FAMILY HEALTH SERVICES DIVISION
Profiles 2014

CHILD AND ADOLESCENT HEALTH

- Child Overweight/Obesity
- Child Oral Health
- Teen Pregnancy/Births
- Childhood Injuries

Chapter 5

Child and Adolescent Health Overview

A significant number of deaths occur among children and adolescents and a much larger number of young people suffer from illnesses that can hinder their ability to grow and develop to their full potential. Many children and adolescents engage in behaviors that jeopardize not only their current state of health, but often their health for years to come. Nearly two-thirds of premature deaths and one-third of the total disease burden in adults are associated with conditions or behaviors that began in youth, including tobacco use, a lack of physical activity, unprotected sex or exposure to violence. Promoting healthy practices during adolescence and taking steps to better protect young people from health risks is critical to the future of a country's health and social infrastructure and to ensuring a healthy adult population.

There are more than 150,000 children ages 10-19 years old in Hawaii, representing about 11% of the entire state population. The data on this important population is largely reliant on the Youth Risk Behavior Survey (YRBS) and Vital Statistics as shown in this report. The YRBS provides estimates on many behaviors that can influence child and adolescent health as well as long-term health. The data is limited to public middle and high schools and does not represent those who do not attend school or those in private schools. Other important issues that are not routinely collected via the YRBS or by Vital Statistics include oral health status. However, efforts are underway at the Department of Health to collaborate with partners to obtain some oral health data. FHSD is also collaborating with partners who are leading activities to address some of today's most pressing youth issues, such as bullying prevention and underage drinking prevention.

Data collection and health monitoring is critical to maintaining and promoting the importance of child and adolescent health and in understanding its profound effects on the future. Working at multiple levels, including state, community and clinical levels, is essential to address and impact child and adolescent health indicators as well as the many social determinants that shape young people's health.

Child Overweight/Obesity

Goal: To Prevent Child Overweight/Obesity

Issue:

The increasing numbers of children who are overweight is a serious health problem. The prevalence of preschool children who are overweight has doubled since the 1970s. The onset of weight gain in childhood accounts for 25 percent of adult obesity; however, weight gain that begins before age 8 and persists into adulthood is associated with an even greater degree of adult obesity. Childhood weight gain is associated with a variety of adverse consequences, including an increased risk of cardiovascular disease, type 2 diabetes mellitus, asthma, social stigmatization and low self-esteem.[7,37]

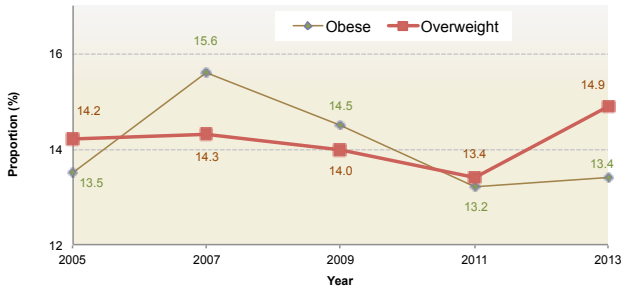
Experts warn that childhood obesity could lead to the first generation of American children who will be sicker and die younger than their parents. Childhood obesity is estimated to cost $14 billion every year in direct health costs. One study found that between 1997 and 1999, hospital costs associated with childhood obesity totaled $127 million, up from $35 million between 1979 and 1981.[XIV, XV]

Healthy People 2020 Objective:

Reduce the proportion of children and adolescents ages 12 to 19 who are considered obese (based on being at or above the 95% range for age- and gender-specific U.S. growth charts) to 16.1%.

