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Chapter 1
Family Health Services Division

The Family Health Services Division (FHSD) is the state maternal and child health (MCH) agency charged with protecting, promoting and improving the health and well-being of all women, infants, children, adolescents and their families in Hawaii, especially vulnerable populations. With the addition of the Office of Primary Care and Rural Health, FHSD is able to leverage system-level approaches to assure access to critical health care services for all residents. FHSD programs and activities strive to strengthen and support the health department’s overall MCH infrastructure and to assure the availability and accessibility of preventive and primary care services that are family-centered and community-based. The division supports a broad array of programs administered through its division staff, neighbor island staff and three branches:

- **Division**
  At the division level, there are many programs and activities that address a wide range of health issues, including many system-level issues. This includes the Office of Primary Care and Rural Health, the Early Childhood Coordinating Systems, oral health planning, surveillance and prevention, and the Epidemiology and Planning Unit. The functions of the division also include appropriate fiscal, grant and budgetary management. Some of the activities include administering the Title V Maternal and Child Health Services Block Grant and other grants related to developing the capacity to improve infrastructure across the whole division. Additionally, division-level staff work across all branches on a diverse number of issues, including child obesity, early childhood development and fetal alcohol spectrum disorder.

- **Family Health Services Section (FHSS)**
  FHSD supports work across the state, including section supervisors at the neighbor island District Health Offices through the Family Health Services Section. The work of these coordinators is very diverse and includes collaborating with and supporting the work of all the branches within FHSD and across different agencies.

- **Maternal and Child Health Branch (MCHB)**
  The Maternal and Child Health Branch administers a statewide system of services to reduce health disparities for women and their families by utilizing the following public health strategies: mobilizing community partnerships and coalitions; conducting needs assessments; assuring quality health care through development and monitoring of service contracts; monitoring health status; and supporting systems of care.

- **Children with Special Health Needs Branch (CSHNB)**
  The Children with Special Health Needs Branch works to assure that all children and youth with special health care needs (CSHCN) have the opportunity to reach optimal health, growth and developmental milestones. To achieve this goal and generate positive outcomes, the branch works to improve access to a coordinated system of family-centered health care services and supports related systems development, assessment, assurance, education, collaborative partnerships and family support activities.

- **Women, Infants and Children (WIC) Services Branch**
  The Supplemental Nutrition Program for Women, Infants and Children (WIC) works to improve nutritional health status by providing nourishing supplemental foods, nutrition counseling, breastfeeding promotion, and health and social service referrals. WIC participants are pregnant, breastfeeding or postpartum women, as well as infants or children younger than 5 who meet income guidelines and have a medical or nutritional risk.
Priority Functions

FHSD’s federal and state mandates are very broad in nature and address the public health needs of all women, infants, children, adolescents and families in Hawaii. The division’s primary functions are to:

- Assure that systems are in place to address the full continuum of care throughout the life cycle — from preconception to birth to adolescence to adulthood.
- Address the health and safety needs of vulnerable individuals, children and youth, with particular attention to children with special health needs.

Federal Title V Maternal and Child Health Services Block Grant Program

As the state MCH agency, FHSD receives funding from the federal Title V MCH Services Block Grant Program. Enacted in 1935 as a part of the Social Security Act, the block grant program is the nation’s oldest federal-state partnership. For more than 75 years, the Title V program has provided a foundation for ensuring the health of the nation’s women, children and youth, including children and youth with special health care needs and their families. Many of the health measures reported in the following profiles are part of required annual Title V reporting. Additional information on the Title V program, including data from all states and jurisdictions, can be found online at: http://mchb.hrsa.gov/programs/titleVgrants/index.htm.

Family Health Services Division Priorities

Every five years, as part of the requirements for the Title V program, the state submits a comprehensive needs assessment conducted to identify key measurable MCH health priorities in the state. These priorities help inform FHSD’s programmatic efforts as well as its collaborations with partners on overarching priorities, such as improving birth outcomes. The current priorities are listed below; the first seven were the original priorities, and the eighth was added more recently due to high need and importance. They have provided focus for much of the division’s work from 2010-2014.

