Tennessee Department of Health
Maternal Child Health

MCH block Grant

Annual Report for 2009
Application for 2011

2010 Needs Assessment Document

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II. B 2010 Tennessee Five Year Needs Assessment Document

1. Process for Conducting the Needs Assessment

Vision

The vision of the Tennessee MCH needs assessment is founded on the Life Course Perspective. We believe that health of mothers and children must be considered within a holistic biopsychosocial and developmental context over the entire life trajectory. The document will be used as a roadmap to guide and assess MCH activities and outcomes.

Leadership

Tennessee's leadership team for the 2010 needs assessment consisted of seven people responsible for Maternal and Child Health administration and consultation:

Cathy R. Taylor, DrPH, MSN, RN Interim Director-MCH, Asst. Commissioner for Health Services, Section Director responsible for all MCH related activities; content expert on health policy and programs, workforce, and MCH capacity; writer/editor

Patricia N. Scott, DNP, PNC-BC, NCSN
Team leader for the needs assessment and block grant preparation and submittal; work plan; content expert on children's health; writer/editor; data/narrative entry.

Margaret F. Major, MPA, RD, Interim Operations Manager for MCH and Women's Health/Genetics Director. Leader/content expert on women and infants, partnerships and collaboration; writer/editor

Mary Jane Dewey, MPA, Interim Operations Manager for MCH and TN Breast and Cervical Screening Program Director; writer/editor; Leader/content expert on women's health, policy, state overview

Jacqueline Johnson, MPA, Program Director for Children's Special Services; Leader/content expert on children with special health care needs; data/narrative entry and grant submission

Yvette Mack, MA, CHES, Adolescent & Young Adult Health and Asthma Management Program Director; assisted with identifying resources and gathering data

Audrey Bauer, DVM, MPH, Epidemiologist, leader/expert for data procurement and analysis

The leadership team met weekly to review and endorse the work plan for the needs assessment, advise on prior procedures, and plan for special projects such as the stakeholder survey and the advisory committee meetings. Some of the weekly discussions entailed a review of submittals and identification of other information needed to complete the needs assessment. Assignments for progress reports and data were made through these members to other staff within MCH or the Department and other offices of state government that have historically provided state

information for the performance measures and progress report. Developing and then assembling the final needs assessment was an iterative process between the leadership team and Dr. Scott who had final responsibility for the assignment.

Methodology

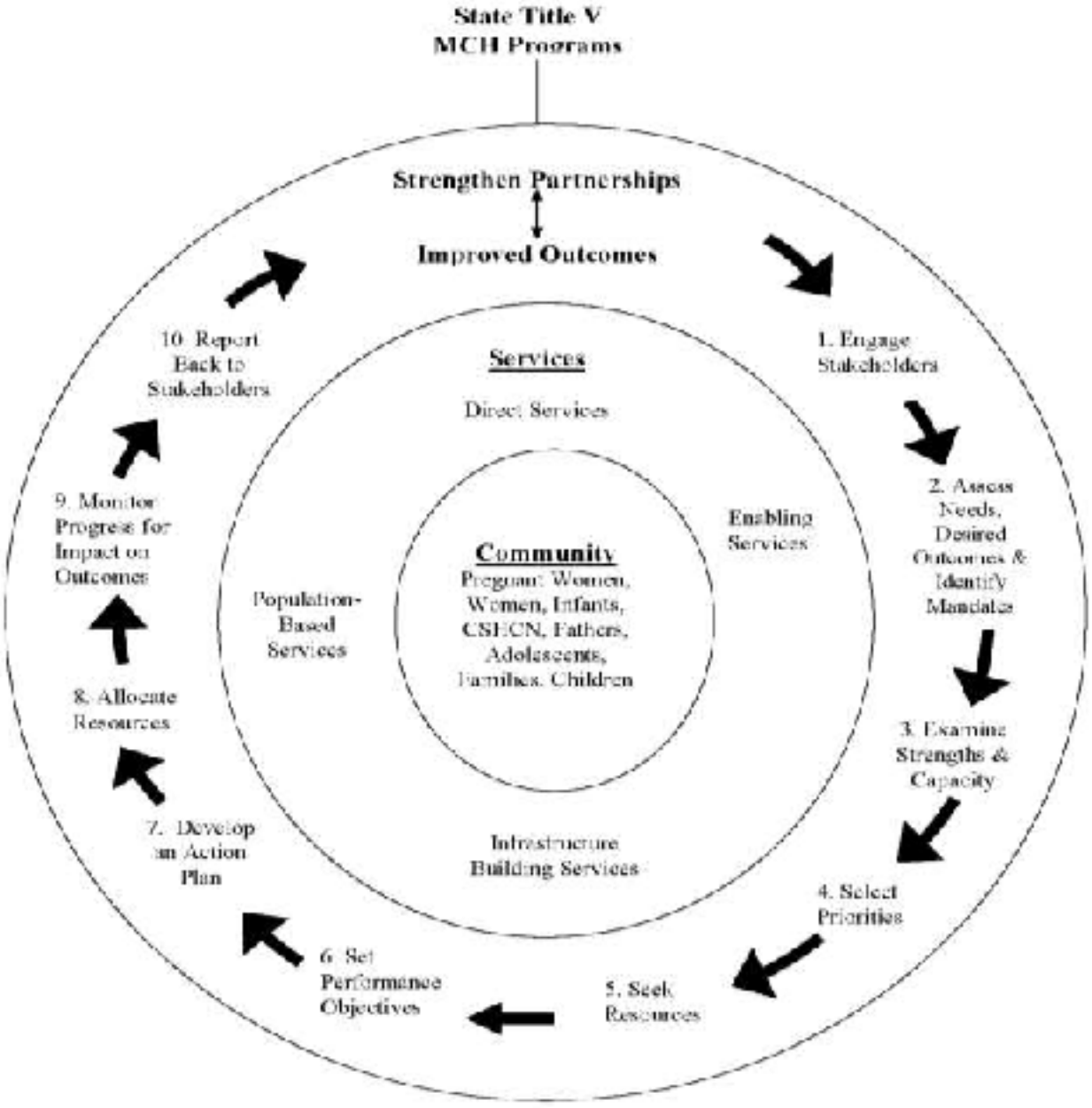
Assessing needs of the maternal and child population in Tennessee is an on-going process founded on the 10-step framework noted in Figure 1 and guided by the Ten Essential Public Health Services to Promote Maternal and Child Health:

Ten Essential Public Health Services to Promote Maternal and Child Health in America

1. Assess and monitor maternal and child health status to identify and address problems.
2. Diagnose and investigate health problems and health hazards affecting women, children, and youth.
3. Inform and educate the public and families about maternal and child health issues.
4. Mobilize community partnerships between policymakers, health care providers, families, the general public, and others to identify and solve maternal and child health problems.
5. Provide leadership for priority-setting, planning and policy development to support community efforts to assure the health of women, children, youth and their families.
6. Promote and enforce legal requirements that protect the health and safety of women, children, and youth, and ensure public accountability for their well-being.
7. Link women, children, and youth to health and other community and family services, and assure access to comprehensive, quality systems of care.
8. Assure the capacity and competency of the public health and personal health work force to effectively address maternal and child health needs.
9. Evaluate the effectiveness, accessibility, and quality of personal health and population-based maternal and child health needs.
10. Support research and demonstrations to gain new insights and innovative solutions to maternal and child health-related problems

(Association of Maternal Child Health Programs, 2004)
http://www.amchp.org/AboutTitleV/GuideforSeniorManagers/Pages/GuideforSeniorsChapter1Framework.aspx#services

Figure 1. State Title V MCH Program Needs Assessment, Planning, Implementation, and Monitoring Process (MCHB)



Methods for Assessing Three MCH Populations

Both qualitative and quantitative analyses were used to ensure identification of the health and capacity strengths and needs both from a statewide perspective and from a client population-based perspective. Quantitative methods primarily include rate calculations and descriptive statistics from a variety of federal, state and local sources. State data were compared with national data for each of the MCH populations using both point-in-time and trend analyses. Some data were also stratified and analyzed according to regional and county level; and according to demographics such as age, race, ethnicity, economic status, gender, and special health needs.

Qualitative methods included: structured and unstructured brainstorming and consensus building using nominal group technique with a variety of workgroups; key informant interviews; review of reports from mortality review teams; review and ranking of County Health Council Health Priorities; and review of program reports.

To ensure inclusion of emerging issues, MCH staff participated in "data mining." One staff person used the state internet and intranet to identify public documents that related to Maternal and Child Health interest areas. These were listed and catalogued with summaries of the content including web sites for later detailed review. Once the "mining" reports were identified, various members of the MCH staff were assigned responsibility to review and summarize the important facts about health status and state objectives contained in these reports.

Methods for Assessing State Capacity

Capacity assessment focused on examining the ability of our existing system to provide and support services within each level of the MCH pyramid and included:

1. Assessment of the capacity to provide direct and enabling services
2. Assessment of the capacity to provide population-based services
3. Assessment of the infrastructure-building capacity within the Title V agency to build and support a quality MCH system
4. Assessment of individual and organizational assets available to support and improve the MCH system

Direct and Enabling Services

We did an inventory of services and resources that are part of the Title V system of care in Tennessee. In order to evaluate the capacity of these services and resources, we compiled and reviewed relevant quantitative and qualitative indicators using MCHB National Performance Measures (NPM) and Health Systems Capacity Indicators (HSCI) to assess three major dimensions of service or systems capacity:

- Accessiblity (Direct and Enabling)
- Affordability (Direct)
- Quality and Effectiveness (Direct and Enabling)

Population-Based Services

Assessment of population-based service capacity was similar to the way we approached direct and enabling services, except for looking at affordability, since there is no charge to families for these services.

Infrastructure-Building Services

We held several meetings to discuss MCH capacity, where we discussed delivery systems; structural, financial, and human resources; policies; training needs; and data and information systems. Meetings included workgroups with leaders and providers in the home visiting programs. Workgroups used formal and informal brainstorming sessions to decide on the most critical needs for infrastructure-building, including workforce development. In 2009, a doctoral student in public health nursing completed a public health workforce development project for the Tennessee Department of Health. The project included a needs assessment, proposed plan for competency development and tracking, and development of a logic model for program planning and evaluation.

Individual and organizational assets available to support and improve the MCH system

We identified system-wide assets that could contribute to improving the health of MCH populations. This was part of our initial "data mining" and review of a variety of reports and web-sites from other State agencies, voluntary health agencies, universities, and professional organizations. This also included identifying historical and potential partners, advisors, and collaborators and evaluating these assets for MCH systems building. We examined the following:

- Is this a current or potential asset?
- What is the strength of the current working relationship?
- What is the perceived strength of interest in MCH issues?
- How can this asset help build MCH systems?
- What steps are needed to mobilize and further engage this asset?

Data Sources

Table 1. Data Sources Used for Assessing MCH Populations in Tennessee

Quantitative Data Sources	MCH Populations		
	Women and Infants	Children and Adolescents	CYSHCN
PRAMS	●		
US Census	●	●	●
TN Vital Records	●	●	●
TN Department of Education Coordinated School Health BMI data		●	
TDOH Communicable and Environmental Disease Surveillance (CEDS) databases	●	●	●
TN Hospital discharge and emergency room data	●	●	●
WIC data			
Annie E Casey, Kids Count Reports	●	●	●
National Survey of Children with Special Health Care Needs			●
USDA Economic Research Service (Food Environment Atlas)	●	●	●
TN MCH Stakeholder Survey	●	●	●
TN CSHCN/Family Voices Survey			●
TennCare Bureau data (TN Medicaid)	●	●	●
UT Center for Business and Economic Research	●	●	●
TN Newborn Screening Program data	●		●
PTBMIS (Patient Tracking Billing Management Information System)	●	●	●
MCH Stakeholder Survey	●	●	●
YRBS (Youth Risk Behavior Survey)		●	

Qualitative Data Sources	MCH Populations		
	Women and Infants	Children and Adolescents	CYSHCN
Nominal Group Process for: Home Visiting Workgroups MCH Leadership Workgroups	●	●	●
Fetal Infant Mortality Reviews	●		
County Health Council Priority Lists	●	●	●
Key Informant Interviews with district providers/staff and State program directors	●	●	●

Reports **MCH Populations**

	Women and Infants	Children and Adolescents	CYSHCN
TN Childhood Asthma Report		●	●
Office of Research and Education Accountability, Comptroller of the Treasury "Mothers and Babies: The Health of Tennessee's Future"	●		
Home Visiting Programs in Tennessee GOCCC	●	●	●
TN Department of Safety	●	●	●
Tennessee Coordinated School Health 2008-2009 Executive Summary		●	●
Robert Wood Johnson Foundation 2010 County Health Rankings	●	●	
TDOH Office of Policy, Planning and Assessment – Surveillance, Epidemiology and Evaluation. Infant Mortality in Tennessee 1997-2006	●		
Tennessee Department of Finance and Administration Bureau of TennCare Women's Health Report 2007	●		
TDOH STAT (State of Tennessee Asthma Task Force) Plan to Reduce Asthma in Tennessee 2009	●	●	●
TN Burden of Asthma Report 2008	●	●	●
TN Childhood Asthma Report 2009	●	●	●
TN Commission on Children &Youth Annual Report 2007-08	●	●	●
Tennessee Office of Research and Education Accountability, Comptroller of the Treasury Weighing the Costs of Obesity in Tennessee 2006		●	
Report on the Status of Emergency Medical Services for Children TDOH 2008	●	●	●
TN Dept. of Safety Annual Report 2007-2008	●	●	●
The Home Visiting Report to the Legislature 2009	●	●	●
Department of Finance and Administration, State Health Plan, 2009	●	●	●
TN Commission on Children and Youth 2010 Resource Map	●	●	●
TN Primary Care Assn. Annual Report 2009	●	●	●

Linkages among Assessment, Capacity, and Priorities

MCH Priority Selection

The process for establishing MCH priorities in Tennessee included several iterative steps.

MCH Stakeholder Survey

A Professional Stakeholder Survey was developed for the Needs Assessment in 2005. This survey was reviewed, updated, and sent out January 7, 2010. A copy of the Professional Stakeholder Survey and Final Report is contained in *Appendix A*. MCH related information was used to design the 39 item questionnaire. Items on the survey were directly tied to the National Maternal and Child Health Performance Measures, and to a somewhat lesser extent, Healthy People MCH-related outcomes. The survey design process was also influenced by information obtained in meetings with TDOH-MCH staff members.

A list of 540 professionals associated with MCH through various partnerships, coalitions and advisory groups was developed by staff and the survey was mailed or emailed to all of them. Other public agencies, various private health and social service organizations and public health staff at the regional and local level were represented in the survey group. Of these 540 Maternal and Child health professionals, 121 returned completed stakeholder surveys for a 22.4% response rate. Of the 121 respondents who completed the survey:

- Most identified themselves as administrators or managers (65.9%)
- 55% participated in at least one MCH advisory group
- 49.6% or 64 respondents were employed by the Department of Health
- 22.5% (27) of respondents worked outside one of the six metropolitan areas

The survey asked respondents to check those items that they perceived were highly important to the community or region and then to check those same issues that they perceived were highly important to clients. Each item allowed the respondent to include comments about the issue. Survey results were tabulated and evaluated for priority issues for each of the MCH populations. Crosscutting priority issues for all MCH populations included:

1. Infant mortality
2. Low and very low birth weight babies
3. Early and adequate prenatal care
4. Preconception health/reproductive health planning
5. Unintended pregnancy—women of all ages
6. Preterm birth rate (before 37 weeks gestation)
7. Tobacco use among pregnant women
8. Alcohol and illicit drug use among pregnant women
9. Second-hand smoke exposure
10. Teenage pregnancy
11. Dental care for children
12. Maltreatment of children including physical, sexual, and emotional abuse

13. Nutrition and obesity among children, youth and families
14. Access to timely and appropriate health care

County Health Council Priorities

Tennessee implemented regional and county health councils in 1996 to increase local involvement in public health priorities. Each county has a health council made up of county professionals and citizens concerned about the health problems of its residents. Regional and county health priorities have been used to coordinate county and regional activities with partners, to mobilize communities to address priorities and to seek grant funding for special initiatives.

The 2009 county health priority lists were received from 61 of 89 counties (68.5%) and all 6 Metro Councils. Dates of adoption for the Metro health priority lists ranged from 2000 in Knox County (where they are currently using the MAPP Model for a 2010 assessment) to 2009 in Davidson County. All the lists were reviewed and MCH-relevant health issues were derived. Each county had anywhere from 1 to 10 MCH priorities. A table was created for each of the eight rural regions, containing the counties and the priorities per county. The top 3 health priorities per region were determined by counting how many times a priority was listed. The Metros were counted separately from the regions. Combined regional and Metro priorities were counted to arrive at the top 3 County Health Council health priorities:

- obesity
- substance and alcohol abuse
- tobacco use

Children's Special Services Advisory Council

The Children's Special Service Advisory Council (see CSS Advisory Council list in *Appendix B*) met April 23, 2010 and established health priorities for children and youth with special health care needs. Jacqueline Johnson (CSS Program Director) presented an update on CSS data and outreach efforts, and results from the NS CSHCN and the Family Voices State survey. She also presented the current MCH National and State Performance Measures, along with a discussion on the MCH Pyramid and Life Course Perspective. Ms. Johnson reminded participants of the shift in CSS from direct services toward enabling services. Attendees discussed their experiences with gaps and strengths of CYSHCN services and needs. The group considered survey results, trends, and their own experience to arrive at their top 3 priorities:

- medical home
- transition to adulthood
- access to care

Nominal group process was used to determine and rank the priorities. The group decided that medical home and transition to adulthood were the key issues for CYSHCN in Tennessee.

Key Informant Interviews

Key informant interviews also informed prioritization of health issues. Key informants included providers and administrators in county and regional Health Departments, MCH program directors, and State and local health agency leaders and members.

Review and Analysis of MCH Health Indicators
State, local, and national health indicators are reviewed and monitored regularly to identify trends and changes. Priorities are also considered based on acuity of need in each of the MCH populations.

Review of MCH Literature and Research
Current MCH literature and research from a variety of disciplines also informed decisions about health priorities. For example, several models and frameworks have been developed and adapted over the last 2 decades that illustrate and frame the social-ecological nature of health. The 2003 Institute of Medicine (IOM) report, The Future of the Public's Health in the 21st Century describes physical and social determinants of population health and the inextricable link among biological, environmental and social experiences. The Life-Course Perspective integrates this population-focused ecological approach with both an individual-focused "early program," and "cumulative" pathway approach. This integration offers a different framework for considering cumulative risk and protective factors, relative to time and critical periods of development (Halfon & Hochstein, 2002). With this in mind, the MCH team considered Tennessee health priorities and capacity from a more holistic instead of specific programmatic context.

Linking priority with capacity

The MCH team assessed the strengths and weakness in the capacity of the system across levels of the pyramid to meet the identified priority health needs. We compiled information gathered through the needs and capacity assessments and spent individual time and group "brainstorming" time to link needs with system capacity: including workforce training and development across programs and division, economic feasibility, ability to fully define and measure the problem, and current political environment.

The priority list and narrative about the selection process is in Section 5 of this Needs Assessment.

Dissemination

- The full Needs Assessment document and Executive Summary will be made available on the Tennessee Department of Health website for all stakeholders and consumers.
- Key components will be made available on the website and also distributed via email to agencies, institutions, policy-makers and partners. These will be brief, reader-friendly "fast facts" with both categorical and specific population-focused information; as well as an overarching emphasis on physical/environmental and social determinants of health and disparities.
- We will create a slide presentation of Needs Assessment highlights for program directors and other MCH leaders to use across the state at conferences; advisory board meetings; public health, nursing, and medical school programs; and other association or partner meetings.

Strengths and Weaknesses of Process

Strengths

- We used a variety of data-bases and both qualitative and quantitative resources, covering all 3 MCH populations and each of the 4 levels of the pyramid.
- There was stakeholder input at each stage of the assessment.
- Multiple divisions within the TDOH and external agencies were involved in providing and analyzing data.
- An epidemiologist from another division, and most of the MCH program staff were included in the team effort to increase competencies in the needs assessment process and writing skills.
- We created a formal work-plan, resource compendium, and Needs Assessment manual.
- Starting March 2010 the team held standing weekly meetings to review the work-plan and have informal PDSA (plan, do, study, act) cycles.

Weakness

- The key problem was severe low staffing and lack of succession planning in the MCH Division, culminating in inconsistent starts and stops in the needs assessment process, and a late overall solid start.
- It was not possible to involve persons who developed the previous needs assessments. This year's block grant and needs assessment team had to create a method from ground-up.

2. Partnership Building and Collaboration Efforts

Maternal and Child Health and Women's Health staff at the central office, regional offices, and local health department levels are involved in numerous collaborative efforts within the Department with various programs, with other governmental departments and agencies, and with organizations and agencies outside government (universities, school systems, city/county government, hospitals, and nonprofit agencies such as March of Dimes, American Cancer Society, American Heart Association, Arthritis Foundation, Tennessee Suicide Prevention Network, State Minority Health Task Force, and the Council for Developmental Disabilities).

MCH has always had a strong collaborative relationship with metropolitan health departments in the state. Since these entities have separate boards of health, the state's role is to provide needed service, focused funding, training and continuing education and participation as a partner in all planning and system change initiated to improve the public's health. The six designated metro health departments receive funds through the state's contractual system. Staff in Metro Health Departments who provide MCH services are regularly included in conference calls, quarterly meetings, in-service training and planning meetings about MCH programs and services. Metro

Regional Directors participate as active partners with rural Regional Directors in public health planning and new initiatives. The primary difference between these two entities is that metros report to boards of health and the mayor, while rural regional directors report to the Assistant Commissioner, Bureau of Health Services Administration.

The following table provides a snapshot of the variety of agencies, programs, and task forces, etc., that MCH staff members are involved with on a regular basis. Additional collaborative efforts are detailed in the narrative following the table.

Assessment of Current and Potential Assets for MCH Systems Building						
Partnership Building and Collaboration Efforts						
Categories of Assets	**Names**	**Current or Potential Asset?**	**Strength of current working relationship? (High, Medium, Low)**	**Perceived strength of interest in MCH issues? (High, Medium, Low)**	**How can/does asset help build MCH systems? Describe relationships.**	**What steps are needed to mobilize/further engage this asset or to continue the relationship?**
Partner-ships/ Collab-orations	Medicaid/ TennCare	Current	High	High	EPSDT Outreach; MCO and TennCare contracts for direct services; Childhood Lead Poisoning Prevention Program environmental investigations; presumptive eligibility enrollment services	Continue current involvement
	Other programs in the Department of Health (WIC/Nutrition; Communicable Diseases; Immunizations; Oral Health; TN Breast and Cervical Cancer Program; EPSDT; Chronic Diseases; Office of Nursing; Health Statistics)	Current	High	High	See narrative for examples of current working relationships.	Continue current involvement
	Home Visiting Collaboration	Current	High	High	To coordinate with other home visiting agencies across the state to develop outcome measures for pregnant mothers and children birth through five.	Opportunity with new federal funding availability to increase collaboration, to forge new partnerships, and to strengthen home visiting services in the state.
	Tennessee Department of Education – Early Intervention System (TEIS) Part C	Current	High	Medium	TEIS conducts follow-up on infants that do not pass newborn hearing screening. They are mandated by law to assist Health with this procedure. They also enroll infants/children identified with hearing loss for service coordination.	Challenge – reporting of services to children enrolled for early intervention services. Challenge to complete attempts to share data electronically.
	Tennessee Asthma Management Program	Current	High	High	The State of Tennessee Asthma Force (STAT) collaborates with Early Childhood Comprehensive Systems, the Department of Education and the TENNCare Bureau to develop and implement a comprehensive state asthma plan.	Continue current involvement
	Adolescent &	Current	High	High	The regional Adolescent & Young	Continue current involvement

	Young Adult Health				Adult Health Coordinators collaborate to address the 21 critical health goals for adolescents identified by Healthy People 2010.	
Advisory Committees /Task Forces	Genetics Advisory Committee	Current	High	High	Continue to use their expertise in genetics, especially newborn screening and hearing screening. Members represent parents, social workers, geneticists, endocrinologists, neonatologists, hematologists and pulmonologists.	Highly involved and active advisory committee in newborn metabolic and hearing screening and follow-up. Members are active in advising the MCH program and the State Laboratory.
	Perinatal Advisory Committee	Current	High	High	Members include the directors of the 5 regional perinatal centers and others working in the fields of perinatal medicine. MCH programs will continue to use their individual expertise and their collective experiences to assess needs of the target populations and recommend strategies for change.	Highly involved advisory committee. Responsible for revising perinatal regionalization guidelines, guidelines for transportation, and educational objectives for perinatal nurses and social workers.
	Childhood Lead Poisoning Prevention Program Advisory Committee	Current	High	High	Members include health department program coordinators, lead prevention contract agencies, Department of Environment and Conservation, UTK Extension, TN LEAP (housing), HUD, Head Start, AAP.	Continue current involvement. Advisory committee activities are handled jointly by contracting agency and MCH.
	Child Fatality Review State Team	Current	High	High	Mandated by state statue to review annual findings from child death case reviews statewide. Member list in narrative below.	Continue current involvement
	SIDS Advisory Committee	Current	High	High	Committee includes EMS, Department of Children's Services, Medical Examiner, health department, TN SIDS Alliance, county sheriff, Fire and Codes Academy, universities.	Continue current involvement.
	Women's Health Advisory Committee	Current	Low	High	Advisory committee set up in response to unfunded legislation on office of women's health.	Plan to evaluate current membership and refocus the role of this committee.
	Children's Special Services Advisory	Current	High	High	Members include 5 pediatric specialty providers from the three grand divisions of the state, 1 parent of a child with special health care needs and several parent liaisons. MCH will continue to use the expertise of this Committee individually and collectively to determine the needs of the CYSHCN population and assist in the development of policy, and recommendations for change.	Continue current involvement
	Newborn Hearing Screening Task Force	Current	High	High	25 + Members represent parents, audiologists, nurses, deaf educators, TEIS, epidemiologists, hospital hearing screening programs, ENT, neonatologist from TN-AAP, midwives, deaf/blind organization, and Family Voices parent support. This group contributes to program planning and policy development.	Are considering recruiting additional primary care and ENT physicians to guide program development for training of this population.
	Early Comprehensive	Current	High	High	45 + Active members of state departments, public and private	Will continue to recruit representatives of all Title V supporting agencies.

	Childhood Systems (ECCS/CISS) Advisory Committee				agencies that support families and communities. Will continue to use advisory committee in making decisions to aide in preparing children to be school ready.	
	Child Abuse Prevention Advisory Committee	Current	High	High	To develop strategies for the community to help decrease child abuse in Tennessee.	Continue current involvement
	TN Children's Justice Task Force	Current	High	High	A multidisciplinary body of professionals who advise and assist the state departments regarding children's issues.	Continue current involvement
	TN Child Sexual Abuse Task Force	Current	High	High	A multidisciplinary body of professionals who advise and assist the State, particularly the TN Department of Children's Services, regarding child sexual abuse issues.	Continue current involvement
	Family Voices – Tennessee Disability Coalition	Current	High	High	A multidisciplinary body of parents of children with disabilities and professionals who advise and assist the state departments regarding children's issues. The hearing program contracts with 4 parents of children with hearing loss to serve as Parent Consultants to families of children with hearing loss.	The Hearing program will contract for a bilingual Spanish speaking parent to work with families of children with hearing loss.
	TREDS Deaf Blind Project, Vanderbilt Kennedy Center	Current	High	High	A multidisciplinary body of parents of children with disabilities and professionals who advise and assist the state departments regarding children's issues.	Continue current involvement
	Department of Education, TEIS Part C, State Interagency Collaborating Committee (SICC)	Current	High	High	A multidisciplinary body of parents of children with disabilities and professionals who advise and assist the state departments regarding children's issues.	Continue current involvement
	Adolescent and Young Adult Health Advisory Committee	Current	High	High	The Adolescent and Young Adult Health Advisory Committee members collaborate to provide expertise and guidance regarding the 21 critical health goals for adolescents identified by Healthy People 2010.	Continue current involvement
Other Public Agencies and Interagency Groups	Governor's Office of Children's Care Coordination (GOCCC)	Current	High	High	Office was established in 2004 to coordinate a wide range of services to children through state departments and the private sector with an emphasis on the delivery of children's physical and behavioral health services. Staff work with the office on a variety of programs and projects.	Continue current involvement.
	Metro Health Departments (6)	Current	High	High	Department of Health contracts with these health departments to provide a full range of health department services.	Continue current involvement.
	Department of Children's Services (DCS)	Current	High	High	Local health department clinics do EPSDT screenings for children in DCS custody. Interagency agreement provides funding for Healthy Start home visiting projects and partial funding for CHAD home visiting projects. MCH staff serves on DCS child fatality reviews. DCS operates the child abuse and	On-going involvement.

					neglect reporting system used statewide by all MCH staff.	
	Department of Human Services (DHS)	Current	High	High	Referral agency at local levels for food stamps, TANF, and TennCare eligibility, including finalizing presumptive eligibility for pregnant women.	On-going involvement.
	Department of Education (TDOE)	Current	High	High	Tennessee Early Intervention Services partners with CSS to provide services to children 0-3 years of age. See above section on Partnerships and collaborations for Hearing Program collaboration. Responsible for Coordinated School Health Programs across the state; MCH staff serve on various committees.	On-going involvement.
	Department of Mental Health and Developmental Disabilities	Current	High	High	TDMHDD participates in ECCS/CISS committee and activities. MCH staffs serve on the Council on Children's Mental Health. Funds Nurses for Newborns	Continue current involvement
	State Medical Examiner	Current	High	High	MCH staff work with office on SIDS activities and training in death scene investigation for first responders.	Continue current involvement
	TN Commission on Children and Youth (TCCY)	Current	High	High	TCCY is responsible for Tennessee KIDS Count which addresses needs and gaps for MCH populations, and is widely used by MCH staff. The Department of Health and MCH worked with TCCY on the statewide Resource Mapping project on resources and services available for children in Tennessee.	Continue current involvement
	Tennessee Department of Environment and Conservation	Current	High	High	Member of Childhood Lead Poisoning Prevention Program Advisory Committee. Referral agency for housing investigations due to lead.	Continue current involvement
	Tennessee Council of Developmental Disabilities	Current	High	High	CSS program staffs serve on the council. The council funds many projects throughout Tennessee that provide services to children and youth with developmental and special health care needs.	Continue current involvement
	Day Care Board of Review	Current	High	High	Multidisciplinary board of professionals who hear day care center disciplinary appeals.	Continue involvement
Higher Education Institutions	University of Tennessee/Knoxville	Current	High	High	Maintains the Child Fatality System database and the Lead Program database. The Newborn Hearing Program contracts with the UT Center on Deafness for an Audiology consultant and to develop program training and materials.	The Newborn Hearing program will expand contract services to include and additional audiology consultant and a deaf educator for family outreach.
	East Tennessee State University	Current	High	High	Genetics Center	Continue current involvement
	Vanderbilt University and Medical Center	Current	High	High	Genetics Center; Regional Perinatal Center Tennessee Project TREDS for Individuals with Combined Hearing and Vision Loss The Kennedy Center	Continue current involvement

	Vanderbilt LEND Grant	Current	High	High	To develop and deliver cooperative based distance education, training and services for education, community, healthcare and economic development purposes.	Continue current involvement
	Meharry Medical College				Sickle Cell Center	Continue current involvement
	Boiling Developmental Center LEND Grant	Current	High	High	To develop and deliver cooperative based distance education, training and services for education, community, healthcare and economic development purposes.	Continue current involvement
	Middle Tennessee State University	Current	High	High	Contractor for Death Scene Investigation training and SIDS education and advisory committee.	Continue current involvement
Non profit assns./ CBOs	March of Dimes	Current	High	High	Staff have worked with agency on folic acid education and prematurity. MCH staffs serve on various committees, including program services and grants.	Continue current involvement
	TN Bureau of Investigation	Current	High	High	TBI serves on Child Fatality Review teams at the local levels and on the state team.	Continue current involvement
	Tennessee Primary Care Association	Current	High	High	Department staffs work closely with the TPCA primarily through the Office of Health Access, Regional and Local Health Councils, and the Women's Health Advisory Committee.	Continue current involvement
	Planned Parenthood agencies (2)	Current	High	High	Medical and educational services for at-risk populations through the Title X Family Planning Program.	Continue current involvement
	Family Voices	Current	High	High	CSS and Family Voices collaborate on the Survey of Tennessee Families with Special Health Care Needs. The collaboration has also been instrumental in bringing in technical assistance from the Healthy Ready to Work program for Transition.	Continue current involvement
Other	Federally Qualified Health Centers	Current	High	High	At local level, these are referral centers for direct health care services, especially primary care.	Continue current involvement
	Johnson City Medical Center (hospital)	Current	High	High	Regional Perinatal Center	Continue current involvement
	Erlanger/TC Thompson Hospital System	Current	High	High	Regional Perinatal Center	Continue current involvement
	University of TN Knoxville Hospital	Current	High	High	Regional Perinatal Center; Genetics Center	Continue current involvement
	Regional Medical Center Memphis (hospital)	Current	High	High	Regional Perinatal Center	Continue current involvement
	St. Jude's Children's Research Hospital	Current	High	High	Sickle Cell Center	Continue current involvement

Examples of collaborative efforts are described in the following narrative.

TennCare/Medicaid: The Childhood Lead Poisoning Prevention Program has a cost-sharing protocol with TennCare for cases when an environmental investigation is conducted for a lead

poisoned child on Medicaid. CSS requires that all children applying for the CSS program apply for TennCare; assists families in locating a medical home, specialists and related service providers within the MCOs' provider networks; keeps TennCare informed of underserved areas and works with the MCOs to identify out-of-network providers for CYSHCN. CSS participates in TennCare advocates' meetings to keep informed of changes and uses the network of state, regional, and local CSS staff for disseminating information. This route also allows direct CSS staff and parent interaction to ensure parent understanding of the changes and improve transition of services. CSS also helps families file appeals for denied medically necessary services. All local health departments are providing outreach, advocacy, and EPSDT screenings for TennCare enrollees. The clinics refer patients who may be eligible to TennCare. The family planning program informs patients who test positive for pregnancy about TennCare's presumptive eligibility benefit and refers eligible patients to the agency for application.

Department of Children's Services (DCS): This agency is responsible for the children in state custody. The Department of Health is providing the EPSDT screenings for all these children. Other collaborations with DCS include funding for both the Healthy Start and Child Health and Development home visiting programs. MCH gets referrals from DCS and makes home visits to the family. Also, DCS staff are involved on teams reviewing cases for the Child Fatality Review program. MCH staff is invited to attend the multidisciplinary teams to case manage clients. CSS regional coordinators work with the DCS Regional Health Unit nurses to coordinate health services for CYSHCN in state custody.

Several MCH staff are members of the Children's Justice Task Force and the Child Sex Abuse Task Force, whose members are from many state government departments and community organizations. The Children's Justice Task Force, a multidisciplinary group of professionals and advocates focused on the welfare of children reported to have been abused or neglected, is charged with identifying existing problems and recommending solutions to DCS regarding the investigation and prosecution of child abuse and neglect. The Child Sex Abuse Task Force, a multidisciplinary group of professionals and advocates, is responsible for developing a plan of action for better coordination and integration of the goals, activities and funding of the Department of Children's Services pertaining to the detection, intervention, prevention and treatment of child sexual abuse.

Department of Human Services (DHS): DHS houses the Division of Vocational Rehabilitation, TN Services for the Blind and Visually Impaired and the TN Technology Access Project. These programs work in collaboration with the CSS program. The Deaf/Blind Coordinator has participated on the Newborn Hearing Screening (NHS) Task Force since 1997. DHS offices currently serve as the place of application for Medicaid and TennCare. DHS provides CSS proof that CSS applicants have applied to TennCare. MCH has collaborated with DHS since 1996 to build a statewide network of child care resource centers which include a child care health consultant. Services provided include: technical assistance and consultation, training, and lending resource library materials and are available to all child care providers in the State. In addition, MCH through its Early Childhood Comprehensive Systems Program and its Child Care Resource Centers assist DHS in providing technical assistance for state regulated day care centers. In 2007-2008, MCH enhanced its services to DHS by providing collaborative support to prevent childhood obesity and promote good social emotional development in child care populations.

Department of Education (TDOE): The director of adolescent health serves on the advisory committee of the Coordinated School Health (CSHP) Program.

The Department of Education, Division of Special Education, is the lead agency for the IDEA Part C, **TN Early Intervention System (TEIS)** for infants and toddlers birth to 3 years old identified with or having a potential for a developmental delay. TEIS has been an active participant in collaboration with the CSS program since 1990. The programs coordinate referral and care coordination activities on infants and children requiring services from both agencies. An MCH staff person serves on the State IDEA Interagency Coordinating Council representing all MCH programs. TEIS staff serve on the NHS Task Force. The Tennessee Infant Parent Services (TIPS) program trains Parent Advisors to provide home-based services to infants and toddlers birth to 5 years identified with a vision and/or hearing loss, or other disability. TIPS and TEIS work closely with the NHS program and provide tracking, follow-up and intervention services for infants referred for or identified with a hearing loss after hospital hearing screening. The TEIS data collection system documents hearing follow-up. An MCH staff serves on the Part C (Early Intervention) Monitoring Review Committee. CSS central office and regional office staff participate in Early Intervention Administrators' Forums which include various agencies and promote interagency linkages at the program administrators' level. Local CSS staff participate in meetings for individual CYSHCN with TDOE Part C and Part B personnel in developing coordinated care plans to insure the coordination of services. CSS staff keeps TDOE staff, including school health nurses, informed of TennCare changes to insure continuity of care.

Head Start: A staff person representing Head Start and Early Head Start is an active member of the TEIS State Interagency Coordinating Council; MCH works through this committee with Head Start. The TDOE Head Start Collaboration Officer is a member of the Childhood Lead Poisoning Prevention Program and the Early Childhood Comprehensive Systems Advisory Committees. These committees include state agency staff and advocates for children and meet regularly for discussion, information sharing and program policy coordination. The Director, along with Head Start health specialists and regional directors have been invited to attend the MCH video-conferences to learn more about MCH programs and current diagnosis and treatment of conditions affecting children.

Mental Health/Developmental Disabilities: Staff are active members of the Child Fatality Review program at both local and state levels. MCH staff work collaboratively with the Department of Mental Health/Developmental Disabilities (TDMHDD) to assure that appropriate mental health services are accessed for children with special health care needs. CSS includes an assessment of a child's psychosocial development and refers CYSHCN and family members to local mental health centers or other local mental health providers if appropriate. Mental health and social-emotional development are one of the five critical areas being addressed in the Early Childhood Comprehensive Systems, and TDMHDD staff participate on the Advisory Committee.. MCH's Adolescent Health Program Director is assisting in implementing a suicide prevention training grant recently received by TMHDD.

The adolescent health director serves as a member of the **Tennessee Suicide Prevention Network** and works with a state intradepartmental committee and the state advisory committee composed of members from the private and public sector to prevent suicide. The director co-chaired a subcommittee to address youth suicide prevention. The committee developed a state plan to address youth suicide prevention.

Social Security Administration (SSA): MCH staff provide information on MCH programs to parents of CYSHCN who have applied for SSI. The CSS program coordinates referral of children whose names are received from the SSA. The parent or guardian is sent information about possible services available to their child from state programs (CSS, Mental Health, Mental Retardation, TEIS, and the regional genetics centers).

Tennessee Bureau of Investigation (TBI): TBI staff are active members of the Child Fatality Review program at both local and state levels. CSS staff work with Corrections staff to get wheelchair ramps and custom made furniture for CYSHCN constructed at no cost to families.

Vocational Rehabilitation: See Department of Human Services.

Child Fatality Review: The Child Fatality Review process is a statewide network of multi-disciplinary, multi-agency teams in the 31 judicial districts in Tennessee to review all deaths of children 17 years of age or younger. Members of the local teams include: Department of Health regional health officer; Department of Human Services social services supervisor; Medical Examiner; prosecuting attorney appointed by the District Attorney General; local law enforcement officer; mental health professional; pediatrician or family practice physician; emergency medical services provider or firefighter; juvenile court representative; and representatives of other community agencies serving children. Members of the State Child Fatality team include: Department of Health commissioner; Attorney General; Department of Human Services commissioner; Tennessee Bureau of Investigation director; physician (nominated by Tennessee Medical Association); physician credentialed in forensic pathology; Department of Mental Health and Developmental Disabilities commissioner; Department of Education commissioner; judiciary member nominated by the Supreme Court Chief Justice; Tennessee Commission on Children and Youth chairperson; two members of the Senate; and two members of the House of Representatives.

Childhood Lead Poisoning Prevention Program: Collaborating agencies include: a) University of Tennessee Extension Service which provides social marketing to develop and distribute information on childhood lead poisoning to health departments and extension agents, and surveillance system assistance to analyze child blood lead level data and assist staff, partners and health care providers regarding medical case-management of children with elevated levels; and b) Tennessee Department of Environment and Conservation to conduct environmental investigations.

Adolescent Health: The adolescent health director provides educational presentations to adolescent health coordinators and the advisory committee through quarterly teleconferences. The director serves on several committees including the intra-departmental committee of the Tennessee Suicide Prevention Network (TSPN). TSPN is a grass-roots association which works to eliminate the stigma of suicide and educate communities about the warning signs of suicide, with the ultimate intention of reducing suicide rates in the state of Tennessee.

The program director serves on the local and state Disproportionate Minority Confinement (DMC) committees. DMC's mission is to develop a comprehensive strategy for raising the awareness of disproportionate confinement of minority youth in the juvenile justice system and

promote the best practices and policies to eradicate the problem of overrepresentation in secure confinement.

The program director serves on the Governor's Office of Children's Care Coordination (GOCCC), Teen Health subcommittee. A major effort is to coordinate activities of Maternal and Child Health programs, Division of Mental Health and Developmental Disabilities, the TENNderCare program, and community partners related to the annual Child Health Week campaign. With no specific budget for the campaign, efforts centered on getting agencies to highlight current activities for child health and well-being.

The program director serves on the Tennessee Alcohol and Drug Endangered Children (TADEC) committee. The Tennessee Alliance for Drug Endangered Children (TADEC) is a collaborative statewide multi-disciplinary effort to prevent drug related harm to children and rescue, defend, shelter and support Tennessee's children who suffer physical and psychological harm caused by the manufacture, distribution, sale and use of illegal drugs, and abuse of prescription drugs and alcohol.

The program director serves on the Tennessee Obesity Task Force (TOT) which is a work group organized to develop a strategic plan addressing obesity and related health problems in Tennessee.

Asthma Management: The overarching goal of the State of Tennessee Asthma Plan (STAT) is to reduce the burden of asthma in Tennessee. STAT members, in conjunction with Early Childhood Comprehensive Systems, the TennCare Bureau and the Department of Education, developed and are implementing a comprehensive state plan to reduce the burden of asthma among Tennesseans. The plan includes surveillance and epidemiology; public awareness and education; medical management; and environmental management components. The program director currently collaborates with STAT nurses to make educational presentations across the state to medical providers, educators, parents, and youth. STAT plans to target pre-school children, school-aged children, and adults 30 and older.

Federally Qualified Health Centers: Community Health Centers are located in medically underserved areas of the state. There are 24 Federally Qualified Health Centers (FQHC) that operate 142 clinic sites in Tennessee. These community health centers, which provide primary health care, dental and mental health services to more than 280,400 patients. Referral systems exist between those community health centers and health departments located within the same county.

Early Periodic Screening, Diagnosis, and Treatment Program (EPSDT): Since July 2001, local health department clinics have assisted TennCare by providing EPSDT screenings to TennCare enrollees. The TennCare Program had difficulty in achieving desired EPSDT screening rates and is partnering with the Department to improve these rates. A Bureau of Health Services representative meets monthly with two groups in TennCare: (1) the EPSDT Workgroup comprised of representatives from all the managed care organizations; and (2) the Tennessee Chapter of the American Academy of Pediatrics representatives.

Folic Acid Education Campaign: Women's Health and Nutrition staff (central and regional offices) are partnering with the March of Dimes, Girl Scouts, and members of the state folic acid

council to educate the citizens of Tennessee on the need for folic acid. Central office staff developed and implemented many of the statewide activities. The Women's Health director serves on the state council.

HIV/AIDS/STD (Communicable Diseases Section/Department of Health): There is strong collaboration between the staff of the Women's Health and HIV/AIDS/STD sections. Family planning staffs make referrals for HIV counseling and testing and educate clients regarding all STDs including HIV/AIDS. With the integration of services at the local levels and the multiple functions performed by staff in the clinics, staff are very familiar with Women's Health and HIV/AIDS/STD programs. The Infertility Prevention Program (screening for chlamydia, treatment, and data analysis) is a joint project of Family Planning, STD, and the State Laboratory.

The Tennessee Breast and Cervical Cancer Early Detection Program (TBCCEDP): This program provides breast and cervical cancer screening, diagnosis and treatment to uninsured women over age 50. About 14,000 women are screened annually and enrolled in TennCare, if necessary, for treatment. The program accepts referrals of any age from family planning for diagnostics.

Office of Nursing: MCH and Women's Health central office nursing staff routinely provide program updates at their quarterly statewide Nursing Directors' meetings. They also serve as consultants to answer health questions related to their respective programs i.e., Family Planning, SIDS, Lead Poisoning Prevention, Home Visiting, etc.

Nutrition and Wellness/WIC: Collaborative efforts among MCH and Women's Health staff, Health Promotion, and Nutrition/WIC, as well as partnerships with March of Dimes and other outside agencies on activities addressing prevention of smoking in pregnant women include advertising the availability of the state's QUITLINE and other educational activities. CSS makes direct referrals to WIC on all clients under 5 or mothers of CYSHCN who are pregnant. CSS purchases special formula if they need amounts above the allowed allocations under the WIC program. CSS also assists in obtaining special foods for children with PKU.

Office of Policy, Planning and Assessment: Central office staff collaborate with the **Health Statistics section** on dissemination of annual releases of health data and special reports, collection of data through the joint Annual Report of Hospitals, collection of data for the Region IV Women and Infant Health Data Indicators Project, and in other MCH data projects. Women's Health staff coordinate with this office on data matching and reports for the newborn hearing screening program. MCH and this Office collaborate on the SSDI 2006-2011 grant.

Tennessee Adolescent Pregnancy Prevention Program: TAPPP councils operate in four of the six metropolitan areas and in multi-county groupings in 6 of the 7 rural regions. The 10 Coordinators serve as the community contacts/resource persons for adolescent pregnancy issues in their respective areas. All council memberships are broadly representative of the surrounding community, and include Girl Scouts, March of Dimes, Department of Human Services, Department of Children's Services, community-based youth serving organizations, hospitals, local businesses, schools, universities, adoption service agencies, faith-based organizations, juvenile justice agencies, media representatives, and regional and local health councils. Each council participates in a wide range of activities, depending on local priorities and resources,

including conferences, parenting and adolescent heath fairs, workshops, legislative briefings, and training for professionals.

Tennessee Primary Care Association (TPCA): Department staff work with the TPCA primarily through the Office of Health Access, Regional and Local Health Councils, and the Women's Health Advisory Committee.

Other federal grant programs under the administration of the Department which serve maternal and child health populations include WIC, family planning, newborn hearing screening and follow-up, Early Comprehensive Childhood Systems (ECCS/CISS), sexually transmitted diseases programs including HIV/AIDS, immunizations, and PRAMS.

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

General Overview, Cross-Cutting Strengths and Needs

Tennessee is a diverse state geographically, culturally, and economically. The state covers 41,220 square miles and is about 500 miles from east to west and 100 miles from north to south. There are mountains in the east, hills in the middle section, and the western third is relatively flat. The state is divided into 95 counties, each with a health department located in the county seat. Thirty-seven percent of all Tennesseans live in the four largest counties (Shelby, Davidson, Knox, and Hamilton). Over 82% of the population lives in the state's ten metropolitan areas (MSAs), eight of which are in the eastern two-thirds of the state. The most sparsely populated counties are primarily in rural middle and west Tennessee.

Tennessee has a population of 6,296,254 (2009 estimated data from American Community Survey). Twenty four percent of Tennessee's population is made up of children under age 18. We have seen dramatic improvements in child health over the past several decades in such areas as increased access to health care, improved immunization rates, decreased lead poisoning, and reduced infant mortality. Despite these improvements, both national and state indicators of child health point to the need for continued efforts. For example, nearly 14% of children in the U.S. and 16 % in Tennessee have chronic conditions (NS CYSHCN, 2005); 16.9% of Tennessee youth and 13% of US youth are obese (YRBS, 2007); unintentional injuries have replaced infectious diseases as the number one killer of children across the country and in the State; and unlike other developed countries, U.S. infant mortality rates have leveled off, with Tennessee continuing to see minimal improvement (8.0/1000 in 2008).

