve women's health status before she becomes pregnant. The Life Course Initiative uses the 12-Point Plan as a specific framework to reduce racial disparities in birth outcomes by moving beyond prenatal care and the traditional model to address family and community systems, and social and economic inequities. DPH case management contractors are required to incorporate interconceptional planning into its programs with a focus on promoting birth spacing, family planning, ongoing medical care and building social supports.

Mental Health and Substance Abuse

According to a report released by CT DPH in 2010, it was found that compared to the U.S., Connecticut had lower prevalence of most risk factors, serious psychological disorders, and major depressive episodes (Bower, Carol E. 2010. Healthy Connecticut 2010 Final Report. Hartford, CT: Connecticut Department of Public Health, Planning Branch, Planning and Workforce Development Section). From 2005 to 2007, major depressive episodes declined among all age groups. However, young adults 18-25 years of age and children 0-17 years of age consistently were more likely than adults 26 years of age and older to have a major depressive episode. The report also found that from 1999 to 2007, the Connecticut suicide rate decreased overall and for both sexes. This finding was offset by results among sub-populations. Suicide is often among the top five leading causes of death for children 10-14 years of age. Suicide rates for males consistently were about 4 times greater than those for females. Suicide rates for males 65 years of age and older were 10 to 15 times greater than those for the overall population, and those for males 45-49 years of age were 2.5 to 3 times greater.

The report found that substance abuse trends were different for adults as compared to younger age groups. Between 2001 and 2009, current alcohol use (at least one drink in past 30 days) increased among adults in all population groups except black non-Hispanics. These changes were statistically significant overall, for females, and for white non-Hispanics. In contrast, the report found that from 1997 to 2009, statistically significant decreases in alcohol use occurred overall and among male, female, and white non-Hispanic high school students.

Variation in illicit drug (includes marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically) use by age was also noted in the report. In 2007, 8% of the Connecticut population 12 years of age and older reported using one or more illicit drugs in the past 30 days. This proportion is the same as it was in 2000. Past-30-day illicit drug use among adolescents 12-17 years of age apparently has been declining. Young adults 18-25 years of age consistently had the highest rates of illicit drug use, and persons 26 years of age and older had the lowest rates. In 2005-2007, 754 CT resident deaths, including 681 accidental poisoning deaths, had narcotics listed as a secondary cause of death. Cocaine, heroin, and methadone accounted for 75% of these deaths (CT DPH, Health Information Systems & Reporting).

Male Involvement

The DPH recognizes that male involvement and social support is a key component to a healthy and pregnancy. The DPH has placed increased emphasis on fatherhood by including existing fatherhood programs on planning committees and workgroups. The DPH has made efforts to engage this population by integrating education for male partners in case management programs. In turn, DPH has participated in workshops and symposia related to fatherhood initiatives. The Title V Director is an active member of the CT's Fatherhood Initiative Council. The DPH will continue to support these efforts.

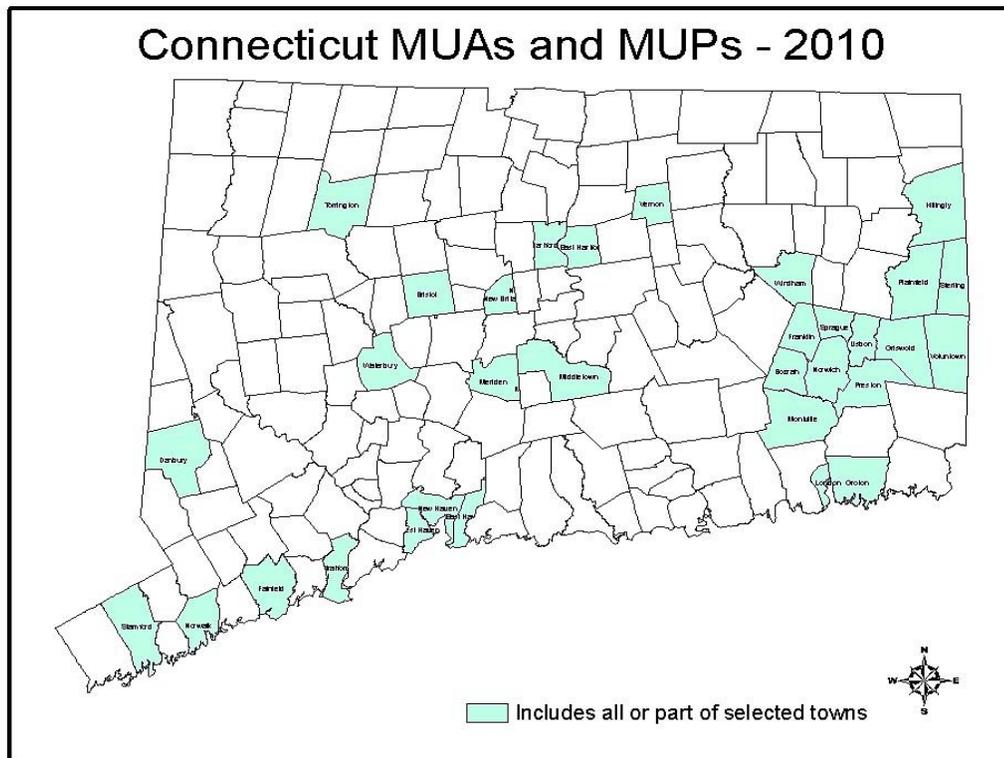
B.4. MCH Program Capacity by Pyramid Levels

Direct Health Care Service

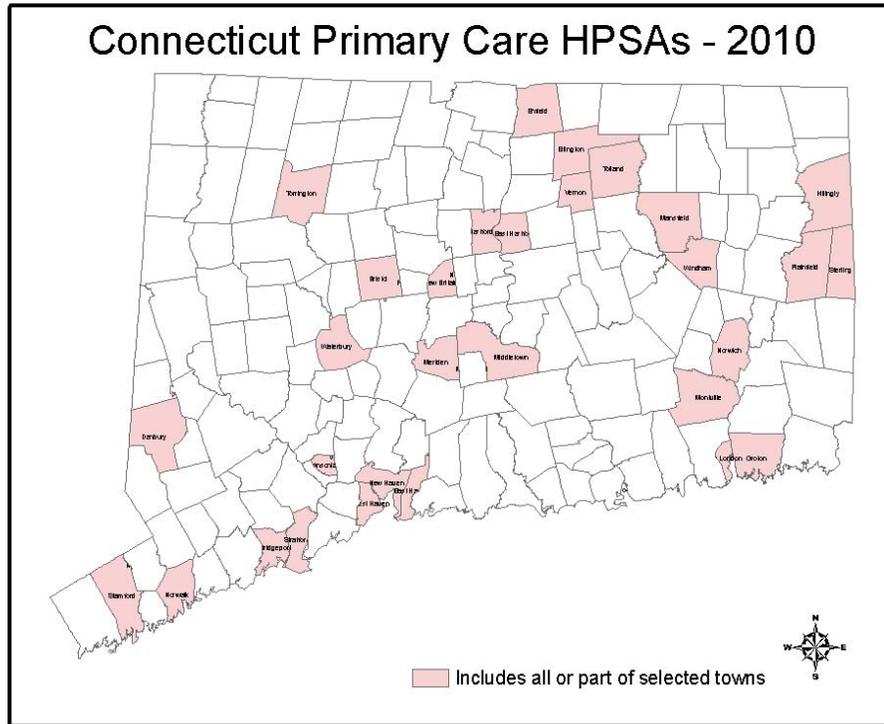
Federal Shortage Designations

The Primary Care Office (PCO) now includes FHS staff that monitor Medically Underserved Populations (MUP)/Medically Underserved Areas (MUA) (Map 1) to document areas of need in accessing primary care, dental and mental health services. Maps of the Health Professional Shortage Areas (HPSA) (Maps 2-3) show that these designated areas are frequently, though not exclusively, in urban areas of our state. The PCO promotes the re-designation and expansion of these designations to enhance access to care and provider placements in needy areas. The CT PCO is the primary source for designation requests in CT and works closely with providers including CHC, SBHC, solo providers and group practices. The PCO also works closely with the Community Health Center Association of CT (CHCACT).

