Wyoming
2011-2015

Maternal and Child Health Needs Assessment

Wyoming Department of Health
Community and Public Health
Division

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BACKGROUND

A needs assessment is a systematic process for review of health issues facing a population which leads to agreement on priorities and resource allocation. The overall purpose of the needs assessment process is to support rational, data-driven allocation of resources, identify high-need areas, support planning, improve coordination of services, and assess the gap between need, resources, and capacity. The needs assessment process is as important as the product that is generated.

Every five years, the Wyoming Department of Health's (WDH) Maternal and Family Health Section (MFH), as the state's Title V agency, is required to conduct and submit a formal assessment of needs of our state's Maternal and Child Health (MCH) population and of the capacity to address those needs. The results of this assessment will determine the scope of MFH's work for the next five years. The two goals for this 2011-2015 needs assessment are to improve health outcomes and to strengthen partnerships between MFH and other organizations that address the health of the MCH population.

MCH health outcomes can be improved only by first determining the current needs of the MFH population and then setting MFH priorities. Priorities align programs, policies, and resources, to address the most important MCH issues in the state. National and state performance measures will be used to monitor progress toward each priority. The performance measures, combined with evidence-based practices, will guide the decisions made by MFH in implementing the most effective programs and policies to promote the health of women, children, adolescents, children and youth with special health care needs (CYSHCN), and their families.

The needs assessment process is also designed to strengthen partnerships among MFH and other agencies, families, practitioners, stakeholders, and communities. Recognizing the value and importance of our partners and stakeholders, MFH involved them in the needs assessment process and sought opportunities to collaborate with them to shape the MCH-related work for the next five years.

MFH focused on a life course perspective throughout the needs assessment process. The life course perspective emphasizes the long-term impact early life events and exposures have on health. It also highlights the interplay of biological, behavioral, psychological, and social protective/risk factors that contribute to health outcomes across the span of a person's life.[1]

During the needs assessment process, MFH operated under the premise that the results of the needs assessment would guide the work of MFH from 2011-2015. Each step of the process helped MFH narrow the focus to the areas of greatest need, which led to a final selection of priorities. The strategic planning process assisted MFH in developing an action plan to address each of the priorities in a way that accounted for capacity and allowed resources to be allocated appropriately.

THE NEEDS ASSESSMENT PROCESS

LEADERSHIP

The 2011-2015 MCH needs assessment in Wyoming was lead by a core team of five MFH staff members including the MFH Interim Section Chief, the Women and Infant Health Coordinator, the Early Child and Adolescent Health Coordinator, the Children's Special Health (CSH) Interim Program Manager and the Council of State and Territorial Epidemiologists (CSTE)/Centers for Disease Control and Prevention (CDC) Epidemiology Fellow. The MFH Interim Section Chief provided overall leadership for the project. Each of the remaining core team members led a population workgroup with the CDC/CSTE Fellow leading a team of epidemiologists. The core team was responsible for implementing the needs assessment process.

MFH also established the Needs Assessment Steering Committee to oversee the needs assessment process, provide feedback, share expertise, and support implementation of results across WDH and the State of Wyoming. The steering committee was comprised of the core team, the Community and Public Health (CPHD) Administrator, the Deputy State Epidemiologist/Chronic Disease Section Chief, the State Supervisor from Public Health Nursing (PHN), the Wyoming Office of Multicultural Health Section Chief, and a parent representative. This group provided guidance and feedback on the planned needs assessment process prior to implementation and selected the final priorities when the population workgroups completed their recommendations.

METHODOLOGY

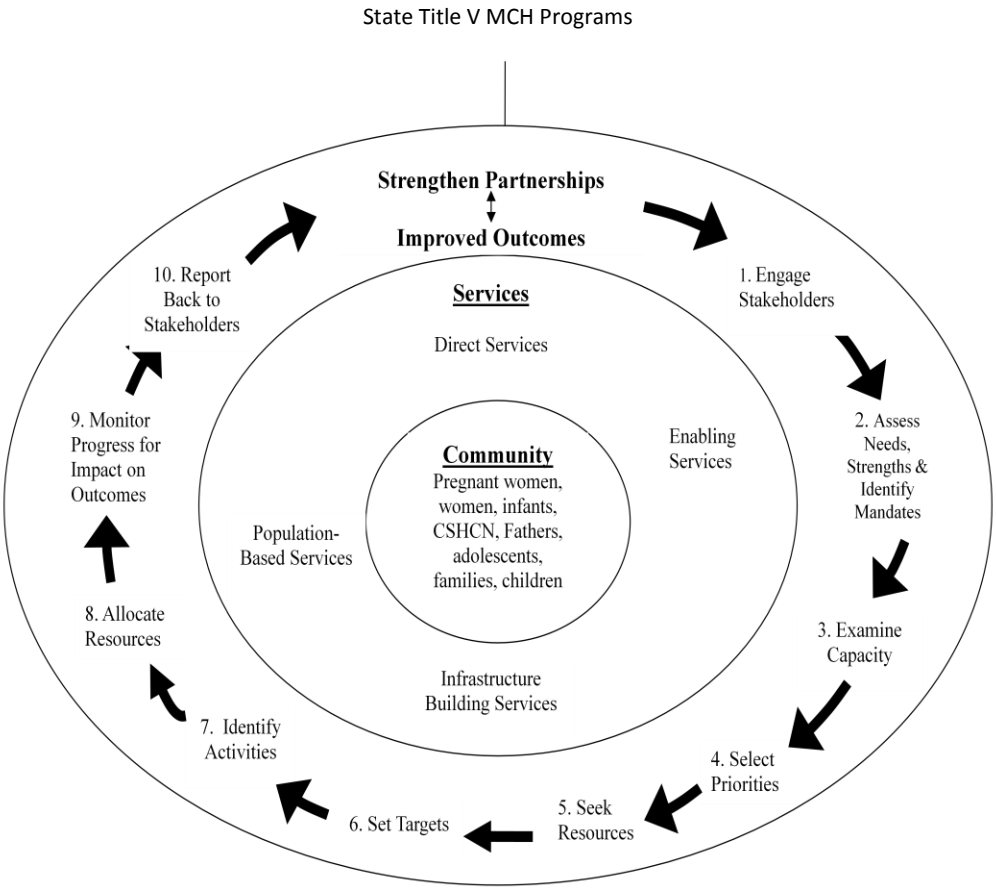
The overall methodology for the needs assessment followed the ten steps described in the Maternal and Child Health Bureau's (MCHB) Needs Assessment, Planning, Implementation, and Monitoring Process shown in (Figure 1). Prior to implementing this process, the steering committee met in April 2009 to review the needs assessment plan and offered suggestions to improve the process.

In order to engage stakeholders in the process, members of the core team invited organizations and individuals from around the state and region who had an interest in MCH; including state partners, private organizations, non-profit organizations, providers, parents, and consumers. Some national partners, such as the regional representative from the March of Dimes (MOD) and National Service Office staff members from the Nurse Family Partnership (NFP), also participated. Stakeholders were invited to attend two retreats, participate in two conference calls, review workgroup documents, and provide feedback annually after the completion of the needs assessment.

The stakeholders were organized into three population-specific workgroups; women and infants, children and adolescents, and CYSHCN. The Women and Infant Health Coordinator, the Early Child and Adolescent Health Coordinator, and the Interim CSH Program Manager led these workgroups. An epidemiologist was assigned to each workgroup, and stakeholders specific to each population were invited to be part of the needs assessment process. Three facilitators were hired to assist each of the

population workgroups during the needs assessment process, including the phone conferences, key informant interviews and retreats.

Figure 1. State Title V MCH program needs assessment, planning, implementation, and monitoring process



Initially, the epidemiologists worked as a team to create quantitative data briefs for each population. Each brief contained demographics, morbidity and mortality data, and additional information on factors associated with each specific population.

The first retreat was held in June 2009 with members from the three population workgroups and the steering committee attending. Dr. Donna Petersen, Dean of the College of Public Health, University of South Florida, facilitated the retreat. She provided background information to the workgroups on the rationale for conducting a needs assessment and outlined the needs assessment process. She also introduced the life course perspective. Participants played the life course game, developed by City Match, to demonstrate how the interplay of different factors can affect health.

With the assistance of an epidemiologist, the population workgroups reviewed population-specific data briefs. Using a workbook to guide the process, they identified additional quantitative and qualitative data needed for each of the three groups to determine recommendations for MCH priorities. They also outlined an initial list of major MCH issues for their population and identified key informants who could provide information on their MCH population group.

During July, August, and September of 2009, CPHD epidemiologists collected, analyzed and reported on the data requested during the June stakeholder retreat. These data were compiled into comprehensive population-specific data books. Each population data book included a list of the major MCH issues identified at the June stakeholder retreat and a brief summary of data for the issue.

Facilitators and population workgroup leaders conducted key informant interviews during this time period in order to obtain information from key individuals who were unable to attend the retreat or who were identified at the retreat as missing from the table. Thirty-four interviews were conducted by phone, using a standard script with six questions and additional questions to address areas of focus and expertise. The University of Wyoming (UW) Nightingale Center for Nursing Scholarship analyzed the qualitative data obtained from the key informant interviews. Results were included in the data books.

In August 2009, the members of each population workgroup participated in the first of two conference calls. During the call, stakeholders were introduced to the needs assessment SharePoint website. This website was used to share information with the stakeholders during the needs assessment process and will be used in the future to share information and receive input for the Title V Block Grant and other MFH projects.

Stakeholders were updated on key informant interviews and data requests made at the June retreat. They also began initial discussions of capacity assessment.

In September 2009, a second conference call was held. The information provided by each workgroup at the June retreat was presented in a workbook format to workgroup members. Participants were asked to identify any additional MCH issues or data needed. There was a brief introductory discussion of capacity assessment and members were prepared for an October retreat.

In October 2009, the second and final stakeholder retreat was held. Joan Eden and Barbara Ritchen, retired MCH professionals from Colorado, led the retreat. On the first day of the retreat, the population workgroups were instructed about the methods to be used to narrow the priorities and the factors to consider. Each population workgroup reviewed the data provided in the comprehensive data book and compiled a list of issues/potential priorities. The list was written on chart paper and each member of the group was given five dots to identify their top priorities. Members were instructed to use their dots to vote as they wished. The top priority issues for each group were identified from those receiving the most dots.

At the beginning of the second day of this meeting, with instruction that the top priority list could be changed based on discussion, the top priority issues and the overall major issue list were reviewed. Each workgroup then used an issue matrix (Appendix A) to narrow the priorities further. Workgroups were led through a guided discussion that addressed each of the criteria in the issue matrix. The magnitude, extent, severity and health consequences of each issue were reviewed using the data books. The groups addressed available public health strategies and whether the issue was an MCH responsibility. Disparities were discussed to address health equity, and workgroup members considered the cost benefits of addressing or ignoring the issue. Issues that appear in or affect more than one stage of life were identified to determine the life course effect, and finally, issues were examined to determine leverage, political feasibility, and capacity. Each stakeholder then scored the list of issues for each of the criteria. Scores were compiled, and the top issues for each group were presented to the larger group.

Next, groups moved to capacity assessment for each of the identified issues by examining four categories of resources, including structural resources, data and information systems, organizational relationships and competencies, and skills (Appendix B). When the issue lists from each of the population workgroups were combined, there was a final list of 18 potential priorities.

After the second retreat, population workgroup leaders and epidemiologists worked together to create issue overviews for each of the 18 potential priorities (see template in Appendix C). These overviews were created using the issue matrix and capacity assessment documents. They were shared with the members of the steering committee. The steering committee met again in December 2009 to review the needs assessment process and the issue briefs. After discussion, the committee narrowed the list of 18 to a final list of ten priority areas.

In early 2010, MFH and Epidemiology staff members met to discuss and develop state performance measures. In February 2010, MFH contracted with Joan Eden and Barbara Ritchen to lead MFH's strategic planning process. The first step, completed in March 2010, involved establishing a vision and mission for MFH. MFH invited the CPHD Administrator, Immunization (IM) Section Chief, Women, Infants, and Children Program (WIC) Section Chief, Oral Health (OH) Section Chief, PHN staff members, and a parent to partner in the vision and mission process. This process was followed by a one-day retreat for MFH staff members to examine current efforts for each of the ten priorities. This provided a strong framework for future identification of strategies to address priorities.

Stakeholders will be invited back to participate in four subsequent retreats to identify appropriate short and long term strategies to address each priority. Finally, two fiscal meetings will be held with staff members from MFH and WDH fiscal to tie priorities to funding and ensure resource allocation is in alignment with our strategic plan. Results from the strategic planning meetings will be shared with stakeholders through the SharePoint site.

METHODS FOR ASSESSING THREE MCH POPULATIONS

The stakeholders involved in the needs assessment were organized into three population workgroups, including women and infants, children and adolescents, and CYSHCN. The members of each of the workgroups are listed in Appendix D. Separate data briefs and data books were prepared for each of the groups. Key informant interviews were conducted to obtain qualitative data for each population workgroup. Each workgroup developed individual priority lists. These lists were combined into a preliminary list of 18 potential priorities. This list was narrowed to ten priorities by the Needs Assessment Steering Committee, which ensured all populations were addressed in the final list.

METHODS FOR ASSESSING STATE CAPACITY

The population workgroups began discussing capacity during conference calls in August and September 2009. At the final stakeholder retreat in October 2009, the population workgroups used the matrix shown in Appendix B to assess MCH capacity for each of the final potential priorities identified. They discussed four categories of resources, including structural resources, data and information systems, organizational relationships and competencies, and skills. Workgroup leaders collected this information so it could be shared with the steering committee.

Issue briefs were presented at the steering committee meeting in December 2009 (Appendix C) that provided information on capacity assessment. This information played a role in the committee's final selection of priorities.

MFH began the strategic planning process in January 2010 and will complete the process in August 2010. Capacity information will be a critical factor considered when MFH is setting short and long term goals.

DATA SOURCES

Several data sources were used in creating the population specific data books. They are presented in Table 1.

TABLE 1: DATA SOURCES

Data Source	Data Used	Limitations
U.S. Census Bureau	Demographics of women of reproductive age, children and adolescents	
U.S. Census Bureau, Current Population Survey	Insurance coverage	
Wyoming Vital Records Services	Fatherhood information, birth rates, preterm births, low birth weight, cesarean deliveries, breastfeeding, gestational diabetes, infant mortality, maternal mortality, child and adolescent mortality	
Homelessness in Wyoming, Wyoming Interagency Council on Homelessness, May, 2005	Wyoming homeless profile	May be incomplete due to transient nature of population
Ahlers data	Services accessed at Wyoming family planning clinics	Due to limited staff, data entered at family planning clinics may be incomplete.
Guttmacher Institute	Women in need of contraceptive services nationwide	
Best Beginnings Database	Legislative report (profile of clients contacted by perinatal home visiting programs)	
Maternal Outcome Monitoring System (MOMS) Data	Well baby visits, maternal mental health, pregnancy intention, prenatal care, pre-pregnancy BMI, weight gain during pregnancy, chronic disease and pregnancy, folic acid, maternal oral health, infant sleep position, contraception	
HRSA	Health Professional Shortage Area (HPSA) maps	
Kid Care/SCHIP program	Claims for pregnancy among enrolled clients, Chemical Dependency and Mental Health Claims and Services	Claims-based administrative database - not meant for epidemiologic analysis
Medicaid program	Number of deliveries paid by Medicaid	

TABLE 1: (CONTINUED)

Data Source	Data Used	Limitations
Early Hearing Detection and Intervention Program	Number of hearing screenings	Screening data is only among infants delivered at Wyoming hospitals, not all resident births
Wyoming Lion's Early Childhood Vision Project	Number of vision screenings	
Wyoming Department of Health's Mental Health and Substance Abuse Division	Mental health services available in the state	
National Center for Health Statistics	Birth rates, preterm births, low birth weight births, infant mortality	
Behavioral Risk Factor Surveillance System (BRFSS)	Fruit and vegetable consumption among women of reproductive age, multi-vitamin intake, Wyoming adults who are tobacco users/binge drinkers and have children in their household	
National Health and Nutrition Examination Survey (NHANES)	Folic acid information	
National Immunization Survey	Breast feeding, immunization among 19-35 month olds	
National Survey of Children's Health	Medical home, preventive medical care visits, emotional and mental health, obesity, screen time, preventive care visits, oral health, injuries	
School Nurse Survey of Asthma and Diabetes	Emergency medical service response time to schools, asthma prevalence, diabetes prevalence, IEP and 504 use	Data are reported by school nurses. Asthma and diabetes prevalence may be underreported if students do not report their condition
Wyoming Department of Health Lead Poisoning Prevention Program	Blood lead level data	Data are reported from testing laboratories to WDH program
Wyoming Department of Health Sexually Transmitted Disease prevention program	Chlamydia Infection Rate per 1,000 Teenagers Age 15-19 yrs	

TABLE 1: (CONTINUED)

Data Source	Data Used	Limitations
Youth Risk Behavior Survey	Sexual Behaviors, contraception use, substance use, tobacco use, BMI, nutrition, physical activity, seat belt use, weapons, violence, screen-time, asthma	
Wyoming Department of Health Women, Infants, and Children (WIC) program	Obesity in 2-5 year olds	WIC data system is being rebuilt
Wyoming Hospital Association-Hospital Discharge Data (HDD)	Asthma hospitalization rates, injury hospitalization rates	Reporting to HDD is not mandatory in the state; No tertiary care hospital in the state means serious injuries may be underreported as patients go to out of state facilities
Oral Health and Body Mass Index (BMI) Survey of Wyoming 3rd Graders, 2009	Decayed, missing, filled, sealed; BMI for age	Participation rates were not 100%; may not be representative of the entire state
Wyoming Department of Education: Wyoming Annual Performance Report for Special Education FFY 2007	IEP and 504 use	
Wyoming Department of Transportation; Wyoming's Comprehensive Report on Traffic Crashes 2004 through 2007	Seat belt use, crash data	Appropriate use of the safety restraint is not reported; Injury severity by traffic accident severity is not available
Wyoming Department of Health Prevention Needs Assessment	School safety	Modeled after YRBS, occurs in the even years; similar limitations as YRBS
Wyoming Attorney General's Office	Crime involving children	
Office of Juvenile Justice and Delinquency Prevention	Juvenile incarceration rates	

TABLE 1: (CONTINUED)

Data Source	Data Used	Limitations
National Survey of Children with Special Health Care Needs	Demographic profile of CSHCN in WY, selected conditions, mental health, access to care, core outcomes, education, family composition, home healthcare, respite care, transition to adulthood, insurance, EPSDT, preventive medical care, multiple diagnosis, asthma prevalence, diabetes prevalence, effect on daily activities, dental health, school attendance,	
Wyoming Department of Family Services	CSHCN in foster care	

LINKAGES BETWEEN ASSESSMENT, CAPACITY AND PRIORITIES

The methodology used in the needs assessment provided direct correlations between assessment of an issue, MCH capacity, and selection of priorities. Using the definitions and worksheets in Appendix A and Appendix B, stakeholders were able to effectively assess the issues and associated capacity. This information was passed to the steering committee, which assessed the 18 potential priorities using the same criteria. The final ten priorities are high need issues with either current high capacity, capacity that can be improved through collaborations with partners, or capacity that must be developed.

DISSEMINATION

MFH will reproduce the Needs Assessment on compact disc (CD). The data books for all three MCH populations, as well as the issue overview documents for the 18 potential priorities, will be added to the CD. These documents will be available on the MFH website at http://health.wyo.gov/familyhealth/mch/index.html and CDs will be mailed to all stakeholders involved in the needs assessment and other key MCH partners. The documents will also be available to stakeholders through the SharePoint site.

Once the strategic planning process is complete, a Power Point presentation summarizing the needs assessment will be developed. MFH staff members will show the presentation around the state in conjunction with other scheduled events.

In August 2011, MFH plans to convene an MCH conference with a broad array of partners, stakeholders and consumers. Results of the Needs Assessment, as well as a progress report, will be presented at the conference.

STRENGTHS OF THE PROCESS

The leadership structure, consisting of a core team member and a steering committee member, was a key strength. The core team members in MFH worked well together and were passionately invested in the project. The core team members led the portion of the process related to their areas of expertise. The three program coordinators led the population workgroup most closely related to their work. The MFH Interim Section Chief oversaw the process and facilitated the retreats. The CDC/CSTE Fellow provided guidance around data and process issues. Each population workgroup leader was supported with a facilitator and an epidemiologist. The steering committee provided guidance for the beginning of the needs assessment process and for refining the list of priorities to the final ten. Members of the steering committee have also continued to provide political support for MFH and the ten priorities.

Stakeholder involvement was another important strength. Because partners from MCH, organizations, providers, consumers, and families were all involved in the process each issue was examined from a variety of perspectives. Participants generously shared their experience and knowledge, thus making the process very rich.

The strong retreat leadership was an important factor in the success of the needs assessment. Dr. Donna Petersen led the first stakeholder retreat in June 2009. Bringing her vast knowledge of MCH, needs assessment, and public health to the process, Dr. Petersen was able to help stakeholders understand the purpose of the needs assessment, the importance of their participation, and guided them to use the life course perspective in their discussions and decisions. For the second stakeholder retreat, seasoned MCH veterans Joan Eden and Barbara Ritchen led the activities. They used tested tools and processes to help the workgroups narrow their list of priorities and assess state capacity around identified issues.

Using a SharePoint secure website to facilitate communication with stakeholders was a strength. Once participants received their user names and passwords, they were able to log in to the site and access numerous resources, including data documents, website links, a copy of the last needs assessment, and a copy of the past Title V Block Grant application. Population workgroups participated in discussions on topics brought up in the group. They also used this forum to discuss their list of issues prior to the October retreat.

The stakeholder retreats proved to be an effective way to engage people interested in MCH issues in Wyoming. Because the participants represented a cross section of partners including state agencies, non profits, private organizations, families, and consumers, discussions were rich and meaningful. People attending the retreats were willing to share their passion and expertise in order to help identify the most important MCH issues in Wyoming.

Framing the needs assessment with a life course perspective was also a strength. At the initial stakeholder retreat, the life course perspective was explained and participants played the life course game to learn how numerous factors can positively and negatively influence health. How an issue impacted the life course was a factor that helped determine the final MCH priorities. By selecting priorities that impacted the life course at several points, MFH can increase the impact of interventions.

The assessment tools provided an empirical method of narrowing lists of important MCH issues to the final ten priority issues. Population workgroups used the issue matrix (Appendix A) to score initial issue lists and cut them down to approximately ten issues per workgroup. The workgroups assessed MCH capacity for each of their ten issues using the capacity assessment tool (Appendix B). Finally, MFH staff members prepared issue briefs for the final eighteen potential priorities using the format found in Appendix C. These issue briefs guided the steering committee in selecting the final ten priorities.

WEAKNESSES OF THE PROCESS

Capacity assessment was one weakness of the process. While the capacity assessment tool was helpful in guiding discussion, many of the stakeholders were unaware of the MFH capacity to address issues. Including a more thorough internal capacity assessment would enhance the next needs assessment process.

While using the SharePoint site to facilitate communication with stakeholders was a strength, the new technology presented difficulties for many stakeholders. Because the website was secure, users were required to have a user name and password that were sent in a secure e-mail. Many people found the secure e-mail procedure hard to use. In the future, it would be advisable to take more time to test technology in order to minimize participant frustration.

Due to a hiring freeze, MFH had a limited number of staff members to carry out the duties associated with the needs assessment process. Four of MFH's twelve fulltime staff member positions are vacant. Contractors and temporary staff members were utilized to assist in completing the current needs assessment cycle. This was difficult, as these staff members were not involved at the beginning of the process.

PARTNERSHIP BUILDING AND COLLABORATION EFFORTS

STATE AND LOCAL MCH PROGRAMS

Wyoming has a strong PHN system at the community level. MFH contracts with all 23 county PHN offices to implement MCH services. Each population workgroup had representation from PHN with attempts made to reach out to PHN offices from around the state. The MCH Regional Coordinators and the MCH Program Consultant for PHN also participated in the needs assessment process and in the separate population workgroups.

OTHER HEALTH RESOURCES SERVICES ADMINISTRATION (HRSA) PROGRAMS

The Rural and Frontier Health Division (RFHD) focuses on how to recruit medical healthcare providers to Wyoming. One project reimburses a portion of the provider's school loans for each year they provide healthcare within the state.

MFH partners with the Human Immunodeficiency Virus (HIV/AIDS)/Hepatitis Section of the Preventive Health and Safety Division (PHSD) of WDH. MFH provides support in preparing an application for a grant aimed at decreasing teen pregnancy and sexually transmitted diseases.

The Office on Women's Health Coordinator is housed in the MFH Section and coordinates the annual National Women's Health Week in collaboration with PHSD, PHN and the WIC program. In 2010, 22 programs, ranging from nurse training to local health fairs, were held around the state in support of Women's Health Week.

The Office of Multicultural Health Section Chief was involved in the needs assessment process as a member of the steering committee. MFH will use the knowledge gathered from participating in the Champions for Inclusive Communities learning community throughout the strategic planning phase to continue efforts towards establishing community-based service systems.

OTHER WDH PROGRAMS

MFH coordinated and collaborated with others in WDH during the needs assessment process. These cohorts included, but were not limited to PHSD, HIV Prevention, Office of Pharmacy Services, Youth Treatment Services, Vital Statistics Services (VSS), EqualityCare (Medicaid), Chronic Disease, the Diabetes Prevention and Control Program, the Cardiovascular Disease (CVD) Program, Oral Health, Immunization, and WIC sections. Other divisions included; the Developmental Disabilities Division (DDD) including Part B and C, and the Early Intervention Council (EIC); and the Mental Health and Substance Abuse Services Division (MHSASD), including the Youth Suicide Program, the Strategic Prevention Framework (SPF), and the State Incentive Grant Program (SIG) which addresses the SIG planning model at the state and community levels. Staff members from these programs participated in the MCH needs assessment.

OTHER GOVERNMENTAL AGENCIES

Staff members from various programs within the Wyoming Department of Education (WDE) including Prevention Education, Nutrition Programs, Special Education, School Safety, School Nursing and the Health Education Program also participated in the needs assessment process. Representatives from Department of Family Services (DFS) programs including Child Care Licensing and Certification, Child Care Finder, and the Foster Care Program participated in various workgroups. Indian Health Service (IHS) and Ft. Washakie Head Start staff members helped bring insights from the Northern Arapaho and Eastern Shoshone tribes. The Wyoming Department of Transportation (WYDOT), Department of Workforce Services (DWS), and Wyoming Juvenile Services also brought important perspectives to the process.

MFH and the Epidemiology Section (EPI) co-manage the Pregnancy Risk Assessment Monitoring System (PRAMS) in collaboration with the Colorado Department of Public Health and Environment (CDPHE).

Other partners include state legislators who are in a position to inform the planning process with an elected official's perspective and, in return, develop a more comprehensive understanding of maternal, family and child healthcare issues in Wyoming.

OTHER ORGANIZATIONS

MFH seeks opportunities to collaborate with agencies, private organizations, families, and consumers who represent culturally diverse groups. During the MCH needs assessment, MFH included partners from the WIND River Reservation, the Eastern Shoshone Tribal Liaison, the Wyoming Health Council (WHC), which houses the Migrant Health Program (MHP), and a multitude of other stakeholders who serve a varied population. These partners played a key role in choosing Wyoming's MCH priorities for the next five years.

MFH collaborates with multiple partners to bring evidence-based opportunities to Wyoming nurses on a regular basis. Examples of educational opportunities include the annual Perinatal Update and School

and Community Health conferences; the annual Association of Women's Health and Obstetrical and Neonatal Nurses (AWHONN) conference; and MFH conferences. Collaborative partners include the University of Wyoming Fay W. Whitney School of Nursing (Laramie, Wyoming); CDPHE; The Children's Hospital (Denver, Colorado); Poudre Valley Medical Center (Fort Collins, Colorado); Ivinson Memorial Hospital (Laramie, Wyoming); Cheyenne Regional Medical Center (Cheyenne, Wyoming); and the University of Nebraska School of Nursing (Scottsbluff, Nebraska).

Other evidence-based learning opportunities include collaboration with The Happiest Baby on the Block (HBB) to certify trainers; Healthy Children Project (HCP) to provide training for Certified Lactation Counselors (CLC), (East Sandwich, Massachusetts); and LaMaze International to train nurses who provide prenatal classes to pregnant women and their families in Wyoming. When presentations are not already approved for nursing contact hours, an agreement with the North Dakota Nursing Association, CNENet, allows nursing staff members with MFH to certify nursing contact hours.

MFH funded WHC to expand the availability of family planning clinics within Wyoming and provide a repository for family planning data. WHC, the Title X designee, assured access to comprehensive, high quality, voluntary family planning services for men and women. Clinics provided contraceptive supplies on a sliding fee scale, as well as pregnancy testing to assist families in planning for an intended pregnancy. The funding included implementation of a Preconception Health Project (PHP) where all women who have a negative pregnancy test received a packet of information on intendedness of pregnancy, several condoms, and a three month supply of prenatal vitamins with folic acid.

Text4Baby is a new project sponsored by the National Healthy Mothers Healthy Babies Coalition, in which newly pregnant women can enroll and receive text messages throughout their pregnancy and the infants' first year regarding healthy living. WIC, the Oral Health Section, and MFH are partnering to help get the word out to pregnant women.

Community based organizations such as the Laramie County Community Partnership (LCCP), Basic Beginnings Child Learning Center, Casper-Natrona County Health Department, High Fidelity Wraparound Services Coach, and Boys and Girls Clubs contribute a valuable local viewpoint to MFH planning processes.

State based organizations, such as Coalition for Wyoming Children, Attention Homes and Cathedral Homes (both Youth Residential Treatment Centers), Wyoming Epilepsy, Association, Safe Kids Wyoming (SKW), Wyoming Afterschool Alliance, Lions Vision Screening Program, the Parent Information Center, the Parent Education Network (PIC/PEN), the Family2Family Health Information Center (F2FHIC), UPLIFT, Child Development Services of Wyoming, Prevent Child Abuse Wyoming, the Wyoming Citizen Review Panel, and the Wyoming Early Childhood Partnership (WECP) assist greatly by representing many of the diverse components that are essential to the provision of the health and well-being of the state's youth.

National entities, such as Casey Family Programs, Children and Nutrition Services, and March of Dimes added a unique perspective to the MCH Needs Assessment process because they can draw on the state and regional experiences and knowledge of their offices that serve Wyoming, as well as the experience and knowledge of their parent organizations.

Organizations and staff members associated with educational institutions in the state, such as the Wyoming INstitute for Disabilities (WIND), the University of Wyoming, and Eastern Wyoming College are vital to the planning process so that MFH maintains strong collaborations with these entities and ensures they are informed about MFH issues.

A developmental pediatrician participated in the needs assessment process. Her input was invaluable in informing the workgroup about the challenges faced by providers of CYSHCN.

COLLABORATION

The stakeholders described in the sections above were considered key partners in the MCH needs assessment process. They were identified by creating comprehensive lists of partners through which broad representation was ensured. These partners were recruited to participate in the needs assessment process with a personal letter of invitation. Letters requesting support in participating in the needs assessment were also sent to the supervisors of stakeholders to secure support of participation. The majority of stakeholders contacted participated in the two stakeholder retreats and two conference calls. Partners who did not participate in the retreats, but had information to share, were identified as key informants. They were interviewed to obtain additional input. MFH received a high level of participation from both stakeholders and key informants.

MFH considered it critical to involve families and consumers in the needs assessment process. These important stakeholders were involved as members of the population workgroups at both needs assessment retreats. Others provided key informant interviews. Prior to this needs assessment, family and consumer involvement in MFH have been limited, so involving these groups was a large strength of the needs assessment. However, more efforts will need to be made in the future to increase family and consumer involvement.

Through input received from all MFH's partners in the needs assessment process, the needs and strengths of the MCH population were determined, and the capacity to address the needs was examined. Eighteen potential priorities were identified, with the final list narrowed to ten. Partners were reengaged to participate in MFH's strategic planning process. This allowed MFH to establish activities that address each of the priorities, to implement over the next five years.

STRENGTHS AND NEEDS OF THE MCH POPULATION GROUPS AND DESIRED OUTCOMES

A comprehensive data book was prepared for each population group. These separate documents are included as attachments to the Needs Assessment. In this section, data highlights are presented for each population.

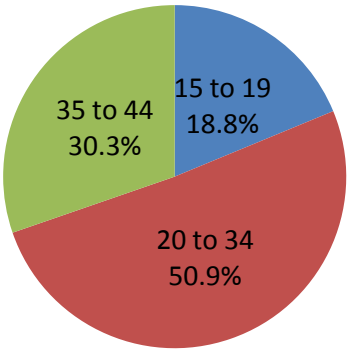
WOMEN AND INFANTS

POPULATION PROFILE

AGE

In 2007, Wyoming women of reproductive age, ages 15 to 44, represented 40% of Wyoming's total population and 81% of the state's female population.[2]

Wyoming women of reproductive age by age group, 2007



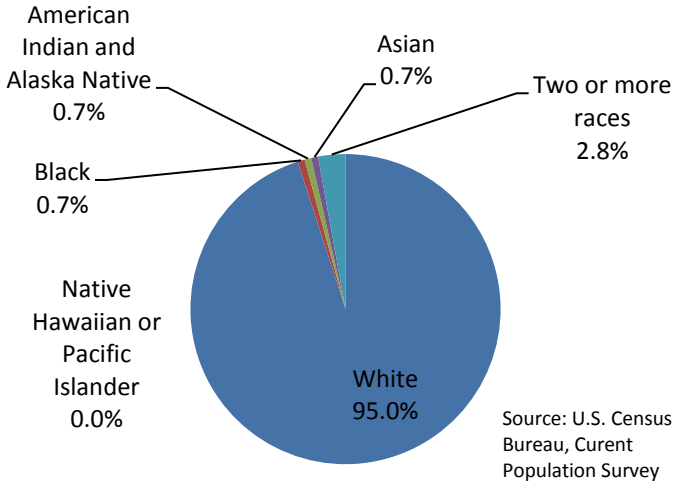
Source: U.S. Census Bureau

RACE

In 2007, Wyoming's racial distribution of women ages 15 to 44 years differed from the national racial distribution.

Race	Wyoming[2]	U.S.[2]
White	95.0%	79.5%
Black	0.7%	13.2%
American Indian/Alaskan Native	0.7%	0.8%
Asian	0.7%	4.5%
Native Hawaiian/Pacific Islander	0.0%	0.2%
Two or more races	2.8%	1.7%

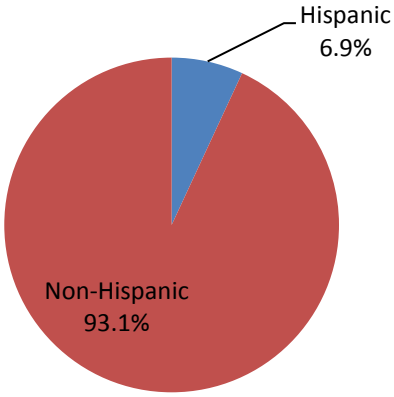
Wyoming women of reproductive age by race, 2007



ETHNICITY

In 2007, 6.9% of Wyoming women 15 to 44 years of age were Hispanic compared to 14.4% of United States (U.S.) women of reproductive age.[2] More than a third (35.8%) of American Indian (AI)/ Alaskan Native (AN) women in Wyoming were Hispanic.[2]

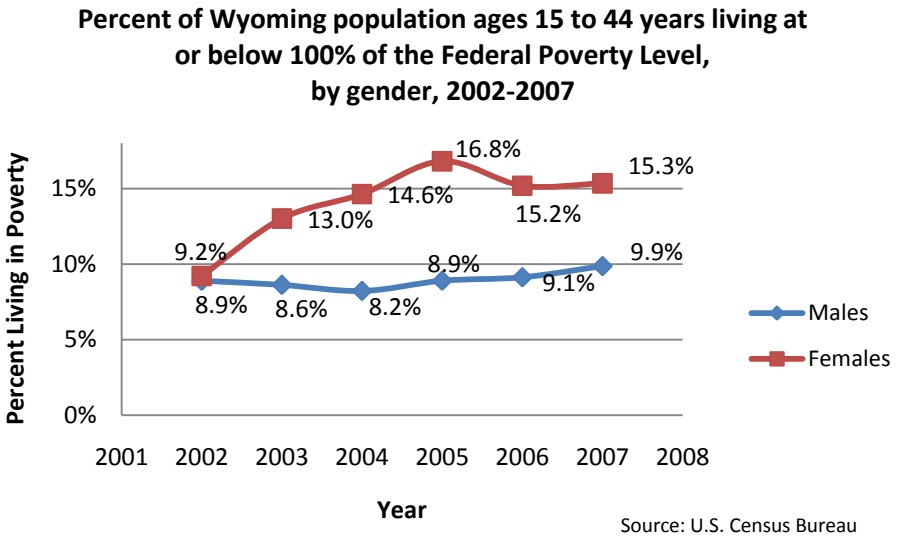
Wyoming women of reproductive age by ethnicity, 2007

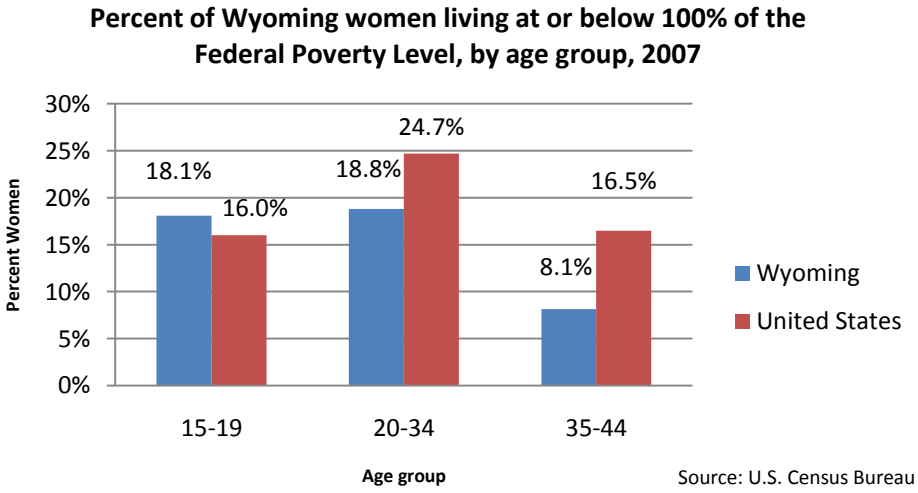


Source: U.S. Census Bureau, Current Population Survey

POVERTY

In 2002, the percent of men and women of reproductive age living at or below 100% of the poverty level was similar.[2] Since 2002, the gap between the groups has widened. The percent of women living in poverty has increased, while the percent of men living in poverty has remained relatively stable.[2] In 2007, a smaller percent of Wyoming women aged 20 through 44 years lived at or below 100% of poverty level compared to all women in the United States.[2] A higher percent of Wyoming female teens aged 15 through 19 years, however, lived at or below 100% of poverty level than female teens of the same age within the United States.[2]





PRENATAL CARE

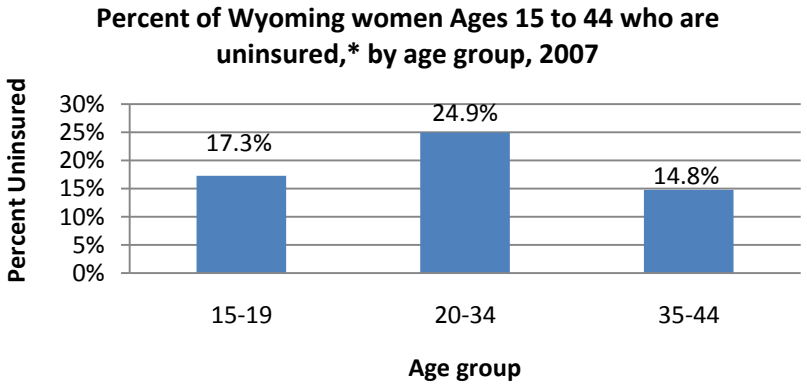
The Healthy People (HP) 2010 goal is for 90% of pregnant women to begin prenatal care in the first trimester.[3] Wyoming has not attained the HP 2010 goal. From 2003-2005 in Wyoming, new mothers were surveyed through the Wyoming Maternal Outcome Monitoring System (MOMS). When asked about prenatal care, an average of 78.6% of women reported receiving prenatal care in the first trimester.[4] Entry into prenatal care in the first trimester increased with maternal age and education level.[4]

HEALTHCARE PROFESSIONAL SHORTAGE AREAS

The Health Resources and Services Administration (HRSA) is the federal agency within the U.S. Department of Health and Human Services that helps improve "access to healthcare services for people who are uninsured, isolated, or medically vulnerable."[5] HRSA's mission is to "provide national leadership, program resources and services needed to improve access to culturally competent, quality healthcare."[5] Three types of healthcare that HRSA monitors include primary care, dental health, and mental health.[6] If an area does not have adequate medical coverage, it can be designated as a Health Professional Shortage Area (HPSA).[6] This designation may allow the area to receive federal assistance from HRSA to recruit and employ a needed medical professional.[6] There are currently 85 designated HPSA sites in Wyoming for primary care, dental health, and mental health.[7]

UNINSURED AMONG WOMEN OF REPRODUCTIVE AGE

Among Wyoming pregnant women from 2003-2005, Maternal Outcomes Monitoring System (MOMS) data show that 58.6% had insurance prior to pregnancy, 47.4% of deliveries were paid by private health insurance, and 45.7% of deliveries were paid by Medicaid.[4] In 2007, the highest percent of uninsured Wyoming women was among those ages 20 to 34 years; this age group also had the highest percent of births in 2007.[2]



Source: U.S. Census Bureau

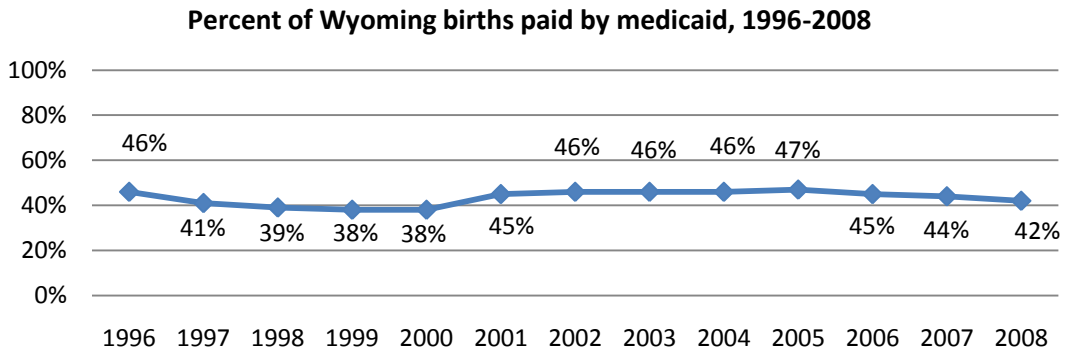
*Uninsured = no health insurance at the time of the survey

Among Wyoming women of reproductive age, 15 to 44 years, the highest percent of uninsured occurred among American Indian/Alaskan Native women (38.2%) while the lowest rate occurred among Asian Women (0%).[2] Although the proportion of uninsured women of reproductive age varies by race, there is no statistical difference between White women, Black women and women of two or more races.[2] The proportion of uninsured American Indian/Alaskan Native women is significantly greater than that for women of any other race.[2] Data were unavailable for Native Hawaiian and Pacific Islander women of reproductive age in Wyoming.[2]

Among Wyoming women of reproductive age, a higher percent of Hispanic women were uninsured in 2007 than non-Hispanic women (34.5% vs. 19.4%).[2] This difference is not statistically significant. The proportion of uninsured Wyoming women of reproductive age is not statistically different from that in the U.S. regardless of ethnicity.