Poverty in the United States is disproportionately concentrated among children. Health and development of poor children are compromised across the board; with worse outcomes for all health concerns including chronic conditions, injuries, and mental health (IOM, 2004). Twenty two percent of our children live in poverty, ranking Tennessee 42nd in the Nation for child poverty. Median income for families with children is $49,700, 8th lowest in the country. ***The majority of Tennessee children (70%) are white, 20 % black, 6% Hispanic or Latino, 1% Asian, and 2% other*** (Annie E Casey Kids Count, 2009). Minority children face disparities in income and in health. (See Table 2 for

Tennessee Children Living in Poverty by Race). For example, hospitalization rates for asthma are much greater for black than white children in Tennessee. (Table 3)

Table 2

Tennessee Children Living in Poverty by Race/Ethnicity (Percent)					
Race	2004	2005	2006	2007	2008
Non-Hispanic White	N.A.	17%	16%	16%	16%
Black or African American	N.A.	36%	41%	43%	38%
Hispanic or Latino	N.A.	29%	40%	34%	39%
Total	21%	21%	23%	23%	22%

Annie E Casey Foundation Kids Count, 2009

Table 3. Selected Tennessee 2008 MCH Measures and Indicators by Black or White Race

Indicator/Measure	2008 Annual Indicator	
	Black	White
The rate of birth (per 1,000) for teenagers aged 15 through 17 years	47.8	22.0
Percent of infants born prematurely	14.8	10.6
Infant mortality rate per 1,000 live births	15.0	6.1
Rate of children hospitalized for asthma per 10,000 children less than 5 years of age	41.1	19.1
Percent of live births weighing less than 2,500 grams	13.9	7.9
Percent of live births weighing less than 1,500 grams	3.1	1.2

(Tennessee Division of Health Statistics)

Tennessee Child Fatality Review: Summary of 2006 Report

Child Fatality Review Teams (CFRT) reviewed children's deaths by Manner of Death and Cause of Death. During 2006, a total of 1,096 child deaths were reported from Tennessee Vital Statistics. Of these, 1,088 reviews were completed. This represents 99.27 percent of all 1,096 child deaths for 2006. Deaths that were not reviewed include cases still under investigation. CFRTs are active in all judicial districts, covering every county and metropolitan area in the

State of Tennessee. Department of Health team leaders provided administration and coordination of the teams.

Key Findings

• African American children and boys died at disproportionately higher rates than white children and girls for most causes of death, especially in infants.

• Sixty-five percent (709) of the deaths reviewed were infants less than 1 year of age. Of these deaths reviewed, 484 were premature infant deaths.

• Three percent (40) of the total deaths reviewed were from Sudden Infant Death Syndrome (SIDS). While the number of reviews for SIDS has decreased, the number of sleep-related deaths has increased. Sleep-related deaths accounted for 81 deaths (not including SIDS deaths) to infants less than 1 year of age.

• In 2006, Memphis had the highest infant mortality rate in the state and nation. The 2006 rate in Memphis was 16.1, more than double the national rate of 6.3.

• Of the deaths reviewed, 126 children died in a motor vehicle accident.

Table 4. Manner of Death: 2006 Tennessee Child Fatality Review (total = 1,096)

Age	Natural	Accident	Suicide	Homicide	Undetermined	Unknown	Pending	Missing	Total
< 1	515	36	0	5	40	46	43	24	709
1-4	52	36	0	7	4	1	9	1	110
5-9	25	22	0	2	0	2	0	2	53
10-14	23	32	1	3	1	3	2	1	66
15-17	30	78	15	14	3	4	6	0	150
Race									
White	346	153	14	11	28	44	49	22	667
Black	286	46	2	29	20	11	10	7	402
Asian	9	3	0	0	0	1	0	1	14
Unknown	1	0	0	0	0	0	1	0	2
Gender									
Male	342	119	16	22	28	37	35	15	614
Female	299	84	0	9	20	18	25	12	467
Unk/Miss	4	1	0	0	0	1	0	1	7

Table 5. Child Death by Age, Sex and Race: 2006 Tennessee Child Fatality Review

Age			Sex			Race		
	Number	Rate		Number	Rate		Number	Rate
<1	709	890.74	Female	467	66.38	White	663	64.97
1-4	110	34.61	Male	614	83.20	Black	397	129.92
5-9	53	13.64	Unk.	7	5.15	Pac. Isl.	3	509.34
10-14	66	16.43				Asian	13	66.18
15-17	150	59.01				Am. Ind.	0	0
						Nat. Al.	0	0
						Multi	7	26.49
						Unk.	5	0.35
Total	1088	75.42	Total	1088	75.42	Total	1088	75.42

In 2006, the highest rate of fatalities occurred to those in the first year of life with a fatality rate of 870.74. Males suffered a higher rate of mortalities (83.20) than their female counterparts. Blacks were at a significantly higher risk than other racial groups, with a fatality rate at 129.92. Asians had the third highest fatality rate at 66.18.

Table 6. 2006 Tennessee Child Fatality Review Analysis of Prevention

	Preventability				
	No, Probably	Yes, Probably	Could Not Determine	Unknown	Total
Natural	588	10	34	51	653
Accident	11	156	7	33	207
Suicide	0	10	4	2	16
Homicide	0	29	0	4	33
Undetermined	7	11	26	5	49
Pending	10	28	14	6	60
Unknown	55	2	10	11	78
	641	246	96	114	1096

Since the establishment of the Child Fatality Review Program, the teams have considered prevention efforts and have begun to include preventability in their analysis and reports. A death is considered preventable if an individual or community could reasonably have done something that would have changed the circumstances that led to the child's death. Of the 2006 deaths the CFRTs reviewed, the determination of preventability was that 246 deaths (22.4%) could probably have been prevented.

Tennessee child mortality rates have seen little change over the last 4 years (Table 7), letting us know that prevention efforts must be improved.

Table 7. MCH Outcome Measures: Mortality Trends 2005-2008

Measure	Target	2005	2006	2007	2008
Infant mortality rate	7.5	8.7	8.7	8.3	8.0
Black/white infant mortality ratio	2.1	2.2	2.3	2.6	2.5
Neonatal mortality rate	4.3	5.6	5.8	5.2	4.9
Postneonatal mortality rate	2.6	3.2	2.9	3.1	3.1
Perinatal mortality rate plus fetal deaths	8	7.8	7.8	7.3	6.9
Child death rate	15	22.1	21.7	20.2	21.6

Pregnant Women, Mothers, and Infants

Overview of the Birth Population, Women's Health, and Problems of Poor Pregnancy Outcomes

The Department of Health is extremely concerned that babies born in Tennessee, despite all the work which has been done for many years, are dying at too high a rate, are born too small, and are born to mothers who are too young. The Medicaid/TennCare program has provided half of our citizens with ready access to prenatal care and delivery. Women are covered up to 185% of the federal poverty level. The network of providers is adequate, and quality prenatal care is of utmost concern to the TennCare managed care organizations. CoverKids, which is Tennessee's SCHIP program, provides prenatal care, by covering the fetus, for women with incomes between 185% and 250%.

Of even graver concern is the wide disparity in outcomes between the white population and the black population in the state. Infants born to black mothers die at a rate which is 2.5 times the rate for white mothers. Infants born to black mothers have a low birth weight rate that is 1.76 times higher than that for white infants. The reasons are much broader than access to quality medical care, and include the woman's medical problems, her actions before and during pregnancy, socioeconomic factors (income and educational level), and environmental factors (stress and/or abuse, for example). It is imperative that the state continue to search for the answers and solutions to adverse outcomes of pregnancy within the population affected.

Birth Population

In 2008 there were 85,480 births in Tennessee, a slight decline after several years of steady increases. Of the total 2008 births, 76% were white (65,095), 21% black (18,148), and 3% other races (2,237). These percentages are reflective of the racial spread of the population of reproductive age women (77.8% white, 20.1% black and 2.1% other. The 2008 population estimates show that females aged 10-44 make up 23.4% of the total population. The overall birth rate for 2008 was 13.9 births per 1000 population. This rate decreased from the crude birth rate of 14.2 in 2007. The largest number of births occurred to the 25-34 age group (40,134). Of the total 2008 births, 13.2% were to women aged 10-19 (11,299). More than three percent of the 2008 births (3.1%, or 2,652) were multiple births, such as twins or triplets. The number of births to unmarried mothers was 37,634, or 44.1% of the total births in 2008. In 2008, there were 7,966 Hispanic births (9.3% of total births), a decrease of 364 births over the number for 2007 (8,330). Of the 3,478 births in 2008 to mothers aged 10-17, 92.7% (3,224) were to unwed females.

Pregnancy Rates

The state's 2008 pregnancy rate for ages 15-44 was 79.6 per 1000 population, up from 79.4 in 2006. In 2008, there were 85,480 live births and 14,564 abortions and fetal deaths, for a total of 100,044 pregnancies to women of all ages. The largest number of pregnancies occurred in the 25-34 age group (45,883).

Women's Health

The Tennessee 2008 total death rate of 9.5 per 1000 population was the same as the rate in 2004.

The mortality rate for the white population increased 2.0% from 9.8 to 10.0 in 2008. The rate for the black population decreased 2.4% from 8.3 per 1000 population to 8.1 over the 5-year period. Specifically looking at deaths for ages 15-44 for 2008, the rates for the black population were much higher than those for the white population. In 2008, diseases of heart and malignant neoplasms accounted for 44.9% of the total resident deaths to Tennessee's women. Chronic lower respiratory disease and cerebrovascular diseases ranked as the third and fourth leading causes of death for white females. Cerebrovascular diseases ranked third and diabetes ranked fourth as the leading causes for black females in 2008.

Problems of Poor Pregnancy Outcomes

Poor pregnancy outcomes in Tennessee are spread all across the state affecting all races and socio-economic groups and are growing in volume. Poor outcomes are defined by geography, race, poverty, and education. The state's four large metropolitan areas account for 40.9% of the births and 48.7% of the infant deaths. Shelby County/Memphis alone accounts for 18% of the births, 49.4% of the black births, 27.0% of the infant deaths, and 57.9% of the black infant deaths. The western third of the state (the two metropolitan counties of Shelby and Madison and 19 rural counties) accounted for 27.0% of the live births in 2008 but 37.0% of the state's infant deaths.

Infant Mortality: ***The state's infant mortality rate is too high, is higher than that for the U.S., and the black/white ratio is much too high.*** The state's infant mortality rate has fluctuated between 7.7 and 9.4 since 1993, and always has been higher than the rate for the U.S. Looking at 2006 infant mortality data for the eight states in federal Region IV, Tennessee had the third highest rate behind Mississippi and Alabama. Comparing Tennessee to all U.S. states in 2006, Tennessee ranked 47th. Tennessee's 2007 rate of 8.3 was higher than the U.S. rate of 6.8. The 2008 Tennessee rate was 8.0. The year 2010 target for the nation is 4.5 infant deaths per 1,000 live births. Clearly, the state has much to investigate, change, and implement to reduce the state's very high rate. (tracked through Outcome Measures 1-5.)

Of major concern is the disparity in various perinatal outcome rates between the black and white populations. In 2008, the infant mortality rate for births to black women was 2.46 times that of the rate for births to white women (15.0 versus 6.1). This disparity has remained for the last two decades, even as the overall rate has declined. The State's Infant Mortality Initiative is targeting these populations to improve birth outcomes.

The 2006 data from the statewide State Child Death Review System provide additional information on the causes of infant deaths. Of the 709 infant deaths reviewed, 72.6% were due to prematurity; 22.8% had intrauterine smoke exposure; 7.5% had late or no prenatal care; and 48.5% were low birth weight. Examining the medical causes of death for infants, 17.6% resulted from congenital anomalies; 52.8% from prematurity; and 6.4% from SIDS. Over half (55.6%) of the non-medical causes of deaths to infants were caused by asphyxia, with the reasons noted as related in most cases to the sleep environment. Three percent (40) of the total deaths reviewed were from Sudden Infant Death Syndrome (SIDS). While the number of reviews for SIDS has decreased, the number of sleep-related deaths has increased. Sleep-related deaths accounted for 81 deaths (not including SIDS deaths) to infants less than 1 year old. SIDS deaths decreased 36.51% from 2005. Non-SIDS infant deaths occurring in the sleep environment increased

32.78% from 2005 to 2006. Tables 8 and 9 from the report provide details on contributing factors to infant sleep environment deaths and circumstances of sleep-related deaths for infants.

Circumstances in Infant Sleep Environment Deaths: 2006 Tennessee Child Mortality Review Report

Table 8. Contributing Factors in Infant Sleep Environment Deaths

	2005	2006	2007
Infant not in crib or bassinette	54	69	67
Infant sleeping with other people	45	60	49
Infant not sleeping on back	30	38	38
Unsafe bedding or toys in sleep area with infant	13	18	14
Obese adult sleeping with infant	3	9	6
Adult drug impaired sleeping with infant	1	2	1
Adult alcohol impaired sleeping with infant	1	2	1
Adult fell asleep bottle feeding	0	0	2
Adult fell asleep breast feeding	0	0	1

Table 9. Circumstances of Sleep-Related Deaths 2006

Age in Months	0-1	2-3	4-5	6-7	8-11	Total
Infant unobstructed by person or object	6	7	2	1	0	16
Infant on top of person	0	0	0	0	0	0
Infant on top of object	0	0	0	0	0	0
Infant under person	1	1	0	0	0	2
Infant under object	2	0	0	0	0	2
Infant between person	5	1	0	0	0	6
Infant between object	0	0	1	0	0	2
Infant wedged	2	2	0	0	0	4
Infant pressed	2	3	0	0	0	5
Infant fell or rolled onto object	0	1	1	2	0	4
Infant tangled in object	1	0	0	0	0	2
Other	3	1	3	1	1	9
Unknown	14	23	11	0	7	55
Total	36	39	18	4	8	107

Columns do not add up to total deaths because the factors are not mutually exclusive. Under and between objects includes animals.

Low Birthweight: ***Tennessee's low birth weight rate increased steadily until 2005; only slight declines have since occurred.*** Low birthweight (LBW), a major risk factor for adverse health outcomes for both infants and children, continued to increase in Tennessee until 2005 (9.8). In 1990, LBW was 8.2%; in 2004, it was 9.4%; in 2008, it was 9.2%. The Year 2010 national goal for low-weight births is 5.0% of total live births. In Tennessee, low birthweight continues to be disproportionately high among black infants. This gap has been evident for many years and continues despite the increasing availability of services across the state. In 2008, low birthweight for Tennessee's black population was 13.9%, as compared to 7.9% for the white population. In

2008, 32.1% of all low birthweight births in Tennessee occurred in the black population. Forty-nine percent of the 2008 LBW babies in the black population were in Shelby County. Forty-four percent of all LBW babies in 2008 were in the four largest metro counties. Preliminary U.S. data show the percent of babies born at low birthweight was 8.2% in 2007 (13.6% for the non-Hispanic black population; 7.2% for non-Hispanic whites). Tennessee's LBW rates are higher than the U.S. both overall and for the two racial groups. (tracked through Health Status Indicator 1).

The low-weight percent of total births was greatest for mothers age 45 years and older (27.8), followed by mothers age 10-14 years (16.0), and mothers age 35-44 (11.0). The low birthweight percentage of total births to mothers ages 10 through 17 was 10.9. This was a 12.1 percent decrease from the low birthweight rate of 12.4 in 1998. Of the total low-weight births in 2008, 26.9 percent of mothers reported tobacco use during pregnancy. White mothers reported the highest percentage (33.9), while black mothers reported a much lower tobacco use percentage (14.1).

Inadequate Prenatal Care: ***Over 30% of Tennessee women are not entering prenatal care in the first trimester.*** In 2008, the percent of Tennessee births in which the mother did not begin care in the first trimester was 32.3 (based on birth certificates which reported prenatal care)**.** Three percent of the total births to all ages were reported as receiving no prenatal care. Of the births to mothers ages 10-14 reporting prenatal care (2008), 35.2% began care in the first trimester. The percentage of first trimester care by age group increased to a high of 75.8% for mothers ages 30-34. The Year 2010 goal is for 90% of all births to have prenatal care beginning in the first trimester, or that only 10% would not begin care in the first trimester. (Tracked through National Performance Measure 18: Percent of infants born to pregnant women receiving prenatal care beginning in the first trimester).

The percent of white births with first trimester care was 71.2, while the percent for black births was 55.3 in 2008. Tennessee's percent of no care was 3.2, with white mothers having the lowest percentage (2.4) of no care. The percent of black mothers with no care was 6.3 in 2008. (Percentages are based on births with prenatal care reported).

Tobacco Use in Pregnancy: ***Although smoking by pregnant women in Tennessee has been slowly declining, rates are still higher than the national rate and much above the Healthy People 2010 goal of 1% (99% abstinence from cigarette smoking in past month by pregnant women).*** In the U.S. more than 16% of women smoke (BRFSS, 2008). However, in Tennessee, BRFSS 2008 data show that 19.9% of women ages 18 and over are current smokers and 14.9% women smoke every day. (Tracked through National Performance Measure 15: Percentage of women who smoke in the last three months of pregnancy).

Cigarette smoking during pregnancy was reported by 18.8% of the women giving birth in Tennessee during 2008. Smoking percentages were high (25.3%) for women aged 18-24. Of the women who smoked during pregnancy, 73.5% smoked a half a pack of cigarettes or more per day. Similar data for 2007 indicated 19.4% of the women giving birth reported smoking cigarettes during pregnancy. The 2007 percentages were high (26.0%) for mothers aged 18-24. Of the mothers who smoked, 74.0% indicated they smoked a half a pack of cigarettes or more per day in 2007. Of the mothers who indicated they smoked during the three months prior to pregnancy in 2008, 20.0% reported they did not smoke during their pregnancy. Of the total 2008

low-weight births, 26.9% of mothers reported tobacco use during pregnancy. White mothers reported the highest percentage (33.9), while black mothers reported a much lower tobacco use percentage (14.1).

For the ten-year period 1999-2008, the reporting of tobacco use on Tennessee resident birth certificates showed the percent for white females being over twice the percent for black females. In 2008, the percent for white females who reported smoking during pregnancy was 21.7, while the percent for black females who smoked was 9.8. The Healthy People 2010 objective for the nation for tobacco abstinence is 99 percent.

Within federal Region IV, Tennessee had the highest percent of live births to women of all ages who smoked of all eight states in 2007 and a percentage (24.0%) that was much higher than that for the entire region (12.5%).

Smoking during pregnancy is a major public health concern because smoking harms a woman's health and smoking during pregnancy can lead to pregnancy complications and serious health problems in newborns. Smoking nearly doubles the risk of a low birth weight baby, slows fetal growth, and increases the risk of preterm delivery. Smoking during pregnancy is especially a problem in the white population in Tennessee. Geographically, smoking during pregnancy is higher in the eastern part of the state. Looking at the data for 2008 by county, in thirty-seven (37) of the 95 counties over 30% of their live births were to women who reported smoking in pregnancy.

Labor and Delivery: Tennessee's induction rate of over 35% (2008) is higher than that for the United States (22.5% for 2006). The State's C-section rate of over 33% is also higher than the U. S. rate for 2008 (32.3%). The rate of induction of labor in Tennessee births was 35.2% of live births in 2008. The 2007 rate of induction of labor in Tennessee births was 33.4%. In 2008, the rate of Cesarean delivery was 33.6% of all births, while the percentage of vaginal birth after cesarean delivery (VBAC) was 1.9% of all births. Similar data for 2007 reported Tennessee's percentage of Cesarean delivery as 33.3% of all births. The percentage of vaginal birth after Cesarean delivery in 2007 was 1.7% of all births.

Preterm Births: The percentage of births born preterm in the U. S. declined 3% in 2008; in Tennessee the rate changed very little. Tennessee's preterm birth percent (the percentage of infants delivered at less than 37 completed weeks of gestation) was 11.5% in 2008. The percentage for preterm births to white mothers was 10.7%, and the preterm percentage to black mothers was 14.8%. Similar percentages for 2007 Tennessee preterm births were 11.7% for all births, 10.9% for white mothers, and 15.0% for black mothers.

The 2008 preterm rate for the U. S. declined by 3% - to a rate of 12.3% of all births. This fairly sizable decrease follows a small decline in the preterm rate between 2006 and 2007. The rate of preterm births had risen by more than 20 percent between 1990 and 2006. The downturn in preterm births in the U.S. was mostly among infants born late preterm, or at 34-36 weeks gestation (down from 9.0 to 8.8%). Preterm birth rates declined from 2006 to 2008 for mothers of all age groups under age 40, for the three largest race and Hispanic origin groups and for most U.S. states, including Tennessee. The percentage of preterm births was down for all types of deliveries from 2006 to 2008, for Cesareans and for induced and non-induced vaginal deliveries.

The percentage of infants born late preterm (34-36 weeks gestation) in the United States declined by 3%, from 9.1% in 2006 to 8.8% in 2008; the late preterm birth rate had risen 25% between 1990 (7.3%) and 2006. Although at less risk than infants born before 34 weeks, late preterm infants are more likely to experience long-term neurodevelopmental problems and to die within the first year of life than infants born at term. The reduction in the overall rate is not explained by changes in the proportions of multiple births. For Tennessee, late preterm births were 9.7% in 2008 and 10.0% for 2007.

The percentage for moderately preterm births (32 to 36 weeks gestation) for Tennessee births in 2008 was 9.7% for total births, 9.3% for white mothers, and for black mothers, 11.5%. Moderately preterm percentages for Tennessee births in 2007 were 9.8% for total births, 9.4% for white mothers, and 11.4% for births to black mothers (CDC/NCHS, 2010).

Unintended Pregnancies: In 2007, Tennessee was funded for the first time as a PRAMS (Pregnancy Risk Assessment Monitoring System) state. PRAMS is a Centers for Disease Control and Prevention (CDC) data project used to gather public health information from newly delivered mothers. The state's first year data (2007-8) are based on a 63% response rate. Since the response rate is less than 70%, the data cannot be used to compare with other PRAMS states. Also, since the first year's data are based on a less than 70% response rate, they may not be as representative of the total population of the state as would be preferred. Confidence intervals for these data are not yet available. However, some interesting early insights include the following:

- 49.9% of new mothers said that just before becoming pregnant, they had wanted to be pregnant later (mistimed) or they didn't want to be pregnant then or at anytime in the future (unwanted).
- 57.8% of mothers asked if they were trying to get pregnant at the time they conceived said "no".
- 29% of those who said "no" also said they weren't using anything to keep from getting pregnant. When asked why, their #1 answer was that they did not mind if they became pregnant.
- Another 29% of those who said "no" said they were using something to keep from getting pregnant. When asked what they were using: the #1 answer was condoms; #2 answer was pill; and #3 answer was withdrawal.
- Note that 41.7% did not answer the question, "Were you using anything to keep from getting pregnant?"

In summary, given these very limited data, the following can be stated:
Tennessee has an unintended pregnancy rate similar to the national rate. Tennessee women who conceive unintended pregnancies use either no method of contraception or methods with high failure rates (Condoms typical use failure rate in first year of use = 15%; pill typical use failure rate in first year of use = 8%; withdrawal typical use failure rate in first year of use = 27%). Tennessee women who say their pregnancies were unplanned but who used no contraception, will often report not minding getting pregnant even though they did not plan to be pregnant. These findings seem to suggest that Tennessee women need to better understand the importance of planning for a pregnancy.

PRAMS data for the second year of the project exceeded the response rate needed for analysis

and comparison purposes. The report has been finalized and is waiting for approval and posting on the Department's web site.

Adolescent (10-17) Pregnancies and Births: The pregnancy rate for adolescents declined until 2005; it has since been relatively flat. However, it continues higher than most other industrialized nations, and the disparity in rates between white and black adolescents is too high. Adolescent pregnancies for ages 10-17 (4,326) accounted for 5.1% of all Tennessee pregnancies in 2008. Tennessee's adolescent pregnancy rate was 13.6 per 1,000 girls aged 10-17 in 2008. The 2005 rate of 13.6 was the lowest level recorded since the Department began collecting such data in 1975. For 2006 and 2007, the rate was 13.9. Tennessee has exceeded the Healthy People 2010 target adolescent pregnancy rate of 46 per 1,000 females for the age group 15-17, with the 2008 state rate for this age group at 33.6.

Although pregnancy rates have been declining for both races, the 2008 rate for black adolescents continues to be higher than those for white adolescents in all age groups: 25.1 vs. 10.5 for 10-17 year-olds; 63.0 vs. 25.9 for 15-17 year-olds; and 3.1 vs. 0.6 for 10-14 year-olds. Twenty-seven percent of all pregnancies to ages 10-17 were in Shelby County; almost half were in the four large metro counties.

The total birth rate for Tennessee adolescents ages 10-17 has declined since 1990, to 10.9 in 2008. However, as with the pregnancy rate, the disparity gap between black and white persists: the rate for blacks is 18.7, and that for whites is 8.8. The overall 2008 birth rate for the 15-17 year olds was 27.3, and the rate for 10-14 ages was 0.8. Tennessee's rates in these age groups are higher than the preliminary national 2008 rates of 21.7, ages 15-17, and 0.6, ages 10-14. (Tracked through National Performance Measure 8: The rate of birth for teenagers aged 15-17). Of the 3,478 births to Tennessee adolescents 10-17, in 2008, 92.7% were out-of-wedlock, 11.0% had low weight births, and 14.4% had had another pregnancy.

Sexually Transmitted Diseases (STD): The following STD data are from the Tennessee Department of Health, *Communicable and Environmental Diseases Services Annual Report, 2007* (latest available report).

Chlamydia: Infections due to chlamydia are among the most prevalent of all STDs. After becoming a reportable disease in 1987, the number of cases rose steadily from 1,880 cases in 1988 to 6,787 in 1994. Significant state funding was made available in 1995 for testing in family planning and STD clinics, and as a result, 13,152 cases were reported in 1995. The introduction of federal Infertility Prevention Project funding in 1998 has led to modest increases in testing in subsequent years. In 2007, the number of reported cases was 26,868. In 2007, 87% of chlamydia morbidity occurred among persons ages 15-19 (10,040) and 20-29 (13,425). Females comprised 73% of all 2007 cases; this reflects the fact that most tests were performed on women visiting family planning, maternity, and STD clinics. Additionally, 56% of female morbidity was reported among blacks, and 33% among whites. There were 960 cases per 100,000 population among black males and 83 cases per 100,000 population among white males with chlamydia in 2007. There were 2,039 cases per 100,000 population among black females and 256 cases per 100,000 among white females. Black females ages 20-29 years had the highest rate of infection with 6,074 cases per 100,000 persons. Screening of over 125,794 patients in health department clinics in 2007 resulted in a positivity range of 7% to 16% in metro areas and 5% to 11% in rural areas. Switching to a more sensitive laboratory test in 2003 increased the positivity rate from 7%

in 2002 to 9% in 2007. The Healthy People 2010 target for the nation addresses a percent reduction for female clients tested in various clinic settings. For females tested in family planning clinics, the target is set to reduce the proportion of females ages 15-24 with chlamydia to 3%. In Tennessee, the baseline in 2003 was 6.6%; for 2008 the percent had dropped to 6.15%. Chlamydia testing and treatment remain a high priority in these clinical settings; however, reaching the HP 2010 target is not expected. (Tracked through Health Status Indicator 5).

Gonorrhea: From a record high of 35,362 gonorrhea cases reported in 1976 (817/100,000 population), the number decreased to 9,566 cases in 2007. This represents an overall rate of 158 cases per 100,000 population, significantly higher than the Healthy People Year 2010 goal of 19 new cases per 100,000. In 2007, there were 4,318 reported cases of gonorrhea among males and 5,248 reported cases among females. The metropolitan regions of the state have consistently accounted for 78% of the state's morbidity during this time period. In 2007, 76% of all cases were among blacks. There were 692 cases of gonorrhea per 100,000 among black females and 46 cases per 100,000 among white females. This is in contrast to the first half of the 1990s when cases decreased dramatically. The decrease in reported cases has been less striking in the past few years. Women 15-19 years (988/100,000, 2007) had higher rates than women 20-29 (601/100,000). The health department clinics use the combo Gen-Probe test thus testing for both chlamydia and gonorrhea with one sample. Screening approximately 125,794 clients for gonorrhea in health department STD, prenatal and family planning clinics in 2007 detected a range of 1-10% positivity in metropolitan areas and 1-3% positivity rates in the more rural areas of the state. The screening activities are directed primarily at women, particularly those aged 15-19 years.

Syphilis: Historically, most syphilis cases in Tennessee occur in the large metropolitan areas; the six metropolitan counties represent 41% of the population but accounted for 89% of the 671 cases of early syphilis in 2007. Nashville and Memphis metropolitan areas accounted for 75% of total early syphilis cases. The seven remaining rural regions comprise 59% of the state's population but accounted for only 11% of the early syphilis cases in 2007. Early syphilis cases are higher among males than females. In addition, early syphilis rates among both black males and females are disproportionately high. Blacks make up 17% of the state's population, but historically represent about 75% of reported early syphilis cases. Combined cases of primary and secondary syphilis in 2007 represented a rate of 6.1 per 100,000, considerably higher than the Healthy People 2010 objective of 0.2 per 100,000.

Congenital Syphilis: Untreated syphilis during pregnancy, especially early syphilis, can lead to stillbirth, neonatal death, or infant disorders such as deafness, neurologic impairment, and bone deformities. Congenital syphilis (CS) can be prevented by early detection of maternal infection and treatment at least 30 days before delivery. Changes in the population incidence of primary and secondary syphilis among women usually are followed by similar changes in the incidence of CS. After declining for 14 years, the CS rate among infants aged <1 year increased 23%, from 8.2 cases per 100,000 live births in 2005 to 10.1 during 2008. That increase follows a 38% increase in the syphilis rate among females aged $\geq$10 years from 2004-2007. During 2005-2008, CS rates increased primarily in the South (from 9.6 per 100,000 live births to 15.7) and among infants born to black mothers (from 26.6 per 100,000 live births to 34.6). Nearly all of the national increase in CS cases from 2005 to 2008 occurred in the South, where the number of cases increased from 148 to 253 and the rate increased 64% (from 9.6 to 15.7). Tennessee reported 10 CS cases in 2008. Tennessee ranked 10 among 26 states and Washington, DC,

reporting CS cases with a rate of 11.9 cases per 100,000 live births compared to the U.S. rate of 10.1. Looking at the state number since 2000, the numbers had been declining since that year until 2008 when the numbers of cases increased (CDC/NHIS, 2010).

HIV and AIDS: HIV has been a reportable disease in Tennessee since 1992; AIDS since 1982. For the calendar year ending December 31, 2007, 1.043 cases of HIV/AIDS were diagnosed and reported to the State. The cumulative total of reported HIV/AIDS cases, as of 12/31/07 was 21,358. For the reported 2007 cases, 73% were among men and 68% were among African-Americans. Males have historically contributed the majority of all cases reported in the state (about 70% over the past five years). Reported cases have increased most substantially among minority populations; cases of HIV/AIDS among whites increased 1.2% from 2003 to 2007 while reported cases increased 11.1% and 37.9% among African-Americans and Hispanics, respectively. During 2007, all 95 counties reported cases of individuals living with HIV/AIDS. Incidence remained highest in the urban centers with Memphis/Shelby County reporting the greatest rate of infection per 100,000. In 2007, the statewide incidence rate of HIV was 13.1 per 100,000.

Group B Streptococcal Disease (GBS): Required reporting of invasive GBS cases Tennessee began in 2000 when only 87 cases were reported. In 2007, 302 cases were reported for a rate of 5.0 per 100,000 population. Those persons at greatest risk of developing infection are newborns, pregnant women, those 65 and over, and persons with certain chronic diseases. Rates in Tennessee are highest for infants (72.4 cases per 100,000 persons). A total of 58 GBS cases were reported among infants age 0-89 days in Tennessee in 2007. Among the 58 cases, 33 (57%) were classified as early-onset disease and 25 (49%) were late-onset disease. Efforts have been made over the past few years to improve physician awareness of the guidelines for diagnosis and treatment of GBS and to target areas with a history of lower screening rates. This effort complements the State's efforts to lower infant mortality.

Maternal Deaths: Looking at the data from 1999 through 2008, the number of maternal deaths in Tennessee ranged from a low of 6 to a high of 12, and the rate ranged from 0.7 to 1.5 per 10,000 live births. In 2008, there were 9 maternal deaths (rate of 1.1). This rate compares to the latest statistics for the U.S. (2006) – 1.33 per 10,000. The Tennessee rate is lower than the Healthy People 2010 target of 3.3.

Breastfeeding: ***Breastfeeding rates in Tennessee continue to improve but fall short of Healthy people 2010 objectives regarding duration and exclusivity.*** 2006 data from the CDC Immunization Survey show that 58.8% of Tennessee mothers initiated breastfeeding compared to 73.9% for the U.S. The Healthy People 2010 objective for breastfeeding in the early postpartum period is 75%, and for 6 months of age 50%. The CDC document, "Breastfeeding Report Card – United States, 2009" provides the following comparisons:

Table 10. Breastfeeding: Comparison of US and Tennessee

	US	TN
Percent ever breastfed	73.9	58.8
Percent breastfed at 6 months	43.4	37.9
Percent breastfed at 12 months	22.7	14.8
Percent live births at facilities designated "Baby Friendly"	2.87	0.24
Percent breastfed infants receiving formula before 2 days of age	25.6	15.9
Number of State Health Dept. FTEs dedicated to breastfeeding	79.8	1.00

The CDC document also contains information on laws in states related to breastfeeding promotion. Tennessee is one of 15 states in the nation with mandates for both employer lactation support and support for breastfeeding in public. (Tracked through National Performance Measure 11: The percent of mothers who breastfeed their infants at 6 months of age).

Chronic Diseases and the Health of Women

Chronic diseases are impacting Tennessee women at a higher rate than for the nation. Diseases of the heart are the leading causes of death for females in Tennessee, although the rate has been declining. The crude death rate for females decreased 18.3% from 1999 to 2008. The death rate for females for 2008 is lower than that for males; however, for 2000-2002, the death rates for females were greater than the rates for males. Compared to the 162.2 per 100,000 rate for the females in the U.S. (2006 data), Tennessee's death rate for females was 184.2 per 100,000 population.

In 2008, 24.8% of female deaths in Tennessee were for diseases of the heart; 20.2% were for malignant neoplasms. And 6.8% were for cerebrovascular diseases. Diseases of heart and malignant neoplasms accounted for 44.9% of the total resident deaths to Tennessee's women.

Tobacco use is a major risk factor for heart disease, cancer, respiratory, and other diseases. The percent of women aged 18 years and older who reported they were smokers was greater for non-Hispanic whites than Hispanic or non-white females according to the 2004-2008 Tennessee Behavioral Risk Factor Surveillance System (BRFSS). The survey revealed that in 2008 the smoking percentage decreased for total females, non-Hispanic white females and Hispanic or non-white females and were the lowest for the 5-yer period. The percentage for all races has declined from 25.2 in 2004 to 19.9 in 2008.

In 2008, diabetes was reported by 11.1% of all races, 11.1% of non-Hispanic white women, and 11.0% of Hispanic or non-white women on the Tennessee BRFSS.. This continues the increasing percentages reported in all categories. 2004 BRFSS data indicated 8.5% for women of all races, 7.7% for non-Hispanic white women, and 11.5% for Hispanic or non-white women.

Obesity: The Trust for America's Health, 2009, released a report, "F as in Fat", in conjunction with the Robert Wood Johnson Foundation on obesity in the United States. Tennessee had the 4th highest rate of adult obesity in the nation, at 30.2%. The rate of obese adults increased in the state for the third year in a row. Adult obesity rates now exceed 25% in 31 states and exceed 20% in 39 states and Washington, D.C. Two-thirds of American adults are either obese or

overweight. Obesity puts women at risk for hypertension, diabetes, heart disease, poor asthma control, and complications of pregnancy.

Programs and Polices Addressing Health of Women and Infants

Over the past several years, the Governor, the Department of Health, and other State entities have implemented numerous initiatives aimed at giving babies a good start in life and helping adults and children improve their lifestyles.

Starting in the spring of 2006 with an Infant Mortality Summit in Memphis, including legislators, local officials, health providers, and community leaders, the Governor announced his initiative to improve birth outcomes and reduce infant deaths in Tennessee. Although the campaign was launched statewide, specific and funded activities addressed the tremendous problem in Memphis, Nashville, Chattanooga, and the Northeast Tennessee Region. Changing our state ranking for infant mortality and premature birth depends on looking beyond the medical system to the social and economic factors that influence birth outcomes. The State has partnered with many state and local government departments, health and social service providers, community agencies, schools, universities, the faith community, and others to implement programs and services. Examples of funded activities and services include Centering Pregnancy programs (a promising model of care that includes group clinical visits, support and education); establishment of perinatal coordinator positions in the three metro areas; interventions for pregnant smokers; Community Voice (a grassroots, community education program in Shelby County using lay health advisors); outreach and education; fetal-infant mortality review pilot projects; and a statewide perinatal quality care initiative (The Tennessee Initiative for Perinatal Quality Care – TIPQC). (See *Appendix C* for list of funded projects, 2006-2010, dated April 2010.)

SmokeFree Tennessee: Beginning July 1, 2007, the Department of Health and the state began implementation of a series of activities addressing the state's high incidence of smoking. The tobacco tax was increased from 20 cents per pack to 62 cents. On October 1, 2007, the Tennessee Non-Smoker's Protection Act made most workplaces smoke-free. The Tennessee Tobacco Quitline was enhanced and expanded. All health department clinics began asking each client presenting for medical services if he/she is a current or former smoker, collecting data, providing counseling, and offering medications. Emphasis was placed on uninsured and reproductive age women. While the state budget crisis caused this program's funding to be eliminated for purchasing medications, the clinics continue to support patients' efforts to stop smoking with counseling and referrals to the statewide Tobacco Quitline. To date, roughly 650,000 patients age 13 and older have been screened, and about 17,000 have received cessation support.

Get Fit Tennessee is a statewide awareness program developed by Governor Phil Bredesen to address the rising epidemic of Type 2 diabetes and risk factors that lead to diabetes, like obesity. This initiative is aimed at educating both adults and children that Type 2 diabetes can be delayed or even prevented with modest lifestyle changes like increasing physical activity and a healthier diet. The Get Fit Tennessee! web site allows anyone to log on and officially become a member of Team Tennessee by committing to make healthy food choices and exercise daily. The Get Fit Tennessee Web site is a resource to help with ideas, answer questions about nutrition and fitness, and to promote community events.

Primary care: Since August 2005, when TennCare cut approximately 323,000 adults from enrollment, the Department of Health/Bureau of Health Services has provided primary care services for adults in selected health department clinics across the state. As of March 2010, 59 health department sites in 51 counties were offering adult primary care services, including both acute and chronic illness, such as diabetes and hypertension. In FY 2008-2009, these sites provided 159,384 uninsured adult medical encounters.

The State Legislature also appropriated funding for primary care services in agencies outside the health department clinics. In fiscal year 2006, twenty-three (23) FQHCs (federally qualified health centers) which comprised a total of eighty-four (84) sites received $6 million in funding to expand existing capacity of primary care services in forty-one (41) of Tennessee's 95 counties. As a result of this expansion, 173,362 uninsured adult medical encounters were provided in faith-based, community-based, rural health and other federally funded centers. In fiscal year 2007, another $6 million was allocated, and the FQHCs provided a total of 217,673 uninsured adult medical encounters. In fiscal year 2008, the FQHCs were allocated $4.6 million of recurring funding and $3 million of non-recurring funding for a total of $7.6 million resulting in the provision of 241,737 uninsured adult medical encounters. In fiscal year 2009 the FQHCs were allocated $6.9 million providing a total of 280,404 uninsured adult medical encounters. At present, there are twenty-four (24) FQHCs with 142 sites (including sites that are also Local Health Departments) located in fifty-eight of Tennessee's ninety-five counties. In FY 2010, grants were provided to 49 primary care safety net providers and 15 dental safety net providers (for emergency dental services). Emphasis for services is on provision of a medical home for health promotion and management of chronic health conditions such as obesity, hypertension, diabetes, hyperlipidemia, and asthma: all conditions affecting Tennessee women throughout their life span, including pre-conception health.

Infants: Newborn Screening

Metabolic Newborn Screening: The Tennessee Genetics and Newborn Screening (NBS) Program was established in 1968 as a result of state legislation requiring PKU screening of all babies. By law, all infants born in Tennessee are screened at birth for 41 diseases which may reflect as many as 67 different genetic disorders. Testing includes hemoglobinopathies, biotinidase deficiency, phenylketonuria, congenital adrenal hyperplasia, congenital hypothyroidism, galactosemia, homocystinuria, maple syrup urine disease, medium-chain acyl CoA dehydrogenase deficiency, cystic fibrosis, and other metabolic/genetics disorders. Tennessee is screening for all disorders recommended by national organizations and expects except Tyrosinemia Type 1 (there are plans to validate a new test kit this summer).

The Newborn Screening Metabolic Program utilizes an established network of tertiary level providers for referral, case management and treatment of infants and children with genetic and metabolic diseases. The tests are sent from hospitals and other birthing facilities to the State Laboratory. Women's Health/Genetics staffs are responsible for interfacing with the State Laboratory to identify, locate and follow up on newborns that have unsatisfactory or abnormal results from the mandated newborn screening test. Health department personnel assist when an infant cannot be located. Referrals are made to the genetics and sickle cell centers across the state. Access to genetic screening, diagnostic testing and counseling services is available at three comprehensive and two satellite Genetic Centers, two comprehensive and two satellite Sickle

Cell Centers, and from four endocrinologists for individuals and families who have or who are at risk for genetic disorders. (Tracked through National Performance Measure 1: The percent of screen positive newborns who received timely follow-up to definitive diagnosis and clinical management for conditions mandated by their State-sponsored newborn screening programs).

Newborn Hearing Screening (NHS): Legislation ("Claire's Law") effective July 1, 2008, requires newborn hearing screening of all infants born in the state. TCA, Title 68, Chapter 5, Part 9, Sections 901-906, was amended to state "that every newborn infant shall be screened for hearing loss in order to prevent the consequences of unidentified hearing loss unless the parent or parents of the child object on the grounds that the test would conflict with the parent or parents' religious tenets or practices. A child shall be screened for hearing loss prior to discharge from the birth facility or prior to one month of age." All Tennessee birthing hospitals provide newborn hearing screening. Hearing results are reported to the State Laboratory on the newborn screening blood spot form. The NHS program assists the family and the medical home provider to obtain further hearing testing prior to 3 months of age for infants who did not pass the screening. Infants found to have a hearing loss are referred for medical, audiology, early intervention services, and to the Children's Special Services program (Title V CYSHCN) prior to 6 months old. The Department of Education Tennessee Early Intervention System (TEIS) works in partnership with NHS to assure infants and families obtain services as needed, including family support. (Tracked through National Performance Measure 12: Percentage of newborns who have been screened for hearing before hospital discharge).

Programs and Policies: Strengths and Challenges

Data Systems Strengths:
Tennessee has a good vital records system which provides a wealth of data. The state also has a good system of data collection on the services being provided in local health departments, including WIC, family planning, pregnancy testing and referral, and sexually transmitted diseases. Both the birth and death files and the programmatic system used in the local health departments (rural and metro) provide the state with a huge amount of information on the maternal and child health population.

Data System Challenges:
Most prenatal care is provided by private sector providers; therefore, no data on pregnancy, labor and delivery and postpartum care are available except what is included on the birth and death certificates. TennCare data are difficult to obtain; MCH staff do not have assess to the database for any queries and/or comparisons.

PRAMS (Pregnancy Risk Assessment Monitoring System) Strengths:
As a new data source for Tennessee, PRAMS will be providing the State a wealth of information on the population of pregnant women and infants. The first year's report, although not sufficient in sample size for comparison to other PRAMS states or for release, provided significant information which will be validated by the year two report which is in the approval process. Examples of state-specific information from PRAMS which is not available from other sources on the total population of pregnant women includes: intendedness of pregnancy, contraceptive use, abuse and violence, breastfeeding, use of alcohol, access to educational topics, multivitamin use, and barriers to prenatal care.

FIMR (Fetal-Mortality Review): Strengths

The State's newest data system has been established in four pilot areas – 3 metropolitan counties and one rural region. The sites have set up the Review Teams and the Community Action Teams and are reviewing cases. It is expected that these systems will provide a rich source of information for making changes and addressing morbidity and mortality at the local levels.

FIMR (Fetal-Mortality Review): Challenges

Funding to continue this review is uncertain.

Systems Addressing Poor Births Outcomes: Strengths

The Tennessee Initiative for Perinatal Quality Care (TIPQC) was officially launched in October 2008 with the goal of engaging providers across the perinatal spectrum in statewide, evidence-based and data-driven quality improvement projects to improve birth outcomes in the state. Funded by the Governor's Office of Children's Care Coordination, over 170 physicians, nurses, advocates, payors, hospital administrators, government leaders, and families met in March 2009 to collaborate on ways to reduce infant mortality and morbidity. The first statewide project was on NICU admission temperature. Projects under development or in pilot testing include decreasing central line associated blood stream infections, increasing breastfeeding rates, increasing the use of human milk feeding for very low birth weight infants, and reducing elective deliveries before 39 weeks.

Systems Addressing Poor Birth Outcomes: Challenges

In general, Tennessee's morbidity and mortality data on pregnant women and infants are worse than that of the U.S., are much higher than the Healthy People 2020 targets for the U.S., and show wide disparities in the racial populations. The regionalization system in Tennessee has been in place since the early 1970s and serves our state well in providing the necessary statewide infrastructure for high risk perinatal care. It is critical that the State maintain the current system in order to continue to address the needs of our pregnant women and infants. The regionalization system is a key component in the States capacity to improve birth outcomes, especially infant mortality. The five Regional Perinatal Centers work closely with all levels of facilities and providers within their geographic. Although state funding is provided to these Centers for operations and has been available since the beginning, this funding has not increased since the early 1990's and remains uncertain.

Newborn Screening: Strengths

Tennessee has a strong metabolic newborn screening program in place (screening and follow-up); the screening panel includes all disorders recommended by the national organizations except for Tyrosinemia type 1 (validation of a testing kit will be occurring this summer at the State Lab). The Newborn Screening (metabolic and hearing) Program staff members have strong relationships with the genetics and sickle cell centers across the state. Local Health department staff members are invaluable in assisting with location of families with an infant needing follow-up. Unsatisfactory rates from birthing facilities on the newborn screening blood spots collected on infants remain low. These rates can be attributed to the close linkages between the follow-up staff and staff in the facilities. Also of importance has been the use of the training CD "Let's Do It Right the First Time" developed by the follow-up and Lab staff and distributed statewide to all birthing facilities. Effective July 2008, Tennessee statute requires hearing screening on all newborns prior to hospital discharge. All birthing facilities must report

the results to the State Newborn Hearing Screening Follow-up Program, and insurance companies must cover the cost of screening.

Newborn Screening Challenges
Coordination between the hearing screening program and the Tennessee Early Intervention System (TEIS) located within the Department of Education has continued to be difficult. There is definitely a need to improve coordination efforts and sharing of information and referrals.

Other Strengths and Challenges

Strengths:
Home visiting programs through the Department of Health are available in all 95 counties for pregnant women and infants, providing support, education, and assistance. These are working well and providing a valuable and needed service. Additional staff/resources are needed to expand caseloads.

Tennessee's Statewide Family Planning Program provides contraceptive services to over 121,700 unduplicated reproductive age clients in 128 clinic sites in all 95 counties. The program has provided quality services since 1972 as a Title X federal program grantee. The program is a vital piece of the state's efforts to reduce infant mortality and unintended pregnancies. Staff working in the local health departments, both rural and metropolitan, are a workforce that is dedicated to serving our women, pregnant women, and infants.

Maternal and Child Health funding also supplements the CDC funding of the state Breast and Cervical Screening Program which serves 14,000 uninsured women each year. Uninsured women over age forty can receive screening and diagnostic services if indicated. Women younger than forty who need diagnostic tests for either suspicious breast symptoms or abnormal Pap test results are referred from the Family Planning /Women's Health Services to confirm or rule out the need for treatment. Those requiring treatment are immediately enrolled in TennCare.

Challenges:
The inability to fill vacant state positions, especially in the administrative roles, is a major barrier to maintaining and expanding MCH services.

Tennessee is challenged to move from a primarily direct service focus to emphasizing and implementing services in the other three parts of the pyramid – population-based, infrastructure building and enabling services in the changing health environment.

Children

Major Morbidity/Mortality

Injury

Injuries are the leading cause of death for U.S. and Tennessee children and young people ages 1-24, with motor vehicle injury as the number one cause for injury fatality. Approximately 72% of all deaths among U.S. adolescents aged 10-24 years are attributed to injuries from only four

causes: motor vehicle crashes (30%), all other unintentional injuries (15%), homicide (15%), and suicide (12%) (CDC, 2008). The rate of injury deaths in children has declined in the last 2 decades, yet rates of childhood injury deaths are greater in the U.S. than in other developed countries. Nonfatal injuries contribute substantially to childhood morbidity, disability, and reduced quality of life; and lifetime costs are estimated to be over 50 billion dollars (Corso, et. al, 2006).