Population-Based Data:

Figure 5.1 State of Hawai'i, Overweight and Obesity Among Public High School Students in Grades 9-12: 2005-2013



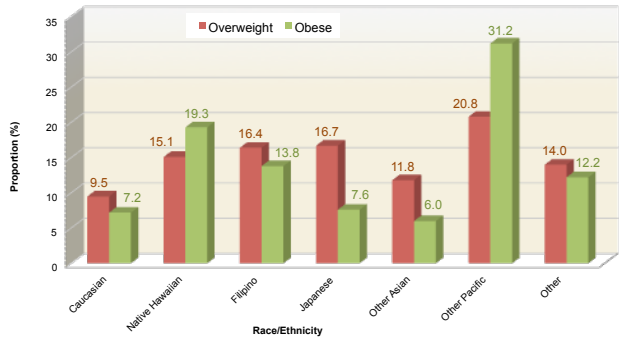
Source: Hawaii Health Data Warehouse.Hawaii Youth Risk Behavior Survey (YRBS). Note: YRBS is administered in odd-numbered years in public, middle and high schools.

In 2013, based on self-reported measures of height and weight, 13.7% of high school students nationally were obese compared to 13.4% in Hawaii.[38] There appears to be a downward trend since 2007 when an estimated 15.6% of Hawaii students were obese.

Overweight status has remained fairly consistent over time, hovering around 14%. Fewer students in Hawaii are overweight compared to the national estimate of 16.6% in 2013. [38]

Overall, 28.3% of Hawaii high school students are overweight or obese.

Figure 5.2 Overweight and Obesity Among Hawaii Public High School Students by Race/Ethnicity: 2013

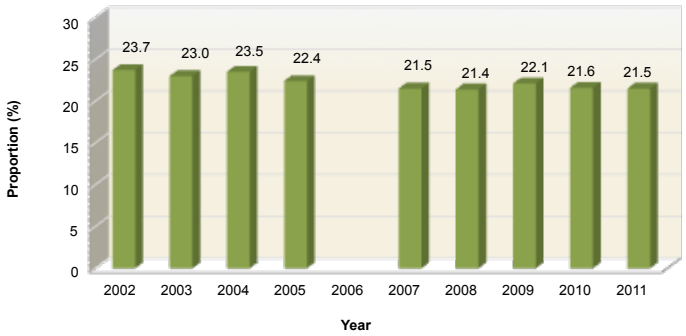


In 2013, self-reported data from the Youth Risk Behavior Survey indicated that 31.2% of "other Pacific Islander" and 19.3% of Native Hawaiian high school students were obese. Whereas, Japanese, Caucasian and "other Asian" had lower estimates than the state average of 13.4%. Filipino students had similar estimates to the state average.

Similar patterns were seen with overweight status (except Japanese and Filipino students had higher estimates and Native Hawaiians had similar estimates) compared to the state average of 14.9% in 2013.

Program Highlight:

Figure 5.3 At Risk for Overweight and Obesity Among Children 2-5 Years of Age Receiving WIC Services: 2002-2005, 2007-2011



Source: Centers for Disease Control and Prevention, PedNSS. No data was available for 2006. PedNSS data processing and reporting was discontinued in 2012.

The Special Supplemental Nutrition Program for **Women, Infants and Children** (WIC) is a federally funded program that provides nutritious supplemental foods, nutrition counseling, breastfeeding counseling and referrals to low-income residents. Services are limited to women who are pregnant, breastfeeding or postpartum, and to infants or children younger than 5 years of age. In 2011, 21.5% of WIC children 2-5 years of age in Hawaii were at-risk of being overweight or obese. The estimate in Hawaii remains significantly lower than the 2011 average of 30.4% nationally.[14]

WIC staff monitor weight and length of infants and children up to age 2 and weight/height ratios (body mass index or BMI) on all 2- to 5-year-olds to assess whether weight is appropriate or within a healthy range. WIC dietitians and certified staff counsel on the risk of childhood weight gain and explore ways to make recommended changes in diet and activity in partnership with caregivers. In October 2009, WIC food packages were revised to include healthier whole grains, fresh fruits and vegetables, and lower-fat dairy products.