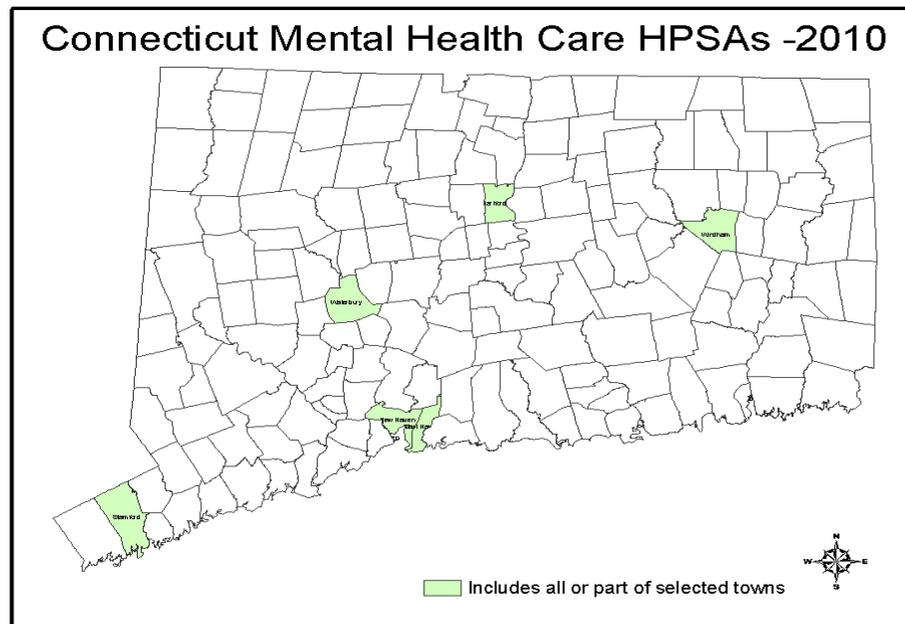
Map 1



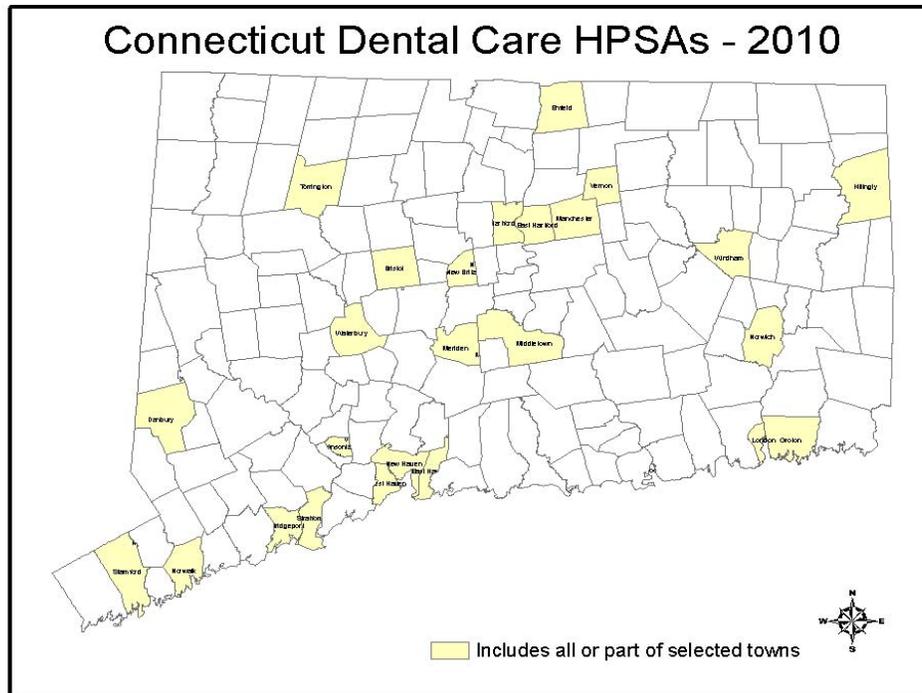
Map 2



Map 3



Map 4



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 goal of the Office of Oral Health’s “Home by One” program, is to improve oral health outcomes for children by developing a statewide infrastructure that will increase early childhood oral health interventions. The target population is WIC parents and children. The program consists of: 1) educating WIC staff on early childhood oral health practices and principles, and their role in educating parents on these practices; 2) educating WIC parents and caregivers on the importance of good oral health for themselves and their children, beginning with a child’s first dental visit by age one, how they can prevent early childhood caries, as well as how they can be oral health advocates for themselves and their communities; 3) educating dental professionals on age one dental visits, risk assessments and fluoride varnish applications, and 4) training child health providers on how they can incorporate caries risk assessments, oral health education and fluoride varnish applications into their well-child visits for high risk populations.

In addition, the Office has developed a school-based dental sealant advisory committee, consisting of staff from existing school-based dental programs and other stakeholders, to look at ways to increase dental sealant delivery to at-risk school children.

School Based Health Center (SBHC) Program

DPH contracts with 19 local organizations/entities to operate 75 SBHC clinic sites and 10 Expanded Health Services programs that serve children and adolescents in grades pre-K-12 in 23 communities statewide.

SBHC are licensed outpatient facilities or hospital satellites that provide: outreach, physical exams, risk assessments, anticipatory guidance, diagnosis and treatment of acute injuries and illnesses, immunizations, chronic disease monitoring and management, health promotion/education/risk reduction activities, prescribing and dispensing medications, reproductive health care, laboratory testing, crisis intervention, individual, family, and group counseling, case management, referral and follow-up for specialty care, and linkages to medical homes and community based resources. All sites provide back-up medical and mental health services when school is not in session. SBHC services are available to all students however; parental permission is needed for enrollment.

The SBHC programs had 43,079 students enrolled during the 2008 - 2009 school year. 12,311 students (29%) were enrolled at elementary school sites, 10,465 students (24%) were enrolled at middle school sites, and 20,303 students (47%) were enrolled at high school sites.

Of the enrolled students, 20,409 students received services. 10,914 (54%) were female, 9,460 (46%) were male and 35 had only a visit record and no demographic information. Of the 20,374 students who received services and had demographic information, 7,989 (39%) were White, 6,061 (30%) were African American/Black, 3,765 (18%) Unknown, 1,841 (9%) reported their race as Hispanic, 529 (3%) Asian, 143 (0.7%) were American Indian or Alaska Native, and 46 (0.2%) Native Hawaiian or Other Pacific Islander. Overall, 8,487 (42%) of students who received services reported their ethnicity as Hispanic. Students served by the clinics made 102,414 visits. There were 38,484 (38%) visits for mental health primary diagnoses and 25,309 (25%) visits for acute medical issues. General exams, follow-up and screening accounted for 15% of visits, injury 6%, oral health 5%, reproductive and/or STD visits 5% and chronic disease diagnoses 3% (asthma, obesity, diabetes and other chronic). Approximately 2% of visits were coded for health education, but that underestimates this component in other visit types. Of the acute visits, more than one-fourth (28%) was specifically for respiratory issues. Overall, 57% of the visits were for medical issues, 38% were for mental health, and 5% were for oral health.

Children and Youth with Special Health Care Needs

CT's system of care for CYSHCN, "The CT Medical Home Initiative (CMHI) for Children and Youth with Special Health Care Needs", is fully implemented and provides a community-based, culturally competent, coordinated system of care for children and families. Contractors provide services to CYSHCN in the following categories: administration of extended services and respite funds, medical home care coordination, provider and family education, outreach and family support.

DPH ensures successful implementation of CMHI through technical assistance, training, and support of an Access database used to manage and report data. Biweekly CMHI conference calls are held to address technical assistance needs, and to ensure collaboration and communication between CMHI contractors. Quarterly technical assistance care coordination meetings are held to provide training on specific topics as self-identified by the medical home care coordinators.

Contractors providing services through a community based care coordination model in 5 regional areas: CT Children's Medical Center of Hartford (North Central); St. Mary's Hospital of Waterbury (Northwest); Stamford Health System (Southwest); Coordinating Council for Children in Crisis, Inc. (South Central); and United Community and Family Services, Inc. (Eastern). There is an emphasis on care planning and the provision of technical assistance in building care coordination capacity.

Care coordination activities include: assessment, care planning, home visits, family advocacy, linkage to specialists, linkage to community based resources, coordination of health financing resources, and coordination with school based services. These services are provided statewide through 34 community-based medical homes. Care coordination services were provided to 6,782 CYSHCN between July 1, 2008 and June 30, 2009.

Child Health and Development Institute (CHDI) and their subcontractor the Family Support Network (FSN) provide statewide outreach and culturally effective education to pediatric primary care providers and families on the concept of medical home for CYSHCN including information regarding accessing community service systems. Family support services provide assistance and culturally effective education for families of CYSHCN, enabling families to acquire the skills necessary to organize their access to needed medical and related support services.

DPH collaborates with United Way of CT 2-1-1/Child Development Infoline (CDI) to coordinate referrals to the community-based system. CDI serves as a statewide entry point to CMHI. CDI - CMHI/CYSHCN contractor meetings take place to monitor, evaluate and improve referral to the care coordination system of care for CYSHCN.

CT Lifespan Respite Coalition (CLRC) is the DPH contractor managing the administration of Department approved extended service funds and respite funds. Respite and extended services are accessible directly through CLRC, referral from the medical home care coordinators, or through referral from CDI. CLRC serves as an additional statewide entry point to CMHI.

Laboratory Newborn Screening and Tracking Program

This program, through the states three regional treatment centers, Yale School of Medicine, University of Connecticut Health Center (UCHC) and the CT Children's Medical Center (CCMC), aims to educate and counsel the families about their child's genetic disorder and about the potential of having other children with the disorder.

- 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. As a MCHBG

initiative, the University of Connecticut Health Center (UCHC) Genetics program continues to provide the Pregnancy Exposure Information Services (PEIS) toll-free telephone line. This line provided, in 2009, information to 841 pregnant women that are concerned about being exposed to toxic substances during pregnancy and the effect(s) to their baby. Referrals are made to UCHC Genetics for follow-up.

- 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. Telephone educational assistance for families and the general public are also available. Translation of NBS printed and web based materials in 15 languages are made available through the New England Regional Genetics Group (NERGG) Education Grant from HRSA. Program staff conduct quality improvement studies, analysis, and develop and implement corrective action.

Pregnant Women, Mothers, and Infants

Medicaid

HUSKY is Connecticut's health insurance plan for children and families. In 1997 when the federal government created the SCHIP, CT 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 DSS and private health plans.

HUSKY A covers pregnant women and children in families with income under 250% 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 378,571 persons, including 249,156 children under 19 in HUSKY A as of June 1, 2010. HUSKY B provides health care for children without employer-sponsored coverage for a sliding fee. There are 15,476 children under 19 in HUSKY B as of June 1, 2010 (CT Voices for Children; web site www.ctkidslink.org).

HUSKY gives families the freedom to choose one of three participating managed health care plans: Aetna Better Health, AmeriChoice by United Healthcare, or Community Health Network of CT.

A new health care option called HUSKY Primary Care, CT's Primary Care Case Management (PCCM) program, is now available to HUSKY A members in the Hartford, New Haven, Waterbury, and Windham areas. In HUSKY Primary Care, the Primary Care Provider has a greater role in coordinating health care. The providers in HUSKY Primary Care offer the same services offered by a managed care health plan, such as health education, reminders about immunizations and well-child visits, and help scheduling appointments.

Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)

The WIC program provides specific supplemental foods for good health and nutrition during critical times of growth and development, and nutrition, education and counseling. Emphasis is placed on the relationship between good nutrition and good health. The program is for nutritionally at risk pregnant, post-partum, and breast-feeding women, infants and children up to 5 years of age. WIC refers its clients to a variety of services such as Supplemental Nutrition Assistance Program (SNAP), Head Start, medical and dental services, substance abuse programs, child care and much more. WIC also educates clients on the importance of immunizations, on preventing lead poisoning and the harmful effects of tobacco and substance use on health and growth.

State Healthy Start

The *State Healthy Start* program is a collaborative effort between DSS and DPH that aims to reduce infant mortality, morbidity, and low birth weight, 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 Medicaid eligible.

Community Health Centers

Thirteen health care corporations receive partial funding through the CT DPH to provide preventive and primary health care services through CHC. As safety net providers, CHC are located in areas of need and deliver health care to individuals enrolled in Medicaid, Medicare, as well as the underinsured and uninsured from birth through old age. In 2008, 87% of those served were uninsured or were beneficiaries of Medicaid or Medicare. Over 17%, or 58,088, of CT's uninsured population received health care services in the 10 federally funded CHCs. The CHC are primary care providers (PCP) for approximately 242,000 individuals. In 2007, 87.0% of CT infants were born to pregnant women receiving prenatal care beginning in the first trimester compared to 57% of CHC patients. Services provided in the CHC 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. CHC provide quality health care through a culturally competent family practice model of care.

First Time Motherhood/New Parent Initiative

The DPH received a federal grant to implement a social marketing campaign targeted at first time mothers and/or new parents. The focus of the campaign was to promote preconception, interconception, and post partum health in an effort to improve birth outcomes. Social marketing venues included enhancement of the website CTParenting.com, billboards, grocery store check out register advertising, bus shelter and interior bus ads, television and radio public service announcements, and distribution of promotional items. The evaluation included pre, mid and post campaign focus groups and telephone surveys to assess the knowledge gained and potential behavioral changes.

Case Management for Pregnant Women

This program provides intensive case management services to pregnant teens and their partners in geographic areas with high rates of poor birth outcomes: Hartford, New Haven, and

Waterbury. Case Management services were provided to 170 women in SFY 2009. All of the clients receive home visitation, medical case management and follow-up, parenting education, interconceptional counseling, perinatal depression screening, and referrals for emergency or other needs.

Planned Parenthood of Southern New England (formerly Planned Parenthood of CT)

DPH contracts with Planned Parenthood of Southern New England to provide reproductive health prevention services and education to men and women. There are twelve Planned Parenthood Centers and four sub-contracted sites throughout the state, in cities with high rates of teen pregnancies. Over 2,089 teens participated in educational programs conducted by Planned Parenthood during SFY 2009.

Centering Pregnancy

Two Centering Pregnancy programs in New Haven provides services to women who are most at-risk for delivering low birth weight infants, so as to achieve outcomes that include: 1) empowerment and community-building among pregnant group members, 2) increased satisfaction of pregnant women with prenatal care, 3) reduction in premature or preterm births, and 4) increased breastfeeding of infants by their mothers. The Centering Pregnancy model includes three (3) “care components” of *assessment, education, and support*, which are provided within a group setting and facilitated by a credentialed health provider and a co-facilitator.

Population-Based Services

Pregnant Women, Mothers, and Infants

Population based services in CT for pregnant women and Infants include: newborn screening (metabolic and hearing) and access to MCH information through the Title V mandated toll free MCH Information and Referral Services.

Laboratory Newborn Screening and Tracking 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 four 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.

CT State Law mandates that all newborns delivered in CT be screened for selected genetic and metabolic disorders. During the past nine years the number of conditions screened for has expanded from eight to more than forty. The NBS consists of three components: Testing, Tracking, and Treatment. 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 sent daily in accordance with the UPS pick-up schedule. Specimens are tested at the DPH State Laboratory and all abnormal results are reported to the DPH Lab NBS Tracking Program.

Nurse Consultants report the results to the primary care providers, assure referrals are made to the State funded Regional Treatment Centers, and request 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.

Of the 40,076 (occurrent births) in CT for 2009, 99% received newborn screening (NBS) prior to discharge or within first week of life and 2100 suspect positive results were reported to state Regional Treatment Centers and/or primary care providers for further testing and follow-up. Of these, there were 68 diseases, and 38 carriers confirmed, and 874 hemoglobin traits.

On October 1, 2009, CT implemented universal screening for Cystic Fibrosis (CF) independent of the DPH, Laboratory Newborn Screening. This screening is performed at the UCHC and Yale University, School of Medicine. Prior to this date approximately 70% of newborns in 23 of the 31 birthing centers were voluntarily screened for CF.

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 helps to verify that all CT newborns were screened.

Newborn Hearing Screening

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 ten years to assure early hearing detection and intervention.

CT has 31 birth facilities that serve approximately 39,500 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 and decreased parental anxiety from false-positive screens. Infants who do not pass the hearing screening at birth are referred to one of 11 diagnostic testing centers in the state. MCH Block Grant funding allowed CT to standardize diagnostic testing centers so that all had comparable testing equipment/capability, and provided support for audiologists to attend training on the diagnostic testing of infants. The age of diagnosis over the past year has averaged 2.03 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 aids, are provided for the family in the infant's home 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 web based reporting system. The system is linked with the Newborn Bloodspot Screening and the Birth Defect Registry. Diagnostic evaluations are reported to the DPH 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.

The CT EHDI system promotes family-professional partnerships to ensure family-centered, culturally and linguistically competent care for all CT families, including families of infants who do not pass newborn hearing screening. Strategies include incorporating services available through the existing CMHI for CYSHCN community-based system of care to assist in care coordination and follow-up with a goal of increasing the percentage of infants who receive follow-up by three months of age and reducing the numbers of infants who are lost to follow-up.

The brochures developed to educate families on the Hearing Screening and Diagnostic Follow-up processes are available in English and Spanish and are available on the DPH UNHS web site.

CT participates in monthly Newborn Hearing Screening Task Force meetings. The 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.

Immunizations

The goal of the *Immunizations* Program is to prevent disease, disability and death from vaccine-preventable diseases in all Connecticut residents. The Program also works with mothers to educate them about the importance of protecting their children through immunizations, being screened for hepatitis B before delivery, and receiving vaccines such as Tdap and flu so they do not infect their children.

Oral Health

The *Home by One* Program (HBO) focuses on the MCH populations of the Woman, Infant, and Children Nutritional Supplementation Program (WIC); Pregnant women, post-partum women and women who are breastfeeding as well as infants under age two. HBO designs resources to complement and support the dental health education that the WIC nutritionists already present to the participants including a training about early childhood caries and prevention strategies. Best practice and policy information is also given in support of dental care during pregnancy. Parents and Caregivers enrolled in WIC have opportunity and incentives to participate in Advocacy and Oral Health Workshops at various WIC sites. The curriculum explains the early childhood caries disease, why they should be concerned about it and what they can do to prevent it in their young child. The workshop is available in English or Spanish.

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 five times more prevalent than asthma and seven times more prevalent than hay fever. 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 21 water systems in CT that are naturally fluoridated and 33 systems that supply fluoride adjusted water to its populations. Currently 91 percent of CT residents on public water systems benefit from community water fluoridation.

Immunizations

The goal of the *Immunizations* Program is to prevent disease, disability and death from vaccine-preventable diseases in all Connecticut residents. The Program focuses much of its efforts and resources on infants, children and adolescents by providing free vaccine to pediatricians and other immunization providers; working with day care centers, Head Start programs, and schools to ensure that children are up-to-date with their immunizations; working with parents to enroll their children in a statewide immunization registry and working with providers to update information in the registry; and conducting surveillance activities to identify at-risk groups and implement interventions as needed.

Lead Environment Management

The lead program monitors lead level case files, lead related environmental health hazards, works in partnership with local health departments and the State laboratory to ensure that lead hazards are identified and properly abated. The program also regulates lead hazard identification and abatement/remediation activities. The lead program staff provide education to local health departments and the public. Educational materials are provided in English and Spanish. CT mandates that every child shall have a blood lead screening at age 12 months and again at 24 months. Any child between 25 and 72 months of age who has not previously been screened shall also have a blood lead screen performed immediately regardless of risk. In Calendar Year (CY) 2008, 76,722 children from birth to six years of age were tested for lead poisoning. Of these children, 48,594 were 1 or 2 years old when screened. Among children under 6 years of age, who had a confirmed blood lead test in 2008, 1,054 (1.4%), 448 (0.6%), and 221 (0.3%) children were found to have blood lead levels of ≥ 10 $\mu\text{g/dL}$, ≥ 15 $\mu\text{g/dL}$, and ≥ 20 $\mu\text{g/dL}$, respectively.

Oral Health

Dental caries (tooth decay) is an infectious disease process affecting both children and adults. During childhood, tooth decay is the single most common chronic disease, five times more common than asthma.

A 2007 oral health assessment of preschool (2-4 years old), kindergarten (5-6 years old and third grade (8-9 years old) students in CT determined the following: 1) dental decay is a significant public health problem for CT's children; 2) many children in CT do not get the dental care they need; 3) one in every 4 preschool children have experienced dental decay; 4) more than 60 percent of children in CT do not have dental sealants, a well accepted clinical intervention to

prevent tooth decay in molar teeth; 5) there are significant oral health disparities in CT with minority and low-income children having the highest level of dental disease and the lowest level of dental sealants; 6) forty-one (41%) of third grade children have experienced dental decay and of those with decay experience, 18 percent have untreated decay.

The Office of Oral Health has initiated the Home by One program to build integrated partnerships with the early childhood community at the state and local levels that focus on oral health as essential to the overall health and well-being of children in CT.