1) Reduce the rate of unintended pregnancy
2) Reduce the rate of alcohol use during pregnancy
3) Improve the percentage of children screened early and continuously ages 0-5 years old for developmental delay
4) Improve the percentage of youth with special health care needs ages 14-21 years old who receive services necessary to make transitions to adult health care
5) Reduce the rate of child abuse and neglect, with special attention on ages 0-5 years old
6) Reduce the rate of overweight and obesity among Native Hawaiian and other Pacific Islander children ages 0-5 years old
7) Improve the proportion of adolescents in public high schools that have a dental visit in the past year
8) Improve birth outcomes through reductions in infant mortality and prematurity
There are many approaches to tackling disease prevention. One such approach is the life course perspective, which FHSD has included in its planning efforts. The central premise to the life course perspective is that there are critical periods of an individual’s life (e.g., infancy, childhood, adolescence, childbearing age, elderly age) during which events, experiences or exposures can have long-term implications. For example, it has been documented that events during pregnancy are linked to long-term health outcomes such as asthma, diabetes and heart disease. Life course theory also points to broad social, economic and environmental factors as underlying causes of persistent inequalities in health for a wide range of diseases and conditions across population groups.
Family Health Services Surveillance Data

FHSD is responsible for administering several surveillance systems that monitor the health of the maternal and child population in Hawaii.

**Pregnancy Risk Assessment Monitoring System**

The Hawaii Pregnancy Risk Assessment Monitoring System (PRAMS) is a population-based surveillance system designed to identify and monitor maternal experiences, attitudes and behaviors before, during and just after pregnancy. PRAMS has been conducted in Hawaii since 2000 and is part of the Centers for Disease Control and Prevention's (CDC) PRAMS surveillance project. PRAMS data can be used to inform strategies aimed at reducing infant deaths, decreasing rates of low birth weight and improving the overall health of mothers and infants. Data are self-reported and collected via a survey conducted by mail and telephone follow-up. Every year, about 2,000 women who deliver a live infant in Hawaii are randomly selected to participate.

**Birth Defects Monitoring System**

The Birth Defects Monitoring System program is an active population-based surveillance system that collects demographic, diagnostic and health risk information on infants up to one year of age with specific birth defects as well as on pregnancies resulting in adverse reproductive outcomes. More than 1,000 CDC-recommended congenital anomalies are investigated among approximately 18,000 births annually. Overall, one in 25 babies are born with a birth defect in Hawaii. The program, which provides data and information on incidence, trends, and clustering, contributes toward identifying genetic factors, environmental hazards, and other causes or risk factors.

**Pediatric Nutrition Surveillance and Pregnancy Nutrition Surveillance System**

The Pediatric Nutrition Surveillance System (PedNSS) and the Pregnancy Nutrition Surveillance System (PNSS) are public health surveillance systems that monitor the nutritional status of low-income pregnant mothers and their children participating in federally funded maternal and child health programs. Data are collected in these surveillance systems on several indicators, including birth weight, breastfeeding, anemia, short stature, underweight and overweight, and are reflective of children and women who visit public health clinics for routine care. Among the data collected is information on timeliness of prenatal care initiation, nutrition knowledge, supplemental food needs, weight and weight changes over the pregnancy, smoking behavior and alcohol use. In Hawaii, data is also collected from participants in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC). CDC discontinued PNSS and PedNSS at the end of 2012, so data beyond 2011 is not available. However, efforts to continue to provide this important data at the local level are underway.

**Program Data**

FHSD also collects and compiles program-specific data. Some of these programs include the Family Planning Program, the Children with Special Health Needs Program, Child Death Review, Perinatal Support Services, Early Intervention, Big Island Perinatal Health Disparities Project and WIC. In addition, FHSD supports many other state government initiatives as well as private and public health-related programs. Data from these sources have been included in this report to enhance the surveillance data sets and to help evaluate the strategies being used to achieve essential public health functions.
Other Surveillance Data Sets

In addition to the core surveillance data sets administered by FHSD, there are several other major data sets that are integral to the division in meeting its objectives and which were used in the preparation of this report.

Vital Statistics

Vital Statistics is housed in the health department’s Office of Health Status Monitoring (OHSM) and collects important information about births, deaths and marriages in the state. Several indicators of health status are calculated based on data collected by Vital Statistics. More information on Hawaii Vital Statistics data is available online at http://health.hawaii.gov/vitalstatistics.