2006 Tennessee Child Mortality Review Report: Injury Deaths by Race/Ethnicity and Fatalities due to Injury by Age

Table 11. 2006 Tennessee Non-Medical Cause of Death by Race/Ethnicity

Cause	Accident					Suicide					Homicide				
Race or Ethnicity	White	African-American	Asian	Other	Hispanic	White	African-American	Asian	Other	Hispanic	White	African-American	Asian	Other	Hispanic
Motor vehicle	94	23	3	0	5	0	0	0	0	0	0	0	0	0	0
Fire, Burn, or Electrocution	7	5	0	0	0	0	0	0	0	0	0	0	0	0	0
Drowning	10	5	0	0	0	0	0	0	0	0	0	1	0	0	0
Asphyxia	22	7	0	2	5	4	1	0	0	0	0	0	0	0	0
Weapon	0	2	0	0	0	9	1	0	0	0	5	19	0	0	1
Fall or crush	7	1	0	0	2	0	0	0	0	0	0	0	0	0	0
Poisoning, overdose or acute intoxication	1	1	0	1	0	0	0	0	0	0	1	0	0	0	0
Other injury	0	0	0	0	0	0	0	0	0	0	4	0	0	0	2
Unknown	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Total	152	44	3	2	10	14	2	0	0	0	11	20	0	0	3

Table 12. 2006 Tennessee Fatalities Due to Injury-Related Causes

Age			Sex			Race		
	Number	Rate		Number	Rate		Number	Rate
<1	69	16.04	Female	110	2.41	White	215	21.07
1-4	49	15.42	Male	184	2.44	African American	75	24.54
5-9	25	4.50	Missing	1		Asian	3	15.37
10-14	37	15.16				Other	0	0
15-17	115	46.24				Unknown	2	0.14
Total	295	20.45	Total	295	20.45	Total	295	20.45

Unintentional Injury

Table 13. Tennessee Childhood Unintentional Injury: Change from 2004-2008

Metric	Worse	Neutral	Improved
HSI 3A: The death rate per 100,000 children due to unintentional injuries among children aged 14 years and younger HP 2010 15-13: Reduce deaths caused by unintentional injuries			●
NPM 10/HSI 3B: The rate of deaths to children aged 14 years and younger caused by motor vehicle crashes per 100,000 children HP 2010 15-15a: Reduce deaths caused by motor vehicle crashes			●
HSI 3C: The death rate per 100,000 from unintentional injuries due to motor vehicle crashes among youth aged 15 through 24 years HP 2010 15-15a: Reduce deaths caused by motor vehicle crashes			●
HSI 4A: The rate per 100,000 of all non-fatal injuries among children aged 14 years and younger			●
HSI 4B: The rate per 100,000 of non-fatal injuries due to motor vehicle crashes among children aged 14 years and younger HP 2010 15-17 Reduce nonfatal injuries caused by motor vehicle crashes			●
HSI 4C: The rate per 100,000 of non-fatal injuries due to motor vehicle crashes among youth aged 15 through 24 years HP 2010 15-17 Reduce nonfatal injuries caused by motor vehicle crashes			●
HP 15-19: Increase use of safety belts			● (2000-2007)
HP 15-20: Increase use of child restraints			● (2004-2005)

* These improvements are noted by observing the indicators for the periods noted. They are not statistically determined trends.

<u>Motor vehicle related injury</u>

In 2006, 126 Tennessee children died in vehicle-related incidents. This represents 42.7% of all injury-related deaths and 11.58% of all child fatalities for 2006. Children ages 15-17 were most

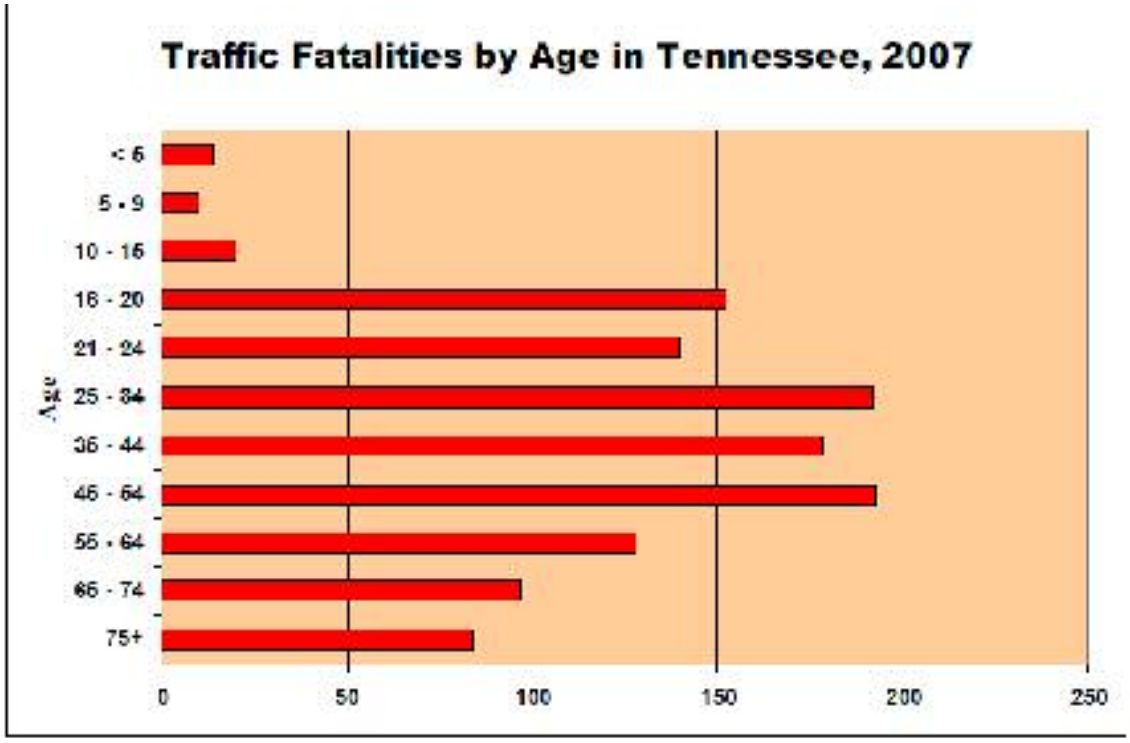
likely to die as a result of vehicle-related injury (26.36 per 100,000) and children 10-14 (9.35 per 100,000) were the second most likely to die in a vehicular-related incident. Females were only slightly less likely to die in a vehicle-related accident than males. Whites had a greater rate of death than blacks.

Table 14. 2006 Tennessee Fatalities Due to Motor Vehicle and Other Transport

Age			Sex			Race		
	Number	Rate		Number	Rate		Number	Rate
<1	5	6.22	Female	57	9.36	White	100	9.80
1-4	17	5.35	Male	69	8.09	African American	23	7.63
5-9	12	2.20				Asian	3	15.27
10-14	25	10.25				Other	0	0
15-17	67	26.36				Unknown	0	0
Total	126	8.73	Total	126	8.73	Total	126	8.73

The risks of lethal or serious injury due to motor-vehicle-accidents relate to multiple behavioral issues. Adolescents and young people are at particular risk due to impulsiveness resulting in poor driving judgment; and participation in behaviors such as speeding, paying attention to peers, drinking and driving, and not using a seat belt. Compared to other age groups, teen drivers have more crashes involving higher risk factors. A smaller (5.7%) proportion of 15-19 year olds are licensed than would be expected by their representation in the U.S. population (7.6%), but they are involved in a disproportionately large proportion (14.2%) of all crashes and are also disproportionately represented in drinking drivers in crashes (10.2%). Other factors in Tennessee include roadways; with more crashes involving teens occurring on municipal roads and more fatal crashes on county roads. This same trend is found in every state: Rural areas have a higher rate of fatal teen driving crashes than metropolitan areas. Tennessee regions with highest fatality rates for motor vehicle crashes for ages 15-24 are Northeast, South Central and Southeast: all rural areas (Table 15). More crash fatalities in Tennessee and U.S. teens occur in summer months (Allstate, 2008; TN Department of Safety, 2008; US Department of Safety, 2008).

Figure 2



National Traffic Safety Administration Fatality Analysis Reporting System

Table 15. Tennessee Death Rate per 100,000 for Unintentional Injuries Due to Motor Vehicle Crashes Among Youths 15 Through 24 Years by Region, 2008

Davidson	28.1
East	24.3
Hamilton	20.0
Knox	23.8
Madison	21.7
Mid Cumberland	23.1
Northeast	46.9
Northwest	31.4
Shelby	19.9
South Central	53.8
Southeast	58.6
Southwest	32.5
Sullivan	21.9
Upper Cumberland	41.2
Tennessee	29.8

Data sources: TDH Division of Health Statistics Population Projections and Death Statistical System

Table 16. Tennessee Death Rate per 100,000 for Unintentional Injuries Due to Motor Vehicle Crashes 2004-2008

	2004	2005	2006	2007	2008
15-24 years	41.1	45.6	20.9	36.8	29.8
14 years and younger	4.8	5.0	2.7	3.9	3.4

Data sources: TDH Division of Health Statistics Population Projections and Death Statistical System

Programs and policies that are working:

- ✓ Graduated drivers license law of 2001

Drivers under 18 years of age are required to go through specific graduated steps of driving experience before they gain an unrestricted driver license.

- ✓ Primary seat belt law of 2004

This law made it a primary offence for drivers and occupants to be unrestrained in a moving vehicle. (see *Figure 3*)

- ✓ Child passenger safety law of 2004

Tennessee was the first state to mandate safety seats for infants in 1980 and there have been several updates since then. The new law in 2004 included requirements for booster seat use among 4- to 8-year-old children.

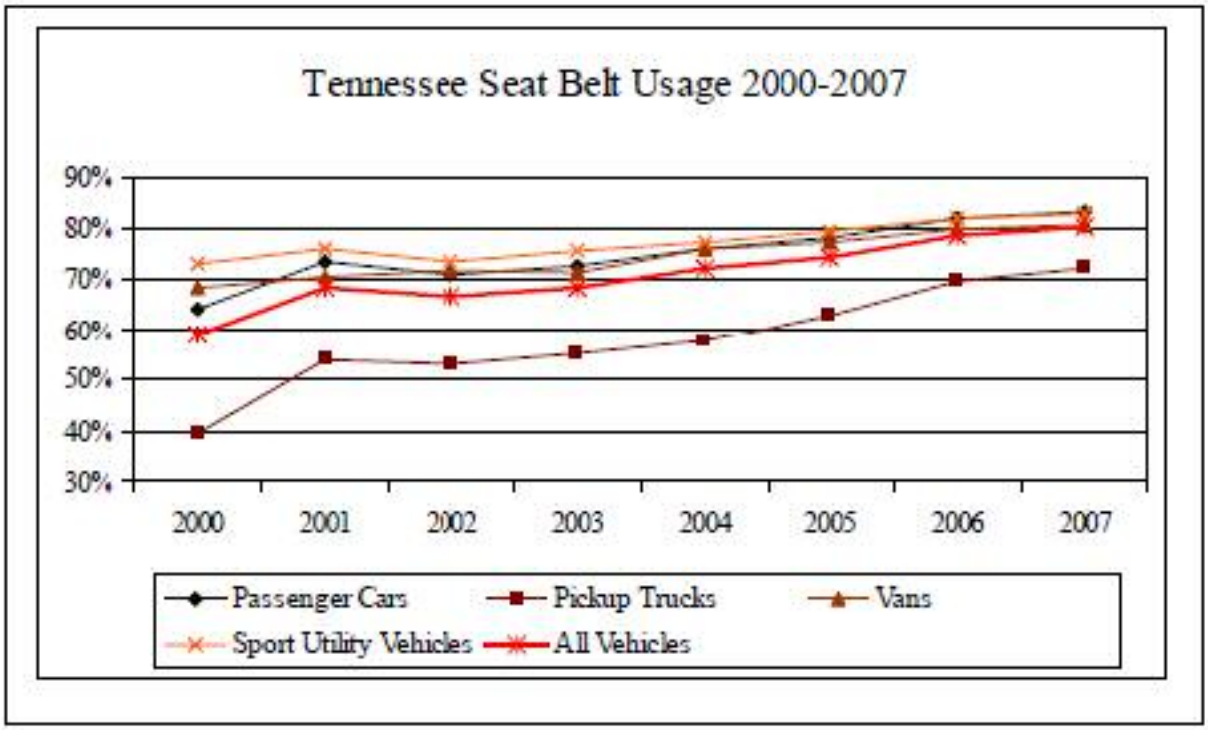
- ✓ Text messaging law 2009

This law makes it a Class C misdemeanor for transmitting or reading text messages while driving on any highway.

- ✓ These laws are strengthened by safety check points, public information messages, Governors Highway Safety Office training courses, impaired driving prevention programs, and school-based events. Federally funded prevention programs include “Click It or Ticket,” “Booze it and Lose it,” and “Buckle Up in Your Truck.”

- ✓ There are 3 Child Passenger Safety centers (CPS) in each of the 3 grand regions: East - ETSU; Middle – Meharry Medical College in Nashville; West - Mayor's Office of Early Childhood and Youth in Memphis. The CPS centers are operated through the Gov. Highway Safety Office and serve as resources to the 90 fitting stations across the state. The fitting stations are staffed by certified Child Restraint Device (CRD) technicians who help families with appropriate seats, installation and provision of seats when needed. Generally the centers can refer to the 3 main children's hospitals rehab centers in their areas for fitting a child with special health care needs, if needed. Vanderbilt’s Monroe Carell Jr. Children’s Hospital recently opened a safety seat clinic for CSHCN, and they are able to bill both TennCare and private insurance by writing a letter of medical necessity for specially designed CRDs.

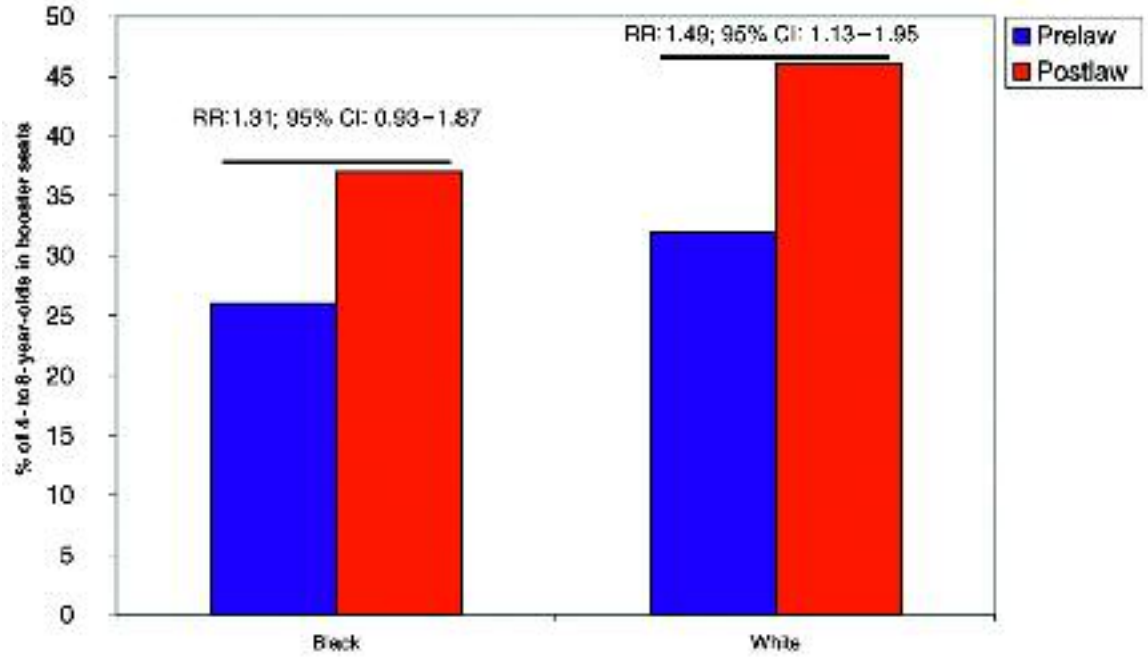
Figure 3 Tennessee Seat Belt Usage 2000-2007



Prior to the 2004 Child Passenger law, Gunn, Phillippi, and Cooper (2005) found that in Tennessee, black child passengers and all child passengers aged 4–8 years were at increased risk of being inappropriately restrained. They concluded that educational efforts should address specific barriers to booster seat use in these populations. After passage of the 2004 law (that included children 4-8 years), Gunn, Phillippi, and Cooper (2007) studied child restraint use in Tennessee 2-3 months before implementation of the law and 1 year following implementation. The researchers found significant improvement in appropriate booster seat use for 4- to 8-year-old passengers after implementation (39%), compared with use before implementation (29%). They found no improvement in the rate of appropriate restraint use for younger children (<4 years of age) after implementation. Black passengers 4 to 8 years of age were twice as likely as white child passengers to be unrestrained, before and after implementation. Seventy-nine percent of drivers reported awareness of the new restraint law after implementation; the majority of drivers obtained information from television advertisements.

Gunn and colleagues concluded that there were improvements in booster seat use after adoption of the enhanced state law requiring use; however, racial differences in restraint use persisted among 4 to 8-year-old passengers. They recommended additional study of barriers to booster seat use among drivers of black child passengers and unrestrained children.

Figure 4. Booster seat use among 4- to 8-year-old children before (Prelaw) and after (Postlaw) an enhanced restraint law, stratified according to race



(Gunn, V. L. et al. Pediatrics 2007;119:e131-e136)

Areas for improvement:

- Improve collaboration among the Departments of Safety, Education and Health; the Governor's Office of Highway Safety; and Tennessee Emergency Medical Services for Children (EMSC) to get information out to families about the 90 fitting stations and child passenger laws.
- Child passenger laws should be strengthened with heftier fines for non-compliance; and fines should go toward Child Safety Centers for provision of CRDs to families in need.
- Improve education and marketing to black families across the state.
- Direct check-points, marketing, and education in rural areas where teens are driving on county roads (which appear to be the most lethal for teens) where there is less congestion, little patrolling, and few traffic control signals.
- Research and surveillance is needed to better understand barriers to CRD use and impact of programs.

Intentional Injury

<u>Suicide</u>

Suicide is a serious public health problem affecting young people. For youth between the ages of 10 and 24, suicide is the third leading cause of death. It results in approximately 4500 lives lost

each year. The top three methods used in suicides of young people include firearm (46%), suffocation (39%), and poisoning (8%).

More young people survive suicide attempts than actually die. Results from the 2007 YRBS show that 15% of U.S middle and high school students reported seriously considering suicide, 11% reported creating a plan, and 7% reporting trying to take their own life in the 12 months preceding the survey. Each year, approximately 149,000 youths between the ages of 10 and 24 receive medical care for self-inflicted injuries at emergency departments across the U.S.

Some groups are at higher risk than others. Boys are more likely than girls to die from suicide. Of the reported suicides in the 10-to-24 age group, 83% of the deaths were males and 17% were females. Girls, however, are more likely to report attempting suicide than boys. Cultural variations in suicide rates also exist, with Native American/Alaskan Native and Hispanic youth having the highest rates of suicide-related fatalities.

Risk factors include:

- History of previous suicide attempts
- Family history of suicide
- History of depression or other mental illness
- Alcohol or drug abuse
- Stressful life event or loss
- Easy access to lethal methods
- Exposure to the suicidal behavior of others
- Incarceration

(Tennessee Department of Mental Health and Developmental Disabilities, 2010).

In 2006, 16 young people committed suicide in Tennessee: 14 were white, 2 were black, and all were male. Ethnicity and method are not listed.

Table 17. Tennessee Youth Suicide: Change from 2004-2008

Metric	Worse	Neutral	Improved
NPM 16: The rate per 100,000 of suicide deaths among youths 15-19			•
HP 2010 8-2: Reduce the rate of suicide attempts by adolescents		* •	

* Tennessee YRBS trends for the 2 questions related to suicide attempts showed decreases from 2003 to 2009. However there were not linear or quadratic changes, therefore, not a statistically significant trend.

YRBS questions:

Percentage of students who actually attempted suicide one or more times during the past 12 months
2003 8.9%
2009 7.1%

Percentage of students who made a suicide attempt during the past 12 months that resulted in an injury, poisoning, or overdose that had to be treated by a doctor or nurse
2003 3.1%
2009 2.2%

The teen suicide rate per 100,000 in Tennessee has decreased from 10.3 in 2004 to 5.6 in 2008. Provisional 2009 data show 32 suicide deaths in the state (7.4 per100,000). Child fatality reviews are pending, so we do now know the reason for change.

Programs and Policies that are working:

- ✓ Teachers are mandated by Public Chapter 45 to receive 2 hours of in-service training on teen suicide prevention. In 2009, over 20,000 teachers have received suicide awareness and gatekeeper training.

- ✓ Tennessee Department of Mental Health and Developmental Disabilities (TDMHDD) is the federal grant recipient for the Tennessee Lives Count project, which has provided Gatekeeper Training to over 18,000 adults who work with youth at high risk for suicide. Gatekeepers are trained to recognize the early warning signs of suicide and learn how to access community resources.

- ✓ The Tennessee Suicide Prevention Network (TSPN) is a coordinated network comprised of eight regional groups throughout the state and was developed in 2000 and is the statewide organization responsible for implementing the Tennessee Strategy for Suicide Prevention. TSPN is a grass-roots association whose members include counselors, mental health professionals, physicians, clergy, journalists, social workers, and law enforcement personnel, as well as survivors of suicide and suicide attempts. TSPN works across the state to eliminate the stigma of suicide and educate communities about the warning signs of suicide, with the ultimate intention of reducing suicide

- ✓ The Tennessee Commission on Children and Youth hosted a regional conference in 2010 for African American Faith Based Communities to raise awareness and begin prevention strategies for youth suicide.

Areas for improvement:

- Improve access to affordable health care for teens by increasing school and community based health programs and mental health services that can reach teens where they live, and provide flexible hours and scheduling.
- Expand training of adolescent health care and mental health workforce in risk assessment, prevention, and crisis intervention.

• Promote firearm control and *family/community gun education* to limit access to lethal methods. Promote local programs that provide trigger-locks and gun locks.

Homicide

In the U.S. Homicide is the leading cause of death for non-Hispanic black male teenagers. The risk of dying from homicide among non-Hispanic black male teenagers (39.2 per 100,000 population) is more than twice that of Hispanic males (17.1 per 100,000 population and about 15 times that of non-Hispanic white males (2.6 per 100,000 population) (Minino, 2010).

Trends for youth homicide in Tennessee are similar. In 2006, there were 31 child fatalities due to homicide. This represents 65.96% of all violence-related deaths and 2.85% of all child fatalities. Males were more likely than females to die from homicides. Black children died at a higher number than other races, followed by white children. Children ages 15-17 and 1-4 years of age had a higher rate of death by homicide (Table 18).

Table 18. 2006 Tennessee Homicide Fatalities by Age, Sex, and Race

Age			Sex			Race		
	Number	Rate		Number	Rate		Number	Rate
<1	5	6.22	Female	9	1.28	White	11	1.08
1-4	7	2.20	Male	22	2.98	African-American	20	6.55
5-9	2	0.51				Asian	0	0
10-14	3	0.75				Other	0	0
15-17	14	5.51				Unknown	0	0
Total	31	2.15	Total	31	2.15	Total	31	2.15

(Rates based on TN specific population per 100,000 less than 18 years of age)

Risk factors for youth violence include:

- Prior history of violence
- Drug, alcohol, or tobacco use
- Association with delinquent peers
- Poor family functioning
- Poor grades in school
- Poverty in the community

Programs and Policies that are working:

✓ The Tennessee Department of Education, Office of Safety and Learning Support coordinates school safety programs; including school disaster preparedness, and violence monitoring, reporting and prevention. The Schools Against Violence in Education (SAVE) Act passed in 2007 and requires State and local multi-agency/multidisciplinary violence prevention teams to implement, evaluate and report school-based best practices. Some programs implemented in Tennessee schools include bullying prevention, conflict resolution, character development, violence prevention, gang resistance programs, and teacher training. Every region

has access to anonymous reporting of guns and other crimes by way of Crime Stoppers (1800-222-TIPS).

Areas for improvement:

- Monitor effectiveness of the SAVE Act.
- Improve access to affordable health care for teens by increasing school and community based health programs and mental health services that can reach teens where they live, and provide flexible hours and scheduling.
- Expand training of adolescent health care and mental health workforce in risk assessment, prevention, and crisis intervention.
- Promote gun control and family/community gun education to limit access to lethal weapons. Promote local programs that provide trigger-locks and gun locks.

Child Maltreatment

Child maltreatment includes acts of commission (abuse) and acts of omission (neglect). More than 1 out of 7 U.S. children between the ages of 2 and 17 experienced some form of maltreatment. This includes physical abuse, sexual abuse, psychological or emotional abuse, neglect, and custodial interference or family abduction.

Risk Factors for Victimization

- Individual Risk Factors:

- Children younger than 4 years of age
- Special needs that may increase caregiver burden (e.g., disabilities, mental retardation, mental health issues, and chronic physical illnesses)

Risk Factors for Perpetration

- Individual Risk Factors:

- Parents' lack of understanding of children's needs and child development and parenting skills
- Parents' history of child abuse in family of origin
- Substance abuse and/or mental health issues including depression in the family
- Parental characteristics such as young age, low education, single parenthood, large number of dependent children, and low income
- Nonbiological, transient caregivers in the home (e.g., mother’s male partner)
- Parental thoughts and emotions that tend to support or justify maltreatment behaviors

- Family Risk Factors:

- Social isolation
- Family disorganization, dissolution, and violence, including intimate partner violence
- Parenting stress, poor parent-child relationships, and negative interactions

- Community Risk Factors:

- Community violence
- Concentrated neighborhood disadvantage (e.g., high poverty and residential instability, high unemployment rates, and high density of alcohol outlets), and poor social connections.

Protective Factors for Child Maltreatment
- Family Protective Factors:

- Supportive family environment and social networks

Several other potential protective factors have been identified and may be considered promising, but not yet borne out by research.

- Family Protective Factors:
- Nurturing parenting skills
- Stable family relationships
- Household rules and child monitoring
- Parental employment
- Adequate housing
- Access to health care and social services
- Caring adults outside the family who can serve as role models or mentors

- Community Protective Factors:
- Communities that support parents and take responsibility for preventing abuse

(CDC National Center for Injury Prevention, 2010).

Table 19. Tennessee Child Maltreatment: Change from 2004-2008

Metric	Worse	Neutral	Improved
TPM 3: Reduce the incidence of maltreatment of children younger than age 18 including physical, sexual, emotional abuse and neglect to a rate no more than 8 per 1000			•
HP 2010 15-33: Reduce maltreatment of children.			•

MCH Title V Home Visiting programs focus on identification of risk factors for child maltreatment and coordinate care and services to families at risk. Home visitors and nurses foster protective factors through regular support and education to families with young children. Table 20 shows outcomes described in the Tennessee Home Visiting Programs Annual Report for July1, 2008 to June 30, 2009.

Table 20. MCH Title V Home Visiting Programs: Child Maltreatment Outcomes 2009

MCH Home Visiting Program	Objectives	Status FY 2009	HP 2010 Goal/ State Status
Child Health and Development Program (CHAD) 948 families with 1,342 children served	100% of children free of child abuse and neglect as measured by DCS reported involvement in prior 12 months	98.4% of enrolled children free of child abuse and neglect as measured by DCS reported involvement in prior 12 months 1.56% (21) children entered DCS in this time period.	Healthy People 2010 -15-33a. Reduce maltreatment and maltreatment fatalities of children to 10.3/1,000 children under age 18. Nat'l Target = 10.3/1,000 TN status (2008) = 7/1,000
Healthy Start 1,375 families with 1,553 children served	At least 95% of program children will be free from abuse and neglect and remain in the home.	31 (1.96%) families were reported by HS workers as suspected for abuse or neglect . 98.1% of those served did not exhibit signs of abuse or neglect during the fiscal year	(as above)
Help us Grow Successfully (HUGS) 5,889 children served	Adequate parenting skills demonstrated by no involvement with the Department of Children's Services system during the fiscal year.	Of the 5889 children served, 2.6% (154) were substantiated cases of abuse or neglect during the fiscal year.	(as above)

Programs and Policies that are working:

✓All persons and organizations working with children are mandated by State law to report suspected child abuse and neglect in Tennessee.

✓The Child Protective Service Multiple Response System (MRS) was legislatively mandated in 2005 with a statewide implementation deadline of 2010. As of June 30, 2008, it is implemented in 9 regions and 17 counties. This practice model allows for more than one approach to responding to child abuse and neglect reports. It moves the system from investigating in an incident based manner to a more strengths-based, family assessment approach for some reports. This model embraces the engagement of parents, involving families in protecting their children and community involvement in addressing the needs of Tennessee children and families. There are three tracks to the MRS system including investigation, assessment and resource linkage.

✓Prevent Child Abuse Tennessee (PCAT) was established in 1984 as Parents Anonymous, providing parent support through weekly groups and a 24hour Helpline throughout the state. In 2000 PCAT became a founding member of the National Family Support Roundtable and brought the Circle of Parents concept to Tennessee. As a chapter of Prevent Child Abuse America and a member of the National Family Support Roundtable, PCAT receives national support in the areas of advocacy, public awareness, and research.

✓MCH home visiting programs have documented success in preventing child abuse and neglect. CHAD, Healthy Start, and HUGS all use the Partners for a Healthy Baby curriculum, also called the Florida curriculum, which is a research-based curriculum especially designed for home visiting services provided to pregnant women and parents.

✓Child Advocacy Centers (CAC) offer children and families a friendly place where young victims can receive counseling and treatment and contact law enforcement personnel, attorneys and case managers who investigate alleged incidents of sexual and severe abuse. Families also receive support where trained professionals and volunteers can work together to improve the safety and well being of children through intervention and prevention in their communities (TCCAC,2004). Ensuring CACs are available to abused children in Tennessee is a key component in appropriately intervening in child abuse situations. Presently, 29 child advocacy centers statewide are located in 31 Tennessee judicial districts.

Areas for Improvement:

- Assess areas of Tennessee to determine highest risk, and need for home visiting services.
- Adopt consistent theory-driven and evidence-based home-visiting models across the state.
- Train MCH home visiting (including CSS) workforce in identification/assessment of individual, family and community risk factors; strength-based family assessments; referral; and care coordination.
- Ensure there is at least 1 CAC in each judicial district.
- Improve inter-departmental collaboration among agencies serving children.

Crosscutting Infrastructure Development Needs for Improvement in Injury Prevention

Injury and violence are the most prevalent, preventable causes of childhood morbidity and mortality in Tennessee. In the fall of 2009, Sally Fogerty, BSN, MEd, Children's Safety Network and National Injury and Violence Prevention Resource Center (CSN) Director provided 2 days of technical assistance to MCH program staff. She reviewed program activities and assisted with goal-setting and strategic planning. She conducted a 1 day workshop attended by about 60 child injury prevention professionals and community members from across the state. As a result of this work, a state priority measure has been established and intervention planning is underway. Key to this is development of a systematic approach to surveillance, data collection, and prevention. We plan to invite Sally Fogerty to return for further consultation.

Tobacco

Preventing tobacco use among youth is critical to ensuring healthy adults because tobacco use and subsequent addiction most frequently take root in adolescence. More than 20% of all deaths in the United States are attributable to tobacco, making tobacco use the chief preventable cause of death.

Currently, Tennessee is experiencing a decline in youth tobacco use. However every year, 14,600 Tennessee youth under 18 years of age become daily smokers. At this rate, 128,300 Tennessee youth alive today will die an early, preventable death because of a decision made as a child. Also, 488,000 youths are exposed to secondhand smoke at home and 21.7 million packs of cigarettes are bought or smoked by Tennessee youngsters each year (National Center for Tobacco-Free Kids, 2010).

Table 21. Tennessee Youth Tobacco Trends 2003-2009 (TN YRBS Trend Report)

Metric	Worse	Neutral	Improved
TPM 1: Reduce the percentage of high school students using tobacco (cigarettes and smokeless tobacco)			●
HP 2010 27-2b Reduce cigarette smoking by adolescents			●
HP 2010 27-3: Reduce the initiation of tobacco use among children and adolescents			●
HP 2010 27-14 Reduce the illegal buy rate among Minors through enforcement of laws prohibiting the sale of tobacco products to minors	*●		

* For YRBS question "*Among students who were less than 18 years of age and who reported current cigarette use, the percentage who usually got their own cigarettes by buying them in a*

store or gas station during the past 30 days," trend analysis from 2003-2009 shows no statistically significant change.

Table 22. Comparison: Tennessee Students and U.S. Students 2007 YRBS

Tobacco Use	Tennessee	U.S.	
Lifetime cigarette use (Ever tried cigarette smoking, even one or two puffs.)	54.6	50.3	Equal risk
Current cigarette use (Smoked cigarettes on at least 1 day during the 30 days before the survey.)	25.5	20.0	Greater risk
Current smokeless tobacco use (Used chewing tobacco, snuff, or dip on at least 1 day during the 30 days before the survey.)	12.9	7.9	Greater risk

Factors associated with youth tobacco use:

- Low socioeconomic status
- Use and approval of tobacco use by peers or siblings
- Lack of skills to resist influences to tobacco use
- Smoking by parents or guardians and/or lack of parental support or involvement
- Accessibility, availability, and price of tobacco products
- A perception that tobacco use is the norm
- Low levels of academic achievement
- Low self-image or self-esteem
- Aggressive behavior (e.g., fighting, carrying weapons)

Tobacco use during adolescence is associated with the following health risk behaviors**:**

- High-risk sexual behavior
- Use of alcohol
- Use of other drugs

National, state, and local program activities that have reduced and prevented youth tobacco use in the past have included combinations of the following:

- Counter-advertising mass-media campaigns (i.e., TV and radio commercials, posters, and other media messages targeted toward youth to counter pro-tobacco marketing)
- Comprehensive school-based tobacco-use prevention policies and education
- Community interventions that reduce tobacco advertising, promotions, and commercial availability of tobacco products
- Higher costs for tobacco products through increased excise taxes

(CDC, 2010)

The historic 2007 Non-smokers Protection Act (NSPA) and supporting legislation

The NSPA is a powerful, evidence-based health policy which bans smoking in all public places in Tennessee with few exceptions and designates individual and employer penalties for non-compliance. Accompanying legislation increased the tobacco tax by 42 cents (to a total of 62 cents), and appropriated $10 million to support tobacco cessation efforts for Tennesseans. Administered through local TDOH clinics, $8 million of the $10 million was used to train >2400 providers to follow a standardized cessation protocol and for provision of free or sliding-fee-based counseling with the majority used to purchase pharmaceutical aids for patients in all 95 counties. The evidence-based 5As or 5Rs approach is used to assess readiness to quit, motivational intervention, referral, and medical/pharmacologic treatment where appropriate Youth (>13 years) and childbearing age women were specifically targeted. To date, more than 3,000 patients have quit and have remained tobacco-free for >12 months. Minimum estimated *direct health care cost savings* associated with this investment is $16,000/quitter (about $40 million). Other analyses are pending, e.g., pregnant women who quit. Sale of tobacco products to anyone under the age of 18 is prohibited. First violation renders a warning and subsequent violations are up to $1,500 for a 4th violation within a 5-year period.

The Tennessee Tobacco Control Program is funded by CDC (with supplemental ARRA funds in 2010) to provide information, assistance and community interventions, for tobacco prevention. Community-based and statewide programs seek to prevent people from beginning to use tobacco, encourage people to stop tobacco use, and protect people from exposure to environmental tobacco smoke. Funding supports the Tennessee QuitLine, media promotions, and data collection. The Tennessee Tobacco Control program works collaboratively with multiple stakeholders without whom the 2007 Non-smoker Protection act would not have been possible (e.g., American Cancer Society, Lung and Heart Associations, Tennssee Public Health Association, CHART – Campaign for a Healthy and Responsible Tennessee.

Policies and programs that are working:

- ✓ The Tennessee Non-Smokers Protection Act of 2007

- ✓ The Federal Synar legislation requires compliance checks for retailers and reporting of violation rates. This is coordinated through the Departments of Mental Health and Developmental Disabilities and Agriculture. Tennessee reports a 10% violation rate (the national target is 20%).

- ✓ Starting in 2007, The Tennessee Department of Health has championed tobacco prevention and cessation efforts through “Smoke Free Tennessee.” Commissioner Cooper has led the Department’s charge to decrease tobacco use in a state that has a long history and culture of tobacco farming and tobacco use. This includes wide dissemination of components of the NSPA.

- ✓ The Tennessee Tobacco Use Prevention and Cessation Program (TUPCP) operates the QuitLine web page which is accessible from the Tennessee Department of Health's website: http://health.state.tn.us/tobaccoquitline.htm. The QuitLine is a free, confidential call-in service that provides personalized coaching for up to one year. From August 2006 to March, 2010, the QuitLine has received a total of 36,934 calls. Twelve thousand eighty

five callers (33%) completed the intake process and were assigned to a Quit Coach. Of the callers assigned to a Quit Coach and 8423 callers (70%) have enrolled into the "iCanQuit" tobacco cessation program and 312 self-help information packets have been distributed. After 12 months, 25% of participants are tobacco-free.

- ✓ The Governor's Office of Children's Care Coordination (in March 2007) awarded a $1.44 million 4-year grant to East Tennessee State University to implement an evidence-based smoking cessation program for 4,200 women in Northeast Tennessee, where rates of smoking during pregnancy are near 40%. The project is providing case management to 2,100 women for support of smoking cessation efforts, to increase prenatal care use, and to assist with reducing life stressors. It is estimated that these interventions have saved the State nearly $3 million in health care costs.

- ✓ The Tobacco Program collaborates with CHART (Campaign for a Healthy and Responsible Tennessee), a grassroots coalition, to educate the public and motivate Tennesseans to advocate for tobacco control policies, media and counteradvertising campaigns, and hold Youth Tobacco Summits across the state.

Areas for improvement:

Judging from YRBS trends, some minors are still purchasing cigarettes from stores and gas stations. In 2009, 14.5 % of respondents who were current smokers reported they usually purchased their own cigarettes from stores and gas stations. The Synar Survey/compliance report showed that Tennessee (and all other states) met the target for violation rates. Improved compliance checks and enforcement is needed.

Funding for the initiative that provided prescription and non-prescription smoking cessation aids in health department clinics has recently been exhausted and should be re-instituted.

The American Lung Association gave Tennessee an "F" for 2010 tobacco control funding in their state grades for tobacco programs. They cited the CDC best practice rate as $71,700.000 for the state, and Tennessee FY 2012 tobacco control funding is $1,490,398. Tennessee also gets an "F" for the 62 cent cigarette tax. Increasing the cigarette tax has been shown to decrease smoking.

Increase collaboration among TDOH, MADD, DMHDD for increased media/marketing to teens, including use of social networking and text messaging with prevention messages.

Alcohol

Alcohol is the most commonly used and abused drug among youth in the United States. Although drinking by persons under the age of 21 is illegal, people aged 12 to 20 years drink 11% of all alcohol consumed in the United States. More than 90% of this alcohol is consumed in the form of binge drinking. On average, underage drinkers consume more drinks per drinking occasion than adult drinkers. In 2005, there were more than 145,000 emergency rooms visits by youth 12 to 20 years for injuries and other conditions linked to alcohol. Youth who start drinking

before age 15 years are five times more likely to develop alcohol dependence or abuse later in life than those who begin drinking at or after age 21 years (CDC, 2010).

Table 23. Tennessee Youth Alcohol Trends 2003-2009 (TN YRBS Trend Report)

Metric	Worse	Neutral	Improved
TPM 2 Reduce the percentage of high school students using alcohol		*●	

YRBS 2003-2009 question "Percentage of students who had at least one drink of alcohol on one or more of the past 30 days," trend analysis shows both linear and quadratic changes (overall significant decrease in the behavior over time, but it has leveled off).

Table 24. Comparison: Tennessee Students and U.S. Students 2007 YRBS

Alcohol	Tennessee	U.S.	
Lifetime use (Had at least one drink of alcohol on at least one day during their life)	69.9	75.0	Less risk
Current alcohol use (Had at least one drink of alcohol on at least 1 day during the 30 days before the survey.)	36.7	44.7	Less risk
Episodic heavy drinking (Had five or more drinks of alcohol in a row within a couple hours on at least 1 day during the 30 days before the survey.)	21.7	26.0	Less risk

Consequences of Underage Drinking

- School problems, such as higher absence and poor or failing grades
- Social problems, such as fighting and lack of participation in youth activities
- Legal problems, such as arrest for driving or physically hurting someone while drunk
- Physical problems, such as hangovers or illnesses
- Unwanted, unplanned, and unprotected sexual activity
- Disruption of normal growth and sexual development
- Physical and sexual assault
- Higher risk for suicide and homicide
- Alcohol-related car crashes and other unintentional injuries, such as burns, falls, and drowning
- Memory problems
- Abuse of other drugs
- Changes in brain development that may have life-long effects
- Death from alcohol poisoning

In general, the risk of youth experiencing these problems is greater for those who binge drink than for those who do not binge drink. (TDMHDD, 2010)

Prevention of Underage Drinking:

- Community-based efforts to monitor the activities of youth and decrease youth access to alcohol; and establishment of comprehensive prevention and treatment programs
- Enforcement of minimum legal drinking age laws
- Media campaigns targeting youth and adults
- Increasing alcohol excise taxes
- Reducing youth exposure to alcohol advertising
  (CDC, Underage Drinking, 2010)

Policies and programs that are working:

- ✓ The Department of Mental Health and Developmental Disabilities, Division of Alcohol and Drug Abuse Service has provided robust programming in prevention of underage drinking. This includes the Tennessee Prevention Network that focuses on high risk groups such as adolescents engaged in binge drinking and excessive alcohol use. The Division also coordinates the Tennessee Teen Institute (TIP). TIP is a peer program that provides alcohol and drug education, skill building, and leadership training to at risk youths (high school dropouts, foster care children, juvenile offenders, and children of substance abusing parents).

Areas for improvement:

- Community based efforts through school-based health centers offering primary care, prevention, and mental health services.

- Restriction of outdoor alcohol advertising near schools and residential areas.

- Collaboration among TDOH, MADD, TDMHDD for increased media/marketing to teens, including use of social networking and text messaging with prevention messages.

Asthma

Asthma is the most common chronic illness of children in the United States. In 2006, over 6.8 million U.S. children under the age of 18 had asthma and 4.1 million had an asthma attack that year. Although deaths due to asthma are rare among children, the disease is responsible for significant morbidity. For example, asthma is the third leading cause of hospitalization among U.S. children under the age of 15, and is one of the leading causes of school absenteeism. In 2003, asthma accounted for an estimated 12.8 million lost school days in U.S. children who had an asthma attack in the previous year. According to a 2009 TDOH report on childhood asthma,

approximately 10% of children in Tennessee suffered from asthma in 2007. Although inpatient hospitalizations for this disease have decreased since 1997, emergency department (ED) visits and charges for both inpatient and outpatient hospitalizations have increased. In addition, there were significant gender, racial, socioeconomic and geographic disparities in childhood asthma. Asthma prevalence was higher among boys than girls, and higher among blacks than whites. Male children and black children were more likely to be hospitalized or to visit the emergency room for asthma. Socioeconomic disparities are illustrated by the fact that asthma prevalence increases with decreasing family income. Low health literacy is associated with poor asthma control (Selden, et. al., 1999), a vital consideration in Tennessee where 1 in 8 adults cannot read (Tennessee Literacy Coalition, 2010). Inpatient hospitalization and ED visit rates were higher among TennCare enrollees than among the population as a whole. There were also wide geographic variations in the childhood asthma burden across the state.

Key findings from the TDOH 2009 Childhood Asthma Report:

Asthma Prevalence

- In 2007, 9.5% of Tennessee children (0-17 years) currently had asthma, compared to 8.6% in 2003.
- In 2007, a total of 12.9% of children were reported to have ever had asthma.
- Asthma prevalence was higher among boys than among girls, and higher among black non-Hispanics than among white non-Hispanics.
- Asthma prevalence increased with decreasing family income.
- Among black non-Hispanics, current asthma prevalence was 16.1%, compared to 7.6% among white non-Hispanics.
- Current asthma prevalence increased with decreasing family income, from 6.6% among those from homes earning 400% or more of the federal poverty level to 12.4% among children from homes earning less than 100% of the poverty level.
- Among children with public insurance (e.g. TennCare), current asthma prevalence was 13.6%, compared to 7.0% among children with private insurance.
- Current asthma prevalence was 12.2% among children who were uninsured or had periods without insurance coverage, compared to 9.2% among children who were consistently insured.

Hospitalizations and Emergency Department Visits

• Each year between 2002 and 2006, there were an average of approximately 2,300 inpatient hospitalizations and 14,100 emergency department (ED) visits for asthma among children in Tennessee.

• Inpatient hospitalizations for asthma decreased 31% between 1997 and 2006, while ED visits increased 25%.

• Between 2002 and 2006, the inpatient hospitalization rate in Tennessee was 168/100,000 children, and the ED visit rate was 1,048/100,000.

• Both inpatient hospitalization and ED visit rates were higher among boys than among girls, and higher among blacks than among whites.

• In 2006, hospital charges for childhood asthma totaled $29.1 million in Tennessee.

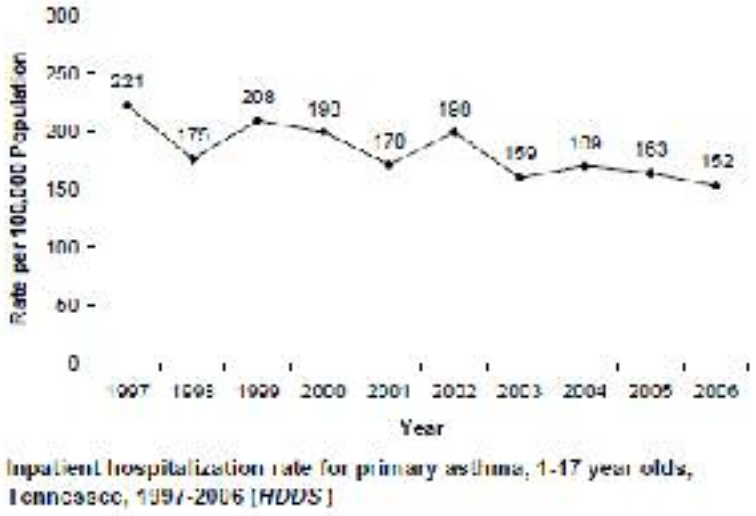
• Per visit charges for both inpatient and outpatient hospitalizations increased between 1997 and 2006 (64% and 113% increase, respectively).

• Between 2002 and 2006, 5.8% of asthmatic children enrolled in TennCare had to be hospitalized because of their asthma, and 21.5% had to be seen in the emergency room.

Table 25. Pediatric Asthma: Changes from 2004-2008

Metric	Worse	Neutral	Improved
HSCI 1: The rate of children hospitalized for asthma (ICD-9 codes 493.0-493.9) per 100,000 children less than 5 years of age HP 2010 Reduce hospitalizations for asthma			•
HP 2010 Reduce hospital emergency department visits for asthma	•		

Figure 5 Tennessee Hospitalization Rates for Asthma, 1-17 Year Olds, 1997-2005



Inpatient hospitalization rate for primary asthma, 1-17 year olds, Tennessee, 1997-2006 [*HDDS*]

Between 1997 and 2006, the overall pediatric asthma hospitalization rate in Tennessee decreased by 31%, from 221/100,000 to 152/100,000. However, there were variations by age. Inpatient hospitalization decreased with increasing age. Asthma hospitalization was highest among 1-4

year olds (350/100,000) compared to 163/100,000 among 5-10 year olds, and 72/100,000 among 11-17 year olds.

The asthma hospitalization rate decreased 37% among 1-4 year olds and 31% among 11-17 year olds from 1997 to 2006. There was not a statistically significant upward or downward trend in the asthma hospitalization rate among 5-10 year olds over this time period. The asthma hospitalization rate among black children was almost 3 times as high as the rate among white children (329/100,000 vs. 116/100,000). The asthma hospitalization rate among non-Hispanic children was over 2 times as high as the rate among Hispanic children (164/100,000 vs. 72/100,000).

Between 1997 and 2006 the asthma ED visit rate for Tennessee children increased by 25%, from 819/100,000 to 1020/100,000. The rate increased for all 3 age groups and was highest among 1-4 year olds. The rate for black children was over three and a half times as high as the rate among white children (2347/100,000 vs. 648/100,000). The ED visit rate among non-Hispanic children was almost 2 times as high as the rate among Hispanics (1024/100,000 vs. 518/100,000).

Regional Differences

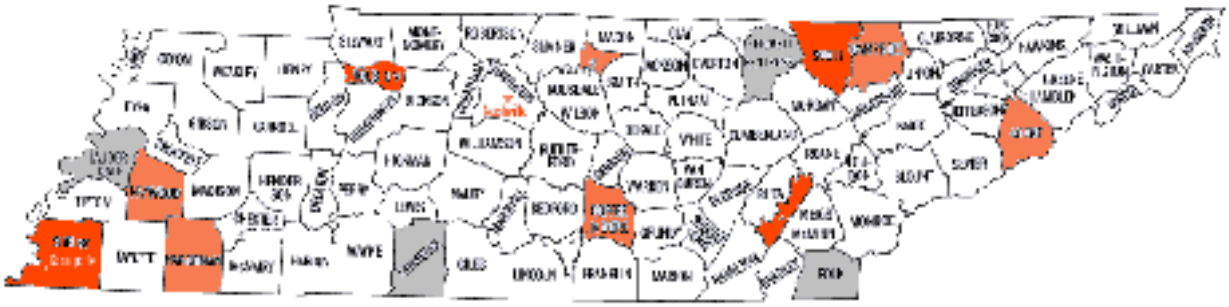
• Among the state's 14 health department regions, the Shelby region had the highest inpatient hospitalization and emergency department visit rates.

• Among the state's 95 counties, Hardeman County had the highest inpatient hospitalization and emergency department visit rates, as well as the worst ranking for overall asthma burden in the state.

• Among the state's 14 health department regions, the Shelby region had the highest percentages of TennCare enrollees requiring hospitalization or emergency care for their asthma.

• The five counties with the lowest childhood asthma burden were Pickett, Moore, Stewart, Williamson and Sequatchie counties (ranked 1 to 5).

• The five counties with the greatest childhood asthma burden were Knox, Fentress, Lauderdale, Shelby and Hardeman counties (ranked 91 to 95).



Counties with the highest asthma hospitalizations and Emergency Department visits for asthma per 100,000:
Red Counties (Scott, Shelby, Meigs, and Houston) have the highest emergency department visit rates. **Gray Counties** (Lauderdale, Lawrence, Polk, and Fentress) have the highest

hospitalization rates. **Orange Counties** (Haywood, Hardeman, Coffee, Campbell, Cocke, and Trousdale) have the highest rates for both emergency department visits and hospitalizations.