Infrastructure-Building Services

CT School Health Survey

The CT School Health Survey (CSHS) is a collaborative effort of the CT State Department of Education (SDE) and the DPH to gather important population based information on the health behaviors, attitudes, and conditions among CT 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 CT following a protocol set up by the Centers for Disease Control (CDC). The CSHS is administered every other year, with the spring of 2009 being the most recent data collection year. More information and results of the CSHS are available on the DPH web site (<http://www.ct.gov/dph/cshs>).

Health Informatics Profile for CT Kids (HIP-Kids)

The State Systems Development Initiative (SSDI) includes an objective to implement a comprehensive linked database containing high-quality, record-level, child health data (HIP-Kids) in order to enhance the DPH's ability to report on the MCH Block Grant performance measures, as well as other required outcome measures.

Efforts continued by the DPH Maven Program team to migrate current EHDI and BDR data into the MAVEN application. The Genetic/Laboratory Tracking staff has agreed (summer 2009), to participate in the migration of this component of the Newborn Screening System along with the EHDI and BDR programs. The application for additional funding submitted to allow the CYSHCN program to also migrate its database into MAVEN was awarded. The CT Department of Information Technology (DOIT) placed a temporary hold on all MAVEN projects in late 2010 through early 2011. This required re-base lining the completion dates for the MAVEN migration projects and resulted in a "Go-Live" date of April 2011 for this project. Once completed, this would give EHDI, BDR, Genetic/Laboratory, and CYSHCN an integrated web-enabled, electronic messaging capable, secure surveillance system that will improve the efficiency of data collection, case monitoring, and data analysis, and meet national and CDC-based health information technology standards.

The MAVEN application plans to link to the electronic birth record. Confidentiality and security issues are being addressed to comply with Federal laws that protect the sharing of birth record information.

Completion of the death record linkage to the MAVEN application has been identified as an area of concern. The electronic death record system is currently being re-tooled and linking to the MAVEN application may be delayed.

Laboratory Newborn Screening and Tracking

The NBS Tracking program staff continue to: 1) monitor and collect data on unsatisfactory NBS specimens, refusal waivers, and missing scan reports from the birthing facilities; 2) meet with Laboratory Information Systems (LIMS) Coordinator and the Maven Consultant to proceed forward with the development and implementation of the web-based reporting system; and 3) monitor, through quarterly reports and contractual agreements with State Regional Treatment Center activities on NBS education through grand rounds conferences at the birthing hospitals and Medical Schools, PEIS, daily patient referrals, and comprehensive treatment services for patients and their families.

Three Nurse Consultants will continue to provide technical assistance to specific birthing facilities to assess the NBS process from the data entry of the birth of the baby and collection of the specimen through receipt of the laboratory report. The Nurse Consultants will educate the birthing facility Neonatal Intensive Care Unit (NICU) Nurse Managers on the “Newborn Screening for Preterm, Low Birth Weight, and Sick Newborns; Approved Guidelines”, and what is feasible to have implemented in the year 2010. In addition, the staff will work with the Lab Quality Assurance (QA) Unit to reduce the number of missing specimens.

NBST Supervisor and one Nurse Consultant, along with the Lab Administration staff will continue to meet quarterly with the Genetics Advisory Committee to discuss restructuring of the committee, current and emerging issues related to Laboratory NBS, protocols, confirmed disorders, consumer concerns, and proposed NBS legislative bills. Newborn Screening Laboratory and Tracking staff will continue to meet quarterly to discuss data systems challenges, quality assurance, statistical reporting and emerging genetic issues. Case & protocol reviews will be conducted with appropriate staff (Lab staff, hospital nurse managers, & treatment center specialists) to foster timely and accurate reporting and to decrease false positive results. One NBST Nurse Consultant will continue to participate on the CT Department of Public Health Genomics Office (DPH-GO), Council of Genomics (COG) and the Expert Genetic Advisory Panel (EGAP), and regional advisory committees to increase Connecticut potential in the development of a genetic component to the NBS Tracking program.

The NBST Program Supervisor will continue as an advisory committee member on the New England Genetics Collaborative (NEGC) to develop regional innovative grants and programs to promote the health and social well being of those with inherited conditions through collaborations with public health stakeholders.

Laboratory NBS staff provided and will continue to provide support and technical assistance.

Pregnancy Risk Assessment Tracking System (PRATS) Survey

The Connecticut Pregnancy Risk Assessment Tracking System (PRATS) survey provides the Department of Public Health (DPH) with important data about maternal health, experiences, and behaviors during the perinatal period (i.e., preconception, pregnancy, and postpartum). The specific aims of PRATS are to:

- determine the prevalence of health and behavioral risk factors during the perinatal period among Connecticut women who recently have delivered infants in-state;
- better understand the relationship between maternal risk factors, behaviors, and attitudes and adverse pregnancy outcomes;
- investigate racial and ethnic disparities in maternal risk factors, behaviors, attitudes and pregnancy outcomes;
- gather information on important areas for which data are currently lacking, including perinatal depression, domestic and intimate partner violence, discrimination in health care, and breastfeeding;
- provide information for maternal and child health program planning and evaluation; and
- support efforts to become PRAMS-funded in the future.

The information collected through this survey supplements information unavailable from annual birth records, and will allow the DPH to advance its knowledge about risk and protective factors among Connecticut mothers, and to investigate the associations between these factors and birth outcomes and maternal and infant health.

PRATS is modeled after the Center for Disease Control and Prevention's (CDC) Pregnancy Risk Assessment Monitoring System (PRAMS) survey, a larger-scale surveillance project which CDC funds in 37 states. Because Connecticut does not receive PRAMS funding, the survey cannot be administered annually. Rather, PRATS is conducted periodically using SSDI funds.

B.5. Selection Of State Priority Needs

The selection of the state priority needs included methods to assure it was a data driven process. The process used both quantitative and qualitative data collection methods to inform the needs assessment, used data analyses, matrix scoring, focus groups, and web-based and telephone surveys. The process also engaged various partners whose insights and knowledge 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. The process included data from a broad range of health status and socio-economic indicators from available federal, state and private databases to generate a profile of maternal and child health.

List of Potential Priorities

- Enhance Data Systems – Stakeholders came to a consensus that there is not enough data and research to support program development and evaluation of existing programs, especially in terms of obtaining new funding and reporting the appropriate information for existing grants and initiatives. It was also determined that the wide variety of data systems currently available are unable to easily link and share appropriate information between systems. Stakeholders expressed interest in improving and establishing linkages within a single state agency and across multiple state agencies. For these reasons, Enhance Data Systems was selected, as a state priority need.
- Improve Mental/Behavioral Health Services – There was broad consensus from the stakeholders that each of the three target population groups has significant mental and behavioral health needs including the prevention of substance abuse and suicide. The challenge will be identifying the best strategies to address these needs. Regardless, improve mental/behavioral health services will be included as a state priority need.
- Enhance Oral Health Services– Similarly, enhancing oral health services was identified by the stakeholders as a critical health need in each of the three target population groups. The overriding factor is that enhancing oral health services is directly related to an individuals overall health and wellness. The general public as well as health care providers had not made the connection previously, but through education and awareness campaigns there was a paradigm shift among health care professionals and the general population. The recognition of the importance of oral health and its relation to overall health support its inclusion as a state priority need.
- Reduce Obesity among the three target MCH populations – The obesity epidemic has been receiving national attention for years and the stakeholders recognized its rapidly increasing negative impact among the three target population groups. Stakeholders identified the influence of marketing inappropriate food choices to vulnerable socioeconomic populations. Although Stakeholders agreed that reducing obesity among the three target MCH populations should be a state priority need, there is recognition of the challenge to reverse this negative health status problem.

- Enhance Early Identification of Developmental Delays, Including Autism – Stakeholders widely agreed that this issue should be addressed. The group recognized that early identification could easily build upon the existing CYSHCN medical home initiative. Stakeholders expressed concern that health care providers are not recognizing early identification at an appropriate level of importance. Early identification is an important component for addressing the needs of the CYSHCN population and therefore it was included, as a state priority need.
- Improve the Health Status of Women, particularly related to depression – Stakeholders agreed that the health status of women includes a broad spectrum of issues, like perinatal depression and violence in the home. In particular, the stakeholders discussed the importance of a mother’s health and the potential exponential effect that might have on not only her children, but also her entire family. Stakeholders recognized the challenge of addressing this issue, however agreed that it should be one of the state priority needs.
- Improve Linkages to Services/Access to Care – Stakeholders raised this health status issue from their own discussion of results presented from the community centered needs assessment. Findings from the focus groups, telephone survey, and consumer web-based survey demonstrated that participants expressed difficulty obtaining and accessing health related programs and services. Stakeholders agreed that this issue should be included as a state priority need.
- Integrate the Life Course Theory throughout all state priorities – Stakeholders unanimously agreed that the life course perspective should be a thread throughout all identified state priority needs. It was clear to the group the interactions from the pre-conception period to infancy, to adolescence, to adulthood (including motherhood), can present real influences to overall health and well-being.
- Reduce Health Disparities within the three MCH target populations– Stakeholders agreed that health disparity issues should also be a thread throughout all identified state priority needs. There was an understanding that in some instances information related to health disparities may not be available.
- Address Early Childhood Risk Factors – Stakeholders raised this issue, as a possible state priority need. However, the group agreed that this issue would be addressed by the selection of the health status of women and the integration of the life course perspective, as priority needs.
- Improve Mother and Fetus Health Status during Pregnancy/Infant Health – Stakeholders raised this issue, as a possible state priority need. However, the group agreed that this issue would be addressed by the selection of the health status of women and the integration of the life course perspective, as priority needs. The percent of mothers whom breastfeed their infants at six months of age is addressed by NPM #11.

- Reduce the prevalence of STDs – Stakeholders did not elevate this issue to a level of concern. Health Status Indicators and the CT DPH STD Surveillance and Control Program address chlamydia rates.
- Reduce the prevalence of Asthma – Stakeholders did not elevate this issue to a level of concern. Health Systems Capacity Measure #01 and the Connecticut DPH Asthma Prevention Program address the rate of children hospitalized for asthma.
- Reduce Emergency Room (ER) Usage – Stakeholders raised this issue as a possible state priority need. However, the group agreed that this issue would be addressed by the selection of Linkages to Services/Access to Care, as a priority need.
- Improve Primary Health Care for Undocumented Population – Stakeholders did not elevate this issue to a level of concern, especially with the recognition that this issue is outside of the purview of DPH.