Behavioral Risk Factor Surveillance System Survey

The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based health survey that collects information on adult health risk behaviors, preventive health practices, and health care access primarily related to chronic disease and injury. The BRFSS has been conducted in Hawaii since 1986 and is part of the CDC’s BRFSS surveillance program. It is a random-digit, telephone-based survey that provides weighted estimates to reflect the population of Hawaii. Since 2000, the number of annual respondents has increased from approximately 2,000 to 6,000 adults ages 18 years old and older. More information on the Hawaii BRFSS data is available online at http://health.hawaii.gov/brfss.

Hawaii School Health Survey

The Hawaii School Health Survey (HSHS) represents a collaboration between DOH, the Hawaii Department of Education, CDC and the University of Hawaii to implement important health surveys in publically funded middle and high schools in the state. The collaboration brings together multiple surveys, including the Youth Risk Behavior Survey (YRBS), the Youth Tobacco Survey (YTS), and previously, the Alcohol Tobacco and Other Drug Survey, to optimize school and student participation, reduce the burden on school administrators and minimize classroom disruption. The survey is conducted in odd years via in-class questionnaires and covers important health and behavior issues facing children in the state. In 2011, the YRBS was completed by 5,109 middle school and 4,329 high school students. The 2011 YTS was completed by 1,664 middle school and 1,298 high school students. The sampling methodology limits the possibility for the same student to complete both the YTS and YRBS in the same year. More information on the Hawaii School Health Survey as well as YRBS and YTS data is available online at http://hhdw.org.

Hawaii Health Information Corporation

The mission of the Hawaii Health Information Corporation (HHIC) is to collect, analyze and disseminate statewide health information in support of efforts to continuously improve the quality and cost efficiency of health care services provided to the people of Hawaii. HHIC is a private, not-for-profit corporation established in 1994 by the state’s major private health care organizations. HHIC maintains one of the largest health care databases in Hawaii, including inpatient, emergency department and financial data. As an independent organization, HHIC has been collecting inpatient hospital data from licensed acute care hospitals in Hawaii since 1995. The inpatient database currently includes approximately 2 million patient records. In 2000, emergency department data was added to HHIC’s data repository and currently contains 3 million patient records. More information on HHIC data is available online at http://hhic.org.
The following section serves to describe the population and geographic area that FHSD serves. The data describe the population of Hawai’i by several demographic factors, including age, sex, race and geography. To further delineate some of the measures commonly used to report on socioeconomic conditions, particularly those with a strong relationship to adverse health outcomes, we have included figures in this overview that illustrate infant mortality across several population subgroups, as reducing infant mortality is an overarching priority throughout the division. National comparisons are contextually helpful and have been provided when possible.

**Population Demographics**

*Figure 1.2 State of Hawaii, Population Proportions by Age and Sex: 2010*

In 2010, an estimated 5.4% of the female population was 80 years old and older, compared to 3.4% of the male population. Among younger residents, 12.2% of the female population was younger than 10 years of age, compared to 12.9% of the male population. This demographic transition occurs around age 50, when the proportion of females begin to exceed the proportion of males in the age groups shown.
The majority of the population (70.1%) resides in Honolulu County, with smaller proportions in Hawaii, Maui and Kauai counties.

In 2010 in Hawaii, 23.6% of the population reported belonging to two or more races, 24.7% were white, 14.5% were Filipino, 13.6% were Japanese and 5.9% were Native Hawaiian. As a group, all Asian groups made up 38.6% of the population, while the composite Native Hawaiian or "other Pacific Islander" group made up 10% of the population. Of all residents that reported being Native Hawaiian (289,970), 72.3% reported belonging to another race as well, which would correspond to 21.3% of the state population being Native Hawaiian (alone or in combination with another race).
Poverty

Figure 1.5 State of Hawaii, Estimates for All Ages in Poverty: 2000-2012

![Graph showing poverty rates from 2000 to 2012 with data points for each year.](image)

Figure 1.6 State of Hawaii, Estimates for All Ages in Poverty by County: 2012

![Bar graph showing poverty rates by county in 2012.](image)

Source: U.S. Department of Commerce; Bureau of Census. Small Area Income and Poverty Estimates (SAIPE) Program. Note: Beginning with the estimates for 2005, data from the American Community Survey were used in the estimation procedure; all prior years used data from the Annual Social Economic Supplements of the Current Population Survey. There is uncertainty associated with all estimates in this program. Caution should be used in attempting to compare estimates.