Asthma and Tennessee Schools

Table 26

Number of Students Receiving Emergency Procedure by Licensed Health Care Providers in School 2008-2009

Emergency Procedure	Number of Students	Percent of Total
Glucagon	26	.3%
Diastat	70	1%
Asthma	7,386	98%
Epi Pen	84	1%
Total	7,568	100%

Almost all emergency procedures were provided to students with asthma (98%).

TDOE Office of Coordinated School Health Annual Data and Compliance Report
2008-2009 School Year

Asthma is the most common chronic medical condition reported in Tennessee schools, and accounts for nearly all the emergency procedures administered by a nurse. Although the number of school nurses has increased significantly since implementation of CSH across the state (see school health section), school nursing coverage is well below national recommendations. School staff members consistently express concerns about dealing with asthma exacerbations when there is not a nurse in the area. The CSH program has increased the number of asthma-related education and care coordination services in schools.

According to a 2010 survey of CSH coordinators (90 respondents of 134 state-wide coordinators), the following services were implemented:

Asthma training for students	49%
Asthma training for parents	34%
Asthma training for nurses/school staff	78%
Care coordination	82%

Recommendations for Good Asthma Control:

- Access to affordable health care services
- Medical care that follows the National Heart Lung and Blood Institute (NHLBI) Expert Panel Review (EPR 3) Guidelines for Asthma
- Care coordination
- Home visiting for education, care coordination, and trigger assessment/control
- Collaboration among health care providers, family, school, and community that includes use of an individualized Asthma Action Plan
- School-based health services
- School policies for indoor air quality, asthma management plans, and access to rescue medications
- Culturally relevant asthma education that includes consideration of health literacy/numeracy and primary language

(NHLBI, CDC Asthma Control Program, American Lung Association)

Policies and programs that are working well:

- ✓ T.C.A. 49-5-415 (2006) Allows public and nonpublic school boards to permit an employee or person under contract with the board to assist in the self-administration of medications. Rules and guidelines were developed to accompany this law. They include specific elements of training unlicensed providers, and safe medication administration and storage.

- ✓ T.C.A. 49-5-415 (2006) Requires registered nurses to complete an Individualized Health Plan (IHP) for students with acute or chronic health issues. In 2008-2009, 89% of all children with a chronic condition had an IHP. The Asthma Action Plan may serve as an IHP for children with asthma.

- ✓ T.C.A 49-5-415 (2006) Requires schools to permit students with asthma to possess and self administer prescribed rescue inhalers and requires authorization from a parent and physician. Prior to this law, some districts did not allow older children and teens to have ready access to rescue inhalers, or to self carry/self administer in urgent situations.

- ✓ T.C.A. 49-1-2 (2008) Requires the Departments of Health, Education and TennCare Bureau to develop a comprehensive state asthma plan to reduce the burden of asthma on Tennessee school children. The State of Tennessee Asthma Taskforce (STAT) plan was developed by a team of experts and stakeholders in 2009. The overarching goals include surveillance, public awareness and education, medical management, reduction of environmental triggers and improved provider-community-family collaboration (including dissemination and use of an Asthma Action Plan). The State Asthma program has developed a comprehensive “tool shed” on the MCH webpage that includes resources, links, and an Asthma Action Plan that can be downloaded.

- ✓ CSH has increased asthma education and care coordination services to children in Tennessee schools. It has also provided avenues for districts to employ more nurses and develop school-based health centers.

Areas for improvement:

The STAT plan has not been fully implemented due to lack of funding and severe staffing shortages. For example, a component of the STAT plan included implementation of pilot asthma programs. Model multidisciplinary, community-based programs and evaluations (that include the above list of recommendations for good asthma control) are needed to address disparities among poor and black children with asthma. These should be implemented first in the areas of the State identified as having the most acute needs (Knox, Fentress, Lauderdale, Shelby and Hardeman counties).

The MCH home visiting staff (including CSS) expressed need for further training in care coordination for children with special health care needs, including asthma. Improvement in care coordination that includes home visiting to assess and reduce triggers, asthma education, and collaboration with health care providers is needed to impact asthma in Tennessee.

School nurses and school-based health centers have been shown to improve asthma control, decrease ED visits and hospitalizations, and improve school attendance. Improving the school nurse-to-student ratio could improve asthma outcomes for children. School health centers should be expanded to serve areas with greatest need.

Improved collaboration is needed with ECCS/CISS and Early Childcare Centers for training childcare workers and teachers in asthma management.

Obesity

An alarming increase in the prevalence of obesity among children and adolescents has occurred in the United States over the past three decades. Data from the NHANES surveys (1976-1980 and 2003-2006) show that obesity rates increased for 2 to 5 year olds from 5.0% to 12.4%; for 6 to 11 year olds from 6.5% to 17.0%; and for 12 to 19 year olds from 5.0% to 17.6%. Genetic, biologic, cultural, geographic, and socioeconomic factors have a role in predisposing children to obesity. African American, Mexican American, Native American, Pacific Islander, and children living in poverty are disproportionately affected (Ogden, et al, 2008).

The consequences of childhood obesity are serious and include hypertension, sleep apnea, diabetes, orthopedic problems, worsening of asthma symptoms, and self-esteem issues. Obese children are more likely to become obese adults than their normal-weight peers, sustaining the economic, medical, and societal burden of chronic disease and decreased productivity (Hassink, 2007).

In 2008, 39% of Tennessee school children were overweight or obese (BMI $\geq$ 85% for age and gender on CDC growth charts) (Figure 6). Based on the 2007 National Survey of Children's

Health, Tennessee children ages 10-17 ranked 4th in the Nation for childhood obesity and overweight.

Table 27 Childhood Obesity Trends 2003-2009

Metric	Worse	Neutral	Improved
NPM 14: Percentage of children, ages 2-5 years, receiving WIC with BMI at or above the 85%	•		
TPM 8: Reduce the number of overweight and obese children and adolescents HP 2010 19-3c: Reduce the proportion of children and adolescents who are overweight or obese	•		
HP 2010 22-8: Increase the proportion of the Nation's public and private schools that require daily physical education for all students	•		

Health-related behaviors related to nutrition and physical activity among Tennessee high school students taking the 2009 YRBS survey:

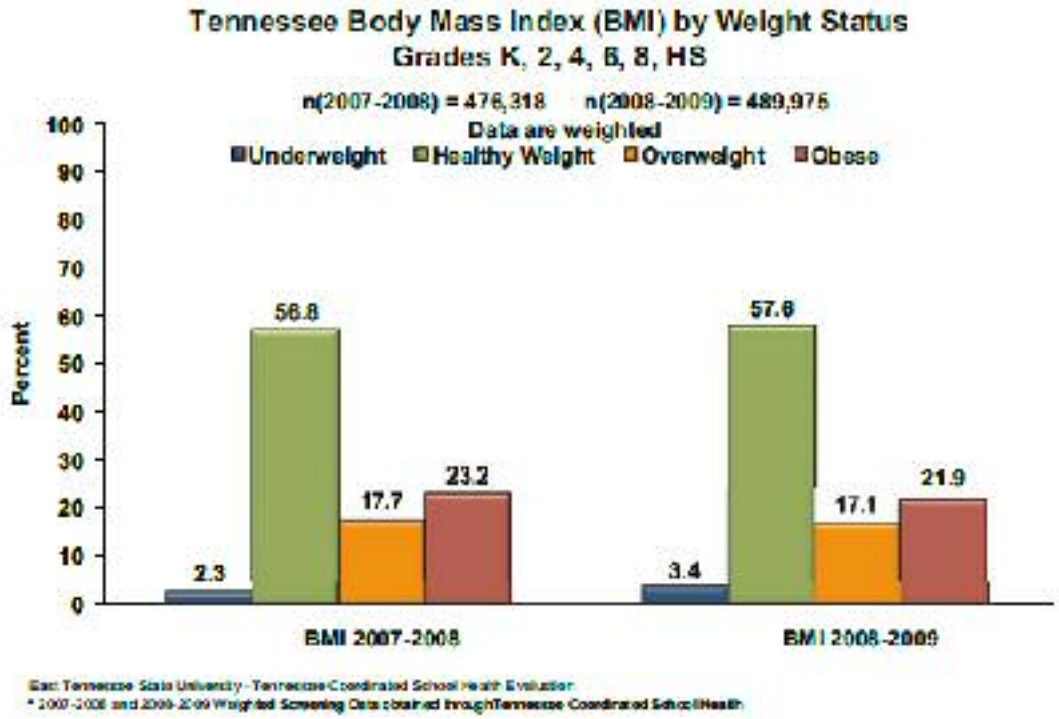
Sixty percent (60%) reported they were not physically active 60 or more minutes per day on five or more of the past 7 days.

Eighty two percent (82%) reported they did not eat 5 or more fruits and vegetables per day.

Forty two (42%) reported they drank a can, bottle, or glass of soda or pop one or more times per day during the past seven days.

Thirty eight (38%) reported they watched 3 or more hours per day of TV on an average school day.

Figure 6



Factors contributing to childhood obesity:

- Sedentary behaviors, including screen time (TV, computer, video, social media)
- Lack of safe/accessible places for family recreation.
- Food deserts/food insecurity
- Consumption of sugar-sweetened beverages
- Decreased PE and physical activity time in schools
- High fat school meals
- Large portion sizes

Recommended Strategies to Reduce Childhood Obesity

Kumanyika and Brownson (2007) recommend putting together a mix of options so that there is a combination of known and unknown (but promising) strategies that could work. They suggest

that school-based strategies are “necessary but not sufficient” to change outcomes and that we must redirect toward an overall social and environmental context. Health and school agencies must collaborate with others e.g., agriculture, business, and transportation to effect change in the social and physical determinants of health.

Recommended School-Based Strategies to Reduce Childhood Obesity

* Coordinate and integrate school health-related programs across state agencies and with nongovernmental organizations.
* Use state and local data to guide decision-making and policy formulation.
* Support the development of school health councils and rigorous school health planning processes.
* Establish strong wellness policies.
* Improve the capacity of school staff through certification and professional development.
* Establish requirements for how much time students must spend in physical education. (IOM, 2007).

Table 28. Recommended outcomes across different sectors of change compared with expected long-term outcomes

Recommended outcomes/sectors of change	Expected long-term outcomes
Cognitive, social, and behavioral outcomes	Families will have knowledge, skills, and attitudes to raise healthy, active children.
Environmental outcomes	Communities will have accessible, nutritious food. Communities will have accessible, safe places for play and recreation.
Structural, institutional, and systemic outcomes	School health policies and programs will reflect national standards for nutritious meals, daily physical activity, and health services.
Health outcomes	85% of children will have BMIs in the healthy range (5-84%) by 2020.

(Adapted from IOM, 2007. Progress in Preventing Childhood Obesity: How do We Measure Up?)

Policies and programs that are working well:

- ✓ 2000: The Tennessee Coordinated School Health Improvement Law appropriated $1 million to fund 10 CSH pilot sites. Due to the success of the program, CSH was expanded to every district through The Coordinated School Health Expansion Law in 2006. The law funds $15 million for CSH and also requires schools to offer at least 90 minutes of physical activity per week.

- ✓ 2004: The Child Nutrition and WIC Reauthorization Act required all school districts with a federally funded school meals program develop and implement wellness policies addressing nutrition and physical activity. In response Tennessee passed Public Chapter 708 (the Vending or Competitive Foods Law) that required nutritional standards be set for a-la-carte and vending foods sold in PK-8th grade schools. Tennessee now ranks 2nd in the nation in the number of schools which do not sell soda or high-calorie fruit juices. The overall percentage rank increased from 26.7% in 2006 to 74% in 2008. During the 2008 school year, 64.7% of Tennessee secondary schools did not sell unhealthy food items in vending machines, school stores or snack bars. Tennessee ranks 6th in the nation in this category.

- ✓ 2005: The BMI Law allows Tennessee schools to collect weights, heights, and BMI on students. During the 2008-2009 school year, CSH Coordinators collected a total of 225,461 measures of height and weight and calculated BMI on Tennessee students in grades K, 2, 4, 6, 8 and one year in high school. The Tennessee Department of Health, WIC and Nutrition Program participated in developing quality standards for measurements and reports home to parents.

- ✓ 2005: The Physical Activity Policy was adopted by the State Board of Education, requiring each school system to form School Health Advisory Councils. Each school is required to complete modules 1,3, and 4 of the School Health Index. (1 - policies and environment; 3 - physical education and other physical activity, and 4 - nutrition services).

- ✓ Ninety-seven percent (97%) of school systems reported being in compliance with these standards in 2008-2009.

- ✓ **There was a reduction in combined overweight/obesity** in 2008-2009 (39% of students with BMI $\geq$ 85%) from 40.9% of students with BMI $\geq$ 85% in 2007-2008.

- ✓ GetFitTN is a statewide awareness program developed by Governor Phil Bredesen and Commissioner Cooper to address the rising epidemic of Type 2 diabetes and risk factors, like obesity. The initiative is aimed at educating both adults and children that Type 2 diabetes can be delayed or even prevented with modest lifestyle changes like increasing physical activity and a healthier diet. The Get Fit Tennessee Team is based out of the Commissioner of Health's office in Nashville, with Team members spread out across the state in each Health Department. The Team makes several stops each month across the state to help promote events involving healthy living and spread the news about Get Fit Tennessee. The website offers an interactive Fitness Tracker develop health and fitness goals and track progress. Other features of the website include the ability to hold team or

workplace fitness competitions. Users can visit the "Ask an Expert" section to ask questions about fitness and nutrition. Questions are reviewed and answered by a trained professional from the Get Fit Tennessee Team.

- ✓ The Gold Sneaker initiative was developed to enhance policy related to physical activity and nutrition within licensed child care facilities across Tennessee. It is a collaborative among the Department of Health, Department of Human Services and Child Care Resource & Referral Centers and funded through a grant from the National Governors Association through the Robert Wood Johnson Foundation. New policy will be primarily focused on physical activity, more frequently referred to as "active play" in this age group. Child care facilities that implement the designated physical activity and nutrition policies will earn a "Gold Sneaker" award which designates them as a "Gold Sneaker" child care facility. Currently, 15 facilities have been awarded the Gold Sneaker designation. Such designation can be used for marketing purposes for the child care facilities. Facilities receive recognition through a certificate, decals, stickers and website recognition. Gold Sneaker training sessions have been added to Child Care Resource and Referral's menu of training topics. Training attendees will receive forms, instructions, checklists, curricula and materials for implementation in their facilities.

- ✓ "Communities Putting Prevention to Work" (CPPW) is a community capacity-building program for instituting population-based policy, systems, and environmental change in communities and schools to (1) decrease overweight/obesity prevalence; increase levels of physical activity; improve nutrition; and/or (2) decrease tobacco use and exposure to secondhand smoke. Nashville was recently awarded 7.5 million in Public Health Stimulus funds under the American Recovery and Reinvestment Act of 2009. The U.S. Department of Health and Human Services' CPPW initiative aims to improve the health of the American public by reducing chronic disease, which is the leading cause of premature death and disability in the United States. Grantees who receive funding will tackle important health issues related to chronic disease ---poor nutrition, physical inactivity, tobacco use, and exposure to tobacco smoke. This city-wide project is multi-focal and includes the following components, which mirror national recommendations for community-based obesity prevention strategies:

Safe Routes to School, an initiative in partnership with Metro Public Schools.

Share the Road which is aimed at increasing awareness in addition to improving policy and signage regarding shared use of streets and roadways.

The Gold Sneaker, a Tennessee Department of Health best practice program that builds lifelong skills for healthy living. Gold Sneaker will be implemented in partnership with Metro Head Start.

Green Bikes, a prototype bike share initiative seen in many cities around the world. Through Green Bikes, riders will be able to rent bikes for personal uses at little or no cost to the rider. The goal is to provide the Nashville community and its many visitors easy access to bicycles as a means of temporary transportation and healthy recreational activity. Nashville will structure its efforts around the "Bike Share Programs" operating in many cities around the world.

Urban Garden and Corner Market initiatives will be implemented through the Manna-Food Security Partners promoting healthy food, physical activity, and intergenerational activities as well as access to fresh fruits and vegetables in corner stores and

neighborhood markets.

Areas for improvement:

- Recurring funds for CSH versus annual appropriation
- Increase PE time in schools to an hour per day every day.
- Expand the Competitive Food/Vending law to high schools
- Implement a soda tax with proceeds going toward school/community nutrition and physical activity programs.

Objectives for healthy schools and communities go beyond the narrow view of obesity prevention to a much broader landscape of social and environmental change. It is expected that wide-reaching projects like Nashville's CPPW will have outcomes beyond decreasing obesity and diabetes prevalence.

Needs of Tennessee School Children/School Health Programs

About 50 million children between the ages 5 and 19 attend elementary or secondary schools in the United States. Schools are the one place where most school-age children spend six to seven hours a day, nine months a year. Students should have a safe, healthy environment; prompt, effective emergency and urgent care; safe administration of medications and medical procedures; protection from communicable diseases; and health education and promotion. All schools are obligated under the Individuals with Disabilities Act (IDEA), Section 504 of the Rehabilitation Act, and the Americans with Disabilities Act to provide for such care as is necessary to enable a child with a physical or mental disability to benefit from a free, appropriate public education.

Nearly one million (912,124) children attend Tennessee Public Schools and 139,432 (15%) are known to have some type of chronic condition and this number appears to be trending upward. Of those with chronic conditions, asthma accounts for 40%; ADHD/ADD 23%; and severe allergies 15%.

From Tennessee DOE, Office of Coordinated School Health
Data and Compliance Report 2008-2009

Table 29

STUDENT DIAGNOSES

Number of Students with Diagnosis of Chronic Illness or Disability Diagnosis 2008-2009

Chronic Illness or Disability Diagnosis	Number of Students 2008-2009	Percent of Total
Diabetes	3,416	2.4 %
Asthma	56,213	40.3%
ADHD/ADD	31,960	23%
Seizure Disorder	6,461	4.6%
Severe Allergy	21,294	15.3%
Other	20,088	14.4%
Total	139,432	100%

Most students were diagnosed with Asthma (40.3%), ADHD/ADD (23%) and Severe Allergy (15.3%).

Table 30

Number of Students by Chronic Illness or Disability Diagnosis
2004-2005 and 2008-2009

Chronic Illness or Disability Diagnosis	Number of Students 2004-2005	Number of Students 2008-2009	Percent Change
Diabetes	2,388	3,416	+ 43%
Asthma	38,676	56,213	+ 45%
ADHD/ADD	19,939	31,960	+ 60%
Seizure Disorder	NA	6,461	NA
Severe Allergy	NA	21,294	NA
Other	14,536	20,088	+ 38%
Total	75,539	139,432	+ 85%

The total number of students with chronic illness or disability diagnoses increased by 85% between 2004-2005 and 2008-2009.

Table 31

MEDICATIONS

Number of Students Self-Administering Medications at School
2008-2009

Type of Medicines Self Administered at School During the School Year Under Supervision of School Personnel	Number of Students Self Administering these Medications at School 2008 2009	Percent of Total
Inhalants	16,776	28.5%
Insulin	1,486	2%
Topical	10,673	18%
Behavioral	4,909	8%
Antibiotic	2,668	4%
Seizure control/prevention	296	.5%
Other Non Specified Drugs	23,437	39%
Total	60,238	100%

The most common medications administered by students were Other – Non Specified drugs (39%) Inhalants (28.5%) and Topical (18%)

Providing high-quality health programs in school – including school nursing, school-based health centers, mental and dental health services as well as health promoting programs and practices a direct, efficient way to assure that all children get the help they need to lead healthy and productive lives. School health programs range from those that help students adopt healthy habits to those that foster a physically and emotionally healthy school environment. School-based services include physical and mental health care, dental services, screenings and referrals to community resources, as well as school-located services to support students with special needs.

American School Health Association Components of School Health:

- A healthful environment
- Nursing and other health services that students need to stay in school
- Nutritious and appealing school meals
- Opportunities for physical activity that include physical education
- Health education that covers a range of developmentally appropriate topics taught by knowledgeable teachers,
- Programs that promote the health of school faculty and staff, and
- Counseling, psychological and social services that promote healthy social and emotional development and remove barriers to students' learning.

The American Cancer Society identified the following basics of a high-quality school health program:

- Active Leadership from school administrators, a school and community health council, and a school employee with responsibility for coordination.
- A Coordinated and Collaborative Approach overseen by a school health council, that sets priorities based on community needs and values, and that links with community resources.
- A Safe and Nurturing Learning Environment with supportive policies and practices, facilities that are hazard free, and consistent health-enhancing messages.
- A Commitment of Time, Personnel, and Resources.

Coordinated School Health

The Coordinated School Health (CSH) model is a method of connecting health and learning that consists of eight inter-related components. This approach constitutes a systems change by improving students' health and their capacity to learn through personal responsibility, and the support of families, communities and school. By definition all Coordinated School Health Components work together to improve the lives of students and their families. Although these components are listed separately, it is their composite that allows CSH to have significant impact.

Figure 7. Coordinated School Health Model

(CDC/DASH, 2010)

The Tennessee Coordinated School Health Improvement Act appropriated $1 million to fund 10 CSH pilot sites in 2000. Due to the success of the program, CSH was expanded to every district through The Coordinated School Health Expansion Law in 2006. Each district now has a coordinator who organizes healthy school teams and health programs. The Coordinated School Health program is housed in the Department of Education (TDOE).

School Nursing

There were 1,474 nurses were working in Tennessee schools during 2008-2009, 905 of those were registered nurses. Tennessee law (TCA 49-3-359) passed in 2004 and mandates a registered school nurse to student ratio in public schools at 1:3000. This is well below the national standards of one RN per 750 general education students; one RN per 250 students with special health care needs; and one RN per 125 medically fragile students. Several state laws have passed allowing unlicensed school personnel to administer medical treatments to students. Unfortunately, these policies have not been founded on medical evidence or best practice; nor can unlicensed school staff provide the care coordination or preventative services that improve attendance and health outcomes. The number of school nurses in Tennessee has increased since CSH was expanded. Of 107 districts reporting detail school nursing data in 2008-2009, over 2.7 million visits were logged by school nurses. Of these students, 61% returned to the classroom.

School-Based Health Centers

Twelve school systems have at least one school-based health center (SBHC). Among

those local education agencies (LEAs), 54 schools offer SBHCs for students. Sixty-eight percent (68%) of these clinics provide students with physicals. (In 2008-2009, 29,965 EPSDT exams were provided). Thirty-nine percent (39%) use telemedicine to deliver some of their service and 50% provide services to faculty and staff as well as to students. The number of SBHCs has increased since the expansion of CSH. Coordinators have worked in collaboration with local communities, county health councils, and healthy school teams to procure funding and support to implement SBHCs across the state.

Two long-standing (over 15 years) school-based health center programs are operated by Federally Qualified Health Centers in Nashville. United Neighborhood Health Services (UNHS) has full-time centers in 4 high schools. They provide a full range of primary care. Parents choose from a list of services they want their teen to receive, including:

- Preventive care including immunizations, sports, and EPSDT exams
- Diagnosis and treatment of illness
- Care for chronic conditions
- Behavioral health assessment and referral
- Labs as needed
- Reproductive care, including pregnancy and STI testing, treatment for STIs. No contraceptives are prescribed or dispensed.

Over 1000 students had EPSDT exams through the UNHS school health centers last year.

University Community Health Systems, and the Vanderbilt University School of Nursing Jane McEvoy School Health Program operate 3 school health centers in Nashville elementary schools. When fully staffed with pediatric nurse practitioners, this program was successful in improving attendance, reducing ED visits, providing EPSDT exams and immunizations, and providing comprehensive pediatric care to children in the school and community. Services are now limited due to funding cuts.

Table 32. School Health Trends 2004-2009

Metric	Worse	Neutral	Improved
HP 2010 7-2: Increase the proportion of middle, junior high, and senior high schools that provide school health education to prevent health problems in the following areas: unintentional injury; violence; suicide; tobacco use and addiction; alcohol and other drug use; unintended pregnancy, HIV/AIDS, and STD infection; unhealthy dietary patterns; inadequate physical activity; and environmental health.			•

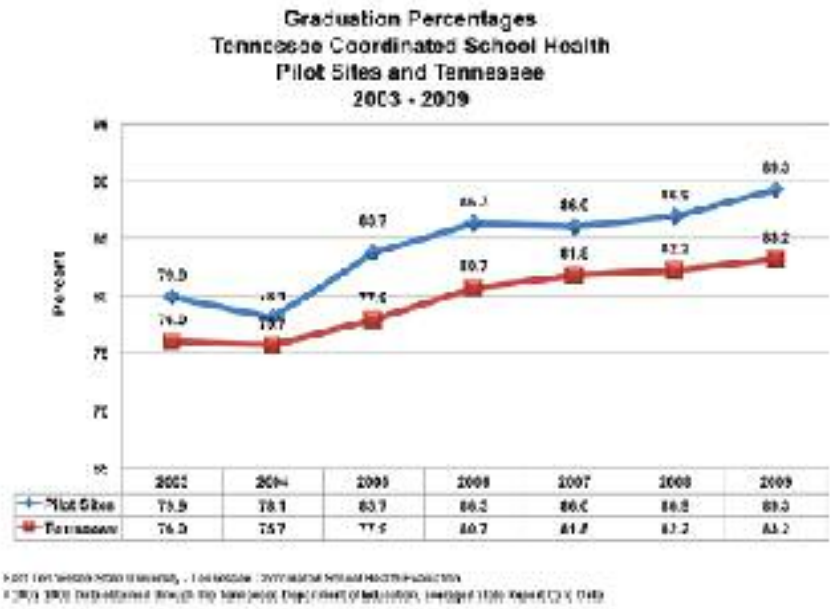
HP 2010: 7-4.Increase the proportion of the Nation's elementary, middle, junior high, and senior high schools that have a nurse-to-student ratio of at least 1:750.	•		

Programs and policies that are working well

All of Tennessee's 135 LEAs have begun to implement CSH. Among the 135 LEAs where CSH is fully implemented with a full-time coordinator and at least one year of programming:

- ✓ Ninety-six percent (96%) have a School Health Advisory Council in place (a system-wide council).
- ✓ Ninety-three percent (93%) have formed Staff Coordinating Councils at the district level to aid in communication between the eight components of CSH.
- ✓ Ninety-five percent (95%) have Healthy School Teams formed at all CSH schools (school-level teams).
- ✓ Ninety-eight percent (98%) base their CSH programming and budgeting on an action plan developed in response to needs identified within the LEA.
- ✓ Ninety-eight percent (98%) use the CDC's School Health Index self evaluation tool to guide program planning.
- ✓ School-based health centers provide accessible, affordable health care for teens and children, including EPSDT exams and immunizations; assessment and referral for behavioral and mental health problems; and management of chronic and acute conditions.
- ✓ A total of 1,474 nurses were working in Tennessee schools during 2008-2009. Of 135 LEAs and 4 state special schools, 97% met the requirement of a nurse to student ratio of 1:3,000.
- ✓ The number of school nurses (RN and LPN) both employed and contracted by Tennessee school systems increased by 32% from 2005-2006 to 2008-2009.
- ✓ Graduation rates have improved in the CSH original pilot sites (*Figure 8*).
- ✓ The percentage of overweight/obese students decreased in 2008-2009.

Figure 8



Areas for improvement

- Recurring funds for CSH versus annual appropriation
- Fully fund the BEP (Basic Education Program) to include one RN for every 750 students
- Improve collaboration between TDOH and TDOE for school health infrastructure that includes school nursing, school nursing training/competency development, a State School Nurse Consultant and Regional School Nursing Consultants.
- Support expansion and funding of SBHCs

Children and Youth with Special Health Care Needs

The Tennessee Department of Health defines Children with Special Health Care Needs as a physically handicapped or crippled child under twenty-one (21) years of age who is deemed chronically handicapped by any reason of physical infirmity, whether congenital or acquired, as a result of accident, or disease, which requires medical, surgical, dental or rehabilitation treatment, and who is or may be totally or partially incapacitated for the receipt of a normal education or self-support.

Several qualitative and quantitative data sources and methods to determine the health status of the Children and Youth with Special Health Care Needs Population (CYSHCN) were utilized to determine the strengths and needs of Tennessee CYSHCN. Data sources include:

- *The National Survey of Children and Youth with Special Health Care Needs (NS-CSHCN) Chartbook 2005-2006*
- *The 2006-2007 Tennessee Statewide Survey of Families with CYSHCN (FV Survey)*
- *The Tennessee Early Childhood Comprehensive Systems Survey to Tennessee Pediatric Health Providers Regarding Implementation of Medical Home Components as Defined by the American Academy of Pediatrics*
- *The Tennessee Child Count Data*
- *Tennessee Department of Education Special Education Report Card*
- *The Maternal and Child Health Needs Assessment Professional Stakeholder Survey*
- *Tennessee Department of Education, Coordinated School Health Data and Compliance Report, 2008-2009*
- *Tennessee Childhood Asthma Report, 2009*

The National Survey of Children and Youth with Special Health Care Needs (NS-CSHCN) Chartbook 2005-2006

Prevalence

Based on the most recent NS-CSHCN survey (2005-2006) results, Tennessee's prevalence of CYSHCN was higher than the nation across nearly all demographic and socio-economic variables including gender, age, race/ethnicity, and poverty status (*National Survey of Children with Special Health Care Needs – Chartbook 2005-2006).* Overall, 16.4% of all children 0-17 years old in Tennessee were estimated to have special health care needs compared to 13.9% of children nationwide.

Prevalence of CYSCHN:
Tennessee and the U.S.

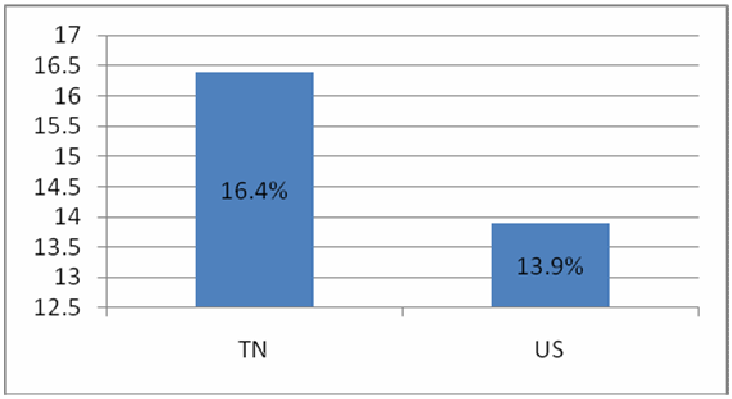


Figure 9 –Source CSHCN 2005 (Age 0-17 years)

The prevalence of special health care needs within the child population increases with age. Preschool children (from birth through 5 years of age) have the lowest prevalence of special health care needs, followed by children aged 6–11 years. Children in the oldest age group (12–17 years) have the highest prevalence of special health care needs. The higher prevalence among older children is likely attributable to conditions that are not diagnosed or that do not develop until later in childhood. Special health care needs are more prevalent in boys than girls in Tennessee and the U.S. Among Tennessee boys, 18.1% have special health care needs compared to 14.7% of girls.

Prevalence CYSHCN: Age
Tennessee and the U.S.

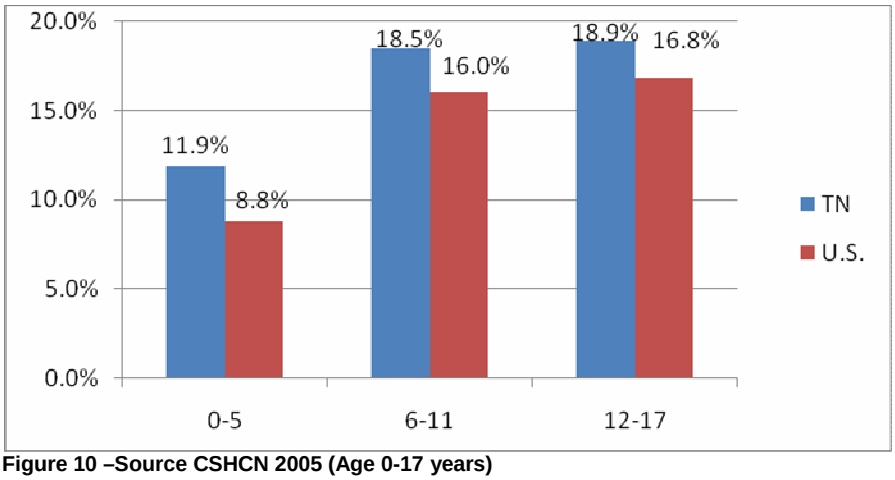


Figure 10 –Source CSHCN 2005 (Age 0-17 years)

The prevalence of special health care needs varies by the child's race and ethnicity. In Tennessee, Hispanic children (10.9%) were less likely to have a special health care need compared to White non-Hispanic (16.3%).

Prevalence of CYSHCN: Race/Ethnicity

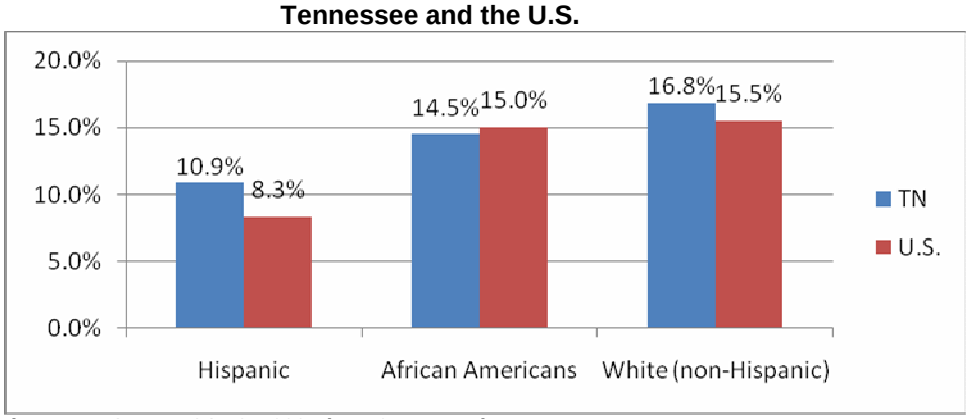


Figure 11 –Source CSHCN 2005 (Age 0-17 years)

The prevalence of special health care needs varies widely among income groups. CYSHCN prevalence among families with incomes below 100% of the Federal Poverty Level (FPL) is higher in Tennessee (20.4%) than it is for the U.S. (13.9%). CYSHCN prevalence among 100%-400% and above the FPL is also higher for Tennesseans than for the U.S.

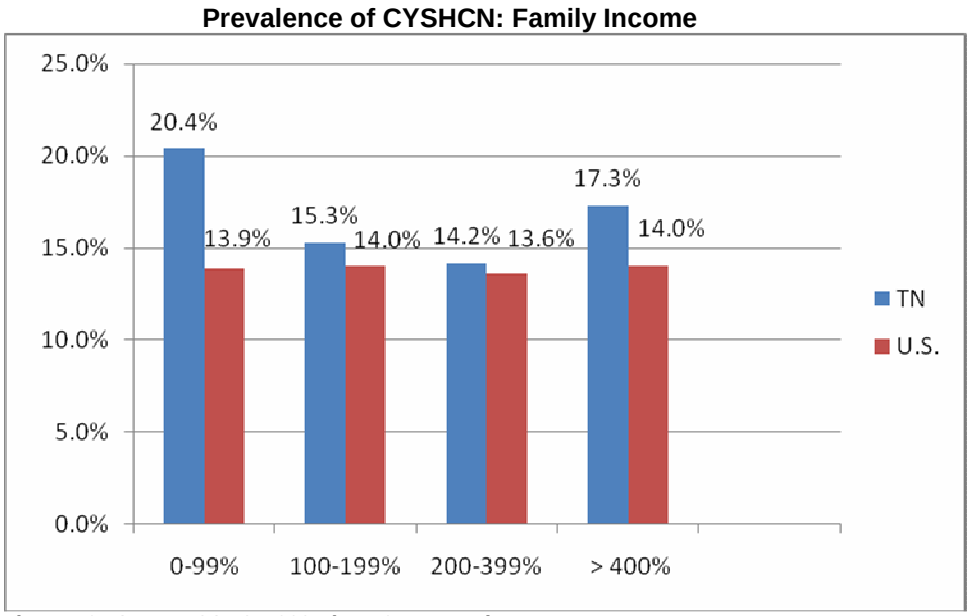


Figure 12 –Source CSHCN 2005 (Age 0-17 years)

Compared to CYSHCN nationwide, Tennessee CYSCHN report they were:

- Less likely to rely on the emergency room for care (TN 5.0% US 5.7%)
- Less likely to be uninsured (TN 6.9% US 8.8%)
- Less likely to receive the care needed (TN 14.2% US 16.1%)
- Equally as likely to be absent from School (TN 14.3% US 14.3%)
- Less likely for their condition to cause financial hardship to the family (TN 17.9% US 18.1%)
- Less likely to have their condition affect their activities (TN 22.8% US 24.0%)
- More likely to have a medical home (TN 52.7% US 47.1%)
- Less likely to have family centered care (TN 30.7% US 34.5%)

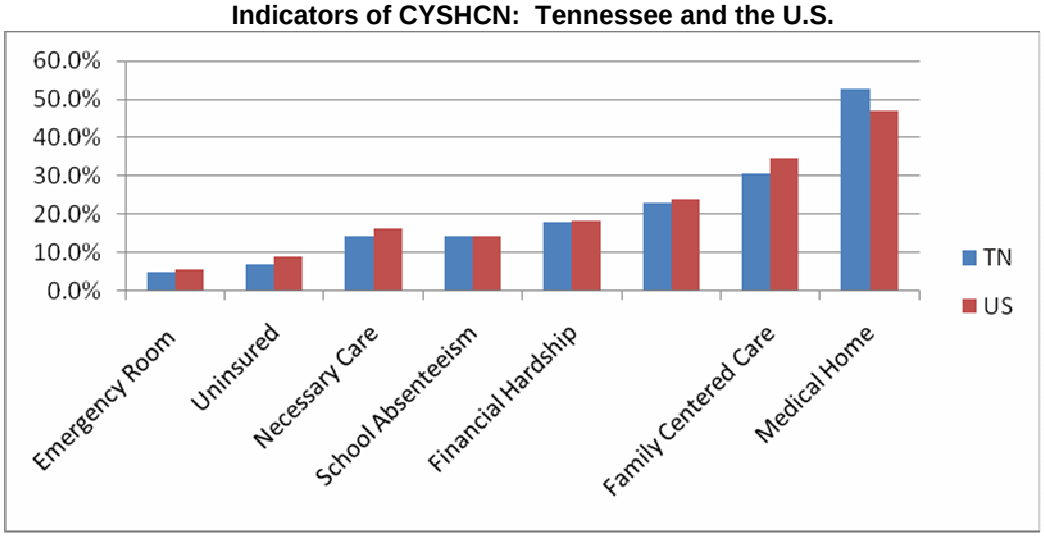


Figure 13 –Source CSHCN 2005 (Age 0-17 years)

The 2006-2007 Tennessee Statewide Survey of Families with CYSHCN

The 2006-2007 Tennessee Statewide Survey of Families with CYSHCN (FV Survey) was completed in December 2007. This survey was a collaborative effort between Family Voices of Tennessee, Vanderbilt University, and Tennessee Department of Health, Maternal and Child Health Division CSS Program (mentioned in the 2005 needs assessment).This survey was conducted from October 2006 – October 2007 with families of the Tennessee CYSHCN – Children's Special Services (CSS) Program participants. Preliminary data was released December 2007 with final report in October 2008. The survey sought to identify unique needs of CYSHCN, obtain statewide data on TN CYSHCN and identify areas/systems working well and those needing improvement. The survey asked specific questions that examined insurance status and access to care of CYSHCN and attempted to determine if CYSHCN receive the services necessary to make appropriate transition to adult health care, work and independent living. The survey questions were also designed to determine the effectiveness of care coordination for CYSHCN, and the impact CYSHCN have on families. There were 6000 surveys mailed or hand delivered to families receiving services through the Tennessee Title V CYSHCN - Children's Special Services Program. Completed surveys were returned from eight hundred sixteen (816) families with a child with special health care needs and/or a disability.

Adequate Insurance and Access to Care

The survey respondents indicated a high rate of insurance coverage, with the majority of the families responding 86.9% indicating their child was a participant in a state insurance plan. Families, 49% reported that services were provided in a timely manner and 58% reported that their insurance plan provided clear information. Eighty-nine percent (89%) of the families reported that they were very satisfied with the health services their child receives, and 90% felt providers respected their concerns and treated them as partners. Almost one-third of the families (30.8%) reported that they experienced difficulty accessing needed services.

Health Plans Insurance Coverage	Percentage (%)	Access To Care	Percentage (%)
CYSHCN enrolled in TennCare at some point during past year	86.9	Families satisfied with the health services their child receives	89.0
CYSHCN currently enrolled in TennCare	71.7	CYSHCN see the same provider at each visit most of the time	87.7
All family members had health insurance	64.3	CYSCHN see provider more often than most other children	62.5
CYSHCN receiving services through Children's Special Services Program	31.0	Families experience difficulty getting needed referrals	30.8
		CYSHCN rely on emergency room for care	11.3

Table 33 – Insurance Status and Access to Care (Source: FV Survey)

Transition

National and state performance measures as well as the MCHB Core Outcomes critical indicators of progress expect all children and youth with special health care needs will receive services necessary to make appropriate transitions to adult health care, independent living, and work. Many respondents to the Family Voices Survey reported they are not having discussions with health care providers or educational staff regarding transition. Forty-eight percent (48%) reported that providers talked with them about planning for changing health care needs as the child ages, and forty-four percent (44%) reported their child's teacher discussed issues related to their child's transition to adulthood. The NS-CHSCN survey reported that Tennessee respondents received services necessary to make appropriate transitions to adult health care, work and independence 39.6 %, slightly less than national rate of 41.2%.

Care Coordination

Care coordination is a central, ongoing component of an effective system of care for children and youth with special health care needs and their families. This system of care helps facilitate the linkage of children and their families to health, and other services that address the full range of their needs and concerns. Principles of care coordination reflect the central role of families and the prioritization of child and family concerns, strengths and needs in effective care of children with special health care needs and provide a coordinated effort for maximum health. Activities of care coordination include identification of individual child and family needs, strengths and concerns, and aim simultaneously to meet family needs, build family capacity and improve systems of care. The Family Voices survey examined the effectiveness of care coordination for families and children receiving services through the TN CYSHCN program. Family responses are included in the table below.

Coordination of Care	Percent (%)

Providers Followed up with families and communicated to other providers	77
Children's services are well coordinated	74
Satisfied with the level of services the child received	67
Unaware of State programs that can assist in finding needed services for their children	49
Children's Special Services (CSS) Program is child's primary care coordinator	33

Table 34 Coordination of Care (Source Family Voices Survey)

Impact on Families

Families often report having a child with special health care needs places a tremendous impact on the family unit. This impact affects a family's finances, employment status, recreational activities, community involvement, etc. Families report voluntarily reducing work hours and in some instances resigning from positions in order to provide care for their child with special health care needs. The data from the FV Survey revealed the tremendous impact CYSHCN has on the family structure.

Impact On Families	**Percent (%)**
Income below $30,000 annually	60
Involved in religious activities (church, temple, mosque, etc	52
Child's condition caused financial problem for family	51
Need more income to cover expenses related to child's condition	48
Rarely or never participated in recreational activities together	45
No respite care available	37
Child's condition prevented some activities	22

Table 35 Impact on Families (Source Family Voices Survey)

As a follow-up to the survey, Family Voices conducted town hall meetings in May 2008, in the three grand divisions across the State. The purpose of the meetings was to disseminate the results of the 2006-2007 survey to the families that participated in the survey and to other families that have children with special health care needs. Local community leaders and health department employees were invited to participate in the meetings. After presenting the results of the survey, the six MCHB core outcomes were presented and families were asked to provide feedback on their experiences concerning the outcomes.

Survey results and initial data from the town hall meetings indicate that there are some core outcomes and national performance measures that are being met for at least some part of the CYSHCN in Tennessee. For example, respondents reported that Title V Children's Special

Services (CSS), TN Early Intervention Services, and Head Start Programs are doing an excellent job of providing case management, care coordination and providing medical and educational services for CYSHCN. A particular challenge for Tennessee was in the area of transition. Most families believe that adult medical doctors do not understand the transition needs of their child. Families also reported that they would like more educational programs on transition that not only address educational needs but also health related needs of CYSHCN. Another area of concern was medical homes. Many of the participants at the town hall meetings indicated their child has a medical home, but they were not familiar with the medical home concept and requirements.The strengths and challenges listed later in this section are based on the responses from these meetings, and comments from all the surveys and data included in this assessment.

Tennessee Department of Education

Tennessee Child Count Data

The Tennessee Department of Education provides services to children who have special needs, including mental, physical, and developmental. Many of these children receive services from the State CYSHCN program. However, based on the available data, many more could be eligible for services. In December 2009, there were 4257 children from birth to age two (not yet reached their third birthday who were receiving services from the Tennessee Early Intervention Services (TEIS) Program a voluntary educational program for families with children ages birth through two years of age with disabilities or developmental delays.

Age	2007	2008	2009
0-1	590	602	586
1-2	1527	1505	1487
2-3	2344	2255	2184
Gender			
Male	2784	2707	2589
Female	1677	1655	1668
	4461	**4362**	**4257**

Race	2007	2008	2009
American Indian/Alaskan	11	9	11
Asian or Pacific Islander	72	78	81
Black or African American	922	974	899
Hispanic	288	360	386
White	3168	2941	2880
	4461	**4362**	**4257**

Table 36 Tennessee Child Count Data
(Source Tennessee Department of Education 12/1/2009)

Tennessee Department of Education Special Education Report Card

During this same time, The Tennessee Department of Education Division of Special Education reported a total of 12,325 preschool children ages 3 through 5 and 106,100 children ages 6 through 21 with disabilities. Based on the eligibility criteria for the State's Title V CYSHCN Program 47,512 of those children (40.12%) could be eligible to receive services.

Tennessee Early Childhood Comprehensive Systems (ECCS/CISS) Medical Home Survey to Providers

In October 2009, The Tennessee Early Childhood Comprehensive Systems Medical Homes Workgroup developed a Medical Home Survey. Staff from the Governor's Office on Children's Care Coordination (GOCCC) worked closely with the committee to refine the survey, which was then distributed to approximately 1,000 providers throughout Tennessee via email listserves of the TN Chapter of the American Academy of Pediatrics, TN Academy of Family Physicians, and the TN Primary Care Association. There were 65 respondents from across the State. Ninety-four percent (94%) were physicians, four percent (4%) were nurses and two percent (2%) were practice managers. For each question asked, the survey requested the respondents to describe any barriers that kept them from meeting the objective.

The top ten barriers represented in all the survey responses to providing accessible, family-centered, continuous, comprehensive, coordinated, and culturally-effective care as a Medical Home, as defined by the American Academy of Pediatrics are:

Time and Support to obtain family needs	N = 16
Reimbursement too low	N = 15
Provider not accessible in busy practice	N = 10
Parent responsibility to know what is best for family	N = 10
Hospitalization; lack of communication between providers	N = 9
Education/Instructional effort around benefits of medical home	N = 9
Insurance; providers not accept various insurances	N = 8
Communication	N = 8
Translator for other than Spanish patients	N = 8
Access to care is family responsibility	N = 6

Please respond to the following questions about the accessibility of care in your practice.

Answer Options	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree	Response Count
Families are educated about when and how to contact providers	0	2	17	46	65
Providers and practice staff respond	0	2	23	40	65

quickly to requests for information					
Practice accepts multiple types of insurance, including public and private	1	5	6	53	65
Office is barrier-free and wheelchair accessible	0	2	10	53	65
Clinic billing process is flexible enough to allow for payment options and/or payment schedules	0	7	19	39	65
				answered question	**65**
				skipped question	**0**

Table 37 Accessibility of Care (Source ECCS/CISS Medical Home Survey)

Please respond to the following questions about family-centered care in your practice.

Answer Options	**Strongly Disagree**	**Somewhat Disagree**	**Somewhat Agree**	**Strongly Agree**	**Response Count**
Families feel supported and comfortable enough to speak freely.	0	0	28	33	61
Practice staff and providers recognize the family as the expert in the care of the child.	0	11	26	24	61
The practice advocates for families when issues arise concerning their health care plans (for example, in relation to school IEPs).	0	3	16	42	61
The practice involves families in making health care decisions about their children.	0	0	16	45	61
Family needs are assessed at each office visit.	1	11	26	23	61
Support and resources are provided when family needs are identified.	1	8	12	40	61
Practice provides anticipatory guidance to encourage families to learn necessary skills to manage their child's special needs at home.	1	1	15	44	61
				answered question	**61**
				skipped question	**4**

Table 38 Family Centered Care (Source ECCS/CISS Medical Home Survey)

Please respond to the following questions about continuous care in your practice. Select only one answer per row.

Answer Options	**Strongly Disagree**	**Somewhat Disagree**	**Somewhat Agree**	**Strongly Agree**	**Response Count**
The same provider is available to see a child from infancy through adulthood.	11	12	11	25	59

The child's primary care provider is involved in the care and/or discharge planning when the child is hospitalized or cared for at another facility or by another provider.	9	16	21	13	59
Practice staff and providers are aware of the potential transitions that a child and family may experience over time and work to support families faced with upcoming transitions.	2	10	28	19	59
				answered question	**59**
				skipped question	**6**

Table 39 Continuous Care (Source ECCS/CISS Medical Home Survey)

Please respond to the following questions about comprehensive care in your practice. Select only one answer per row.