Methodologies for Ranking/Selecting Priorities

The needs assessment included a DPH Internal Needs Assessment and a Community Centered Needs Assessment. The DPH Internal Needs Assessment process incorporated analysis of data and identification of significant health problems of all programs serving the MCH population across the Department. Feedback on the health needs of women and children was obtained from providers and consumers. The MCH Title V Program established a Stakeholders’ Committee to consider the internal workgroup findings and community data and recommend 7-10 state priority needs. After reviewing the results of the Community-Centered and Internal Needs Assessments, the Stakeholders’ Committee discussed and selected the state’s nine state priority needs. The nine state priority needs were identified by the number of the stakeholder committee members selecting the state priority need as one of most importance based on their knowledge and experience. DPH established the state performance measures for the selected priority areas.

Priorities Compared with Prior Needs Assessment

Priorities continued from the previous Needs Assessment

This Needs Assessment identified “Enhance Data Systems” as a priority need that is nearly the same as the last Needs Assessment’s priority to “Strengthen Data Collection and Reporting.” Connecticut’s efforts continue to build a data system of linked child health information at the record level, known as the Health Informatics Profile for CT Kids (HIP-Kids). Stakeholders recognized the importance of comprehensive child health information that supports public health assurance, assessment, and evaluation activities.

The priority need “Reduce Obesity among the three target MCH populations” is also nearly similar to the last Needs Assessment’s “Promote nutrition and exercise to reduce obesity.” At the last Needs Assessment, the obesity epidemic had already been recognized nationally. However, with its continued presence in the national health spotlight, stakeholders

acknowledged the importance to try to combat this negative health issue even with the complex set of challenges to elicit change.

The “Reduce Health Disparities within the three MCH target populations” priority need is continued from the last Needs Assessment. Stakeholders had a clear understanding and agreement of the importance of measuring and evaluating the differences among racial/ethnic groups relative to their health status.

Priorities replaced from the previous Needs Assessment

The “Enhance Early Identification of Developmental Delays, Including Autism” priority need is somewhat similar to the last Needs Assessment’s “Promote access to family support services including respite and medical home care for CYSHCN” but places a focus on the early period of the life of CYSHCN. This priority need also intends to identify the individual rather than provide services to the family. These changes result in the new priority need replacing the previous one.

The “Improve the Health Status of Women, particularly depression” priority need replaces the last Needs Assessment’s “Increase access to quality pre-conception and parent education programs.” The new priority need continues to highlight a woman’s health with some attention on the pre-conception period but expands the need to address a broader spectrum of the women’s life span.

The “Improve Linkages to Services/Access to Care” priority need replaces the last Needs Assessment’s “Establish Collaborative Relations at State/Local Level.” Both priority needs recognize the complex health and social service needs that are necessary to improve the health and well being of the three MCH target population groups. However, the new priority need has a different focus in that it seeks to address the expressed difficulty of individuals obtaining and accessing health related programs and services rather than a higher collaborative effort between health and social service agencies.

Priorities added from the previous Needs Assessment

The “Improve Mental/Behavioral Health Services” priority need is new to this Needs Assessment and one that stakeholders recognized for its importance as it was raised among each of the three MCH target population groups.

Similarly, “Enhance Oral Health Services” is new to this Needs Assessment for the same reason of being identified as a priority need among each of the three MCH target populations groups. Oral Health awareness and a better understanding of how it has an impact on one’s overall health is a main reason why this has become a priority need among the three MCH target populations.

The “Integrate the Life Course Theory throughout all state priorities” is new to this Needs Assessment. Stakeholders agreed that an individual’s poor health with the existence of one

or possibly numerous risk factors over many years can lead to an accumulated effect on one's health and well-being.

Priority Needs and Capacity

Direct health care services

Enhancing early identification of developmental delays, including autism has a fairly solid support system through the existence of the Medical Home Initiative for CYSHCN. Care coordinators throughout this statewide infrastructure work towards establishing and implementing protocols to ensure developmental screenings and referrals. Care coordinators and providers associated with the initiative receive training through the A. J. Pappanikou Center on Developmental Disabilities, Leadership Education in Neurodevelopmental and Related Disorders (LEND) program.

Enabling Services

Improving mental/behavioral health services has known challenges relative to the high need for mental health services for an increasing number of individuals among the three target populations. Given the limited resources available, CT will focus on increasing its capacity to meet this priority need through the existing safety net providers in the SBHC and CHC (CT Voices for Children, *Building a Community-Based Children's Mental Health System*, February 2006.) The Primary Care Office is also increasing focus on the addition of HPSA to be designated as underserved areas for mental health care.

Reducing Obesity among the three target MCH populations includes issues related to increasing capacity to address the complex set of challenges to elicit change. The DPH *Obesity Prevention* Program plans to address this priority need by offering the fruit and vegetables vouchers to WIC participants. This would act as incentives for participants to purchase more fresh fruits and vegetables. The association between the consumption of fruits and vegetables and preventing or reducing obesity prevalence has been well established by the scientific community.

The "Improve the Health Status of Women, particularly depression" priority has a variety of opportunities available to assure this need is addressed. For young women, SBHCs provide particular services that will address this need including outreach, physical exams, risk assessments, anticipatory guidance, diagnosis and treatment of acute injuries and illnesses, immunizations, chronic disease monitoring and management, health promotion/education/risk reduction activities, prescribing and dispensing medications, reproductive health care, laboratory testing, crisis intervention, individual, family, and group counseling, case management, referral and follow-up for specialty care, and linkages to medical homes and community based resources. CHC, similarly, provide these services to women across the life span. The state *Healthy Start* and two Federally-funded *Healthy Start* (Hartford and New Haven) Programs also provide services to assure pregnant women, mothers and infants have access to health care with the intended result of good health and well-being.

Population-Based Services

Oral Health Services

In the 2006-2007 school year, the CT DPH, Office of Oral Health completed *Every Smile Counts*, a statewide oral health survey to assess the oral health status of CT's Head Start and elementary school children. More than 600 children in *Head Start* and 8,700 children in kindergarten and third grade received a dental screening. Some of the key findings identified were: 1) Dental decay is a significant public health problem for CT's children; 2) many children in CT do not get the dental care they need; 3) more than 60 percent of children in CT do not have dental sealants, a well accepted clinical intervention to prevent tooth decay in molar teeth; 4) there are significant oral health disparities in CT with minority and low-income children having the highest level of dental disease and the lowest level of dental sealants; 5) CT has met the Healthy People 2010 objectives for reducing the prevalence of decay experience and untreated tooth decay among elementary school children, but has not met the Healthy People 2010 objective for increasing the prevalence of dental sealants; 6) early prevention is essential to reduce the prevalence of early childhood dental caries.

The survey revealed that our state's youngest children are experiencing significant dental caries. Nearly 1 in every 4 (31%) *Head Start* students, aged 3 to 5 years of age, already had experienced cavities; 20% of those with decay had untreated decay; and 14% had 5 or more teeth with cavities. Because of these data, the Office of Oral Health received HRSA funding to improve oral health outcomes for children by developing a statewide infrastructure that will increase early childhood oral health interventions.

This program, called "*Home by One*" targets WIC children and their parents and has introduced oral health education for WIC staff and what their role is in educating parents in good oral health practices for their children. In addition, WIC parents receive oral health education and dental caries prevention for themselves and their children, as well as training on how they can be oral health advocates for themselves and their communities. One of the primary goals of "*Home by One*" is to establish dental homes for the WIC children that are linked to medical homes in an effort to develop a "health home" system to reduce dental caries and improve oral health outcomes. Dentists are trained in how to conduct an "age one dental visit", something many are not familiar with or comfortable providing. Child health care providers also receive training in early childhood oral health risk assessments, oral health education, fluoride varnish application and how to incorporate these practices into their well-child visits. To encourage these practices, child health care providers can now be reimbursed under the HUSKY program to provide these oral health interventions.

Dental caries, the disease, which causes cavities, is a chronic, cumulative, progressive bacterial infection. The survey findings confirmed the cumulative nature of the disease, with 41% of the third graders screened having decay experience.

In elementary school children, there was a substantial difference in the prevalence of untreated decay between white students and their non-white counterparts, with 13% of the

white students having untreated decay, while double that amount, 26% of the non-white children had untreated decay. This demonstrates the oral health disparities present in CT.

There are several factors which contribute to these disparities, such as lack of transportation, parents inability to get time off from work to bring their child to a dentist, financial and language barriers, and at the time of the survey, very few dental providers who accepted our SCHIP (the HUSKY program in CT) insurance.

There has been an increase in dental providers accepting the SCHIP insurance, from less than 300 in 2008 to more than 1000 in 2010. This increase has contributed to more access to care for some children, although dental utilization rates remain at less than half of CT children covered by SCHIP receiving dental services.

The Office of Oral Health has established a school-based dental sealant advisory committee and is exploring opportunities to expand the provision of dental sealants in school-based dental programs. This delivery model is recognized as a Best Practice by the Association of State and Territorial Dental Directors to eliminate common barriers to oral health prevention care and the reduce dental decay. A demonstration pilot to collect data relative to dental sealant placement in school-based settings will be conducted during the 2010-2011 school year. These data will inform policy makers to promote funding of this important oral public health intervention.