Other Program Activities:

- FHSD contracts with the 14 federally qualified health centers in the state along with three private health care providers to provide health and dental **services to the uninsured and under-insured**. Providers are encouraged to offer counseling to children 2-17 years of age who are determined to be overweight (as measured by BMI). Healthy weight counseling includes addressing nutrition and physical activity, and is one of the performance measures used to evaluate contracted service providers. The number and percent of children who receive counseling is reported to the **Office of Primary Care and Rural Health** yearly. In Fiscal Year 2013, 9,167 children (average of 43% for all clinics) 2-17 years of age with a BMI greater than 85% received healthy weight counseling.
- The **Early Childhood Obesity Workgroup** is a collaborative partnership led by FHSD to promote evidence-based strategies to reduce and prevent early childhood obesity. The group works with the Head Start Collaboration Office, the Governor's Office of Early Learning, the Healthy Hawaii Initiative, the Departments of Education and Human Services, the Hawaii Initiative for Childhood Obesity Research and Education and other early childhood stakeholders. The group is addressing policy, direct services and public awareness of obesity prevention strategies.
- In 2012, state lawmakers established a Childhood Obesity Prevention Task Force to address childhood obesity and diabetes prevention. The task force, which is led by the health department's **Healthy Hawaii Initiative,** is working on policy recommendations to address obesity prevention and the multitude of factors that contribute to obesity**.** Increased funding from the Department of Health will scale up obesity prevention services, promote awareness, and enhance research and data collection to develop long-term solutions to this growing problem. FHSD will coordinate with the Healthy Hawaii Initiative to implement strategies outlined in the state Nutrition and Physical Activity Plan and Supplement.

Child Oral Health

Goal: To Improve Child Oral Health

Issue:

Dental caries are the most common chronic health problem affecting children ages 5 to 17 years old. If left untreated, dental decay can cause unnecessary pain and infection that can compromise a child's ability to eat well and nutritiously. Poor oral health also affects school attendance as well as a child's ability to concentrate and learn in the classroom. Dental decay often leads to early tooth loss, which can impair speech development, stunt a child's ability to thrive in social situations and adversely affect self-esteem. Fortunately, children are an excellent target for extensive preventive strategies, as early dental disease is reversible and proper treatment can prevent the development of more advanced, painful and destructive oral disease.[39]

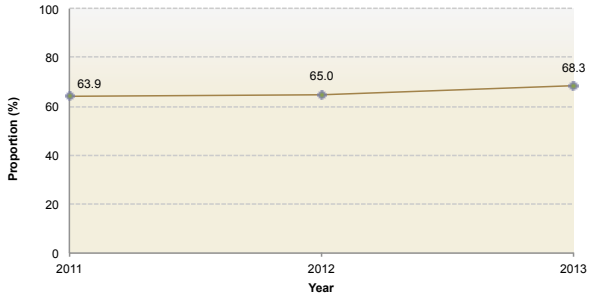
In addition to the many health and social benefits of preventing childhood cavities and tooth decay, supporting oral health services makes good economic sense. According to the American Academy of Pediatrics, it's about 10 times more expensive to provide inpatient care for cavity-related problems than to provide recommended preventive care.[XVI]

Healthy People 2020 Objective:

Reduce the proportion of children 6-9 years of age with dental caries in their primary and permanent teeth to 49%.

Population-Based Data:

Figure 5.4 State of Hawaii, Dental Utilization Proportion Among Children 6-9 Years of Age: 2006-2013

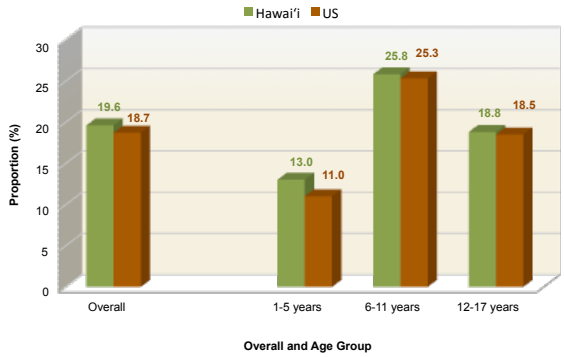


Source: Hawaii Medicaid Program. Early Periodic, Screening, Diagnosis, and Treatment from CMS 416 forms.

Results from the 2009-2010 National Health and Nutrition Examination Survey indicate that 17% of children nationally, 6 to 9 years of age, had untreated dental caries, with nearly a quarter (24.2%) of those living below the federal poverty level.[40]

Estimates of children 6 -9 years old in Hawaii who are enrolled in the Medicaid/QUEST program and received any dental care in the past year has increased since 2011, when 63.9% received care, to 2013, when 68.3% received some dental serivice.