Answer Options	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree	Response Count
Practice provides families of children and youth with special health care needs information on support resources (for example: mental health services and support, family support resources, early intervention services, etc)	0	7	21	28	56
Practice has evening and/or weekend hours.	9	2	20	24	55
Practice staff and/or providers are available (including by phone or email) to families during evening or weekend hours.	1	4	9	42	56
Providers are trained to manage and facilitate all aspects of pediatric care.	2	3	13	38	56
There is flexibility in our scheduling template to allow for longer visits when needed.	3	3	16	33	55
Practice addresses not only a patient's medical needs, but also their educational, developmental, psychosocial, and other service needs.	2	4	13	37	56
				answered question	**56**
				skipped question	**9**

Table 40 Comprehensive Care (Source ECCS/CISS Medical Home Survey

Please respond to the following questions about coordinated care in your practice. Select only one answer per row.

Answer Options	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree	Response Count
Practice coordinates health services for the child or youth with other providers.	0	3	21	32	56
Practice identifies and refers families for other needed services.	0	2	20	34	56
There is a specific person in our practice that regularly follows children and youth with special health care needs to coordinate their care.	12	18	14	12	56
Practice utilizes case management services (either our own, or those provided by another party such as a managed care organization or an insurance company) to assist patients and families.	5	15	27	9	56
Patients with chronic disease are enrolled in disease management programs to improve their care and outcomes.	7	13	26	10	56
				answered question	**56**
				skipped question	**9**

Table 41 Coordinated Care (Source ECCS/CISS Medical Home Survey)

Please respond to the following questions about culturally effective care in your practice. Select only one answer per row.

Answer Options	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree	Response Count
Practice makes information available to families in their first language when possible.	2	8	25	20	55
Practice staff and providers are trained in different ways of helping families by respecting their traditions, customs, and ways of communicating.	2	12	28	13	55
Practice staff and providers work toward building a network within the practice to connect families with similar experiences and backgrounds in order to encourage family support.	7	24	14	10	55
				answered question	**55**
				skipped question	**10**

Table 42 Culturally Effective Care (Source ECCS/CISS Medical Home Survey)

Maternal and Child Health Needs Assessment Professional Stakeholder's Survey

Issues Related to Children with Special Health Care Needs

Respondents to the Tennessee Maternal and Child Health professional stakeholder's survey reported the occurrence of developmental disabilities is highly important to the community or region (65%) as well as to a significant number of their clients (59%). When asked if it is important for youth with special health care needs to receive necessary services to make the transition to all aspects of adult life, 64% reported it is highly important to the community or region and 58% reported it is highly important to a significant number of their clients. Childhood asthma was reported by 59% to be highly important to the community or region and 48% highly important to a significant number of clients. Eighty-one (81%) report that access to timely and appropriate care is highly important to the community and region and 71% reported it is highly important to a significant number of their clients.

Issues related to Children and Youth with Special Health Care Needs	"Highly Important to	
	Community or Region (%)	Clients (%)
Occurrence of developmental disabilities among children	65	59
Youth with special health care needs receive necessary services to make the transition to all aspect of adult life	64	58
Childhood asthma	59	48

Table 43 Issues Related to CYSCHN (Source MCH Stakeholders Survey)

Cross Cutting Population Health Care Needs

Several questions in the survey pertained specifically to Cross Cutting Population Health Care Needs, one of the primary target groups for MCH. The following tables and bar graph summarize the data as to the importance to the community or region and significance to clients. In general, there was congruence between these responses, i.e. issues were important to both the community and the clients according to the professionals completing the survey.

Issues related to Cross Cutting Population Health Care Needs	"Highly Important to	
	Community or Region (%)	Clients (%)
Access to timely and appropriate health care	81	71
Nutrition and obesity among children, youth and families	79	50
Physical activity and fitness for children, youth and families	84	47
Second-hand smoke exposure	73	46
Stability of family (economic, housing, food security, etc.)	69	59
Injury prevention and safety	73	33

Table 44 Issues Related to Cross Cutting Population Health Care Needs (Source MCH Stakeholders Survey)

The professional respondents to the Maternal and Child Health Survey indicated that the overall three most highly important issues to a significant number of their clients are 1) Access to timely and appropriate health care (40.4%), 2) Stability of Family (economic, housing, food, security, etc.) (8.3%), and 3) Youth with special health care needs receive necessary services to make the transition to all aspects of adult life (11.6%).

National and State Performance Measures

The first six national Maternal and Child Health Performance Measures (NPM) relate to children and youth with special health care needs. These measures are also connected to the six Bureau of Maternal and Child Health core outcomes for CYSHCN. The following table summarizes the core outcomes and compares the results of the NS-CSHCN and the Tennessee Family Voices Survey for CYSHCN. According to results of the national survey, Tennessee ranked higher on all measures except performance measures one and six. The Family Voices Survey reveals that CYSHCN who are in the States program also rank higher on all measures except NPM 4, 1, and 5 than the nation.

MCHB Core Outcomes as measured by NS-CSHCN			% Of families reporting that the outcome has been achieved NS-CSHCN		
NPM #	CYSHCN Core Outcome		TN (%)	U.S. (%)	FV Survey (%)
2	1	Families of CYSHCN will partner in decision-making at all levels and will be satisfied with the services they receive	60.7	57.4	61.0
3	2	All CYSHCN will receive coordinated, ongoing, comprehensive care within a medical home	52.7	47.1	50.4
4	3	All families of CYSHCN will have adequate private and or public insurance to pay for the services they need	67.7	62.0	57.2
1	4	All Children will be screened early and continuously for special health care needs	59.8	63.8	52.8
5	5	Community based services for CYSHCN and their families will be organized in ways that families can use them easily	91.8	89.1	75.2
6 SPM 9	6	All Youth with special health care needs will receive the services necessary to make appropriate transitions to adult health care, work and independence	39.6	41.2	46.0

Table 45 MCHB Core Outcomes and National Performance Measures (Source NS-CSHCN and FV Survey)

Health Systems Capacity

Health System Capacity Indicator 8 measures the percent of State SSI beneficiaries less than 16 years old receiving rehabilitative services from the State Children with Special Health Care Needs Program.

In Tennessee as of December 2009, there were a total of 21,288 children and youth under the age of 16 receiving federally administered Supplemental Security Insurance (SSI) payments. The Tennessee Title V CYSHCN program provides information to all SSI recipients regarding the CSS program other programs offered through the Department of Health, Medicaid, Genetics, Mental Health and Developmental Disabilities. During the 2009 calendar year, CSS mailed out 3676 referral brochures.

CYSHCN Indicators

A summary of CYSHCN indicators is presented in the table below. On all but one indicator, Tennessee families and CYSCHN status was slightly better than the nations CYSHCN.

Indicator Category	Indicator	TN	US	FV
Child Health Status	Percent of CYSHCN whose health condition consistently and often greatly affect their daily lives	22.8	24.0	22.1
Child Health Status	Percent of CYSHCN with 11 or more days of school absences due to illness	14.3	14.3	*
Health Care Coverage	Percent of CYSHCN without insurance at some point during the past year	6.9	8.8	5.5
Health Care Coverage	Percent of CYSHCN currently Uninsured	3.2	3.5	3.1
Health Care Coverage	Percent of currently insured CYSHCN with coverage that is not adequate	28.3	33.1	16.9
Access to Care	Percent of CYSHCN with one or more unmet needs for specific health services	14.2	16.1	10.0
Access to Care	Percent of CYSHCN needing a referral or having difficulty getting a referral	15.3	21.1	30.8
Access to Care	Percent of CYSHCN without a usual source of care (or who rely on the emergency room)	5.0	5.7	11.3
Access to Care	Percent of CYSHCN without a personal doctor or nurse	6.4	6.5	12.3
Family Centered Care	Percent of CYSHCN without family centered care	30.7	34.4	30.6
Impact on Family	Percent of CYSHCN whose families pay $1,000 or more out of pocket in medical expenses per year for the child	22.6	20.0	*
Impact on Family	Percent of CYSHCN whose families experienced financial problems due to child's health needs	17.9	18.1	48.8
Impact on Family	Percent of CYSHCN whose families spend 11 or more hours per week providing or coordinating child's health care	11.1	9.7	*
Impact on Family	Percent of CYSHCN whose health needs caused family members to cut back or stop working	22.8	23.8	54.2
Transition to Adulthood	Percent of youth with special health care needs who will receive the services necessary to make transitions to all aspects of adult life	39.6	41.2	46.0

Table 46 CYSHCN Indicators (Source NS-CSHCN and FV Survey)* Not Available from FV Survey Results

Health Status of Children and Youth with Special Health Care Needs

The Tennessee Children's Special Services Program served 7,275 children and youth with special health care needs with more than 700 different diagnoses during fiscal year 2009. Of that 7,275, 1,942 or 26.69% percent received services for the ten most prevalent diagnoses. The top ten diagnostic groups (statewide) in children and youth for fiscal year 2009 were:

Condition	Number of Children	Percentage (%)
Hearing (Combined)	879	12.08
Cerebral palsy NOS	337	4.63
Convulsions NEC	154	2.11
Idiopathic Scoliosis	103	1.41
Cystic Fibrosis W/O Ileus	91	1.25
Asthma, Unspecified	82	1.12
Abnormality of Gait	79	1.08
Esophageal Reflux	73	1.00
Cleft Palate & Lip NOS	72	0.98
Talipes NOS	72	0.98

Table 47 CYSHCN Medical Diagnosis (Source Tennessee Department of Health)

Healthy People 2010

There are several Healthy People 2010 objectives that have a direct correlation to CYSHCN. Section 1 – Access to Quality Health Services' primary goal to improve access to comprehensive, high-quality health care services is also a goal of the CYSHCN Indicators as reported in the NS-CSHCN. Tennessee has made considerable progress in meeting these objectives and faired better on all of the Access to Care Indicators than did the nation.

Section 16 – Maternal, Infant, and Child Health 16-22. Increase the proportion of children with special health care needs who have access to a medical home is also a Maternal and Child Health Bureau Core Outcome and National Performance Measure. Results of NS-CSHCN indicates that 52.7% of Tennessee CYSHCN receive coordinated, ongoing, comprehensive care within a medical home compared to 47.1% of the nation's CYSHCN.

Healthy People 2010 Objective	Summary of Objective
1-1.	Increase the proportion of persons with health insurance.

1-4b.	Increase the proportion of children and youth aged 17 years and under who have a specific source of ongoing care.
1-5.	Increase the proportion of persons with a usual primary care provider
1-6.	Reduce the proportion of families that experience difficulties or delays in obtaining health care or do not receive needed care for one or more family members.
16-22.	- Increase the proportion of children with special health care needs who have access to a medical home.

Table 48 Healthy People 2010 (Source Healthy People 2010)

Systems, Policies and Programs that are Working Well

More children insured than in the previous survey (2001)

93.1 percent of parents report having been insured over the past 12 months

Adequate private and or public insurance to pay for needed services

Children are screened early and continuously

CYSHCN receiving coordinated ongoing comprehensive care in a medical home

Title V CSS Program is doing an excellent job in providing supplemental health coverage and case management for CYSHCN.

Early intervention (TEIS) and Head Start Program doing an excellent job of screening, case management and care coordination and providing timely and appropriate services

Most of the families believe their children's providers spent enough time, provided needed information, treated them as partners in the decision-making, were respectful to their concerns and followed up after the visits.

Providers discussed transition plans with the families with children in the 12-17 year old age group.

Most needed services can be obtained in the area where family lives.

Roughly half of the families are involved in some form of religious activity.

Providers beginning to implement chronic care program for CYSHCN to address issues of coordinated care.

Providers are identifying and addressing follow-up and adherence barriers during clinic visits.

Areas for Improvement

As children age out of early intervention (above 4 years of age) family satisfaction in insurance coverage, screening, case management, care coordination and provision of services decreased.

When insurance changes, children lose continuity of care

Families often have to pick providers based on the child with special health care needs sacrificing the best interest of other family members.

There is currently no Parent-to-Parent program in the State.

The medical and educational systems are often unaware of transitional needs for CYSHCN.

Many adult health care providers do not treat adults with special health care needs, and pediatric providers do not want to continue treatment after CYSHCN reaches a certain age.

Most families do not have access to recreational activities or are unable to participate in them because of child's condition.

While 93.1 percent report having insurance more than one-fourth 28.3% reported coverage was inadequate.

Children in poverty more likely to be diagnosed with special health care needs

CYSHCN not receiving services necessary to make appropriate transitions to adult health care, work, and independence.

As children age, coordination of services and family satisfaction with coordination from professionals is an increasing problem.

The lack of reimbursement for the time necessary to carry out the functions.

Providers unable to contract with TennCare (Tennessee Medicaid) because of low reimbursement rates.

Patients continue to seek treatment in the emergency room rather than the provider's office.

When local providers do not accept the public insurance, that places a large burden on those providers who do accept the public insurance, CYSCHN often have to seek assistance from non-pediatric providers

Parents' lack of transportation and ability to pay often keep them from seeing providers as often as needed

Parents lack understanding of the medical home concept.

Family needs assessments should be conducted and should include physical needs such as food, clothing, shelter, financial needs.

Time allowed for patient

Parents lack education and or intellect to be partner in decision making for child's medical care.

CYSHCN have access to specialist and often by-pass primary care provider

Families are not medical experts and when they try to direct their care, they often receive unnecessary procedures.

Transition of CYSHCN is very difficult. There are only a few adult providers who will accept the patient and most of the patients have public insurance which is another barrier in this process.

Volume of patients prevents addressing transition concerns.

Case management, referrals and phone calls on patients' behalf take time, time that is not compensated.

Clients do not realize the need for transition services until they reach age 18 or older.

We are failing as a community in providing transition services.

Many have no health care or access to care, and do not view this as a major problem since it has been that way for generations.

Family needs (stability of family, economic, housing, food, security, etc.) are strong especially in current times.

Strengths

The National Survey data provides reliable, valid data on the numbers of individuals in states with special health care needs, as well has indication of how well the state is meeting the national core outcomes for CYSHCN. This data is on a statewide basis and surveys CYSHCN that may or may not be receiving services from State Programs. The Tennessee Department of Health (TDOH) collaborated with Family Voices and Vanderbilt University Hospital on a project to compare the results of the National Survey with the results of children enrolled in the Title V CSS program and to learn more and about the families and children being served by this program. The collaboration of these programs and the follow-up with the family respondents at town hall meeting to provide feedback allowed additional data from the families and explanation of some of the questions and concerns many had.

Most of the families surveyed indicated they had access to insurance and were satisfied with the health/insurance plans as well as the coverage. The majority of the families reported they had a primary care provider as well as a specialty provider and used those providers for routine care instead of the emergency room. Families were asked if they understood what a medical home is. Most family members responded they were not familiar with the term nor did they understand the conceptual framework of medical home. However, data from the survey indicated that families and providers are collaborating in the care of CYSHCN and families are satisfied with the level of participation and decision-making that they have in their child's care.

Challenges

Many of the challenges for CYSCHN can be found in the data from FV Survey as well as the ECCS/CISS Medical Home Survey. Many of the providers responding to this survey indicated that a large barrier to being able to provide a medical home concept to their patients was related to adequate insurance, reimbursement rates, transportation and family education. Particularly challenging is only having Family Voices Survey data for the CYSHCN that are participating in the CSS program, which prevents being able to generalize the results from this particular data set to all state populations of CYSHCN.

Desired Outcomes

CSS assures appropriate, timely, comprehensive, quality services to children birth to 21 who have or are at risk for special needs. The program promotes the well-being of children in a manner that is family centered, culturally sensitive and community based through service (care) coordinators acting as liaisons for children, families and providers – facilitating, collaborating and forming partnerships that are flexible and creative in meeting the unique needs of each child. The desired outcomes for children and youth with special health care needs in Tennessee are the MCHB Core Outcomes and the National and State Performance Measures.

Recommendations

There were clearly three areas that both the Families and CYSHCN, and the providers believe still have some room for improvement. The resulting recommendations for the Tennessee Title V CYSHCN Program for 2010-2015 were based on those areas. The priority/need and the justifications are included in the chart below: **Note:** The attendees at the Town Hall Meetings were asked to talk about their experiences with CYSHCN, so there were many positive as well as negative comments. The ECCS/CISS survey to the providers only asked them to identify any barriers that prevented them from providing the aspects of the medical home. However, there were a couple of positive comments in this section as well. The MCH Professional Stakeholder's Survey allowed respondents to insert comments for each survey issue. There was also a section of the survey that allowed the respondents to insert comments regarding other issues that were not included in the survey.

Priority Need	Justification
Increase Care within Medical Home	There continues to be unmet needs for access to care based on the data from the NS-CSHCN, the FV Survey MCH Stakeholders

	Survey, and the follow-up Family Voices Town Hall Meetings and responses from the ECCS/CISS Medical Home Survey.
Improve Transitional Services Systems for CYSHCN	Data from the NS-CSHCN and the Family Voices surveys, and reports from families at the town Hall meetings indicate families are receiving information and services for transition to all aspects of adult life.
Access to Care	Data from the Family Voices Survey indicates that families continue to experience difficulty getting needed referrals and many families do not have a personal doctor or nurse for health care. Results also indicated that families whose income fell in the lower levels had more difficulty receiving coordinated services, services from specialty providers, and routine care than families with higher incomes. The professional stakeholder survey respondents indicated that Access to Care is the number one priority for a significant number of their clients.

Table 49 Tennessee CYSHCN Priorities (Source NS-CSHCN Survey, Family Voices Survey/Town Hall Meetings, ECCS/CISS Medical Home Survey, and MCH Stakeholders Survey)

4. MCH Program Capacity

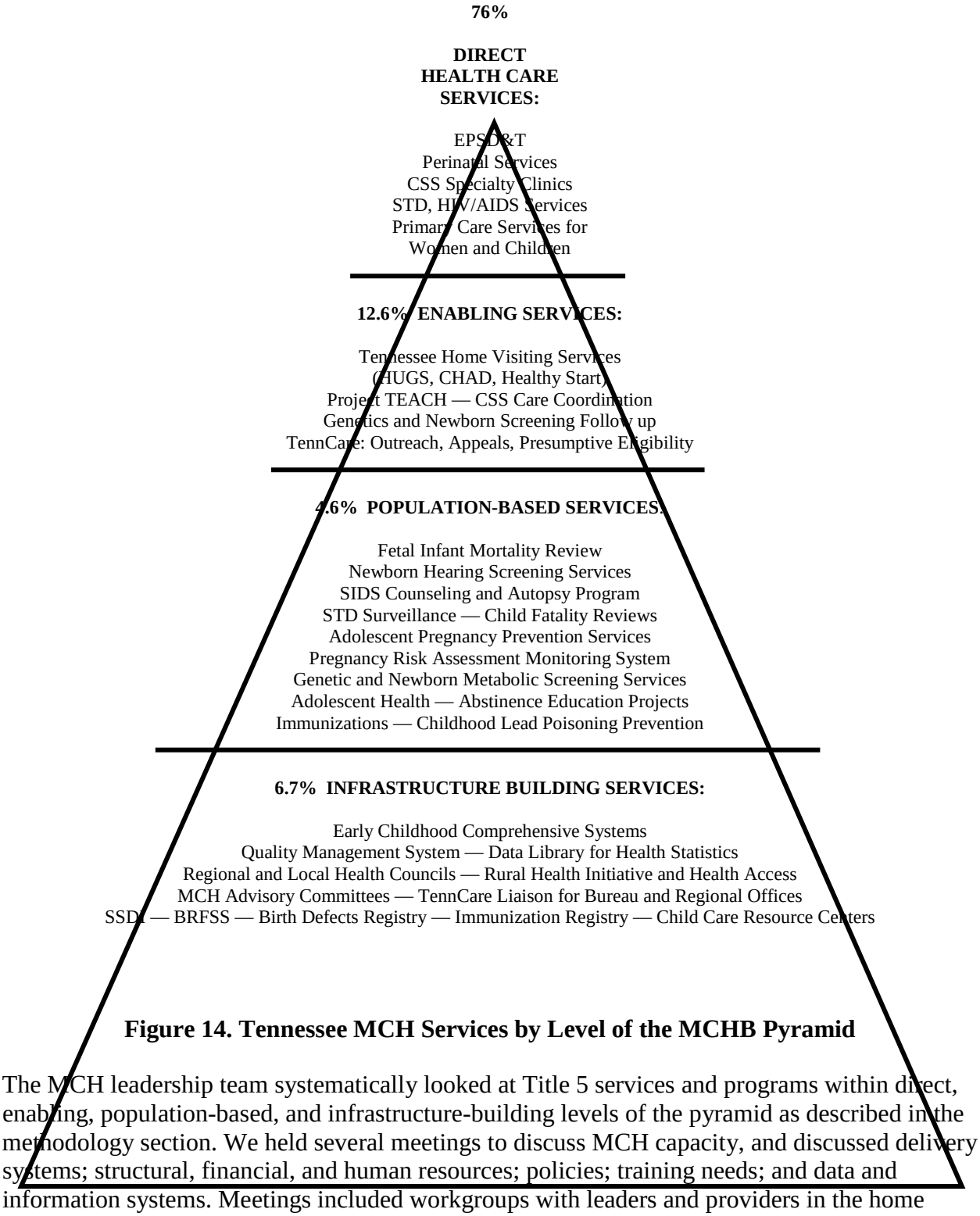


Figure 14. Tennessee MCH Services by Level of the MCHB Pyramid

The MCH leadership team systematically looked at Title 5 services and programs within direct, enabling, population-based, and infrastructure-building levels of the pyramid as described in the methodology section. We held several meetings to discuss MCH capacity, and discussed delivery systems; structural, financial, and human resources; policies; training needs; and data and information systems. Meetings included workgroups with leaders and providers in the home visiting programs. Workgroups used formal and informal brainstorming sessions to decide on the most critical needs for infrastructure-building, including workforce development. After much discussion, the leadership team realized that issues affecting MCH capacity could not be described within strict categories or pyramid service levels because capacity issues were

overlapping. Therefore, with a more systems-based approach, we describe a broader view of capacity in this section.

RESOURCES AND CHALLENGES

Despite some significant public health and MCH resource challenges, Tennessee has a number of available resources and opportunities. An overview and some examples are described.

Budget and staffing

As with other states, Tennessee has experienced extreme budgetary challenges associated with the recession. Tennessee's budget is notably sensitive to consumer spending and sales tax collections, as there is no state income tax, and a balanced budget is statutorily mandated. According to the Tennessee Department of Finance and Administration, the state experienced negative growth in sales tax collections for 22 of the 27 months between January, 2008, and March, 2010. Budget reduction strategies were initiated in 2008 which included a hiring freeze, travel restrictions, and a voluntary buy out which rapidly reduced the TDOH workforce by 5% (with only 10 days for transition and succession planning) in addition to the average TDOH vacancy rate of about 16%. The hiring freeze has presented particular challenges for central office and other administrative staff, because some hiring of "direct care" providers (e.g., physicians, nurses, etc.) has been allowed, while hiring of program managers and support staff has been minimal, and a number of non-direct care positions such as health and nutrition educator positions have been permanently eliminated.

Since January, 2008, 272 of 2231 (12%) state-funded TDOH positions have been permanently eliminated, and an average vacancy rate of 16% has been maintained as a cost-control measure. MCH staffing has been reduced by about 30% compared to 2008 levels. These figures do not include elimination or reduction in state or local contract employees (thus excludes most of the 6 metro regions). In addition to challenges associated with increased vacancy rates, newly hired employees are generally less experienced, creating supervisory challenges for fewer seasoned staff who have assumed additional roles and responsibilities (staff training and orientation challenges will be addressed in a subsequent section). TDOH salaries are not competitive (e.g., annual TDOH salary for an experienced physician is $40-60,000 less than a physician similarly qualified and with similar duties in a federally qualified health center). There have been no pay raises for state employees in 3 years, and none is expected in the near-term.

A number of programs serving MCH groups will be continued for the next fiscal year with funding from a combination of state "rainy day" reserve funds and federal/ARRA funds. Future funding and viability of these programs is uncertain and cause for growing concern with regard to meeting maintenance of effort or match requirements to maintain federally funded programs.

Edison, Contract & Accounting Process Changes

Edison is the State of Tennessee's Enterprise Resource Planning (ERP) system, an integrated software package used to perform administrative business functions such as financials and accounting, procurement, payroll, benefits, and personnel administration. In theory, such a system should save time and increase efficiency thereby saving money, and this supposition served as rationale for eliminating clerical positions. A stepwise implementation initiated in 2008 has been fraught with problems and delays, and while some processes have improved considerably (e.g., employee travel and reimbursement), others remain bogged in additional

paperwork and duplicative work steps. It is expected that Edison will be of great benefit at some future time, but at present a number of domino effect inefficiencies have been created. For example, remaining clerical staff have assumed additional work while some functions previously completed by clerical staff have been absorbed by professional staff, thus making them less available for clinical and program management duties, and creating longer patient wait times and delays in meeting program benchmarks and deadlines.

Patient Tracking Billing Management Information System (PTBMIS) & Data Management

TDOH does not have an electronic health record. PTBMIS is a mature but robust administrative data management system with some capacity to track limited clinical data and pharmaceutical inventories. A notable PTBMIS advantage -- all 95 county health departments are connected to PTBMIS enabling virtually real time collection of statewide data. A notable PTBMIS disadvantage – it is a proprietary system, data retrieval is cumbersome, and program revisions and upgrades are expensive and time consuming. Also, it has reached maximum expansion capacity, and estimates for meaningful upgrades range from $10 million for minimal improvements to $50-60 million for significant improvements including addition of an electronic health record. Thus, upgrades are not feasible at this time due to budget constraints.

Tennessee's Office of e-Health Initiatives has been awarded up to $24 million (ARRA funds) to support implementation of a new (2009) strategic plan to grow health information exchange (HIE) in the state through health information technology (HIT). The goal is to drive improvements in health care outcomes through coordinated statewide HIT that will enable vital, secure, decision-ready information to be available to clinicians at the point-of-care and benefit public health in general. One early example of the state's commitment to HIE is the updated *Tennessee Web Immunization System (TWIS).* TWIS allows authorized users to obtain comprehensive immunization information on patients, update or initiate new patient records, links to other web sites to get comprehensive information on vaccines, vaccination strategies or current information from the Tennessee Immunization Program. TWIS is credited with helping to increase Tennessee's child immunization rates (4th best among the states) and won the 2009 Bull's Eye Award for Innovation and Excellence in Immunization from the Association of Immunization Managers for creation of a novel pre-registration strategy for clinicians to address the H1N1 pandemic flu threat. The award recognizes an outstanding immunization initiative and strategy that hits the mark of increasing immunization awareness and encouraging replication in other programs.

Key Population Characteristics

According to the Kaiser Family Foundation (2010), more Tennesseeans live below the 100% federal poverty level than the U.S. average (20.7% vs. 18.3%), and Tennessee ranks 40th among the states for composite state fiscal distress measures.

Health Insurance, TennCare, and Medicare

A significant proportion of Tennesseans are either publicly insured or uninsured. Tremendous effort and resources are poured into TennCare outreach targeting services for at risk groups and increasing EPSDT rates.

Health Insurance Status:
The 2009 uninsured rate for children is 3.7 percent, a decrease from the 2008 rate of 4.9%. The 2009 uninsured rate for adults increased to 11.9% from the 2008 rate of 10.6%. The decrease in the number of uninsured children can be partially attributed to the CoverKids program and an increase in the number of children covered by TennCare as a result of declining economic conditions (Carty & Fox, 2009).

TennderCare:
A robust outreach program established in 2004 to increase EPSDT rates
across the state, nurses and lay workers (122 Full Time Equivalents [FTEs]) conduct home visits and community outreach (health fairs, school health programs, etc.), and telephone outreach for TennCare enrollees to provide information and facilitate transportation, appointments, explanation of benefits, etc. Also in 2004, a centralized telephone call center was established, with an additional staff of 14 lay workers, aiming to encourage appropriate service use (early prenatal care, EPSDT, etc.) and to provide TennCare information.

In 2006, the program was expanded to include targeted outreach to pregnant and post-partum women covered by TennCare to facilitate early and appropriate prenatal and infant care and to specifically work to resolve problems associated with presumptive eligibility. An additional 13 lay worker FTE's were added to the call center in order to reach more working patients and families and those not at home during daytime hours. A nurse call center was established (3 FTE's) to field more complex questions and to directly target increasing the proportion of pregnant women entering early prenatal care.

In 2010, two teen pregnancy care coordination pilots and an outreach initiative to increase EPSDT rates among adolescents have been initiated in middle and high schools with large numbers of students receiving free or reduced lunch.

There are expansion plans for 2010-11 including additional targeted outreach to adolescents and pregnant teens; establishment of a TennCare/TennderCare/MCO collaborative to specifically focus on process and performance improvements; and new case finding and management enhancements with CSS participants and families.

Public Health Expenditures in Tennessee
In 2009, public health efforts were disproportionately funded with state vs. federal dollars when compared with most other states (*Trust for America's Health,* 2009). Funding examples include:
Federal funding from CDC to Tennessee is $16.42 per capita compared to $19.23 per capita U.S. average (rank 42).
Federal funding from HRSA to the state is $22.53 per capita compared to $24.71 per capita U.S. average (rank 30).
State funding for public health $45.74 per capita compared to $28.92 per capita U.S. average (rank 18).

Literacy and Health Literacy

Health and education/literacy are inextricably linked. Literacy and health literacy are significant issues in Tennessee where 1 in 8 adults cannot read (Tennessee Literacy Coalition, 2010). *Health literacy* is the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions. Poor health literacy is associated with difficulty adhering to medication and treatment regimens, and is s strong predictor of poor health outcomes (Selden, et. al., 1999).

While there is some variation among reports, it is generally accepted that roughly 70% of Tennessee's high school students graduate with a regular diploma in 4 years. Critical gaps are noted for graduation rates among minority students (e.g., 40-60% for Hispanic and Black students) (Kids Count, 2009).

Policy Academy on State Strategies to Achieve Graduation for All - Tennessee was recently awarded $50,000 by the National Governors Association Center for Best Practices to fund development of a drop out prevention and recovery work plan and state policies and practices designed to increase graduation rates.

Race to the Top – Tennessee and Delaware are the first states to win this federal competition for education innovation. Tennessee will receive $502 million to develop a best-practice education success model. Some of the funding will be distributed to local school districts via existing Title I formula. The remaining will fund a "State Innovation Fund" to target improvements in about 200 failing or troubled schools; for professional development for teachers with emphasis on STEM (science, technology, engineering, and math); and to improve teacher and student access to and use of technology and data. A noted strength of Tennessee's proposal was greater than 90% support from organized teacher groups across the state Health Literacy (TDOE, 2010).

A new partnership between TDOH and Vanderbilt Diabetes Research and Training Center has received R-18 translational NIH funding to assess efficacy of a low-literacy/numeracy-oriented intervention to improve diabetes care in to uninsured adults in 10 middle Tennessee counties. We expect the clear communications training intervention will result in improved A1C, blood pressure, lipids, weight, self-efficacy, self-management behaviors, and use of clinical services at 12 and 24 months follow-up. Robust cost-evaluation and incremental cost- effectiveness ratios will be estimated and long-term sustainability and dissemination plans are intended. Workforce training and orientation plans underway now will include specific health literacy/clear communication components. Technical assistance will be requested to transfer these strategies to work with MCH populations.

Key workforce characteristics. The most recent local public health workforce survey was published by NACCHO in 2008. At that time, TDOH reported employing 4216 employees (2149 rural and 2067 metro) equating to 3811 FTE's. Findings suggest a gap in advanced educational preparation for local public health executives with only 30% reporting preparation beyond the bachelor's degree level. Note this survey did not include central office personnel nor did it include that staffing levels have been reduced since 2008.

Educational Background of Tennessee Local Health Department Leaders:

Degree	Number of LHDs Where Top Executive Leader has this Degree

AD or ASM	12
BA	8
BS	63
BSN	8
MPH	11
MSN	0
MBA	0
Masters other (mostly MPA or MS)	25
MD	2
JD	1
DrPH, PhD, DNS/DNP, DVM, DO, DDS	0

Public Health Education – Five universities offer the MPH or MSPH in Tennessee: University of Memphis, Meharry Medical College and Vanderbilt University in Nashville East, University of Tennessee at Knoxville, and East Tennessee State University (ETSU) in Johnson City. In addition to bachelor's and master's degrees in public health, ETSU confers DrPH and PhD degrees in public health and related sciences, and in 2009, became Tennessee's first Council on Education for Public Health (CEPH) accredited school, and the only one in central Appalachia, to earn that designation. ETSU was nationally recognized in 2005 for public health curriculum innovation by Delta Omega, Honor Society of Public Health and by the National Rural Health Association as Outstanding Rural Health Program of the Year in 2007.

Workforce development funds previously available via federal Preparedness grants have not been available since 2008, and no formal TDOH training plans have been in place since the early 1990's. All division chiefs have been asked to survey training and succession needs in order to begin a formal planning process to produce near-term and long-term training plan. With respect to MCH, the acting MCH Director is currently a member of the University of Alabama at Birmingham's MCH Policy and Training Advisory Committee and a member of the MCH Training and Professional Development workgroup sponsored by MCHB. We expect this work to guide development of the MCH training plan for Tennessee in concert with training needs assessment findings.

In 2009, a University of Tennessee Health Sciences Center, College of Nursing (UTHSC CON) DNP (doctorate in nursing practice) student in public health nursing (Patti Scott) completed a public health workforce development project for the Tennessee Department of Health. The project included a needs assessment (including interviews with regional nursing directors), proposed plan for competency development and tracking, and development of a logic model for program planning and evaluation. Dr. Pat Speck, UTHSC CON DNP Public Health Nursing Option Director was awarded a HRSA grant in 2009 to increase workforce diversity and education in public health nursing. This project will dovetail into Dr. Scott's project through leadership training sessions for TDOH regional nursing directors, beginning July, 2010. This project will also bring together community health nursing faculty from across the state and TDOH regional nursing directors to discuss and plan improvements for community health nursing education.

Dr. Scott joined the MCH leadership team as a consultant in January, 2010. She comes as an experienced advanced practice nurse and educator, having worked most recently as a faculty

member at Vanderbilt University School of Nursing, and continuing to maintain a part-time practice in Pediatric Pulmonology and Allergy at Vanderbilt. She has extensive expertise in school-based health care, injury prevention, asthma, and children with special health care needs. Dr. Scott has assumed a primary role in completion of the 5-year needs assessment and preparation of the Block Grant application. In the future, she will assist with the workforce development plan and implementation; and work to more formally integrate the Life Course Perspective and MCH priorities within established TDOH programs (e.g., WIC, family planning, chronic disease prevention, etc.)

Further, we have begun to reach out to other universities for assistance and collaboration, e.g., the aforementioned R-18 diabetes literacy collaborative grant. We have increased our active participation with MCH/HRSA grantees, e.g., participation and work with Vanderbilt investigators to inform LEND topics based on field staff training needs for the coming year; work with grantees at the Boling Center to include topics such as community-based obesity prevention strategies and to budget training slots for up to 50 local and distance TDOH participants. We have provided a letter of support, citing TDOH training needs, for an ETSU training grant proposal, as their recent accreditation enables Tennessee's first opportunity to apply for such funding.

Additional training opportunities and funding will be sought as guidance from the training needs assessment emerges.

Need for targeted leadership and graduate public health education. Local Health Department Directors (n = 64 representing 80% of the total group) were surveyed in spring, 2010. In response to the query, "What presentation topics would you recommend?" These were their responses ranked by importance:
1) Personnel issues: a) dealing with problem employees; b) documentation requirements for dealing with problem employees; c) team/morale building; d) personnel management issues in general; e) communication with employees
2) Best practices for LHD issues/protocols
3) Communication with co-workers, with the public, and with elected officials
4) Financial Management basic skills/tools
5) Public health and legal issues
6) General administrative management tools

These responses mirrored responses in Dr. Scott's interviews with TDOH regional nursing directors.

Nursing shortages. The current nursing shortage has significantly affected public health nursing. Contributing factors include, an aging population of nurses, a poorly funded public health system resulting in inadequate/noncompetetive salaries, reduced and/or eliminated public health nursing positions, bureaucratic hiring practices, limited public health advocacy, invisibility of public health nursing in media and marketing campaigns, and a growing shortage of nursing faculty adequately prepared to teach public health nursing (Quad Council, 2006).

R**esource Map of Children's Services**
In 2009, Tennessee's Commission on Children and Youth (TCCY) conducted a statutorily mandated assessment of children's services in Tennessee. TCCY was charged with development

of a resource map in order to develop a "clearer understanding of services and programs for children across the state to better inform the Governor and members of the General Assembly in developing policy, setting goals and making decisions regarding allocation of funds." The full report, published in April, 2010, is available at *Resource Map of Expenditures for Tennessee Children*, Tennessee Commission on Children and Youth, 2010 Annual Report, HYPERLINK "http://tennessee.gov/tccy/MAP-rpt10.pdf" http://tennessee.gov/tccy/MAP-rpt10.pdf

Notable findings:

25 state agencies provided almost 20 million child/family services with expenditures totaling $4,475,705,465 for FY 2007-08.

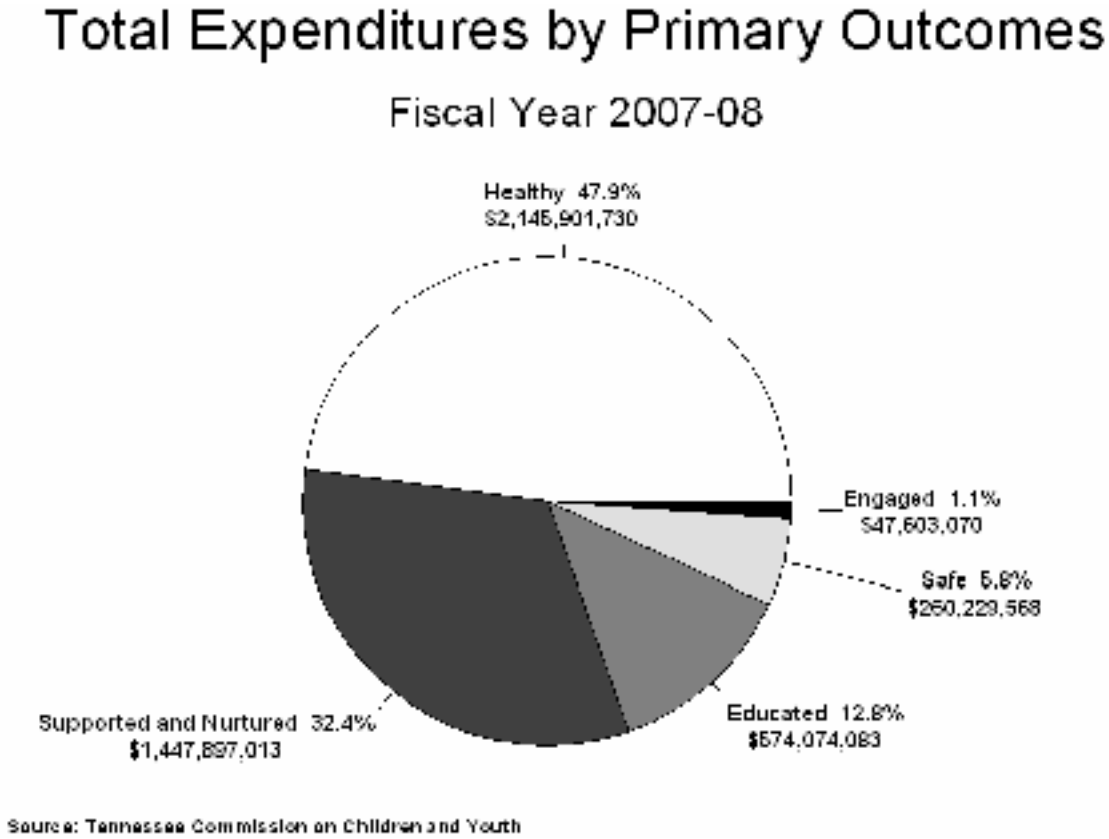
Many children receive multiple services, yet "current data systems are inadequate to precisely track the approximately 1.47 million children in Tennessee across multiple services within and across departments/agencies. They also do not tell us whether the children receiving services had one or multiple contacts with each program reporting them."

Federal funding accounted for just over 2/3 of every dollar spent for children's and family services in Tennessee, and state funding accounted for 30% of expenditures in 2008.

"State departments/agencies have been very diligent in identifying budget reduction strategies that do not result in the accompanying loss of substantial amounts of federal funds matched by state dollars. This is becoming increasingly difficult. Additional sizeable decreases in state dollars are more likely to further erode the foundation of essential services and supports as they precipitate the loss of federal funds due to the inability of departments/agencies to provide required matching or maintenance of effort (MOE) dollars."

"The largest source of expenditures for children is TennCare, followed by the departments of Human Services, Education and Children's Services. Department of Mental Health funding for services for children are substantially below the other primary departments, but TennCare funding for mental/behavioral health services totaled $118,415,200 in FY 2007 and $112,193,000 in FY 2008" (Figure 15).

Figure 15



In response to this outstanding report and other advocacy efforts, the Tennessee General Assembly voted to preserve programs that support children's health and well-being.

"Elected leaders in Tennessee have wisely established substantial Rainy Day and TennCare Reserve funds. It is hard to imagine a more valuable use of these dollars than ensuring we maintain basic services and supports to provide children with opportunities to thrive and become productive citizens. These services and supports enable children to remain with their families, succeed in school and become part of Tennessee's economic engine of the future. They do this by improving health and education opportunities and helping to reduce child abuse and involvement with child welfare and juvenile justice systems" (TCCY, 2010).

Direct Health Care Services

TDOH is the state's largest, direct service health care provider, logging 2.4 million visits and serving just over 1 million unduplicated Tennesseans annually. Children, infants and child-bearing age women represent two-thirds of this number. Each of Tennessee's 95 counties has one or more local health department clinics where traditional public health services are delivered via sliding-fee schedule. These services include surveillance and investigation of communicable disease and other outbreaks; well-child, EPSDT, immunization, women's health/reproductive health, and WIC/nutrition clinics. Sliding-scale fee-based, primary care services are provided for uninsured adults (age 19-64 years) in 54 local health department sites. Fourteen of the 54 local health department clinic sites are designated as federally-funded, 330 health centers.

Other federally qualified health centers (FQHCs) – 23 federally funded health centers (not affiliated with the health department) provided primary and prenatal care for more than 300,000 unduplicated patients in 180 sites across the state in 2008-09 (Tennessee Primary Care Association, 2009).

TDOH administers supplemental *Safety Net* funding to faith-based, federally qualified, and other community clinics for primary and preventive care services, as well as emergency dental services, for uninsured adults. In 2009-10, $6 million was appropriated by the Tennessee General Assembly for this purpose. These are non-recurring funds and have ranged between $4-6 million for the past several years. Subsequent funding is uncertain.

Virtually 100% of the Tennessee residents live within 30 miles of a primary care source yet despite availability of these direct care services at either a local health department or a federally qualified health center, 94 of Tennessee's 95 counties were designated as medically underserved (partial or whole) in 2008 (*Tennessee Health Access Plan*, 2008).

Other key measures of access to care include:
31 counties were designated as Health Resource Shortage Areas
30 counties were designated as obstetric shortage areas
30 counties were declared pediatric primary care shortage areas
30 counties have a shortage of providers accepting TennCare (Medicaid)
5 counties have no dentist, and 10 counties have ratios of >10,000 residents/dentist
76 counties lack adequate mental health professionals (>20,000 residents/mental health provider)

The Bureau of Health Services Administration, Community Health Systems division, regularly monitors direct primary care service delivery capacity. Available data sets (e.g., licensure registries) and statewide telephone and electronic surveys (physicians, mid-level providers, and dentists) are used to assess needs and to identify service gaps. Working directly with various stakeholders such as universities, the Tennessee Hospital Association, Tennessee Primary Care Association, the Rural Health Partnership, etc., Community Health Systems staff administer various programs designed to recruit primary care providers to practice in underserved Tennessee localities.

National Health Service Corps Program (NHSC) – In 2010, ninety-eight (98) health care professionals received NHSC support: 20 Physicians, 12 Dentists, 36 advanced practice nurses, 4 Physician Assistants, 2 Nurse Mid-Wives, and 18 mental health providers. Forty-two of the 98

are practicing at Federally Qualified Health Centers. Fifty-three of the 98 are located in rural areas.

Graduate Medical Education (GME) - Residency Stipend Program - Medical residents enrolled in a Tennessee primary care residency program (ETSU, Meharry, University of Tennessee, or Vanderbilt) are eligible for a $25,000 annual GME Stipend. Funds are made available through TennCare and expected to facilitate placement of 15 primary care providers in underserved areas in 2010.

J-1 Visa Waiver Programs - Foreign medical graduates receive a 2-year home residence waiver in exchange for a 3-year underserved area service obligation. Seven J-1 Visa physicians were successfully placed in Tennessee last year.

The Health Access Practice Incentive Grant Program (PIG) - Legislatively mandated and funded by unclaimed property, grants up to $50,000 can be awarded to physicians, dentists, or mid-level practitioners who agree to practice in a health resource shortage area for 3 years. These 100% state funds have been frozen since 2008 due to budget reductions.

State Loan Repayment Program (SLRP) - This program is funded by a 1:1 federal:state match for educational loan repayment to primary care practitioners in exchange for a 2-year service commitment in a Health Professional Shortage Area (HPSA). We expect to fund up to 10 awards in 2010-11.

Quality of care is monitored at a number of levels

A new, state-level Quality Improvement and Accreditation Division was established in 2008. The Division Director, Dr. Bridget McCabe, is a pediatrician with post-doctoral, Institute for Healthcare Improvement fellowship training in clinical improvement and health outcomes measurement. Dr. McCabe is charged with oversight and refurbishment of statewide quality assessment initiatives.

Clinical services delivered at TDOH clinics are rigorously monitored at state, regional, and local levels. Quality Improvement nurses and internal auditors routinely abstract data from patient records, conduct patient satisfaction surveys, and monitor adherence to policies and treatment guidelines via established criteria. In FY 2008-09, adherence to all criteria was generally >95%, but ranged from 90-100%. The complete report is available upon request (Quality Improvement Statewide Survey, Fiscal Year 2008-2009). Performance measures are currently under review, and new outcome measures are under development. A new Quality Management plan is anticipated to guide assessment activities in 2011.

Direct Health Care Services: Paradigm Shift

In 2009, MCH consultant, Dr. Donna Petersen, noted an imbalance in service delivery levels Tennessee's health departments. Using Pyramid criteria, the majority of services were notably "direct care" with far fewer services available to Tennesseans in the remaining categories. She subsequently recommended exploration of ways to reduce direct services and increase enabling, population-based, and infrastructure building activities in local health departments.

Notwithstanding continuing efforts, the following has been accomplished to date:

- Two (2) primary care clinics have been closed due to increased access provided by local FQHC expansions.

- Prenatal care services provided in 4 local health department clinics have been reduced and patients transitioned to private medical homes in collaboration with TennCare/Cover Kids for coverage expansions. One FQHC status health department clinic continues to provide prenatal care for uninsured women.

- Children's Special Services specialty clinics (orthopedic, otolaryngology, speech, etc.) maintained by 4 regional health departments have been discontinued, alternate sources of care have been determined for patients in concert with TennCare/Cover Kids, and staff has been re-directed to patient navigation and case management activities.

We have requested technical assistance for some residual staff re-training needs.
Dr. Petersen also noted particular gaps in our core epidemiology, data management, and statistical support availability. Unable to hire additional personnel due to the hiring freeze, we have increased our capacity by:

- increasing our collaboration with the division of Policy, Planning and Assessment (PPA), securing part-time assistance of 2-PhD level statisticians.

- increasing collaboration with the division of Nutrition and Wellness, securing additional consultation from a MPH-level chronic disease epidemiologist. She recently attended the Training Course in Maternal and Child Health Epidemiology May 10-14, 2010.

- creating multiple training and mentoring opportunities for the MCH epidemiologist to increase basic skills and to work with senior epidemiologists and CDC fellows in the Division of Communicable and Environmental Disease.

Home Visiting Services

Home visiting programs operated by MCH include HUGS, CHAD, Healthy Start, and Nurse Family Partnership. (Descriptions of the home visiting programs are included in the needs assessment document *AppendixD*, 2009 MCH Home Visiting Report).

Key outcomes for MCH home visiting programs include improved birth spacing, child immunization and EPSDT rates, and decreased maltreatment or neglect reports. Funded by a combination of ARRA (American Recovery and Reinvestment Act) and TennCare reserve funds, services were maintained in every Tennessee county. Funding to continue these programs is uncertain beyond 2010.
Good outcomes of these programs are contingent upon continued funding, well-staffed programs, a competent workforce, robust data collection systems, and continued training and educational programs.

Plans for improving competency and capacity in MCH home visiting programs:

- Improve ability to use PTBMIS to collect and extract data from HUGS visits; and this process will inform plans for other home visiting data collection and program evaluation.
- Home visitors and nurses are included in the workforce development plan that incorporates Public Health Core Competency training and tracking.