Life Course Theory

DPH has participated in initiatives to understand the Life Course Theory and the strategies that can be used to integrate this theory into existing strategic plans across programs. The general concept of life course theory is to address early childhood determinants of adult health, *before* health conditions are realized in adulthood. An extension of the theory is that accumulating years of poor health and multiple risk factors lead to racial and ethnic disparities in adult health status. To address reduced health status and its disparities in adults, interventions are needed in childhood that decrease the risk factors of poor health in adulthood and that maximize protective factors. This can be accomplished with, for instance, regular preventive health care, appropriate immunizations, and a culture of regular exercise and good eating. It is expected that some preventive interventions of childhood conditions are regularly implemented within DPH, but a paradigm shift is needed to increase the focus on public health initiatives for children, with the intention of curbing poor health in adulthood.

Reduce Health Disparities

The CT DPH's Office of Multicultural Health (OMH) was established in 1998 to improve the state's health status by eliminating preventable differences in disease, disability, and death rates in ethnic, racial, and cultural populations. Section 19a-4j of the Connecticut General Statutes directs the OMH to monitor health status of African Americans, Latinos/Hispanics, Native Americans, Alaskan Natives, Asians, Native Hawaiians and other Pacific Islanders. The Department was also required to compare selected populations with the health status of non-Hispanic Caucasians to assess preventable health disparities.

The OMH promotes access to quality health education and health care services; facilitates presence of diverse populations in health planning, program development, policy formation, and outreach and awareness initiatives. The Office functions largely through collaboration with statewide partners. The Office recommends policies, procedures, activities and resource allocations to improve health among the state's underserved and diverse populations, and to eliminate health disparities.

The “Reduce Health Disparities within the three MCH target populations” is a priority identified within this needs assessment but is also one being addressed by DPH as evidenced by several reports published over the past 10 years: *Multicultural Health: The Health Status of Minority Groups in Connecticut*, called attention to areas of health disparities and examined these differences in the context of social and economic conditions of CT (Hynes, Mueller, Bower, and Hofmann 1999); *CT Women's Health* presented the social context of health problems, disparities, and access to health care experienced by women in the state (Hofmann and Hooper 2001); *Mortality and its Risk Factors in CT, 1989–1998* (Hynes, Mueller, Li and Amadeo 2005) assessed trends in the leading causes of death among CT residents by gender, race, ethnicity, and age; and *The 2009 CT Health Disparities Report* (Stratton, Alison, Margaret M. Hynes, and Ava N. Nepal. 2009, CT DPH.), a product of the CT Health Disparities Project, provided a recent picture of health disparities in CT. This report provided a descriptive monitoring and analysis—or surveillance—of data on various populations who experience health inequalities. Underlying factors that contribute to inequalities in people's health outcomes, and their access to and quality of health care were examined. This report will be a resource for policy makers, researchers, health professionals, advocates, and others who are working to improve health of all people in CT.

Infrastructure-Building Services

The “Enhance Data Systems” priority is one that DPH continues with measured but documented success to create a data system of linked child health information at the record level, known as the HIP-Kids. The capacity to move this effort forward has been possible with both Federal grant and American Recovery and Reinvestment Act (ARRA) funds. Projected implementation dates of several components of HIP-Kids are scheduled for early 2011 (Newborn Screening including early hearing detection and intervention, birth defects, and genetic/laboratory tracking; and the CT Immunization Registry). These data linkages include accessing information from the Vital Records birth system, death records and DSS' Medicaid information.

The “Improve Linkages to Services/Access to Care” priority has a combination of areas where capacity exists to promote and provide access to care. Map 1 shows areas of need for primary care, mental health and dental services in the State, and clearly demonstrates that the availability of health care should be enhanced and improved. The efforts of the PCO include the identification of medically underserved areas in CT that may qualify for a federal designation as: a) MUA or MUP, or b) HPSA. A HPSA can be designated as underserved areas for primary care, dental or mental health care. Identifying needy areas in the state and then obtaining a federal designation are the first steps toward getting the necessary resources to improve health care services and access in local communities.

Programs that were described in the “MCH Program Capacity by Pyramid Levels” section that bear repeating include: *SBHC, CHC, Medical Homes for CYSHCN, the MCH Information and Referral Service* and the *Child Development InfoLine (CDI)*, the *Newborn Early Hearing Detection and Intervention Program* and its referral system to the *Connecticut Birth to Three System* (Connecticut’s IDEA, Part C early intervention program), the *Laboratory Newborn Screening and Tracking Program* including the three genetic regional treatment centers, *Healthy Start*, the *Case Management for Pregnant Women* program, the two *Centering Pregnancy* programs in New Haven, and the two Federal *Healthy Start* programs in Hartford and New Haven.

As previously stated, the key findings from the Internal DPH Workgroups, focus groups and surveys were shared with the Stakeholders’ Committee. The Stakeholders’ Committee considered the data presented and then selected the nine state priority needs areas to improve maternal and child health for the three target populations. The DPH developed state performance measures to correspond to the priorities selected by the Stakeholders’ Committee. These State Performance Measures were shared with the Executive Leadership staff at DPH.

MCH Population Groups

Children and Adolescents

- Enhance Data Systems
- Improve Mental/Behavioral Health Services
- Enhance Oral Health Services
- Reduce Obesity among the three target MCH populations
- Improve Linkages to Services/Access to Care
- Integrate the Life Course Theory throughout all state priorities
- Reduce Health Disparities within the three MCH target populations

Pregnant Women, Mothers, and Infants

- Enhance Data Systems
- Improve Mental/Behavioral Health Services
- Enhance Oral Health Services
- Reduce Obesity among the three target MCH populations
- Improve the Health Status of Women, particularly depression
- Improve Linkages to Services/Access to Care
- Integrate the Life Course Theory throughout all state priorities
- Reduce Health Disparities within the three MCH target populations

Children and Youth with Special Health Care Needs

- Enhance Data Systems
- Improve Mental/Behavioral Health Services
- Enhance Oral Health Services
- Reduce Obesity among the three target MCH populations
- Enhance Early Identification of Developmental Delays, Including Autism

- Improve Linkages to Services/Access to Care
- Integrate the Life Course Theory throughout all state priorities
- Reduce Health Disparities within the three MCH target populations

Priority Needs and State Performance Measures

A State Performance Measure (SPM) was defined for each of the nine state priority needs to measure the success in meeting the priority need during the next five years. The following table identifies the State Performance measure for each state priority with a description of why the SPM was chosen and how it supports measurement of the state priority need.

State Priority Need	State Performance Measure	Reason chosen and how the SPM supports the priority need
#01 Enhance Data System	Cumulative number of core datasets integrated into CT's comprehensive child health information data warehouse, HIP-Kids.	The developed HIP-Kids data warehouse will support the agency's public health assurance, assessment and evaluation activities; interdivisional public health research activities and initiatives, and inform public health policy.
#02 Improve Mental/Behavioral Health Services	Percent of students receiving services at school-based health centers who received a risk assessment with a Mental Health component during an annual physical.	Annually, about one out of every five CT children has a mental health or substance abuse problem. Fewer than half get any treatment. In 2008-2009, mental health as a primary diagnoses accounted for more than one third (37%) of all SBHC clinic visits. The CT Youth Risk Behavior Survey that is conducted every other year will also provide information relative to the mental health of CT youth.
#03 Enhance Oral Health Services	Percent of child health providers/dental providers who serve at risk populations that administer dental caries risk assessments, oral health education and appropriate risk-based preventive strategies by age one.	Dental caries is the single most common chronic childhood disease, 5 times more common than asthma and 7 times more common than hay fever. Prolonged lack of treatment can lead to tooth loss, systemic infection, and the entry of toxins and by products of inflammation into the

		bloodstream. Dental disease in a young child can affect their development, school readiness, and attendance.
#04 Reduce Obesity among the three target MCH populations	Increase the percent of fruit and vegetable vouchers redeemed by pregnant, postpartum and breastfeeding women enrolled in the Women, Infants, and Children (WIC) program.	The association between the consumption of fruits and vegetables and preventing or reducing obesity prevalence has been established. Offering fruit and vegetables vouchers to WIC participants works as incentives for participants to purchase more fresh fruits and vegetables. The CT WIC Program will provide annual data on the number of Fruit and Vegetable Cash Value Vouchers redeemed versus those issued to pregnant, postpartum and breastfeeding women on the WIC program for 12 months beginning each October 1 through September 30.
#05 Enhance Early Identification of Developmental Delays, Including Autism	Percent of 0-3 year olds participating in the state Medicaid Program (HUSKY - Health Insurance for Uninsured Kids and Youth) who received a developmental screening within the last twelve months.	The 2005/2006 National Survey of CSHCN revealed that 3.8% of Connecticut's CSHCN population, or roughly 5,057 children were diagnosed with Autism Spectrum Disorder (ASD). Early identification is a component of meeting the needs of CYSHCN, including those with ASD, and the focus will be on the 0-3 population and provider education.
#06 Improve the Health Status of Women,	The cumulative number of DPH funded Case Management programs whose healthcare professionals	A woman's health across the lifespan includes her reproductive years, as well as pre-reproductive and

<p>including depression</p>	<p>complete preconception and interconceptional health screening (including depression) of women.</p>	<p>post-reproductive years. Use of culturally-sensitive and evidence-based screening tools can address many risk factors (including depression) for pregnancy and birth complications <i>before</i> a woman becomes pregnant and between pregnancies. This needs to be encouraged as a best-practice protocol among professional service providers to improve the health of women so that babies can be born healthier in the future.</p>
<p>#07 Improve Linkages to Services/Access to Care</p>	<p>Increase or enhance the number of Health Professional Shortage Area (HPSA) designations in the State.</p>	<p>DPH's PCO works to identify medically underserved areas in CT that may qualify for a federal designation as Medically Underserved Area or Population or Health Professional Shortage Area as underserved areas for primary care, dental or mental health care. Identifying shortage areas in the state and then obtaining a federal designation are the first steps toward getting the necessary resources to improve health care services and access in local communities.</p>
<p>#08 Integrate the Life Course Theory throughout all state priorities</p>	<p>Increase the number of programs that serve the MCH population that have incorporated public health interventions addressing early childhood determinants of adult health into programmatic action plans.</p>	<p>The general concept of life course theory is to address early childhood determinants of adult health, <i>before</i> health conditions are realized in adulthood. Interventions are needed in childhood that</p>

		<p>decrease the risk factors of poor health in adulthood and that maximize protective factors. A paradigm shift is needed to focus public health initiatives on children, with the intention of curbing poor health in adulthood.</p>
<p>#09 Reduce Health Disparities within the three MCH target populations</p>	<p>Increase the percent of programs that serve the MCH population that collect and report racial/ethnic data according to federal and State data collection standards.</p>	<p>Improvements in the quality of data collected will further increase our statewide capacity to accurately monitor and devise plans to reduce health disparities.</p>

B.6. Outcome Measures – Federal And State

There were six National Performance Measures (NPMs) that were not met. A review of these NPMs provided no clear relationship or impact on the outcome measures. There are explanatory factors that address why each of the NPMs was not met or activities that may result in successfully meeting the measure in the future.