Particularly vulnerable populations at risk for a range of poor health outcomes include those living at or below the poverty level. Since 2000, Hawaii has seen little change in the percentage of people living at or below the poverty level. However, the poverty rate has been ticking upward since 2007, when only 8.5% of the population lived in poverty, to an estimated 11.8% in 2012. However, the state’s overall poverty rate is still below the national estimate of 15.9% in 2012.³

There are some differences related to county of residence. In 2012, the highest estimate of individuals living in poverty was in Hawaii County followed by Kauai County, whereas Honolulu and Maui counties had poverty estimates below the state average.
Another vulnerable population at risk for a range of poor health outcomes are residents who are unemployed. From 2002 to 2007, there was an approximately 50% decrease in the unemployment rate for the State of Hawaii (4.7% to 2.4%, respectively). Since 2007, however, the unemployment rate has climbed considerably with some recent declines. Data from January 2013 show unemployment at 5.3% in Hawaii, which is lower than the previous year and still well below the national rate of 8.8%.4

In January 2013, Hawaii, Kauai and Maui counties all had unemployment rates higher than the overall state rate. Honolulu County’s unemployment rate, however, was lower than the state rate.
During the last 24 years, the number of births in Hawaii has varied from about 17,000 to 20,500 annually. There has been a steady increase in the number of births since the late 1990s, with just fewer than 19,000 live births among Hawaii residents each year for the past five years.

On average, 52 babies are born each day in Hawaii.
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Note: Limited to Resident Population and 2013 data is provisional.

In 2013, live births in Hawaii were distributed almost evenly among women ages 20-24, 25-29 and 30-34 years old, with each group accounting for about a quarter of all births. The next largest group of women giving birth to live infants was 35-39 years old.
Births by Race/Ethnicity

After the birth of an infant, the parents have the opportunity to list all race groups that they recognize themselves. All this information is collected with a child’s race a composite of the parent’s race and collected in the birth certificate file by the Hawaii Department of Health’s Office of Health Status Monitoring (OHSM). The categorization of race is then simplified for use by analysis with mother, father, and child race all converted to a single race group following a standard methodology. Therefore, this does not allow reporting of those who report multiple races and ethnicities on their birth certificates. This approach differs from the U.S. Census Bureau (and information shown earlier in this document), which provides a category of “two or more races” in population estimates and which was highlighted in a recent report on births. The interpretation of data related to race/ethnicity is complex due to differences between data systems. When making comparisons based on race/ethnicity it is important to note the differences in how the data sets are collected and summarized.

Figure 1.12 State of Hawaii, Live Births by Maternal Race/Ethnicity: 2013

- Caucasian, 23.7%
- Hawaiian, 26.8%
- Filipino, 16.9%
- Japanese, 8.5%
- Chinese, 4.5%
- Other Pacific Islander, 7.1%
- Samoan, 2.8%
- Black, 3.0%
- Other Asian, 3.6%
- All Others, 3.1%
- All Others, 3.1%

Source: Hawaii State Department of Health, Office of Health Status Monitoring.
Note: Limited to Resident Population and 2013 data is provisional.

In 2012, 26.6% of births were among mothers who fall into the Hawaiian category, followed by Caucasian, Filipino and Japanese. Combined, these four groups represented more than three-fourths of births in the State of Hawaii.
In 2013, 36.0% of births were among children who fall into the Hawaiian category, followed by Caucasian, Filipino and Japanese. Of note is that Hawaiian representation is highest when estimating race/ethnicity information for children than when doing so for either mother or father.

In 2013, 24.6% of births were among fathers who fall into the Caucasian category, followed by Hawaiian, Filipino and Japanese. The paternal “all others” group, which includes those who do not list a race/ethnicity, is about three-fold higher than the same category among mothers and children.
Births by Maternal Education

Figure 1.15 State of Hawaii, Live Births by Maternal Education: 2013

In 2012, 35.6% of live births in Hawaii were among women who completed high school or had a Graduate Equivalency Degree (GED), and 7.5% were among women with less than a high school education. Therefore, nearly half of all live births in the state were among women with either a high school education or less. In 25.8% of live births, the mother had some college education, while 30.1% of live births occurred among mothers who had graduated from college.