Figure 5.5 State of Hawaii, Children With One or More Oral Health Problems in the Past 12 Months, Overall and by Age Group: 2011–2012



In Hawaii in 2011–2012, the proportion of children with one or more oral health problems (toothache, decayed teeth or unfilled cavities) in the past 12 months was 19.6% and was similar to that reported nationally. Children ages 6-11 years old had the highest proportion of one or more oral health problems in the past 12 months (25.8% in Hawaii).

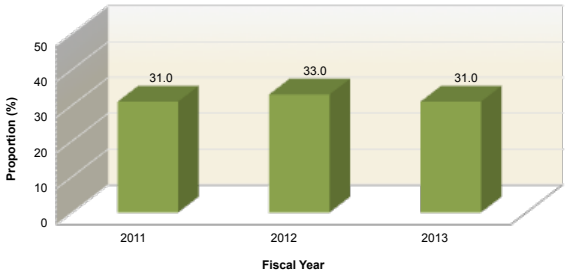
Source: U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. The National Survey of Children's Health 2011/12.

Program Highlight:

Figure 5.6 State of Hawaii, Estimates of Children 2 Years Old and Younger with a Medical Visit Having At Least One Dental Visit in Primary Care Health Centers: 2006-2013

FHSD contracts with 16 health service providers, including 13 of the 14 federally qualified community health centers statewide, to provide **health and dental services to the uninsured**. An oral health assessment is promoted as part of all well-child visits for children ages 0-18.
Most dental organizations recommend a child's first oral health exam occur
before age 2 to assure good dental hygiene practices are established before cavities develop in the child's first set of teeth.

In Fiscal Year 2013, primary care service contractors were able to provide dental assessments for 2,283 (31%) children 2 years of age and younger who had at least one medical visit. That rate is similar to the Fiscal Year 2011 rate when 3,007 (or 31%) children 2 years of age and younger who had at least one medical visit received a dental assessment.



Source: Hawaii State Department of Health, Family Health Services Division, Office of Primary Care and Rural Health. Data reflects Fiscal year (July 1-June 30).
Note: The data collected from the primary care service contractors are estimates derived from all children turning two years of age served for each contractor. The individual proportions for each contractor were then averaged to get an aggregate for all contractors

Other Program Activities:

- The health department's Dental Health Division was eliminated in 2009 due to budget restrictions. In 2012, FHSD was assigned to rebuild the public health dental infrastructure to include statewide data surveillance, planning, policy development and prevention. FHSD applied for and received a five-year **state oral health infrastructure building grant** from the Centers for Disease Control and Prevention. The grant provides funds for a dental director position to provide leadership to leverage resources, develop partnerships to establish infrastructure functions and improve oral health outcomes.
- FHSD partners with the Hawaii Primary Care Association to convene the **Hawaiian Islands Oral Health Task Force,** which is charged with sharing information on oral health services, initiatives and policies. The task force is an informal network of private and public organizations and individuals interested in improving the oral health of residents.
- Neighbor island FHSD staff are active participants in three neighbor island **county oral health groups** in Kauai, Hawaii, and Maui counties. The coalitions work to address the specific needs of their communities, which often experience a shortage of dental providers who provide services to underserved populations such as children with Medicaid dental insurance.
- The **WIC** supplemental nutrition program for mothers and their young children provides oral health education and makes referrals for dental care at community health centers. A dental pilot project at Kona WIC partnered with West Hawaii Community Health Center dental staff to provide dental assessments for WIC children.
- The **Children with Special Health Needs Program** provides case management for children with craniofacial conditions and partners with the multidisciplinary craniofacial center at the children's hospital in Hawaii. Through this community collaboration, access issues or gaps in dental services can be identified and addressed. As the payer of last resort, the Children with Special Health Needs Program provides limited financial assistance for orthodontic treatment for eligible enrolled children. Assistance and coordination is also provided to other families enrolled in HMO plans.
- The Maternal and Child Health Branch's **Hawaii Home Visiting Network** for at-risk families with children 0-3 years old partners with the American Academy of Pediatrics on the Hawaii Keiki Smiles project, which trains home visitor staff on oral health education for families.