NPM #2: The percent of CYSHCN families who partner in decision making and are satisfied with services they received was not met. The enhanced CMHI ensures collaboration and communication between CMHI contractors especially to address technical assistance needs in serving CYSHCN and their families. There is an emphasis on care planning and the provision of technical assistance in building care coordination capacity. Care coordination activities include: assessment, care planning, home visits, family advocacy, linkage to specialists, linkage to community based resources, coordination of health financing resources, and coordination with school based services.

NPM#7: The immunization rate was not met. There was a significant drop in 3-dose Hib coverage rate from 2007 to 2008 mainly attributed to the national Hib vaccine shortage that occurred in November 2007 – June 2009.

NPM#9: The percent of third graders who received sealants was not met. Variability in the data made projections of a realistic objective more difficult. There were several enhancements within the Oral Health Program however that may provide the positive impact on this measure. These include the establishment of thirteen “dental homes”; the training of over 300 childcare providers in oral health preventive strategies; and the award of a \$1.25 million five-year cooperative agreement for Oral Health Program infrastructure development.

NPM#11: The percent of mothers who breastfeed their infants at 6 months of age was not met. Efforts are being planned to improve outreach and increase awareness of the importance of breastfeeding.

NPM#13: The percent of children without health insurance was not met. DPH is working with the community-based organizations funded by DPH to implement procedures for organization staff to provide support, information and linkages to health care insurance coverage for children.

NPM#17: The percent of very low birth weight infants delivered at facilities for high-risk deliveries was not met. A recommendation from the State Perinatal Health Advisory Committee, which is now part of the MCH Advisory Committee, identified the need to reduce pregnancy and birth related risk factors by facilitating maternal transfers to tertiary perinatal/neonatal centers for high-risk antepartum, intrapartum and postpartum care. DPH efforts to turn the curve for this measure may occur with the successful completion of this recommendation as well as the efforts by community-based organization staff that serve pregnant women to provide screening, intensive case management, and referral for high-risk pregnant women to specialists and tertiary care centers.

C. ANNUAL NEEDS ASSESSMENT SUMMARY

This five-year Needs Assessment identified nine State Priorities that were very similar to those identified in the last needs assessment completed in 2005. Similarities included needs to: (1) Enhance data systems that support public health assurance, assessment and evaluation activities; (2) Address the continued obesity epidemic; (3) Reduce racial and ethnic health disparities relative to the MCH population's health status; (4) Enhance CYSHCN medical home initiative by focusing on the early identification of developmental delays, including autism; (5) Improve the health status of women with a specific focus on a mother's health and its potential exponential effect on her family; and (6) Improve access to health care programs and services.

While this year's State Priorities were similar, there are concrete differences in the specific focus of each state priority. These differences are demonstrated in the exact wording of each State Priority and the resulting State Performance Measure developed to measure the success of the activities to address the need.

The main change from the previous needs assessment were the addition of three State Priorities: (1) Improve mental/behavioral health services; (2) Enhance oral health services; and (3) Integration of the Life Course Theory. In the last needs assessment, both mental health and oral health were among the possible state priorities but were not selected either because other needs were identified as a higher priority (oral health) or the complexity of addressing the need was prohibitive (mental health). The addition of the Life Course Theory resulted from national and regional initiatives that raised this need to a high level of priority.

The changes in the MCH programs and system capacity has been moderately significant since the last five-year needs assessment.

Children and Youth with Special Health Care Needs

A review of the CYSHCN program resulted in a new infrastructure and capacity building strategy to meet the Healthy People 2010 goals of parent partnership, comprehensive care within a medical home, adequacy of insurance, screening for special needs, community-based systems and transition to all aspects of adult life.

The DPH Medical Home Advisory Council (MHAC), comprised of more than 40 representatives, including youth representation from CT Kids as Self Advocates (CT-KASA), from state and private agencies, community-based organizations and parents of CYSHCN, has a stronger role in providing guidance to DPH in its efforts to improve the system of care for CYSHCN by ensuring their connection to a medical home.

DPH is working to migrate the existing CYSHCN database to a web-based platform. This will allow for integration of data with other databases at DPH, and allow for future connection to Electronic Medical Records (EMR). The system will allow information from families; medical home based care coordinators, and other stakeholders to be integrated in support of CYSHCN program surveillance, planning and evaluation.

Pregnant Women, Mothers and Infants

Case Management for Pregnant Women is offered in 3 towns to provide comprehensive, integrated case management services during the perinatal and interconceptual periods to pregnant and post partum teenagers and women and their partners in an effort to improve birth outcomes.

Efforts to address racial and ethnic health disparities as they relate to low birth weight infants were started including the development of the Centering Pregnancy model of group prenatal care in organizations that provide outpatient prenatal care services to low income women, who are most at risk for delivering low birth weight infants.

The recession in CT has resulted in increased utilization of CHC. DPH supports thirteen health care corporations to provide preventive and primary health care services through Community Health Centers. Services provided in the CHC 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. As safety net providers, CHC are strategically located in areas of need and help address the issues related to access to care.

Children and Adolescents, Age 1 through 22 years.

The increase in the number of SBHC clinic sites and Expanded School Health programs sites has increased the provision of: outreach, physical exams, risk assessments, anticipatory guidance, diagnosis and treatment of acute injuries and illnesses, immunizations, chronic disease monitoring and management, health promotion/education/risk reduction activities, prescribing and dispensing medications, reproductive health care, laboratory testing, crisis intervention, individual, family, and group counseling, case management, referral and follow-up for specialty care, and linkages to medical homes and community based resources.

The key findings from the Internal DPH Workgroups, focus groups and surveys were shared with the Stakeholders' Committee. The Stakeholders' Committee considered the data presented and then selected the nine state priority needs areas to improve maternal and child health for the three target populations.

The DPH developed state performance measures to correspond to the priorities selected by the Stakeholders' Committee.

APPENDICES

Appendix A Data Sources

The DPH Internal Needs Assessment examined information across the topic areas based on the Maternal and Child Health populations (Children and Adolescents; Children and Youth with Special Health Care Needs; and Pregnant Women, Mothers, and Infants). Data used was obtained from following sources:

- 1) The 2009 Connecticut Health Disparities Report, DPH
- 2) America's Children in Brief: Key National Indicators of Well-Being, 2008, Federal Interagency Forum on Child and Family Statistics
- 3) Asthma in Connecticut: DPH Surveillance Report, 2008
- 4) National Heart Lung and Blood Association - Revised Asthma Diagnosis and Management Guidelines, 2007
- 5) Asthma Action Plan (Guidelines for patient charts and for families and providers)- National Institute of Health
- 6) Economic Impact of Urban Asthma Management (American Journal of Managed Care)
- 7) Measurement Tools and Outcomes Measures: DPH Injury Program
- 8) Mental Health Well-Being (Depression) in the Adolescent Population: Performance and Process Measures – US Surgeon General's Report 1999
- 9) Building Bright Futures in Connecticut - Practice Guide
- 10) Mental health visit data from DPH funded school-based health centers, 2008
- 11) Suicide Prevention Across the Lifespan
- 12) 2004 Lieutenant Governor's Mental Health Cabinet Report
- 13) Data on cost associated with mental illness from National Research Council and Institute of Medicine
- 14) Diabetes program presentation-Diabetes statistics, relationship to obesity and heart diseases, treatment in children, prevention, community programs
- 15) Annual report summarizing the number and type of maternal and child health service requests-211 Infoline
- 16) Presentation by Family Health Staff: background, population statistics, access to health care and/or insurance, language and cultural barriers, service restrictions
- 17) Sexually Transmitted Diseases Performance and Process Measures, 2009 DPH STD Control program: Chlamydia and Gonorrhea case rates, Connecticut vs. U.S.A., by demographic characteristics
- 18) DPH Nutrition and Physical Activity Grant: Food and Fitness Evaluation Report, 2009 (test curricula to support healthy eating in Connecticut primary schools)
- 19) Childhood Obesity in Connecticut: DPH Fact Sheet
- 20) Healthy People 2010 Objectives and Goals
- 21) Actions for Healthy Eating: specific outcomes, policy interventions and roles of DPH and other agencies
- 22) CDC Weight of the Nation Conference data (on actions for healthy eating)
- 23) National data on prevalence of dental disease, dental-related restricted activity days and school days missed
- 24) Every Smile Counts surveillance of oral health status of Connecticut Head Start and elementary school children, DPH Oral Health program in 2006-07