5. Selection of State Priority Needs

List of Potential Priorities

Quantitative and qualitative assessment revealed consistent findings regarding major health issues surrounding the three MCH populations. Potential priorities were derived from the MCH Stakeholder Survey, county health council priority lists, National MCH agenda, specific conditions for which State and National data sources revealed high morbidity and mortality, key informant interview, and Tennessee MCH leadership formal and informal brainstorming sessions.
The following priorities emerged:

Obesity
Substance/alcohol abuse
Tobacco
Access to health care
Infant mortality
Pre-term births
Low birthweight
Family stability (economic, housing, food)
Adequate insurance
State plan for disaster preparedness that includes children
Asthma
Pre-conception health
Medical home for CYSHCN
Transition to adulthood for CYSHCN

Methodologies for Ranking/Selecting Priorities:
Tennessee MCH Stakeholder meeting was convened April 19, 2010. The group of 29 individuals represented a variety of agencies and departments across the State. (See *Appendix E*. List of MCH Stakholders). The group participated in a presentation and discussion about the background of the MCHB, performance measures and indicators, and MCHB Service Pyramid. There was also an introduction to the Life Course Perspective. The group considered the need for a paradigm shift within Tennessee MCH leadership and programs toward incorporating a more holistic framework as opposed to the current categorical approach. We discussed the proposed state priorities. Lively discourse ensued as each participant considered priorities; populations; current data and literature; and capacity. Large posters displayed current State performance measures, National performance measures, National outcome measures, health status indicators, health system capacity indicators and potential State priorities so that group members could see current and potential measures and indicators at a glance.

The group was then divided by self-selection into 3 workgroups representing MCH population subgroups: women, children, and pregnant women and children. (The CYSHCN Advisory Committee met the following week to select and rank CYSHCN priorities). Individuals ranked the 12 priorities according to need (1-5, with 5 being greatest) and also according to capacity, feasibility, and ability to measure (also on a 1-5 scale). Individual total scores for each of the priorities were tallied for a total group score. Group scores for the 3 working groups were totaled for a final rank as follows:

1. Infant mortality
2. Obesity
3. Pre-term births
4. Low birthweight
5. Tobacco
6. Access to health care
7. Asthma
8. Family stability (economic, housing, food)
9. Substance/alcohol abuse
10. Pre-conception health
11. Adequate insurance
12. Include MCH populations in State plan for disaster preparedness

A similar process took place the following week for the CSS Advisory Committee.
The committee consists of parents; general pediatricians and pediatric subspecialty physicians; MCH program directors and other MCH staff. (See Appendix B. CSS Advisory Committee members). CSS Director, Jacqueline Johnson presented results from NS CSHCN and the Tennessee Voices Survey of CSS Families. The Medical Director of TennCare also presented an update about emerging issues surrounding coverage for services, medications, and devices for CYSHCN. Members discussed concerns about pediatric subspecialty care and coverage; including issues of access and transition to adult providers. The group chose and ranked the priorities in the same manner as the MCH Stakeholders for a total group score and ranked as follows:

1. Medical home
2. Transition to adulthood
3. Access to care

Once these broad priorities were determined, the MCH leadership team met several times to deliberate the topics and to formulate State Performance Measures. We all felt strongly that these were essential MCH health priorities, yet were fully cognizant of strengths and limitations of the State MCH capacity. We also felt strongly that we needed to consider risk, health promotion, protective factors, program development, intervention, and evaluation in a much more integrated rather than categorical context. Central to the team discussion were these considerations for each broad priority:

- Data trends

- ❖ Current MCH literature, research, and best practices
- ❖ The Life-Course Perspective
- ❖ MCH capacity (workforce abilities, training needs, funding)
- ❖ Partners and collaborators across departments, disciplines and regions
- ❖ Political environment
- ❖ Economic feasibility
- ❖ Ability to fully define and measure
- ❖ Programs and policies that are working and not working

Next, with critical and deliberate consensus building, we derived 7 Tennessee MCH priorities and wrote the following corresponding State Performance Measures.

2010 Tennessee MCH Priorities/Performance Measures

1. **Reduce the infant mortality rate**
2. **Reduce the percentage of obesity and overweight (BMI for age/gender ≥ 85%) among Tennessee K-12 students.**
3. **Reduce smoking in Tennesseans age 13 years and older.**
4. **Decrease asthma hospitalizations for children 0-5 years.**
5. **Improve MCH workforce capacity and competency by designing and implementing a workforce development program.**
6. **Increase the percentage of CYSHCN age 14 and older who have formal plans for transition to adulthood**
7. **Reduce unintentional injury deaths in children and young people ages 0-24 years.**

2009 Tennessee Performance Measures

1. Reduce the percentage of high school students using tobacco (cigarettes and smokeless tobacco).
2. Reduce the percentage of high school students using alcohol.
3. Reduce the incidence of maltreatment of children younger than age 18, including physical, sexual, emotional abuse and neglect to a rate no more than 8 per 1,000.
4. Increase percentage of children (0-21 years) with complete EPSDT annual examinations by 3% each year.
5. Reduce the proportion of teens and young adults ages 15 to 24 with Chlamydia trachomatis infections attending family planning clinics.
6. Reduce the numbers of babies born prematurely (percent preterm births).
7. Increase percentage of adolescents with complete EPSDT annual examinations by 5% each year.
8. Reduce the number of overweight and obese children and adolescents.
9. Increase the percentage of youth with special health care needs, age 14 and older, who receive formal plans for transition to adulthood.

2005 Needs Assessment Tennessee MCH Priorities/Performance Measures

1. Increase percentage of children with complete, EPSDT annual examinations by 3% each year.
2. Reduce incidence of maltreatment of children younger than 18 (physical, sexual and emotional abuse, and neglect) to rate no more than 8 per 1000.
3. Reduce the number of babies born prematurely.
4. Reduce the number of pregnant women who smoke and use illicit drugs.
5. Reduce the number of overweight and obese children and adolescents.
6. Reduce the proportion of teens and young adults (ages 15-24) with Chlamydia trachmomatis infections, attending family planning clinics.
7. Increase percentage of adolescents with complete EPSDT annual examinations by 3% each year.
8. Reduce the number of high school students using tobacco.(cigarettes and smokeless)
9. Reduce the number of high school students using alcohol.
10. Increase the number of youth with special health care needs, age 14 and older, who receive formal plans for transition to adulthood

Rationale for discontinuing previous measures/priorities

Improvements/Successes since 2005:
Percent of EPSDT annual exams (children and teens)
Incidence of child maltreatment

The *issue is covered as National Performance Measure, MCH Outcome Measure, Health Systems Capacity Indicator, or Health Status Indicator:*
Premature births
Teens and young adults with Chlamydia Trachomatis

Other:
Alcohol use among high school students is still an issue in Tennessee. According to the TN YRBS, current alcohol use by teens decreased significantly in 2007 but leveled off in 2009. Tennessee students show less alcohol risk than teens in other states, but much work remains. MCH has no current capacity in alcohol treatment or prevention. The DMHDD continues to provide prevention and treatment services. MCH leadership recommended improved collaboration in alcohol prevention efforts with DMHDD, but to retire this as a MCH priority/measure for now.

Table 51. 2010 Tennessee MCH Priorities/Performance Measures by Pyramid

Level and Population Served or Impacted

Tennessee MCH Priorities/Performance Measures	MCH Pyramid Level	MCH Population Served or Impacted
Reduce the infant mortality rate.	Direct, Enabling, Population-Based, Infrastructure Building	Infants Women
Reduce the percentage of obesity and overweight (BMI for age/gender $\geq$ 85%) among Tennessee K-12 students.	Population-Based Infrastructure Building	Children
Reduce smoking in Tennesseans age 13 and older.	Direct, Enabling, Population-Based, Infrastructure Building	Children
Decrease asthma hospitalizations for children 0-5 years.	Direct, Enabling, Population-Based, Infrastructure Building	Children CYSHCN
Improve MCH workforce capacity by designing and implementing a workforce development program.	Infrastructure Building	Women, Infants Children CYSHCN
Increase the percentage of CYSHCN age 14 and older who have formal plans for transition to adulthood.	Enabling	CYSHCN
Reduce unintentional injury deaths in children and young people ages 0-24.	Enabling, Population-Based, Infrastructure Building	Infants Children CYSHCN

Rationale for choosing the priority is discussed from the following elements (with explanations, where indicated):

- Need
- Capacity to define, measure, track
- Connection with other priorities (past, present, national, emerging), lending to integrated approaches to the *overall health* of MCH populations
- National and State political environment
- Promising or evidence based interventions are reported in the literature
- Collaborations and partnerships
- MCH workforce capacity/infrastructure

1. Reduce the infant mortality rate

The need is critical. Tennessee consistently ranks among the states with the highest rates of infant mortality. Of particular concern is the disparity between the black and white populations. In 2008, the infant mortality rate for births to black women was 2.46 times that of the rate for births to white women. This disparity has remained for the last two decades, even as the overall rate has declined.
We have the capacity to define, measure, and track infant mortality in TDOH, Division of Health Statistics.
There is connection with this to other priorities, lending to integrated approaches to overall health of MCH populations. For example, in order to reduce infant mortality, we must also address preterm birth and low birthweight, two leading causes of infant mortality with multiple associated factors such as maternal smoking and maternal age.
The political environment is favorable to address the problem. The General Assembly just passed the state budget that included continuation of funding of the GOCCC.
Promising interventions exist, such as home visiting programs, and Centering Pregnancy programs.
Robust collaborations are currently working. TIPQC has begun collaborative regional research and QI endeavors, including studies of elective deliveries before 39 weeks, central line bloodstream infections, and use of human milk for very low birthweight infants. The GOCCC funds 3 Centering Pregnancy programs.
The MCH workforce is currently limited in number and training. However, in state home visiting meetings, MCH workers and leaders consistently expressed desire for improving skills to meet needs of families. Over 50 MCH staff members and leaders recently attended a state conference on SIDS and other sleep-related infant death. A workforce development plan is being created (another cross-cutting priority).

2. Reduce the percentage of obesity and overweight (BMI for age/gender $\geq$ 85%) among Tennessee K-12 students

The need is critical. In 2008, 39% of Tennessee school children were overweight or obese (BMI $\geq$ 85% for age and gender on CDC growth charts). (CSH 07-08 data and compliance report). Based on the 2007 National Survey of Children's Health, Tennessee children ages 10-17 ranked 4th in the Nation for childhood obesity and overweight, putting children at risk for weight-related illness and worsening of co-morbid conditions such as asthma.
We have the capacity to define, measure, and track overweight and obesity. Tennessee's CSH program measures over 200,000 K-12 students annually. They have a well-designed and established screening, reporting, and analysis system across the state.
There are links to other priorities. Strategies to improve childhood nutrition and physical activity in communities could also potentially impact preconception health.
The political environment is favorable to address the problem. Several obesity prevention initiatives have passed in the Tennessee legislature over the last 5 years.
Promising interventions exist. Multi-focal community-based participatory programs and school health interventions that engage families and communities are considered promising practices. Tennessee CSH, Gold Sneaker, and Nashville's new Communities Putting Prevention to Work (CPPW) programs are prime examples.

Robust collaborations are currently working well. TDOE/CSH and TDOH have a long-standing partnership. For example, the TDOH Nutrition and Wellness Division wrote the guidelines and training manual for CSH BMI measurements.
A component of the workforce development plan includes obesity prevention skill building: integrating strategies for motivational interviewing; improving communication with families of low health literacy; and using principals of community assessment, engagement, and collaboration to help build healthier communities.

3. Reduce smoking in Tennesseans age 13 years and older.

The need is critical. Every year, 14,600 Tennessee youth under 18 years of age become daily smokers. At this rate, 28,300 Tennessee youth alive today will die an early, preventable death because of a decision made as a youngster. More than 20% of all deaths in the United States are attributable to tobacco, making tobacco use the chief preventable cause of death. We opted to include the entire 13 and over population in this measure since tobacco smoke affects health and well-being throughout the entire lifespan, and second hand smoke exposure is a significant health threat in Tennessee.
We have the capacity to define, measure and track smoking through the YRBS and BRFFS. This can also be measured and tracked through health department clinic visits where every client 13 and older is assessed for tobacco use.
There are links to other priorities such as infant mortality and childhood asthma.
The political environment is favorable to address the problem as evidenced by the recent Non-Smoker Protection Act (NSPA) and legislation, and new federal restrictions around tobacco advertising and availability to minors.
Promising interventions exist. Health Department clinics use the 5 A approach discussed in section 4. Policy change is a key tobacco prevention strategy and Tennessee has begun to make some strides by way of increased tobacco tax and the Non-Smokers Protection Act of 2007.
Collaborations are currently working among public and private groups such as CHART, TDOH, TDOE and Department of Agriculture to improve school and community tobacco prevention programs.
The MCH workforce has capacity for direct services in the clinics, including a well-developed structure for information management, communication, and QA.

4. Decrease asthma hospitalizations for children 0-5 years.

The need is critical. Approximately 10% of children in Tennessee suffered from asthma in 2007. Although inpatient hospitalizations have decreased since 1997, emergency department (ED) visits and charges for both inpatient and outpatient hospitalizations have increased. Younger children with asthma have more hospitalizations than older children. In addition, there are significant gender, racial, socioeconomic and geographic disparities in childhood asthma. More school days are lost due to asthma than any other chronic condition, and in Tennessee 98% of emergency treatments in schools are for asthma.
We have the capacity to define, measure, and track asthma hospitalizations through hospital discharge data.
There are links to other priorities such as tobacco and obesity.
The political environment is favorable to address the problem. We can capitalize current momentum engendered by NSPA and legislative support to produce a state asthma plan.
Promising interventions exist. The NHLBI EPR 3 Guidelines address clinically focused asthma care, and are recognized as the "gold standard." The Vanderbilt Children's Hospital is designing a

hospital-wide system of care utilizing the EPR 3 Guidelines and has begun to educate community providers and disseminate the approach. Care coordination shown to be effective in improving asthma control and decreasing hospitalizations. TennCare MCOs utilize phone case management for patients with asthma. MCH home visiting and CSS staff have solid foundation in care coordination, which will be strengthened with asthma-specific training.
Robust collaborations are currently working. The Tennessee STAT plan (see section 4) represents a state-wide collaborative. The plan holds potential for developing state-wide infrastructure for dissemination of best practices, community asthma program development, and evaluation, all of which can focus on regions with highest need (see section 3). The TDOH Program Director of Asthma Management Programs also collaborates with the Vanderbilt Children's Hospital, Division of Pulmonary Medicine on their community pediatric asthma program plan.
There is capacity for care coordination through MCH home visiting services and CSS. Nurses and other home visitors will participate in asthma education and build partnerships with the TennCare MCO phone case managers.

5. Improve MCH workforce capacity and competency by designing and implementing a workforce development program.

The need is critical. Our workforce has been focused and trained on direct clinical services for many years. TDOH nursing leadership has requested help in developing competencies in public health basics and leadership. MCH program directors and home visiting staff have also expressed need for additional training and mentoring in order to increase competencies in enabling services, population-based services, and infrastructure building. No structured training plan has been in place since the late 1980's.
We have the capacity to define the program and measure whether or not it is implemented.
In addition, our Director of Quality Improvement and Public Health Accreditation will guide quality and evaluation standards to measure success. Published Public Health Core Competency Tools are available for individuals and supervisors to evaluate and track development of Public Health Core Competencies. The Interim MCH Director is committed to improving MCH program staff skills.

***There are links to other priorities*. This is intricately connected to each of these priorities, in that we cannot be successful in addressing critical MCH needs without a competent workforce.**

The political environment is favorable to address the problem. East Tennessee State University has just become the first Council on Education for Public Health accredited school of public health in Tennessee. We are developing a strong partnership around public health workforce training. We are also are exploring current Affordable Care Act funding opportunities for public health workforce education.
Promising interventions exist through the Council on Linkages Between Academia and Public Health Practice (COL) whose purpose is to assure a well-trained, competent workforce and a strong, evidence-based public health infrastructure. Training will be founded on the COL Public Health Core Competencies: http://www.phf.org/about/workforce.htm

- Analytical/Assessment Skills
- Policy Development/Program Planning Skills
- Communication Skills (including health literacy and numeracy)
- Cultural Competency Skills

- Community Dimensions of Practice Skills
- Public Health Sciences Skills
- Financial Planning and Management Skills
- Leadership and Systems Thinking Skills

Robust collaborations are currently working between UTHSC College of Nursing and TDOH. UTHSC CON Professor Dr. Pat Speck is primary investigator for a HRSA grant designed to increase Public Health Nursing (PHN) competencies in Tennessee and to increase the number of minority nurses trained in PHN. "Developing Leaders for a Healthy Tennessee" is a key component of this partnership. It starts with a day-long workshop with TDOH regional nursing directors; and deans, directors and public health nursing faculty of Tennessee schools of nursing. This is the initial phase of a multi-year program to create a competent PHN workforce, as a "pipeline" approach from initial nursing education to continued competency development in the PHN workforce. The model will then be adapted and replicated for other MCH program areas.
MCH capacity exists to carry the above plan forward. Dr. Patti Scott developed a TDOH workforce development plan based on a 2009 needs assessment. This will utilize some of our existing resources such as HRSA-funded MIND Training; and consultation/training from national experts (Dr. Donna Petersen, and Sally Fogerty). We have requested MCHB technical assistance as well.

6. Increase the percentage of CYSHCN age 14 and older who have formal plans for transition to adulthood

The need is critical to provide a growing population of CYSHCN with the means to transition to adult health care, independent living and work. Nearly 90% of CYSHCN now survive to adulthood (Newacheck, 1998). Many respondents to the Family Voices Survey reported they are not having discussions with health care providers or educational staff regarding transition. Forty-eight percent (48%) reported that providers talked with them about planning for changing health care needs as the child ages, and forty-four percent (44%) reported their child's teacher discussed issues related to their child's transition to adulthood.
We have the capacity to define and measure whether or not CSS workers help families to develop transition plans. The NS CSHCN and Family Voices Survey also provide data in helping to understand if families receive transition services.
There are links to other priorities. Improving MCH workforce capacity and competency entails educating CSS workers and home visitors in all aspects of child development and planning for adulthood, developing partnerships with the family as key decision-makers, cultural competence, and care coordination.
The political environment is favorable to address the problem. TennCare and TennderCare support outreach and collaboration to improve service delivery.
Promising interventions exist. Effective care coordination that includes check-lists and time lines can help formalize and organize a transition plan.
Collaborations are currently working among CSS, Family Voices, and the Tennessee Commission on Children and Youth to encourage formal transition plans
The MCH workforce, including CSS workers, will be gaining competency through additional training in care coordination and health literacy.

7. Reduce unintentional injury deaths in children and young people ages 0-24 years.

The need is critical. Injuries are the leading cause of death for U.S. and Tennessee children and young people, with motor vehicle injury as the number one cause for injury fatality. The rate of injury deaths in children has declined in the last 2 decades, yet rates of childhood injury deaths are greater in the US than in other developed countries. Nonfatal injuries contribute substantially to childhood morbidity, disability, and reduced quality of life; and lifetime costs are estimated to be over 50 billion dollars (Corso, et al., 2006).

According to the 2006 Child Death Review System Report, over half (55.6%) of the non-medical causes of deaths to infants in Tennessee were caused by asphyxia, with the reasons noted as related in most cases to the sleep environment. Three percent (40) of the total deaths reviewed were from Sudden Infant Death Syndrome (SIDS). While the number of reviews for SIDS has decreased, the number of sleep-related deaths has increased. Sleep-related deaths accounted for 81 deaths (not including SIDS deaths) to infants less than 1 year old. SIDS deaths decreased 36.51% from 2005. Non-SIDS infant deaths occurring in the sleep environment increased 32.78% from 2005 to 2006.

We have the capacity to define and measure unintentional injury deaths and infant deaths through the TDOH Division of Health Statistics.

There are links to other priorities. Improving MCH workforce capacity and competency involves learning to mobilize partnerships, promote policy, integrate social marketing into injury prevention/community education, and create an integrated system of injury prevention.

The political environment is favorable to address the problem. The Tennessee legislature has regularly updated CRD and other child safety laws such as the graduated driver license. There is support to improve home visiting and outreach to educate families about infant sleep environments.

Promising interventions exist. Increasing safe environments, improving technology, and enforcing laws have all been shown to decrease severe or lethal injury. For example, bike paths remove children from the danger of moving vehicles, CRD laws have decreased deaths due to motor vehicle crashes, and the “back to sleep” campaign has reduced infant deaths.

Collaborations exist among TDOH, TDS, TN EMSC, but need to be strengthened at the state and local levels.

The MCH workforce will be gaining competency through on-going consultation and training by Sally Fogerty on community based injury prevention strategies and other programs.

6. MCH Outcome Measures

6 MCH Outcome Measures: Trends 2005-2008

Measure	Target	2005	2006	2007	2008
Infant mortality rate	7.5	8.7	8.7	8.3	8.0
Black/white infant mortality ratio	2.1	2.2	2.3	2.6	2.5
Neonatal mortality rate	4.3	5.6	5.8	5.2	4.9
Postneonatal mortality rate	2.6	3.2	2.9	3.1	3.1
Perinatal mortality rate plus fetal deaths	8	7.8	7.8	7.3	6.9
Child death rate	15	22.1	21.7	20.2	21.6

Tennessee's child and infant mortality rates are worse than those of the U.S., higher than the Healthy People 2010 targets for the U.S., and show wide racial disparities. There is clearly much work to be done, and this is the rationale for the choice of our new state priorities/performance measures.

We aim for a system where the activities and partnerships surrounding the national and state performance measures will have a collective contributory effect. Operating together, these performance measures are precursors to the 6 National outcome measures.

State priorities 1, 3, 5, and 7 (as described in section 5 above), and National performance measures 1, 8, 10, 11, 13, 14, 15, 16, 17, and 18 directly or indirectly deal with child and infant death. Section 3 of this Needs Assessment document addresses these measures; and activities and partnerships that are making impact.

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APPENDICES

Appendix A

Stakeholder Survey

2010 Stakeholder Survey:

Assessing the needs of women, infants, children, adolescents and special needs children in Tennessee

MARCH 2010
Department of Health- Maternal and Child Health Section

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STATE OF TENNESSEE
DEPARTMENT OF HEALTH

MATERNAL AND CHILD HEALTH 2010 NEEDS ASSESSMENT

PROFESSIONAL STAKEHOLDER SURVEY

PURPOSE

Every five years the U.S. Department of Health and Human Services requires states to complete a needs assessment for Title V Block Grant (Maternal and Child Health) funding. The needs assessment is conducted to assist the state in setting state performance measures. A stakeholder survey is one of the tools used by Tennessee to inform the needs assessment. The following is the 2010 report of the survey from the perception of professionals working in fields related to maternal and child health. Participation is voluntary and anonymous.

SURVEY DESIGN

A copy of the Professional Stakeholder Survey is contained in Appendix A. MCH related information was used to design the 39 item questionnaire. Items on the survey were directly tied to the National Maternal and Child Health Performance Measures, and to a somewhat lesser extent, Healthy People MCH-related outcomes. The survey design process was also influenced by information obtained in meetings with TDH-MCH staff members.

SURVEY ADMINISTRATION

A list of 540 professionals associated with MCH through various partnerships, coalitions and advisory groups was developed by staff and the survey was mailed or emailed to all of them. Other public agencies, various private health and social service organizations and public health staff at the regional and local level were represented in the survey group. Of these 540 Maternal and Child health professionals, 121 returned completed stakeholder surveys for a 22.4% response rate.

RESPONDENT CHARACTERISTICS

Of the 121 respondents who completed the survey:

- Most identified themselves as administrators or managers (65.9%)
- 55% participated in at least one MCH advisory group
- 49.6% or 64 respondents were employed by the Department of Health
- 22.5% (27) of respondents worked outside one of the six metropolitan areas

Detailed tables of these characteristics are below.

A. Professional Role

Stakeholders Professional Capacity	Percent
Administrator or Manager	65.9
Direct Services with Clients	20.9
Other	13.2

B. Advisory Group Representation

Advisory Group (s)	Number	Percent
None	62	44.9
Child Fatality Advisory Committee	13	9.4
Children's Special Services Advisory Committee	7	5.1
Genetics Advisory Committee	10	7.2
Perinatal Advisory Committee	10	7.2
Women's Health Advisory Committee	4	2.9
Other	32	23.1
Total Number of Advisory groups of participant	138*	100

*Some identified participation in more than one advisory group

C. Employer

Place of Employment	Number	Percent
Depts and Offices for Developmental Disabilities/ Mental Health	6	4.7
Department of Children's Services	3	2.3
Tennessee Department of Education	4	3.1
Tennessee Department of Health	64	49.6
Department of Human Services	2	1.5
Tennessee Commission on Children and Youth	2	1.5
University	8	6.2
Hospital	14	10.9
Private Health related agency / organization	5	3.9
Private Social Services related agency / organization	6	4.7
Other	15	11.6

D. Location of Employment (N = 120)
Six Tennessee counties are considered "urban." They are Davidson, Hamilton, Knox, Madison, Shelby, and Sullivan. Tennessee's remaining 89 counties are defined by TDH-MCH as "rural." By this definition, 77.5 % of the respondents worked for agencies located in Tennessee's urban counties and the remaining 22.5 % were located in rural counties.

County	City	Number of Participants
Statewide	Statewide	8
Davidson	Nashville	45
Hamilton	Chattanooga	8
Knox	Knoxville	10
Madison	Jackson	7
Shelby	Memphis	9
Sullivan	Tri-Cities	6
Other	Other	27
Total Number of Participants		120

SURVEY RESULTS

The following narrative and tables are based on information from 121 respondents to the MCH stakeholder survey. The first section of the survey asked respondents to check those items that they perceived were highly important to the community or region and then to check those same issues that they perceived were highly important to clients. Each item allowed the respondent to include comments about the issue.

The survey results were further broken down into issues that were primarily related to women's, infants, children's or adolescent health. A special category of issues related to children with special health care needs (CSHCN) was also analyzed. The 31 items were divided into the following population categories:

Crosscutting Issues …….. 6 issues
Women's Health……. 9 issues
Infant's Health……. . 6 issues
Children's Health……. 11 issues
Adolescent Health……12 issues
CSHCN……. 5 issues

Due to survey design error, the wording of some issues required that they be counted in more than one population category listed above. For example "childhood asthma" was used in the tables related to children's health and CSHCN because this later enrolls and provides program services to eligible children. Survey items used in more than one population category are ***italicized*** in the following tables.

Crosscutting Issues

Six items were generic to the general maternal and child health population. These are presented in the tables labeled as "Crosscutting Health Issues". The complete 31 item table with the frequency and percent of respondents is contained in Appendix B. Comments for each of the 31 issues are contained in Appendix C.

Table 1 a. Frequency and Percent of Professionals Indicating that Issue is "Highly Important" to Community (N = 121)

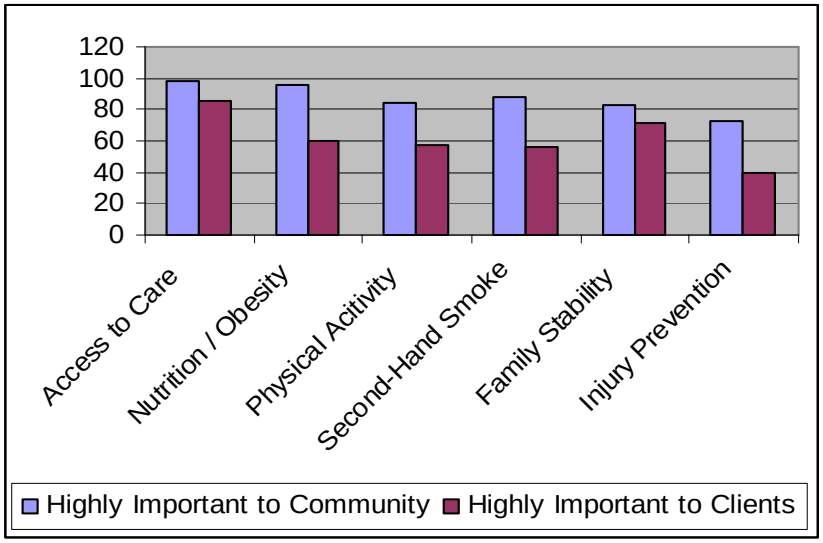
Cross Cutting Issues	Frequency	Percent
Access to timely and appropriate health care	98	81
Nutrition and obesity among children, youth and families	96	79
Physical activity and fitness for children, youth and families	84	69
Second-hand smoke exposure	88	73
Stability of family (economic, housing, food security, etc.)	83	69
Injury prevention and safety	73	60

Table 1 b. Frequency and Percent of Professionals Indicating that Issue is "Highly Important" to Clients (N = 121)

Cross Cutting Issues	Frequency	Percent
Access to timely and appropriate health care	86	71
Nutrition and obesity among children, youth and families	60	50
Physical activity and fitness for children, youth and families	57	47
Second-hand smoke exposure	56	46

Stability of family (economic, housing, food security, etc.)	71	59
Injury prevention and safety	40	33

Figure 1: Crosscutting Issues - Significance to Community and Clients based on Frequency of Responses



Women's Health Issues – based on 121 respondents

Several questions in the survey pertained specifically to women's health needs, one of the primary target groups for MCH. The following tables and bar graph summarize the data as to the importance to the community or region and significance to clients. In general, there was congruence between these responses, i.e. the same issues were important to both the community and the clients according to the professionals completing the survey.

The top three issues for the community related to women's health were:

1. Early and adequate prenatal care
2. Access to timely and appropriate care
3. Tobacco use among pregnant women

The perceived top three issues for a significant number of clients were:

1. Early and adequate prenatal care
2. Tobacco use among pregnant women
3. Alcohol and illicit drug use among pregnant women

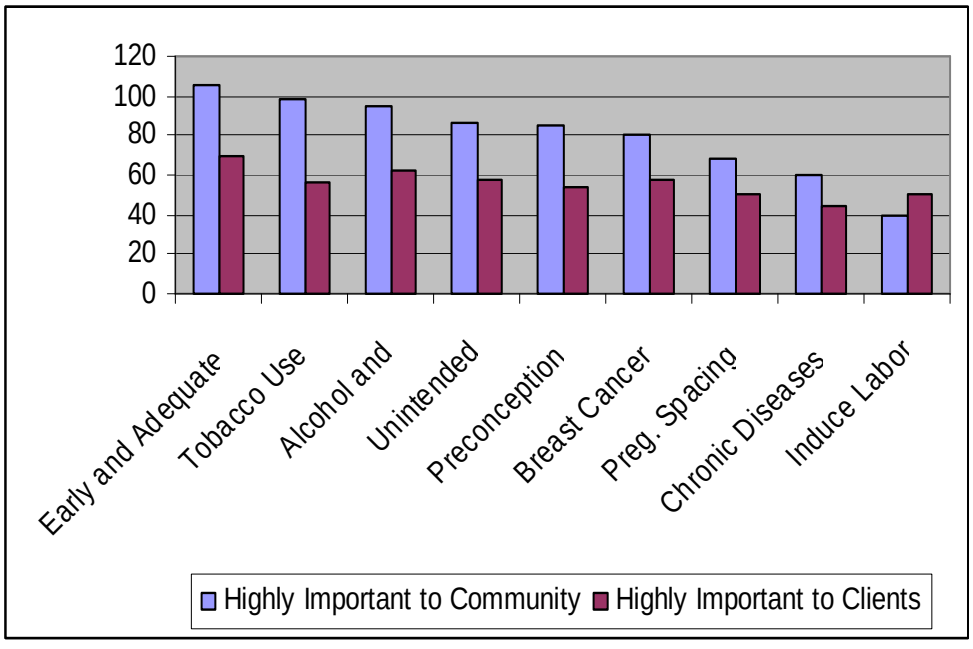
Table 2 a. Frequency and Percent of Professionals Indicating that Issue is "Highly Important" to Community or Region (N = 121)

Issues related to Women's Health	Frequency	Percent
Early and adequate prenatal care	106	88
Tobacco use among pregnant women	98	81
Alcohol and illicit drug use among pregnant women	95	79
Unintended pregnancy—women of all ages	87	72
Preconception health/reproductive health planning	85	70
Breast cancer screening and treatment	80	66
Healthy spacing of pregnancies	68	56
Chronic diseases in reproductive age women	60	50
Induced labor/elective C-sections	40	33

Table 2 b. **Frequency and Percent of Professionals Indicating that Issue is "Highly Important" to Clients (N = 121)**

Issues related to Women's Health	Frequency	Percent
Early and adequate prenatal care	70	58
Tobacco use among pregnant women	57	47
Alcohol and illicit drug use among pregnant women	63	52
Unintended pregnancy—women of all ages	58	48
Preconception health/reproductive health planning	54	45
Breast cancer screening and treatment	58	48
Healthy spacing of pregnancies	51	42
Chronic diseases in reproductive age women	44	36
Induced labor/elective C-sections	50	41

Figure 2: Women's Health Issues - Significance to Community and Clients based on Frequency of Responses



Infant Health Issues – based on 121 respondents

There was limited congruence on the issues perceived as both important to the community and the clients.

The top three issues for the community related to infant health were:

1. Infant Mortality
2. Low and very low birth weight babies
3. Child maltreatment

The perceived top three issues for a significant number of clients were:

1. Low and very low birth weight babies
2. Newborn Hearing Screening
3. Safe sleep practices

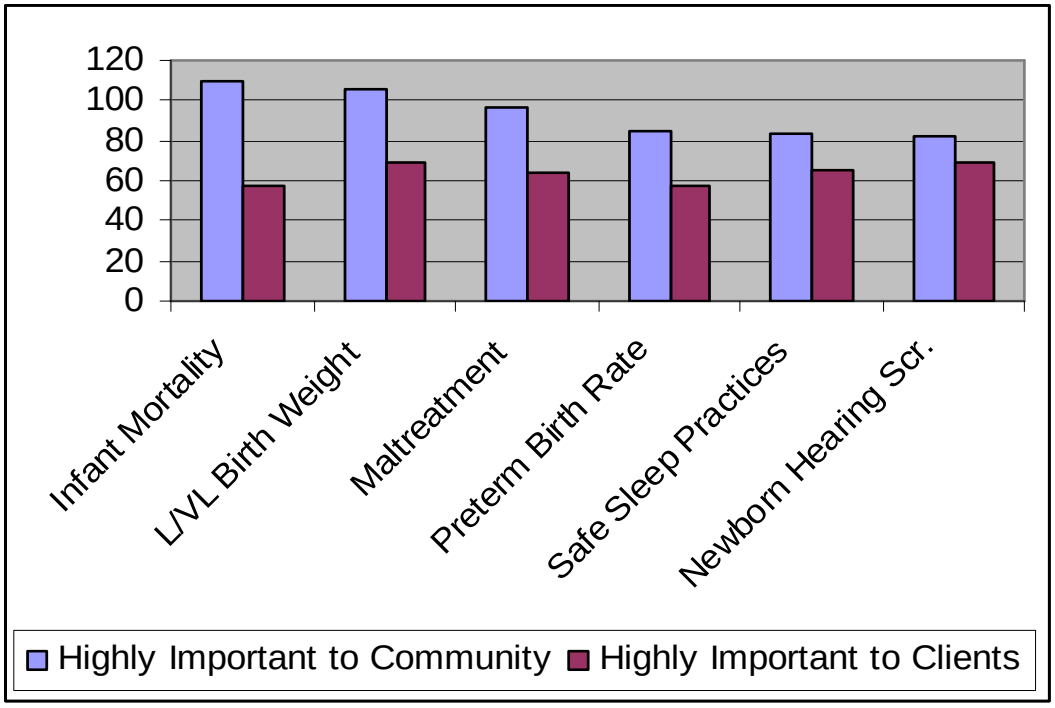
Table 3.a. Frequency and Percent of Professionals Indicating that Issue is "Highly Important" to Community or Region (N = 121)

Issues related to Infant Health		
	Frequency	**Percent**
Infant Mortality	109	90
Low and very low birth weight babies	106	88
Maltreatment of children including physical, sexual, and emotional abuse	***97***	***80***
Preterm birth rate (before 37 weeks gestation)	85	76
Safe sleep practices for infants	84	69
Newborn hearing screening follow-up	82	68

Table 3 b. Frequency and Percent of Professionals Indicating that Issue is "Highly Important" to Clients (N = 121)

Issues related to Infant Health		
	Frequency	**Percent**
Infant Mortality	57	47
Low and very low birth weight babies	69	57
Maltreatment of children including physical, sexual, and emotional abuse	***64***	***53***
Preterm birth rate (before 37 weeks gestation)	57	47
Safe sleep practices for infants	65	54
Newborn hearing screening follow-up	69	57

Figure 3: Infant Health Issues - Significance to Community and Clients based on Frequency of Responses



Children's Health Issues – based on 121 respondents

There was congruence for most of the priorities identified by respondents as important to the community and clients.

The top three issues for the community related to children's health were:

1. Physical, sexual and emotional maltreatment
2. Dental care for children
3. Asthma and home visiting (tied)

The perceived top three issues for a significant number of clients were:

1. Dental care for children
2. Home visiting for pg women, infants, children
3. Physical, sexual and emotional maltreatment

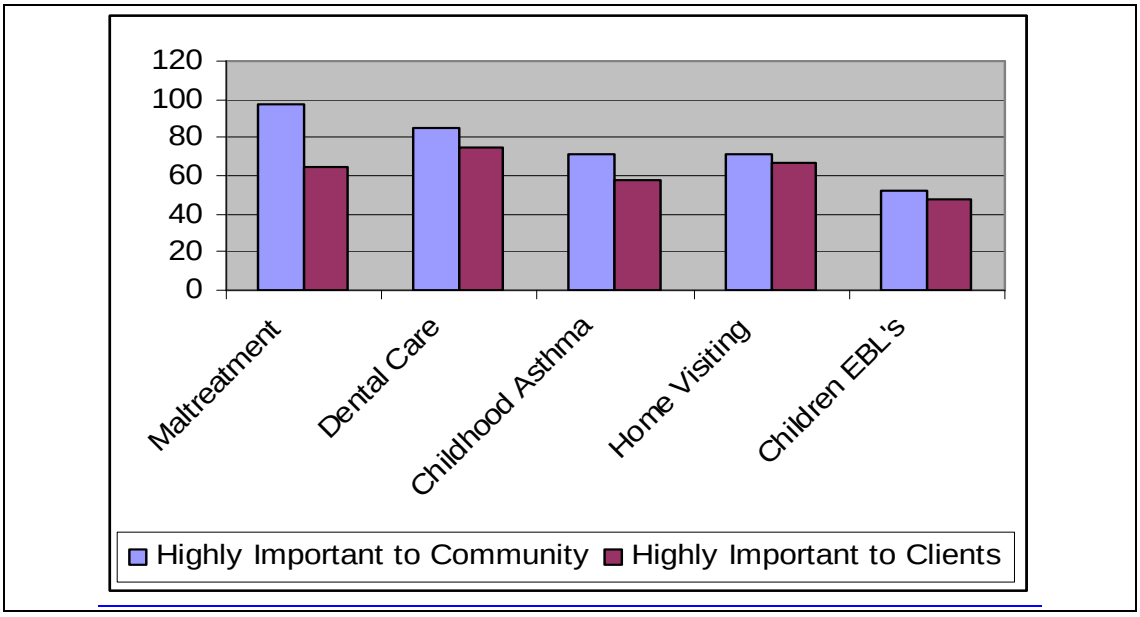
Table 4 a. Frequency and Percentage of Professionals Agreeing that Issue is "Highly Important" to Community (N = 121)

Issues related to Child Health	Frequency	Percent
Maltreatment of children including physical, sexual, and emotional abuse	***97***	***80***
Dental care for children	85	70
Childhood asthma	***71***	***59***
Home visiting for pregnant women, infants, and children 0-5	71	59
Children with elevated blood lead levels	52	43

Table 4 b. Frequency and Percentage of Professionals Agreeing that Issue is "Highly Important" to a Significant Number of Their Clients (N = 121)

Issues related to Child Health	Frequency	Percent
Maltreatment of children including physical, sexual, and emotional abuse	***64***	***53***
Dental care for children	75	62
Childhood asthma	***58***	***48***
Home visiting for pregnant women, infants, and children 0-5	67	55
Children with elevated blood lead levels	47	39

Figure 4: Child Health Issues - Significance to Community and Clients based on Frequency of Responses



Adolescent Health Issues – based on 121 respondents

There was congruence on four of the six priorities identified for the community and clients.

The top three issues for the community related to adolescent health were:

1. Teen pregnancy
2. Child maltreatment
3. Unintended Pregnancies

The perceived top three issues for a significant number of clients were:

1. Teen pregnancy
2. Child maltreatment
3. STDs and EPSDT (tied)

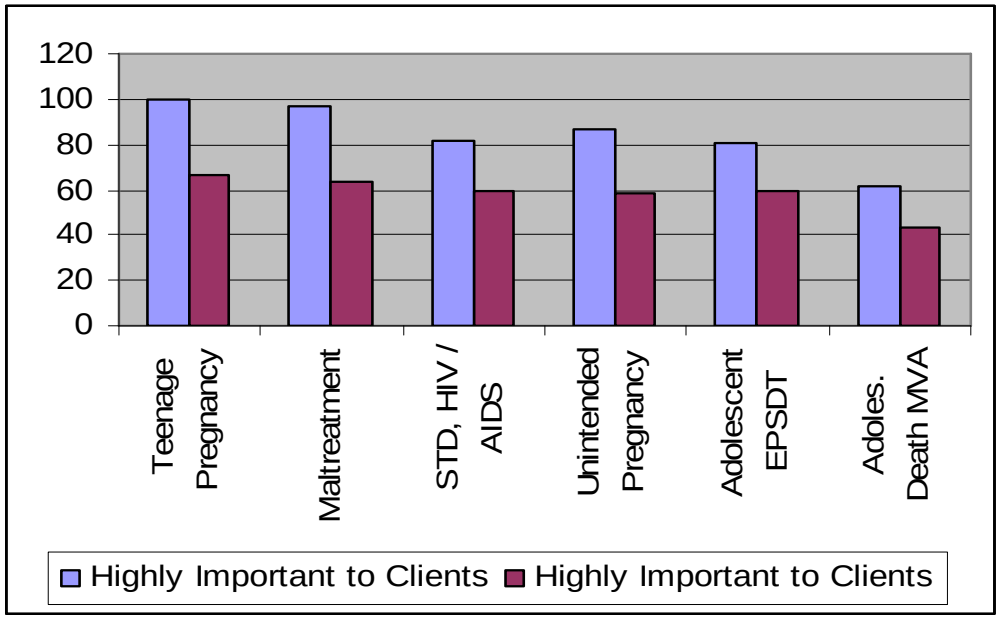
Table 5 a. Frequency and Percent of Professionals Indicating that Issue is "Highly Important" to Community or Region (N = 121)

Issues related to Adolescent Health	Frequency	Percent
Teenage pregnancy	100	83
Maltreatment of children including physical, sexual, and emotional abuse	***97***	***80***
Sexually transmitted diseases among youth, including HIV/AIDS	82	68
Unintended pregnancy—women of all ages	***87***	***72***
Early, Periodic, Screening, Diagnosis & Treatment (EPSDT) exams for adolescents	81	67
Adolescent deaths due to motor vehicle accidents	62	51

Table 5 b. Frequency and Percent of Professionals Indicating that Issue is "Highly Important" to Clients (N = 121)

Issues related to Adolescent Health	Frequency	Percent
Teenage pregnancy	67	55
Maltreatment of children including physical, sexual, and emotional abuse	***64***	***53***
Sexually transmitted diseases among youth, including HIV/AIDS	59	49
Unintended pregnancy—women of all ages	***58***	***48***
Early, Periodic, Screening, Diagnosis & Treatment (EPSDT) exams for adolescents	59	49
Adolescent deaths due to motor vehicle accidents	43	36

Figure 5: Adolescent Health Issues - Significance to Community and Clients based on Frequency of Responses



Children with Special Health Care Needs (CSHCN) Issues – based on 121 respondents

The top three issues for CSHCN were identical for both ratings thus indicating complete congruence in the issues by the professional group and as perceived for their clients.

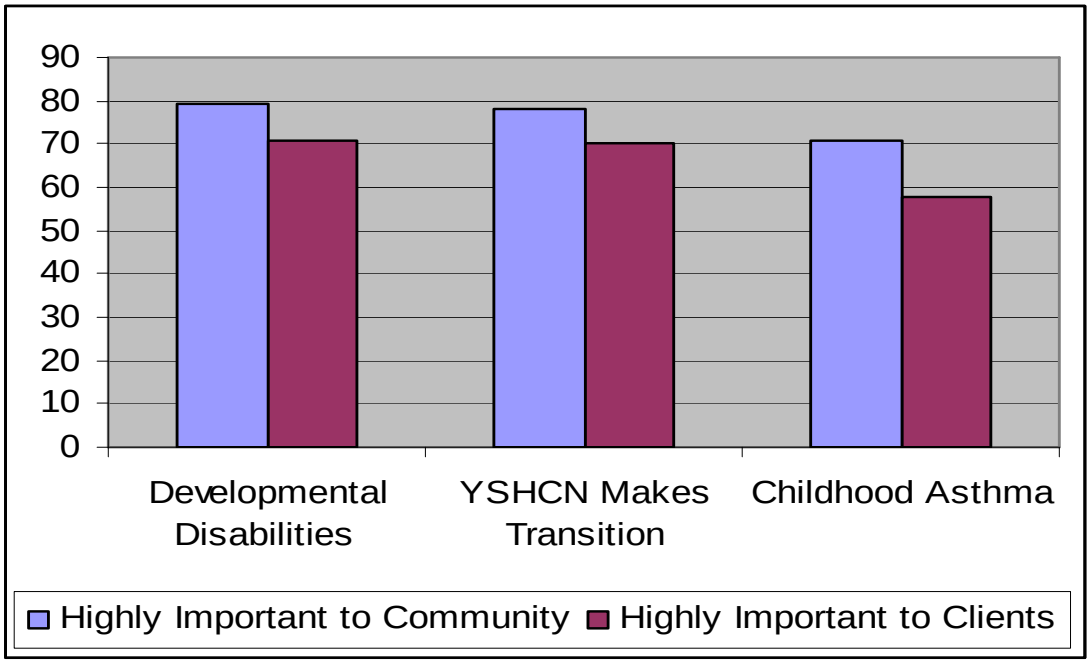
Table 6 a. Frequency and Percent of Professionals Indicating that Issue is "Highly Important" to Community or Region (N = 121)

Issues related to Children and Youth with Special Health Care Needs	Frequency	Percent
Occurrence of developmental disabilities among children	79	65
Youth with special health care needs receive necessary services to make the transition to all aspect of adult life	78	64
Childhood asthma	71	59

Table 6 b. Frequency and Percent of Professionals Indicating that Issue is "Highly Important" to Clients (N = 121)

Issues related to Children and Youth with Special Health Care Needs	Frequency	Percent
Occurrence of developmental disabilities among children	71	59
Youth with special health care needs receive necessary services to make the transition to all aspect of adult life	70	58
Childhood asthma	58	48

Figure 6: Children with Special Health Care Needs - Significance to Community and Clients based on Frequency of Responses



Other Issues of Concern to Respondents

Survey respondents were also able to include comments about important issues from their perspective that were not included in the 31 items. The twenty –nine (29) issues of concern summarized into major categories were:

- Access to care/ health care crisis (4)
- Family Planning/unplanned pregnancy (3)
- autism and mental health issues (3)
- Prematurity/birth complications (3)
- Preconception health/genetic testing (2)
- Chronic childhood disorders (2)
- Suicide prevention (2)

The table with the text for the twenty-nine comments is contained in Appendix D. As indicated by the categories above, many of the additional comments concerning MCH needs were choices on the list of 31 issues.

Prioritized Issues — Issues Considered the most important to the Community

In addition to completing the survey and providing comments, respondents were also asked to select the three most important issues for the community from the list of 31 issues, i.e. prioritize the three most important from this list of 31.

Three most HIGHLY IMPORTANT ISSUES to your Community or Region		Frequency	Percent
Issue #1	Infant Mortality	30	24.8
Issue # 2	Low and Very Low Birth Weight Babies	12	9.9
Issue # 3	Physical, Sexual and Emotional Abuse	15	12.4

Prioritized Issues — Issues considered to be highly important to a significant number of clients

The respondents were asked to do the same prioritized selection from the 31 items that they considered highly important to a significant number of clients. The prioritized issue across all three priorities was access to timely and appropriate health care.

Given these results, the fourth and fifth most important issues to a significant number of clients

Issue #4: Stability of family (economic, housing, food security, etc.)
Issue #5: Youth with special health care needs receive necessary services to make the transition to all aspect of adult life

Three most HIGHLY IMPORTANT ISSUES to a significant number of clients		Frequency	Percent
Issue # 1-3	Access to timely and appropriate health care	49	40.4
Issue # 4	Stability of family (economic, housing, food security, etc.)	10	8.3
Issue # 5	Youth with special health care needs receive necessary services to make the transition to all aspect of adult life	14	11.6

Another way of assessing the salience of these issues to the 121 MCH professionals who took part in the survey was to look at each of the 31 issues individually. Twenty-four of these issues received high (60% or higher) endorsement by the overall sample. In fact, 14 of the 31 MCH issues were considered by at least 70% of the 121 MCH professionals to be highly important to (his/her) community or region. The items selected by 70 % of the respondents were

13. Infant Mortality
14. Low and very low birth weight babies
15. Early and adequate prenatal care
16. Preconception health/reproductive health planning
17. Unintended pregnancy—women of all ages
18. Preterm birth rate (before 37 weeks gestation)
19. Tobacco use among pregnant women
20. Alcohol and illicit drug use among pregnant women
21. Second-hand smoke exposure
22. Teenage pregnancy
23. Dental care for children
24. Maltreatment of children including physical, sexual, and emotional abuse

13. Nutrition and obesity among children, youth and families
14. Access to timely and appropriate health care

Appendix A- Professional Survey

MATERNAL AND CHILD HEALTH NEEDS ASSESSMENT

PROFESSIONAL STAKEHOLDER SURVEY

STATE OF TENNESSEE
DEPARTMENT OF HEALTH
CORDELL HULL BUILDING
425 5TH AVENUE NORTH
NASHVILLE, TENNESSEE 37243

January 7, 2010

Dear MCH Partner:

The Maternal and Child Health Section of the Tennessee Department of Health is conducting a Needs Assessment to assist in the process of developing policies and making programmatic decisions for the next five-years. This assessment of the needs of our state's populations of women, infants, children, and children with special health care needs is a requirement of the federal Maternal and Child Health Block Grant funding received from the U.S. Department of Health and Human Services.