BIRTHS PAID BY MEDICAID

In 2008, 42% of births were paid by Medicaid.[8-9] This percent has been relatively stable since 1996. Approximately 9% of the 2008 Medicaid-paid deliveries were to non-citizens eligible only for emergency delivery services. [9]



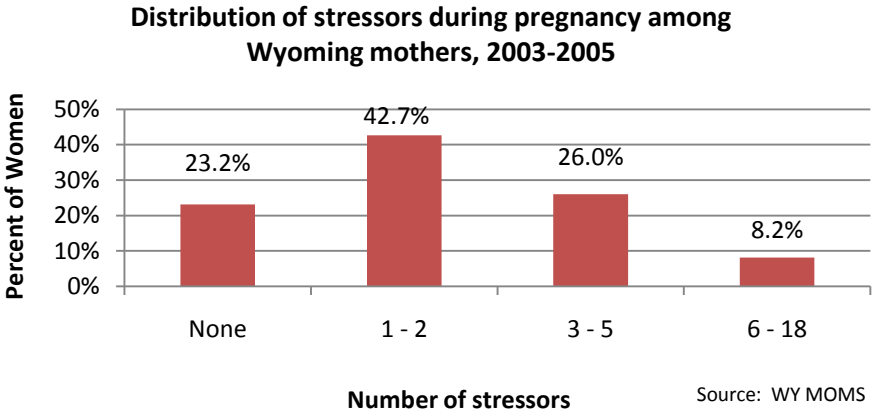
Source: Wyoming Vital Statistics Services, EqualityCare Wyoming Medicaid data

EMOTIONAL AND MENTAL HEALTH

Stressors are life events that include but are not limited to[4]:

- Legal conflicts
- Financial difficulties
- Physical conflicts
- Family illness or death
- Changes in relationships

When pregnant women were surveyed using MOMS from 2003-2005, a majority (42.7%) reported having one or two stressors in their lives, while 8.2% had six to eighteen stressors.[4]

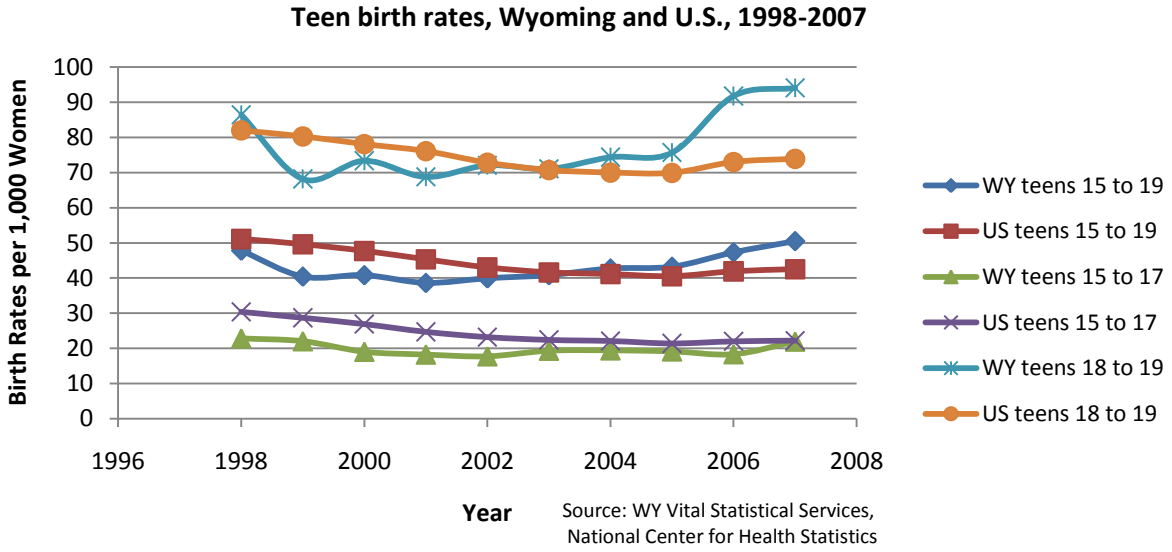


TEEN BIRTH RATES

The teen birth rate for Wyoming women aged 15 to 19 years declined between 1998 and 2002, but has increased since 2002.[8] The U.S. rate declined from 1998-2005, but has increased since 2006.[10] Wyoming's rate (50.5 per 1,000 women ages 15 to 19) was higher than the U.S. rate (42.5 per 1,000) in 2007.[8, 11]

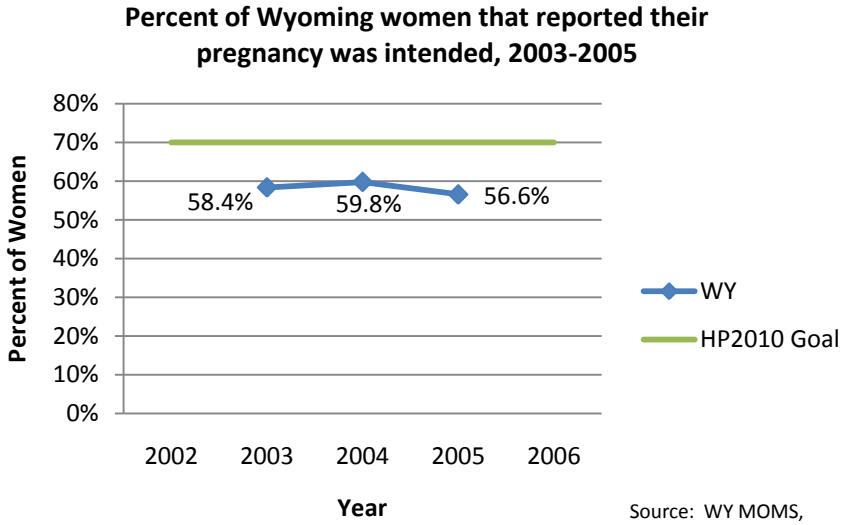
The birth rate among younger Wyoming teens ages 15 to 17 years also decreased between 1998 (22.8 per 1,000) and 2002 (17.7 per 1,000), and increased starting in 2003.[8] In 2007, Wyoming's rate of 21.9 per 1,000 women ages 15 to 17 was similar to the U.S. rate of 22.2 per 1,000.[8, 11]

Wyoming's teen birth rate among women ages 18 to 19 years has been higher than the U.S. rate since 2004.[8, 10] The Wyoming rate in 2007 was 94.1 per 1,000 women versus the U.S. rate of 73.9 per 1,000.[8, 11]



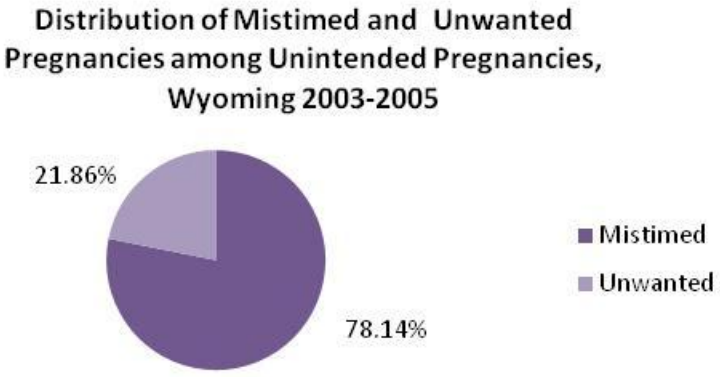
PREGNANCY INTENTION

The Wyoming MOMS survey collected information from new mothers from 2003-2005. Women who participated in MOMS were asked about when they discovered they were pregnant and how they felt about being pregnant. From this survey data, pregnancies were classified as intended if the woman indicated that she wanted to be pregnant then or sooner. From 2003-2005, 58.38% of pregnancies were classified as intended.[4] The Healthy People 2010 goal is for 70% of births to be intended.[3] Wyoming has not met this goal.



Source: WY MOMS, HP 2010

Pregnancies were classified as unintended if a woman indicated that she wanted to be pregnant later or never. Over the study period, 41.62% of pregnancies were classified as unintended.[4] For 78.14% of the unintended pregnancies, the mother indicated that she wanted to be pregnant later, and for 21.86%, the mother indicated that she never wanted to be pregnant.[4]

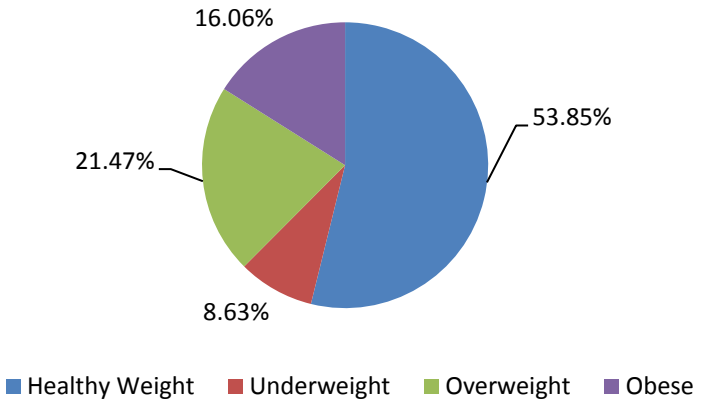


Source: WY MOMS

PRE-PREGNANCY BODY MASS INDEX (BMI)

From 2003-2005, new mothers surveyed through the Wyoming MOMS survey were asked to report their height and pre-pregnancy weight. Just over half of the women were classified as being a healthy weight prior to pregnancy, 21% were overweight, 16% were obese and 9% were underweight.[4]

Pre-Pregnancy BMI, Wyoming MOMS, 2003-2005



Source: WY MOMS

BMI Category	Prevalence	95% Confidence Interval
Healthy Weight	53.85%	52.82-54.87
Underweight	8.63%	8.07-9.22
Overweight	21.47%	20.63-22.33
Obese	16.06%	15.32-16.83

WEIGHT GAIN DURING PREGNANCY

Adequate weight gain during pregnancy is important. Women who gain insufficient weight during pregnancy are at an increased risk of delivering preterm and of having a low birth weight infant.[12] Conversely, women who gain excessive weight during pregnancy are at an increased risk for gestational diabetes and hypertension during pregnancy, have an increased risk of postpartum obesity, are more likely to deliver preterm, have a large baby, and deliver by cesarean section.[12] In 2009, the Institute of Medicine (IOM) released new guidelines about the amount of weight women should gain during their pregnancy.[12] These guidelines are presented in Table 2.

TABLE 2: NEW RECOMMENDATIONS FOR TOTAL WEIGHT GAIN DURING PREGNANCY, BY PRE-PREGNANCY BMI[12]

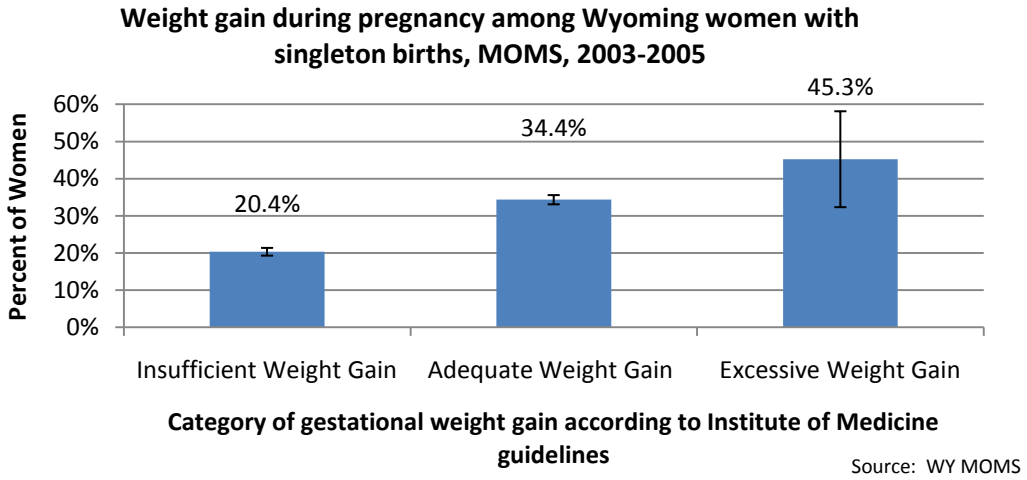
Pre-pregnancy BMI	BMI+ (kg/m2) (WHO)	Total weight gain range (lbs)
Underweight	<18.5	28 to 40
Normal Weight	18.5-24.9	25 to 35
Overweight	25.0-29.9	15 to 25
Obese (includes all classes)	≥30.0	11 to 20

The Wyoming MOMS survey of new mothers was conducted from 2003 to 2005. Women were asked to report their pre-pregnancy height and weight and the amount of weight that they gained during their pregnancy. Adequacy of weight gain during pregnancy was determined based on IOM guidelines. Among Wyoming women, excessive weight gain during pregnancy was more common than insufficient or adequate gain.[13] The following data are results from the survey, among women who delivered a singleton baby who was at least 37 weeks gestation.[4]

Nearly half of Wyoming women (45.3%) gained an excessive amount of weight during pregnancy. Women who were pregnant with their first child were more likely to gain excessive weight than women who had one or more previous live births. Teen mothers were more likely to gain excessive weight than women who were 20 years of age or older. American Indian mothers were more likely to gain excessive weight than White mothers or women of other races. Finally, obese and overweight women were more likely to gain excessive weight than healthy weight women.

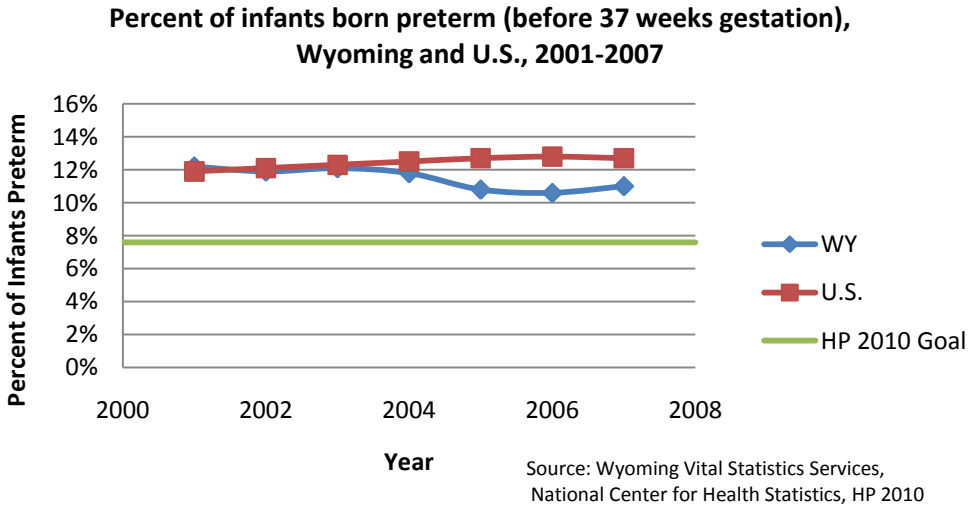
One in five Wyoming women (20.4%) gained insufficient weight during pregnancy. Women who had at least one previous live birth were more likely to gain insufficient weight than women who were pregnant with their first child. Women who had less than a high school education were more likely to gain insufficient weight than women who had at least a high school education. Women who were obese

prior to pregnancy were more likely to gain insufficient weight than women of a healthy weight. Women who were underweight prior to pregnancy were more likely to gain insufficient weight than women of a healthy weight.

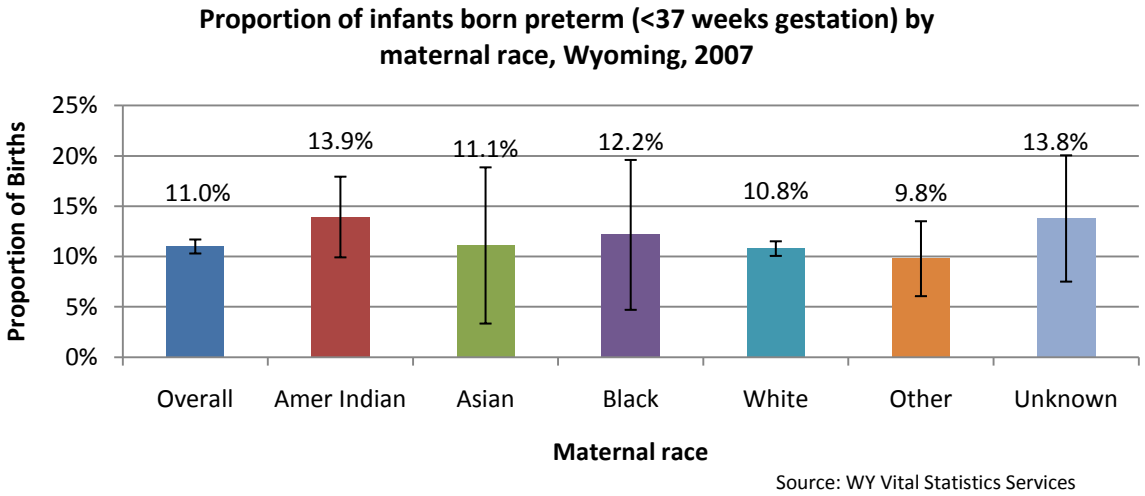


PRETERM BIRTH

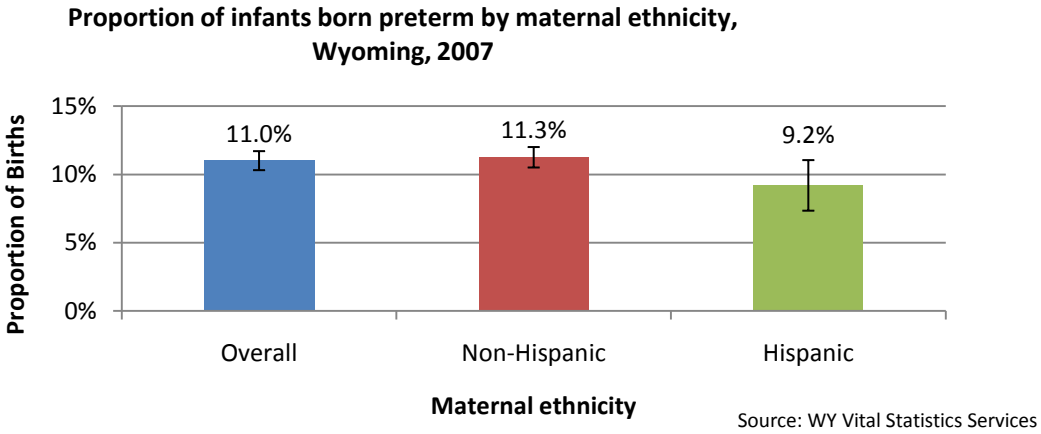
Babies who are born before 37 completed weeks of gestation are considered to be preterm. Preterm delivery and low birth weight are major factors in neonatal and infant morbidity and mortality. The percent of Wyoming infants born preterm has been less than the national percent since 2004.[8, 10]



Among Wyoming women of all races in 2007, the proportion of babies born preterm was 11.04%.[8] Although the rates of preterm birth varied by maternal race, the differences were not statistically significant.

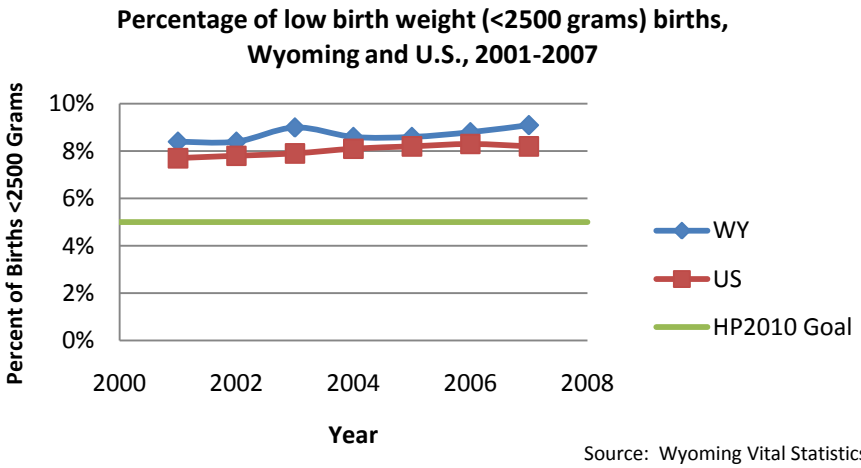


The proportion of preterm births in 2007 was higher among non-Hispanic women compared to Hispanic women, however, the difference was not statistically significant.[8]



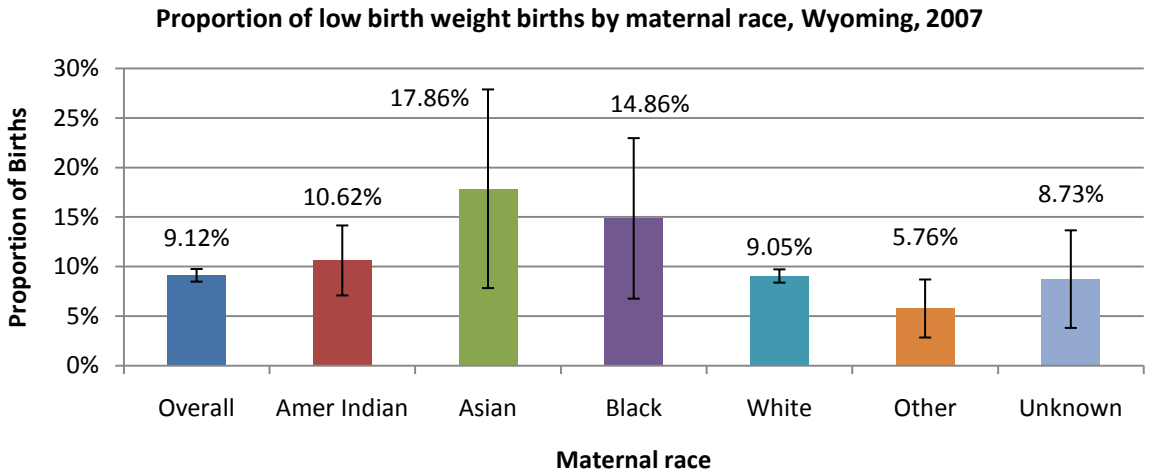
LOW BIRTH WEIGHT

Infants weighing less than 2500 grams (5 pounds, 8 ounces) at birth are considered low birth weight. Low birth weight is associated with cerebral palsy, infant death, deafness, blindness, hydrocephalus, child respiratory problems, and seizure disorders. Preterm delivery and low birth weight are major factors in neonatal and infant morbidity and mortality. The percent of low birth weight infants has been consistently higher in Wyoming than in the U.S. since 2001.[8, 10] In 2007, among Wyoming women of all races, the proportion of babies born low birth weight was 9.12%.[8]



Source: Wyoming Vital Statistics Services, National Center for Health Statistics, HP 2010

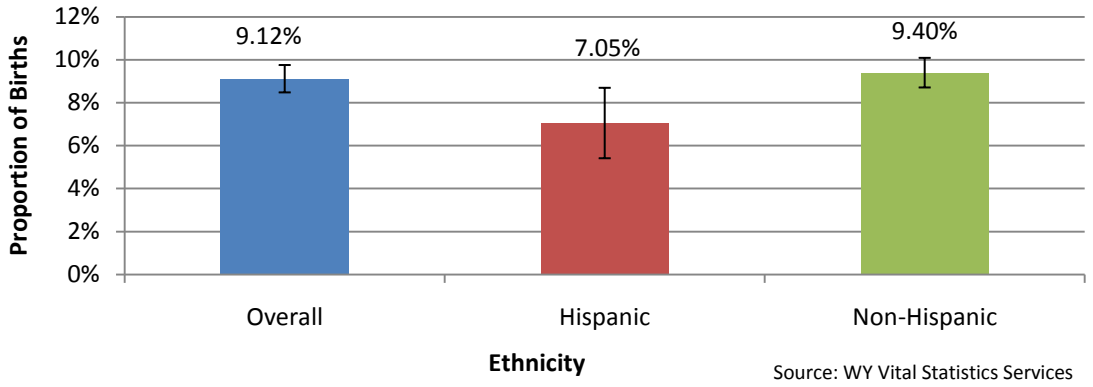
The percent of low birth weight births in 2007 varied by maternal race in Wyoming, however, the differences were not statistically significant.



Source: WY Vital Statistics Services

The proportion of low weight births was significantly higher among non-Hispanic women (9.4%) than among Hispanic women (7.05%).[8]

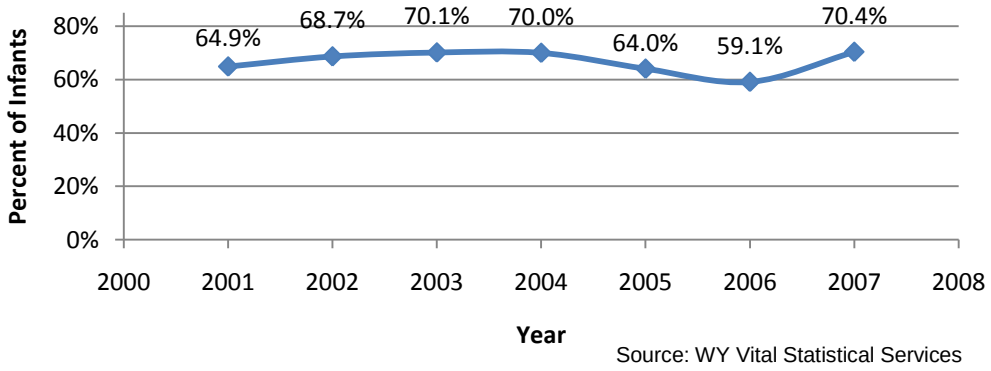
Proportion of low birth weight births, by maternal ethnicity, Wyoming, 2007



VERY LOW BIRTH WEIGHT

Infants weighing less than 1500 grams (3 pounds, 4 ounces) at birth are considered to be very low birth weight (VLBW). The prevalence of VLBW in Wyoming has remained relatively stable between 2001 and 2007. In 2007, 1% (n=81) of all infants born to Wyoming residents was considered to be very low birth weight.[8] Level III Tertiary hospitals have the equipment and staff members to handle very complicated births. These hospitals can care for mothers and/or newborns who have serious illnesses or abnormalities requiring intensive care before, during, or after delivery. Level III hospitals also provide care for uncomplicated births. Wyoming does not have a hospital with a Level III nursery. In 2007, the percent of VLBW infants born at high-risk facilities was 70.4%.[8] This represents a statistically significant increase from 59.1% in 2006.[8]

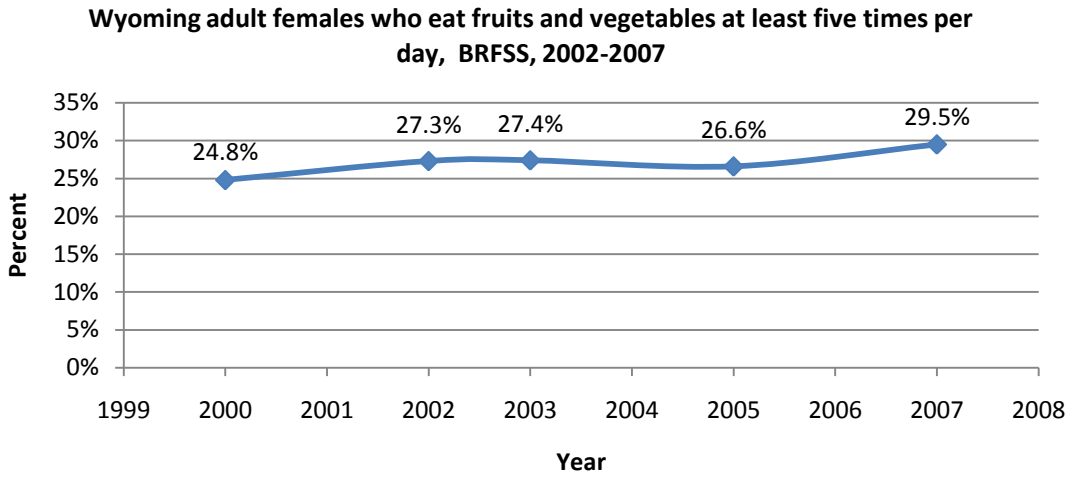
Percent of very low birth weight (VLBW) infants born at Level III hospitals, Wyoming



NUTRITION

FRUIT AND VEGETABLE CONSUMPTION

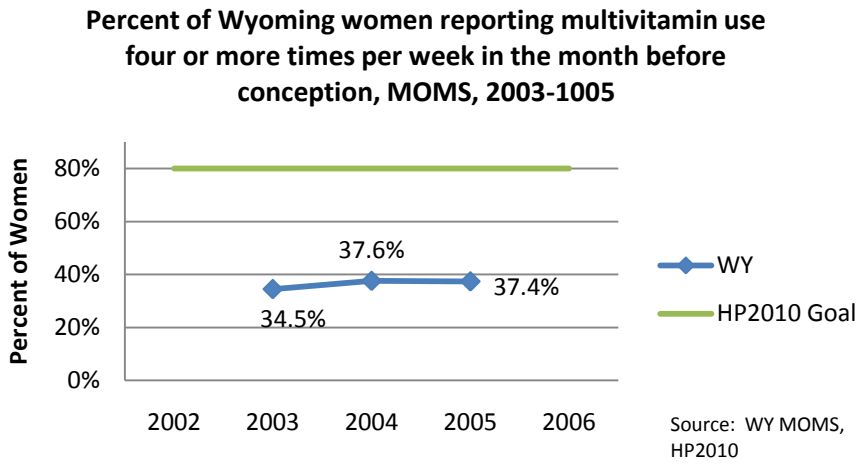
The Healthy People 2010 goal is that at least 75% of people over the age of two years will consume at least two daily servings of fruit and three daily servings of vegetables.[3] The Wyoming Behavioral Risk Factor Surveillance System (BRFSS) has assessed fruit and vegetable consumption in Wyoming adults.[14] Fruit and vegetable consumption was determined using responses to six questions about consumption of separate items. The majority of Wyoming women have not met the recommended amount of fruits and vegetables although the prevalence has increased since 2000.



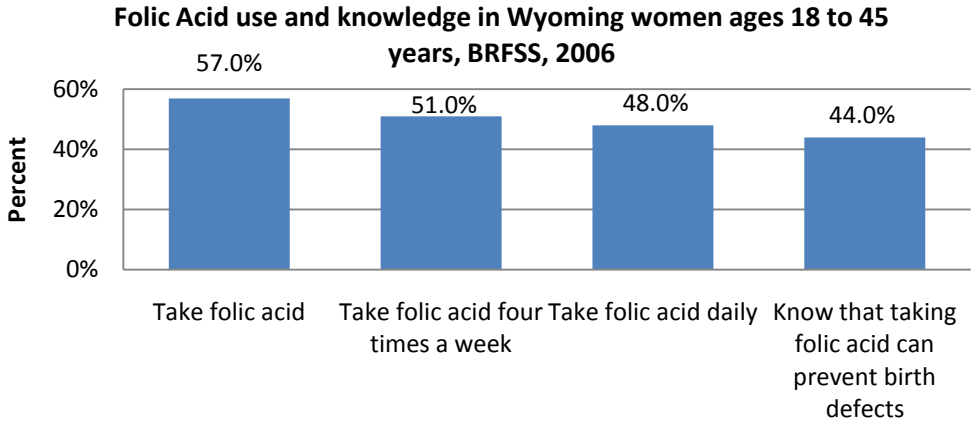
Source: Behavioral Risk Factor Surveillance System. Wyoming Prevalence and Trends Data. National Center for Chronic Disease Prevention and Health Promotion. 2009

MULTIVITAMIN INTAKE

Multivitamins contain the recommended daily amount of folic acid for women of reproductive age. Ideally, multivitamins should be taken daily for at least three months prior to conception. Folic acid reduces neural tube defects, such as spina bifida, during fetal development. Wyoming MOMS data from 2003-2005 show that approximately one third of mothers report using a multivitamin four or more times per week in the month before conception.



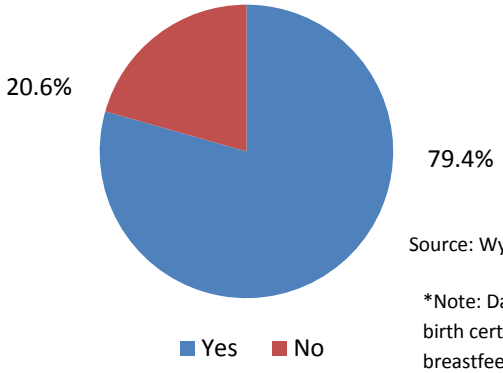
In 2006, the Wyoming BRFSS asked women of reproductive age, 18 to 45 years of age, about folic acid use. This was the only time these questions have been part of the survey. Over half (57%) of women reported taking folic acid either in a multivitamin or separately.[15] Approximately 51% of women reported taking folic acid at least four times a week; however, fewer (48.2%) of the women reported daily folic acid intake.[15] Less than half (44%) of the women reported that they knew that taking folic acid can prevent birth defects.[15]



BREASTFEEDING AT HOSPITAL DISCHARGE

Wyoming exceeded the Healthy People 2010 (HP2010) Goal that 75% of mothers breastfeed in the early postpartum period.[3] A majority of Wyoming mothers (79.4%) reported on the birth certificate in 2007 that they were breastfeeding at hospital discharge.[8] Breastfeeding at hospital discharge is highest among women ages 25 to 39.[8]

Breastfeeding at hospital discharge*, Wyoming, 2007

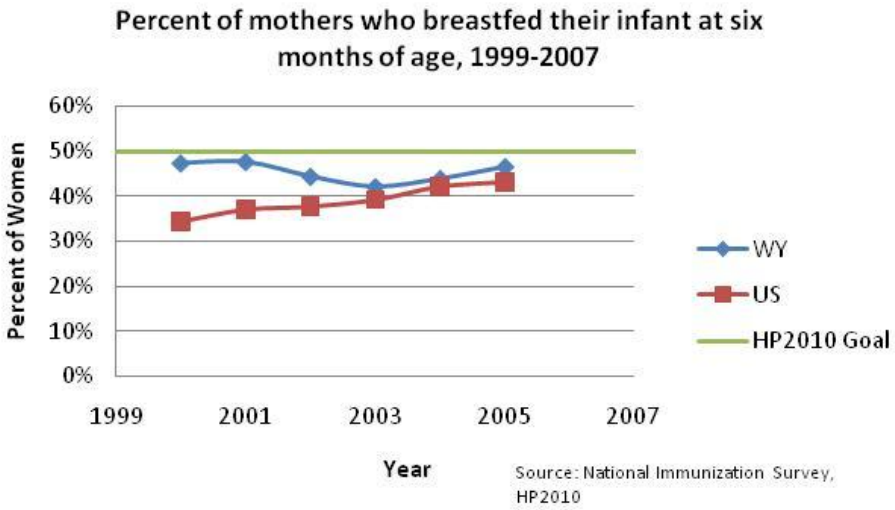


Source: Wyoming Vital Statistics Services

*Note: Data is based upon 6,984 births; 10.8% of the birth certificates were missing information about breastfeeding.

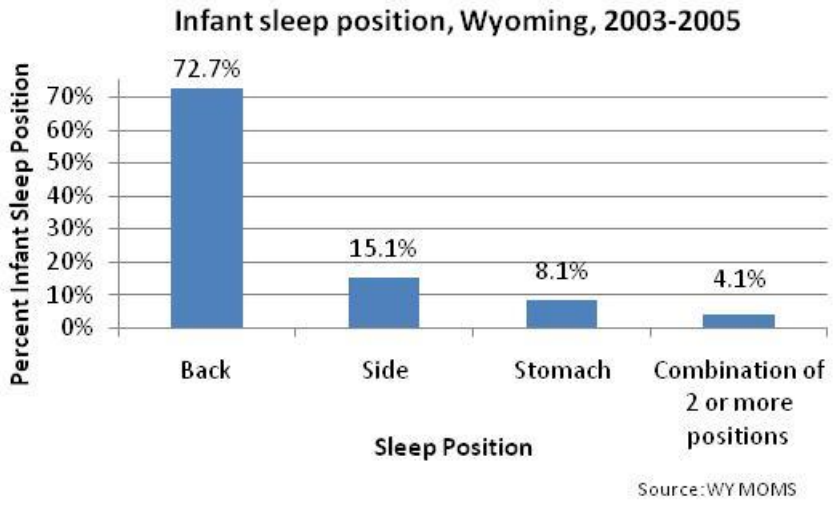
BREASTFEEDING AT SIX MONTHS

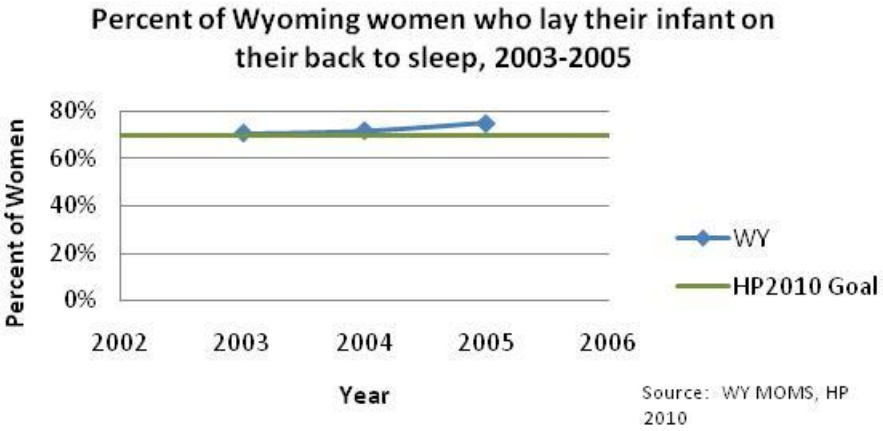
The American Academy of Pediatrics (AAP) recommends infants be exclusively breastfed for the first six months, and ideally, breastfeeding be continued until the infant reaches one year of age.[16] The percent of Wyoming mothers who breastfed their infants at six months of age increased significantly (p=0.013) from 42.9% in 2007 to 46.6% in 2008.[17] This is slightly higher than the U.S. percent.[10] The Healthy People 2010 goal is for 50% of postpartum mothers to be breastfeeding their infant at six months.[3] This goal was nearly reached in 2008.