Goal: To Reduce the Rate of Teen Births

Issue:

Teen childbearing tends to negatively impact the life prospects of teen mothers and their families and manifests as a significant economic burden to the health care, child welfare and criminal justice systems. Teen mothers are more likely to drop out of school, remain unmarried and live in poverty, while their children are more likely to be born at a low birth weight, grow up poor, live in single-parent households, experience abuse and neglect, enter the child welfare system, become teen parents themselves and be incarcerated.[7,41]

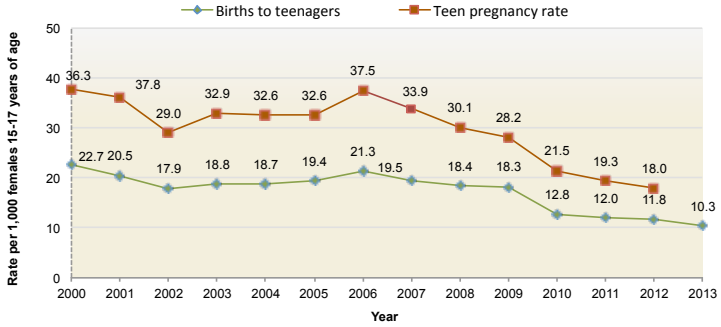
In addition to the poor social, economic, educational and health outcomes that often accompany teen pregancy for both mother and child, it also comes with a large economic cost to society. In 2008, teen pregnancy accounted for $11 billion in costs per year in increased health care and foster care, higher incarceration rates among children of teen parents, and lost productivity.[XVII]

Healthy People 2020 Objective:

Reduce the pregnancy rate among adolescent females ages 15 to 17 years old to 36.2 pregnancies per 1,000.

Population-Based Data:

Figure 5.7 State of Hawaii, Pregnancy and Birth Rates Among Females 15-17 Years of Age: 2000-2013

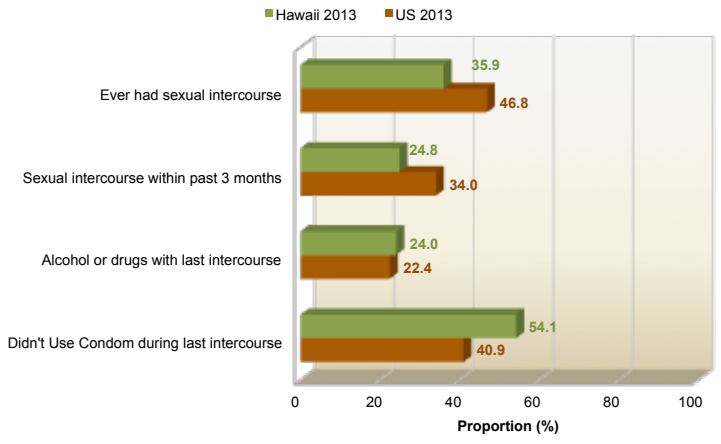


Source: Hawaii State Department of Health, Office of Health Status Monitoring.
Note: The rate of pregnancy is derived from estimates from the OHSM birth, fetal death, and Induced Termination of Pregnancy (ITOP) files. ITOP and fetal death files were not available for 2013 at time of publication.

The teen pregnancy rate in Hawaii has steadily declined since 2006 to a rate of 18.0 per 1,000 females 15-17 years of age in 2012. Nationally, in 2010, the rate was 30.0 per 1,000 females 15-17 years of age.[42]

Since 2006 in Hawaii, rates of teen births have decreased each year to 10.3 births per 1,000 females 15 to 17 years of age in 2013, which remains lower than the national rate of 17.3 per 1,000 females 15-17 years of age in 2010.[43]

Figure 5.8 Sexual Activity Among Hawaii Public High School Students vs. U.S. High School Students: 2013