- 25) US Surgeon General's report on Oral Health, 2000
- 26) Childhood Lead Poisoning Prevention Program data
- 27) DPH Injury Prevention Program presentation, leading causes of death and injury in Connecticut, trends in injury rates, severity, consequences and prevention
- 28) Adolescent Strategic Plan
- 29) Annual System of Care Status Report
- 30) Birth Defects Registry (DPH)
- 31) Birth to Three (DDS)
- 32) Child Poverty Prevention Annual Report
- 33) CT WIC Program (DPH)
- 34) Databook Acute Care Hospital Behavioral Health Trends in CT 2004-2007 (OHCA)
- 35) Databook Preventable Hospitalizations in CT, An Updated Assessment of Access to Community Health Care (OHCA)
- 36) Health First Access Authority Report (DPH)
- 37) Partnering With Your Child's School: A Guide for Parents (HSC)
- 38) PRATS Report (DPH)
- 39) SCHC Annual Report (DPH)
- 40) School Health Survey (YRBS) (DPH)
- 41) Sickle Cell Statewide Plan (DPH)
- 42) Statewide Perinatal Plan (DPH)
- 43) Preconception Care – the need for women of childbearing age to achieve optimal health is essential for favorable birth outcomes. Source: March of Dimes; AAP; and ACOG
- 44) Oral Health – Mothers with poor oral health can transmit disease to their infants; and periodontal disease in pregnant women is a risk factor for low birth weight. Source: Oral Health Program
- 45) 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).
- 46) STDs – Number of cases and rates of Gonorrhea, Chlamydia, and Syphilis among women in Connecticut. Source: DPH STD Program
- 47) Perinatal HIV/AIDS: Numbers and rates of HIV+ infants and vertical transmission (HIV transmitted from mother). Source: DPH HIV/AIDS Perinatal Surveillance project.
- 48) Hepatitis B – Number and percents of HBsAg+ women & infected infants (perinatal transmission). Source: DPH Hepatitis B Program
- 49) Breastfeeding – Rates of initiation and duration of breastfeeding among Connecticut mothers, overall and by race. Source: Ross Mothers' Survey
- 50) Maternal Mortality – Number of maternal deaths in CT (1991-2001). Source: DPH
- 51) Pregnancy-Related Mortality Surveillance Program
- 52) Poor/No Health Insurance – Payor sources for newborns delivered in Connecticut hospitals (1993-2001) – government and self-pay; health insurance coverage as reported in the 2000 U.S. Census.
- 53) CT Vital Records:
 - Low Birth weight – Percent of infants weighing less than 2,500 grams and associated risk factors/birth outcomes
 - Very Low Birth weight – Percent of infants weighing less than 1,500 grams and associated risk factors/birth outcomes

- Preterm Delivery – Percent of infants delivered before 37 weeks gestation and associated risk factors/birth outcomes
- Births to Teens – Birth rates among teens 15-19 years (overall), 15-17 years, and 18-19 years and associated risk factors/birth outcomes
- Short Inter-pregnancy Interval – Percent of women whose last pregnancy was within six months of this pregnancy and associated risk factors/birth outcomes
- Smoking During Pregnancy – Percent of mothers reporting smoking during the pregnancy and associated risk factors/birth outcomes
- Alcohol Use During Pregnancy – Percent of mothers reporting using alcohol during the pregnancy and associated risk factors/birth outcomes
- 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
- 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.
- 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
- Births to Older Moms – Birth rates to women 40+ years and associated risk factors/birth outcomes
- 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
- Late/No Prenatal Care – Percent of mothers receiving late prenatal care (second or third trimester) or no prenatal care and associated risk factors/birth outcomes

Appendix B

Executive Summaries of the Focus Groups; Consumer On-line and Telephone Surveys

The CT DPH contracted with the Connecticut Economic Resource Center, Inc. (CERC) to conduct a series of focus groups and issue survey questionnaires to inform the 2010 Needs Assessment for the Title V Maternal and Child Health Block Grant.

Consumer Focus Groups

A survey was distributed to each of the consumer focus group participants. The purpose was to capture information related to health care services and identify the gaps between the services and consumers accessing the services.

Results from a 38-question consumer focus group survey showed:

- 100% reported that a safe and healthy place to live was the most important thing to ensure the health of them and their family
- 62% of all participants had children between 1- to 12-years-old
- 78% were responsible for making doctor and dental appointments for the family
- 52% use a private doctor for their children's routine medical care
- 47% were single
- 73% were female
- 43% had HUSKY/Medicaid
- 68% reported having high blood pressure
- 86% of those participants age 50 and older have not had colon cancer screening
- 53% used the ER for a non-emergency in the last year
- 58% said that cost was the number one barrier for receiving the health care services for them and their family
- 31% said transportation was a major barrier in receiving health care

Provider Focus Group

One provider focus group was conducted by CERC with the members of the MCH Advisory Group. A total of 15 providers from various state, local, and community agencies were in attendance. Providers indicated that the health care delivery system (for the MCH population) is complicated. They believe that:

- There are several agencies offering the same or similar services; however, providers identified the need for more coordination of service delivery
- Direct communication between state agencies needs to occur more frequently
- Funding to implement MCH programs properly has not been brought to scale

Recommendations

- Increase information to the public about health care services and resources available in CT.
- Utilize InfoLine 211 to disseminate information about the state's health care resources.
- Increase the number of programs, resources, education and communication outreach to fathers/men.

- Increased outreach to girls and women in areas that would reach them prior to pregnancy.
- Increase information and outreach in rural areas.
- Increase knowledge among physicians and health care providers as it related to special needs, i.e. autism, spinal cord injuries, etc.

Consumer On-line Survey

The DPH developed and administered a web-based survey for consumers, rating their opinions about the importance of health care issues, services that were utilized, and satisfaction with the services. The web-based survey was available from January 2010 through March 2010. It was made available in English and Spanish to more than 50 community and nonprofit organizations across CT. The goal was to secure at least 200 completed surveys. Participants completing the survey were offered the chance to enter a drawing for one of five \$50 gift certificates. A total of 207 respondents answered some or all of the questions. The demographics of the respondents include:

- Sixty-four percent (132 respondents) were female; 12 percent (25 respondents) were male; and 24 percent (50 respondents) did not answer the question identifying their gender.
- Thirteen percent (26 respondents) identified themselves as Hispanic; 58% (120 respondents) were not Hispanic; and 29% (61 respondents) did not answer the question related to ethnicity.
- Twenty-six percent were Black-African American; 36% were white; 3% were multi-racial; 7% identified themselves as other; and 27% did not answer that question.
- Eight percent of the respondents indicated that they did not have insurance at the time of the survey.

Key Findings

- Having a safe and healthy place to live was important in keeping nearly all of the respondents' families healthy, along with having access to affordable healthy food. Other important factors included having affordable health and dental insurance, and access to providers.
- 109 respondents identified the following barriers to receiving health care services: not having enough money (32%); transportation (19%); and getting time off from work for health care appointments (19%).
- Almost 60%, of the 207 respondents indicated that they have a doctor for routine care.
- Fifty-nine percent of the respondents indicated that they take their children to a private doctor's office for routine medical care; 29% of the respondents seek care for their children at a community health center; 7% use an outpatient clinic and 4% reported going to an emergency room when seeking care for their children.
- Service Satisfaction: Respondents were most frequently satisfied with InfoLine 2-1-1 followed by Food Stamps, community health centers and Medicaid/Welfare.
- Thirty eight percent of the respondents indicated that they or a family member used the emergency room (ER) for a non-emergency.

Telephone Survey

The telephone survey respondents comprised a random probabilistic sample of 600 adults who were 18 to 65 years old, Connecticut residents, and lived in households that met income criteria

(up to 300% of Federal Poverty Level). The sample of 600 respondents included 200 people from each of the following groups:

- Females with a child/children 18 years or under living at home or not;
- Females without a child/children 18 years or under and not pregnant; and
- Males.

All of the phone interviews were completed in September 2009. Interviews were conducted in English or in Spanish, as preferred by the respondent. Respondents were contacted Monday through Friday between 4:00 pm and 9:00 pm, and Saturday between 10:00 am and 4:00 pm.

- 42% of male respondents and 50% of female respondents were raising a child or teenager.
- Twelve respondents (2%) were raising CYSHCN.

Key Findings

- Having a safe and healthy place to live was seen as most important for keeping families healthy. Most respondents indicated that this was easy to do. (Phone calls were made only to LAN phone lines, which implied people interviewed had a home).
- Affordable costs for health insurance and dental care were also seen as being imperative for keeping families healthy and were generally seen as very important.
- Not having enough money and being able to take time off from work were found to be the greatest barriers to receiving health care services.
- Service Satisfaction: Respondents were most frequently satisfied with Community Health Centers (CHC) service followed by Medicaid/Welfare and Food Stamps.
- More than one-quarter of respondents made at least one Emergency Room (ER) visit within the past year for non-emergencies.
- Most respondents (96%) receiving selected services (medical services, dental services, assistance with health insurance applications) felt that they were treated fairly.
- Hypertension was the most common chronic condition reported. Almost half of respondents 50 years or older have had hypertension diagnosed by a doctor.

Online Partner Agency Survey (State agencies and Community Based Organizations)

DPH developed and administered an online survey for partner agencies and organizations providing specialized services to the MCH Population. To market the survey, the link was emailed to fifteen State employees within six State agencies: (Department of Social Services (DSS), Children's Trust Fund (now part of DSS); Department of Children and Families (DCF), State Department of Education (SDE), Department of Mental Health and Addiction Services (DMHAS), Department of Developmental Services (DDS), and approximately 172 Community Based Organizations. Follow-up emails and phone calls were sent/made as an attempt to increase participation. The survey was conducted between September 2009 and April 2010 during which time only 16 surveys were completed. The survey required the respondent to identify him- or her-self and this lack of anonymity may have contributed to the low response rate. The paucity of respondents precludes drawing any inferences about the population at large, however some highlights include:

Access to care barriers most encountered by clients as perceived by surveyed service providers are:

- Transportation (11)
- Child care (8)
- Money (8)
- Health insurance (8)
- Can't find provider (5)
- Time off (4)

Respondents were asked to list the top three unmet needs of their clients. The complete list includes:

- Housing (9)
- Child care (5)
- Primary care (4)
- Transportation (4)
- Health insurance (3)
- Oral health (3)
- Parenting (3)