INFANT SLEEP POSITION

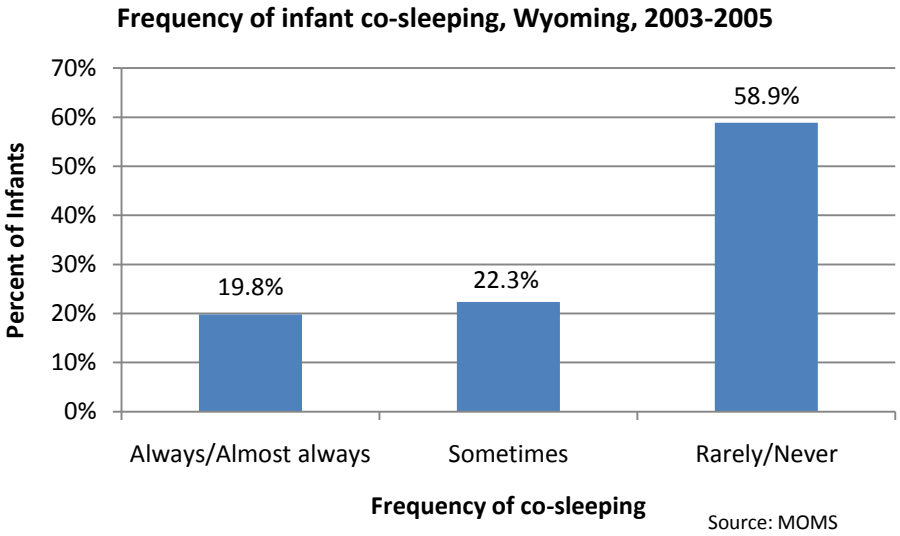
Sudden Infant Death Syndrome (SIDS), also known as "crib death," is the term used to describe the sudden, unexplained death of a baby under one year of age and is the national leading cause of death in babies over one month of age.[18] Babies placed to sleep on their backs are less likely to die from SIDS than those placed on their stomachs to sleep, and babies are more likely to die from SIDS when they are placed on or covered by soft bedding.[18] Data from 2003-2005 Wyoming MOMS show that the majority of Wyoming women (72.7%) reported placing their infants on their back to sleep.[4] Wyoming has attained the HP2010 goal of 70% of infants put to sleep on their back.[3]





CO-SLEEPING

According to Wyoming MOMS data, the percent of women who reported that their baby never slept in the same bed as someone else increased from 26.4% in 2003 to 28.5% in 2004 to 32.7% in 2005.[4] Although bed sharing rates are increasing in the United States, evidence is growing that bed sharing is more hazardous than allowing an infant to sleep on a separate sleep surface. Infants can be trapped between the bed and other objects such as the wall or the headboard. They can also suffocate on soft bedding or if an impaired parent rolls on them.[19]



CAR SEAT USE

The National Highway Traffic Safety Administration reports using child safety seats reduces motor vehicle fatalities by 71% for infants and by 54% for toddlers.[20] In 2006, there were 452 passenger vehicle occupant fatalities among U.S. children under 5 years of age.[20] Of those 452 fatalities, restraint use was known for 427, and of these, 149 (35%) were totally unrestrained.[20]

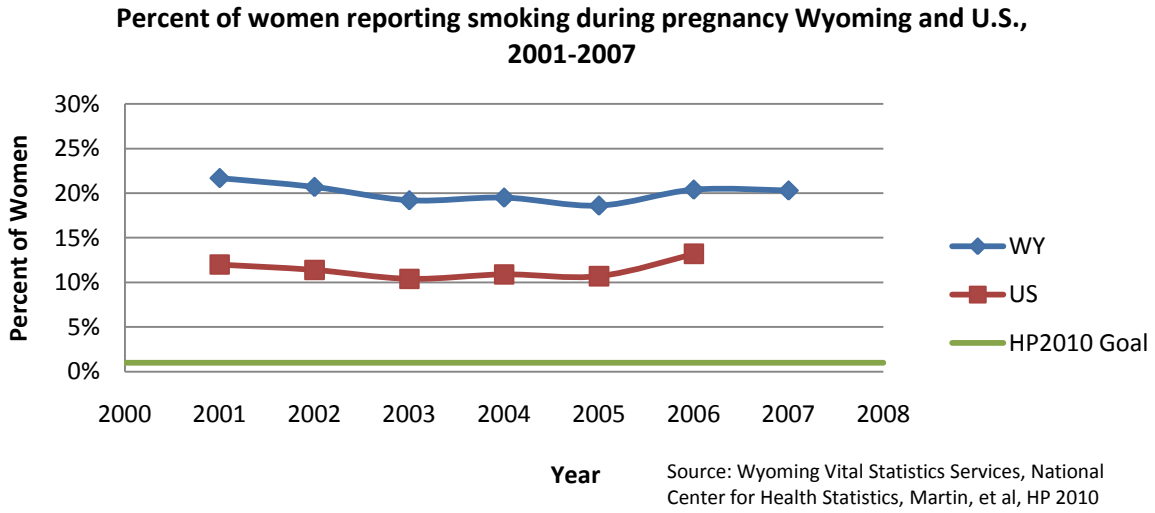
Wyoming MOMS data from 2003 to 2005 show that 99.75% of mothers report that their infant rides in a car seat.[4] In addition, 99% of women agreed their baby should be in a rear facing car seat, and 98.3% of women agreed their baby should not be in front of the air bag.[4]

INFANT MORTALITY

The HP2010 goal is to reduce infant mortality to 4.5 per 1,000. Wyoming has not met this goal.[3] Wyoming's infant mortality rate was 7.3 per 1,000 live births in 2007.[8] This rate has increased since 2001 and was higher than the U.S. average in 2006.[21]

MATERNAL SMOKING

Infants whose mother's smoked during pregnancy were 30% more likely to be born premature, are more likely to be born at low birth weight, and are 1.4 to 3.0 times more likely to die of SIDS.[22] From 2003 to 2005, 16.6% of pregnant women in Wyoming reported smoking during the last three months of pregnancy.[4] From 2001 to 2007, the percent of Wyoming women that reported smoking during pregnancy was consistently higher than the U.S. percent of women that reported smoking during pregnancy.[8, 21]



Source: Wyoming Vital Statistics Services, National Center for Health Statistics, Martin, et al, HP 2010

CHILDREN AND ADOLESCENTS

POPULATION PROFILE

CHILDREN

AGE

Wyoming children ages 0 through 8 years were approximately 12% of Wyoming's total population in 2007. The gender split for their age group was 54% male/46% female. [2]

RACE

In 2007, Wyoming's minority populations constituted less than 6% of Wyoming's children ages 0 through 8 years. Race in this description did not include ethnicity. Wyoming's racial make-up for this age group differed from the national racial distribution for the same ages.[2] See the table below.

2007 racial distribution for ages 0 to 8[2]	Wyoming	U.S.
White	94.4%	76.1%
Black	0.9%	15.2%
American Indian/Alaskan Native	1.3%	0.9%
Asian	2.6%	4.1%
Native Hawaiian/Pacific Islander	0.0%	0.3%
Two or more races	0.5%	3.4%

ETHNICITY

Among Wyoming children ages 0 through 8 years, 12.0% were Hispanic compared to 28.9% of the U.S. children of the same age group. More than half (58.6%) of American Indian (AI)/Alaska Native (AN) children ages 0 through 8 years in Wyoming were Hispanic.[2]

ADOLESCENTS

AGE

Wyoming children ages 9 through 18 years were approximately 15.7% of Wyoming's total population in 2007. The gender split for their age group was 50.5% male and 49.5% female. [2]

RACE

In 2007, Wyoming's minority populations constituted 6% of Wyoming's children ages 9 through 18 years. Race in this description did not include ethnicity. Wyoming's racial make-up for this age group differed from the national racial distribution for the same ages.[2] See the table on the next page.

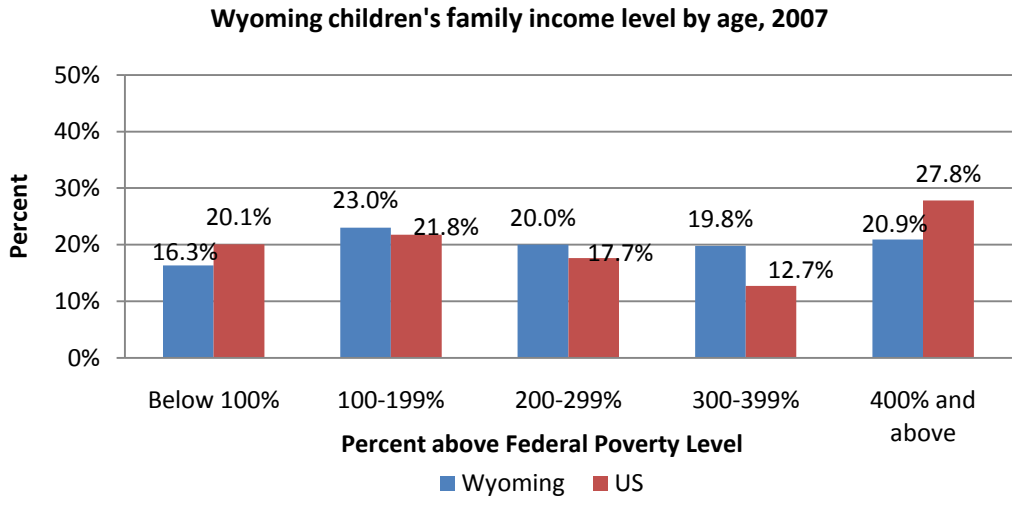
2007 racial distribution for ages 9 to 18[2]	Wyoming	U.S.
White	94.0%	76.3%
Black	0.9%	15.6%
American Indian/Alaskan Native	0.8%	3.8%
Asian	0.6%	1.2%
Native Hawaiian/Pacific Islander	0.3%	0.3%
Two or more races	3.4%	2.8%

ETHNICITY

Among Wyoming adolescents ages 9 through 18 years, 12.0% were Hispanic compared to 28.9% of the U.S. adolescents of the same age group. More than half (58.6%) of American Indian (AI)/Alaska Native (AN) children ages 9 through 18 years in Wyoming were Hispanic.[2]

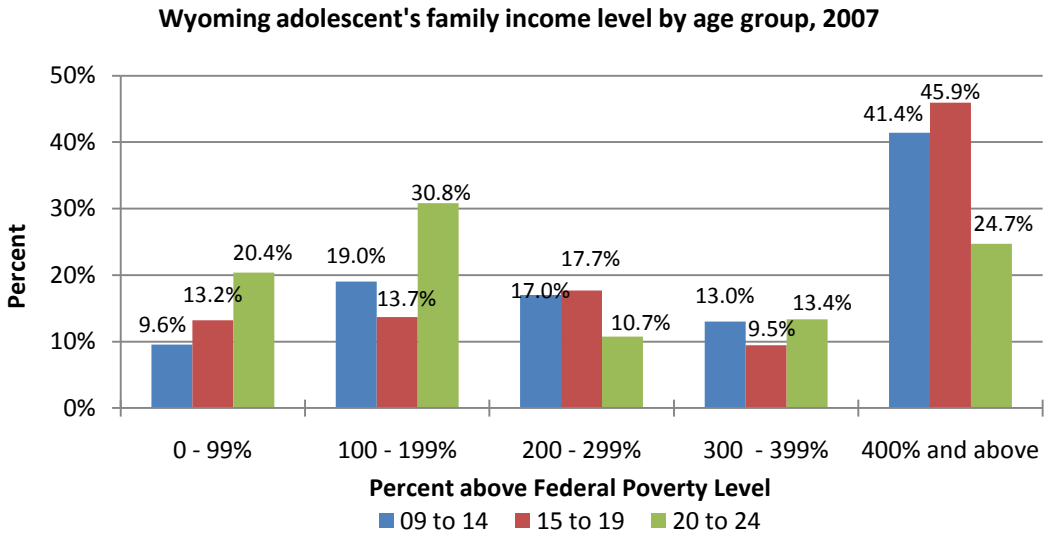
POVERTY STATUS

In 2007, approximately one in six Wyoming children ages 0 through 8 years lived at or below 100% of the Federal Poverty Level. This was less than the proportion of children ages 0 through 8 years who lived at or below 100% of the Federal Poverty Level in the United States (1 in 5). The proportion of children ages 0 through 8 years that lived between 100% and 299% of the Federal Poverty Level was greater among Wyoming children than among U.S children.[2]



Source: U.S. Census Bureau, Current Population Survey

In 2007, approximately one in five Wyoming adolescents age 20 through 24 years was living at or below 100% of the Federal Poverty Level. This was more than twice the percent of adolescent's age 9 to 14 years living at or below 100% of the Federal Poverty Level. The percent of Wyoming adolescents ages 9 to 14 years and 15 to 19 years who lived at or above 400% of the federal poverty was almost double adolescent's ages 20 to 24 years. [2]



Source: U.S. Census Bureau, Current Population

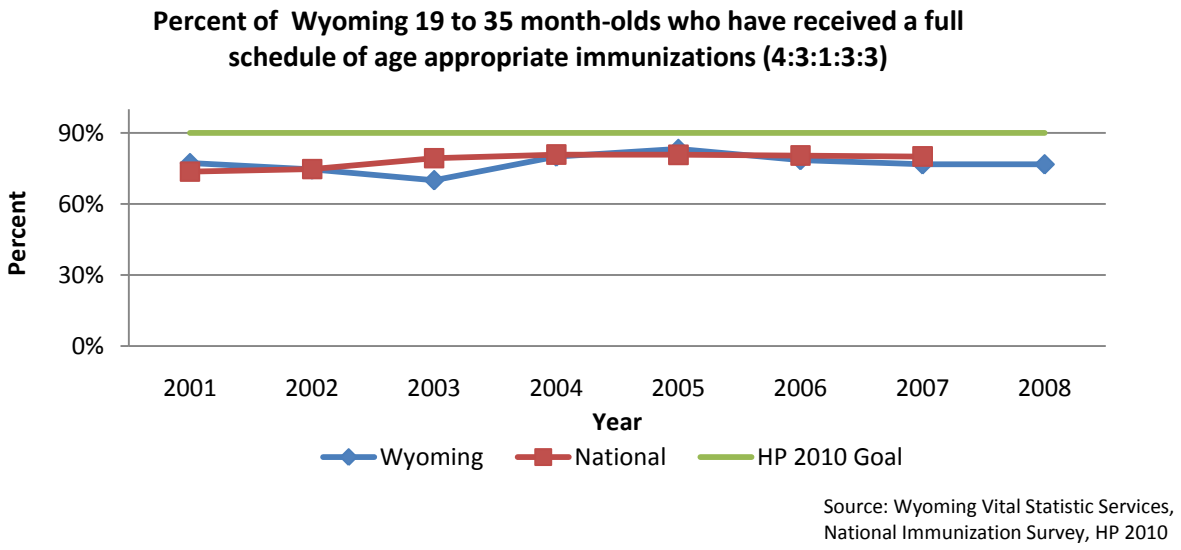
ACCESS TO CARE

IMMUNIZATIONS

Recommended vaccinations among Wyoming children ages 19 to 35 months have been about 80% since 2005. Neither Wyoming nor the United States have met the Healthy People 2010 goal of 90% of children 19 to 35 months old receiving a complete 4:3:1:3:3 immunizations series.[23]

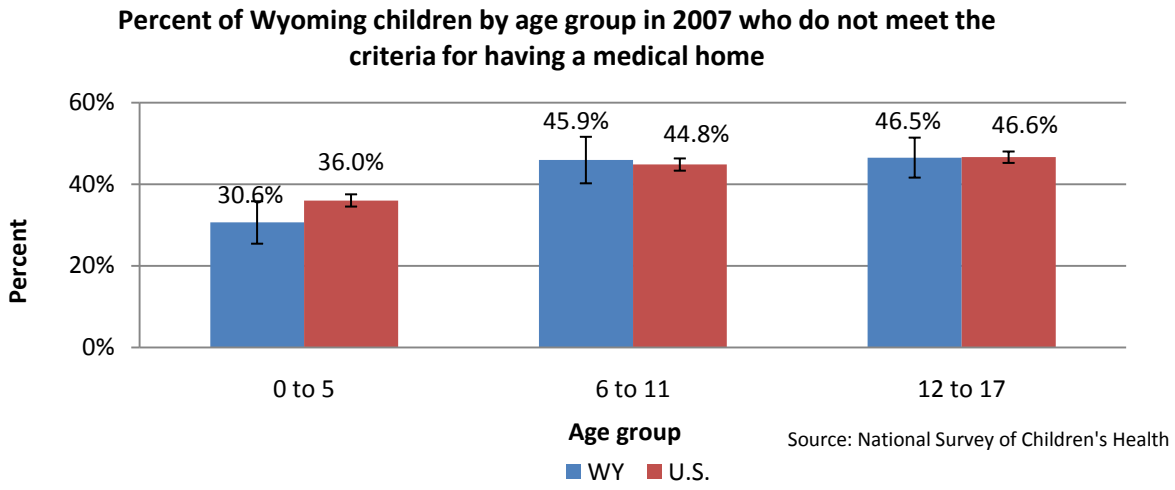
4:3:1:3:3 is the accepted abbreviation for the following vaccine series:[23]

- **4+DTP** Diphtheria, Tetanus toxoids, and Pertussis
- **3+ Polio** Poliovirus
- **1+MMR** Measles, Mumps, and Rubella
- **3+Hib** Haemophilus influenza type b
- **3+HepB** Hepatitis B



MEDICAL HOME

A medical home is an approach to providing primary care that is accessible, continuous, comprehensive, coordinated, compassionate, family-centered and culturally effective. The benefits offered by a medical home include stronger patient-doctor relations, coordinated healthcare between the primary care provider and specialist services and treatments, possible reduction of emergency room visits, and overall reduced healthcare costs.[24] In 2007, Wyoming children and adolescents ages 0 through 17 years did not differ from the national estimate of those that did not meet the criteria for having a medical home.[25]

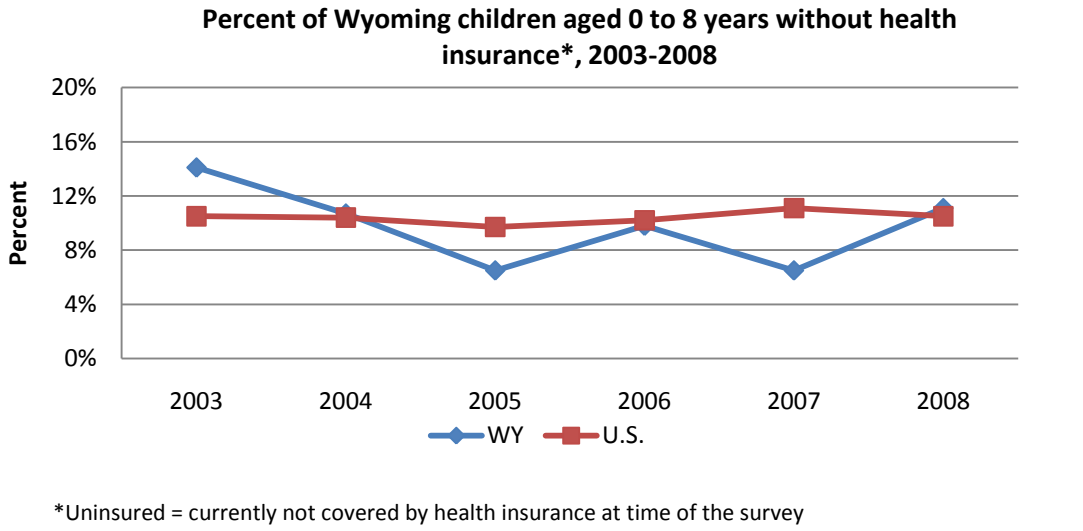


While many children did not have a medical home, 95.2% of Wyoming children and adolescents ages 0 to 17 years reported having a usual source for sick or well care in 2007.[25] Additionally, some children need referrals to receive advanced care. While most children did not need referrals in 2007, 2.7% of Wyoming children and adolescents ages 0 to 17 years reported problems getting a referral for needed care. [25]

INSURANCE COVERAGE

UNINSURED

Between 2004 and 2008, the proportion of U.S. children ages 0 to 8 years without health insurance was greater than that of Wyoming children ages 0 to 8 years. [2]



CONTINUOUS COVERAGE

Health insurance for adolescents ages 9 through 24 was assessed by determining what percent had no lapses in health coverage during the prior year. Health insurance coverage included any form of public or private insurance including Medicaid, Kid Care CHIP, Indian Health Services, Blue Cross, etc. In 2007, 81.1% of Wyoming adolescents were covered by some form of health insurance which was similar to the U.S. adolescent population (81.4%).[2]

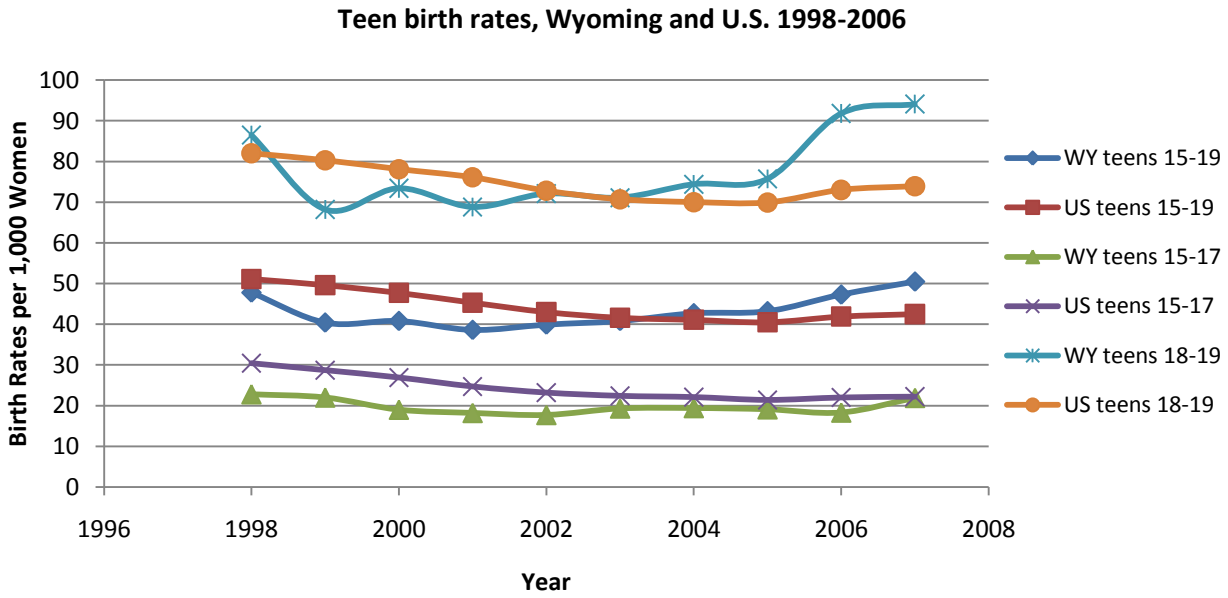
TEEN PREGNANCY

TEEN BIRTH RATE

The teen birth rate for women ages 15 to 19 years declined between 1998 and 2002, but has increased since 2002. The U.S. rate declined from 1998-2005, but increased since 2006. Wyoming's rate (50.5 per 1,000 women ages 15 to 19 years) was higher than the U.S. rate (42.5) in 2007.

The birth rate among younger Wyoming teens age 15 to 17 years also decreased between 1998 (22.8) and 2002 (17.7), and increased starting in 2003. In 2007, Wyoming's rate of 21.9 per 1,000 women ages 15 to 17 years was similar to the U.S. rate of 22.2%.

Wyoming's teen birth rate among women ages 18 to 19 years has been higher than the U.S. rate. The rate steadily decreased in older Wyoming teens between 1998 and 2001, but increased since 2004. There was a large increase from 2005 to 2006 that continued into 2007. The Wyoming rate in 2007 was 94.1 per 1,000 women vs. U.S. 73.9 per 1,000.[10, 26]



Sources: Wyoming Vital Statistics Service, U.S. Census Bureau

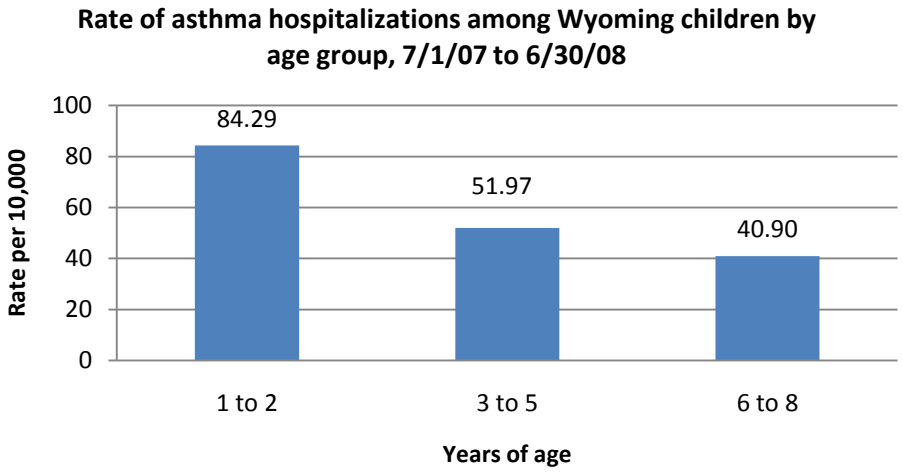
CHRONIC DISEASE

ASTHMA

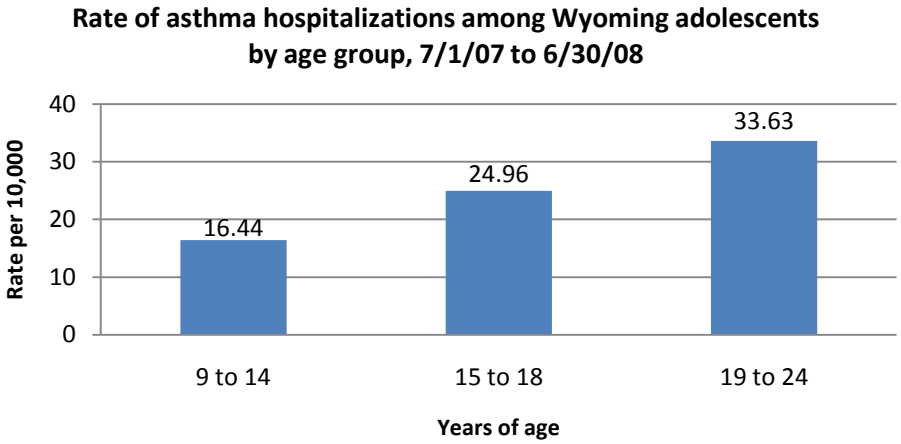
Asthma is a disease of the lungs.[27] It is also one of the most common long-term diseases of children and was the leading cause of absenteeism in public school children in 2003.[27-28] Asthma is a persistent condition that causes periodic wheezing, breathlessness, chest tightness, and nighttime or early morning coughing.[27] Generally asthma attacks only occur when exposed to an environmental trigger.[27] Asthma data has been collected from a variety of sources in Wyoming in order to get a snapshot of how it has affected Wyoming children and adolescents.

ASTHMA HOSPITALIZATIONS

The reported hospitalizations for asthma in fiscal year (FY) 2007 used to determine the hospitalization rate were from the actual number of hospitalization occurrences not the number of children. One child may have been hospitalized more than once. The overall rate of asthma hospitalizations among 1 to 8 years olds for FY2007 was 56.66/10,000.[29] The overall rate of asthma hospitalizations for Wyoming adolescents ages 9 to 24 years for FY2007 was 28.92/10,000.[29] Hospitalizations for asthma are broken down by smaller age groups in the following graphs.



Source: FY2007 Hospital discharge data

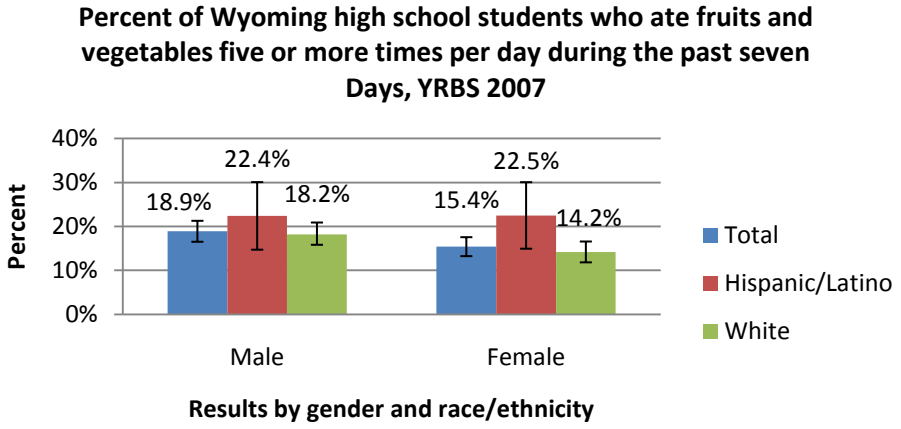


Source: FY2007 Hospital discharge data

NUTRITION AND EXERCISE

DIETARY BEHAVIORS

Students that participated in the 2007 high school Youth Risk Behavior Survey (YRBS) were asked how many times they ate fruits and vegetables per day during the past seven days. The HP2010 goal is that at least 75% of people over the age of two years will consume at least two daily servings of fruit and three daily servings of vegetables.[3] The overall YRBS results indicated a prevalence of less than 30% of students who ate fruits and vegetables in five of the past seven days before taking the surey, thus falling extremely short of the HP2010 goal. There was no significant difference between genders or race/ethnicities on the percent of students who ate fruits and vegetables in five of the past seven days before taking the surey.[30] These results are presented below.

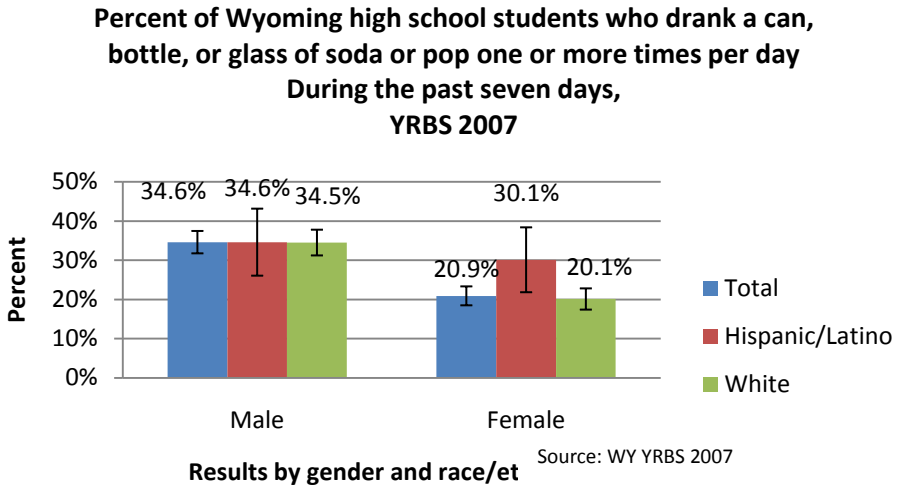


Source: WY YRBS

The overall percent of Wyoming YRBS high school students who reported eating fruits and vegetables fiveor more time per day during the past seven days was 17.3%. This was significantly lower than the

2007 national YRBS estimate of 21.4%. The 2007 national YRBS high school estimate by gender was 22.9% for boys and 19.9% for girls.[30]

Students who participated in the 2007 high school YRBS were also asked about their daily soda consumption. The overall results indicated that the percent of Wyoming students who drank a can, bottle, or glass of soda pop, one or more times per day during the seven days before the survey was 27.9% and was significantly less than the 2007 national YRBS estimate of 33.8%. Among Wyoming students, high school boys consumed significantly more soda daily in a week's time span than did high school girls. There was no statistical difference by race and ethnicity among the genders for soda consumption.[30]



OBESITY

It was estimated that 17% of children and adolescents were obese based on the results from the 2007-2008 National Health and Nutrition Examination Survey (NHANES).[31] Nationally, obesity prevalence among age groups 2 to 5 years, 6 to 11 years, 12 to 19 years have all more than doubled in the past 30 years.[32-33] The current percent of obese children by the fore mentioned age groups is 10.4%, 19.6%, 18.1% respectively.[33] Children who are obese are at greater risk for health problems that develop during any their lifetime, and are more likely to become obese as an adult.[34-35]

A common measure used to determine weight status is by the body mass index (BMI).[36] For children ages 2 through 19 years of age, BMI is determined by height, weight, age and gender.[36] The four categories of BMI for children are underweight, healthy weight, overweight, and obese, as defined below. [37]

- **Underweight** = < 5th percentile of BMI-for-age
- **Healthy Weight** = 5th to < 85th percentile of BMI-for-age
- **Overweight** = 85th to <95th percentile BMI-for-age
- **Obese** = >95th percentile of BMI-for-age

Given the growing concern over the national levels of increasing obesity among America's youth, the Wyoming Department of Health attempted to obtain thorough information about overweight and obese prevalence among Wyoming's youth. Sources of information presented include the National Survey of Children's Health (NSCH), Women, Infant and Children (WIC), the Third Grade Survey, and the 2007 YRBS.

2007 NATIONAL SURVEY FOR CHILDREN'S HEALTH

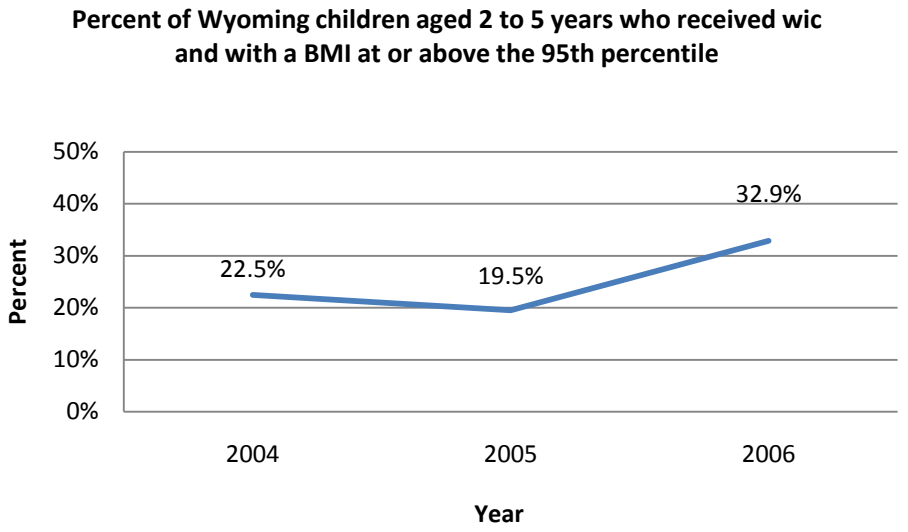
The 2007 NSCH collected information from participants to determine weight status. The results indicate that Wyoming has a higher percent of healthy weight children and a much lower percent of obese children ages 10 to 17 years as compared to the 2007 national NSCH estimate. [25]

2007 BMI status for Wyoming children ages 10 to 17 years compared to U.S. estimate, 2007[25]:

BMI Class	Wyoming	U.S.
Underweight	*5.6%*	*5.3%*
Healthy Weight	*68.7%*	*63.2%*
Overweight	*15.5%*	*15.2%*
Obese	*10.2%*	16.4%

WOMEN, INFANT AND CHILDREN: 95TH PERCENTILE BMI

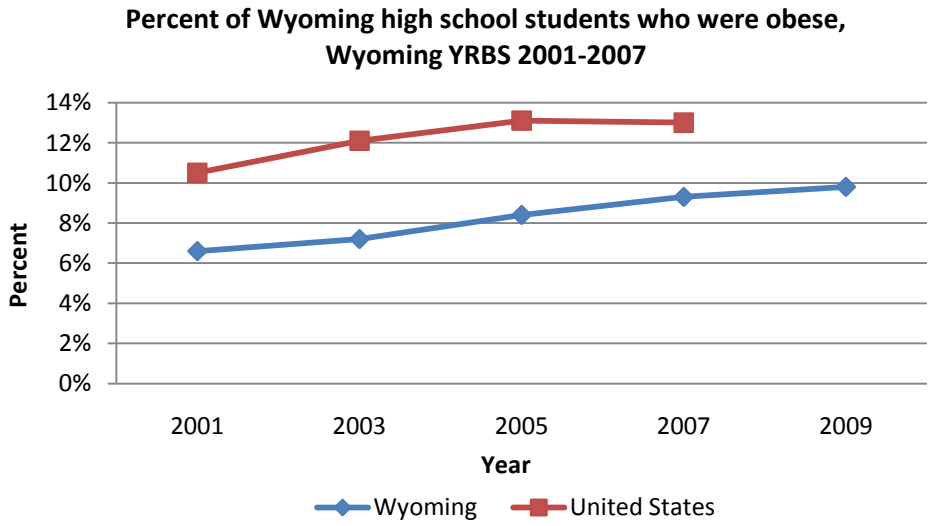
A report released by the U.S. Department of Agriculture in 2009 estimated WIC participants BMI.[38] For boys ages 2 to 4 years BMI was just above 16.0% from 1999-2006 which was similar to the estimate they had in 1988-1994.[38] Children were not classified as to what BMI status they were if they were healthy weight or otherwise. For Wyoming WIC participants, BMI was assessed for both girls and boys ages 2 to 5 years. The percent of children in the 95th percentile and considered obese increased over 10% from 2004 to 2006. Results are shown in the figure on the next page.[39]



Source: Women, Infant & Children Data

2007 YOUTH RISK BEHAVIOR SURVEY

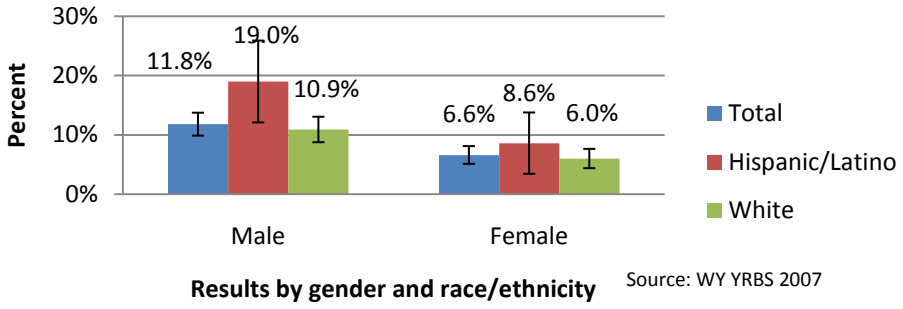
Students who have participated in the Wyoming high school YRBS were asked their heights and weights so a weight status trend could be determined. The figure below indicates that obesity has steadily increased since it was first measured in 2001, but has remained lower than the national YRBS estimate. In 2005, the YRBS adopted the CDC definition of BMI based on gender and age. This may account for the larger jump that occurred between 2003 and 2005 survey years.[30]



Source: WY YRBS 2007

The YRBS in 2007 defined overweight as at or above the 95th percentile for BMI, by age and gender. Results from the Wyoming survey indicated that the percent of boys who were overweight was significantly higher than girls. There was no difference by race and ethnicity among the genders regarding being overweight. However, the overall percent of Wyoming students was 9.3%, which was significantly lower than the national YRBS estimate of 13.0%. The national estimate by gender was 16.3% for boys and 9.6% for girls.[30]

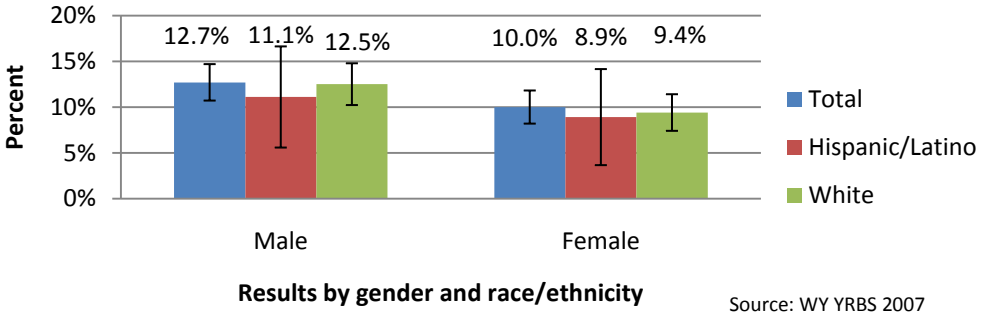
Percent of Wyoming high school students who were overweight (i.e., at or above the 95th percentile for body mass index, by age and gender), YRBS 2007



Source: WY YRBS 2007

The 2007 YRBS also measured high school students at risk of becoming overweight. These students were already at or above the 85th percentile, but below the 95th percentile for BMI by age and gender. In Wyoming, 11.4% of students were at risk of becoming overweight. This percent was similar by gender and significantly lower than the national YRBS estimate (15.8%).[30]

Percent of Wyoming high school students who were at risk for becoming overweight (i.e., at or above the 85th percentile but below the 95th percentile for BMI, by age and gender), YRBS 2007



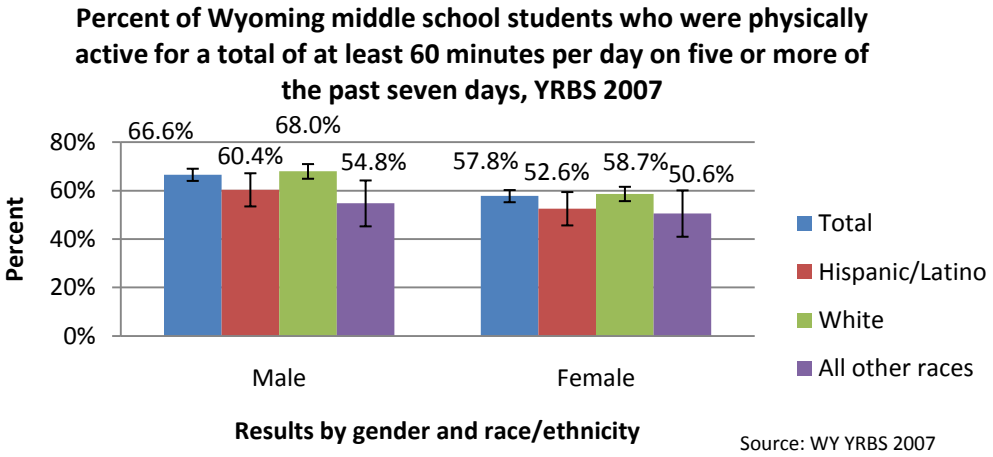
Source: WY YRBS 2007

PHYSICAL ACTIVITY

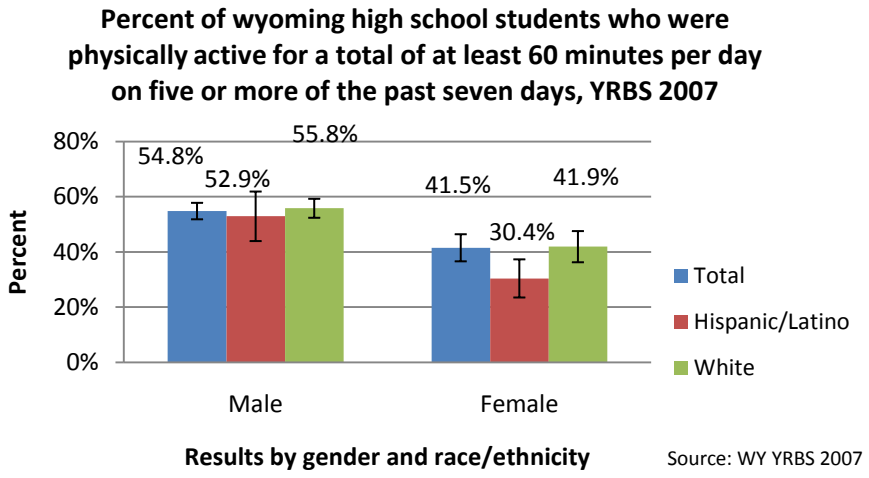
60 MINUTES PHYSICAL ACTIVITY

The CDC recommends that children and adolescents get 60 minutes of physical activity every day. During these 60 minutes, children should have three days each of muscle strengthening, aerobic activity, and bone strengthening. It is possible that many activities could fulfill one or more of those recommendations.[40]

The Wyoming 2007 YRBS asked students how many days within the past seven before taking the survey they had been physically active at least 60 minutes. Wyoming middle school boys reported a significantly higher percent of 60 minutes of physical activity on five or more days of the past seven before the survey than middle school girls. The percent did not differ significantly by gender, race, or ethnicity.[30]



Slightly over half of the Wyoming high school boys reported being physically active at least 60 minutes on five or more days of the past seven days before the survey. This percent, however, was significantly higher than Wyoming high school girls.[40]

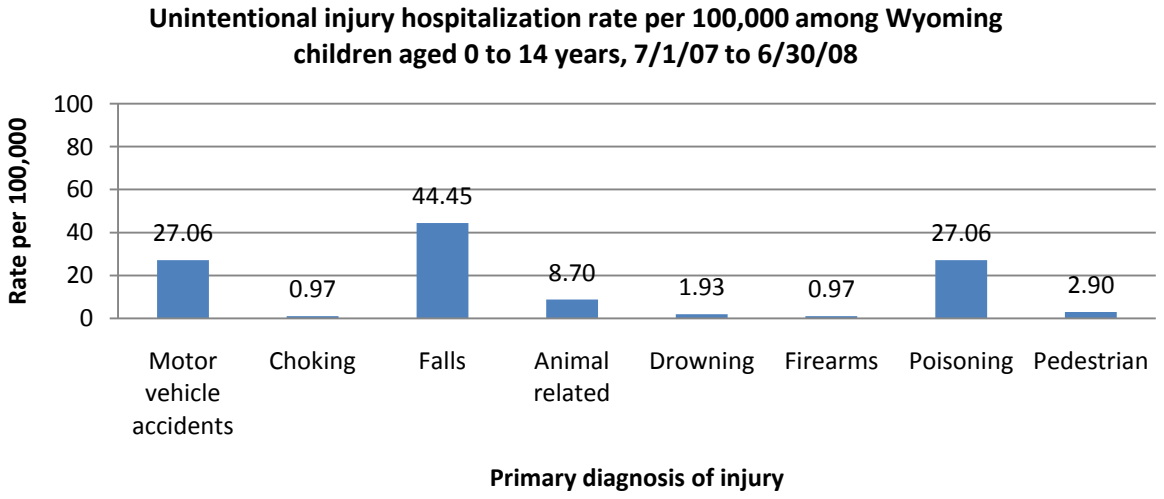


Source: WY YRBS 2007

INJURY

HOSPITALIZATIONS DUE TO UNINTENTIONAL INJURIES

Unintentional injuries are not a reportable condition, so they may be underreported in Wyoming. Available information on hospitalizations due to unintentional injuries came from the Wyoming Hospital Association, and included only those that had a primary diagnoses listed as unintentional injury. Data included all hospitalizations for any cause of unintentional injury and may represent multiple hospitalizations for one child. In FY2007, the overall hospitalization rate for Wyoming children ages 0 through 14 years was 114.03 per 100,000.[29] This was lower than the national rate of 143.02 per 100,000 for the same age group.[41] Categorical breakdown of Wyoming's unintentional injuries as a primary diagnosis is shown in the figure below.