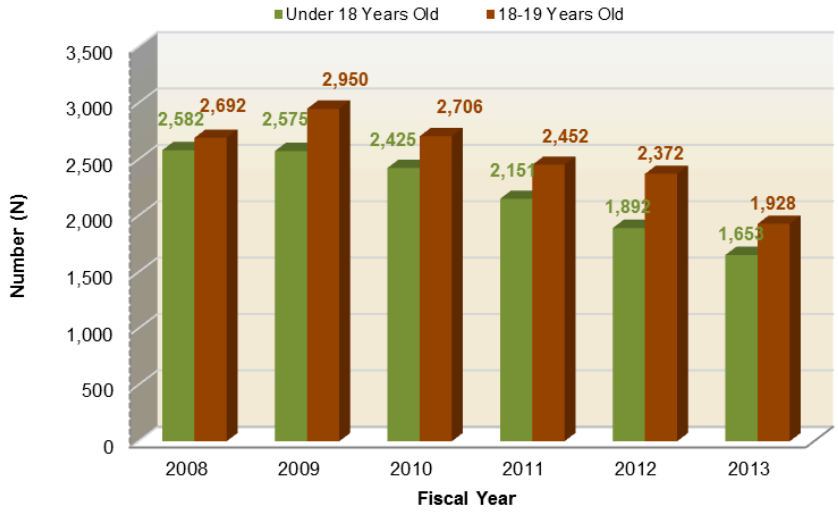


Source: Hawaii Health Data Warehouse. Hawaii Youth Risk Behavior Survey (YRBS).
Note: YRBS is administered in odd-numbered years in public middle and high schools.

In Hawaii in 2013, 35.9% of high school students reported ever having sexual intercourse, and 24.8% of those who ever had sex reported being currently sexually active — both percentages are lower than the national averages. However, among those who ever had sex, 54.1% did not use a condom at last sexual intercourse compared to 40.9% nationally, putting them at increased risk for both pregnancy and sexually transmitted infections.[38] Alcohol or drugs were commonly associated with last intercourse among more than one in five students both nationally and in Hawaii.

Program Highlight:

Figure 5.9 Adolescents Through 19 Years of Age Receiving Family Planning Services: 2008-2013



Source: Hawaii State Department of Health, Family Health Services Division, Maternal and Child Health Branch, Family Planning Program. Data reflects Fiscal year (July 1-June 30).

The **Family Planning Program** within the Maternal and Child Health Branch (MCHB) assures access to affordable birth control and reproductive health services for all individuals of reproductive age, with a priority on serving low-income and hard-to-reach individuals, including adolescents. Services are offered free or at low cost and include education, counseling, cervical and breast exams, provision of appropriate contraceptive methods, and testing for pregnancy and sexually transmitted infections. In Fiscal Year 2013, there were 1,653 females younger than 18 and 1,928 women 18-19 years of age that received direct services through Family Planning Program contracts. Patients numbers within both ages groups have declined since 2009.

Other Program Activities:

- The MCHB Adolescent Health Program provides oversight and program evaluation activities for the federal **Personal Responsibility Education Program** grant. The purpose of the program is to educate youth between the ages of 15 and 19 using an evidence-based program model that has been proven to delay sexual activity, increase condom or other contraceptive use among sexually active youth, and reduce pregnancies. Hawaii County was selected for the four-year program due to its higher rates of teen pregnancies and births.
- The MCHB Adolescent Wellness Program administers the federal **Abstinence Education Grant Program** to support decisions to abstain from sexual activity and, where appropriate, provide mentoring, counseling and adult supervision to promote abstinence from sexual activity. The Maternal and Child Health Branch contracts with the Boys and Girls Club of Hawaii to administer a positive youth development approach in preparing participants to make healthy decisions and includes education on the long-term benefits of postponing sex. The curriculum helps build young people's social and decision-making skills to make healthy choices and recognizes the importance of supportive peer and adult relationships.
- The MCHB Adolescent Wellness Program staff serves on the **Hawaii School Health Survey Committee,** which is convened jointly by the Department of Education and Department of Health. The committee supports the administration and implementation of population-based health surveys in schools to monitor risk behaviors that contribute to mortality, morbidity and social problems among youth.