We invite you to participate in the Needs Assessment process by completing the attached survey and returning it to us either by mail or email. It should only take a few minutes to complete.

Your participation is vital to the overall process, but is completely voluntary. Individual responses are anonymous.

The information you provide will be included in the needs assessment report, along with information obtained from state and national data systems and consumer surveys.

The last page includes the 18 National Performance Measures which all states must address with Maternal and Child Health Block Grant Funding. You may find these useful to guide your responses.

Please email or return to the survey to our office by February 1, 2010. If you have any questions about the survey, or about the Needs Assessment process, please contact Margaret Major by email (Margaret.Major@tn.gov) or call 615-741-0377.

Thank you in advance for your assistance.

Sincerely,

Cathy R. Taylor, DrPH, MSN, RN
Interim Director, Maternal and Child Health
Assistant Commissioner, Bureau of Health Services

Attachment

MATERNAL AND CHILD HEALTH NEEDS ASSESSMENT

PROFESSIONAL STAKEHOLDER SURVEY

DIRECTIONS: The following is a list of issues or concerns related to Maternal and Child Health. For each issue, please check the answer box(es) for which you think the issue is HIGHLY IMPORTANT. You may check none of the boxes for a given issue or multiple boxes for a given issue. For each issue, **check Box (A)** if YOU consider the issue to be HIGHLY IMPORTANT to either the community or region served by your agency; **check Box (B)** if you think that a significant number of YOUR CLIENTS would consider this issue to be HIGHLY IMPORTANT.

In column I, provide comments on any of the topics.

Issue	(A) Highly Important to Community or Region	(B) Highly Important to Significant # Clients	I COMMENTS
1. Newborn hearing screening follow-up			
2. Infant mortality			
3. Low and very low birth weight babies			
4. Early and adequate prenatal care			
5. Preconception health / reproductive health planning			
6. Chronic diseases in reproductive age women			
7. Unintended pregnancy – women of all ages			
8. Healthy spacing of pregnancies			
9. Induced labor/elective C-sections			
10. Preterm birth rate (before 37 weeks gestation)			
11. Home visiting for pregnant women, infants, and children 0-5			

Issue	(A) Highly Important to Community or Region	(B) Highly Important to Significant # Clients	I COMMENTS
12. Safe sleep practices for infants			
13. Tobacco use among pregnant women			
14. Alcohol and illicit drug use among pregnant women			
15. Second-hand smoke exposure			
16. Teenage pregnancy			
17. Dental care for children			
18. Childhood asthma			
19. Adolescent deaths due to motor vehicle accidents			
20. Children with elevated blood lead levels			
21. Maltreatment of children including physical, sexual, and emotional abuse			
22. Early, Periodic, Screening, Diagnosis & Treatment (EPSDT) exams for adolescents			
23. Sexually transmitted diseases among youth, including HIV/AIDS			
24. Occurrence of developmental disabilities among children			
25. Youth with special health care needs receive necessary services to make the transition to all aspects of adult life			
26. Nutrition and obesity among children, youth, and families			
27. Physical activity and fitness for children, youth and families			
28. Breast cancer screening and treatment			
29. Injury prevention and safety			
30. Stability of family (economic, housing, food security, etc.)			
31. Access to timely and appropriate health care			

32. Looking over the list of issues you marked as HIGHLY IMPORTANT to your ***community or region***, determine, by the issues' identifying numbers, the three issues you consider to be **most important**. For example, if one of your top issues is Injury Prevention and Safety, list issue #29.

Issue #1 _____ Issue #2 _____ Issue #3 _____

33. Looking over the list of issues you marked as HIGHLY IMPORTANT to a ***significant number of your clients***, determine, by the issues' identifying numbers, the three issues you think your clients would consider **most important**.

Issue #1 _____ Issue #2 _____ Issue #3 _____

34. If you wish to say more about any of your responses, or if there are other issues of interest to you, your clients, or your agency, tell us about them here. Tell us what we are missing.
(Please be as specific as possible. Feel free to use the back of this page if you need more room.)

_____

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35. In what department or organization do you work?
- ❑ Council on Developmental Disabilities
- ❑ Department of Children's Services
- ❑ Department of Education
- ❑ Department of Health
- ❑ Department of Human Services
- ❑ Department of Mental Health and Developmental Disabilities
- ❑ Division of Intellectual Disabilities Services
- ❑ Tennessee Commission on Children and Youth
- ❑ University
- ❑ Hospital
- ❑ Private health related agency/organization (***please specify***) _____
- ❑ Private social services related agency/organization (***please specify***) _____

❑ Other (***please specify***) Non profit _____

36. On what Advisory Group(s) do you serve?

- ❑ None
- ❑ Child Fatality Advisory Committee
- ❑ Children's Special Services Advisory Committee
- ❑ Genetics Advisory Committee
- ❑ Perinatal Advisory Committee
- ❑ Women's Health Advisory Committee
- ❑ Other (***please specify***)

_____

37. In what county of Tennessee is your agency/organization located? _____

38. In what capacity do you work ***most*** of the time?

- ❑ Administrator or manager
- ❑ Direct service with clients
- ❑ Other (***please specify***)

_____

39. What is your specific job title (for example: Nurse, Social Worker, Program Director)

_____

Return completed survey by email to Kwame.A.Bawuah@tn.gov or mail to:

Kwame A. Bawuah
Maternal and Child Health Section
Tennessee Department of Health
5th Floor Cordell Hull Building
425 5th Avenue North
Nashville, TN 37243

Thank you for your time in completing this questionnaire.

Appendix B
Frequency and percent of all survey items

Issues related to Maternal and Child Health	"Highly Important to Community or Region"	
	Frequency	Percent
Newborn hearing screening follow-up	82	68
Infant Mortality	109	90
Low and very low birth weight babies	106	88
Early and adequate prenatal care	106	88
Preconception health/reproductive health planning	85	70
Chronic diseases in reproductive age women	60	50
Unintended pregnancy—women of all ages	87	72
Healthy spacing of pregnancies	68	56
Induced labor/elective C-sections	40	33
Preterm birth rate (before 37 weeks gestation)	92	76
Home visiting for pregnant women, infants, and children 0-5	71	59
Safe sleep practices for infants	84	69
Tobacco use among pregnant women	98	81
Alcohol and illicit drug use among pregnant women	95	79
Second-hand smoke exposure	88	73
Teenage pregnancy	100	83
Dental care for children	85	70
Childhood asthma	71	59
Adolescent deaths due to motor vehicle accidents	62	51

Issues related to Maternal and Child Health	Highly Important to Community or region	
	Frequency	Percent
Children with elevated blood lead levels	52	43
Maltreatment of children including physical, sexual, and emotional abuse	97	80
Early, Periodic, Screening, Diagnosis & Treatment (EPSDT) exams for adolescents	81	67
Sexually transmitted diseases among youth, including HIV/AIDS	82	68
Occurrence of developmental disabilities among children	79	65
Youth with special health care needs receive necessary services to make the transition to all aspect of adult life	78	64
Nutrition and obesity among children, youth and families	96	79
Physical activity and fitness for children, youth and families	84	69
Breast cancer screening and treatment	80	66
Injury prevention and safety	73	60
Stability of family (economic, housing, food security, etc.)	83	69
Access to timely and appropriate health care	98	81

Issues related to Maternal and Child Health	"Highly Important to a Significant Number of their Clients"	
	Frequency	Percent
Newborn hearing screening follow-up	69	57
Infant Mortality	57	47
Low and very low birth weight babies	69	57
Early and adequate prenatal care	70	58
Preconception health/reproductive health planning	54	45
Chronic diseases in reproductive age women	44	36
Unintended pregnancy—women of all ages	58	48
Healthy spacing of pregnancies	51	42
Induced labor/elective C-sections	50	41
Preterm birth rate (before 37 weeks gestation)	57	47
Home visiting for pregnant women, infants, and children 0-5	67	55
Safe sleep practices for infants	65	54
Tobacco use among pregnant women	57	47
Alcohol and illicit drug use among pregnant women	63	52
Second-hand smoke exposure	56	46
Teenage pregnancy	67	55
Dental care for children	75	62
Childhood asthma	58	48
Adolescent deaths due to motor vehicle accidents	43	36

Issues related to Maternal and Child Health	"Highly Important to a Significant Number of their Clients"	
	Frequency	Percent
Children with elevated blood lead levels	47	39
Maltreatment of children including physical, sexual, and emotional abuse	64	53
Early, Periodic, Screening, Diagnosis & Treatment (EPSDT) exams for adolescents	59	49
Sexually transmitted diseases among youth, including HIV/AIDS	59	49
Occurrence of developmental disabilities among children	71	59
Youth with special health care needs receive necessary services to make the transition to all aspect of adult life	70	58
Nutrition and obesity among children, youth and families	60	50
Physical activity and fitness for children, youth and families	57	47
Breast cancer screening and treatment	58	48
Injury prevention and safety	40	33
Stability of family (economic, housing, food security, etc.)	71	59
Access to timely and appropriate health care	86	71

Appendix C
Comments from Respondents for each of the 31 issues

Newborn hearing screening follow-up
Important for language development!
It is important that family and community understands the importance of NBH screening follow-up and 3-6-9.It can make a tremendous difference in child & families life if discovered early
Essential to continue present program
Family do not show up for re-screen
Funding for services especially West TN
Need follow-up for mandatory screening

Infant Mortality
Reduce unplanned pregnancy
No one wants to lose child. USA bad in world ratings
West TN has the highest infant mortalty rate in the country! Outreach into the communities is high priority
1 Problem in TN

Low and very low birth weight babies
Reduce unplanned pregnancy
I believe that question 2 & 3 are similar. Lack of proper prenatal care and change in personal habits while pregnant can result in infant mortality or LBW babies
Cause of #1 Problem
High % of mother who smoke while pregnant
Alcohol + drug (A & D)

Early and adequate prenatal care
A + D
Many mothers do not realize importance of this
Any prenatal care is better than none
Fix for #1 problem
Outreach to both families and communities would help strengthen and educate families on the important of prenatal care
For those with low parenting skills
Reduce unplanned pregnancy

Preconception health/reproductive health planning
Reduce unplanned pregnancy
Large # have no access / religion
Bible belt mentality, Re: Contraception
If a solid infrastructure where in place to educate families on reproductive health planning it would definitely help to minimize LBW and infant mortality
Prevention of # 1problem
Preconception care in this 7 counties is available and accessible to all
FP=Preconception care is essential
Younger women feel less vulnerable to chronic disease

Unintended pregnancy—women of all ages
Again bible belt issue
Screams outreach ie. Outreach is critical
Prevention of # 1Problem
A + D
Could lead to suicide attempts
Reduce unplanned pregnancy

Healthy spacing of pregnancies
Reduce unplanned pregnancy
Large # have no control of programs
Prevention
Important of spacing is not common knowledge
Better birth outcomes project (VUSN), HUGS

Induced labor/elective C-sections
TIPQC Priority
Reducing unneeded c sections
Reducing unneeded
# of C- section is increasing, increasing cost

Preterm birth rate (before 37 weeks gestation)
Reduce unplanned pregnancy
Some lose hearing so it's very important
Large # never have options so do not think about it
Have seen this very helpful with nurses for newborns and in England
Value of HV is recognized by professionals not by public
May have special needs due preterm birth
Extreme prematurity is of great concern
A + D
Already available through MCH programs (HUGS)

Home visiting for pregnant women, infants, and children
Reduce unplanned pregnancy
NICU experience is very traumatic for families. Here I believe that families could benefit from parent to parent connection to help guide and support family
Successful programs need funding to continue and expand coverage
Succesful programs need funding to continue and expand coverage

Safe sleep practices for infants
This is a particular sensitive area when you are faced with cultural beliefs and preference. Outreach to both families and community is important.
High % families co - sleep
Especially W. TN

Tobacco use among pregnant women
Many will not stop

Not sure that com./clients see this as highly as important
High in our community
Quitline and services need to continue. CHART
A + D

Alcohol and illicit drug use among pregnant women
Reduce unplanned pregnancy
Many do not understand enough to care
Asst. law & significant birth & developmental Problems.
Not only women, but men as well.
A + D

Second-hand smoke exposure

Most do not feel it is a problem
Not sure anyone here cares highly
Family think it is ok because they were expose
CHART
A + D

Teenage pregnancy
Reduce unplanned pregnancy
A way of life here
Could lead to suicide attempts

Dental care for children
Highly important not accessible in Health Department

Childhood asthma
No Comment

Adolescent deaths due to motor vehicle accidents
Happens so often, no thought to change

Children with elevated blood lead levels
Most do not know about it
Learning issue
Have not seen this

Maltreatment of children
Major factor in mental illness/suicide
Reduce unplanned pregnancy
Too frequent to be seen as correctable
Emotional abuse still very difficult to document, but needs focus
Include lack of communication
Mental health (MH)

Early, Periodic, Screening, Diagnosis & Treatment (EPSDT) exams for adolescents
Should include mental health screening
No care in many places
Professionals recognize that prevention and early diagnosis and treatment + better outcome for EPSDT
MH
Important that available and encouraged

Sexually transmitted diseases among youth, including HIV/AIDS
No care in many places
Nashville cares & planned parenthood & Oasis center are God sends
A + D (Risk factor)
Could lead to suicide attempts

Occurrence of developmental disabilities among children
Reduce unplanned pregnancy
Autism especially
MH

Youth with special health care needs receive necessary services to make the transition to all aspect of adult life
Possible suicide risk factor
Reduce unplanned pregnancy
This isn't done well- we are failing as community
Have local adult center in our county
Clients do not realize the need until they reach 18 +
MH

Nutrition and obesity among children, youth and families
An epidemic that needs remediation
Fat is not important to many
Not sure anyone views this highly

Physical activity and fitness for children, youth and families
Many have no options so do not care
Not sure anyone views this highly

Breast cancer screening and treatment
Advanced stage=possible suicide risk
For men as well.

Injury prevention and safety
Includes suicide prevention
No concept for majority
Not sure community's into prevention

Stability of family (economic, housing, food security, etc.)
Suicide risk factor
Reduce unplanned pregnancy
Does not have here much anyway
Needs strongly, esp. in these times

Access to timely and appropriate health
Esp. mental health services
Many have no care and do not view as a major problem since it has been that way for generations

Including mental health care- insurance pay for meds, but not counseling
Include mental health care - none right now for the culturally deaf
TN healthcare campaign
Yes, Yes, Yes
Especially with people losing jobs and health insurance

Appendix D – Comments from Stakeholders regarding Other Issues of Importance

Number	TELL US WHAT WE ARE MISSING AND OTHER ISSUES OF INTEREST TO YOU, YOUR CLIENTS, OR YOUR AGENCY,
1	Suicide prevention not referenced even though it is part of the national performance measures. Mental health care often overlooked by PCP's…. This needs more emphasis…. Depression and other mental health care screening needs to be part of the check-up process.
2	The vast majority of our students' disabilities derive from prematurity and prenatal complications. Our parents primary issues tend to fall in the areas adequate health care for their children and their families.
3	Immunizations, Changing Demographics
4	Since DCS as agency only deals with children, infant mortality is not important death, unless caused by abuse or neglect. The Trust Fund specifically works to combat abuse and neglect before it occurs so abuse and neglect prevention is of most intent to us.
5	If we improved client access to long-term contraception (IUDs and Implanon), we could improve most of our performance measures. This goal can be accomplished by expanding our qualified provider resources through an organized DOH training program. Many of the needs we address in MCH are created when a pregnancy is mistimed. If we focus on preventing unplanned pregnancies, higher achievement on the national performance measures will follow. Intrauterine contraceptive devices (IUDS = Mirena and Paragard) and the contraceptive implant (Implanon) are the most effective, least costly and safest contraceptive options available. Provider training for these methods should be offered in each region. This training must be extensive and supervised by a qualified physician with training in these methods as well as the treatment and prevention of complications. In Upper Cumberland, the Putnam County WH primary care clinic has evolved into a regional FP clinical specialty clinic due to patient demand. We need to expand this clinic to meet this increasing demand by training mid-level providers. This existing clinic should qualify as a "model clinic" as defined by DHHS Office of Population Affairs, Office of Family Planning (OPA).Please considers utilizing this clinic as a regional preceptor training center. Consult OPA for grant opportunities. Further information regarding preceptor training

	centers may be found at http://www.hhs.gov/opa/familyplanning/toolsdocs/executive I would welcome an opportunity to present the concept of offering our clinic as a preceptor training center to the MCH section.
6	Have you seen the statistics all over the news, news papers, and magazine? Children diagnosed with Autism - 1 in 50! They need services! Diagnosis is becoming less of an issue - treatment is a huge issue. They are not getting it!
7	Prevalence of Autism increasing
8	Ensuring adequate follow - up of newborns diagnosed with a chronic disorder, especially Hemoglobinopathies. Ensuring adequate education and that transition how pediatric to adult care of children with chronic disorders is done in an organized and systematic manner.
9	Would like to see party for mental health in this survey.
10	Services need to be made culturally and linguistically appropriate for the deaf community. Currently they are not. This needs to change.
11	I feel that Title V is doing a good job. Most questions presented are concerns that we all struggle with in trying to find solutions. The only piece that I see that could be improved upon is working to strengthen the community/client (family) connection. The family/community connection is extremely important because if this piece is not working - outreach efforts will not work.
12	Suicide prevention
13	Health care crisis: TennCare qualification is extremely difficult for individuals who are self employed and income fluctuate. TennCare as managers are disqualifying eligible paper forcing appeals requested by denied individuals.
14	EPSDT among homeless children is needed
15	The Division of rehabilitation services provides vocational rehabilitation to youth and adults with disabilities. Since consumers of DRS are (or very near) work age, many of the responses are not applicable to our client base.
16	All of the issues listed are important and should not be overlooked. However, because my agency is concerned with the economic impact of issues, I have chosen to high light those.
17	All are a priority

18	March of Dimes, TIPQC, HUGS, Nurses for Newborns
19	We believe that it is critical for all women and children to have access to medical care and insurance.
20	As the ME (Medical Examiner) the client section of this survey does not apply.
21	We believe that it is critical for all women and children to have access to medical care and insurance.
22	Lack of resources, particularly pediatric specialists. We especially need these pediatric specialists to accept all 3 of our area TennCare plans.
23	Coordinate & Access to Care for children / youth with special care needs - Medical home
24	Fetal + Infant mortality has been on the rise. Women must be aware of safety precaution prior to pregnancies (STD's) + the need for prenatal care. Families must also learn that sharing a bed with your infant might be deadly.
25	Please consider expansion of newborn hearing / audiologic follow-up. The numbers of infants lost to follow-up in our state is still too high. There are not enough pediatric audiologists to sufficiently cover all areas of Tennessee. We must have more coverage within health departments to conduct OAE (Otoacoustic emissions) screenings on infant needing initial repeat hearing screens.
26	Genetic prenatal testing and counseling
27	In addition: although not specifically served by TDMHDD - items numbers 14, 15, 30 are of importance to this department. I do not know which items are significant to clients as it is the providers' agencies that would have that information.
28	High costs for some medication: High costs for medical care, accessible but very expensive.
29	Certified nurse - midwives have shown to provide excellent care with as good or better outcomes, yet there are barriers in TN for them to practice.

National Performance Measures

1) The percent of screen positive newborns who received timely follow up to definitive diagnosis and clinical management for condition(s) mandated by their State-sponsored newborn screening programs.

2) The percent of children with special health care needs age 0 to 18 whose families partner in decision-making at all levels and are satisfied with the services they receive.

3) The percent of children with special health care needs age 0 to 18 who receive coordinated, ongoing, comprehensive care within a medical home.

4) The percent of children with special health care needs age 0 to 18 whose families have adequate private and/or public insurance to pay for the services they need.

5) The percent of children with special health care needs age 0 to 18 whose families report the community-based service systems are organized so they can use them easily.

6) The percentage of youth with special health care needs who received the services necessary to make transitions to all aspects of adult life, including adult health care, work, and independence.

7) Percent of 19 to 35 month olds who have received full schedule of age appropriate immunizations against Measles, Mumps, Rubella, Polio, Diphtheria, Tetanus, Pertussis, Haemophilus Influenza, Hepatitis B.

8) The birth rate (per 1,000) for teenagers aged 15 through 17 years.

9) Percent of third grade children who have received protective sealants on at least one permanent molar tooth.

10) The rate of deaths to children aged 14 years and younger caused by motor vehicle crashes per 100,000 children.

11) The percent of mother who breastfeed their infants at 6 months of age.

12) Percentage of newborns who have been screened for hearing before hospital discharge.

13) Percent of children without health insurance.

14) Percentage of children, ages 2 to 5 years, receiving WIC services with a Body Mass Index (BMI) at or above the 85th percentile.

15) Percentage of women who smoke in the last three months of pregnancy.

16) The rate (per 100,000) of suicide deaths among youths 15-19.

17) Percent of very low birth weight infants delivered at facilities for high-risk deliveries and neonates.

18) Percent of infants born to pregnant women receiving prenatal care beginning in the first trimester.

Source: U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau, *Maternal and Child Health Services Title V Block Grant Program*, Guidance for 2009-2012.

APPENDIX B

Children's Special Services Advisory Members

Tennessee Department of Health
Children's Special Services
Advisory Committee 2009

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Pediatric Orthopedic Surgeon
West TN Region
Vacant

APPENDIX C

Governor's Office of Children's Care Coordination April 2010 Report on Initiatives to Improve Birth Outcomes in Tennessee

Initiative to Improve Birth Outcomes in Tennessee
April 2010

The Governor's Office of Children's Care Coordination (GOCCC) has worked to develop an initiative to improve birth outcomes in Tennessee. Tennessee currently ranks 45th in the nation for infant mortality, 45th for preterm birth, and 43rd for births to low birthweight babies (Annie E Casey Foundation, *Kids Count* Data Book, 2008). The rate of death for black infants to white infants is over 2.5, illustrating the significant health disparities that exist for mothers and infants in Tennessee. A focus on maternal and child health provides a solid foundation for the health and well-being of a society, therefore this initiative is of utmost importance for the women and infants most at risk in Tennessee.

Changing our state ranking for infant mortality and premature birth depends on looking beyond the medical system to the social and economic factors that influence birth outcomes. To investigate and address these issues, the GOCCC partnered with many state and local government departments, as well as healthcare and social service providers, community agencies, schools, universities, the faith community, and several other groups. In addition to partnering with these institutions, the GOCCC sought the involvement of local leaders and citizens, as their knowledge about their own communities and commitment to improving birth outcomes are essential to the success and sustainability of the Infant Mortality Initiative.

To incorporate local knowledge, we meet with and solicited proposals for improving birth outcomes from local agencies and key informants across the state and review them as they are submitted. Currently, we have committed to funding a number of programs in some of the target areas. We will continue to solicit and review proposals as we look to expand the initiative. In addition to the activities originating directly from our office, the Metro Infant Mortality coordinators regularly give presentations at various venues across their regions on infant mortality and the IM Initiative, and the coordinators meet with interested community agencies and groups to discuss infant mortality and solicit their input on the initiative.

At the onset of the initiative, the GOCCC performed a needs-assessment, which included reviewing Tennessee vital statistics data and other datasets from the health department to determine priority areas for the initiative. In close collaboration with the state Department of Health (TDOH), the GOCCC met with each of the rural health departments, four metro health departments, and the regional health councils to solicit input regarding what healthcare and other services exist to serve high-risk women of child-bearing age, pregnant women, and young infants in each of their regions as well as what services were lacking for the optimization of maternal and infant health.

Based on information garnered from TDOH data and personnel, the GOCCC identified areas of priority for first phase of the initiative, which included Hamilton, Davidson, and Shelby Counties as well as Northeast Tennessee.

GRANTS TO DATE:

1. Improving Birth Outcomes Conference September 2006
   The GOCCC co-sponsored a conference with the Meharry-Vanderbilt Alliance on Maternal Health and Improving Birth Outcomes at the cost of $38,000. The conference convened experts from around the country to present and discuss how to improve preconception and prenatal health for women and improve birth outcomes for infants in the state of Tennessee. The conference connected the GOCCC and other state policy makers and child advocates with colleagues from other states to foster across-state communication in efforts to improve birth outcomes. The experts were retained after the conference to inform state policy makers from the GOCCC, Department of Health, Department of Education, and TennCare, as well as faculty from academic institutions, and children's advocacy representatives on how to translate the evidence presented during the conference into a public health framework that the State of Tennessee could use to address infant mortality. This conference was tremendously successful in shedding new light on the proximate and distal causes of infant mortality in Tennessee, and the facilitated meeting immediately afterwards helped the GOCCC understand how to best focus our infant mortality efforts.

2. Statewide Infant Mortality Analysis September 2006
   The GOCCC provided an $80,000 grant to John F. Kennedy Center at Vanderbilt University to provide a statewide analysis of infant mortality. While the medical literature clearly indicates factors contributing to poor birth outcomes, this literatures does not indicate which factors are stronger predictors and to what degree. Furthermore, the current medical literature on birth outcomes is not specific to Tennessee. Using birth and death records and hospital discharge information, the grantee was asked to determine which factors contribute to poor birth outcomes and to what extent in Tennessee. The grantee was also asked to provide Geographical Information System (GIS) maps of antecedents of poor birth outcomes to illustrate where in Tennessee risk factors are most prevalent.

3. UT-HSC Grant November 2006
   a. The GOCCC issued a one-year $445,788 grant to UT Health Science Center in Memphis for the Health Loop Clinics of Shelby County to update obstetric equipment and a five-year $502,320 grant to improve prenatal care service capacity and quality. Shelby County has the third highest rate of women receiving inadequate prenatal care in the state and ranks first for the number of women receiving inadequate prenatal care, as measured by the Kessner index. The Loop Clinics were established to reduce barriers to and increase utilization of

medical care by placing the clinics in medically underserved neighborhoods where rates of inadequate prenatal and other healthcare care are above the elevated county average. The grant from the GOCCC for the obstetric equipment and nurse will increase the Loop Clinics' capacity for prenatal patients and will enhance the quality and diversity of care they are able to offer.

b. The GOCCC provided one-time funding of $18,000 for Centering Pregnancy training and materials at the Health Loop Clinics of Shelby County. Centering Pregnancy is an evidence-based model of group prenatal care demonstrated to increase patient satisfaction of prenatal care, increase attendance at prenatal care appointments, and improve birth outcomes (i.e. reducing preterm birth in a randomized control trial of 1,000 women in inner-city New Haven and Atlanta by 31%). This program has been demonstrated to improve birth outcomes among minority participants.

c. The GOCCC issued a four-year $456,072 grant to UT-Memphis to provide a Women's Health Director to work closely with the GOCCC to develop and implement programs targeted to increase access to prenatal and obstetric care in underserved areas of the state. This direction will include reviewing/evaluating current policies, practices, and diseases; researching other state or federal policies and initiatives; researching the academic literature; and helping to develop and monitor outcome measures to evaluate policy success. In addition, the Women's Health Director will serve as the liaison between the Governor's Office of Children's Care Coordination and legislative staff, state departments, women's healthcare providers, and academic communities around the coordination of improving women's healthcare access and utilization.

d. The GOCCC amended this contract to add $52,095 to fund the outside evaluation of the United Neighborhood Health Service' MIHOW program.

4. Metro Coordinators of the Infant Mortality Initiative October 2006

The GOCCC co-funded three infant mortality reduction coordinators at the total cost of $149,000 per year for four years, in each of the three metro areas that are target areas of the initiative – Davidson, Hamilton, and Shelby Counties. Due to budget constraints, the Davidson County Coordinator position was eliminated in April 2009. Programs in Davidson County are being coordinated by the GOCCC. Currently, the coordinators in Hamilton and Shelby Counties serve on the local arm of the initiative on a full-time basis. They serve as liaisons between the Metro Infant Mortality Core Leadership Groups and the GOCCC, they inform and oversee the local implementation of infant mortality programs and initiatives, and they work to increase community awareness and support of the initiatives.

5. Porter-Leath January 2007

The GOCCC issued a grant of $174,885 to Porter Leath community service agency in Memphis to implement the MIHOW evidenced-based home visitation program to 300 pregnant women with the aims of increasing attendance at parental care visits, improving

birth outcomes, and fostering childhood well-being in high-risk mothers. Due to the success of the Grantee in achieving project goals, the grant was renewed for $180,908 for an additional year.

6. Tennessee Intervention for Pregnant Smokers March 2007
The GOCCC issued a 4-year $1.44 million grant to ETSU to implement an evidence based smoking-cessation program called the "5A model" for 4200 women in Northeast Tennessee, where rates of smoking during pregnancy are near 40%. This model has been shown to improve smoking cessation rates by 30-70%. In addition, the grantee shall provide case management services to 2100 women enrolled in the program for the support of smoking cessation efforts, to increase prenatal care utilization and access to other needed services, and to support the reduction of life stressors including domestic violence and depression.

7. United Way Psychosocial Program Coordinator April 2007
The GOCCC issued a four-year grant of $515,100 to United Ways of Tennessee to provide personnel to develop specific community-based opportunities to improve prenatal care and psychosocial programs to improve birth outcomes. Due to budget constraints, this position was eliminated in March 2009.

8. Vine Hill Community Clinic May 2007
The GOCCC issued a four-year grant of $411,800 to University Community Health Services to provide clinical services in the areas of prenatal care and other obstetric and gynecological women's health services at the Vine Hill Clinic in Davidson County. This clinic serves a target population of low-income pregnant and parenting women with the goal to improve prenatal care and psychosocial programs that result in improved birth outcomes.

9. Community Voice September 2007
The GOCCC issued a four-year $1.496 million grant to March of Dimes to implement the Community Voice program. Community Voice is a grassroots, community-education program designed to improve birth outcomes and maternal and infant health in African-American Communities. The goals of the Community Voice program include increasing awareness of racial disparities in infant mortality, providing basic maternal-infant health education, and reducing risk factors for poor birth outcomes in the African-American community. The Community Voice program entails three main components to achieve these goals:

a. Recruitment -Community Voice Recruiters and trained Lay Health Advisors recruit members of the community to enroll in the Community Voice Course;
b. Didactic Education through the Community Voice Course - The Community Voice course is a five-week long program that adheres to the "Taking it to the People Curriculum," which serves to increase awareness of infant mortality, provide basic maternal-infant health education, and train Lay Health Advisors, and
c. Knowledge Expansion - Lay Health Advisors are trained to recruit more members of the community into the Community Voice Course and to spread what they learned in the course to other members of their community.

10. Christ Community Health Services, Inc January 2008
The GOCCC provided a three-year grant of $331,300 for obstetric equipment and implementation of Centering Pregnancy model of prenatal care at Christ Community Health Services in Shelby County.

11. Oasis Center January 2008
GOCCC issued a 1-year $412,800 grant to Oasis Center in Davison County for a youth messaging initiative to raise awareness among youth and the general population about infant mortality and contributing factors. As part of the youth messaging initiative, project staff will recruit youth participants in Memphis, Chattanooga and Nashville to conceptualize and develop media products, (e.g. billboards, public service announcements and videos) that convey messages which promote better birth outcomes.

12. Women's Wellness and Maternity Center, Inc January 2008
GOCCC will issue a grant to the Women's Wellness and Maternity Center in Monroe County to support improved access to maternity care. This three-year $203,749 grant includes provision of obstetric equipment, and training, implementation and evaluation of the Centering Pregnancy model of prenatal care.

13. University of Memphis January 2008
The GOCCC will issue a four-year $780,700 grant to the University of Memphis in Shelby County to evaluate the Community Voice Program. The evaluation will measure the extent to which implementation and operation of the Community Voice program met program goals and objectives. The evaluation will include, process evaluation, standardized pre and post-testing for program participants, asset mapping and other contextual analysis, measures of diffusion and penetration and tracking of birth and maternal outcomes.

14. University of Tennessee-Chattanooga January 2008
The GOCCC issued a three-year $1.333M grant to UT-HSC, Chattanooga to increase capacity for provision of obstetric and gynecologic care to underserved women in Hamilton County. The grant includes funds for a faculty position, a full-time bilingual medical assistant, and equipment.

15. Dayspring Family Health Center February 2008
The GOCCC issued a three-year $196,500 grant to Dayspring Family Health Center to implement an evidence-based smoking cessation program called the "5 A model" for 450 pregnant women in Claiborne and Campbell counties, where rates of smoking are between 35 and 40 percent. In addition, the grantee shall provide case management services to women enrolled in the program for the support of smoking cessation efforts, to increase prenatal care utilization and access other needed support services that address risk factors such as domestic violence and depression.

16. Community Foundation April 2008

The GOCCC issued a one-year $55,000 grant to the Community Foundation of Middle Tennessee for the development and coordination of maternal and infant health systems improvement Design Workshops. The Design Workshops will bring together local, regional and national maternal and infant health stakeholders and content experts to develop a maternal and infant health service delivery improvement plan for Davidson County.

17. Chattanooga-Hamilton County Health Department April 2008
The GOCCC issued a three-year grant for $125,800 to the Chattanooga-Hamilton County Health Department to provide the services of a Public Health Educator at a clinic site. The Public Health Educator will educate pregnant patients about the benefits of early and adequate prenatal care, connect pregnant patients to prenatal care and connect patients to needed support and case management services. In Hamilton County, there are medical and social support resources available to pregnant women that are underutilized. The Public Health Educator will work to improve utilization of these resources.

18. Vanderbilt University Medical Center June 2008
The GOCCC issued a three-year $937,134 grant to Vanderbilt University Medical Center (VUMC) for obstetric and prenatal care staff, case management staff, technical assistance for the state-wide Centering efforts and to implement a Centering Pregnancy model of prenatal care in the VUMC obstetrics practice. The Centering Pregnancy program at VUMC will be integrated into the OB Residency Curriculum. Centering Pregnancy is an evidence-based model of group prenatal care that has shown reduction in expected preterm births and greater weight for those babies born preterm. The VUMC Centering Pregnancy program is expected to yield improved birth outcomes for a socially high risk population. The increased staff and implementation of the Centering program will increase the capacity of VUMC to provide prenatal care to low-income women in Davidson County.

19. Fetal Infant Mortality Review (FIMR) July 2008
GOCCC issued a one year contract with the state Department of Health (DOH) to establish Fetal and Infant Mortality Review (FIMR) Teams to collect both medical and social information to determine patterns in fetal and infant deaths so that action steps may be developed at the community level. The GOCCC provide $703,700 in funding to DOH to implement the program into four sites – Davidson, Hamilton, and Shelby Counties and the East Tennessee Region.

20. LaPaz De Dios July 2008
The GOCCC issued a three-year $202,320 grant to LaPaz De Dios to provide health education and outreach services for pregnant Hispanic women and Hispanic women of child bearing age in Hamilton County. Through this funding, LaPaz will provide the Promotores de Salud program in Hamilton Count, a model peer-education program used throughout the United States to improve health status. The program will include health education, home visits, interpretive services and peer support. LaPaz De Dios is a community-based organization that works to bridge the gaps between the needs of Hispanics in Hamilton County and the organizations and agencies that are available to

help them. The Promotores de Salud program will increase access to and utilization of prenatal and obstetric services for Hispanic women in Hamilton County.

21. Metro Public Health Department of Nashville/Davidson County July 2008
The GOCCC issued a one-year $52,700 grant to Metro Public Health Department of Nashville/Davidson County to provide health screening services for adolescents and a health education program for adolescent women through a program called CHOICES. The goal of CHOICES is to improve access to health services for adolescents and to improve knowledge about healthy behaviors.

22. Urban Child Institute August 2008
The GOCCC issued a one-year $25,000 grant to the Urban Child Institute to develop and oversee the development and placement of television advertisements that focus on infant mortality. The goal of the advertisements is to raise awareness in Shelby County about infant mortality and associated risk factors.

23. Vanderbilt University Medical Center October 2008
The GOCCC issued a one-year $317,432 grant to Vanderbilt University Medical Center to implement and coordinate a statewide collaborative called the Tennessee Initiative for Perinatal Quality Care (TIPQC) to improve health outcomes for mothers and infants in Tennessee. The initiative will (a) engage key stakeholders to identify opportunities to optimize birth outcomes and implement improvement initiatives; (b) introduce to provider organizations evidence-based changes developed through a regional consensus process; (c) provide training in quality improvement methods to provider organizations and (d) establish common performance measures and an infrastructure for reporting and sharing results.

24. Oasis Center November 2008
The GOCCC issued a one-year $405,829 grant to the Oasis Center in Nashville to implement a second phase of the Youth Messaging Initiative. In Phase II of the Youth Messaging Initiative, Oasis Center will (a) oversee placement of the television, radio and print ads created by youth in Phase I, (b) coordinate health education activities for youth in three counties (Davidson, Hamilton and Shelby) that focus on infant mortality, (c) maintain the Youth Messaging program website, and (4) continue to video chronicle the program. This contract ended October 2009. With the support of the GOCCC, Girls, Inc. of Chattanooga identified a funder. Blue Cross Blue Shield generously provided $165,000 to Girls Inc. for the continuation of the Infant Mortality Public Awareness Campaign for Tennessee (IMPACT).

25. Meharry Medical College December 2008
The GOCCC provided a three-year grant of $1,211,336 to Meharry Medical College for obstetric equipment and staff for the implementation of Centering Pregnancy model of prenatal care. Funding will also be used for assessment and nutrition education.

26. United Neighborhood Health Services March 2009

The GOCCC issued a two-year $483,838 grant to United Neighborhood Health Services to provide the Maternal Infant Health Outreach Worker (MIHOW) model of care to 200 women annually in underserved areas of Davidson County, specifically the Southside and Edgehill areas of Nashville. MIHOW is a peer-centered and community-based program that provides early intervention, health education and support for pregnant and parenting women. The ultimate goal of the MIHOW model of care is to enhance birth outcomes for underserved women.

27. Chattanooga-Hamilton County Hospital Authority (Erlanger Health System) July 2009

The GOCCC issued a three-year $770,783 grant to Chattanooga-Hamilton County Hospital Authority (Erlanger Health System) to improve prenatal care service capacity and quality. The grant will be used to increase obstetric and prenatal provider staff and for implementation of the Centering Pregnancy model of group prenatal care at Dodson Avenue and Southside Community Health Centers in Chattanooga, Tennessee. Dodson Avenue and Southside Community Health Centers were established to provide health care for medically underserved and at risk families in Chattanooga. Increased prenatal and obstetric staff and implementation of an evidence-based model of prenatal care will increase capacity and utilization of prenatal care and aid efforts to reduce disparities in birth outcomes in Chattanooga.

28. Shaken Baby Syndrome Prevention July 2009

The GOCCC issued a one-year $157,500 grant to Prevent Child Abuse Tennessee to provide a Shaken Baby Syndrome Prevention Program to families residing in Davidson, Montgomery and Rutherford Counties. The Grantee will train hospital and birthing center staff, home visiting staff and licensed childcare evaluators on a shaken baby prevention program. This program has shown to decrease shaken baby syndrome in other states by 47%.

28. Tied Together July 2009

The GOCCC issued a one-year $311,580 grant to the Martha O'Bryan Center for *Tied Together*. *Tied Together* is ten-week, comprehensive parenting skills program that supports the health of families in Nashville's most at-risk neighborhood. Health education is provided on pre-conception health and birth spacing. Women receive additional training during Healthy Women's Night Out.

29. Division of Children Services August 2009

The GOCCC issued a one-year $146,927 grant to the Division of Children Services who will collaborate with the following public and nonprofit agencies: Tennessee Department of Children's Service (DCS), Nurses for Newborns of Tennessee (NFNT), Matthew Walker Comprehensive Health Center (MWCHC), Prevent Child Abuse Tennessee (PCAT), Rainbow Program of the Elam Mental Health Center at Meharry Medical College, and Renewal House. These agencies will join to provide the intensive, wrap around services to substance abusing African American women 19 years old or older who are pregnant or have a child under the age of 1 year.

30. Metro Public Health Department of Nashville/Davidson County September 2009

Socioeconomic studies have found that an African American woman with some college has the same chances of having an adverse birth outcome as a white woman without a high school diploma. However, these educated women have been largely excluded from programs and services although they are still at risk. The GOCCC issued a one-year $170,636 grant to the Metropolitan Public Health Department of Nashville/ Davidson County for an infant mortality health ambassador program at five HBCUs across Tennesse: Fisk University, Meharry Medical College, Knoxville College, Lane College and LeMoyne-Owen College. Student ambassadors will educate peers and then move this education into the community.

31. Metro Public Health Department of Nashville/Davidson County September 2009
The GOCCC issued a one-year $201,961 grant to the Metropolitan Public Health Department of Nashville/ Davidson County for the Birthing Project serving pregnant teens in Nashville. The Birthing Project USA is an award winning community oriented volunteer program, created to address infant mortality. The Project is based on a simple, cost effective model utilizing trained community volunteers to create an extended family for pregnant women at risk for poor perinatal outcomes. Volunteers, referred to as "Sister Friends" (SF), are matched with pregnant young women, who are referred to as "Little Sisters." The SF provides information, individual attention, support and mentorship during pregnancy, and for the first year of the resulting infant's life. This SF "walks" with the pregnant woman assures she is caring for herself and her baby by encouraging healthy eating, complying with prenatal appointments, accessing needed services, and helping make sure she is prepared for her baby. Nashville teens will be referred for intake primarily through home visiting programs, and referrals from local medical practices, and school nurses.

Infant mortality and poor birth outcomes touch the lives of thousands of Tennesseans each year. These and future programs supported by the Governor will reach several thousand Tennesseans and their families to improve birth outcomes, reduce infant mortality, and enhance the well-being of all Tennessee's children.

Appendix D

TDOH MCH Home Visiting Program Report 2009

Tennessee
Home Visiting Programs
Annual Report

July 1, 2008 – June 30, 2009

Tennessee Department of Health
Maternal and Child Health
425 Fifth Ave., North
5th Floor, Cordell Hull Building
Nashville, TN 37243

ANNUAL HOME VISITING REPORT
FOR FISCAL YEAR 2009

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B. Contract Agencies Providing Services

C. State statutes/TCA codes

References

STATE OF TENNESSEE

TENNESSEE COMMISSION ON CHILDREN AND YOUTH

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MEMORANDUM

TO: The Honorable Phil Bredesen, Governor
The Honorable Ron Ramsey, Lieutenant Governor
The Honorable Kent Williams, Speaker of the House
Members of the Tennessee General Assembly

From: Lisa D. Deal, Executive Director

Date: January 14, 2010

RE: Annual Report for Home Visitation Programs

As required by Public Chapter 1029, the Tennessee Commission on Children and Youth worked with the Department of Health (DOH) and others to report on the status of quality, evidence-based home visitation programs funded through DOH.

It is a critical time in our state for home visitation programs. Several programs offered through the Department of Health, Child Health and Development (CHAD) and Healthy Start, are receiving non-recurring funding for fiscal year 2009-2010. The preservation of these vital programs is essential to avoid eroding the opportunity to provide quality home visitation services in Tennessee. Home visitation programs are one of the most important things the state can do to improve long term outcomes for vulnerable children.

Quality home visitation programs have demonstrated success in reducing child maltreatment in high-risk families, including single or young mothers, low-income households and families with low-birth-weight infants. Child maltreatment, including abuse and/or neglect, is not only traumatic in itself and can result in state custody, it also increases the risk of adverse consequences among maltreated children, including early pregnancy, substance abuse, school failure and mental illness. Children who have been physically abused are also more likely to exhibit aggressive behavior and violence later in their lives.

Home visitation programs for high-risk families, high-risk infants and young children could be instrumental in reducing premature and low-birth-weight babies, infant mortality and child abuse, improving immunization rates, and increasing parental understanding of the developmental needs of their children. Available data report children served by these programs have better outcomes on some measures than the state as a whole. Quality home visitation programs are a sound long-term investment in the future of Tennessee.

The Commission on Children and Youth is committed to efforts to maintain and improve quality home visitation programs in Tennessee. They are a wise investment in improving outcomes for young children.

Special thanks to those who assisted in the development of this report

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Overview

Tennessee Code Annotated 68-1-125 requires that the Department of Health (TDH) report annually on the department's home visiting programs. The intent of the legislation is to review and identify the research models upon which the home visiting services are based, to report on the annual process and outcomes of those who were served, and to identify and expand the number of evidence-based programs offered through TDH in the state.

The statute further states that TDH shall work in conjunction with the Tennessee Commission on Children and Youth (TCCY) and other experts and providers to identify those programs that are evidence-based, research-based and theory-based and report such findings to the Governor, the Senate Welfare Committee, Health and Human Resources Committee, the Children and Family Affairs Committee of the House of Representatives and the Select Committee on Children and Youth of the General Assembly no later than January 1 of each year. The report must contain measurements of individual programs including the number of people served, the types of services provided and the estimated rate of success of the population served.

For the purposes of this report, "evidence-based" means a program or practice that is governed by a program manual or protocol that specifies the nature, quality and amount of service that constitutes the program and scientific research has demonstrated in two or more client samples that the program improves client outcomes. "Research-based" means a program or practice that has some research demonstrating effectiveness but does not yet meet the standard of evidence-based. "Theory-based" means a program or practice that has general support among treatment providers and experts, based on experience or professional literature and has potential for becoming a research–based program or practice.

TDH provides home visiting services in all counties through county health departments or under contract with community based agencies. TDH has offered home visiting services,

implementing several similar models since the 1970s. The following is a brief description of the home visiting models implemented. A state map with programs designated by county is contained in the Appendix A.

History of Home Visiting Services

Child Health and Development Program (CHAD)

The Child Health and Development (CHAD) program, based on the Demonstration and Research Center for Early Education model developed by Peabody College, began as a research and theory-based model. CHAD, the oldest home visiting program implemented by TDH, is designed to (1) enhance physical, social, emotional, and intellectual development of the child, 2) educate parents in positive parenting skills and (3) prevent child abuse and neglect. Families can receive services until the child turns 6 years of age. Prenatal services are provided only for pregnant girls who are less than 18 years of age. Because of program changes over the years, CHAD is now primarily a theory based model for home visiting. The program is offered in 22 counties and staffed by state employees. Funds to support this program are from the Social Services Block Grant administered by the Department of Children's Services (DCS).

Healthy Start

Legislatively mandated by The Tennessee Childhood Development Act of 1994 (TCA 37- 3-703), the Healthy Start program is provided in 30 counties by eight community-based agencies and is an evidence-based model. The program aims to reduce or prevent child abuse and neglect in families who are enrolled. DCS contracts with TDH to implement this program. Families at high risk of child abuse and/or neglect as measured by Kempe Family Stress Checklist are eligible for enrollment in the program; participation is voluntary. Funding is through DCS from the Association of Children, Youth and Families (ACYF) to prevent child abuse and neglect. These projects are staffed by employees of the community based agencies. A list of the agencies and the counties they serve is contained in the Appendix B.

Help Us Grow Successfully (HUGS)

The Help Us Grow (HUG) home visiting model was developed by TDH beginning in the 1990s as a means of clarifying public health home visiting services emphasizing child health and well

being. In FY 2003**,** the HUG program was renamed HUGS – Help Us Grow Successfully (HUGS) and was modified in FY 2007 to provide these services using a standardized curriculum for parenting skills. In 2008-2009, it was further modified to include an electronic data collection system on all children and families enrolled in the program, including quarterly assessments of family wellness and child growth and development using the standardized Ages and Stages questionnaire. It is a theory-based model and is the only home visiting program that is offered in all counties of the state.

The HUGS program provides home-based prevention and intervention services to pregnant/postpartum women, children from birth up to their 6th birthday and the parent/guardian. The goals of the program are to:

1) improve pregnancy outcomes
2) improve maternal and child health and wellness
3) improve child development and
4) maintain or improve family strengths.

The HUGS program was developed by TDH to improve birth outcomes as measured by gestational age and birth weight and to increase the number of children who receive the health assessment services of Early Periodic Screening Diagnosis and Treatment (EPSDT). Funds to support this program are from the Bureau of TennCare to provide preventive health services to young children. The program is staffed by state or metropolitan employees; one project is a faith based community agency in Memphis.

The data collection system uses some newly formatted screens in the TDH Patient Tracking Billing Management Information System (PTBMIS) to collect uniform information on each member of the family involved in home visiting services. The data entered into the system can be extracted for ad hoc reporting and data analysis specifically designed for HUGS. The HUGS data management module has five major components: HUGS family screen, HUGS baseline data, HUGS encounter screen, HUGS referral screen and Question and

Result Database where questions from the HUGS program forms can be added and removed from user-generated screens by central office staff.

Nurse Family Partnerships

Revision of TCA 68-1-2501 designated TDH as the responsible agency for establishing, monitoring and reporting on the Nurse Family Partnership pilot project. This state law requires the replication of the national evidence-based program with the goal of expanding the program as funds become available. Contract processing was completed in May 2009; the project is located at Le Bonheur Hospital in Memphis. Home visiting nurses will provide services to low income, first time mothers from pregnancy through the child's second birthday. The program is funded through a state appropriation. This project is staffed by nurses hired by Le Bonheur Hospital.

Services Offered

All home visiting models offered by TDH provide initial assessment of child and family needs. When indicated, individuals are referred to community-based agencies for additional services outside the scope of public health. The initial assessment includes the following:

1. Assessment of risk using the Domains of Wellness checklist developed by TDH and/or the Kempe Family Stress Checklist

2. Developmental screening based on the age of the child using the Denver Developmental Screening Tool or the Ages and Stages Questionnaire

3. Nutrition assessment and food scarcity assessment with referral to WIC and/or community food banks

4. Periodic assessments and review of needs during enrollment to revise the family service plan and refer for newly identified needs

5. Review of timeliness of medical services according to standards for health visits and well child checkups including immunizations for children.