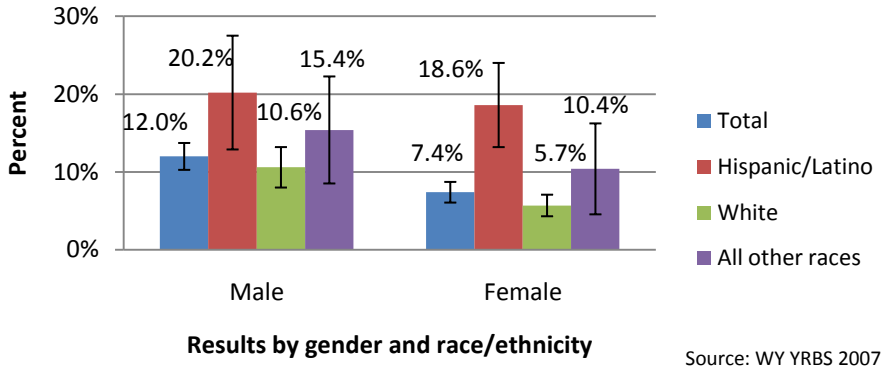


Source: HDD FY 2007, US Census Bureau

YRBS SEATBELT USE

The Wyoming 2007 YRBS asked middle school and high school participants how often they wore a seat belt when riding in a car. Among Wyoming middle school students, boys reported not wearing a seat belt significantly more than girls. However, Hispanic girls reported a significantly higher percent of no seatbelt use than non-Hispanic White girls. [30]

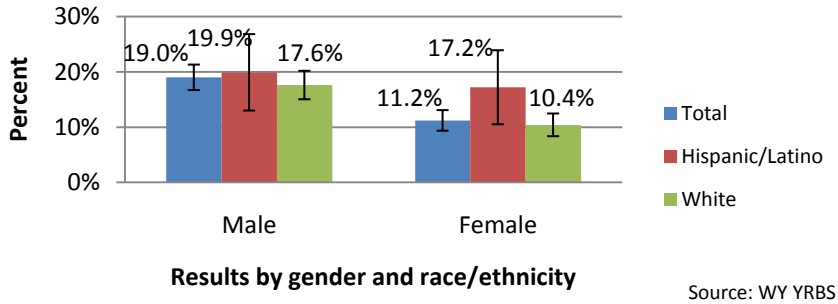
Percent of Wyoming middle school students who never or rarely wore a seat belt when riding in a car, YRBS 2007



Source: WY YRBS 2007

Among Wyoming high school boys, almost 20% reported rarely ever wearing a seatbelt while riding in a car when driven by someone else. This percent was significantly higher than that of Wyoming high school girls (11.2%). However, Hispanic girls reported a significantly higher percent of no seatbelt use than non-Hispanic White girls.[30]

Percent of Wyoming high school students who never or rarely wore a seat belt when riding in a car driven by someone else, YRBS 2007

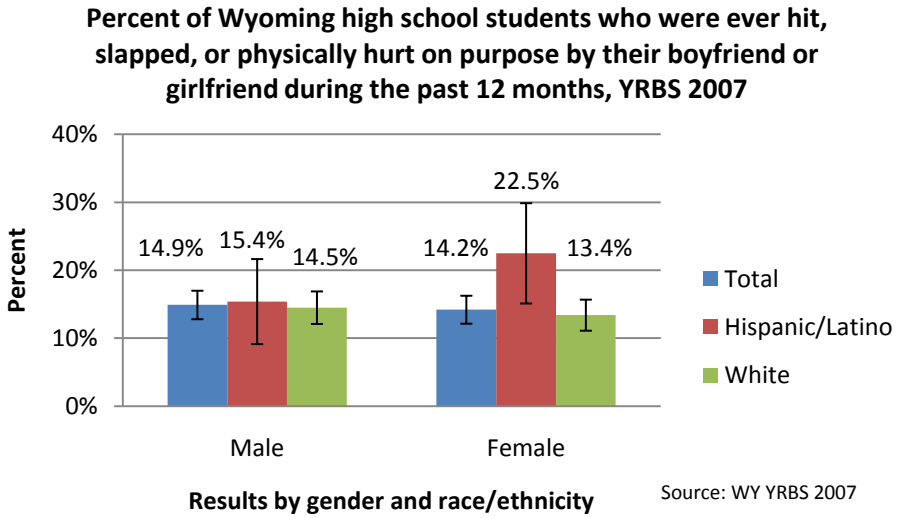


Source: WY YRBS 2007

The overall percent of Wyoming high school students who reported rarely wearing seatbelts in 2007 was 15.5%. This was significantly higher than the 2007 national YRBS estimate of 11.1% ($p<0.01$).[30]

YRBS DATING VIOLENCE

Wyoming high school students who participated in the 2007 YRBS were asked if they had ever had a physical altercation with their boyfriend or girlfriend in the 12 months prior to taking the survey. The percent of Wyoming high school boys and girls who reported ever being hit, slapped, or physically hurt on purpose by their boyfriend or girlfriend during the past 12 months was similar. There were no racial/ethnic differences in reported dating violence. [30]

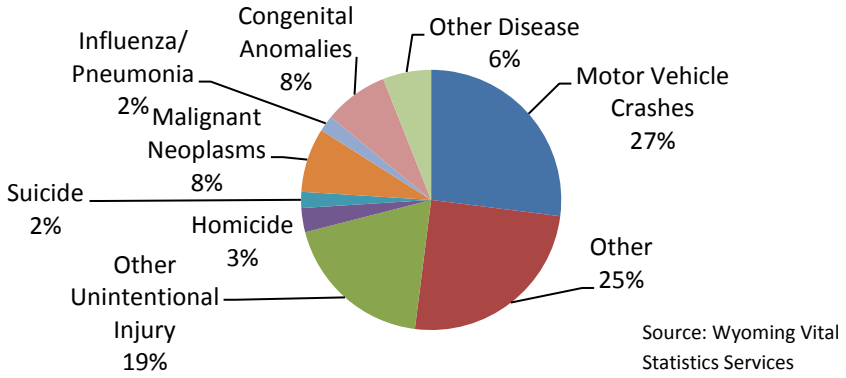


The overall percent of Wyoming high school students in the 2007 YRBS who were ever hit, slapped, or physically hurt on purpose by their boyfriend or girlfriend during the past 12 months was 14.7%. This was significantly higher than the 2007 national high school YRBS estimate of 9.9% ($p<0.01$). The national percent by gender was 8.8% male/11.0% female.[30]

MORTALITY

Mortality information was calculated from "Number of deaths from 113 selected causes" reports by Wyoming Vital Statistic Services and the National Vital Statistics Program. In this presentation "Other", "Other Unintentional Injury" and "Other Disease" were defined as the following: " Other" included, but was not exclusive to, septicemia, hernia, respiratory conditions, parasitic and infectious diseases, and non-classified; "Other Unintentional Injury" included, but was not exclusive to, exposure to smoke/fire, falls, water accidents, air and space accidents, and drowning; "Other Disease" included, but was not exclusive to, diabetes, heart diseases, non-malignant cancer, and respiratory illness.[26]

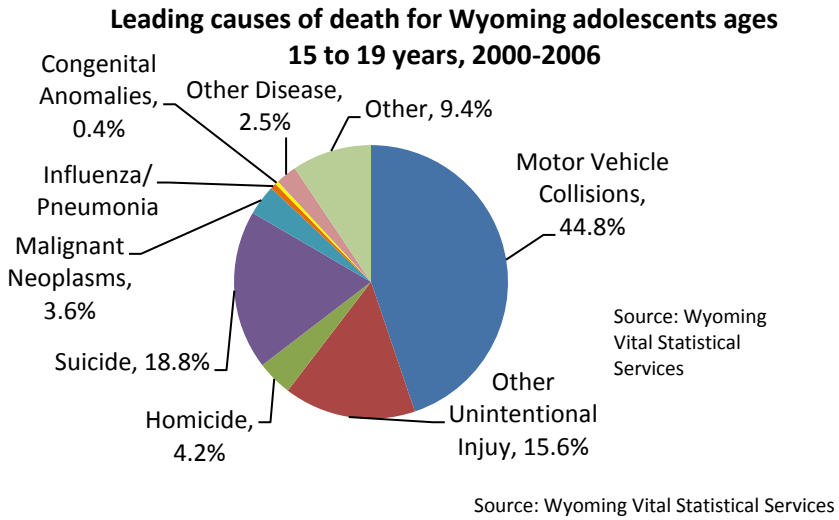
Leading causes of death for Wyoming children ages 1 to 14, 2000-2006



The leading causes of death for Wyoming children ages 1 to 14 years in 2006 were motor vehicle crashes(MVCs), other, and other unintentional injury.[26] The U.S. mortality data is presented in the table below and shows other disease as the greatest source of mortality in 2006 followed by other unintentional Injury and MVCs for the same age group.[10] The table below however, has ages broken down into groups 1 to 4 years, 5 to 14 years, and 15 to 24 years.

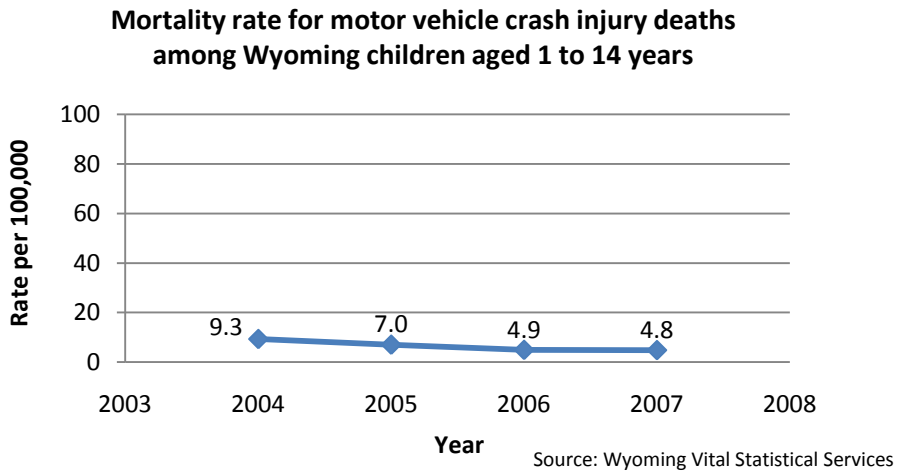
2006 U.S. mortality estimates[10]			
	Ages 1 to 4	Ages 5 to 14	Ages 15 to 24
Motor Vehicle Crashes	13%	22%	32%
Other	17%	10%	4%
Other Unintentional Injury	22%	15%	15%
Homicide	8%	6%	16%
Suicide	0%	4%	12%
Malignant Neoplasms	7%	15%	5%
Influenza/Pneumonia	3%	1%	1%
Congenital Anomalies	11%	6%	1%
Other Disease	19%	22%	12%

Among Wyoming Adolescents ages 15 to 19 years in 2006, MVCs accounted for almost 45% of fatalities. The second and third most prevalent causes of death were suicide and other unintentional Injury. The 2006 U.S. mortality estimates for adolescents ages 15 to 24 (shown in the previous table), the three leading causes of mortality in descending order as MVCs, homicide and unintentional injury.[10]

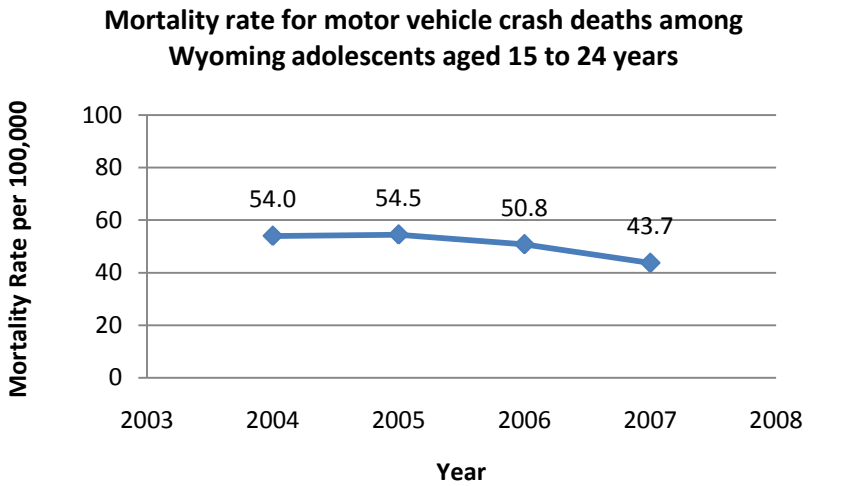


MORTALITY TRENDS

MVC deaths among children ages 1 to 14 years decreased 2004 to 2006, but remained stable from 2006 to 2007.[26]

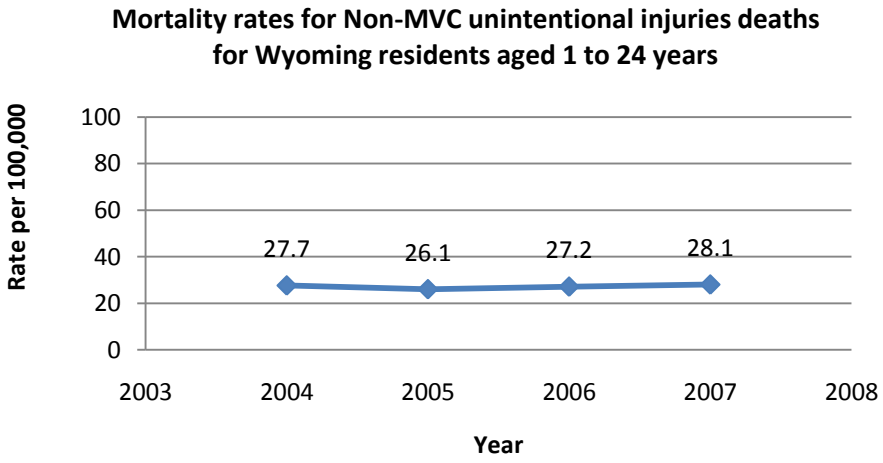


MVC deaths among adolescents ages 15 to 24 years has decreased since 2005.[26]



Source: Wyoming Vital Statistical Services

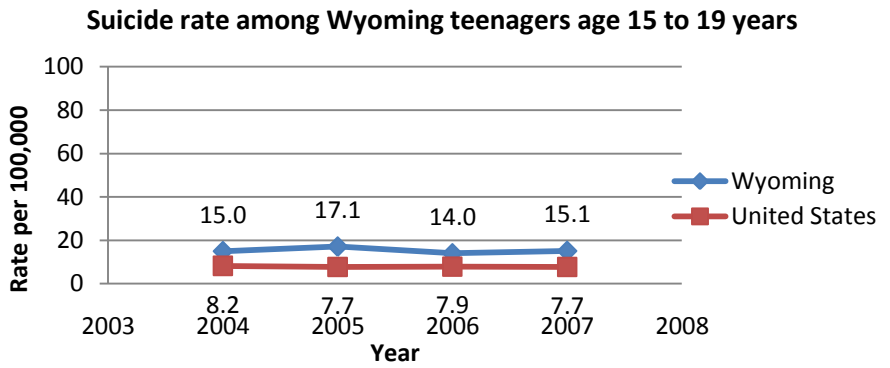
Non-MVC unintentional injury mortality rates include deaths that resulted from choking, falls, drowning, firearms, poisoning, and pedestrian injuries.[10]



Source: Wyoming Vital Statistical Services

In 2007, Wyoming's other unintentional injury mortality rates for children ages 1 to 24 years was approximately two and half times the U.S. other unintentional injury rate of 11.4 per 100,000 for the same age group.[10, 26]

The suicide rate among Wyoming teens ages 15 to 19 years was been double the U.S. rate between 2004 and 2007.[10, 26]



Source: Wyoming Vital Statistical Services

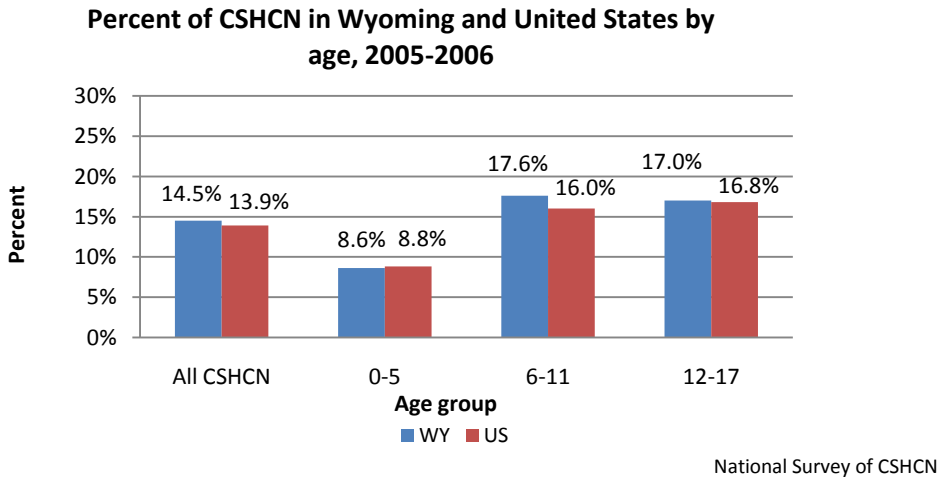
CHILDREN AND YOUTH WITH SPECIAL HEALTH CARE NEEDS

POPULATION PROFILE

Children and youth with special health care needs (CYSHCN) are defined by the Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB) as "those who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and who also require health and related services of a type or amount beyond that required by children generally."[42]

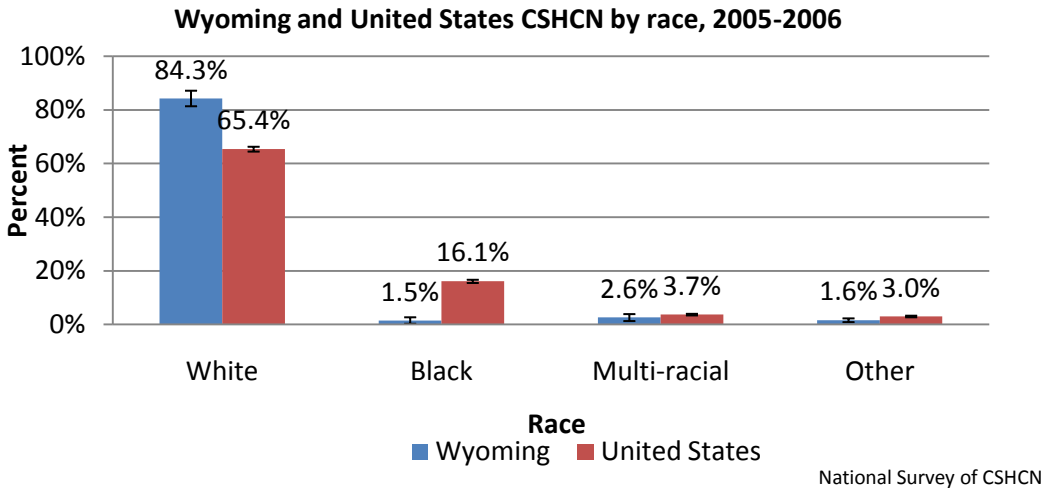
AGE

Data from the 2005/2006 National Survey of Children with Special Health Care Needs (CSHCN) show that approximately 16,456, or 14.4%, of Wyoming children have a special health care need. Wyoming has a slightly higher percent (14.5%) of CSHCN than the United States (13.9 %).[42]



RACE

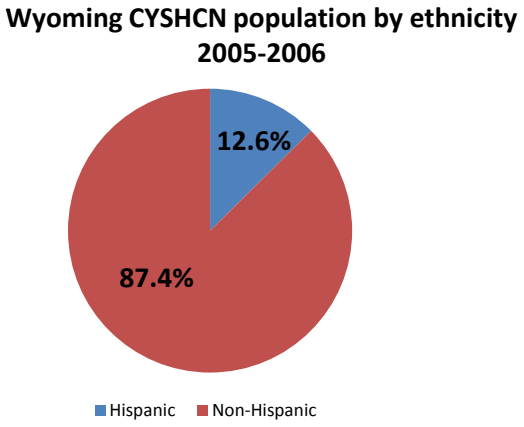
In 2005-2006, Wyoming's racial distribution of CSHCN differed significantly from the national racial distribution.[42]



National Survey of CSHCN

ETHNICITY

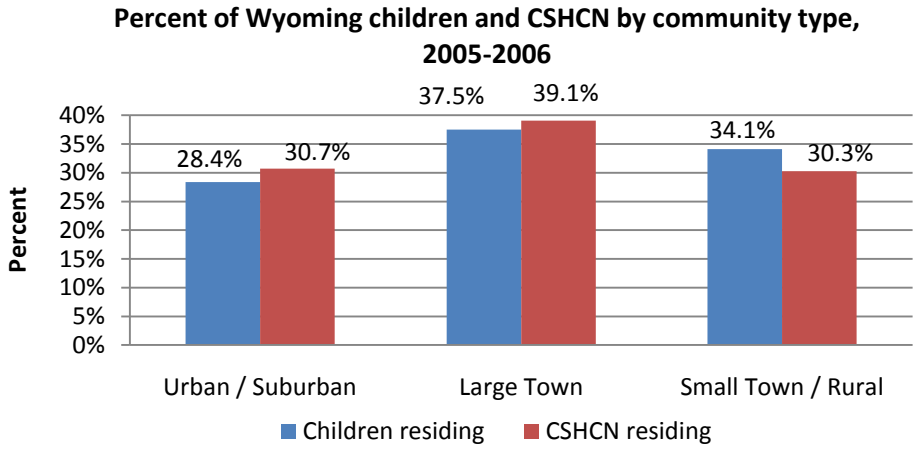
In 2005-2006, 12.6% of Wyoming CYSHCN were Hispanic compared to 8.3% of U.S. CYSHCN.[42]



Source: National Survey of CSHCN

URBAN/RURAL

In 2005-2006, 30.7% of Wyoming CSHCN lived in an urban/suburban community compared to 28.4% of other Wyoming children. Less than a third (30.3%) of CSHCN lived in a small town/rural community compared to 34.1% of other children.[42]

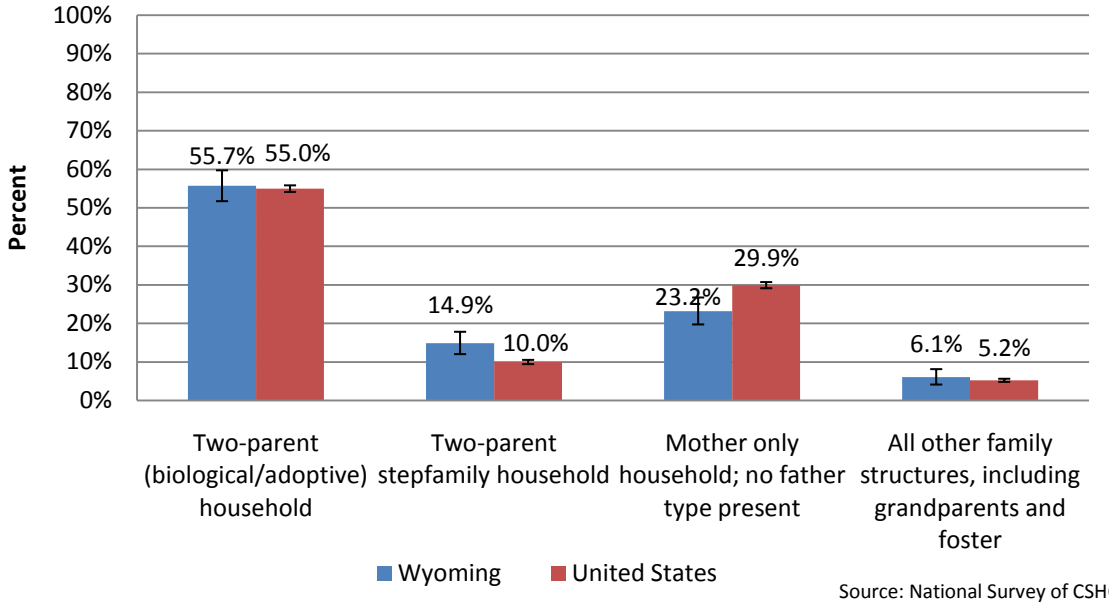


Source: National Survey of CSHCN

CYSHCN FAMILY COMPOSITION

In 2005-2006, the percent of Wyoming CYSHCN living in two-parent (biological or adoptive) households (55.7%) was similar to that of the national CYSHCN (55.0%) population. The percent of Wyoming CYSHCN living in two-parent stepfamily households (14.9%) is significantly greater than that of the national CYSHCN (10.0%) population. The percent of Wyoming CYSHCN living in a household with only the mother present (23.2%) was significantly lower than that of the national CYSHCN (29.9%) population. [42]

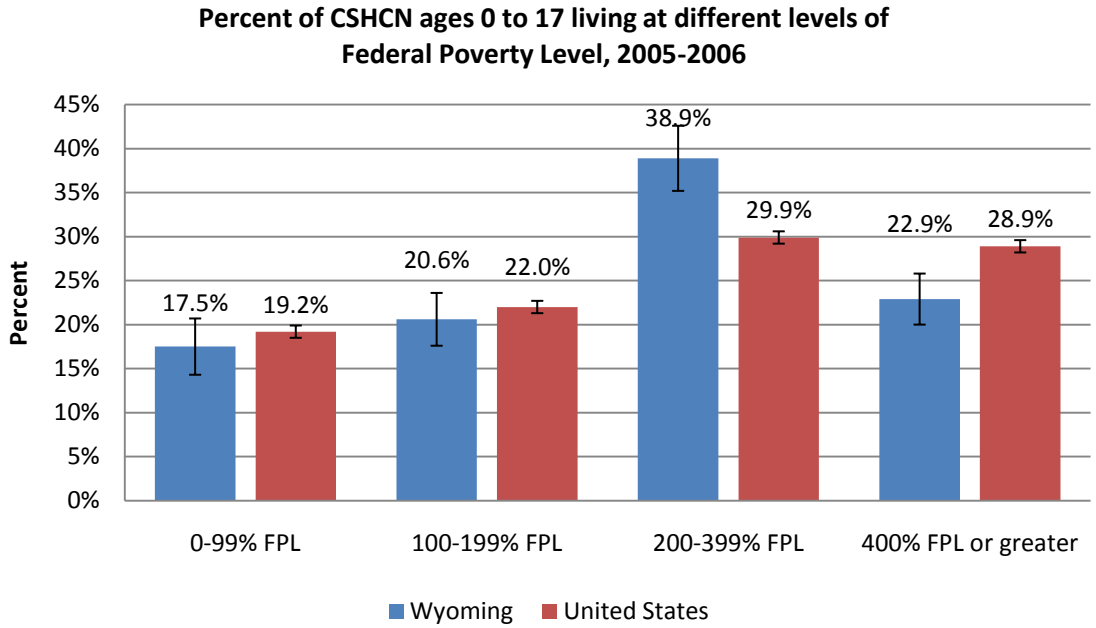
Percent CYSHCN ages 0 to 17 years family structure of child's household at time of survey, 2005-2006



Source: National Survey of CSHCN

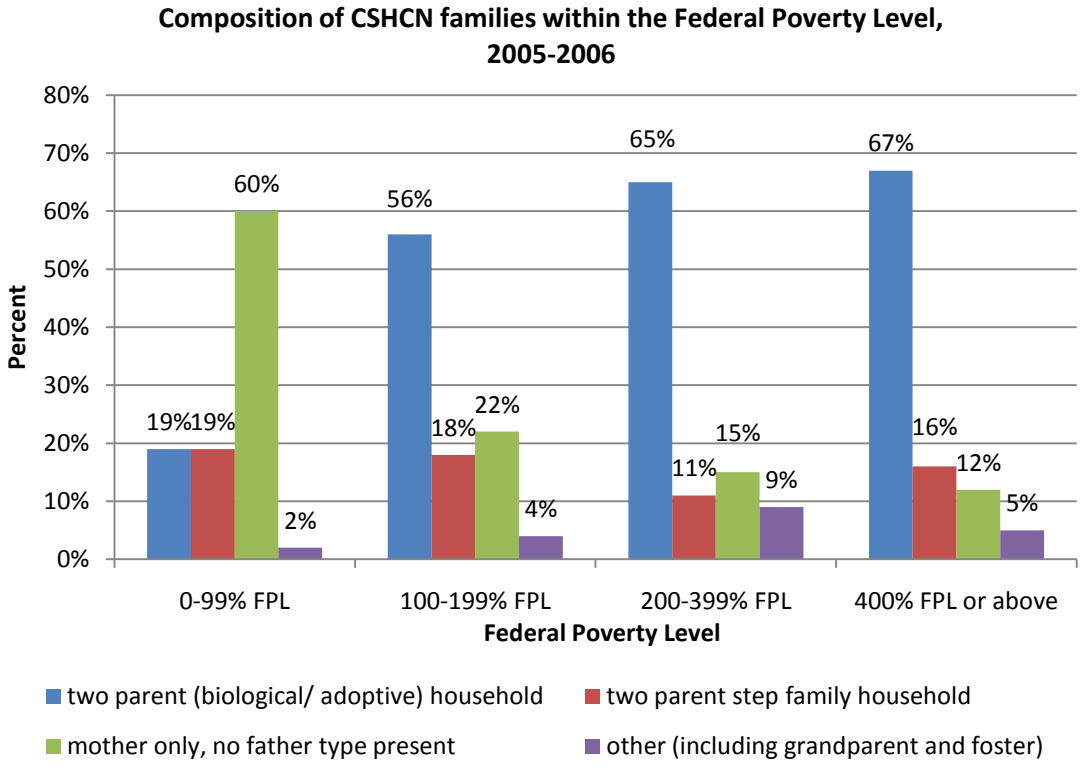
POVERTY

In 2005-2006, 17.5% of Wyoming CYSHCN lived in households with an income level below 100% of the Federal Poverty Level (FPL) compared to 19.2% of U.S. CYSHCN. In addition, 20.6% of Wyoming CYSHCN live in households with an income level between 100% and 199% FPL compared to 22.0% of CYSHCN in the U.S. The proportion of Wyoming CYSHCN (38.9%) living in households with an income level between 200% and 399% FPL is significantly higher than in the U.S. (29.9%). In addition, the proportion of CYSHCN living in households with an income level at or above 400% FPL is lower in Wyoming (22.9%) than in the United States (28.9%).[42]



Source: National Survey of CSHCN

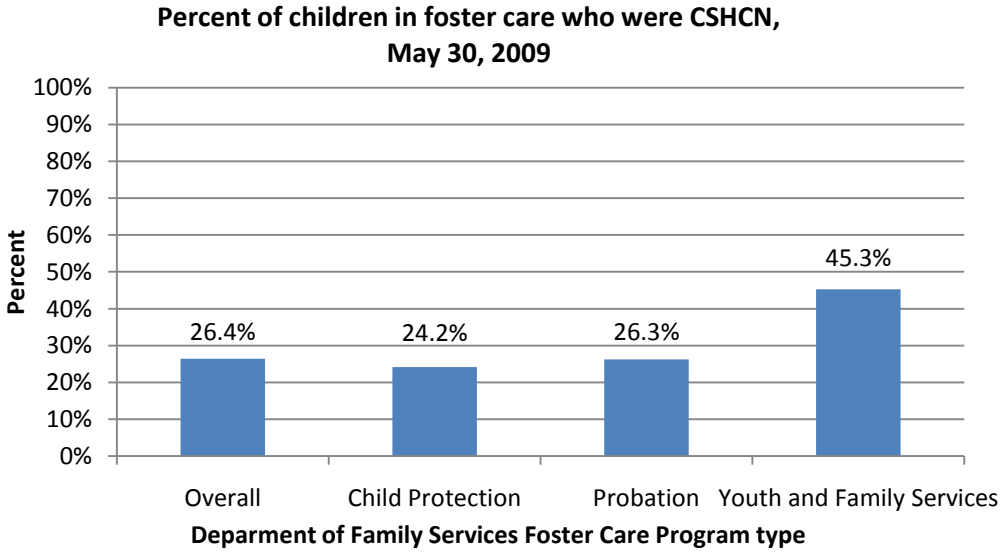
The familial structures of Wyoming CYSHCN families vary by economic status. The majority of CYSHCN families (60.0%) that lived below 100% of the Federal Poverty Level were headed by a single mother. For all other poverty levels, two parent (biological/adoptive) households were the most prevalent family type. [42]



Source: National Survey of CSHCN

CYSHCN IN FOSTER CARE

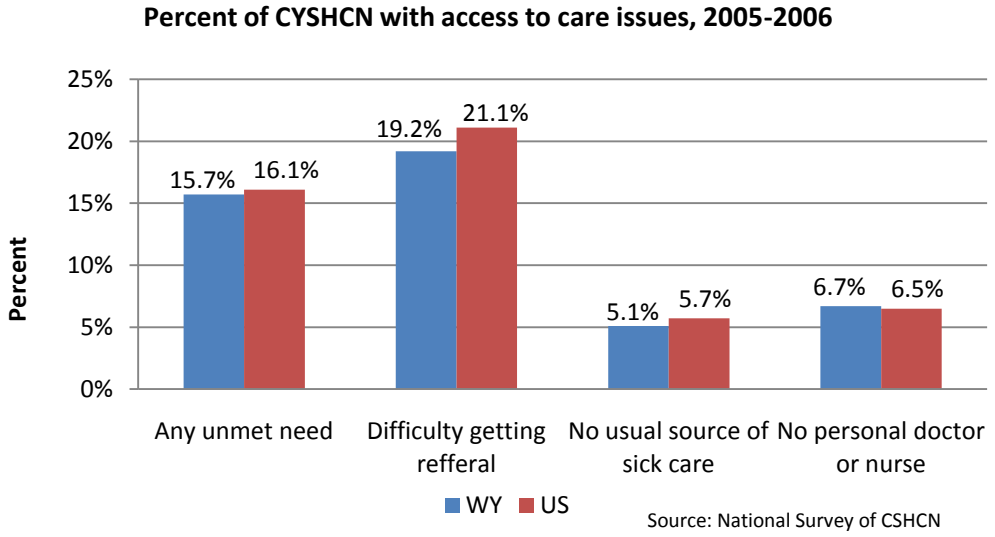
In 2009, CYSHCN constituted 26.4% of the overall Wyoming foster care population. As well, 24.2% of the children in child protection, 26.3% of the children on probation, and 45.3% of the children in youth and family services were Wyoming CYSHN.



Source: Wyoming Department of Family Services

ACCESS TO CARE

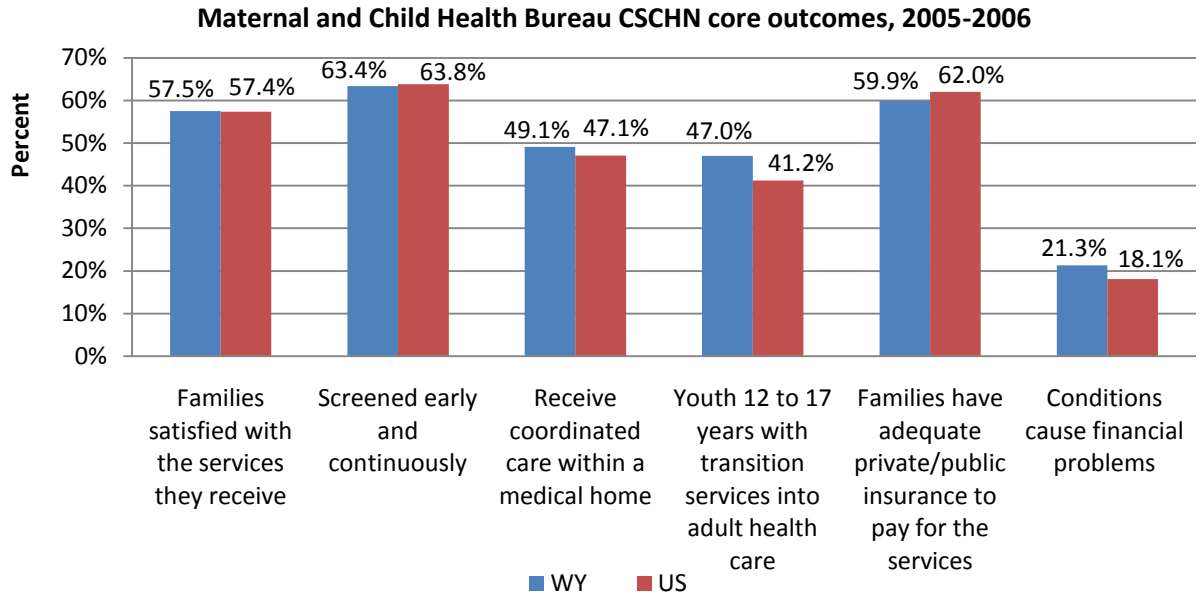
Access to care among Wyoming CSHCN was comparable to that of CSHCN throughout the U.S., however, more Wyoming CSHCN lacked personal healthcare provider (doctor or nurse) than CSHCN in the U.S.[42]



Source: National Survey of CSHCN

In 2005-2006, Wyoming CYSHCN family satisfaction for services received (57.5%) did not differ from the national CYSHCN family satisfaction (57.4%). Similarly, the level of early and continuous screening for Wyoming CYSHCN (63.4%) did not differ from the level of screening national CSHCN screening (63.8%).