Childhood Injuries

Goal: To Reduce the Rate of Childhood Injury

Issue:

Injuries are the leading cause of death among children. About half of all deaths in children ages 1-14 years old are due to injuries. Close to 80 percent of these deaths are due to motor vehicle crashes, followed by drowning, falls, accidental poisonings and suffocation. Serious nonfatal and unintentional injuries account for 84 percent of injury-related hospitalizations and result in an estimated $108 billion in lifetime medical costs. (A lifetime cost is defined as the total cost of an injury from onset until either complete cure or death.) Many deaths due to injury can be prevented by reducing controllable risk factors, such as speeding, underage drinking, drug use, not using seat belts or helmets, and not using designated crosswalks. Increasing awareness and education about effective parental or caregiver supervision for young children, safe sleep practices for infants, seat belt use and graduated drivers license classes could go a long way in reducing unintentional childhood injury.[7,44]

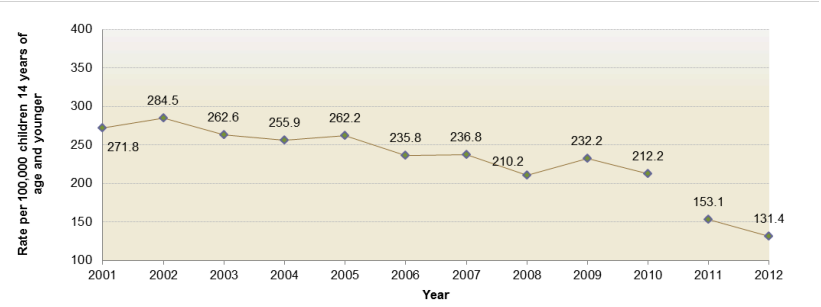
Many childhood injuries and injury-related deaths are preventable with easy, low-cost interventions that offer big returns on investment. For example, a $52 child safety seat can prevent $2,200 in medical spending, which equals a return of $42 for every $1 invested. Also, a $12 child's bike helmet can prevent $580 in medical spending, which equals a return of $48 for every $1 invested.[XVIII]

Healthy People 2020 Objective:

Reduce nonfatal unintentional injuries among all ages.

Population-Based Data:

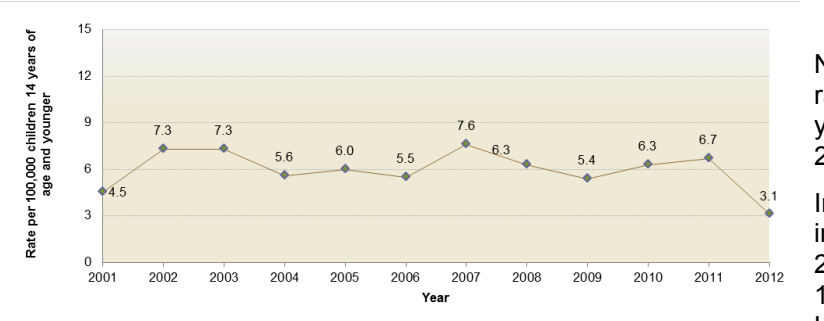
Figure 5.10 State of Hawaii, Non-Fatal Injuries Among Children 14 Years of Age and Younger: 2001-2012



Source: HawaiiState Department of Health Injury Prevention and Control Program. Analysis based on Hawaii Health Information Corporation, Hospital discharge data. Note: In 2011, data for one hospital with an emergency room was no longer included in the data set and therefore the break in the line represents that rates prior to 2011 are not comparable to those in 2011 or later.

Analysis of data from the Hawaii Health Information Corporation shows that the rate of nonfatal injuries to children 14 years of age and younger in Hawaii has declined steadily since 2002. Data since 2011 excludes Tripler Army Medical Center, which in 2010 accounted for about 31% of all admissions for this age group, and accounts for the break in the data line between 2010 and 2011.