Source: Hawaii State Department of Health, Office of Health Status Monitoring.
Note: Limited to Resident Population and 2013 data is provisional.
The death of an infant is a critical indicator of population health as it often reflects the overall state of maternal and infant health. It also is used in measurement of the quality and accessibility of health care for pregnant women and infants. Some risk factors for an infant death include being born with low birth weight, a short gestation, race/ethnicity, access to medical care, sleep positioning and exposure to smoking. The national Healthy People 2020 objective is to decrease the rate of infant mortality among all groups to 6 per 1,000 live births. The national infant mortality rate was 6.4 deaths per 1,000 live births in 2009. There was more than a two-fold difference in infant mortality rates by race and ethnicity, from a high of 12.6 per 1,000 live births among non-Hispanic black women to a low of 5.3 among non-Hispanic white women and 5.4 among Hispanic women. These differences may relate, in part, to differences in risk factors for infant mortality, such as preterm and low birth weight delivery, socioeconomic status, access to medical care, etc. However, many of the racial and ethnic differences in infant mortality remain unexplained.

In Hawaii, there was little change in the infant mortality rate from 1990 to 2010, with a low of 5.3 deaths per 1,000 live births in 1996 and 2004, and a high of 7.6 deaths per 1,000 live births in 2000. However, in 2011 and 2012, Hawaii experienced the lowest infant mortality rates ever documented in the state, but there was an increase in 2013 provisional data back up to levels last seen in 2007. It will be critical to continue to monitor this rate, particularly within population subgroups, and promote activities to return to a downward trend.

On average, 2 infants die each week in Hawaii.
Figure 1.17 State of Hawaii, Infant Mortality Rate by Maternal County of Residence: 2011-2013

Source: Hawaii State Department of Health, Office of Health Status Monitoring.
Note: The Office of Health Status Monitoring information for mother’s county of residence at time of birth was obtained from that reported on the linked birth certificate. Limited to Resident Population and 2013 data is provisional.

Based on the county of residence of the mother at delivery, infants whose mothers lived in Hawaii, Kauai and Maui counties had lower infant mortality rates than the overall state average from 2011-2013. Infant mortality among mothers living in Honolulu County was above the overall state rate.

Figure 1.18 State of Hawaii, Infant Mortality Rate by Maternal Age: 2011-2013

Source: Hawaii State Department of Health, Office of Health Status Monitoring.
Note: The Office of Health Status Monitoring information for mother’s age at time of birth was obtained from that reported on the linked birth certificate. Limited to Resident Population and 2013 data is provisional.

Based on the age of the mother at delivery, infants whose mothers were younger than 20 years of age had the highest infant mortality rate and was well above the overall state average from 2011-2013. The infant mortality rate among mothers 25-34 years of age was slightly below the overall state rate. Whereas, infants whose mothers who were 20-24 years old and 35 years of age and older had similar mortality rates to the state estimate.
Infants born to mothers within the race/ethnic categories of black, Samoan, Hawaiian, or “all others” had rates of infant mortality higher than the overall state average. Whereas, infants whose mothers reported being Chinese, Japanese, Caucasian, “other Pacific Islander” or “other Asian” had lower rates.

Based on the race/ethnicity of the child, infants who were black or Samoan experienced the highest rates of infant mortality. Infants who were Hawaiian or Filipino also had higher rates than the overall state average. Whereas, infants that were Chinese, Japanese, Caucasian or “other Asian” had lower rates.
Infants born to fathers within the race/ethnic categories of black, Samoan, Filipino or “all others” had rates of infant mortality higher than the overall state average. Infants whose fathers reported being “other Asian” or Chinese had the lowest rates of infant mortality. The “all others” group, which by definition included instances in which the information was missing or marked as “unknown,” was much bigger among fathers compared to mothers and children. For example, this “all others” paternal group was associated with 17.6% of infant deaths and 11.8% of births in 2011-2013, compared to much lower estimates within maternal (3.7% and 3.1%, respectively) or child race/ethnicity (1.7% and 2.8%, respectively) groups.

Based on the education of the mother at delivery, infants whose mothers had less than a high school education or did not have a reported education level had the highest rates of infant mortality, which was well above the overall state average. Infants whose mothers only completed high school, had a GED, or had some college education experienced a mortality rate similar to the state average, while college graduates had a lower rate than the state average.