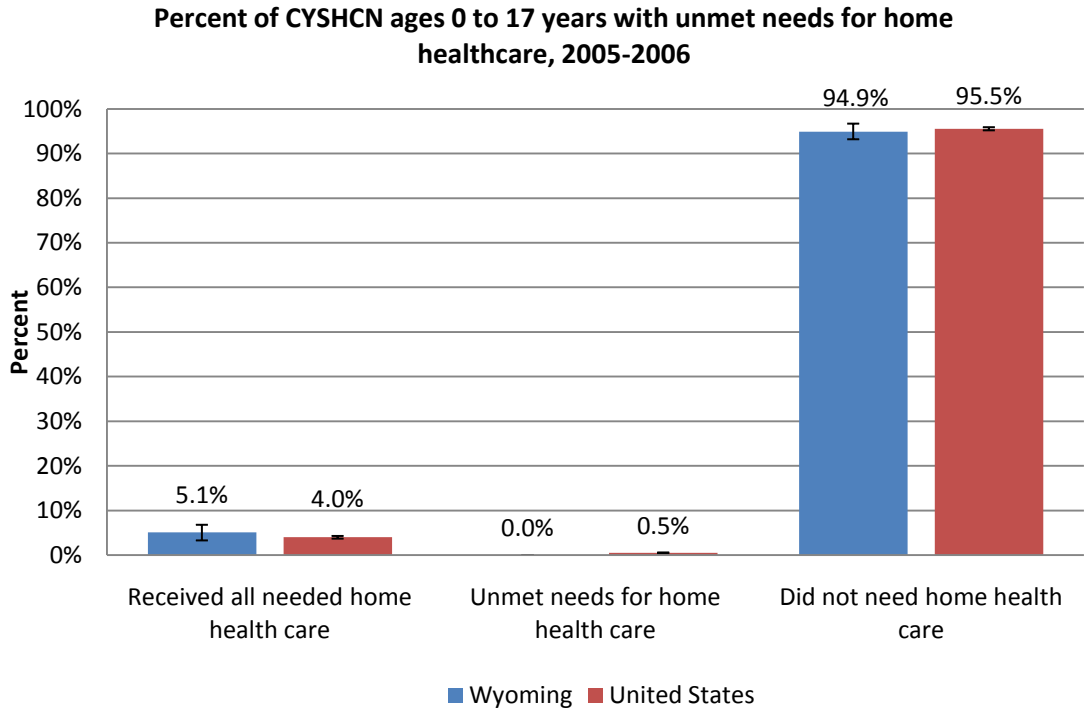
A slightly greater percent of Wyoming CYSHCN (49.1%) received coordinated care from a medical home than did national CYSHCN (47.1%). The adequacy of health insurance coverage among Wyoming CYSHCN (59.9%) fell below that of national CYSHCN (62.0%). A greater percent of families of Wyoming CYSHCN (21.3%) were experiencing financial problems due to their child's health condition than U.S. families of CYSHCN (18.1%).[42]



Source: National Survey of CSHCN

CYSHCN HOME HEALTHCARE

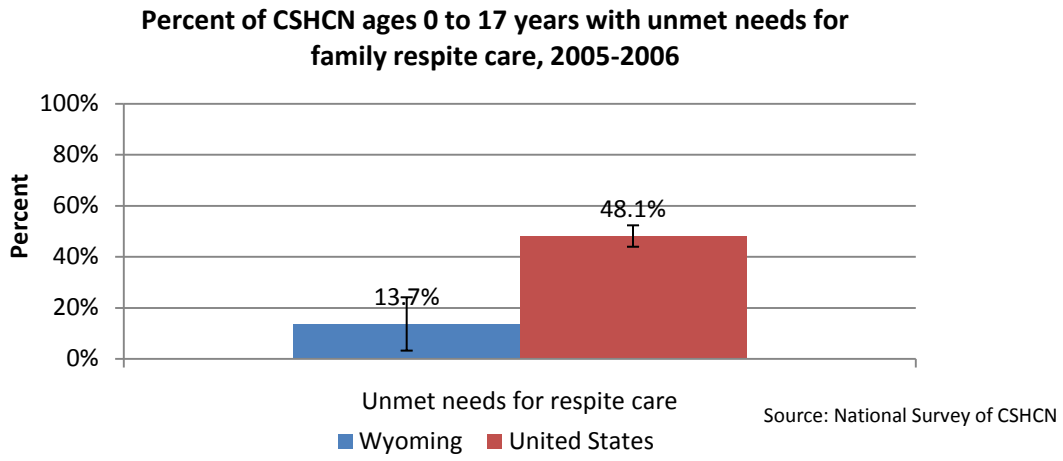
A majority of CSHCN did not need home healthcare; the percent in Wyoming (94.9%) did not differ significantly from the national percent (95.5%). The proportion of CYSHCN who received needed home healthcare did not significantly differ between Wyoming (5.1%) and the United States (4.0%). The proportion of CYSHCN with unmet needs for home healthcare did not differ significantly between Wyoming (0.0%) and the United States (0.5%).[42]



Source: National Survey of CSHCN

CYSHCN RESPITE CARE

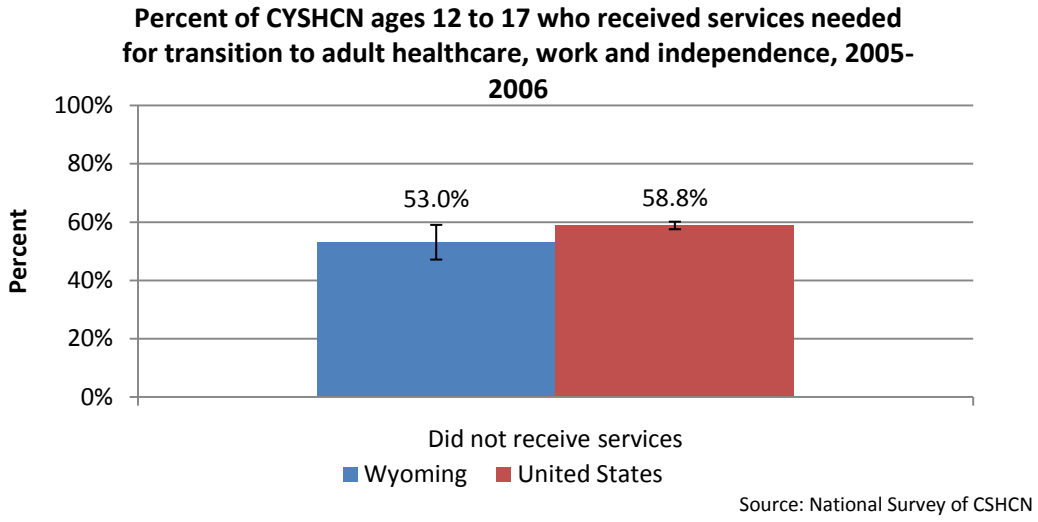
In 2005-2006, the proportion of Wyoming CYSHCN families (13.7%) reporting having unmet needs for family respite care was significantly lower than the proportion of U.S. CYSHCN families (48.1%).[42]



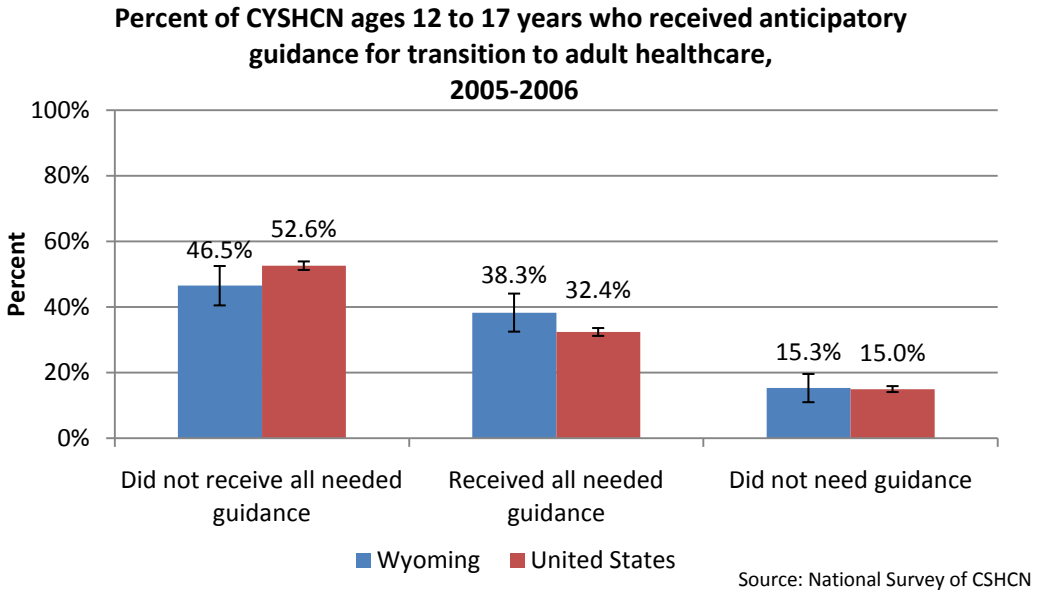
TRANSITION SERVICES

CYSHCN TRANSITION TO ADULTHOOD

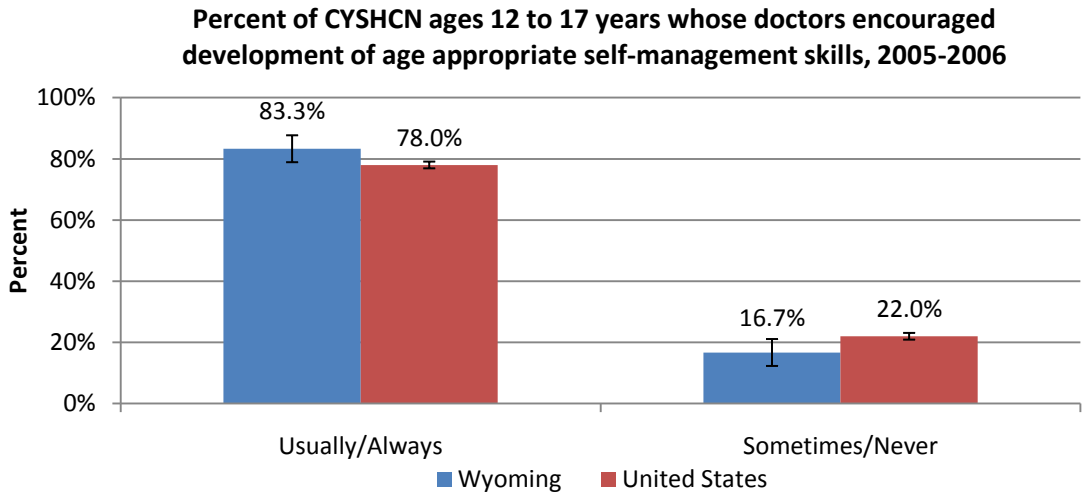
In 2005/2006, the majority of Wyoming CYSHCN ages 12 to 17 (53.0%) did not receive the services needed to transition to adult healthcare, work, and independence.[42]



In 2005-2006, the proportion of Wyoming CYSHCN ages 12 to 17 years (46.5%) who reported not receiving needed anticipatory guidance for transition to adult healthcare did not significantly different from the national CYSHCN population (52.6%).[42]



In 2005-2006, the proportion of Wyoming CYSHCN ages 12 to 17 years (83.3%) who reported usually/always receiving encouragement of age appropriate self-management skills from their doctor as a part of transitioning to adulthood did not significantly differ from the U.S. CYSHCN population (78.0%).[42]

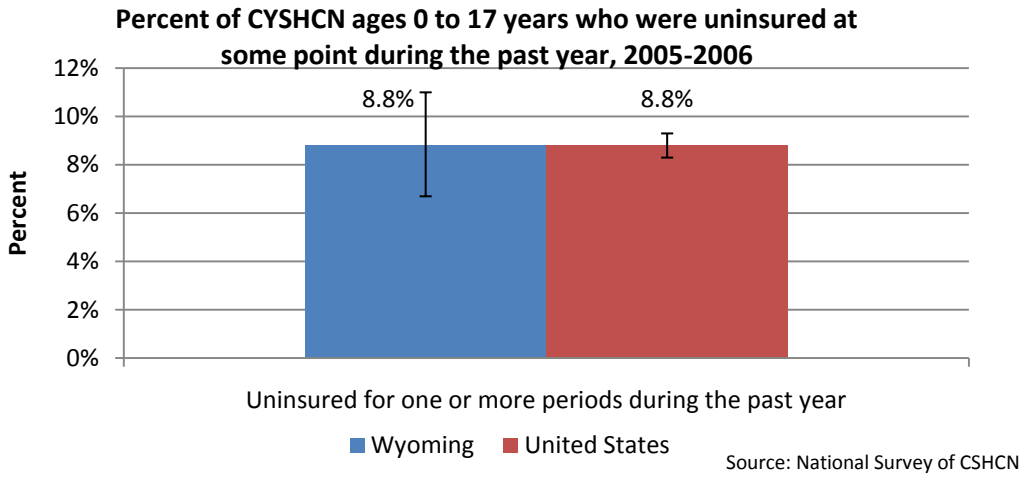


Source: National Survey of CSHCN

INSURANCE COVERAGE

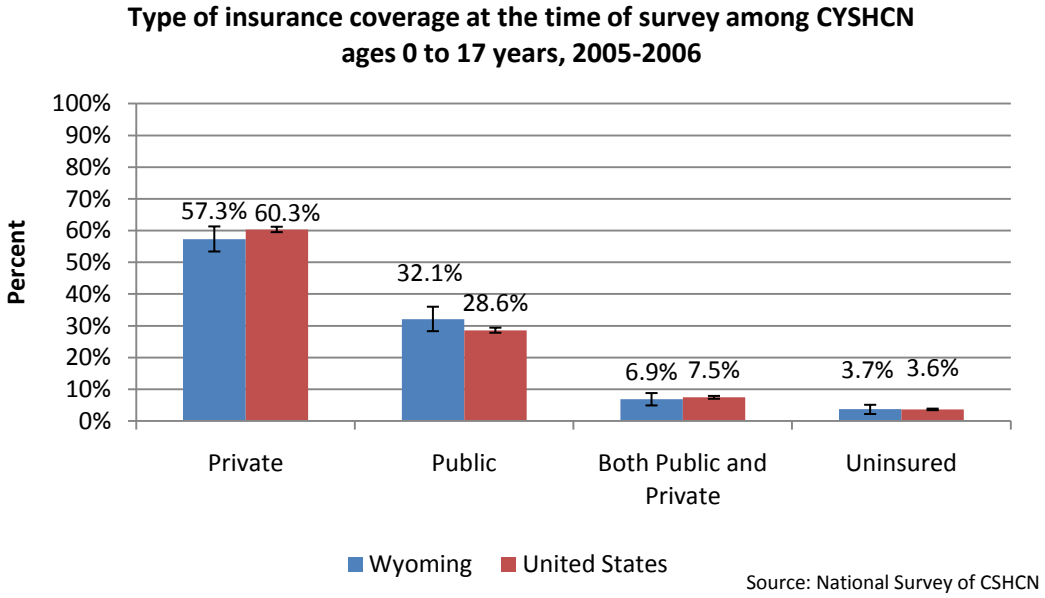
CYSHCN INSURANCE COVERAGE AND COSTS

In 2005-2006, the proportion of Wyoming CYSHCN (8.8%) who were uninsured at some point during the past year was the same for the U.S. CYSHCN population.[42]



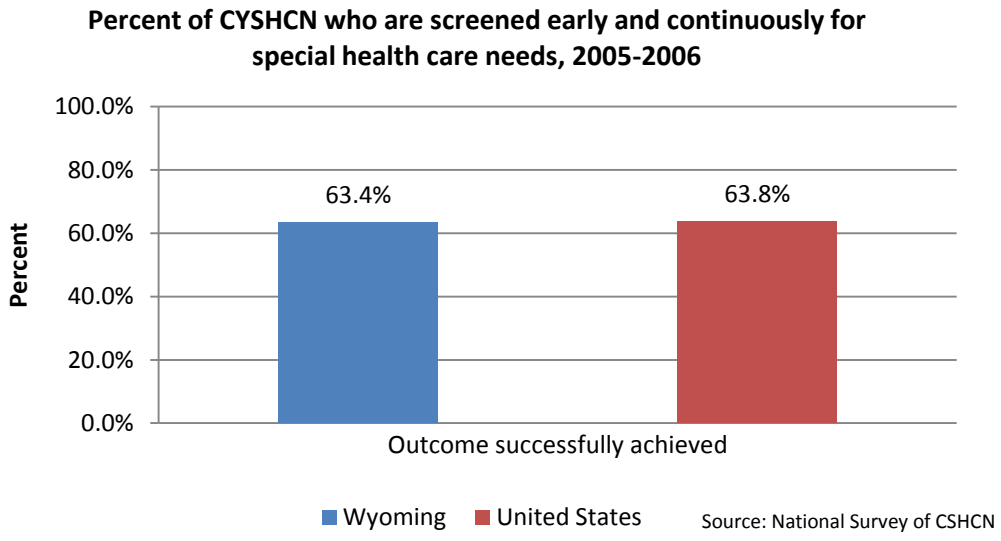
HEALTH INSURANCE COVERAGE BY TYPE

In 2005-2006, the majority of Wyoming CYSHCN ages 0 to 17 years (57.3%) had private insurance, 32.1% were covered by public insurance, 6.9% were covered by a combination of public and private insurance, and 3.7% were uninsured. These proportions were not significantly different from those for U.S. CYSHCN.[42]

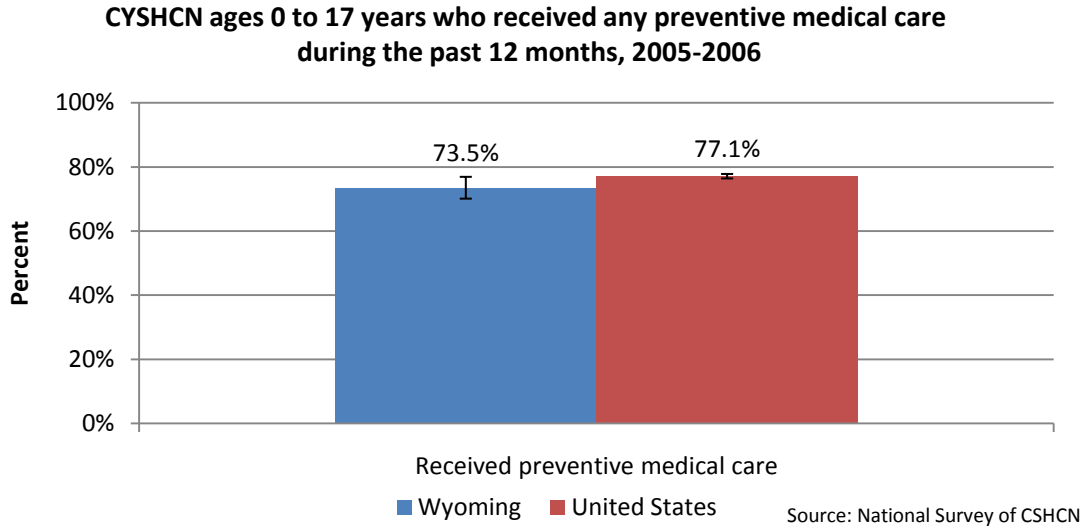


EARLY AND PERIODIC SCREENING, DIAGNOSIS, AND TREATMENT (EPSDT) FOR CYSHCN

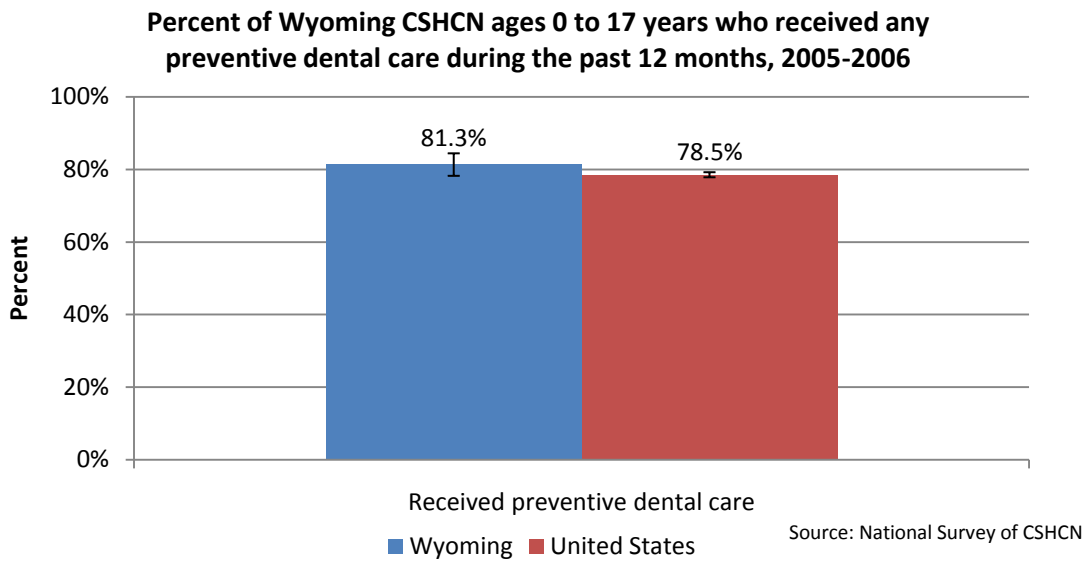
In 2005-2006, the percent of Wyoming CYSHCN who received early and continuous screening for special health care needs (63.4%) was similar to percent of U.S. CYSHCN (63.8%).[42]



In 2005-2006, the proportion of Wyoming CYSHCN receiving any preventive medical care during the past 12 months was significantly lower among Wyoming CYSHCN (73.5%) than among U.S. CYSHCN (77.1%).[42]

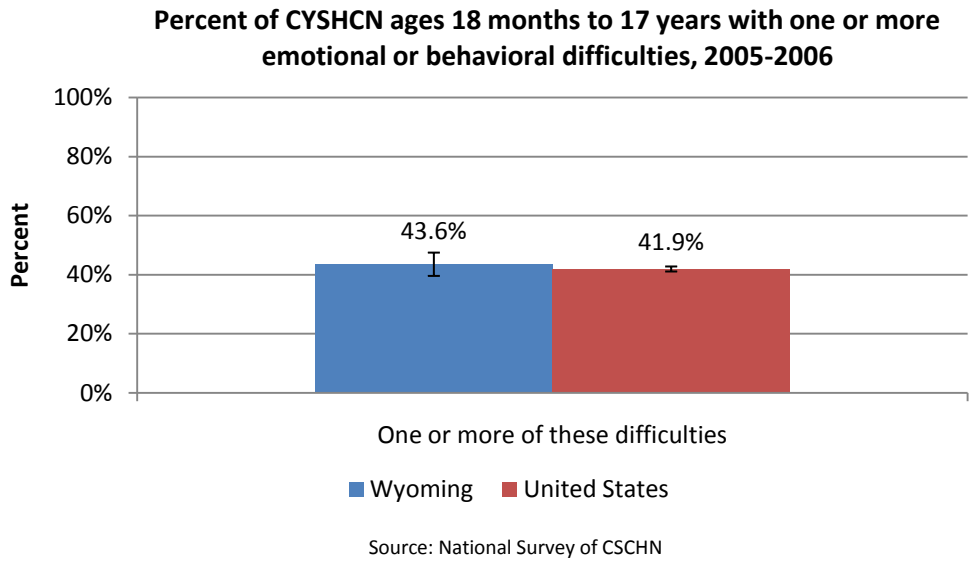


In 2005-2006, the proportion of Wyoming CYSHCN (81.3%) who received any preventive dental care during the past 12 months was similar to the percent of U.S. CYSHCN (78.5%).[42]

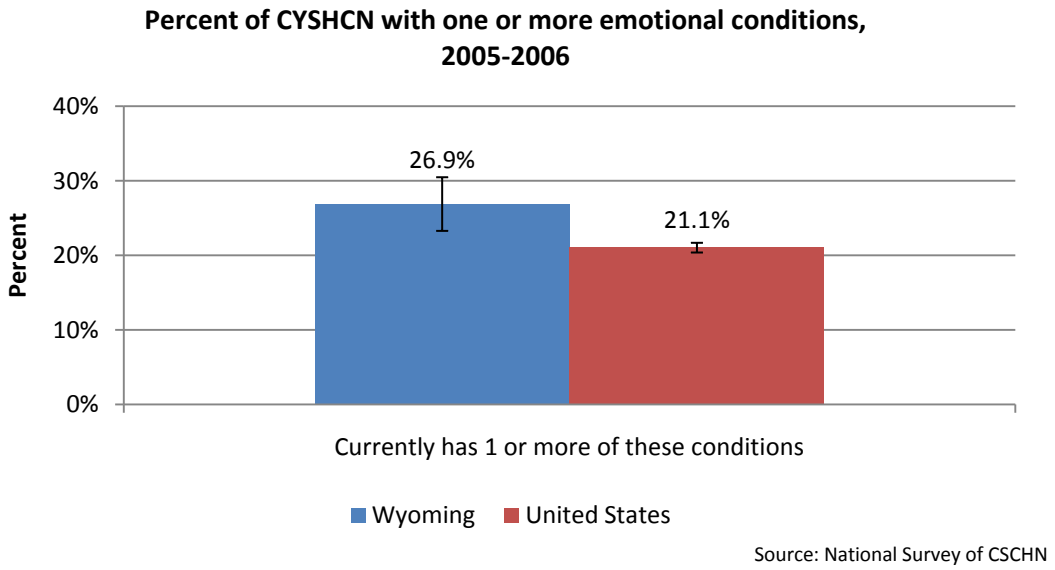


EMOTIONAL AND MENTAL HEALTH ISSUES AMONG WYOMING CYSHCN

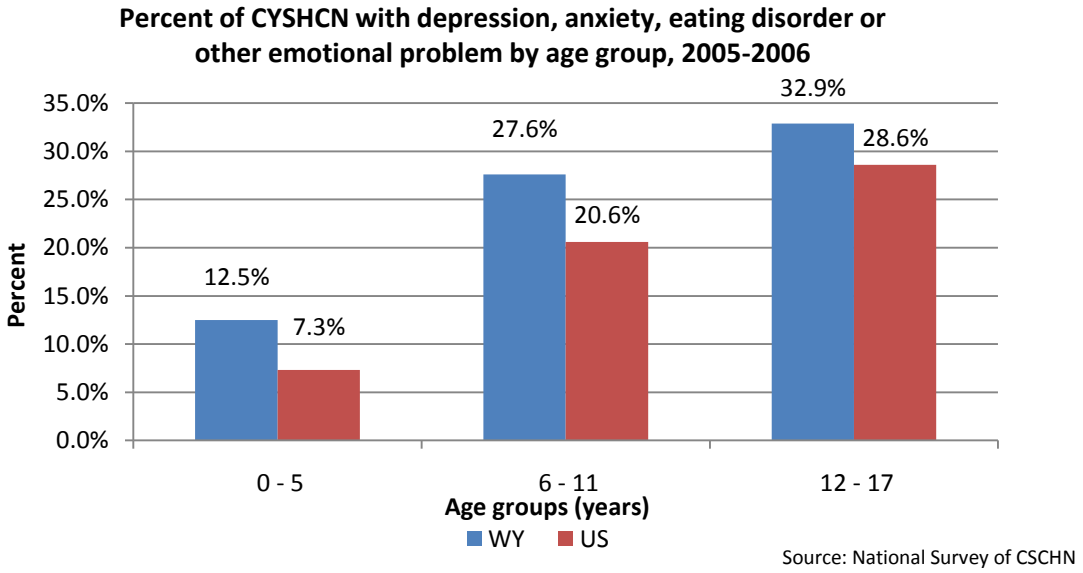
In 2005-2006, 43.6% of Wyoming CYSHCN ages 18 months to 18 years had one or more difficulties involving anxiety or depression; behavior problems such as acting out, bullying or arguing; or making and keeping friends.



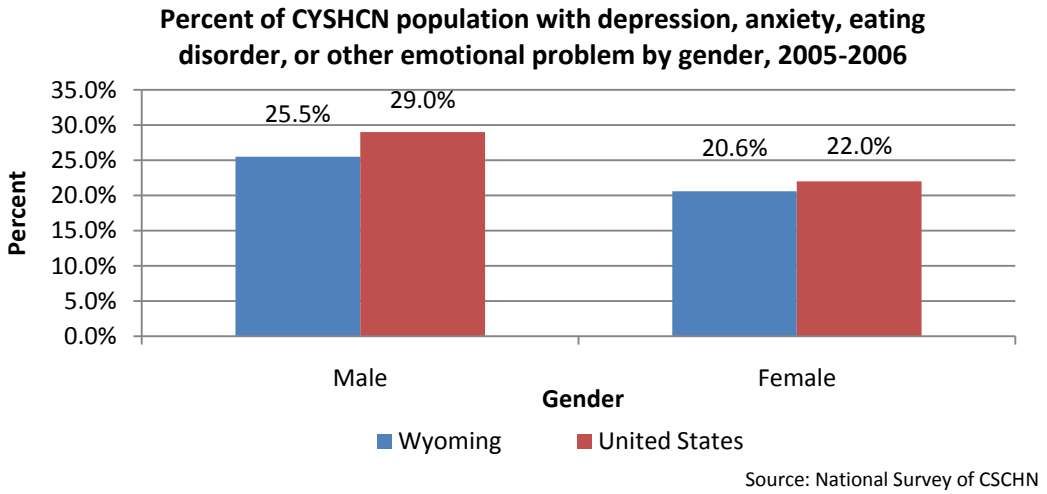
In 2005-2006, the prevalence of one or more emotional conditions, including depression, anxiety, and eating disorders or other emotional problems among Wyoming CYSHCN was 26.9%; this was significantly higher than the national percent of 21.1%.[42]



In 2005-2006, the proportion of Wyoming CYSHCN with depression, anxiety, eating disorder, or other emotional problem was significantly greater than the national CYSHCN population regardless of age .[42]

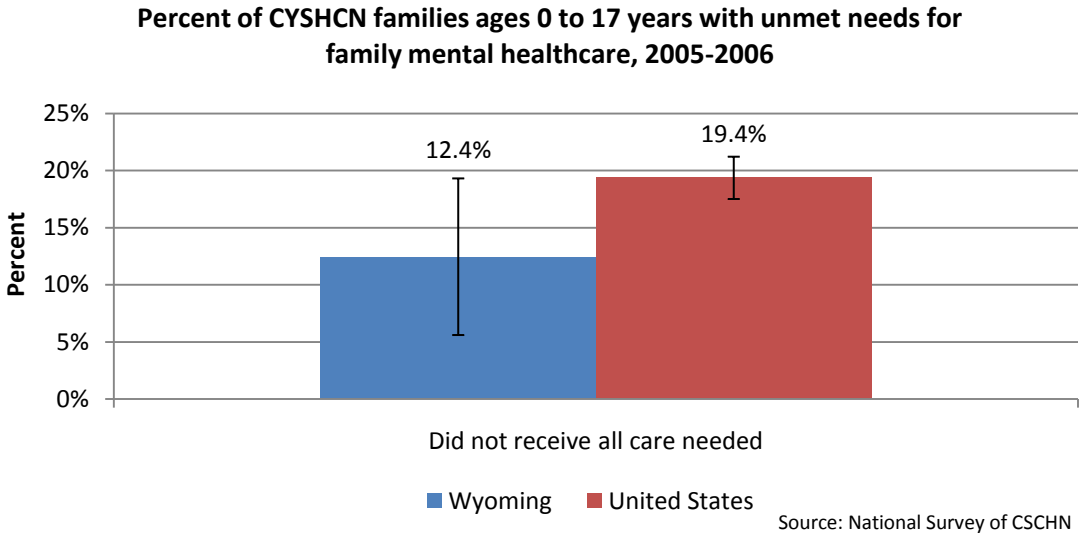


In 2005-2006, a greater proportion of Wyoming CYSHCN with depression, anxiety, eating disorder, or other emotional problem were males; in addition, a greater proportion of the U.S. CYSHCN population (29.0%) with depression, anxiety, eating disorder, or other emotional problem were males than the Wyoming CYSHCN population (25.5%).[42]



UNMET NEEDS FOR MENTAL HEALTHCARE OR COUNSELING

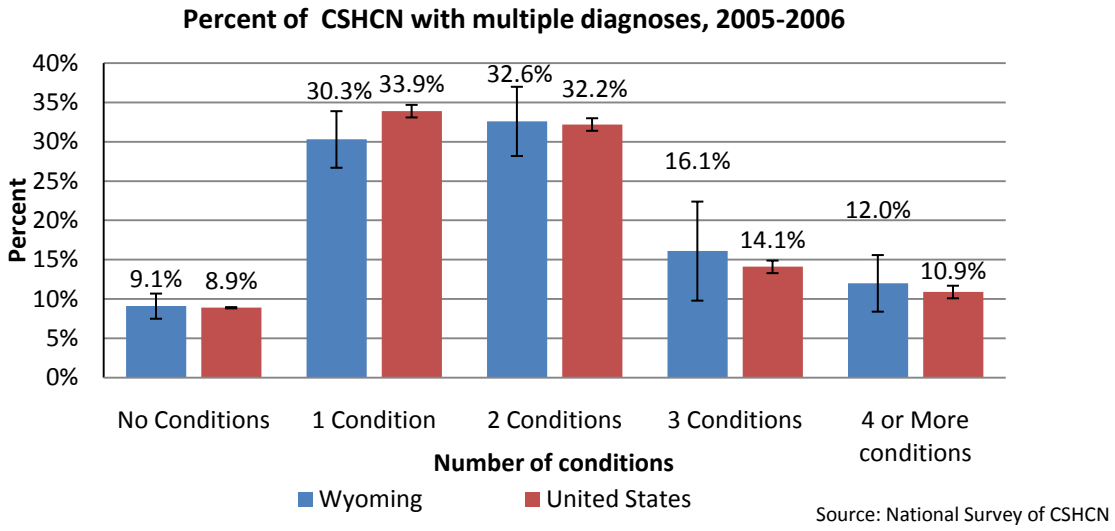
In 2005-2006, the proportion of Wyoming CYSHCN (12.2%) who did not receive the mental healthcare or counseling they needed was not significantly different than the proportion U.S. CYSHCN.[42] The majority of CYSHCN families did not report any unmet needs for family mental healthcare.[42]



CYSHCN MULTIPLE DIAGNOSES

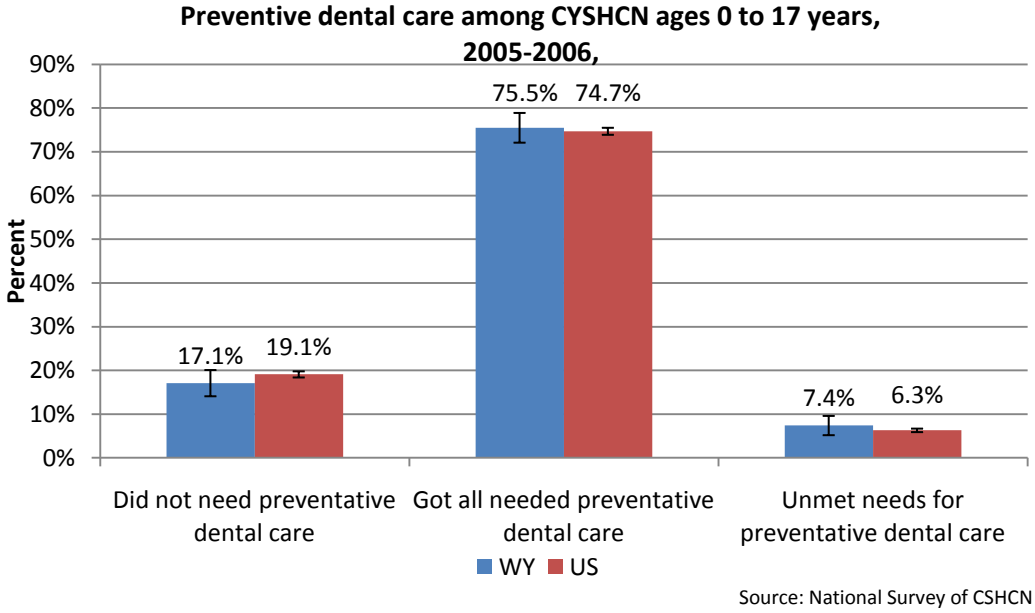
In 2005-2006, sixteen conditions were asked about in the national survey of CYSHCN: Asthma; Attention Deficit Hyper Disorder (ADHD) or Attention Deficit Disorder (ADD); Autism or autism spectrum disorder; Down Syndrome; Mental Retardation or developmental delay; Depression, anxiety, eating disorder or other emotional problem; Diabetes; heart problems; anemia or sickle cell disease; Cystic Fibrosis; Cerebral Palsy; Muscular Dystrophy; Epilepsy or other seizure disorder; Migraines or frequent headaches; Arthritis or other joint problems; and allergies.[42]

There is no statistical difference in the prevalence of any of these conditions between Wyoming and the United States CYSHCN populations.[42]



ORAL HEALTH AMONG CYSHCN

The National Survey of CSHCN asked parents if their child received all the dental care (preventive and other care) that he or she needed. Parents either indicated that the child did not need dental care, the child received all needed dental care, or the child had unmet needs for dental care. In 2005-2006, the percent of Wyoming CYSHCN (75.5%) who received all needed preventive dental care is similar was to that for U.S. CYSHCN (74.7%). The percent of Wyoming CYSCHN (7.4%) who have unmet needs for preventive dental care was higher than the U.S. percent with unmet needs (6.3%); however, the difference was not statistically significant. [42]



MCH PROGRAM CAPACITY BY PYRAMID LEVEL

DIRECT HEALTHCARE SERVICES

STRENGTHS

MFH provides and supports a variety of direct care services in Wyoming. Family Planning services are provided through a contract with the Wyoming Health Council (WHC), the Title X recipient for Wyoming. This assures family planning services are available to men and women in each Wyoming County. A variety of contraceptive devices are available at a discounted, sliding scale rate in family planning clinics. The PHP distributes prenatal vitamins with folic acid, condoms, and information about risks of unintended pregnancy to women who have a negative pregnancy test. Title V funds also supplement the Wyoming MHP to assure family planning, PHP and perinatal services are offered to migrant farm workers and their families. The MHP provides year-round services to several northern counties.

The Nurse Home Visitation program, which includes the Best Beginnings for Wyoming Babies (BB) and Nurse Family Partnership (NFP) programs, provides perinatal support through local PHN offices. BB provides care coordination and client-driven perinatal services, education and referral to any pregnant or postpartum woman. It is offered in all 23 counties. The NFP Program is an evidence-based program designed to help parents have a healthy pregnancy and baby, and targets young, low income first-time mothers. NFP is offered in 14 Wyoming counties.

Breastfeeding support is a strength in Wyoming. Over half of PHN staff members are Certified Lactation Counselors (CLC) and provide prenatal and postpartum education and support for breastfeeding initiation and continuation. Many of Wyoming's clinical nurses have also taken advantage of the MFH sponsorship of CLC training, and can therefore provide the education and support for breastfeeding during acute hospitalizations within the state (including delivery and postpartum admissions). WIC staff members have also attended the CLC training offered in the state to support breastfeeding, and assists families with obtaining food for both the mother and infant.

The Wyoming Genetic Services Program allows individuals who have inadequate or no insurance to obtain consultation services at no cost. MFH supports various specialty clinic providers by paying mileage, hotel and per diem during the specialty clinics held in Wyoming. MFH funds a dietitian/nutritionist to complete the Jackson Diabetes Clinic Team and a nutritionist to attend the First Step Diagnostic Clinic biannually.

CSH is a program that provides payment for specialty medical care and coordination of care for CSHCN who have one of the medically eligible conditions and also meet financial eligibility. Covered services include care coordination, specialty medical care, some equipment and medications, lab/X-rays related to diagnosis, support services, and diagnostic evaluation to determine diagnosis.

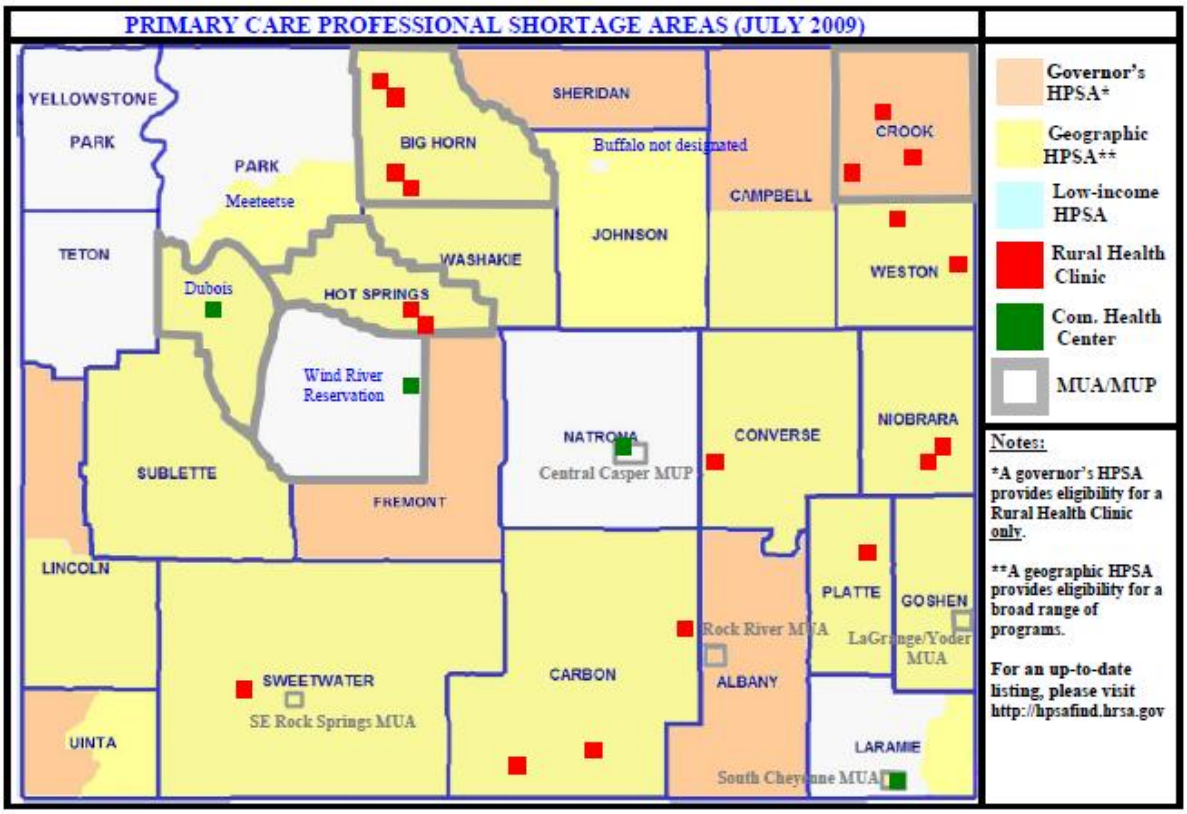
MFH has historically provided OH with funding for dental sealants in children and will continue as budgets allow. MFH collaborated with OH to conduct a dental sealant survey in school year 2008-2009 and again in 2009-2010. In 2008-2009, 56.6% of third graders screened had protective sealants, and in 2009-2010, 49.1% of Wyoming third graders have dental sealants on at least one permanent molar.