All of the home visiting models, except the Nurse Family Partnership, use the Partners for a Healthy Baby curriculum, also called the Florida curriculum, which is a research-based curriculum especially designed for home visiting services provided to pregnant women and parents. In addition to information about what to expect at various stages of pregnancy, the curriculum provides age specific topics on growth and development, parenting skills and anticipatory guidance about what is normal and how to provide play and learning opportunities to enhance child development. Issues about substance use/abuse; tobacco exposure and maternal depression are included in the curriculum content.

Description of Families Served

CHAD: Based on the fourth quarter report to the Department of Children's Services for FY 2008-09. A total of 1,342 children in 948 families were served.

All children enrolled in the program were referred by public health clinics or the Department of Children's Services. Family participation is voluntary both to enroll and continue in the program. When a child/family is referred to TDH, the staff person assesses need based on a variety of issues that impact health and well being. Some of these are:

- Inadequate or no income per patient
- Unstable housing
- Education less than 12 years
- History of substance abuse
- Teen mom and/or first time mom
- No prenatal care, late prenatal care, and/or poor compliance
- History of poor pregnancy outcomes
- Prematurity/low birth weight/failure to thrive
- At risk for or has identified developmental delays
- Inadequate parenting skills
- History of or current depression and/or other mental health issues
- Marital or family problems/Domestic violence
- Limited support system

These issues are then addressed by referral to community-based agencies or as part of the home visiting content.

Status of those receiving CHAD services in FY 2008-09

- A total of 948 families with 1,342 children were served by the program
- 364 of these were newly enrolled families
- Ninety-four children were in state custody under the guardianship of a relative when enrolled
- Twenty-one children (1.56%) who were home visited were substantiated by DCS as child abuse and neglect cases during the year

The most frequent reasons for case closure were that the family moved (192), they completed or aged out of the program (118) or they failed to keep appointments (91).

Healthy Start: Based on program data from FY 2008-09. A total of 1,375 families with 1,553 children were served by the program.

Status of Mothers Served in FY 2008-09: Based on 153 prenatal and 284 postpartum enrolled families. Another 948 families with children under age 6 were served for a total of 1,375 families.

- 35% (153/437) women entered the program during pregnancy
- 36.6% (160/437) mothers enrolled were under age 18
- 52% (227/437) were between ages 18 and 25
- Most (365) were single women (83.5%)
- Half had not completed High School (50.5%)
- 94.2% (412/437) had annual income of $10,000 or less

Status of Fathers: Based on 436 men who were identified as the father and willing to disclose enrollment information

- Demographics were very similar to those cited for the mothers
- 32.3% (141/436) lived with mother
- 79.1% (316/399) earned $10,000 or less per year

Assessment of Risk and Program Services: Based on 437 prenatal or postpartum women

- 94.5% (413/437) of the mothers enrolled scored high or very high on the Stress Checklist
- 67.5% (295/437)received weekly visits
- 14.4% (63/437)received bi-monthly visits
- 93% (19,594) of all visits were conducted in the home and 3.6% were group sessions

HUGS: Based on birth certificate data collected from all families enrolled in HUGS during FY 2008-09 and program data from TDH

Status of those receiving HUGS services in FY 2008-09

- A total of 5,889 children were served by the program
- 16.8% (989/5889) had contact with DCS during the fiscal year
- 2.6% (154/5889) of children receiving services were identified as abused or neglected children after DCS case review

Status of Mothers Served in FY 2009: (Based on 3078 births)

- 78.8% (2,426/ 3078) had adequate prenatal care
- 4.2% (129/ 3078) had no prenatal care
- 23.6% (727/3078) reported that they smoked during pregnancy
- 55% (1,693/ 3078) were first time mothers

Status of the Infants and Children

- 77.6% (2,389) were a healthy weight (2500 grams or more) at birth
- The average gestational age was 37.8 weeks
- 95% of the children were enrolled in WIC
- 87% of the two year olds were up to date on immunizations

Nurse Family Partnership: As of June 30, 2009 there was no descriptive information available on the women/families served. The contract with Le Bonheur to establish the Nurse Family Partnership pilot program was finalized in May 2009. Program implementation began immediately with interviewing and hiring staff. This evidence-based home visiting model is specifically designed to work with first time, low income mothers beginning in the prenatal period or before the infant is 4 months old. Home visits continue until the child is 2 years old. Process and outcome measures based on the national program standards will be reported in the FY 2009-2010 annual report. Information about the women and their pregnancy outcomes will be included.

This program received special approval from the national Nurse Family Partnership office to modify the model by hiring diploma and associate degree nurses rather than the Bachelor of Science in Nursing (BSN) staff as required for replication of the model. Limits on the availability of BSN nurses and salary requirements of interested BSN nurses necessitated this special request. Staff hiring was completed in late November 2009 and the required national

training is scheduled for January 2010. Families cannot be enrolled until the training is completed.

Summary Tables

The following section contains descriptive tables that summarize the similarities and differences between the home visiting programs discussed in this report. Individual tables for each program (pages 14-20) list the goals, objectives, 2009 status based on program data, reference to the Healthy People 2010 national objectives and the statewide status for each objective. The data points reflected on these tables are used to measure our progress with the families we serve against both the state average and the national objective.

SUMMARY OF HOME VISITING PROGRAM MODELS
December 2009

Home Visiting Project	Location	Program Model	Target Group(s)	Number served FY2009	Types of Service provided	Rate of Success Measures
CHAD	22 counties in Northeast and East TN	Theory Based	Teen parents under 18; other parents at risk of abuse and neglect (DCS referred);AFDC,SSI or FPL Families	948 families with 1,342 children served	1.Family Assessment 2. Developmental screening 3. Nutrition Assessment 4. Referral for other services as needed 5. Monthly home visits	1. No DCS involvement 2. Indicators of family health 3. Satisfaction Survey collected at closure or one year of service
HEALTHY START TCA 37-3-703 Appendix C	30 counties in Middle and West TN	Research and Evidence Based	Prenatal or with infants less than 4 months; families with children under 5years old; low income	1,375 families with 1,553 children served	1.Family Assessment and Stress Inventory 2. Developmental screening 3. Referral for needed services 4. Home visits as scheduled	1. No DCS involvement 2. No subsequent pregnancy within 12 months 3. Healthy birth weight and gestation for those in the program 4. Immunization rates for children
HUGS	All counties	Theory based	Prenatal; families with children under 6 years old; women up to 2 yrs postpartum; loss of a child before age 2; no income requirements	5,889 children served	1. Family assessment 2. Developmental assessment 3. Referral for needed services 4. Home visits as scheduled	1.Healthy birth for those entering as prenatals 2. Check ups and screens according to schedule 3. Referred for needed services 4. No DCS involvement
NURSE FAMILY PARTNER-SHIP TCA 68-1-2503 Appendix C	1 pilot project in Memphis	Research and Evidence Based	First time mothers only; can continue service until child is 2 yrs. old	Project started May 2009 with hiring and training staff; no service data available for FY 2009	In process Intensive home visiting services with caseload of 25 or less per worker	NA Current status: Hired staff of 4 nurses/1 nurse supv. Training with national trainers scheduled for Jan 2010.

CHAD
Goals, Objectives and Annual Status
Compared to Healthy People 2010 Goals and State Data
Fiscal Year 2009

Home Visiting Program	GOAL(s)	OBJECTIVES	STATUS FY 2009	HP 2010 Goal/ State Status
CHAD	1) To prevent child abuse and neglect	1) 100% of children free of child abuse and neglect as measured by DCS reported involvement in prior 12 months	1) 98.4% of enrolled children free of child abuse and neglect as measured by DCS reported involvement in prior 12 months 1.56% (21) children entered DCS in this time period.	**Healthy People 2010 -15-33a**. Reduce maltreatment and maltreatment fatalities of children to 10.3/1,000 children under age 18. Nat'l Target = 10.3/1,000 TN status (2008) = 7/1,000
	2) To promote family health	2) 90% of 2 year olds fully immunized (establishes that the child has and uses a medical home)	2) 97.7% (258 of the 264 two year olds) enrolled in CHAD were up to date on immunizations	**Healthy People 2010 -14-22** Achieve and maintain effective vaccination coverage levels for universally recommended vaccines among young children at 90%. Nat'l Target = 90% TN status (2008) = 88%

HEALTHY START
Goals, Objectives and Annual Status
Compared to Healthy People 2010 Goals and State Data
Fiscal Year 2009

Home Visiting Program	GOALS	OBJECTIVES	FY 2009 STATUS	Healthy People 2010/ State status
HEALTHY START	1) To prevent child abuse and neglect	1) At least 95% of program children will be free from abuse and neglect and remain in the home.	31 (1.96%) families were reported by HS workers as suspected for abuse or neglect . 98.1% of those served did not exhibit signs of abuse or neglect during the fiscal year.	**Healthy People 2010, 15-33a** Reduce maltreatment and maltreatment fatalities of children to 10.3/1,000 children under age 18. Nat'l Target = 10.3/1,000 TN status (2008) = 7/1,000
	2) To promote and improve health status of family members	2) At least 90% of program children are up to date with immunizations by their 2nd birthday. (Establishes patient has medical home and uses medical home.)	2) 97.3% (479) children were up to date on immunizations by their 2nd birthday	**Healthy People 2010, 14-22** Achieve and maintain effective vaccination coverage levels for universally recommended vaccines among young children at 90%. Nat'l Target = 90% TN status (2008) = 88%
		3) At least 94% of Healthy Start program mothers will delay a subsequent pregnancy for one year (12 months) after the birth of the previous child.	3) 76% (659) were not pregnant one year after the birth of the previous child	**Healthy People2010- 9-2** Increase the proportion of births occurring more than 24 months after a previous birth to 94% or more. Nat'l Target = 94% TN status = Tennessee PRAMS data, special study of pregnant and post partum Tennesseans, will be available for FY 2010 report.
	3) To promote healthy birth measured by birth weight 2,500 grams or more and gestational age of at least 37 weeks.	3a) At least 90% of mothers receive adequate prenatal care starting in the first trimester.	Data will be available for the FY 2010 report	**Healthy People 2010, 16-6** Increase the proportion of pregnant women who receive early and adequate prenatal care in the first trimester to 90%. Nat'l Target = 90% TN (2008) = 86%
		3b) At least 85% of mothers enrolled during the prenatal period	3b) 87.2% (334) births weights were 2500 grams or more	**Healthy People 2010, 16-10** Increase normal birth weight (2500 grams or greater) births to 95% or more.

		will have a healthy birth measured by birth weight 2,500 grams or more. 3c) At least 85% of mothers enrolled during the prenatal period will have a healthy birth measured by gestational age of at least 37 weeks to 42 weeks.	 3c) 85% (332) were at least 37 weeks gestational age	Nat'l Target = 95% TN (2008) = 90.6% **Healthy People 2010, 16-11** Increase term births (between 37 and 42 week) to 92.4% or more Nat'l Target = 92.4% TN (2008) = 90%

HUGS
Goals, Objectives and Annual Status
Compared to Healthy People 2010 Goals and State Data
Fiscal Year 2009

Home Visiting Program	GOALS	OBJECTIVES	FY 2009 STATUS	Healthy People 2010/ State Status
HUGS	1) Pregnant women in the program will have a healthy pregnancy and birth.	1a) At least 90% of enrolled pregnant women have adequate prenatal care.	1a) 78.8% (2,426) of HUGS prenatals had adequate prenatal care 4.2% (129) had no prenatal care	**Healthy People 2010, 16-6, 16-10, 16-11** Increase the proportion of pregnant women who receive early and adequate prenatal care in the first trimester to 90%. Nat'l Target = 90% TN = Tennessee PRAMS data, a special study of post partum Tennesseans, will be available for FY 2010 report.
		1b) At least 90% of women will not smoke during pregnancy.	1b) In the HUGS population, 76.4% (3078) of women reported that they did not smoke during pregnancy	**Healthy People 2010 – 16-17** Increase abstinence from cigarette smoking among pregnant women to 99% Nat'l Target = 99% TN = (2006-2008) 81% of women reported they did not smoke during their pregnancy
		1c.1) At least 90% of women clients are practicing some form of birth spacing. 1c.2) New mothers delay another pregnancy for at least 12 months.	1c.1 and 1c.2) 55% (1,693) of the births were to first time mothers Birth spacing is measured in the new data collection system. Data will be available for FY 2010.	**Healthy People2010- 9-2** **Increase the proportion of** births occurring more than 24 months of a previous birth to 94% or more. Nat'l Target = 94% TN (2007) = Tennessee PRAMS data, a special study of post partum Tennesseans, will be available for FY 2010 report.
		1d) At least 85% of mothers enrolled during the prenatal	1d. 77.6% (2,389) of babies born to HUGS participants were of a healthy weight. The	**Healthy People 2010, 16-10** Increase normal birth weight (2500 grams or greater) births to 95% or more.

		period will have a healthy birth measured by birth weight 2,500 grams or more	average birth weight was 2,997 grams.	Nat'l Target = 95% TN (2008) = 90.6% (Birth Certificate Data)
		1e) At least 85% of mothers enrolled during the prenatal period will have a healthy birth measured by gestational age of at least 37 weeks to 42 weeks.	The average gestational age was 37.8 weeks and the average number of prenatal visits was 12.6 per mother.	**Healthy People 2010, 16-11** Increase term births (between 37 and 42 week) to 92.4% or more Nat'l Target = 92.4% TN (2008) = 90%
	2) Parents/caregivers nurture their child's growth and development before school entry.	2a) At least 90% of the infants and children enrolled will receive and maintain effective vaccination coverage for universally recommended vaccines among young children.	2a) 87% (707/812) of the 2 year olds were up to date on immunizations	**Healthy People 2010 14-22** Achieve and maintain effective vaccination coverage levels for universally recommended vaccines among young children at 90%. Nat'l Target =90% TN (2008) = 88%
		2b) At least 90% of infants and children enrolled will receive age appropriate screening for developmental delays.	2b) Evidence based developmental screening tool implemented. Data available for the FY 2010 report	Based on Policy Guidelines by the American Academy of Pediatrics which state that early identification of developmental disorders is critical to the well-being of children and their families."
		c) At least 90 percent of the program participants (caregivers and children) identified as needing other community services are referred within one month and receipt of the service is documented.	2c) Data on completed referrals will be available for the FY 2010 report. Data collection began in July 2009.	No comparative national objective or state data available
		2d) Adequate parenting skills demonstrated by no involvement with the	2d) Of the 5889 children served, 2.6% (154) were substantiated cases of abuse or neglect	**Healthy People 15-33** Reduce maltreatment and maltreatment fatalities of children to 10.3/1,000

		Department of Children's Services system during the fiscal year. 2e) Enrolled mothers and children participate in WIC	during the fiscal year. 2e) 94% of the eligible women were enrolled in WIC 95% of the children were enrolled in WIC	children under age 18. Nat'l Target = 10.3/1,000 TN (2008) = 7/1,000

Nurse Family Partnership
Goals, Objectives and Annual Status
Compared to Healthy People 2010 Goals and State Data
Fiscal Year 2009

Home Visiting Program	GOALS	OBJECTIVES	FY 2009 STATUS	Healthy People 2010/ State Status
NURSE FAMILY PARTNERSHIP (Goals and Objectives taken from the contract scope of services based on the national program model)	1) Improved pregnancy outcome 2) Improved child health and development	1) Reduce the occurrence of behavioral impairment due to use of alcohol and other drugs 2a) Reduce the number of subsequent pregnancies 2b) Reduce reported incidence of child abuse and neglect among families receiving service 2c) Reduced criminal activity engaged in by the mothers receiving service 2d) Reduced receipt of public assistance by mothers receiving program services	Contract finalized in May 2009 and staff hired. Full program implementation scheduled to begin in FY 2010. Detailed data will be available in the annual report to be submitted Jan 2010.	Behavioral Risk Factor Surveillance data (2008) indicates that of the women in Shelby County: 34.3% reported drinking within the last 30 days 8.3% report binge drinking and 4.1% report heavy drinking.

Challenges/Obstacles

Explanation for the Variation in Program Models and Funding Streams

As discussed briefly in the opening section of this document, the development of home visiting services in Tennessee began over 30 years ago when the state implemented the Child Health and Development Program (CHAD). This research and theory based program evolved from a research and demonstration project at Peabody College of Vanderbilt University. Each county had a team consisting of a nurse, a social worker, a lay home visitor and a nutritionist available for consultation and education when indicated. Cases were assigned based on the family's needs and periodic assessments were completed to evaluate the child's development. Parenting education was provided through discussion, educational materials and demonstration.

As time passed, funding streams to support such services changed and state reductions in force resulted in changes in the staffing pattern and program requirements. In the 1990's, DCS contracted with TDH to provide CHAD home visiting services to families with young children at risk of abuse and neglect. Today, only 22 counties have CHAD services, concentrated in East and Northeast Tennessee. The teams no longer exist. A home visitor in a county has consultation available for nutrition or nursing/medical needs and social work referral. All workers have supervision and periodic in-service training.

The Tennessee Child Development Act of 1994 (TCA 37-3- 703) mandated that the state implement Healthy Start home visiting programs based on the Healthy Start – Hawaii model. Since these programs are child abuse/maltreatment prevention focused, state funding was appropriated to DCS which in turn, contracted with TDH, the department with the most experience implementing home visiting programs. Healthy Start programs are implemented by eight community based agencies that focus on child abuse prevention through contracts with TDH. These agencies have implemented the program in 30 counties across the state. Each site uses a Healthy Start designated data collection system that is sent electronically to TDH each month. The data elements collected were determined by DCS to meet the requirements of the law and the internal reporting that they needed. The Healthy Start model requires staff training by a nationally recognized trainer in Healthy Start; scheduling training and preparing new

employees has sometimes been a problem for these agencies dependent on the availability of the trainer.

Data Collection System

Data collection and reporting on home visiting activities have been hampered by TDH's patient information management system called PTBMIS and staff with skills in data analysis. PTBMIS is a 30 year old DOS system that has served the Department well but has limitations given the need for accurate and timely data on program outcomes. The Department has developed a proposal to upgrade this important public health tool that affects all programs but the current fiscal climate has postponed contracting for new system development to meet our needs. A new system must not only maintain client demographic information, but also include encounter, pharmacy and payment information systems. Individual programs could also add and collect process and outcome indicators to aid program managers in evaluating the effectiveness of programs offered by TDH. Until such a system can be developed, TDH is limited in data that can be extracted from PTBMIS.

Staff Qualifications and Training

Home visiting program effectiveness is heavily influenced by staff qualifications and training. Much of the current rhetoric on the importance of evidence based programs emphasizes the need for staffing by nurses who are assigned limited caseloads and can work intensively over at least two years with the families enrolled. In principle, these are desired program standards; in reality, they are difficult to implement and maintain. The Nurse Family Partnership model established in Memphis could not find nurses with Bachelor's degrees who agreed to work for the salary offered. This problem resulted in the program asking the national office for an approved exception to allow them to hire nurses with other degrees.

Training- both orientation and in-service training - impacts the quality of a home visiting program. New workers need orientation to public health and the state administrative procedures in addition to the specifics of the home visiting model. They need frequent individual and group supervision; they need periodic in-service training on topics of relevance to their role with families and they need qualified staff in other disciplines to consult and advise about issues they

have identified that impact child and family well being. Like teachers, they need salary grades that are commensurate with their job duties. They also need office support staff to assist with many of the administrative tasks involved with enrolling and documenting services provided. The recent TDH reduction in force has resulted in the loss of office support who previously provided ancillary services to the home visiting staff and families.

Community Referral Resources

Home visiting program staff need constant upgrading of skills to address family needs and regional/local networks that address those identified needs. Some services are not available in certain areas of the state; others are not accessible because of long waiting lists or distance. Tennessee's patchwork of referral agencies make it difficult to get families to the services they need; occasionally, when services are available, only a small portion can be enrolled. As an example, home visiting services are available in all counties but only a few families receive this service due to staff and funding limitations.

Another example of the need for community resources relates to maternal depression. It has been identified as a problem for some mothers following the birth of the baby and we now know that maternal depression left untreated, affects appropriate child development. Reliable methods for assessing maternal depression exist that can be used by others besides the medical profession. If a mother is identified with probable maternal depression, she can be referred for further evaluation and treatment. Screening and identification provides a gateway to treatment that should impact the outcome of mother and child. Unfortunately, the lack of mental health services, especially in the rural areas of Tennessee, and the limited availability of health care coverage for mental health services limits our ability to include maternal depression as a component of home visiting services. Guided by the public health principle that we do not screen for medical problems unless we can address those identified, we cannot implement broad based assessment of maternal depression without treatment and therapeutic intervention being available across the state.

In July 2009, TDH implemented an electronic system to track referrals and document serviced received from community agencies. This system should help us identify the type and frequency

of needs experienced by families and strengths and gaps in referral systems at the regional level. Since much of the home visiting work centers on quarterly assessments of the child and family to identify potential problems, it's important to evaluate our ability to link families with those needed services. Information about this system will be included in next year's report.

Program Accomplishments

The overall goal of these home visiting programs is similar and contributes to the efficacy of providing these services to children and families at risk. The following accomplishments are noted for the year:

- At least 98% of the children enrolled were free of abuse and neglect
- Immunization rates at age 2, which is an indicator that the child has a medical home, were at 85% or higher. Tennessee has the third highest immunization rate in the nation.
- At least 75% of the mothers were not pregnant 12 months after the birth of a baby
- 87.2% of the births were babies weighing 2500 grams or more which is considered a healthy birth weight.
- 85% of the babies were born at 37 weeks gestation or more.
- 76.4% of the mothers reported they were non-smokers (HUGS)
- 94% of the women participated in WIC (HUGS)
- 95% of the children were enrolled in WIC (HUGS)

NUMBER SERVED IN CHAD AND HUGS BY COUNTY 12/2009

		Children Served in 07 - 08			Children Served in 08 - 09		
Region	**County Name**	**CHAD**	**HUGS**	**Total**	**CHAD**	**HUGS**	**Total**
Northeast	Carter	133	26	159	67	37	104
Northeast	Greene	126	155	281	102	152	254
Northeast	Hancock	76	18	94	71	30	101
Northeast	Hawkins	137	125	262	148	66	214
Northeast	Johnson	37	76	113	32	78	110
Northeast	Unicoi	96	55	151	84	93	177
Northeast	Washington	146	217	363	219	212	431
Total		**751**	**672**	**1423**	**723**	**668**	**1391**
East	Anderson	31	20	51	44	22	66
East	Blount	60	26	86	53	48	101
East	Campbell	49	74	123	58	65	123
East	Claiborne	20	2	22	21	10	31
East	Cocke	89	19	108	62	34	96
East	Grainger	46	9	55	52	31	83
East	Hamblen	30	21	51	33	18	51
East	Jefferson	43	17	60	23	10	33
East	Loudon	40	14	54	28	17	45
East	Monroe	52	58	110	65	43	108
East	Morgan		7	7		11	11
East	Roane	31	12	43	27	56	83
East	Scott	47	7	54	71	15	86
East	Sevier	85	48	133	75	66	141
East	Union	4	8	12	7	20	27
Total		**627**	**342**	**969**	**619**	**466**	**1085**
Southeast	Bledsoe		1	1		1	1
Southeast	Bradley		117	117		82	82
Southeast	Franklin		0	0		2	2
Southeast	Grundy		0	0		3	3
Southeast	Marion		2	2		13	13
Southeast	McMinn		17	17		17	17
Southeast	Meigs		4	4		2	2
Southeast	Polk		17	17		7	7
Southeast	Rhea		4	4		2	2
Total		**0**	**162**	**162**	**0**	**129**	**129**

		Children Served in 07 - 08			Children Served in 08 - 09		
Region	**County Name**	**CHAD**	**HUGS**	**Total**	**CHAD**	**HUGS**	**Total**
Upper Cumberland	Cannon		12	12		8	8
Upper Cumberland	Clay		13	13		15	15
Upper Cumberland	Cumberland		31	31		37	37
Upper Cumberland	Dekalb		27	27		31	31
Upper Cumberland	Fentress		35	35		35	35
Upper Cumberland	Jackson		20	20		21	21
Upper Cumberland	Macon		35	35		50	50
Upper Cumberland	Overton		18	18		23	23
Upper Cumberland	Pickett		6	6		11	11
Upper Cumberland	Putnam		116	116		88	88
Upper Cumberland	Smith		45	45		39	39
Upper Cumberland	Van Buren		0	0		1	1
Upper Cumberland	Warren		49	49		43	43
Upper Cumberland	White		33	33		33	33
Total		**0**	**440**	**440**	**0**	**435**	**435**
Mid Cumberland	Cheatham		7	7		19	19
Mid Cumberland	Dickson		13	13		27	27
Mid Cumberland	Houston		0	0		0	0
Mid Cumberland	Humphreys		2	2		0	0
Mid Cumberland	Montgomery		10	10		36	36
Mid Cumberland	Robertson		12	12		17	17
Mid Cumberland	Rutherford		62	62		143	143
Mid Cumberland	Stewart		21	21		13	13
Mid Cumberland	Sumner		138	138		163	163
Mid Cumberland	Trousdale		0	0		0	0
Mid Cumberland	Williamson		17	17		31	31
Mid Cumberland	Wilson		93	93		147	147
Total		**0**	**375**	**375**	**0**	**596**	**596**
South Central	Bedford		137	137		141	141
South Central	Coffee		37	37		28	28
South Central	Giles		43	43		33	33
South Central	Hickman		15	15		14	14
South Central	Lawrence		343	343		23	23
South Central	Lewis		13	13		16	16
South Central	Lincoln		26	26		35	35
South Central	Marshall		36	36		23	23
South Central	Maury		31	31		39	39
South Central	Moore		1	1		1	1
South Central	Perry		5	5		2	2
South Central	Wayne		2	2		7	7
Total		**0**	**689**	**689**	**0**	**362**	**362**

		Children Served in 07 - 08			Children Served in 08 - 09		
Region	**County**	**CHAD**	**HUGS**	**Total**	**CHAD**	**HUGS**	**Total**
West	Benton		0	0		9	9
West	Carroll		46	46		50	50
West	Chester		0	0		10	10
West	Crockett		0	0		7	7
West	Decatur		13	13		17	17
West	Dyer		67	67		70	70
West	Fayette		73	73		67	67
West	Gibson		45	45		68	68
West	Hardeman		44	44		47	47
West	Hardin		64	64		67	67
West	Haywood		48	48		52	52
West	Henderson		51	51		45	45
West	Henry		0	0		4	4
West	Lake		72	72		47	47
West	Lauderdale		57	57		57	57
West	McNairy		0	0		5	5
West	Obion		27	27		18	18
West	Tipton		82	82		90	90
West	Weakley		0	0		18	18
Total		**0**	**689**	**689**	**0**	**748**	**748**
Shelby	Shelby		614	614		1156	1156
Davidson	Davidson		381	381		591	591
Hamilton	Hamilton		260	260		307	307
Knox	Knox		54	54		99	99
Madison	Madison		40	40		57	57
Sullivan	Sullivan		245	245		275	275
Total		**0**	**1594**	**1594**	**0**	**2485**	**2485**
State Total		**1378**	**4963**	**6341**	**1342**	**5889**	**7231**

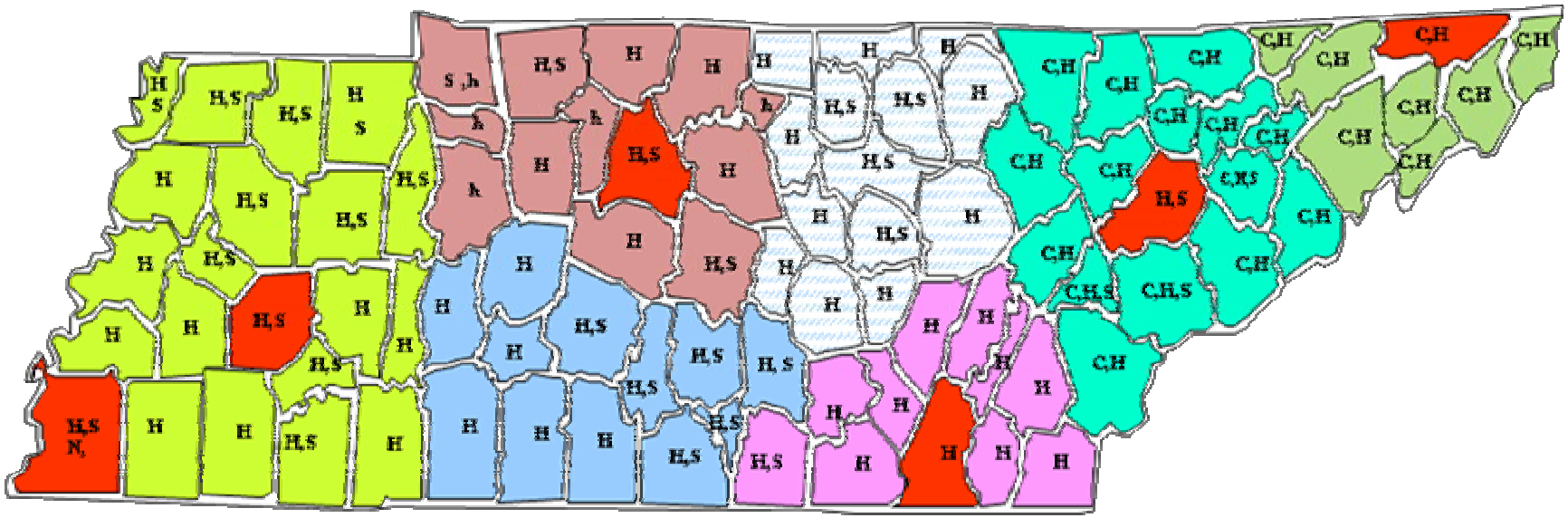
Appendices

A. State Map with Program Locations

B. Contract Agencies Providing Services

C. State statutes/TCA codes

Tennessee Department of Health
Home Visiting Programs



Metropolitan Regions

West Region

South Central Region

Mid-Cumberland Region

Upper Cumberland Region

Southeast Region

East Region

Northeast Region

C – CHAD Program (22 Counties)

H – HUGS Program (95 Counties)

h - Limited HUGS Services (4 Counties P/T Nurse)

S – State Healthy Start Program (30 Counties through contracts with CBOs)

N – Nurse Family Partnership (1 County through contract)

Revised 12/09

Appendix B

Agencies Providing Healthy Start Services

Contracts through the TN Department of Health
December 2009

Healthy Families
Counties
The Center for Family Development
Shelbyville, TN 37160

Bedford, Coffee, Lincoln, Marshall, Moore, Maury, Rutherford & Franklin

Healthy Start Madison, Chester & Crockett

Jackson-Madison County General Hospital
Jackson, TN 38301-3956

Madison, Chester & Crockett

Healthy Families East Tennessee
Helen Ross McNabb Center
Knoxville, TN 37921

Blount, Jefferson, Knox & Loudon

Healthy Start Northwest
University of Tennessee – Martin
Martin, TN 38238-5045

Benton, Carroll, Gibson, Henry, Lake, Obion & Weakley

Healthy Start of Clarksville
Clarksville Health System
Clarksville, TN 37043

Montgomery & Stewart

Le Bonheur Healthy Families Program
LeBonheur Community Outreach
Memphis, TN 38112

Shelby County

Healthy Start
Exchange Club/Holland Stephens Center
Dept.
Livingston, TN 38570

Jackson, Overton, Putnam & White

Nashville Healthy Start
Metro. Nashville/Davidson Co. Health

Nashville, TN 37203

Davidson County

Help Us Grow Successfully (HUGS) Contract Sites

December 2009

Name: Metropolitan Nashville Davidson County Health Department
Location: 311 23rd Avenue North, Nashville, TN 37203
County: Davidson

Name: Knox County Health Department
Location: 140 Dameron Avenue, Knoxville, TN 37917
County: Knox

Name: Chattanooga-Hamilton County Health Department
Location: 921 East Third Street, Chattanooga, TN 37403
County: Hamilton

Name: Jackson - Madison County Health Department
Location: 804 North Parkway, Jackson, TN 38305
County: Madison

Name: Memphis-Shelby County Health Department
Location: 814 Jefferson Avenue, Memphis, TN 38105
County: Shelby

Name: Sullivan County Health Department
Location: 154 Blountville Bypass, Blountville, TN 37617
County: Sullivan

Name: The Healing Word Counseling Center
Location: 3910 Tullahoma Road, Memphis, TN 38118
County: Shelby

NURSE FAMILY PARTNERSHIP SITE

Name: LeBonheur Community Outreach-Nurse Family Partnership
Location: 2400 Poplar, Suite 550, Memphis, TN 38112
County: Shelby

Appendix C
68-1-125. Funds for in-home visitation programs – Emphasis on evidence-based programs — Report on findings. —

(a) As used in this section, unless the context otherwise requires:

(1) "Evidence-based" means a program or practice that meets the following requirements:

(A) The program or practice is governed by a program manual or protocol that specifies the nature, quality, and amount of service that constitutes the program; and

(B) Scientific research using methods that meet high scientific standards for evaluating the effects of such programs must have demonstrated with two (2) or more separate client samples that the program improves client outcomes central to the purpose of the program;

(2) "In-home visitation" means a service delivery strategy that is carried out in the homes of families of children from conception to school age that provides culturally sensitive face-to-face visits by nurses, other professionals, or trained and supervised lay workers to promote positive parenting practices, enhance the socio-emotional and cognitive development of children, improve the health of the family, and empower families to be self-sufficient;

(3) "Pilot program" means a temporary research-based or theory-based program or project that is eligible for funding from any source to determine whether or not evidence supports its continuation beyond the fixed evaluation period. A pilot program must provide for and include:

(A) Development of a program manual or protocol that specifies the nature, quality, and amount of service that constitutes the program; and

(B) Scientific research using methods that meet high scientific standards for evaluating the effects of such programs must demonstrate on at least an annual basis whether or not the program improves client outcomes central to the purpose of the program;

(4) "Research-based" means a program or practice that has some research demonstrating effectiveness, but that does not yet meet the standard of evidence-based; and

(5) "Theory-based" means a program or practice that has general support among treatment providers and experts, based on experience or professional literature, may have anecdotal or case-study support, and has potential for becoming a research-based program or practice.

(b) (1) With the long-term emphasis on procuring services whose methods have been measured, tested and demonstrated to improve client outcomes, the department of health, and any other state agency that administers funds related to in-home visitation programs, shall strive to expend state funds on any such program or programs related to in-home visitation, including any service model or delivery system in any form or by any name, that are evidence-based.

(2) With the goal of identifying and expanding the number and type of available evidence-based programs, the department shall continue the ongoing research and evaluation of sound, theory-based and research-based programs and to that end the department may engage in and fund pilot programs as defined in this section.

(c) The department shall include in any contract with a provider of services related to in-home visitation programs a provision requiring that the provider shall set forth a means to measure the outcome of the services. The measures must include, but not be limited to, the number of people served, the type of services provided, and the estimated rate of success of the population served.

(d) The department of health, in conjunction with a representative of the Tennessee

commission on children and youth, and with ongoing consultation of appropriate experts and representatives of relevant providers who are appointed by the commissioner of health to provide such consultation, shall determine which of its current programs are evidence-based, research-based and theory-based, and shall provide a report of those findings, including an explanation of the support of those findings, to the governor, the general welfare, health and human resources committee of the senate, the children and family affairs committee of the house of representatives, and the select committee on children and youth of the general assembly by no later than January 1 of each year. The department of health shall also provide in its report the measurements of the individual programs, as set forth in § 68-1-124(c).

[Acts 2008, ch. 1029, §§ 1, 2.]

37-3-703. Healthy start pilot project established — Objectives — Evaluation — Required disclosures. —

(a) The state of Tennessee shall develop, coordinate, and implement a healthy start pilot project within ten (10) or more counties of the state. The healthy start pilot project shall be based upon the nationally recognized model, shall focus on home visitation and counseling services, and shall improve family functioning and eliminate abuse and neglect of infants and young children within families identified as high risk. Healthy start services for participating families shall extend at least through a child's first three (3) years of life. However, family participation shall be voluntary; and, if a family refuses healthy start services, then such refusal shall not be admissible in evidence for any subsequent cause of action.

(b) Healthy start pilot projects shall ensure that:

(1) Families are educated about child health and child development;

(2) Families receive services to meet child health and development needs;

(3) Families receive services as identified and prioritized by the family and the project; and

(4) Services focus on empowering the family and strengthening life-coping and parenting skills.

(c) Specific objectives for healthy start pilot projects shall include that:

(1) Family stress is reduced and family functioning is improved;

(2) All of the children receive immunizations by two (2) years of age;

(3) All of the children receive developmental screening and follow-up services;

(4) All of the children are free from abuse and neglect; and

(5) Mothers are enrolled in prenatal care by the end of the first trimester of any subsequent pregnancy.

(d) The state of Tennessee shall conduct ongoing evaluations of the healthy start pilot project and shall file a joint report, on or before December 31 of each year, with the governor, the chair of the general welfare, health and human resources committee of the senate, the chair of the health and human resources committee of the house of representatives, and the chair of the select committee on children and youth. All state agencies that provide services to children shall make available nonidentifying information about healthy start participants for the purpose of conducting the evaluation. The report shall include the following information for the preceding fiscal year:

(1) The number of families receiving services through the pilot project;

(2) The number of children at risk of abuse and neglect prior to initiative of service to families participating in the pilot project;

(3) Among those children identified in subdivision (2), the number of children who have been the subjects of abuse and neglect reports;

(4) The average cost of services provided under the pilot project;

(5) The estimated cost of out-of-home placement, through foster care, group homes or other facilities, that reasonably would have otherwise been expended on behalf of children who successfully remain united with their families as a direct result of the project, based on average lengths of stay and average costs of such out-of-home placements;

(6) The number of children who remain unified with their families and free from abuse and neglect for one (1), two (2), three (3), and four (4) years, respectively, while receiving project services; and

(7) An overall statement of the achievements and progress of the pilot project during the preceding fiscal year, along with recommendations for improvement or expansion.

(e) (1) When offering healthy start services to a family, the state or its contractor shall provide that family with a written statement and oral explanation. Both the statement and explanation shall describe the following information:

(A) The purpose of the healthy start project;

(B) Project services that may be offered;

(C) The voluntary nature of participation and the family's right to decline services at any time;

(D) The project records to be maintained with respect to participating families; and

(E) The family's right to review project records pertaining to that family.

(2) After providing the oral explanation, the state or its contractor shall, on the written statement, obtain signed consent from the parents or caretakers of a child. The parents or caretakers shall receive a copy of the signed statement and a copy will be maintained in the family's record.

(3) Each participating family shall have the right to review project records pertaining to that family. The state or its contractor shall make such record available for review during regular office hours.

[Acts 1994, ch. 974, § 3; 1995, ch. 538, § 1.]

NURSE FAMILY PARTNERSHIP PILOT PROJECT

68-1-2503. Part definitions. —

As used in this part, unless the context otherwise requires:

(1) “Department” means the department of health;

(2) “Entity” means any nonprofit, not-for-profit, or for-profit corporation, religious

or charitable organization, institution of higher education, visiting nurse association, existing visiting nurse program, local health department, county department of social services, political subdivision of the state, or other governmental agency or any combination thereof;

(3) "Health care and services facility" means a health care entity or facility identified pursuant to § 68-1-2505 to assist the department in administering the program;

(4) "Low-income" means an annual income that does not exceed two hundred percent (200%) of the federal poverty level;

(5) "Nurse" means a person licensed as a professional nurse pursuant to title 63, chapter 7; and

(6) "Program" means the nurse home visitor program established in this part.

[Acts 2007, ch. 530, § 1.]

68-1-2504. Establishment of program — Participation — Rules and regulations. —

(a) There is established the nurse home visitor program to provide regular, in-home, visiting nurse services to low-income, first-time mothers, with their consent, during their pregnancies and through their children's second birthday. The program training requirements, program protocols, program management information systems, and program evaluation requirements shall be based on research-based model programs that have been replicated in multiple, rigorous, randomized clinical trials and in multiple sites that have shown significant reductions in:

(1) The occurrence among families receiving services through the model program of infant behavioral impairments due to use of alcohol and other drugs, including nicotine;

(2) The number of reported incidents of child abuse and neglect among families receiving services through the model program;

(3) The number of subsequent pregnancies by mothers receiving services through the model program;

(4) The receipt of public assistance by mothers receiving services through the model program; and

(5) Criminal activity engaged in by mothers receiving services through the model program and their children. The program shall provide trained visiting nurses to help educate mothers on the importance of nutrition and avoiding alcohol and drugs, including nicotine, and to assist and educate mothers in providing general care for their children and in improving health outcomes for their children. In addition, visiting nurses may help mothers in locating assistance with educational achievement and employment. Any assistance provided through the program shall be provided only with the consent of the low-income, first-time mother, and she may refuse further services at any time. The program should be significantly modeled on the national Nurse-Family Partnership program.

(b) The program shall be administered in a community or communities by an entity or entities selected under this part. For the purpose of this pilot program, if the commissioner determines that it is necessary in order to implement a pilot project for the program, then the commissioner is authorized to make a grant or grants without competitive bidding. If selection is made on a competitive basis, any entity that seeks to administer the program shall submit an application to the department as provided in § 68-1-2506. The entity or entities selected pursuant to § 68-1-2507 for implementing the project shall be expected to provide services for up to one hundred (100) low-income, first-time mothers in the community in which the entity administers the program. A mother shall be eligible to receive services through the program if she is pregnant with her first child, and her gross annual income does not exceed two hundred percent (200%) of the federal poverty level.

(c) The department may promulgate rules pursuant to Uniform Administrative Procedures Act, compiled in title 4, chapter 5, for the implementation of the program.

(d) Notwithstanding subsection (c), the department may adopt rules pursuant to which a nurse home visitation program that is in operation in the state as of July 1, 2007, may qualify for participation in the program if it can demonstrate that it has been in operation in the state for a minimum of five (5) years and that it has achieved a reduction in the occurrences specified in subsection (c). Any program so approved shall be exempt from the rules adopted regarding program training requirements, program protocols, program management information systems, and program evaluation requirements, so long as the program continues to demonstrate a reduction in the occurrences specified in subsection (a).

[Acts 2007, ch. 530, § 1; 2008, ch. 1126, § 1.]

68-1-2505. Health care and services facility to assist with program. —

(a) The commissioner of health shall select the national service organization of the Nurse-Family Partnership program as the health care and services facility with the knowledge and experience necessary to assist the department in selecting entities from among the applications, if any, submitted pursuant to § 68-1-2506 and in monitoring and evaluating the implementation of the program in communities throughout the state.

(b) The health care and services facility shall monitor the administration of the program by the selected entities to ensure that the program is implemented according to the program training requirements, program protocols, program management information systems, and program evaluation requirements established by the department. The health care and services facility shall evaluate the overall implementation of the program and include the evaluation, along with any recommendations concerning the selected entities or changes in the program training requirements, program protocols, program management information systems, or program evaluation requirements, in the annual report submitted to the department pursuant to § 68-1-2508.

(c) The department shall compensate the health care and services facility for the costs incurred in performing its duties under this part. The compensation shall be included in the actual costs incurred by the department in administering the program and paid out of the amount allocated to the department for administrative costs.

[Acts 2007, ch. 530, § 1; 2008, ch. 1126, § 2.]

68-1-2506. Application to administer program. —

(a) Any entity that seeks to administer the program in a community pursuant to any competitive bidding process shall submit an application to the department. At a minimum, the application shall specify the basic elements and procedures that the entity shall use in administering the program. Basic program elements shall include, but are not limited to, the following:

(1) The specific training to be received by each nurse employed by the entity to provide home nursing services through the program;

(2) The protocols to be followed by the entity in administering the program;

(3) The management information system to be used by the entity in administering the program;

(4) The reporting and evaluation system to be used by the entity in measuring the effectiveness of the program in assisting low-income, first-time mothers; and

(5) An annual report to both the health care and services facility and the community in which the entity administers the program that reports on the effectiveness within the community and is written in a manner that is understandable for both the health care and services facility and members of the community.

(b) Any program application submitted pursuant to this section shall demonstrate strong, bipartisan public support for and a long-term commitment to operation of the program in the community.

(c) The department shall initially review any applications received pursuant to this

section and submit to the health care and services facility for review those applications that include the basic program elements. Following its review, the health care and services facility shall submit to the department the name of the entity or entities that the health care and services facility recommends to administer the program.

[Acts 2007, ch. 530, § 1; 2008, ch. 1126, § 3.]

68-1-2507. Selection of entities recommended by the health care and services facility — Grants — Creation of fund. —

(a) The department shall select the entities that will administer the program.

(b) (1) The entity or entities selected to operate the program shall receive grants in amounts specified by the department. The grants may include operating costs, including, but not limited to, development of the information management system, necessary to administer the program. The number of entities selected and the number of communities in which the program shall be implemented shall be determined by moneys available in the nurse home visitor program fund created in subdivision (b)(2).

(2) Grants awarded pursuant to subdivision (b)(1) shall be payable from the nurse home visitor program fund, which fund is hereby created in the state treasury. The nurse home visitor program fund, referred to in this section as the fund, shall consist of moneys appropriated to the fund by the general assembly from general revenue and moneys received from the federal government. Any revenues or moneys deposited in the fund shall remain in the fund until expended for purposes consistent with this part and shall not revert to the general fund on any June 30. In addition, the state treasurer may credit to the fund any public or private gifts, grants, or donations received by the department for implementation of the program. The fund shall be subject to annual appropriation by the general assembly to the department for grants to entities for operation of the program. Notwithstanding any other law, all interest derived from the deposit and investment of moneys in the fund shall be credited to the fund.

[Acts 2007, ch. 530, § 1; 2008, ch. 1126, § 4.]

68-1-2508. Program oversight — Reporting. —

Entities receiving grants shall report to the heath sciences facility as often as the department determines to be beneficial to program oversight. The health care and services facility shall report to the department as often as the department determines to be beneficial to program oversight, but at least annually. The department shall report in writing on an annual basis to the general assembly.

[Acts 2007, ch. 530, § 1.]

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APPENDIX E

MCH Stakeholder Group

(highlighted were attendees at April 19, 2010 Stakeholder meeting to select Tennessee MCH priorities)

Angie Allen, MT(ASCP), MEd	Dept of Health, Division of Regional and Local Health, Community Health Services Section	Director Community Health Systems
Pam Baggett	Dept of Health, Bureau of Health Services Administration	Director of TennCare Services
Sumita Banerjee	Tennessee Commission on Children and Youth	Policy Advocate
Lois Barrett-Luke	Dept Human Services	Director of Child and Adult Care Licensing
Audrey Bauer, DVM, MPH	Policy, Planning and Assessment	Epidemiologist
Melissa Blair, MS	Nutrition and Wellness	Section Chief
Jeanne Brooks	Dept Children's Services, Tennessee Children's Trust Fund	Director
Charlotte Bryson	TN Voices for Children	Executive Director
Connie Casha	Dept of Education, Office of Early Learning	Director of Early Childhood Programs
Janet Coscarelli	TN Head Start State Collaboration Office	Director
Gail Crawford	Dept Human Services	Director of Infant/Toddler Services
Suzanne Hayes, DDS	Dept of Health	Director of Oral Health Services
Lynette Hicks	Dept of Health, Division of Maternal and Child Health, Help Us Grow Successfully (HUGS) Program	Director
Jamie Kilpatrick	Tennessee's Early Intervention System (TEIS), Dept of Education	Director of Early Childhood Special Education Services
Peggy (Margaret T) Lewis, MHE, RD, LDN	Dept of Health, Nutrition and Wellness Section	Director, Supplemental Nutrition Programs
Dr. Wendy Long	TennCare	Chief Medical Officer
Olga Masrejian	Dept of Health, Division of Maternal and Child Health, CHAD Healthy Start	Director
Rubelyn Mays, MS, RD, LDN	Dept of Health, Community Nutrition Services	Director
Angela McKinney-Jones	Dept of Mental Health and Developmental Disabilities	Director of Prevention Services, Division of Alcohol and Drug Abuse Services
Kelly Moore, MD, MPH	Dept of Health, Communicable and Environmental Disease Services	Medical Director, State Immunization Program
Linda O'Neal	Tennessee Commission on Children and Youth	Executive Director
Freida Outlaw	Dept of Mental Health and Developmental Disabilities	Assistant Commissioner of Mental Health for Special Populations

Melanie Pafford, APN	Dept of Health, Division of Clinical Services and Disease Management	Primary Care Director
Lynn Pollard, MSN, RN, CPNP	Dept Children's Services	Nurse Consultant Manager
Dru Potash, MSN, PNP	Dept of Health, Department of Quality Improvement and Accreditation	Nurse Practitioner
Jenece Seals	Dept of Health, Bureau of Health Services	Director of HIV/AIDS/STD
Sara Smith, MS	Dept of Education, Office of Coordinated School Health	State Coordinator
Laurie Stanton	Dept of Health, Nutrition and Wellness	Director Office of Child Nutrition & Wellness, Director Project Diabetes, Executive Director Governor's Council on Physical Fitness & Health, Director Healthy Communities Program
Julie Sullivan	Family Voices of Tennessee, a project of the Tennessee Disability Coalition	State Chapter Coordinator
Cindy Wallace	Newborn Screening Program	Program Director
Michael Warren, MD MPH	Governor's Office of Children's Care Coordination	Medical Director
Judy Womack	Bureau of TennCare, Division of Quality Oversight	Director
Rosie Wooten	Dept of Health, Division of Maternal and Child Health, Early Childhood Comprehensive Systems	Director