Figure 5.11 State of Hawaii, Fatal Injuries Among Children 14 Years of Age and Younger: 2001-2012



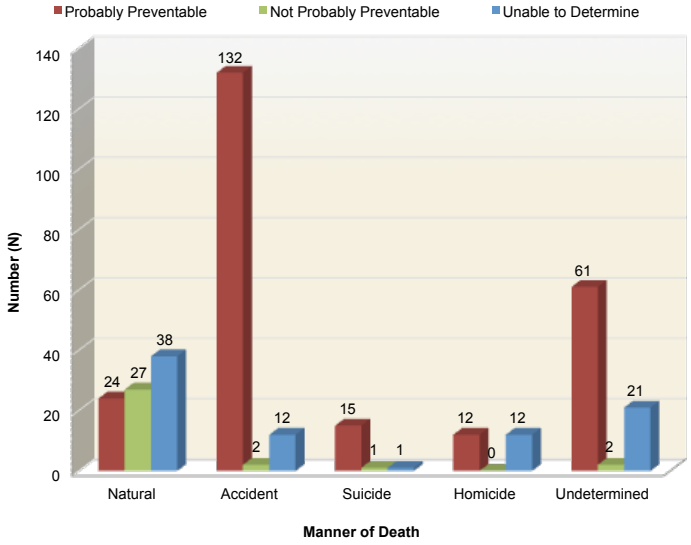
Source: Hawaii State Department of Health, Office of Health Status Monitoring. Note: Limited to Resident Population. 2012 Data is provisional.

Nationally, the unintentional injury death rate among those 14 years of age and younger was 7 per 100,000 children in 2009.[44]

In Hawaii, the rate of death due to fatal injuries has remained consistent since 2002, with a rate of 6.7 per 100,000 children 14 years of age and younger in 2011. However, in 2012, provisional data show the rate is down to 3.1 per 100,000.

Program Highlight:

Figure 5.12 State of Hawaii, Preventability by Manner of Death Among Comprehensive Reviewed Deaths Among Children 0-17 Years of Age: 2003-2008



Source: Hawaii State Department of Health, Family Health Services Division, Maternal and Child Health Branch, Child Death Review Program Data.
Note; Deaths receiving comprehensive reviews include those that may have some element of preventability based on information from the death certificate.

The Maternal and Child Health Branch (MCHB) administers the **Child Death Review** Program, which was established under legislative mandate to conduct systematic, multidisciplinary reviews of child deaths between 0-17 years of age. This statewide system of community-based teams examines risk factors related to potentially preventable deaths. Of the 1,056 deaths among residents and nonresidents in Hawaii from 2003-2008, all were reviewed by the state Child Death Review Program. Of these, 378 received a comprehensive review. Nearly all the accident and homicide deaths were deemed to have likely been preventable, as were nearly three-quarters of those deaths with an undetermined manner. A determination could not be made in close to two-thirds of the suicide deaths and nearly half of the natural deaths.

Discussions at the reviews provide opportunities to share best practices and policies. Data is collected to identify risk factors and trends in child deaths. Recommendations for prevention strategies, such as system changes, policy development, community education and training needs, are made with a goal of expanding and enhancing community partner efforts that promote child health and safety and help prevent child deaths. For example, the Maternal and Child Health Branch coordinated with the health department's Injury Prevention and Control Section and the Keiki Injury Prevention Coalition on legislation and training related to child car safety restraints, booster seats and graduated driver's licensing. The partners also worked on promoting drowning prevention techniques through learn-to-swim programs.

Other Program Activities:

- The MCHB provides leadership for **Safe Sleep Hawaii**, a statewide committee to promote evidence-based safe sleep policies and education for parents, teachers, doctors, nurses and other caregivers. The committee also promotes information on safe sleep environments. In 2010, Safe Sleep Hawaii launched its website at www.safesleephawaii.org.
- The MCHB **Hawaii Home Visiting Network** for at-risk families with children 0-3 years old promotes injury prevention and collects data on emergency department visits among mothers and children for all causes; injuries among children within the home visiting programs that require medical treatment; and reported suspected maltreatment (allegations), reported substantiated maltreatment and first-time victim maltreatment. Information is also provided on the prevention of child injuries, including tips on safe sleep, shaken baby, traumatic brain injury, child passenger safety, poisonings, fire safety, water safety and playground safety.