OH's Marginal Dental Program serves low-income children, birth to 19 years, who are not enrolled in any other assistance programs. Marginal Dental also provides services for children who have reached their financial cap or who need care that is not a covered benefit of Kid Care CHIP. The program provides dental sealants and fluoride treatments for children.

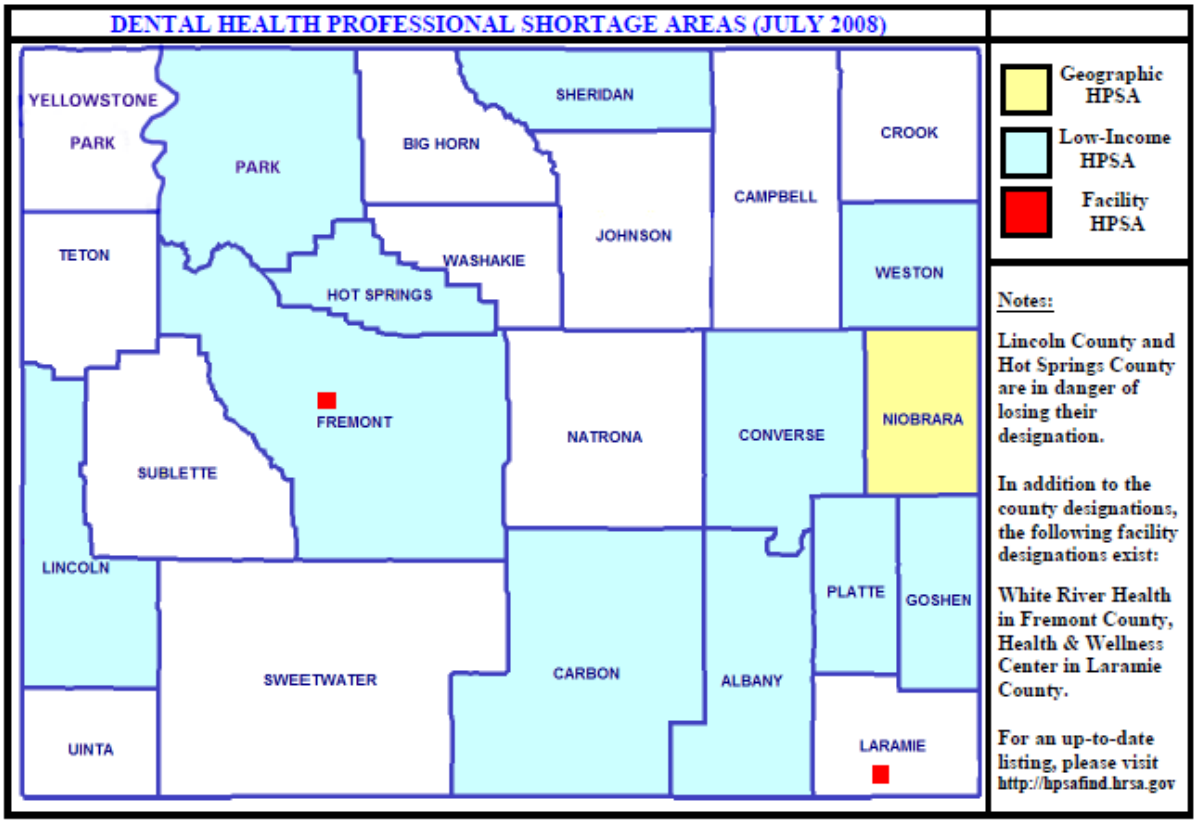
CONCERNS

Access to adequate healthcare in Wyoming is a concern. The Health Resources and Services Administration (HRSA) is the federal agency within the U.S. Department of Health and Human Services that helps improve "access to healthcare services for people who are uninsured, isolated or medically vulnerable."[5] HRSA's mission is to "provide national leadership, program resources and services needed

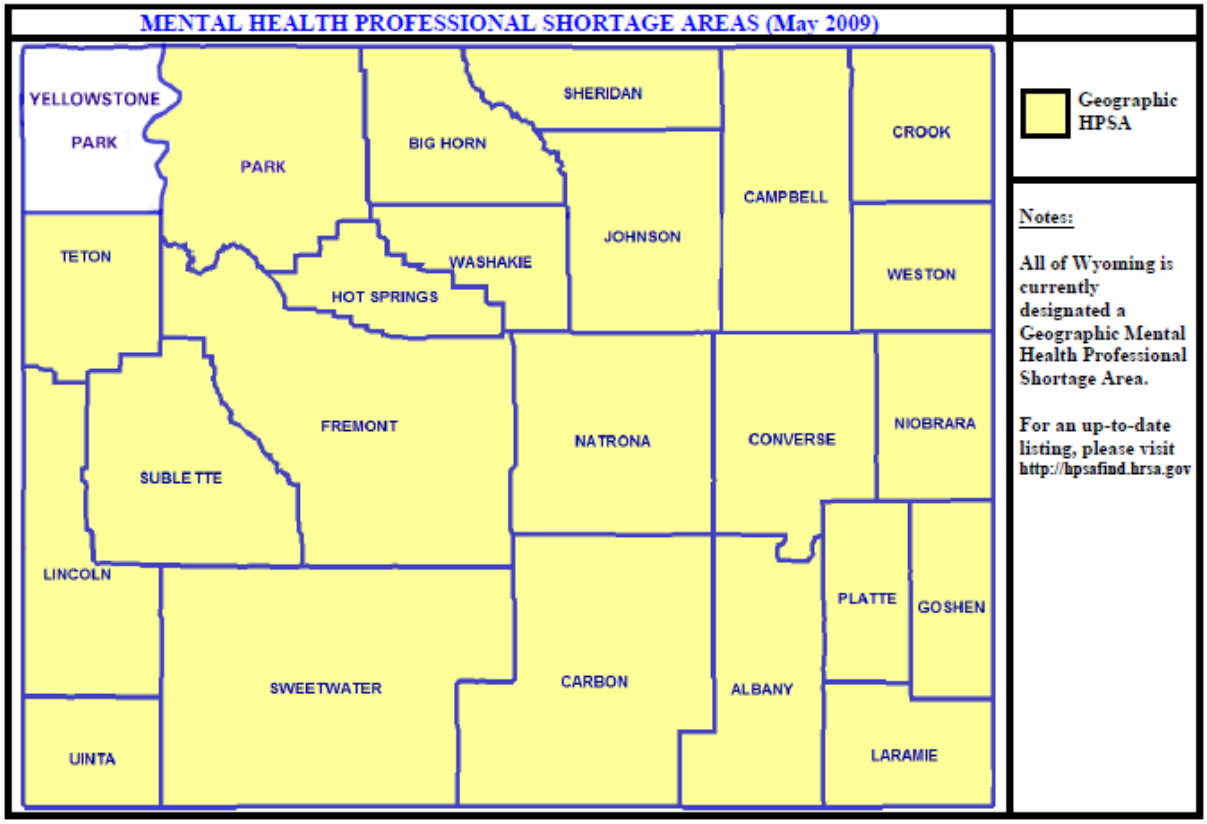
to improve access to culturally competent, quality healthcare."[5] Three types of healthcare that HRSA monitors include primary care, dental health, and mental health.[6] If an area does not have adequate medical coverage, it can be designated as a Health Professional Shortage Area (HPSA).[6] This designation may allow the area to receive federal assistance from HRSA to recruit and employ a needed medical professional.[6] There are currently 85 designated HPSA sites in Wyoming for primary care, dental health, and mental health.[7] These areas are indicated on the following maps.



Source: Health Resources and Services Administration. *HRSA Geospatial Data Warehouse (HGDW): Wyoming*. [database on the Internet] [cited 2009 Oct 1]; Available from: http://hpsafind.hrsa.gov/HPSASearch.aspx



Source: Health Resources and Services Administration. *HRSA Geospatial Data Warehouse (HGDW): Wyoming*. [database on the Internet] [cited 2009 Oct 1]; Available from: http://hpsafind.hrsa.gov/HPSASearch.aspx



Source: Health Resources and Services Administration. *HRSA Geospatial Data Warehouse (HGDW): Wyoming*. [database on the Internet] [cited 2009 Oct 1]; Available from: http://hpsafind.hrsa.gov/HPSASearch.aspx

For CYSHCN living in Wyoming, obtaining specialty care is a challenge. Each year, CSHCN compiles a list of specialty clinics to be held in Wyoming. This list is distributed to general and private practices around the state. Most of the clinics are held independently of MFH. Very few pediatric specialists reside in Wyoming, so clinics must be staffed with specialists from other states. Clinics may cut down on travel time and cost associated with traveling. The size and terrain of the state, however, mean that some people may still travel hours through blizzards or over mountain passes to receive necessary services. MFH staff members attend conferences that focus on accessing care within a rural setting, how to address barriers, and the medical home model. Families are encouraged to have one primary care provider (PCP) with PHNs and other community resources helping to carry out some of the functions of a medical home.

ENABLING SERVICES

STRENGTHS

Translation services are available for MFH and EqualityCare-eligible families to assure all information provided to English-speaking clients is also available to other families who primarily speak other languages. Some translation services are offered through EqualityCare, and WDH covers those services not covered by other agencies. Many forms and other materials are offered in Spanish, with other languages available upon request. Kid Care CHIP does not cover translation services.
Coming of the Blessing, a Pathway to a Healthy Pregnancy is an informational booklet created by the American Indian/Alaska Native Committee of the MOD West Region. Twelve tribes were included on the planning committee, including both major tribes represented in Wyoming. The booklets were distributed through IHS and local county PHN offices to American Indian clients. Culturally sensitive information includes the role of the father during pregnancy and postpartum, risks of substance use during pregnancy and the importance his support to encourage the mother to begin and continue to breastfeed.

Transportation is an issue in many counties in the state. In 2009, MFH expanded travel benefits to include travel assistance to all families eligible for the Maternal High Risk (MHR), Newborn Intensive Care (NBIC), and CSH programs. Transportation and translation services are available for families who qualify for MFH and EqualityCare programs to assist in obtaining additional screenings or to attend genetic or metabolic specialty clinics. Local PHN offices are key contacts for coordinating both translation and transportation services.

MFH provides services, such as care coordination and appointment reminders, that EqualityCare or Kid Care CHIP do not provide. MFH emphasizes early screening and treatment to increase each child's ability to reach optimum health through promoting Early and Periodic Screening, Diagnosis, and Treatment (EPSDT), commonly known as well-child checks. MFH assists in coordinating care between pediatric specialists, the primary care provider (PCP) and PHN. MFH staff access the electronic medical records of MFH clients who are seen at Children's Hospital (CH) in Colorado. This enhances MFH's ability to

provide effective care coordination and to assist PHNs and providers as they support MFH clients. Cooperation among MFH, PHN, and APS, Medicaid's healthcare management organization, ensures that clients receive needed services. PHN staff members work with the PCP in case management and assist with care coordination.

CONCERNS

Public transportation may be an option within certain city limits; however, the services available vary by county. When longer travel to access healthcare is required, MFH covers transportation using the same procedures as Medicaid, reimbursing eligible families per mile and with a stipend. Medicaid, however, only covers one trip and pays for one parent accompanying a child. MFH covers the cost of remaining trips and allows both parents to travel as needed. The MHR and NBIC programs provide financial support for eligible pregnant women and infants to be transported to high-risk care out of the state. Travel expenses are also covered for the newborn's father to visit the mother and baby at the tertiary care facility.

PRIORITIES ADDRESSED

To *build and strengthen services for successful transitions for CYSNCN* has been chosen as a priority for 2011-2015. Through this priority MFH plans to strengthen and build upon services already in place to support all Wyoming CYSHCN during crucial times of transition. The MFH team continues to collaborate with partners, including PHN and F2FHIC, to strengthen the design of Wyoming's transition planning tool and to promote its use among PHN staff members, clinicians, and family advocates. As a resource, MFH provides families and clients who are transitioning from youth to adult services with a document listing available resources and suggested topics that need to be addressed prior to transition. In addition, MFH provides a tool for families to use for transitioning called Packaging Wisdom. Packaging Wisdom is available on the WDH website, as well as in both hard copy and on CD Rom. MFH offers copies to families of CYSHCN through PHN and at various events throughout the state. MFH staff members participate in various webinars provided by Healthy and Ready to Work (HRTW) as a means to increase staff member's knowledge and resources regarding transition. MFH will continue current activities and work to enhance the partnership with the F2FHIC in their efforts to ensure that CYSHCN receive the services necessary to make transitions to all aspects of adult life, including adult healthcare, work, and independence.

BARRIERS

Accessing tertiary care for Wyoming mothers and babies is a challenge, with no high risk services or facilities available within the state. The MHR and NBIC programs offer funding and support for eligible moms and babies to be transported out of state for necessary specialty care.
Obtaining specialty care also continues to be a great challenge for CYSHCN in Wyoming as very few pediatric specialists reside in Wyoming. Families of CYSHCN often must travel great distances for specialty care.

LINKAGES

County PHN offices provide much of the service coordination at the local level. Cooperation among MFH, PHN, and APS for complex CYSHCN cases ensures that clients receive needed services. PHN staff members assist with care coordination for all MCH populations.

POPULATION-BASED SERVICES

MFH partners with the WHC to provide the PHP to women through family planning clinics and the Wyoming Migrant Health Program (WMHP).

Healthy Baby is Worth the Weight (HBWW) is a project implemented through many providers and PHN offices to provide education regarding appropriate weight gain during pregnancy. Materials are distributed through PHN and WIC offices, Community Health Centers, local hospitals, tertiary care facilities in surrounding states, family planning clinics, and the UW Family Practice clinics.

MFH contracted with LaMaze International to provide the first training necessary for nurses to become LaMaze certified childbirth instructors in spring 2010. Both PHN and clinical staff members from local hospitals participated, with MFH offering registration scholarships to 30 nurses. It is hoped these nurses will become certified, and, therefore, most of the prenatal classes taught in Wyoming will be assured to be presenting current evidence-based practice.

MFH partners with Wyoming Department of Transportation (WYDOT) to offer scholarships to PHN staff members to become Certified Passenger Consultants. Infant car seat training is an integral part of the training, so PHN offices can offer that service at health fairs and other community projects.

Funding was utilized for certification training for the HBB to provide classes during prenatal training and parenting teaching and support.

MFH provides educational materials and support for Sudden Unexplained Infant Death (SUID), formerly known as Sudden Infant Death Syndrome (SIDS), to PHN offices and other entities, such as local hospitals and community programs.

MFH partners with Safe Kids Worldwide (SKWW) in Wyoming and contracts with Cheyenne Regional Medical Center (CRMC) to maintain the SKW state office. This program is focused on the development and support of local coalitions within the state to reduce unintentional injuries through a multifaceted approach of public awareness, education, public policy advocacy, and community action. SKW hosts child passenger safety certification classes, supports enforcement of child restraint laws, offers educational opportunities to law enforcement offices in counties without a Safe Kids chapter, conducts child car seat inspections, and holds Safe Kid events attended by the public.

In addition to partnering with SKW, MFH provides brochures from the National Center for Shaken Baby Syndrome (SBS), as well as flyers and posters on shaken baby prevention, to PHN offices, Indian Health Services (IHS) clinics and to local hospitals.

MFH staff are members on the WYSO Advisory Council, which provides advice and consultation in the development, implementation, and evaluation of goals of the Wyoming Youth Suicide Prevention Initiative (WYSP) initiative to reduce suicidal behavior among youth ages 10to24 years.

MFH is also a member of the Sexual Minority Youth Advocates (SMYA) Task Force, which recommended wording to support Lesbian, Gay, Bisexual, Transgendered, and Questioning (LGBTQ) students in school district policies prohibiting harassment, intimidation, and bullying.

The Wyoming Newborn Metabolic Screening (NBMS) program screens newborns for 28 conditions. MFH contracts with CDPHE for testing, tracking, and staff training for newborn screening. The Inherited Metabolic Disorders (IMD) Clinic at The Children's Hospital (TCH) provides consultation and education on metabolic conditions for Wyoming providers. MFH visits the CDPHE laboratory to review the contract and collaborate on efforts pertaining to the NBMS processes. MFH provides NBMS brochures to birth hospitals and providers.

MFH supports the Wyoming Lion's Early Childhood Vision Project with funds to purchase additional screening equipment and to continue screening activities. The purpose of vision screening is to prevent serious vision problems through early detection. MFH meets with a group of stakeholders to help determine a sustainability plan for this project.

Legislation mandating that all children have their hearing screened at the time of birth before being discharged from the hospital became effective in Wyoming on April 1, 1999. Currently there are 21 birthing hospitals in Wyoming. Each of these hospitals participated in the Early Hearing Detection and Intervention (EHDI) program and has equipment available on site to perform newborn hearing screening.

INFRASTRUCTURE BUILDING SERVICES

The needs assessment project was a collaborative effort to determine MFH priorities for the next five years. A diverse group of stakeholders, parents, and consumers worked together to identify needs and priorities for women and infants, children and adolescents, and CYSHCN.

Tertiary care visits are conducted on an annual basis to assure pregnant women and infants who access high risk care in out of state facilities are referred to the appropriate Wyoming services upon discharge.

MFH contracts with WHC for family planning services and the PHP, available in family planning clinics as well as through the WMHP.

The partnership with MOD supports their national campaign to prevent prematurity, and MOD supports Wyoming efforts to decrease prematurity. Bookmarks are distributed which clearly state the signs and symptoms of preterm labor. Newborn Intensive Care Unit (NICU) backpacks are given to pregnant women and their families who are transported out of the state for high risk care. MOD provides educational materials for pregnant women and provides financial support of speakers during conferences and meetings for Wyoming nurses.

Coordination and provision of scholarships for specialized nurse training through the HCP's Certified Lactation Counselor (CLC) levels I and II, LaMaze International's childbirth education training, and The Happiest Baby on the Block (HBB) increases the support available to pregnant women, infants and children. MFH also sits on many committees to plan evidence-based conferences for Wyoming nurses to stay current on women, infant, children, adolescent, and CYSHCN issues. Examples of partners include TCH and University of Colorado Medical Center in Denver, Colorado, Ivinson Memorial Hospital in Laramie, Wyoming, CDPHE, the Association of Women's Health and Obstetrical and Neonatal Nurses (AWHONN), the University of Wyoming Nursing Department, and CRMC in Cheyenne, Wyoming.

The PRAMS survey collects data from postpartum women related to preconception, prenatal, and postpartum health and behaviors. PRAMS data provide information to guide policy development and revision for perinatal services.

Evaluation of Best Beginnings perinatal nurse home visiting services is being planned with MFH, state PHN supervisors, and the Community and Public Health Division (CPHD) Epidemiology Section to help determine the efficacy of this program.

MFH is an invited partner in the Tobacco Prevention Section's process to assure the needs of the MFH population are addressed in the plan.

STANDARDS

MFH worked with state PHN staff to develop standards of care for pregnant women and infants. The first set of standards, implemented in the spring of 2009, was related to the premature infant. Work continues to develop the prenatal standards for PHN staff to follow when visiting pregnant women. Standards are in the planning stage for prenatal assessment.

COORDINATION

Since its inception, the MFH Section of WDH has consisted of a network of state and local health and social service agencies. This network has identified the health needs, service gaps, and barriers to care for families and children and has planned community health and clinical services to meet those needs. As a community-based program, MFH has used a combination of federal and state funding to offer public health and gap filling direct services for the MFH population.

CYSHCN SERVICE SYSTEM

STATE PROGRAM COLLABORATION WITH OTHER STATE AGENCIES AND PRIVATE ORGANIZATIONS

MFH plans to establish and maintain ongoing interagency collaborative processes for the assessment of needs with respect to the development of community-based systems of services for CYSHCN. As part of the needs assessment process, the CYSCHN stakeholder group, including other state agencies and private organizations, will be invited to participate in the strategic planning process. The group will also meet to evaluate progress and continued efforts to assure comprehensive, coordinated services for CSHCN and their families.

STATE SUPPORT FOR COMMUNITIES

MFH provides capacity grants to all PHN offices to assure capacity for implementing MFH services. MFH is participating in the learning community provided by Champions for Inclusive Communities to continue efforts towards establishing community-based service systems. MFH will continue current activities and work to enhance the partnership with the Family 2 Family Health Information Center (F2FHIC) in their efforts to ensure that the community-based service systems are organized so that families of CYSHCN can use them easily. MFH has begun to form a working relationship with WIND. WIND is a regional partner with the Utah Regional Leadership Education in Neurodevelopmental Disabilities (LEND) program. There are 38 LEND programs in the US funded by MCH. WIND will be an important partner and source of technical assistance as MFH strives to increase data capacity.

COORDINATION OF HEALTHY COMPONENTS OF COMMUNITY BASED SYSTEMS

There is no formal mechanism which exists in communities across the state for coordination of health services with one another outside of PHN. PHN staff members assist with coordination of care when infants are discharged to the local communities from tertiary care hospitals. This coordination is designed to assure appropriate care is available for the family, as well as providing care coordination for children on the CSH program. Through the collaborative learning community established with Champions for Inclusive Communities, Wyoming CSH program plans to begin discussions with key stakeholders and research how MCH can better support coordination among providers of primary care, habilitative and rehabilitative services, other specialty medical treatment services, mental health services and home healthcare.

COORDINATION OF HEALTH SERVICES WITH OTHER SERVICES AT THE COMMUNITY LEVEL

MFH staff members work to develop a comprehensive statewide early childhood strategic plan to support young children, their families, and their communities. The Early Childhood Comprehensive

Systems (ECCS) Grant leverages funding to develop infrastructure that supports strategies under development including specific roles for parents, advocates, policy makers, and legislators.
The Interim CSH Program Manager is a member of the Governor's EIC, which provides input to WDH and Wyoming Department of Education (WDE) on the Part C population (0 to 2 years), and the Governor's Planning Council on Developmental Disabilities (GPCDD). Each council meets quarterly in various sites throughout the state. Parent advisory boards are invited to attend and provide input. Both councils work toward coordination and service integration among programs serving CYSHCN, including early intervention, special education, social services, and family support services.

SELECTION OF STATE PRIORITY NEEDS

POTENTIAL PRIORITIES

The following issues were included in the final list constructed by the stakeholder population workgroups. Issue briefs were prepared for each of the 18 potential priorities (format described in Appendix C). After examining these issues in depth, the steering committee narrowed the list to ten final priorities.

1. **Access to Care/Providers** (Not Selected)

This issue was considered for inclusion as an MCH priority because:

Magnitude/Extent:

- Wyoming does not have a hospital with a level III nursery center, which provides equipment and staff members to handle very complicated births.
- Ten percent of all Wyoming children are uninsured.[43]
- Of Wyoming CYSHCN, 34.9% report having inadequate insurancet and 12.4% have unmet needs for family mental healthcare.[44]

Severity/Health Consequences

- Mental or developmental delay in children can be prevented when pregnant women have access to care including prevention of infection, proper nutrition, counseling for abstaining from alcohol, tobacco or drugs and support in delivery.[45]
- CYSHCN health insurance coverage can secure access to care, improve quality of life and reduce the financial burden on their families.[46]

MCH Responsibility

- The American Academy of Pediatrics believes that all children and pregnant women have a right to health insurance.[47] Financial barriers should not prevent children and pregnant women from receiving comprehensive healthcare. This issue is considered a MCH responsibility as the target population (CYSHCN) lies within the scope of the CSH Program.

Health Equity

- A national study by Newacheck found families with CYSHCN experience healthcare costs at a rate three times higher than families who do not have CSHCN; and families of CSHCN experiencing high out-of-pocket expenses, exceeding 5% of family income, were approximately 11 times more likely to be from households with incomes below 200% of the FPL than from families with incomes at or above 400% of the FPL.[48]
- According to the 2007 National Survey of Children's Health, significantly fewer families living at 0 to 99% of the FPL (77.3%) reported their child's overall health status as excellent or very good than families living at 400% FPL or higher (92.5%).[43]

Cost Benefit

- Neal Halfon writes in a 2009 article appearing in Expert Voices, "rather than spending too much too late, we can spend more wisely and assure more optimal health outcomes by focusing on the early determinants of life-long health."[49]

Life Course Effect

- Life course health policy focuses on improving the health of the young, not only because the health of the young is important, but also because it will affect the health of those across the age spectrum. "Childhood is an incubation period for many disorders that affect the health of the whole population."[50]

Leverage/Political Feasibility/Capacity

- Opportunities to collaborate exist with the Office of HealthCare Financing, Public Health Nursing, Primary Care Association, and family organizations.

This issue was *not* included as an MCH priority because:

Structural Resources

- MFH does not have the structural resources, authority, or funding sufficient to address this issue independently.

Data/Information Systems

- The National Survey of CYSHCN, conducted every four years, provides the only comprehensive data for CYSHCN in Wyoming and the U.S.
- This issue is currently addressed by National Performance Measures 1, 2 and 3.

2. **Asthma** (Not Selected)

This issue was considered for inclusion as an MCH priority because:

Magnitude/Extent:

- In 2008, 6.0% of Wyoming children 0 to 17 years had current asthma.[51]
- Of Wyoming CYSCHN, 37.5% have current asthma.[52]
- The rate of Wyoming children under five years of age hospitalized for asthma was 29.8 per 10,000 children in fiscal year FY2008.[53] The Healthy People 2010 goal for the rate of children under age five years hospitalized for asthma is 25 per 10,000.[54]

Severity/Health Consequences

- Asthma is the most common chronic disease in children.[55]
- Most of the problems caused by asthma could be averted if persons with asthma and their healthcare providers managed the disease according to established guidelines.[54]
- Asthma impacts children's quality of life. Asthma accounts for more than 100 million days of restricted activity annually and contributes to avoidance of school and activities.[56]
- Asthma is the third ranking cause of hospitalization for children under 15 years.[57]

MCH Responsibility

- The target population (children) lies within the scope of the Children and Adolescent Health Program. The Johns Hopkins Women's and Children's Health Policy Center recognizes the crucial role MCH programs play in "coordinating financial resources, community members, and experts in the field to work together on health issues," such as asthma.[58]

Health Equity

- Rates of emergency department visits and asthma hospitalizations are 2 to 2.5 times higher in children than adults, with children under five years of age having the highest rates of emergency room visits and hospitalizations for asthma of any age category.[59]
- Children with low socieconomic status have increased asthma prevalence and severity.[60]
- Compared to White children, AI/AL children are 1.3 times more likely to have current asthma, and Black children are 1.6 times more likely to have current asthma. However, asthma hospitalization rates for Black children are about four times higher than those for White children, and mortality rates are over seven times higher than those of White children.[61]
- In Wyoming counties where minorities account for more than 10% of the population, asthma prevalence is significantly higher than in counties with a minority population less than 10%.[62]

Cost Benefit

- Uncontrolled asthma often results in emergency room visits, which could be avoided with proper asthma mangement.

Life Course Effect

- Racial and economic disparities in childhood asthma continue into adulthood.
- Adult caretakers of children with high asthma morbidities may take more time off work, experience sleep disruptions, divert family resources towards medical care, and experience additonal anxiety.[63]

This issue was *not* included as an MCH priority because:

Structural Resources

- Wyoming does not have a state asthma program and does not receive state or federal funding to support a state asthma program.
- State and federal funding is provided through EqualityCare and Kid Care CHIP programs for asthma related medical care. EqualityCare contracts with APS Healthcare to provide health coaches to support follow-up and adherence to treatment plans for children with asthma through the "Healthy Together" program.
- Asthma is not covered under the Maternal and Family Health (MFH) Children's Special Health Program because the budget is not sufficient to support the associated costs.
- This issue is currently addressed by Health Systems Capacity Indicator 1: The rate of children under five years of age hospitalized for asthma per 10,000.

Data/Information Systems

- Asthma prevalence in children is estimated by the Wyoming Behavioral Risk Factor Surveillance System's (BRFSS) optional childhood module and the School Nurse Survey of Asthma and Diabetes. Neither survey has consistent funding.

3. **Autism** (Not Selected)

This issue was considered for inclusion as an MCH priority because:

Magnitude/Extent:

- Four percent of Wyoming CSHCN have autism or autism spectrum disorder (ASD)[52].

Severity/Health Consequences

- Individuals with ASD can have social impairments, communication difficulties, and restricted, repetitive, and stereotyped patterns of behavior.[64]

- Children with ASD appear to have a higher than normal risk for certain co-morbidities, including Fragile X syndrome (which causes mental retardation), tuberous sclerosis (in which tumors grow on the brain), epileptic seizures, Tourette syndrome, learning disabilities, and ADD.[64]
- CDC recognizes ASDs as "conditions of urgent public health concern," warranting a "substantial national response."[65]

MCH Responsibility

- Children with ASD fall within the CYSHCN population covered by MFH. The Maternal and Child Health Bureau's objective for CYSHCN is to support development and implementation of comprehensive, culturally competent, coordinated systems of care for the estimated 18 million U.S. children who have or are at risk for chronic physical, developmental, behavioral or emotional conditions and who also require health and related services of a type or amount beyond that required by children generally, including those with ASD.[66]
- State Title V agencies can play an important role in fulfilling the potential of EPSDT, a mandatory set of services and benefits available to EqualityCare recipients under the age of 21 years. Federal rules encourage partnerships between State Medicaid and Title V agencies to assure better access to and receipt of the full range of screening, diagnostic, and treatment services.

Health Equity

- While ASDs occur across all racial, ethnic, and socioeconomic groups; boys are four times more likely than girls to have an ASD.[65]

Life Course Effect

- ASDs can sometimes be detected at 18 months or younger. Children can be reliably diagnosed by age two years, but many children are diagnosed much later, delaying treatment. Current research indicates that early intervention treatment services can improve a child's development.[65]

Leverage/Political Feasibility/Capacity

- The Combating Autism Act Initiative (CAAI), enacted as Public Law 109-416 on December 19, 2006, "amends the Public Health Service Act to combat autism through research, screening, intervention and education." This legislation also reestablished a federal interagency autism coordinating committee.

This issue was *not* included as an MCH priority because:

Structural Resources

- Other agencies are addressing this issue:
  - Early developmental screening services are available at no cost to families across the state through the developmental preschools, which are located in all counties of Wyoming.
  - A statewide program titled "One Before Two" has been implemented to promote awareness of the importance of developmental screenings for all children from birth to age five years.
  - Services for preschool children birth to five years with ASDs are provided by the Wyoming Developmental Preschool regions.
  - Services are provided for school age children with ASDs through local K-12 school districts.
  - Pediatricians and Family Practitioners provide developmental and autism screenings for children receiving EqualityCare through the EPSDT program.
  - Diagnostic services are provided by independent practitioners through their offices.

Data/Information Systems

- Little Wyoming-specific data exist outside of the National Survey of CYSHCN, conducted approximately every four years. This need for CYSHCN data was addressed in another selected priority.

4. **Breastfeeding** (Selected)

This issue was considered for inclusion as an MCH priority because:

Magnitude/Extent:

- Wyoming birth certificate data from 2006 indicate that 71% of women reported breastfeeding at hospital discharge.[67]
- In 2004, National Immunzation Survey data show 46.6% of Wyoming mothers reported breastfeeding their infants at six months of age.[68]
- The Healthy People 2010[54] goal is to increase the percent of infants breastfed:
  - In early postpartum period to 75%
  - At six months of age to 50%
  - At one year of age to 25%

Severity/Health Consequences

- Benefits associated with breastfeeding:[69]
  - Infants have a reduced risk of:

        - Acute Otitis Media
        - Non-Specific Gastroenteritis
        - Severe lower repiratory tract infections
        - Atopic Dermatitis
        - Asthma (young children)
        - Obesity
        - Type 1 and 2 diabetes
        - Childhood Leukemia
        - SIDS (Sudden Infant Death Syndrome)
        - Necrotizing Enterocolitis
    - Mothers have reduced risk of:
        - Type 2 diabetes
        - Breast and ovarian cancer
- The American Academy of Pediatrics (AAP) recommends infants be exclusively breastfed for the first six months, and that ideally breastfeeding be continued until one year of age.[69]

MCH Responsibility

- Because the health of pregnant women and infants is an important component of all MCH programs, most MCH programs collaborate with their state's Women, Infant and Children's (WIC) nutrition program to promote breastfeeding.

Health Equity

- Data from the 2004 National Immunization Survey show that nationally, breastfeeding rates through three months of age were lowest among:[68]
    - Black infants
    - Infants of mothers <20 years of age, with a high school education or less, unmarried, residing in rural areas, and living at <100% of the Federal Poverty Level (FPL).
- Data from the 2007 Pediatric Nutrition Surveillance System (PedNSS) survey, which collects data from WIC clinics in the United States (U.S.), show the percent of women reporting ever breastfeeding differed by race and ethnicity:[70]
    - Non-Hispanic Black - 46.9%
    - Non-Hispanic White - 55.9%
    - Asian/Pacific Islander - 60.1%
    - American Indian/Alaskan Native - 63.1%
    - Hispanic - 72.4%.

Cost Benefit

- It is estimated that the recommended 50% of infants were breastfed for six months, a minimum of $3.6 billion in medical expenses would be saved annually.[71]

- Based on 2010 formula costs, breastfeeding can result in savings in the first year of up to $1500.

This issue *was included* as an MCH priority because:

Life Course Effect

- Two generations of participants in the Framingham Study who were breastfed as infants were 55% more likely as middle-aged adults to have high levels of HDL, or "good" cholesterol.[72]
- After reviewing more than 98 studies on lactation and breast cancer risk, the American Institute for Cancer Research (AICR) "concluded that the evidence linking lactation to lower risk for both pre-menopausal and post-menopausal cancer is convincing."
- Cushing et. al. report a reduced risk of respiratory illness in fully breastfed infants [OR= 0.81, 95% CI (0.68–0.96)].[73]

Leverage/Political Feasibility/Capacity

- Leverage of funds to support breastfeeding consists of partnerships with agencies and entities that also focus on breastfeeding, such as WIC and the Healthy Children Project.
- Wyoming House Joint Resolution 5 (2003) encourages breastfeeding and recognizes the importance of breastfeeding to maternal and child health. The resolution also commends employers, both in the public and private sectors, who provide accommodations for breastfeeding mothers.
- Wyoming Stat. § 6-4-201 (2007) exempts breastfeeding mothers from public indecency laws and gives breastfeeding women the right to nurse anyplace that they otherwise have a right to be. (HB 105)

Structural Resources

- More than half of the office staff in Wyoming Public Health Nursing (PHN) offices are trained as CLC providers, to assist postpartum women with initiation and continuation of breastfeeding. With annual certification classes, more nurses and other staff members can be trained to lend support to breastfeeding mothers.
- Wyoming is in the first year of developing a state-wide breastfeeding coalition to support initiation and continuation of breastfeeding until at least six months of age.
- Two hospitals within the state (Powell and Sheridan) are in the process of applying for "Baby Friendly" status. This indicates support of breastfeeding and use of formula only in specific cases. Currently, there are no hospitals in Wyoming with a "Baby Friendly" designation.

Data/Information Systems

- The National Immunization Survey (NIS) collects information on initiation of breastfeeding and breastfeeding at six months.

- PRAMS gathers information on women's health behaviors before, during, and after pregnancy to determine what MFH programmatic changes are necessary to improve pregnancy outcomes, including initiation and continuation of breastfeeding.
- The Wyoming Department of Health's Vital Statistics Section collects information on breastfeeding at hospital discharge from birth certificates.
- This issue is currently addressed by National Performance Measure 11: The percent of infants breastfed at six months of age.

5. **Data Capacity for CYSHCN** (Selected)

This issue was considered for inclusion as an MCH priority because:

Magnitude/Extent

- Data for the following issues are not readily available:
  - Waiting lists for waiver programs
  - Travel distances for treatment
  - Medications not covered by public or private insurance
  - Home school frequency for autistic children
  - Supports for teachers of CYSHCN
  - Inapproprate use of medications
  - Autism awareness
  - Number of children who need or receive hearing aids
  - Grandparents as parents
  - Nutritional services and education available to CYSHCN
  - Medical or social services available for CYSHCN in crisis
  - Social experiences and inclusive activities for CYSHCN
  - Specific conditions not covered by National Survey of Children with Special Health Care Needs
  - Specific data on Wyoming CYSHCN not covered by the CSH program
- The National Survey of Children with Special Health Care Needs is the only source of surveillance data for the CYSHCN population in Wyoming.

Severity/Health Consequences

- Without data, it is impossible to design, implement, and evaluate evidence-based strategies to address health issues faced by CYSHCN. Unless identified, unmet needs may not be addressed.

MCH Responsibility

- The Maternal and Child Health Bureau's objective for research is to "support research that finds better, more efficient ways to provide maternal and child health services, especially preventive care and early intervention."

Health Equity

- Champions for Inclusive Communities assert that "disparities found within the CSHCN population tend to mirror the general child population."[74]
- Because Wyoming cannot reliably describe disparities in the prevalence or health outcomes for the CYSCHN poulation by race, ethnicity, insurance status, socioecnomic status, or other factors, disparities cannot be addressed.

Cost Benefit

- Using Maternal and Family Health (MFH) resources to increase data capacity for issues related to CYSHCN will allow the CSH Program to implement evidence-based strategies to improve outcomes for CYSHCN and their families.

This issue *was included* as an MCH priority because:

Life Course Effect

- "Policy makers can forecast and monitor the effect of their policies on children; researchers can determine best practices for health, social, and education services; the particular impact of multiple health influences on children can be determined; and management of patient care can be improved. A community can be empowered when it has information specific to its children."[75]

Structural Resources

- The Community and Publlic Health Division's (CPHD) Epidemiology Section has the technical expertise to assist MFH; however, staff capacity is low.

Data/Information Systems

- The CPHD-EPI Section staff members have access to a variety of data sources which are important for providing data on CYSHCN; including Vital Statistics, EqualityCare, data from the National Survey of CYSHCN, newborn metabolic screening data, and the MFH client data system.

6. **Sexual and Dating Violence** (Selected)

This issue was considered for inclusion as an MCH priority because:

Magnitude/Extent

- In 2007, 14.7% of Wyoming high school students reported being hit, slapped, or physically hurt on purpose by their boyfriend or girlfriend during the past 12 months. The percent of dating or sexual violence was significantly greater among Wyoming high school students than the national high school population (14.7% Wyoming vs. 9.9% U.S., $p<0.01$).[76]

Severity/Health Consequences

- Victims of dating violence are at increased risk for injury and are more likely to engage in binge drinking, suicide attempts, and physical fights.[77-78]
- Rates of drug, alcohol, and tobacco use are more than twice as high in girls who report physical or sexual dating violence than in girls who report no violence.[78-79]
- Dating violence is also associated with unhealthy sexual behaviors that can lead to unintended pregnancy, sexually transmitted diseases, and HIV infections.[78, 80]
- Abusive dating experiences during adolescence may disrupt normal development of self-esteem and body image.[78, 81]
- Adolescents in abusive relationships often carry these unhealthy patterns of violence into future relationships.[78, 82]

MCH Responsibility

- This issue is considered an MCH responsibility as the target population (teens) falls within the scope of the Early Child and Adolescent Health Program. Prevention efforts addressing dating and sexual violence can be incorporated with injury prevention.

Health Equity

- When comparing Hispanic/Latino and Non-Hispanic White high school students, a higher percent of Wyoming Hispanic/Latino high school students reported that they experienced dating violence. [19.4%, (95% CI: 14.5-25.6%) vs. 14.0% (95% CI: 12.3-16.1%)][83]
- When comparing Hispanic/Latino and non-Hispanic White high school students, a higher percent of Wyoming Hispanic/Latino high school students reported that they had been physically forced to have sexual intercourse when they did not want to. [14.6% (95% CI: 10.0-20.9%) Hispanic/Latino vs. 11.6% (95% CI 9.9-13.4%)][83]

Cost Benefit

- In 2003, the cost of intimate partner violence was estimated at more than $8.3 billion. This cost includes medical care, mental health services, and lost productivity.[84]

This issue *was included* as an MCH priority because:

Life Course Effect

- Exposure to intimate partner violence (IPV) and household dysfunction as a child is associated with teen pregnancy, unintended pregnancy, sexually transmitted diseases, alcohol abuse, smoking, suicide, depression, and risk factors for heart disease, chronic lung disease, and liver disease in adulthood.[85-90]
- Men who have been exposed to intimate partner violence in childhood are four times more likely to be a perpetator in intimate partner violence.[91]
- Women who witnessed interparental violence in childhood are four times more likely to report intimate partner violence victimization.[92]

Leverage/Political Feasibility/Capacity

- As part of the Wyoming Sexual Violence Prevention Plan, a community readiness assessment was conducted to assess the level of readiness to develop and implement prevention programming. Findings report communities are at the "no awareness" or "denial or resistance" stage to address this issue.
- The Governor's Council - Domestic Violence Elimination Council (DoVE) – was created by Executive Order 99-1 with the mission to eliminate domestic violence.

Structural Resources

- The Wyoming Rape Prevention and Education Grant Program through the CDC is coordinated by the Community and Public Health Division Administrator.
- The CDC Rape Prevention and Education Grant Program supports increased awareness, education and training, and the operation of hotlines. It addresses the Healthy People 2010 focus areas of injury and violence prevention.
- The Wyoming Sexual Violence Prevention Plan has a focus population of adolescents 12 to 24 years of age and recommends primary prevention of sexual violence through education and promotion of healthy relationships.

Data/Information Systems

- A Comprehensive Needs Assessment of Sexual Violence in Wyoming was done by the Wyoming Statistical Analysis Center in August 2008.
- Dating/sexual violence information is also available through YRBS data and survey data from the Mental Health and Substance Abuse Services Division (MHSASD).

7. **Childhood Injuries** (Selected)

This issue was considered for inclusion as an MCH priority because:

Magnitude/Extent

- Nearly one third (31%) of fatalities among Wyoming children 5 to 14 years of age are due to motor vehicle Crashes[67] (MVC) compared to 22% of fatalities among U.S. children.[93]
- Of child fatalities among Wyoming children 15 to 19 years of age, 45% are attributable to MVC.[67]
- The three most common causes of unintentional injuries resulting in hospitalizations in Wyoming children 0 to 14 years of age in FY2007 were falls, motor vehicle accidents, and poisonings.[53]
- From 2002 to 2006, Sudden Unexplained Infant Death was the third leading cause of death in Wyoming infants less than one year of age.[67]

Severity/Health Consequences

- Injuries are a leading cause of morbidity and mortality among children and adolescents in the U.S. From 2000 to 2005, 44% of deaths among 1 to 19 year olds were attributable to unintentional injuries.[94]
- Additionally, unintentional injury is the leading cause of years of potential life lost before age 65.[95]

MCH Responsibility

- This issue is considered a MCH responsibility as the target population (children and adolescents) lies within the scope of the Children and Adolescent Health Program.

Health Equity

- American Indian youth are at a greater risk of death from a preventable injury than the general population. American Indian deaths between the ages of one year and four years occur at nearly three times the rate of children in the general population.[96]
- An analysis of trends in U.S. childhood mortality from 1969 to 2000 revealed that unintentional injury mortality declined fastest among the least deprived socio-economic status (SES) groups compared to more deprived SES groups. This disparity has contributed to the widening SES gap in mortality due to unintentional injuries.[97]

This issue *was included* as an MCH priority because:

Cost Benefit

- Injury is the leading cause of medical spending for children ages 5 to 14 years.[98]
- Every dollar spent on a child safety seat saves the U.S. $32 in direct medical costs and other costs to society.[98]

- Every dollar spent on a bicycle helmet saves the U.S. $30 in direct medical costs and other costs to society.[98]
- Children who are left disabled as a result of an unintentional injury incur increased healthcare and social services costs.

Life Course Effect

- Unsafe environments cause injury and death and are barriers to physical activity that is important to lifelong health.[99]
- Many who are not fatally injured are left with life long diabilities, chronic pain, and/or a profound change in lifestyle. In addition, research suggests that psychosocial and mental health sequelae are some of the most disabling consequences of injury.[100]

Leverage/Political Feasibility/Capacity

- State and local capacity currently exists and collaboration is established and well underway.
- There is perceived WDH support for an injury prevention program, currently focused on occupational injury.
- There has been political support for addressing issues surrounding child restraint use.

Structural Resources

- Local capacity is established through Safe Kids chapters and coalitions in 21 counties. Activities include carseat check stations, bike rodeos, Boost Till 9 Campaign, and Protect Our Future program.
- The Wyoming Child Major Injury and Fatality Review Team (WCMIFRT) was established by the Department of Family Services (DFS) in December 1997, under the authority provided in the Child Protective Services Act, W.S. 14-3-201 through 14-3-215 with exclusive focus on maltreatment cases. In March 1999, the team was expanded to include review of major injuries if DFS had custody of the child.
    - MFH has had representation on the WCMIFRT, but is currently not actively involved in this process.
    - Recent discussions with this group have centered on a proposal to incorporate a prevention focus to the review process. No current planning is underway.
- MFH is in the early planning stages for implementation of a co-sleeping initiative.

Data/Information Systems

- Data related to fatalities are collected and maintained by WDH Vital Statistics Services.
- Data related to motor vehicle Crashes including safety equipment use are collected by WYDOT.
- Hospital discharge data are used to track non-fatal injuries. The Wyoming Hospital Association collects and maintains the database. WDH is given a de-identified data set yearly. Reporting by hospitals is voluntary.

- WISQARS™ (Web-based Injury Statistics Query and Reporting System) is a CDC interactive database system that provides customized reports of injury-related data.

8. **Low Birth Weight (LBW)**

This issue was considered for inclusion as an MCH priority because:

Magnitude/Extent

- In 2007, 9.1% of Wyoming infants were born at LBW, while 8.2% of U.S. infants were born at LBW.[101] The prevalence of LBW has not decreased in Wyoming between 2001 and 2007. The Healthy People 2010 goal is to reduce the percent of infants born at LBW to 4.5%.[54]
- Inadequate maternal weight gain has been identified as a leading cause of low birth weight in Wyoming. In 2007, 38% of Wyoming women gained less than the recommended amount of weight based on their pre-pregnancy body mass index.[102]
- Maternal smoking has been associated with LBW. In 2006, 20.4% of Wyoming women reported smoking during pregnancy[67] compared to 13.2% of pregnant women in the 16 other states using the revised 2003 birth certificate.[103]
- The prevalence of LBW among women who reported smoking during the last three months of pregnancy was 11.29% compared to 5.84% of LBW among women who reported not smoking during the last three months of pregnancy.[102]

Severity/Health Consequences

- Low birth weight is associated with an increased risk of:[104]
    - Infant death
    - Hearing disability
    - Vision loss
    - Brain injury
    - Coronary defects
    - Gastrointestinal defects

MCH Responsibility

- MCH programs, including Wyoming's Maternal and Family Health (MFH) program, are responsible for improving the health of pregnant women and infants.

Health Equity

- Low birth weight varies with maternal age. From 2003 to 2005, the highest rates of LBW in Wyoming occurred to women <20 years of age (13.8%) and women ≥ 35 (10.0%).[105]
- Low birth weight varies with household income. From 2003 to 2005, the highest rates of LBW in Wyoming occurred in homes with a household income ≥ $40,000 (32.3%) and in homes with a household income below $8,000 (16.1%).[105]

Cost Benefit

- Preconception care is cost-saving. One study found that a comprehensive preconception care program reduced maternal and infant hospitalization costs by $1,720 per woman.[106] Another study reported $5.19 saved for every $1 spent on preconception care.[107]
- Tobacco cessation treatment for pregnant women is considered one of the most cost-saving preventive services. One study estimated every $1 invested in smoking cessation programs for pregnant women results in a savings of $6.[108]
- A 1992 meta-analysis shows WIC benefits to pregnant women are estimated to decrease LBW rates by 25% and very LBW births by 44%, therefore medical costs in the first year were estimated to be reduced by $1.19 million in 1992.[109]

Life Course Effect

- Low birth weight infants have an increased risk of developing cardiovascular disease, insulin resistance, type 2 diabetes, and gestational diabetes as adults.[110-111]
- LBW has been associated with an increased risk of developing childhood asthma and appears to be independent of gestational age, genetics and shared environmental factors.[112]

Leverage/Political Feasibility/Capacity

- Many Wyoming stakeholders work with pregnant women and are key to leveraging funds and resources to address preterm birth and LBW. Partnerships include PHN, WIC, MHSASD, WHC, Family Planning Clinics, Community Health Centers (CHC), and the Office of Health Care Financing EqualityCare.
- MFH offers capacity grants to each of the county PHN offices to provide support, referral, and education to pregnant women and their families. Funding expands perinatal services such as prenatal classes and home visiting.
- MFH has provided the evidence-based 5 A's smoking cessation training to PHN staff members who work with pregnant women. The project was in partnership with MOD and MHSASD.

Data/Information Systems

- Wyoming Vital Statistics Services provides birth certificate data.
- The PRAMS survey gathers information on women's health behaviors before, during, and after pregnancy to determine the need for MFH programmatic changes to improve pregnancy outcomes.

This issue was *not* included as an MCH priority because:

Structural Resources

- Capacity within MFH is limited to one person assigned to address Women and Infant Health for the state. Efforts are maximized through collaboration with partners.

Other

- The steering committee chose to address this issue by selecting Preterm Birth and Maternal Smoking as priorities.

9. **Mental Health and Substance Abuse** (Not selected)

This issue was considered for inclusion as an MCH priority because:

Magnitude/Extent

- Significantly more Wyoming high school students (28.8%) report drinking for the first time before age 13 years than U.S. high school students (23.8%).[83]
- Nearly 30% of Wyoming high school students report binge drinking on at least one day in the last month.[83]
- More than half (54.4%) of Wyoming high school students report ever trying smoking cigarettes.[83]
- In 2007, 10.5% of Wyoming children age 2 to 17 years received some type of treatment or counseling from a mental health professional during the past 12 months compared to 8.1% of children in the U.S. [43]

Severity/Health Consequences

- Mental disorders account for approximately 25% of disability in the United States, Canada, and Western Europe and are a leading cause of premature death.[113]
- An estimated one in ten children in the United States has a mental disorder that causes some level of impairment.[114]
- Mental health disorders, and/or substance abuse are major risk factors for suicide.[115]

Health Equity

- Poverty is linked to poor mental health. Studies have shown people living at the lowest income levels are two to three times more likely than those living in the highest income levels to have a mental disorder.[116]
- In 2003, males ages 12 years or older were twice as likely as females of the same age to be dependent on or abuse alcohol or illicit drugs in the past year.[117]
- The alcoholism rate among American Indian/Alaska Natives is seven times higher than the U.S. rate for all races, and substance use disorders are significantly more likely among the American Indian and Alaska Native children than in White children from similar locations.[118]

Cost Benefit

- Mental illness costs the United States an estimated $150 billion annually, excluding the costs of research. [119]

Life Course Effect

- Substance use and abuse by children and adolescents prevent the development of healthy coping and problem solving mechanisms for later life as an adult.[120]
- Children and adolescents with untreated or undertreated mental health issues are at risk of cycling through stages of unstable mental health as adults.[121]

This issue was *not* included as an MCH priority because:

MCH Responsibility

- WDH's Mental Health and Substance Abuse Services Division (MHSASD) receives state and federal funds to address mental health and substance abuse issues.
- The MHSASD employs a Youth Advocate on staff who addresses mental health and substance abuse issues in youth.

Leverage/Political Feasibility/Capacity

- MHSASD has received multiple appropriations from the state legislature to address mental health and substance abuse needs in Wyoming.
- The 2007 legislature modified the funding formula for developmental preschools to include a component for social-emotional services.

Structural Resources

- There is no mental health and substance abuse capacity within MFH. Authority and funding lies within MHSASD.

Data/Information Systems

- MHSASD is the primary data source for information relating to mental health and substance abuse services/outcomes.
- Limited data on mental health and social-emotional development are also available from the National Survey of Children's Health and the National Survey of Children with Special Health Care Needs.

10. **Nutrition Among Women of Reproductive Age** (Selected)

This issue was considered for inclusion as an MCH priority because:

Magnitude/Extent

- Data from Wyoming's Maternal Outcome Monitoring System (MOMS) 2003-2005 survey of women who recently delivered baby show that prior to pregnancy (based on self reported height/weight):[105]
    - 54% of women were at a healthy weight
    - 21% were overweight
    - 16% were obese
    - 9% were underweight
- The 2007 Wyoming Behavioral Risk Factor Surveillance System (BRFSS) reports less than 30% of adult Wyoming females reported consuming five or more servings a day of fruits and vegetables.[122]
- BRFSS data show in 2006:[123]
    - 55% or fewer Wyoming women ages 18 to 45 years who were not pregnant reported taking folic acid.
    - 44% of Wyoming women ages 18 to 45 years who were not pregnant know that folic acid helps prevent birth defects.

Severity/Health Consequences

- Underweight women are more likely to have[124]:
    - Less than ideal or recommended weight gain based on their pre-pregnancy body mass index
    - Low birth weight infant
    - Infant born preterm
- Overweight/Obese women are at risk for[125] :
    - Birth defects, especially neural tube defects
    - Infertility
    - Labor and delivery complications
    - Fetal and neonatal death
    - Maternal complications (e.g. hypertension, gestational diabetes, preeclampsia)
    - Delivery of large-for-gestational-age (LGA) infants
- Intake of folic acid reduces the risk of neural tube defects such as spina bifida and anencephaly by 50-70%.[126-127]

MCH Responsibility

- This issue is considered a MCH responsibility as the target population (children) lies within the scope of the Woman and Infant Health program of Wyoming's Maternal and Family Health (MFH) section.

Health Equity

According to 2005 Wyoming MOMS data:[105]

- Signficantly more Wyoming women ages 15 to 19 years (29.6%) were underweight prior to pregnancy compared to women 20 years of age and older. Women under 20 years of age are more likely to gain excessive weight during pregnancy.
- Significantly more American Indian women were obese prior to pregnancy than White women (30% vs.19% respectively).
- Wyoming women with less than a high school education, and women 35 years and older are more likely to gain an insufficient amount of weight during pregnancy.[105]
- American Indian women were more likely to report not taking vitamins prior to pregnancy than White women (60% vs 50% respectively).
- More Non-Hispanic women reported not taking a multivitamin prior to pregnancy compared to Hispanic women, (49.0% versus 69.6% respectively).

This issue *was included* as an MCH priority because:

Cost Benefit

- Preconception care is cost-saving. One study found that a comprehensive preconception care program, reduced maternal and infant hospitalization costs by $1,720 per woman.[106] Another study reported $5.19 saved for every $1 spent on preconception care.[107]

Life Course Effect

- Women who have gestational diabetes are two to three times more likely to develop gestational diabetes during a subsequent pregnancy and are at an increased risk of developing type 2 diabetes later in life.[128]
- Post-partum weight retention may put women at risk of post-partum obesity[129] which increases the risk of cardiovascular disease, diabetes, and some types of cancer.[130]
- Infants born at low birth weight, which is often associated with insufficient weight gain during pregnancy, are at an increased risk of developing cardiovascular disease as an adult.[110]

Structural Resources

- MFH provides the WHC with funding to expand the availability of family planning clinics throughout the state. This includes funding a preconception health packet (prenatal

vitamins with folic acid, condoms, information to be as healthy as possible before becoming pregnant) through all clinics.

- Currently, the following MFH services are available to pregnant women: family planning, PHP, Best Beginnings, NFP, MHR , Newborn Intensive Care Program (NBIC), HBWW, Pregnant by Choice (PbC).

Data/Information Systems

- The PRAMS survey gathers information on women's health behaviors before, during, and after pregnancy to determine the need for MFH programmatic changes to improve pregnancy outcomes (preconception and interconception health, intended pregnancy).
- Wyoming BRFSS collected information about folic acid use and knowledge in 2006 and collects data about height and weight and fruit and vegetable consumption among Wyoming adults.
- Wyoming Vital Statistics Services provides birth certificate data.

11. **Physical Activity and Nutrition for Children and Adolescents** (Selected)

This issue was considered for inclusion as an MCH priority because:

Magnitude/Extent

- According to the 2007 Wyoming YRBS:[83]
    - Significantly fewer Wyoming students than U.S. students eat the recommended amount of fruits and vegetables.
    - Approximately 52% of Wyoming high school students did not meet recommended levels of physical activity, and significantly fewer Wyoming students attend daily physical education class when compared to all U.S. students.
- According to the 2007 National Survey of Children's Health 29.8% of Wyoming children ages 6 to 17 years engaged in vigorous physical activity every day.[43]

Severity/Health Consequences

- Children who meet recommended physical activity levels decrease their risk for overweight/obesity.
- A diet lacking fruits and vegetables increases risk for overweight/obesity.
- Children who are overweight/obese are at an increased risk of developing several chronic diseases including type 2 diabetes, coronary heart disease, hypertension, dyslipidemia, sleep apnea, respiratory problems, and gall bladder disease.[131]

MCH Responsibility

- This issue is considered an MCH responsibility as the target population (children) lies within the scope of the Early Child and Adolescent Health Program. Many states have addressed

this issue through MCH programs to increase physical activity and improve nutrition for the entire MCH population.

Health Equity

- AI/NA, Hispanic and Black children have a higher prevalence of obesity compared to non-Hispanic White children.[132]
- AI/NA children are twice as likely to be overweight and three times as likely to be obese. The disparities in overweight and obesity are likely a reflection of disparities of physical activity and nutrition between the different racial/ethnic groups.[132]
- Children covered by EqualityCare are nearly six times more likely to be treated for a diagnosis of obesity than children covered by private insurance.[133]
- Vegetable intake is lowest among youth of lower socioeconomic status.[134]

This issue *was included* as an MCH priority because:

Cost Benefit

- The national cost of childhood obesity is estimated at $11 billion for children with private insurance and $3 billion for those with Medicaid.[133]

Life Course Effect

- Research has demonstrated that dietary habits developed during childhood continue into adulthood.[135]
- Chronic diseases identified in childhood are associated with a greater morbidity, mortality, and cost over the child's lifespan than the same diseases diagnosed in adulthood.[50, 135]

Leverage/Political Feasibility/Capacity

- Opportunities to collaborate exist and some collaborations are underway. Recommended partners include child care and after-school service providers, as these are ideal venues for contributing to the improved health and physical activity of children.
- Capacity at the local level varies and exists primarily within the school districts.
- The mission of the Governor's Council on Physical Activity and Sports is to promote and encourage residents of Wyoming to achieve physical fitness through physical activity, regular exercise, and participation in sports; and by coordinating physical fitness programs in Wyoming.

Structural Resources

- MFH has assumed a coordination role in a multi-agency workgroup with representatives from WDH and the Wyoming Department of Education (WDE) around physical activity and nutrition. An informal capacity assessment has been completed but no future meetings have been scheduled.

- WDH programs in the Chronic Disease Section currently focus similar efforts primarily toward the state's adult population.

Data/Information Systems

- Self (or parent) reported data on diet, physical activity and BMI are available from the YRBS survey and the NSCH.
- Oral health and BMI surveys of third grade Wyoming students were conducted in 2008 and 2009 by Oral Health, MFH, and CPHD Epidemiology sections. These studies do not have a consistent funding source.

12. **Preterm Birth** (Selected)

This issue was considered for inclusion as an MCH priority because:

Magnitude/Extent

- In 2006, 12.8% of Wyoming infants were born preterm;[67] the same percent of U.S. infants were born preterm.[103]
- Over the past ten years, the rate of preterm births in Wyoming has closely followed the U.S. rate. Nationally, the preterm birth rate has increased 20% since 1990.[67, 103]
- The Healthy People 2010 goal is to reduce the percent of preterm births to no more than 7.6% of live births.[54]

Severity/Health Consequences

- Preterm birth is a leading cause of infant mortality and long term morbidity.[136]
- Mortality rates are highest and complications are more severe among the infants born at the earliest gestational ages.[137]
- Complications associated with preterm birth include[137]:
    - Respiratory Distress Syndrome
    - Chronic lung disease
    - Intestinal injury
    - Cardiovascular disorders
    - Compromised immune system
    - Hearing impairments
    - Vision impairments
    - Neurodevelopmental disabilities
    - Infections
    - Apnea

MCH Responsibility

- MCH programs, including Wyoming's MFH program, are responsible for improving the health of pregnant women and infants.

Health Equity

- Nationally, there are significant racial disparities in rates of preterm birth.[138]
  - Black infants have the highest rates followed by American Indian and Hispanics.
  - Rates are lower in Non-Hispanic White and Asian women.
- Women of lower socioeconomic status are more likely to experience pre-term birth.[139]
- Maternal age has also been identified as a risk factor for preterm birth:
  - One study found that adolescents 16 years of age or younger had nearly a twofold greater risk of delivering a child at less than 33 weeks of gestation when compared to women who were 21 to 24 years of age. The risk decreased as the age of the mother increased.[140]
  - A study examining the association between age of maternity and delivery risks found that women 35 years of age and older had a 64% increased odds of preterm delivery compared to women less than 35 years of age after adjusting for education, birth order and fetal gender.[141]
- In 2005, 35% of Wyoming women with prenatal care paid by EqualityCare reported preterm labor compared to 27% of women with prenatal care paid by another source.[105]
- In 2005, 27% of Wyoming women with greater than a high school education reported preterm labor compared to 36% of women with a high school education or less.[105]

This issue *was included* as an MCH priority because:

Cost Benefit

- The Institute of Medicine estimates preterm birth costs society $26 billion annually or $51,600 per infant born preterm with approximately two thirds of this cost attributed to medical care.[142]
- Every public dollar spent on family planning services saves the federal and state governments $3 in Medicaid costs for prenatal and newborn care.[143]

Life Course Effect

- Infants born preterm are at an increased risk of chronic neurodevelopmental disorders including[142]:
  - Cerebral Palsy
  - Mental retardation
  - Visual impairments
  - Hearing impairments
  - Learning disabilities
  - Attention Deficit-Hyperactivity Disorder (ADHD)
- The life course perspective suggests that preterm birth may be a consquence of increased stress over time which leads to an increase in stress hormones during pregnancy. A high

level of stress hormones during pregnancy increases the risk of preterm birth. This theory suggests that women of racial/ethnic minorities and women of low socioeconomic status experience high levels of chronic stress, which then increases their stress hormone levels.[144]

Leverage/Political Feasibility/Capacity

- Many Wyoming stakeholders work with pregnant women and are key to leveraging funds and resources to address preterm birth and low birth weight.

Structural Resources

- Capacity within MFH is limited to one person assigned to address Women and Infant Health for the state. Efforts are maximized through collaboration with partners.

Data/Information Systems

- Wyoming Vital Statistics Services provides birth certificate data.
- March of Dimes provides perinatal data through PeriStats.
- The PRAMS survey gathers information on women's health behaviors before, during and after pregnancy to determine the need for MFH programmatic changes to improve pregnancy outcomes (preconception and interconception health, intended pregnancy).

13. **Smoking During Pregnancy** (Selected)

This issue was considered for inclusion as an MCH priority because:

Magnitude/Extent

- In 2006, 20.4% of Wyoming women reported smoking during pregnancy.[67] The U.S. prevalence was 13.2%.[103]
- From 1990 to 2002, smoking decreased among U.S. pregnant women by 38% (18.4% in 1990 and 11.4% in 2002) while the prevalence among Wyoming pregnant women decreased by only 14.8% (24.3% in 1990 to 20.7% in 2002).[145] Since 2002, the prevalence in Wyoming has remained relatively stagnant.[101]
- The HP2010 objective related to maternal smoking during pregnancy is for 99% of all pregnant women to abstain from smoking.[54]

Severity/Health Consequences

- "Smoking before and during pregnancy is the most preventable cause of illness and death among mothers and infants."[146]
- Among pregnant women, smoking increases the risk of.[147]
    - Low or very-low infant birth weight
    - Ectopic pregnancy
    - Spontaneous abortion
    - Preterm birth

- Congenital heart defects
- Sudden Infant Death Syndrome (SIDS)
- Placenta Previa
- Placentae abruption
- Premature rupture of membranes

MCH Responsibility

- Maternal and Child Health (MCH) programs, including Wyoming's Maternal and Family Health (MFH) section, are responsible for improving the health of pregnant women and infants.

Health Equity

- Smoking during pregnancy is more prevalent among women enrolled in EqualityCare, women with less than a high school education, and women under 20 years of age.
- Based on 2005 Wyoming MOMS data, several disparities exist.[105]
  - 20.5% of women <20 years of age reported smoking during the last three months of pregnancy compared to 10.8% of women aged 25 to 34 years.
  - 29% of women with only a high school education and 25% of women with less than a high school education reported smoking during the last three months of pregnancy compared to 7% of women who had greater than a high school education.
  - American Indian women were more likely to smoke during the last three months of pregnancy than White women (18% versus 15% respectively).
  - Hispanic women were less likely to smoke during the last three months of pregnancy than Non-Hispanic White women (9% vs.16% respectively).

This issue *was included* as an MCH priority because:

Cost Benefit

- Tobacco cessation treatment for pregnant women is considered one of the most cost-saving preventive services. One study estimated that for every $1 invested in smoking cessation programs for pregnant women, $6 in healthcare costs are saved. Additionally, it was reported that offering smoking cessation programs to pregnant women would save $3.31 per dollar spent preventing the neonatal intensive care unit care for low birth weight infants. [108]

Life Course Effect

- One study reported that, after adjusting for confounding variables (including birth weight), children born to women who smoked during pregnancy had 2.73 (95% CI: 1.3-5.71) times higher odds of being overweight at age seven years compared to children born to women who did not smoke during pregnancy.[148]

- Children born to women who smoked during pregnancy have a 35% increase in the odds of having asthma at age seven years compared to children of women who did not smoke during pregnancy (OR: 1.35, 95% CI: 113-1.62).[149]

Leverage/Political Feasibility/Capacity

- Many Wyoming stakeholders work with pregnant women and are key to leveraging funds and resources to address preterm birth and low birth weight. Partnerships include PHN, WIC, MHSASD, WHC, Family Planning Clinics, CHC, and the Office ofHealthCare Financing (EqualityCare and Kid Care CHIP).

Structural Resources

- MFH has provided the evidence-based 5 A's smoking cessation training to PHN staff who work with pregnant women. The project was in partnership with MOD and MHSASD.
- The MOD funds a national campaign to decrease preterm births, and provides grants to Wyoming providers to work toward those efforts. MOD funded CRMC to provide a Smoking Cessation program targeting pregnant women in 2009.

Data/Information Systems

- Wyoming Vital Statistics Services provides birth certificate data.
- MOD provides perinatal data through PeriStats.
- The PRAMS survey gathers information on women's health behaviors before, during and after pregnancy to determine the need for MFH programmatic changes to improve pregnancy outcomes (preconception and interconception health, intended pregnancy).

14. **Suicide** (Not Selected)

This issue was considered for inclusion as an MCH priority because:

Magnitude/Extent

- From 2000 to 2006, the suicide rate among Wyoming teenagers aged 15 to 19 years was 16.08 per 100,000 compared to 7.7 per 100,000 for U.S. teens.[150]
- From 2000 to 2006, 18% of deaths to Wyoming children ages 15 to 19 years were due to suicide compared to 7.3% of deaths to U.S. teens. A significantly greater percent of Wyoming high school students reported attempting suicide one or more times during the previous 12 months than U.S. high school students.[83]

Severity/Health Consequences

- More teenagers and young adults die from suicide than from cancer, heart disease, AIDS, birth defects, stroke, pneumonia and influenza, and chronic lung disease combined.[151]

- The number of deaths by suicide reflects only a small portion of the impact of suicidal behavior. For each completed suicide by a youth, there are an estimated 100 to 200 attempts.[152]

MCH Responsibility

- This issue is considered an MCH responsibility. There is a Title V Block Grant National Performance Measure addressing suicide in youth ages 15 to 19 years.
- The WDH MHSASD is responsible for management of the Wyoming Suicide Prevention Program.

Health Equity

- The suicide rate is three to six times higher among American Indian/Alaskan Native youth than among their non-Native peers and represents one of the greatest health disparities faced by young American Indian and Alaska Natives.[96]
- Suicide rates are higher among boys than girls, however, girls have higher rates of suicidal ideation and attempted suicide.[153]

Cost Benefit

- From 1999 to 2005, the average medical cost per completed suicide was $3,983 and the average medical costs for each suicide attempt that resulted in hospitalization was $9,127.[154]

Life Course Effect

- A youth is at greater risk of attempting suicide if his/her family has a history of suicide.[155]
- Between 20-50% of people who kill themselves had previously attempted suicide.[156]

- This issue was *not* included as an MCH priority because:

Leverage/Political Feasibility/Capacity

- Local task forces and coalitions work in collaboration with MHSASD in moving efforts identified in the suicide prevention plan forward at the local levels.
- State and federal funding is provided to MHSASD to address this issue.

Structural Resources

- MHSASD receives funding through the Substance Abuse and Mental Health Services Administration's (SAMHSA) youth suicide prevention grant.
- Local capacity is established through 17 county task forces coordinated by this grant and state funding.
- Advisory structure and collaborative planning is established through the Youth Suicide Prevention Advisory Council. In MFH, the Early Child and Adolescent Health Program

Specialist is a member of the Council and works to support agreed upon goals and objectives.

Data/Information Systems

- Completed suicide data is based on information from death certificates from Wyoming Vital Statistics Services.
- Overall accuracy of data is unknown. Wyoming does not have medical examiners, and elected County Coroners are charged with determining cause of death.
- Suicide attempt data is collected by YRBS.
- Wyoming is currently not collecting any data specific to sexual minority youth and suicide.

15. **Transition for CYSHCN** (Selected)

This issue was considered for inclusion as an MCH priority because:

Magnitude/Extent

- Approximately 14.4% or 16,456 children in Wyoming have a special health care need. Today more CYSHCN are living into adulthood with complex ongoing health needs.[44]
- Over half (57.5%) of Wyoming families of CYSHCN report they are partners in decision making at all levels and are satisfied with the services they receive.[44]
- Of Wyoming CYSHCN 12 to 17 years of age[44]:
    - 47% reported receiving the services necessary to make appropriate transitions to adult healthcare, work, and independence.
    - 46.5% did not receive all needed anticipatory guidance for transition to adult healthcare as part of transition to adulthood.
    - 16.7% reported sometimes or never receiving encouragement of age appropriate self-management skills from their doctor as part of transitioning into adulthood.

Severity/Health Consequences

- Lack of preparation from transitional services make CYSHCN less likely to complete high school, participate in continuing education, gain employment, or live independently.[157]
- The types of jobs accessible to individuals with special health care needs may not provide the amount of health coverage needed to manage health conditions.[158]
- Lack of transition preparation contributes to dependency and additional financial burdens on families and society.[159]
- Unmet needs occurring during transition can contribute to disability and premature death in adulthood and increases the risk of depression, social problems, stress, and suicide.[159]
- Unmet transitional needs can lead to irresponsible sexual behavior and resulting complications such as sexually transmitted infections and health compromising pregnancies.[159]

MCH Responsibility

- This issue is considered an MCH responsibility as the target population, CYSHCN, lies within the scope of the CSH Program.
- A major goal of the MCH Division of Services for Children with Special Health Care Needs (DSCSHCN) is to assure all youth with special health care needs receive the services necessary to transition to all aspects of adulthood, including adult healthcare, employment and independence.[160]

Health Equity

- Nationally, a significantly higher percent of Hispanic and Black CYSHCN ages 12 to 17 years do not receive services needed for transition to adult healthcare, work and independence when compared to Non-Hispanic White and Multi-Racial Non-Hispanic CYSHCN.[44]
- The percent of U.S. CYSHCN ages 12 to 17 years who receive services needed for transition to adult healthcare, work and independence increases as income increases. Significantly fewer CYSHCN at 0% to 99% of the Federal Poverty Level (FPL) (24.1%) received services than those at 400% FPL (53.7%).[44]
- When CYSHCN ages 12 to 17 years were asked if their doctor encouraged development of age appropriate self-management skills, Non-Hispanic White children were significantly more likely to report usually or always as compared to Hispanic and Black children.[44]

This issue *was included* as an MCH priority because:

Cost Benefit

- Transition planning can lead to economic self-sufficiency for CYSHCN as they move into adulthood. Barriers include: a lack of experience managing their own healthcare, low expectations of abilities and future prospects by adults, lack of awareness of existing programs and resources, lack of communication with pediatric and adult healthcare professionals, and lack of coordination between healthcare, education, rehabilitation, and insurance systems in planning or facilitating transition. [161]

Life Course Effect

1. The goal of transition in healthcare for CYSHCN is to maximize potential and lifelong functioning through the provision of uninterrupted services that continue as the individual moves from adolescence to adulthood.[162]
2. Transition timelines exist with specific points of intervention to ensure successful progression throughout life, with the goal of transitioning to adulthood. One timeline developed in 1995 by the Adolescent Health Transition Project of the Washington State Department of Health and the Clinical Training Unit of the University of Washington outlines parent and child interactions that encourage independence starting from birth to age three and moving to age 21.[163]

Leverage/Political Feasibility/Capacity

- Opportunities are available to collaborate with the Wyoming Department of Education, PHN, and family organizations such as Wyoming Family Voices.
- Capacity at the local level varies. PHN offices have access to a transition notebook, *Packaging Wisdom*, provided by CSH to assist families with transition.

Structural Resources

- MFH offers a transition/resource notebook to families called *Packaging Wisdom*. *Packaging Wisdom* is also available in Spanish.
- Nationally, the Healthy and Ready to Work Initiative provides technical assistance and transition resources to states.

Data/Information Systems

- The CPHD Epidemiology Section staff members have access to a variety of important data sources for data on CYSHCN and transition. These include EqualityCare, the National Survey of CSHCN, and the MFH client data system.

16. **Teen Pregnancy** (Selected)

This issue was considered for inclusion as an MCH priority because:

Magnitude/Extent

- The teen birth rate for Wyoming women 15 to 19 years of age declined between 1998 and 2002, but has been increasing since 2002.[101, 103] The U.S. rate declined from 1998 to 2005, but has increased since 2006.[164] Wyoming's rate is higher than the U.S. rate.
- The birth rate among younger Wyoming teens (ages 15 to 17 years) also decreased between 1998 and 2002, and increased starting in 2003. Wyoming's rate is similar to the U.S. rate.[101, 103]
- Wyoming's teen birth rate among 18 to 19 year olds is higher than the U.S. rate. The rate steadily decreased in Wyoming teens between 1998 and 2001, but has been increasing since 2004. There was a large increase from 2005 to 2006 that appeared to be continuing into 2007.[101, 103]

Severity/Health Consequences

- Babies born to teens are at greater risk of low birth weight and premature birth.[165]
- Teens are more likely than mothers over 25 years of age to smoke during pregnancy.[146]
- Teens are least likely of all maternal age groups to get early and regular prenatal care.[165]
- Teens are at greater risk for pregnancy complications than women over 20 years of age.[166]

MCH Responsibility

- MCH programs, including Wyoming's MFH section, are responsible for improving the health of pregnant women and infants. In addition, adolescents fall within the population covered by Early Childhood and Adolescent Health.

Health Equity

- Black teens are 2.4 times more likely than their White peers to become teen parents. Hispanic teens are 3.3 times more likely their White peers to become teen parents in the U.S[167].
- In 2006, over one-fifth of teen births (20.0%) occurred to young women who already delivered a baby in their teens.[67]

This issue *was included* as an MCH priority because:

Cost Benefit

- An analysis from the National Campaign to Prevent Teen Pregnancy shows that teen childbearing (teens 19 and younger) in Wyoming cost taxpayers (federal, state, and local) at least $15 million in 2004.[168]
- The costs of childbearing are greatest for younger teens. In Wyoming, the average annual cost associated with a child born to a mother 17 and younger is $3,790.[168]
- Preconception care is cost-saving, with maternal and infant costs reduced by $1,720 per woman receiving preconception care. Another study reported $5.19 saved for every $1 spent on preconception care.[169]

Life Course Effect

- Teen mothers face higher rates of preterm birth, and their infants have higher rates of low birth weight and infant death.[170]
- Compared to women who delay childbearing until the age of 20 to 21 years, teenage mothers ages 19 and younger are more likely to drop out of high school and remain single parents.[171]
- According to the Centers for Disease Control and Prevention website,[172] and based on the second edition of Kids Having Kids:[171] "The children of teenage mothers are more likely to:
  - Have lower cognitive attainment and proficiency scores at kindergarten entry.
  - Exhibit behavior problems.
  - Have chronic medical conditions.
  - Rely more heavily on publicly provided healthcare.
  - Be incarcerated at some time during adolescence until their early 30s.
  - Drop out of high school, give birth as a teenager, and be unemployed, or underemployed as a young adult."

Leverage/Political Feasibility/Capacity

- MFH provides funding to supplement Title X to expand family planning clinic availability in Wyoming for men and women.
- State legislation in 2007 tasked the Wyoming Department of Education with making service recommendations for"at-risk" students.
- Many Wyoming stakeholders work with pregnant women and are key to leveraging funds and resources to address preterm birth and LBW. Partnerships include PHN, WIC, MHSASD, WHC, family planning clinics, CHC, and the Office of HealthCare Financing EqualityCare.

Structural Resources

- Family planning clinics in Wyoming serve 58% of all women in need of publicly supported contraceptive services and 72% of teens in need.
- MFH offers capacity grants to each of the county PHN offices to provide support, referrals and education to pregnant women and their families. Funding expands perinatal services such as prenatal classes and home visiting.
- The Early Child and Adolescent Health Program Specialist is currently working with PHN and the Wyoming Department of Education to consider recognizing participation in Nurse Family Partnership with school credit for pregnant teens.
- Currently, the following MFH services are available to teen mothers: family planning, PHP, BB, NFP, Maternal High Risk, Healthy Baby is Worth the Weight, and Pregnant by Choice.

Data/Information Systems

- Teen birth data are from the Wyoming Vital Statistics Section.
- PRAMS data are collected and available for use by MFH.
- March of Dimes data is available through Peristats.

17. **Unintended Pregnancy** (Not selected)

This issue was considered for inclusion as an MCH priority because:

Magnitude/Extent

- Between 2003 and 2005, MOMS data indicated over 42% of all pregnancies were reported as unintended; these included births women reported as wanting later (78%) or not at any time in the future (22%).[105]
- MOMS data also showed 54.5% of women with unintended pregnancies reported not using birth control at the time they conceived.[105]

Severity/Health Consequences

- Women with an unintended pregnancy are more likely to have delayed entry into prenatal care, which increases the risk of having a low birth weight infant.[173]

- Women with an unintended pregnancy are more likely to smoke during pregnancy than women with an intended pregnancy, which increases the risk of having a low birth weight infant.[173]
- Women who experience an unintended pregnancy may be less likely to consume adequate amounts of folic acid, which has been associated with an increased risk of neural tube defects.[174]

MCH Responsibility

- This issue is considered an MCH responsibility because it includes women of reproductive age and affects infants resulting from unintended pregnancies. MFH supports the prevention of unintended pregnancy, and partners through a contract with the Wyoming Health Council to provide family planning and preconception health services.

Health Equity

- Nationally, higher rates of unintended pregnancy occur among women who are young (ages 18 to 24 years), unmarried, low-income, have not completed high school and minorities.[175]
- Data from the 2003 MOMS survey show that 60% of Wyoming American Indian women reported their pregnancy as unintended compared to 43% of Wyoming White women.[105]
- More Wyoming Hispanic women (50%) reported their pregnancy as unintended in the survey compared to 43% of Non-Hispanic Wyoming women.[105]
- Of the women receiving Medicaid, 60% reported their pregnancy as uninteded compared to 30% of women with non-EqualityCare insurance.[105]

Cost Benefit

- Every public dollar spent on family planning services saves the federal and state governments $3 in EqualityCare costs for prenatal and newborn care.[143]
- The annual cost of not using contraception was estimated in 1997 at $1,267 per adolescent at risk of unintended pregnancy.[176]
- Another study found that compared to no contraception, oral contraception methods result in cost-savings of $8,827, while monthly injectible contraception saves $8,770.[177]
- Preconception care is cost-saving with maternal and infant costs reduced by $1,720 per woman receiving preconception care. Another study reported $5.19 saved for every $1 spent on preconception care.[169]

Life Course Effect

- Women who experience an unintended pregnancy are more likely to engage in risky health behaviors as they may be unaware that they are pregnant.[178] Some of these behaviors, such as smoking and insufficient gestational weight gain, increase the woman's risk of having adverse birth outcomes, such as low birth weight.[179] Low birth weight has been identified as a risk factor for cardiovascular disease later in life.[110]

Leverage/Political Feasibility/Capacity

- Many Wyoming stakeholders work with pregnant women and are key to leveraging funds and resources. Partnerships include PHN, WIC, MHSASD, WHC, Family Planning Clinics, Community Health Centers, and the Office of HealthCare Financing EqualityCare.

This issue was *not* included as an MCH priority because:

Structural Resources

- MFH provides the WHC with funding to expand the availability of family planning clinics throughout the state. This includes funding a PHP, which provides prenatal vitamins with folic acid, condoms, and information to allow women be as healthy as possible before becoming pregnant, through all clinics. Family planning services are available on a sliding fee scale for women and men.
- Capacity within MFH is limited to one person assigned to address Women and Infant Health for the state.

Data/Information Systems

- PRAMS gathers information on preganancy intendedness and related factors including contraceptive use and birth outcomes
- Ahlers family planning database provides family planning data.

18. **Systems of Coordinated Care/Medical and Dental Home**

This issue was considered for inclusion as an MCH priority because:

Magnitude/Extent

According to 2005 to 2006 National Survey of CYSHCN:[44]

- 32.8% of Wyoming CYSHCN families reported not receiving family-centered care, and 41.4% reported not receiving effective coordinated care.
- 14.7% of Wyoming CYSHCN were less than very satisfied with their doctor's communication to their child's schools and other programs for CSHCN.
- 22.5% of Wyoming CYSHCN did not receive any preventive medical care.
- 7.4% of Wyoming CYSHCN did not receive all needed preventive dental care.

Severity/Health Consequences

- Fragmented care occurs when children receive care from different sources, such as a hospital, their school and primary care physician, without communication between sources. Fragmented care leads to unmet needs and inadequate use of preventative care, potentially leading to higher costs in the health system.[180]

MCH Responsibility

- According to the Maternal and Child Health Bureau, the Federal/State Title V Program has a unique responsibility for facilitating the development of community-based systems of services for CYSHCN.
- This issue is considered an MCH responsibility, as the target population (CYSHCN) lies within the scope of the Children's Special Health Program.

Health Equity

- According to the National Survey of Children with Special Health Care Needs:[44]
- The percent of CYSHCN without a medical home is greater for mother only household (no father type present) and other types of family structures than for two parent biological, adoptive or stepfamily structures.
- The percent of CYSHCN without effective coordinated care was highest among those living at 0 to 99% and 100 to 199% of the FPL.
- Larger proportions of CYSHCN who were a race or ethnicity besides white did not receive family centered care.
- Larger proportions of Hispanic, Black (non-Hispanic) and Multi-Racial (non-Hispanic) CYSHCN did not receive needed coordinated care.
- A lower percent of CYSHCN who were Hispanic, Black (non-Hispanic) and/or in a spanish language home received preventative dental care.

The Commonwealth Fund also found a medical home can reduce or even eliminate racial and ethnic disparities in access and quality of care.[181]

Cost Benefit

- According to the Patient Centered Primary Care Collaborative: "Care delivered by primary care physicians in a patient-centered medical home is consistently associated with better outcomes, reduced mortality, fewer preventable hospital admissions for patients with chronic diseases, lower utilization, improved patient compliance with recommended care, and lower spending."[182]
- The North Carolina Medicaid program enrolls recipients in a network of physician-directed medical homes. "A Mercer analysis showed that an upfront $10.2 million investment for North Carolina Community Care operations in SFY04 saved $244 million in overall healthcare costs for the state. Similar results were found in 2005 and 2006."[183]

Life Course Effect

According to the American Academy of Pediatrics, "Medical homes address preventive, acute, and chronic care from birth through transition to adulthood."[184]

Leverage/Political Feasibility/Capacity

- The President's New Freedom Initiative charges all states with implementing a strategic plan that will allow every CYSHCN access to a medical home by the year 2010.
- The WDH has developed the Total Health Record (THR) model that will provide the structure upon which Electronic Health Records (EHR) and other valuable data may be shared statewide. The goals of the THR initiative are consistent with Wyoming's desire to integrate client-centered and preventive care into the overall electronic continuum of care record, to emphasize pro-active quality care as a component of provider reimbursement, and to facilitate an integrated team approach to managing each client's healthcare.

This issue was *not* included as an MCH priority because:

Structural Resources

- MFH does not have the structural resources, authority or funding sufficient to address this issue independently.
- The Epilepsy Association, in partnership with WIND, has a medical home grant to help facilitate the Medical Home Initiative for individuals with Epilepsy.
- EqualityCare reports they are developing the medical home as a component of the THR.
- Colorado has successfully implemented medical home and is a potential partner in these efforts.
- The Family to Family Health Information Center is mandated to work on medical home.

Data/Information Systems

- The National Survey of CSHCN, conducted every four years, provides the only comprehensive data for CSHCN in Wyoming and the U.S.
- CSH client data is available through the Maternal and Family Health data system.

METHODOLOGIES FOR SELECTING PRIORITIES

In order to select the final 10 priorities from the 18 potential priorities listed in the previous section, MFH staff members prepared issue briefs for each of the potential priorities as shown in Appendix C. During the steering committee meeting in December 2009, population workgroup leaders presented the issue briefs and led discussion concerning the 18 issues. The potential priorities were listed on chart paper. Each member of the steering committee, except for the Population Workgroup leaders, were given five colored dots and asked to place them by their top issues. No one was allowed to use more than one dot per issue. The scores were added, and the top ten priorities were selected.

PRIORITIES COMPARED WITH PRIOR NEEDS ASSESSMENT

The MCH priorities from 2005 to 2010 and the priorities from 2011 to 2015 are very different. The largest influence on this change will likely be the needs assessment process. For the last needs assessment, stakeholders were asked to identify the most important MCH issues through a survey and focus groups. MFH staff members reviewed the data related to identified issues and narrowed the list to the final eight priorities listed below.

Wyoming Maternal and Child Health Priorities 2005-2010

1. Care coordination services for the at-risk MCH population including first time mothers, women with high-risk pregnancies, and women and CSHCN.
2. Barriers to accessing health and dental care.
3. Incidence of low birth weight births in Wyoming.
4. Mental health service capacity for MCH population in Wyoming.
5. Preventable disease and injury in Wyoming children and youth.
6. Tobacco and other substance use in the MCH population.
7. Family participation and support in all MCH programs.
8. Women's pre-conception and inter-conception health.

For the current needs assessment, data were provided to stakeholders before they were asked to identify the most important MCH issues. The data, as well as information from the retreat leaders, helped inform the decisions made in selecting potential priorities. These priorities were then narrowed to the final list by the steering committee, comprised not only of MFH staff members but other key health leaders. This group was provided data and other information for each potential priority before being asked to choose the final ten priorities. The 2011 to 2015 priorities are listed in life course perspective order, since that was the lens used to determine the priorities.

Wyoming Maternal and Child Health Priorities 2011 to 2015

1. Promote healthy nutrition among women of reproductive age.
2. Reduce the percent of women who smoke during pregnancy.
3. Reduce the rate of teen births.
4. Reduce the percent of preterm births.
5. Support behaviors and environments that encourage initiation and extend duration of breastfeeding.
6. Promote healthy nutrition and physical activity among children and adolescents.
7. Design and implement initiatives that address sexual and dating violence
8. Reduce the rate of Unintentional Injury among children and adolescents.
9. Build and strengthen capacity to collect, analyze and report on data for children and youth with special health care needs.
10. Build and strengthen services for successful transitions for children and youth with special health care needs.

From the 2005 to 2010 priorities, only 2 priorities: 1) preventable disease and injury in Wyoming children and youth and tobacco and 2) other substance use in the MCH population, were continued but in a revised form: reduce the rate of Unintentional Injury among children and adolescents and reduce the percent of women who smoke during pregnancy. Many of the risk factors and outcomes from the previous priority including incidence of low birth weight births in Wyoming, will now be addressed in: reducing the percent of preterm births. The remaining priorities from 2005 to 2010 are broad, making it difficult to identify targeted interventions or to measure progress.

After debate among the population workgroups, it was decided that the new priorities should be more specific in addressing particular MCH issues. This was accomplished through the selection of the current priorities. Stakeholders involved in the needs assessment process were provided with information to allow a thorough examination of each MCH issue. This selection process is described in the Potential Priorities section of this document.

PRIORITY NEEDS AND CAPACITY

MCH PROGRAM CAPACITY

Population workgroups discussed capacity for each potential priority including structural resources, data/technology resources, workforce capacity/competencies, and organizational relationships (Appendix B).

1. **Promote Healthy Nutrition and Among Women of Reproductive Age.**

   Structural Resources: Capacity is medium. There are several partners who are interested in this priority, and some programs in place to address healthy nutrition among women of reproductive age.

   Data/Technology Resources: Capacity is low. There are few sources for the information currently being collected. PRAMS are one source.

   Workforce Capacity/Competencies: Capacity is medium. MFH has identified several partners who can assist in addressing this priority.

   Organizational Relationships: Capacity is medium. MFH staff is limited; however, WHC is a valuable partner in this venture.

2. **Reduce the percent of women who smoke during pregnancy.**

   Structural Resources: Capacity is high. Many partners are currently working with MFH on this issue, such as WHC and MHSASD.

   Data/Technology Resources: Capacity is high. MFH is collecting data through the BB and NFP data systems.

   Workforce Capacity/Competencies: Capacity is high. MFH is an invited participant in the Tobacco Prevention Section Strategic Planning process to assure pregnant women who smoke are included in the plan.

   Organizational Relationships: Capacity is high. There are many partners throughout the state who have a vested interest in the tobacco cessation priority.

3. Reduce the Rate of Teen Births.

Structural Resources: Capacity is medium. MFH alone cannot provide sufficient resources to address this issue. However, MFH has access to current scientific information and evidence-based initiatives.

Data/Technology Resources: Capacity is medium. Data collected at the WDH has helped to inform this issue. It is unclear what data is being collected by partners and how it can be accessed and used.

Workforce Capacity/Competencies: Capacity is medium. MFH has previously worked with other partners on this issue. Positive youth development promoted by several organizations around the state could be a key strategy in addressing this issue.

Organizational Relationships: Capacity is medium/high. The work group identified a number of potential partners to address this issue.

4. Reduce the Percent of Preterm Births.

Structural Resources: Capacity is medium. MFH contracts with WHC to manage family planning and the PHP.

Data/Technology Resources: Capacity is high. Data from Vital Statistics Services, as well as Ahlers, BB and NFP are available.

Workforce Capacity/Competencies: Capacity is medium/high. PHN is a valuable asset to our MFH initiatives.

Organizational Relationships: Capacity is high. Many partners, including state and private agencies, are critical to the outcome of this priority.

5. Support Behaviors and Environments That Encourage Initiation and Extend Duration of Breastfeeding.

Structural Resources: Capacity is high, as both MFH and WIC focus on breastfeeding. A Wyoming Breastfeeding Coalition has been formed to support continuation of breastfeeding.

Data/Technology Resources: Capacity is high. Both MFH and WIC collect data on women who begin breastfeeding and how long they continue to breastfeed.

Workforce Capacity/Competencies: Capacity is high. Over half of PHN staff nurses are CLC-trained, either at a beginning or secondary level. Many WIC staff members also have become CLCs, and there are several International Breastfeeding CLCs.

Organizational Relationships: Capacity is high. MFH has only one staff person who focuses on breastfeeding, although PHN and WIC offices in the counties also provide support for initiation and continuation of breastfeeding.

6. Promote Healthy Nutrition and Physical Activity Among Children and Adolescents

Structural Resources: Capacity is high. Many partners are already implementing initiatives around this issue. MFH's role would be one of coordination.

Data/Technology Resources: Capacity is low. The only current source of body mass index (BMI) data for elementary school children is from an oral health survey of third graders that is not consistently funded or conducted.

Workforce Capacity/Competencies: Capacity is medium. By coordinating partners, expertise would be gained from collaborations with other organizations.

Organizational Relationships: Capacity is medium/high. A number of potential partners inside and outside WDH were identified.

7. Reduce the Rate of Unintentional Injury Among Children and Adolescents.

Structural Resources: Capacity is high. SKW provides the structural resources for many facets of this issue with chapters in nearly every county in the state. PHNs also play an important role at the community level.

Data/Technology Resources: Capacity is high. Epidemiology support is available, and some data is available through birth certificates and other injury databases. Safe Kids collects county and state data on prevention activities.

Workforce Capacity/Competencies: Capacity is high. Technical assistance is available from several national organizations. Many Wyoming partners have expertise needed to address different aspects of this issue.

Organizational Relationships: Capacity is high. Partnerships with Safe Kids and PHN are critical. Other potential partners such as the Boys and Girls Club and the Department of Transportation are open to collaboration.

8. Design and Implement Initiatives that Address Sexual and Dating Violence.

Structural Resources: Capacity is medium. Many partners are implementing initiatives around this issue.

Data/Technology Resources: Capacity is medium. Data are available from the YRBS survey as well as PRAMS.

Workforce Capacity/Competencies: Capacity is low. The Early Child and Adolescent Program Coordinator position, who would address this issue, is currently vacant.

Organizational Relationships: Capacity is medium. MFH will partner with the Rape Prevention and Education Advisory Committee to determine appropriate strategies to implement.

9. Build and Strengthen Capacity to Collect, Analyze and Report on Data for Children and Youth with Special Health Care Needs.

Structural Resources: Capacity is low/medium. Epidemiology support is available, but resources may not be sufficient to make rapid progress.

Data/Technology Resources: Capacity is low. The National Survey of CYSHCN is the main source of data. The new MFH data system can now provide accurate client data. Other data sources should be identified or developed.

Workforce Capacity/Competencies: Capacity is medium. PHNs may be an untapped resource for data collection.

Organizational Relationships: Capacity is medium. There is a great potential to collaborate on this issue and to invite new partners to the table including insurance companies, EqualityCare, and Kid Care CHIP.

10. Build and Strengthen Services for Successful Transitions for CYSHCN

Structural Resources: Capacity is low/medium. MFH offers some resources to families in a variety of formats. The National Healthy and Ready to Work Initiative provides technical assistance and transition resources to states.

Data/Technology Resources: Capacity is low. The National Survey of CYSHCN is the main source of data. The new MFH data system can now provide accurate client data. Other data sources should be identified or developed.

Workforce Capacity/Competencies: Capacity is medium. Technical assistance is available from national organizations.

Organizational Relationships: Capacity is medium. MFH partners with the F2FHIC, Champions for Inclusive Communities, GPCDD, and various family organizations. There is great potential to collaborate on this issue and to invite new partners to the table including WDE, EqualityCare, and Kid Care CHIP.

MCH POPULATION GROUPS

Wyoming's ten priorities address all three MCH population groups. Table1 identifies the population group addressed by each priority and whether the priority is continuing or new.

TABLE 3: MCH PRIORITIES BY POPULATION GROUP

Priority	Population Group Addressed	New or Continuing Priority
1. Promote healthy nutrition among women of reproductive age.	Women and Infants, Children and Adolescents	New
2. Reduce the percent of women who smoke during pregnancy.	Women and Infants	Continuing (revised)
3. Reduce the rate of teen births.	Women and Infants, Children and Adolescents	New
4. Reduce the percent of preterm births.	Women and Infants	New
5. Support behaviors and environments that encourage initiation and extend duration of breastfeeding.	Women and Infants	New
6. Promote healthy nutrition and physical activity among children and adolescents.	Children and Adolescents	New
7. Reduce the rate of unintentional injury among children and adolescents.	Women and Infants Children and Adolescents	Continuing (revised)
8. Design and implement initiatives that address sexual and dating violence.	Women and Infants, Children and Adolescents, CYSHCN	New
9. Build and strengthen capacity to collect, analyze and report on data for children and youth with special health care needs.	CYSHCN	New
10. Build and strengthen services for successful transitions for CYSCHN.	CYSHCN	New

PRIORITY NEEDS AND STATE PERFORMANCE MEASURES

Wyoming will measure success in meeting each of the ten priority needs by monitoring specific National Performance Measures (NPM) and State Performance Measures (SPM) as described in Table 2. The SPMs were chosen to monitor priorities when an NPM was not sufficient to show success of efforts.

TABLE 4: MCH PRIORITIES WITH PERFORMANCE MEASURE USED TO MONITOR SUCCESS

Priority	National Performance Measures (NPM)	State Performance/Outcome Measures (SPM)/(SOM)
1. Promote healthy nutrition among women of reproductive age.	None	SPM 1: Percent of women gaining adequate weight during pregnancy. SPM 2: Percent of postpartum women reporting multivitamin use four or more times per week in the month before becoming pregnant. (Continues previous SPM 9.) SOM 1: Percent of women ages 18 to 44 years who are at a healthy BMI.
2. Reduce the percent of women who smoke during pregnancy.	NPM 15: Percent of women who smoke in the last three months of pregnancy.	SPM 3: Percent of infants born to women who smoked during pregnancy. (Continues previous SPM 4.)
3. Reduce the rate of teen births.	NPM 8: The rate of birth (per 1,000) for teenagers aged 15 through 17 years.	None
4. Reduce the percent of preterm births.	None	SPM 4: The percent of infants born preterm (before 37 weeks gestation). (Continues previous SPM 7.)

TABLE 2: (CONTINUED)

Priority	National Performance Measures (NPM)	State Performance/Outcome Measures (SPM)/(SOM)
5. Support behaviors and environments that encourage initiation and extend duration of breastfeeding.	NPM 11: The percent of mothers who breastfeed their infants at six months of age.	SPM 5: The percent of mothers who initiate breastfeeding their infants at hospital discharge.
6. Increase physical activity and improve nutrition for Wyoming children and adolescents ages 1 to 24.	NPM 14: Percent of children, ages two to five years, receiving WIC services with a Body Mass Index (BMI) at or above the 85th percentile.	SPM 6: Percent of Wyoming high school students who ate fruits and vegetables less than five times per day. SPM 7: Percent of Wyoming high school students who were physically active for a total of at least 60 minutes per day. SOM 2: Percent of Wyoming high school students who are at a healthy weight.
7. Reduce the rate of Unintentional Injury (UI) among Wyoming children and adolescents.	NPM 10: The rate of deaths to children aged 14 years and younger caused by Motor Vehicle Crashes (MVC) per 100,000 children.	SPM 8: Percent of deaths in children and youth ages 1 to 24 years due to Unintentional Injuries (UI).
8. Design and implement initiatives that address dating violence and sexual violence.	None	SPM 9: Percent of teens reporting that they were hit, slapped, or physically hurt by a boyfriend/girlfriend.

TABLE 2: (CONTINUED)

Priority	National Performance Measures (NPM)	State Performance/Outcome Measures (SPM)/(SOM)
9. Increase capacity to collect, analyze and report on data for children and youth with special health care needs.	None	SPM 10: Composite measure that is the total of: -Number of data sources used to collect data on CSHCN -Number of epidemiologists analyzing data for CSHCN -Number of reports produced using CSHCN data
10. Build and strengthen services for successful transitions for children and youth with special health care needs.	NPM 6: The percent of youth with special health care needs who received the services necessary to make transitions to all aspects of adult life, including adult healthcare, work, and independence.	None

OUTCOME MEASURES – FEDERAL AND STATE

The six National Outcome Measures (NOM) address infant and child mortality. Several of Wyoming's MCH priorities address factors that can positively impact these NOMs. Current state activities addressing each of the priorities are described. Because the strategic planning process is not complete, new activities will not be described.

Healthy nutrition among women of reproductive age affects the health of women and their infants. Intake of folic acid reduces the risk of neural tube defects such as spina bifida and anencephaly by 50 to 70%.[126-127] During pregnancy, underweight women are more likely to have a preterm or low birth weight infant[124] while overweight women are at increased risk for delivering an infant with a birth defect, fetal death and maternal complications.[125] Excessive weight gain during pregnancy is associated with increased risk of gestational diabetes.[185] Women who have gestational diabetes are two to three times more likely to develop gestational diabetes during a subsequent pregnancy and are at an increased risk of developing type 2 diabetes later in life.[186] Infants born to women who had gestational diabetes are at an increased risk of developing obesity, abnormal glucose tolerance and diabetes later in life.[187]

Conversely, insufficient weight gain during pregnancy is associated with an increased risk of low birth weight. Infants born at low birth weight are at an increased risk of developing cardiovascular disease as an adult.[110] SPM 1 monitors the percent of women gaining adequate weight during pregnancy. In order to encourage women to be healthy before pregnancy, MFH provides the WHC with funding to expand the availability of family planning clinics throughout the state. This includes funding a PHP (prenatal vitamins with folic acid, condoms, and information to be as healthy as possible before becoming pregnant) through all clinics. One goal of this project is to increase the percent of postpartum women reporting multivitamin use four or more times per week in the month before getting pregnant (SPM 2). In addition, WIC provides nutritional teaching and assistance with healthy food. These strategies and others will help Wyoming to increase the ppercent of women ages 18 to 44 years who are at a healthy weight BMI (SOM 1).

Maternal smoking can nearly double a woman's risk of having a low birth weight infant. These infants are at risk for health problems and death.[188] Reducing the overall percent of women who smoke during pregnancy (SPM 3), as well as the percent of women who smoke in the last three months of pregnancy (NPM 15), will result in fewer low birth weight infants and fewer infant deaths. The Wyoming Department of Health Tobacco Control Program invited MFH to participate in their strategic planning process in March 2010 to ensure the needs of the MFH population are addressed in the plan. PHNs and family planning clinics refer women to the Wyoming Quit Line for smoking cessation assistance.

Teen mothers are more likely to smoke,[146] less likely to receive early and regular prenatal care,[165] and more likely to have pregnancy complications such as anemia, high blood pressure, and premature labor.[166] The infant mortality rate is higher for women under 20 years of age than for women 20 years of age and older.[189] Reducing the rate of births for teenagers aged 15 to 17 years (NPM 8) will result in fewer infant deaths. MFH provides funds to local PHNs to deliver care coordination and home visitation services to pregnant women. Nurses focus efforts on younger women with a low socioeconomic status. Family planning services are available in all counties in Wyoming to assist teens in preventing pregnancy.

Preterm birth is a leading cause of infant mortality and long-term morbidity.[136] Complications associated with preterm birth include respiratory distress syndrome, chronic lung disease, intestinal injury, cardiovascular disorders, a compromised immune system, hearing and vision impairment, and neurodevelopmental disabilities.[139] MFH offers capacity grants to each of the county PHN offices to provide support, referral, and education to pregnant women and their families. Other Wyoming stakeholders work with pregnant women and are key to leveraging funds and resources to address preterm birth including WIC, family planning clinics, community health centers, and Health Care Financing (EqualityCare). The goal of these efforts is to decrease the percent of infants born preterm (SPM 4).

The AAP recommends infants be exclusively breastfed for the first six months, and that ideally breastfeeding be continued until one year of age. For infants, breastfeeding is associated with a

reduced risk of acute otitis media, non-specific gastroenteritis, severe lower repiratory tract infections, asthma, childhood leukemia, SUID, and necrotizing enterocolitis.[69] Breastfed premature infants have significantly improved health and developmental outcomes compared to formula-fed premature infants.[190] By increasing the percent of women who initiate breastfeeding (SPM 5) and the percent of mothers who breastfeed their infants at six months of age (NPM 11), the rate of infant death may decrease. Adults who were breastfed as infants may also be healthier. Two generations of participants in the Framingham study who were breastfed as infants were 55% more likely as middle-aged adults to have high levels of HDL, or "good" cholesterol.[191] In Wyoming, breastfeeding is well-supported. In addition to the PHN and clinical staff members trained as CLC providers to assist mothers who breastfeed their infants, there are several International Board Certified Lactation Consultants in Wyoming in both PHN and WIC offices. Wyoming is in the first year of developing a statewide breastfeeding coalition to support initiation and continuation of breastfeeding at least until six months of age.

Healthy nutrition and physical activity among children and adolescents will decrease their risk of being overweight/obese. Children who are overweight/obese are at an increased risk of developing several chronic diseases.[131] Increasing the percent of high school students who eat fruits and vegetables less than five times per day (SPM 6) and increasing the percent who are physically active for a total of at least 60 minutes per day (SPM 7) is expected to increase the percent of Wyoming high school students who are at a healthy weight (SOM 2). In 2008, MFH convened a physical activity and nutrition workgroup including partners from EqualityCare, Kid Care CHIP, WIC, Chronic Disease, the WDH's commit to your health, Wyoming Parks and Cultural Resources, and the WDE. This workgroup will be reconvened in the fall of 2010. While efforts to decrease childhood obesity may not impact the child death rate, it is expected to decrease the death rate in young adults and increase life expectancy.

Injuries are a leading cause of morbidity and mortality among children and adolescents in the U.S. From 2000-2005, 44% of deaths among 1 to 19 year olds were attributable to unintentional injuries.[94] Many who are not fatality injured are left with life long diabilities, chronic pain, and a profound change in life style. Research suggests that psychosocial and mental health sequelae are some of the most disabling consequences of injury.[100] Wyoming does not currently have an Injury Prevention Program; however, MFH provides staff support and funding as the state's Safe Kids Worldwide contact. MFH is also in the early planning stages for implementation of a co-sleeping initiative. Working primarily through SKW, MFH hopes to see a decrease in the rate of deaths to children aged 14 years and younger caused by Motor Vehicle Crashes per 100,000 children (NPM 10) and in the overall percent of deaths in children and youth ages 1 to 24 due to unintentional injuries (SPM 8).

Building and strengthening capacity to collect, analyze and report on data for CYSHCN is expected to increase MFH's understanding of the needs of CYSHCN in the state. This information will drive programmatic decisions and allow CYSHCN to receive the most appropriate care. This could result in fewer deaths of CYSHCN and thus impact the child death rate. Currently, MFH has implemented a new

client data system for MHR, NBIC, CSH, and Genetics. In addition, Epidemiology staff members have the ability to analyze data from the National Survey of CSHCN. MFH will monitor the number of data sources used to collect data for CYSHCN, the number of trained epidemiologists analyzing this data, the number of reports produced and the number of linked data systems used to collect CYSHCN data (SPM 9).

Victims of dating violence are at increased risk for injury and are more likely to engage in binge drinking, suicide attempts, and physical fights.[77-78] Rates of drug, alcohol, and tobacco use are more than twice as high in girls who report physical or sexual dating violence than in girls who report no violence.[78-79] Dating violence is also associated with unhealthy sexual behaviors that can lead to unintended pregnancy, sexually transmitted diseases, and HIV infections.[78, 80] Adolescents in abusive relationships often carry these unhealthy patterns of violence into future relationships.[78, 82] The goal of MFH is to decrease the percent of teens who reported that they were hit, slapped, or physically hurt by a boyfriend/girlfriend (SPM 9). The Wyoming Rape Prevention and Education Grant Program through the CDC is coordinated by the CPHD Administrator. The Wyoming Sexual Violence Prevention Plan will focus on the adolescent population 12 to 24 years of age and recommends primary prevention of sexual violence through education and promotion of healthy relationships.

A much higher percent of CYSHCN are living into adulthood, and many have complex ongoing healthcare needs. Lack of preparation from transitional services makes CYSHCN less likely to complete high school, participate in continuing education, gain employment, or live independently.[157] Differences in the pediatric and adult healthcare system can lead to individuals not adhering to treatment plans and, ultimately, an exacerbation or development of subsequent health conditions. In addition, unmet needs occurring in transition can contribute to disability and premature death in adulthood and increase the risk of depression, social problems, stress, and suicide. Ensuring Successful Transition from Pediatrics to Adult Health Care Report, Florida Health Care Transition Services Task Force for Youth and Young Adults with Disabilities**.** The goal of transition in healthcare for CYSHCN is to maximize potential and lifelong functioning through the provision of uninterrupted services that continue as the individual moves from adolescence to adulthood.[162] MFH wants to increase the percent of youth with special health care needs who received the services necessary to make transitions to all aspects of adult life, including adult healthcare, work, and independence (NPM 6). Maternal and Family Health (MFH) offers a transition/resource notebook to families called *Packaging Wisdom*. Nationally, the Healthy and Ready to Work Initiative provides technical assistance and transition resources to states. Wyoming's F2FHIC is a non-profit, family-run organization that assists families of CYSHCN and the professionals who serve them. The F2FHIC provides support, information, resources, training, and referral services including information on transition.

APPENDIX A: ISSUE MATRIX

MCH Issues Criteria Definitions

Magnitude/Extent: A large number of individuals are affected by the problem.

Definition/Concepts: This criterion considers the absolute number of people (the MCH population) affected. It includes the concept that targeting a problem affecting a large number of individuals could have a greater impact on the health of the community than one affecting a relatively small number of people. This criterion is intended to provide a balance for a situation in which a few occurrences of a particular problem in a small group can result in a high rate but in reality, the condition may only affect a few individuals in the community (e.g., a geographic area with a very small population and few births that has one teenage pregnancy may result in a high teen pregnancy rate for that geographic area).

Rating Scale

1	Low incidence/prevalence
2	Moderate number of individuals affected in some subgroups
3	Moderate incidence/prevalence in all groups
4	Large number of individuals affected in some subgroups
5	High incidence/prevalence in all groups

Severity/Health Consequences: Problem has serious health consequences/severity.

Definition/Concepts: The problem identified could result in severe disability or death.

Rating Scale

1	Not life threatening or disabling to individual or community
2	Not life threatening but is sometimes disabling
3	Moderately life threatening or disabling
4	Moderately life threatening but there is a strong likelihood of disability
5	Problem has a high likelihood of death and disability

Public Health Strategies Available/MCH Responsibility: Problem is amenable to public health interventions and is within MCH sphere of influence.

Definition/Concepts: There is a good likelihood that the strategies used to intervene in the identified problem will result in an improvement in outcomes. The intervention strategies are shown in research literature, by experts or by National, State, or program experience to be effective or promising. Responsibility for addressing the issue lies primarily within MCH.

Rating Scale

1	No known intervention available. Primary responsibilities are outside of MCH
2	Promising intervention with limited impact (not affecting a wider array of problems). Tangentially related to MCH responsibility.
3	Proven intervention with limited impact. Moderate MCH responsibility.
4	Promising or proven intervention with broad impact. Aligned with MCH.
5	Proven interventions with broad impact. Clearly falls within MCH purview.

Health Equity: Disproportionate effects among subgroups of the population.

Definition/Concepts: One or more population subgroups as defined by race, ethnicity, income, insurance status, gender, or geography have significantly worse indicator values of illness or condition when compared to another group.

Rating Scale

1	No group is disproportionately affected by the problem
2	It appears that one or more groups are disproportionately affected by the problem, but differences are not statistically significant or not consistent over time.
3	Significant differences exist in one group and the disadvantaged group is more likely to have poor outcomes.
4	Significant differences exist in more than one group.
5	Significant differences exist in more than one group and the disadvantaged groups are more likely to have poor outcomes.

Cost Benefit: The problem results in significant economic/social cost. The cost of addressing the issue/implementing a researched public health strategy is reasonable considering the benefit of addressing the issue.

Definition/Concepts: If the problem is not addressed, the result will be increased monetary costs, e.g., healthcare and/or social services costs to society and costs to employers and/or loss of productive individuals because of chronic illness, disability, or premature death. The cost of implementing a public health strategy to address the issue is reasonable and affordable, especially compared with the cost of not addressing the problem. There is a strong return on the investment.

Rating Scale

1	Economic/societal cost is minimal. Cost of intervention is very expensive.
2	There are some potential increased costs resulting from the problem. Cost of intervention is high.
3	There is likely to be moderate increased costs related to the problem. The cost of intervention is moderate.
4	There is likely to be substantial increased costs associated with not addressing the problem. The cost of addressing the problem is reasonable.
5	There will be great economic and societal costs related to not addressing the problem. The cost of intervening is reasonable and results in a cost benefit.

Life Course Effect: The problem is cross-cutting to multiple issues/life span effect.

Definition/Concepts: The problem at one life stage has long term impact in later life and future generations. The problem may be a proxy for a set of other related behavioral or social problems.

Rating Scale

1	Problem identified to one life stage and is not associated with other problems
2	Problem minimally impacts entire life course and is associated with multiple problems
3	Problem moderately impacts entire life course and is associated with multiple problems
4	Problem severity affects either entire life course or is associated with multiple problems
5	Problem severity impacts entire life course, future generations and is associated with multiple problems

Leverage, Political Feasibility, Capacity: Addressing the problem maximizes the opportunity to leverage resources and relationships to effective system change. There is political will to address the issue.

Definition/Concepts: There is opportunity for agencies or collaborative partners to plan together or pool resources to address the problem. There is opportunity to build new relationships, and to allow us to take advantage of opportunities to leverage resources and relationships to affect systems change. There is political support for addressing the issue and both state and local capacity exist to address the problem.

Rating Scale

1	No known opportunity to collaborate; political opposition exists; state and local capacity lacking.
2	There may be opportunities to collaborate; capacity lacking at state or local level.
3	There are opportunities to collaborate; politically neutral; some state and local capacity exists.
4	There are opportunities to collaborate and some collaboration is already occurring; there is political support; there is both state and local capacity.
5	Major collaborative efforts are already underway; there is strong political support; there is significant state and local capacity.

MCH Issue Matrix

Criteria	Issues												
Magnitude/Extent													
Severity/Health Consequences													
Public Health Strategies Available/MCH Responsibility													
Health Equity													
Cost Benefit													
Life Course Effect													
Leverage, Political Will, Capacity													

APPENDIX B: CAPACITY ASSESSMENT

Capacity Assessment Definitions

See attachment for additional examples

Structural Resources: Financial, human, and material resources; policies and protocols; and the resources held by or accessible to the program that form the groundwork for the performance of core functions.

- Authority and funding sufficient for functioning at the desired level of performance
- Routine, two-way communication channels or mechanisms with relevant constituencies
- Access to up-to-date science, policy, and programmatic information
- Partnerships mechanisms (collaborative planning processes, community advisory structures)
- Workforce capacity institutionalized through job descriptions, contract language about skills and credentials, training programs, and routine assessments of capacity and training plans
- Mechanisms for accountability and quality improvement
- Formal protocols and guidance for all aspects of assessment, planning, and evaluation cycles

Rating Scale

H	High
M	Medium
L	Low

Data/Information Systems: Technological resources enabling state of the art information management and data analysis.

- Access to timely program and population data from relevant public and private sources
- Supportive environment for data sharing
- Adequate data infrastructure

Rating Scale

H	High
M	Medium
L	Low

Organizational Relationships: Partnerships, communication channels, and other types of interactions and collaborations with public and private entities, including but not restricted to: local, state and federal agencies; professional associations; academic institutions; research groups; private providers and insurers of healthcare; community-based organizations; consumer groups; the media; and elected officials.

- State health department/agencies/programs
- Other state agencies
- Insurers and insurance oversight stakeholders
- Local providers of health and other services
- Superstructure of local health operations and state-local linkages
- State and national entities enhancing analytical and programmatic capacity
- National governmental sources of data
- State and local policymakers
- Non-governmental advocates, funders, and resources for state and local public health activities
- Businesses

Rating Scale

H	High
M	Medium
L	Low

Competencies/Skills: Knowledge, skills, and abilities of Title V staff and/or other individuals/ agencies accessible to the Title V program (i.e., borrowed/purchased staff resources).

- Communication and data translation skills
- Ability to work effectively with public and private organizations/agencies and constituencies
- Ability to influence the policymaking process
- Experience and expertise in working with and in communities
- Management and organizational development skills
- Knowledge and understanding of the state context
- Data and analytic skills
- Knowledge of MCH and related content areas

Rating Scale

H	High
M	Medium
L	Low

Capacity Needs Scoring Worksheet

Capacity Need	Have	Need	If need, for what area(s) of programmatic performance?
Structural Resources			
Authority and funding sufficient for functioning at the desired level of performance			
Routine, two-way communication channels or mechanisms with relevant constituencies			
Access to up-to-date science, policy, and programmatic information			
Partnership mechanisms (e.g., collaborative planning processes and community advisory structures)			
Workforce capacity institutionalized through job descriptions, contract language about skills and credentials, training programs, and routine assessments of capacity and training plans			
Mechanisms for accountability and quality improvements			
Formal protocols and guidance for all aspects of assessment, planning, and evaluation cycle			

Data/Information Systems			
Access to timely program and population data from relevant public and private sources			
Supportive environment for data sharing			
Adequate data infrastructure			
Organizational Relationships			
State health department/agencies/programs			
Other relevant state agencies			
Insurers and insurance oversight stakeholders			
Local providers of health and other services			
Superstructure of local health operations and state-local linkages			
State and national entities enhancing analytical and programmatic capacity			
National governmental sources of data			
State and local policymakers			
Non-governmental advocates, funders, and resources for state and local public health activities			
Businesses			

Competencies			
Communication and data translation skills			
Ability to work effectively with public and private organizations/agencies/constituencies			
Ability to influence the policymaking process			
Experience and expertise in working with and in communities			
Management and organizational development skills			
Knowledge and understanding of the state context			
Data and analytic skills			
Knowledge of MCH and related content areas			

MCH Capacity Assessment Matrix

Capacity Assessment	Issues					
Structural Resources						
Data/Technology Resources						
Workforce Capacity/Competencies						
Organizational Relationships						

APPENDIX C: ISSUE BRIEF FORMAT

2010 Needs Assessment
[Population Group] Issue

Recommended Priority Issue:

Currently Addressed through Title V National Performance Measures? Yes/No

Magnitude/Extent	
Severity/Health Consequences	
Public Health Strategies Available	
MCH Responsibility	
Health Equity	
Cost Benefit	
Life Course Effect	
Leverage/Political Feasibility/Capacity	
Capacity Assessment	
Structural Resources	
Organizational Relationships	
Data/Information Systems	

Competencies/Skills within MFH	

APPENDIX D: POPULATION WORKGROUP MEMBERS

Women and Infant Workgroup

Workgroup Leader: Debra Hamilton, Women and Infant Health Coordinator

Workgroup Facilitator: Kathy Cordell

Epidemiologists: Dr. Joe Grandpre, Deputy State Epidemiologist

Dr. Ashley Busacker, CDC/CSTE Fellow

Members: A former teen mother

Public Health Nurses (2 PHN Nurse Managers, 3 PHN MCH local supervisors [1 is an IBCLC, 2 PHN staff nurses, 2 PHN Regional MCH Consultants, 1 MCH Program Consultant)

Supervisor from the Women, Infant and Children (WIC) Nutrition Program

An attorney for the Attorneys General's office, also parent of a toddler

A certified nurse midwife, also a LCSW who does mental health counseling

Office nurse from a local OB-Gyn practice

Women's Health Nurse Practitioner from a local OB-Gyn practice

A staff member from the Sexually Transmitted Disease (STD) program

A CDC Immunization advisor

The Oral Health Section Chief

The Breast and Cervical Program Manager

Two March of Dimes staff members, 1 from the Wyoming chapter office and 1 from the regional office in Dallas, Texas

A program staff member from the National Service Office of the Nurse Family Partnership

Community Health Center Maternity Nurse

University of Wyoming professor, teaching MCH classes

Director of Wyoming Health Council

Local hospital Women's Health Coordinator and MOD March for Babies team captain

University of Nebraska professor, Wyoming-Nebraska AWHONN president

Healthy Family Coordinator

Early Child and Adolescent Workgroup

Workgroup Leader: Liz Mikesell, Early Child and Adolescent Health Program Specialist

Workgroup Facilitator: Anne Siebert

Epidemiologists: Christopher Hill, Epidemiologist

Rebecca Snider, Epidemiologist

Members: Maternal and Family Health Benefit Specialist

Public Health Nurses (one Program Consultant and one county PHN staff nurse)

Section Head, WDH's Community and Public Health Division, Immunization Section

Representatives from the WDH's Preventive Health and Safety Division (the HIV Prevention Program Manager and the Heart Disease and Stroke Prevention Program Manager)

Representatives from the WDH's Mental Health and Substance Abuse Services Division (one Fellow from the Substance Abuse Prevention Grant Program, the Suicide Program Team Leader, also a parent, a member of the SOC Wraparound Team, and the Adolescent and Women's Treatment Coordinator)

Program Manager of the WDH's Early Intervention and Preschool Program

Manager of the OHF SCHIP Program

Representatives from the Wyoming Department of Education (the Preventive Education Consultant and the Nutrition Programs Consultant)

School Nurse from Laramie County School District, No. 1

Representatives from the Wyoming Department of Family Services (one representative of the Juvenile Services Division, one representative of the Child Care Licensing and Certification Program, and one representative from the Foster Care Services Program)

Family Outreach Specialist from Uplift, also a member of the Wyoming Federation of Families for Children's Mental Health

University of Wyoming Contact for Young Adults

Staff of the Wyoming Citizen Review Panel, also a representative of the Wyoming Casey Family Program

Coordinator of Safe Kids Wyoming

Physicians Assistant, Attention Homes Youth Residential Treatment Center

Outreach and Education Coordinator from the Wyoming Health Council, also a parent

Outreach Coordinator from the Wyoming Early Childhood Partnership

Representatives of Children and Nutrition Services, Inc., including Child Care Finder Division (the Executive Director and the Child Care Finder Director0

Chief Professional Officer, Boys and Girls Club

Board Member, Wyoming After School Alliance

Eastern Shoshone Tribal Liaison, also WIND River Unity Council

Parent from Wyoming Parent Information Center

Parent, also WDH Community and Public Health staff member

Children with Special Health Care Needs Workgroup

Workgroup Leader: Charla Ricciardi, Interim Children's Special Health Program Manager

Workgroup Facilitator: Charlene Smith

Epidemiologists: Angi Crotsenberg, Epidemiologist

Marilyn Hammond, EPI Intern

Members: Benefit and Eligibility Specialist, Maternal and Family Health

Genetics Services and Newborn Metabolic Screening Coordinator, Maternal and Family Health

Public Health Nurses, MCH and CSH Programs

Director, WY Early Childhood Vision Project, and Early Childhood Program Coordinator at the University of WY

Eastern Wyoming College Student Services

Wyoming EHDI Director

Special Programs Unit Director, Wyoming Department of Education

Developmental Pediatrician

Executive Director, Parents Helping Parents of Wyoming and parent of an YSHCN

Outreach Parent Liaison, Parent Information Center and parent of a CSHCN

Wyoming Institute for Disabilities (WIND) Epilepsy Project Coordinator

Uplift Family Support Specialist

Licensed Therapist, Clergy

Executive Director, WIND

Shoshone and Arapaho Head Start Program

WY Epilepsy Association

WY Autism Taskforce member

Public Information Officer, Governor's Planning Council on Developmental Disabilities

State Medicaid Medical Officer and Staff Physician, Department of Health

Licensed Psychologist

Pediatrician, Indian Health Services

Professor, Pediatrics, University of Colorado Denver School of Medicine and Director, Regional Programs, Clinical Genetics and Metabolism, The Children's Hospital, Aurora, CO

School nurse at Alta Vista Elementary, Cheyenne

Children's DD and ABI Waiver Program Manager

Children's Mental Health Waiver Program Manager

Systems Improvement Analyst, Casey Family Services

Executive Director, Child Development Services of Wyoming

Legislator

5 Parents of CYSCHN

Technical Writer and Office Coordinator for Parent Information Center and parent of a CSHCN

Outreach Parent Liaison, Family 2 Family, Health Information Center

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