

**REPORT TO THE TWENTY-NINTH LEGISLATURE
STATE OF HAWAII
2018**

**PURSUANT TO ACT 203, S.B. 2317, (SLH 2016, §2 at 621-622)
REQUIRING THE DEPARTMENT OF HEALTH TO PROVIDE AN ANNUAL
REPORT ON CHILD DEATH REVIEW AND MATERNAL MORTALITY
REVIEW ACTIVITIES**

PREPARED BY:

**STATE OF HAWAII
DEPARTMENT OF HEALTH
HEALTH RESOURCES ADMINISTRATION
FAMILY HEALTH SERVICES DIVISION
MATERNAL AND CHILD HEALTH BRANCH
DECEMBER 2017**

2018 REPORT TO THE LEGISLATURE

Requiring the Department of Health to provide an annual report covering the calendar year immediately prior to the year in which the report is due on Child Death Reviews and Maternal Mortality Reviews. This report is based on reviews conducted for calendar year 2017.

Legislative Approval:

In 2016, the legislature passed and Governor Ige signed, Act 203, S.B. 2317 authorizing comprehensive multidisciplinary reviews of child deaths and maternal deaths. The stated purpose of these reviews is to understand risk factors and prevent future child and maternal deaths in Hawaii. An appropriation of \$150,000 was made for fiscal year 2016-2017 for the Department of Health to conduct child death reviews and implement a program for the performance of maternal death reviews.

In fiscal year 2017-2018, funding was received from the legislature for a Registered Nurse IV position 98521H for the DOH Maternal and Child Health Branch and is budgeted as a permanent position with general funds for FY 18 and 19. In both FYs there is 1.00 FTE position count. In FY 18 the amount budgeted is \$48,078.00 (6 months' salary) and in FY 19 the amount budgeted is \$96,156.00.

The Maternal and Child Health Branch utilized the \$150,000 appropriated during the 2016-2017 legislative session for the following activities:

- 1) Contracting a nurse to facilitate and administer the Child Death Review team meetings (2016-2017);
- 2) Training of nurse coordinators on Kauai, Maui and Hawaii Island-Hilo (2016-2017);
- 3) Neighbor Island visits to re-start the Child Death Review process on Kauai, Maui and Hawaii Island-Hilo (2016-2017);
- 4) Contracting an OB/GYN abstractor to review medical reports and prepare maternal and mortality clinical summaries for the Maternal Mortality Review team (2016-2017); and,
- 5) Contracting a Maternal and Mortality Review coordinator, recommended by the Centers for Disease Control and Prevention (CDC) to gather the necessary documents for the abstractor, prepare correspondence for the public-private committee members, serve as the liaison to coordinate meetings between DOH FHSD/MCHB staff and the Maternal Mortality chair, a volunteer OB/GYN and to assist in writing the policies and procedures for the Maternal Mortality Review (2016-2017).

Child Death Review

Background and Purpose

A child's death has an effect on the entire community. Especially tragic is to know that the death could have been preventable. It is imperative that we continue to review child deaths and identify the modifiable factors for preventative actions at both the national and local level to reduce the risk of future child deaths while providing supports to the family.

The Hawaii Child Death Review System was legislatively established in 1997 by Hawaii Revised Statutes §321-341. The responsibility to implement these multidisciplinary and multiagency reviews of child deaths was assigned to the Department of Health, Family Health Services Division, Maternal and Child Health Branch.

In 2016, Act 203, SB2317 was passed requiring the Department of Health to submit annual reports to the Legislature relating to child and maternal death reviews in the State. Hawaii Revised Statutes § 321-343 also provides access to information from all providers of health care, social services and state and county agencies for the use of child death reviews upon written request from the Director of Health. Hawaii Revised Statutes §321-346 immunity from liability states that all agencies and individuals participating in the review of child deaths shall not be held civilly or criminally liable for providing the information required under this part.

A community-based process, the Child Death Review examines the circumstances surrounding a child's death. The goal of these reviews are to improve interagency collaboration, standardizing data and making recommendations in order to assess which deaths may be preventable. The overall purpose of the child death review is to understand why children die and put in place interventions to protect other children and prevent future deaths.

Child deaths in Hawaii are reviewed one year after the death occurs. The Department of Health Child Death Review registered nurse coordinator and the medical director screens the data received from the Department of Health, Office of Health Monitoring to identify deaths for review defined by the National Center for the Review and Prevention of Child Deaths and supported by the U.S. Department of Health and Human Services, Health Resources and Administration and the Maternal and Child Health Bureau categorized as follows: Child abuse and neglect, homicide, suicide, undetermined, natural, and unintentional injury.

On a quarterly basis, recommendations from the Child Death Reviews are presented to the Child Death Review Council a multiagency group organized to identify system problems, and make recommendations necessary for policy, procedural and legislative changes that will result in the prevention of future child deaths.

Hawaii participates in the National Center for Fatality Review & Prevention Case Reporting System. This system provides a cohesive method of capturing information across the nation. By analyzing thousands of cases nationally, data is provided to identify the risk and protective factors in child deaths. De-identified data is collected from states to increase the understanding of the manner in which children die and to assist in preventing future deaths from similar circumstances, while maintaining the privacy of individuals and families.

Program Activities

The Child Death Review activities completed by the Department of Health are listed below and occurred from December 2016 thru December 2017:

- 1) Oahu -There were eight (8) Child Death Reviews completed and one scheduled for December 2017.
- 2) Kauai – There were two (2) Child Death Reviews completed.
- 3) Maui – There was one (1) Child Death Review completed.
- 4) Hawaii Island –There were two (2) Child Death Reviews completed.
- 5) Collaborative Fatality Review Meetings (3) – Meeting created to provide a forum for multiple State of Hawaii fatality review members and others interested in reducing preventative deaths. Topics discussed during these meeting include:
 - a. Notification of deaths between Department of Human Services and Department of Health;
 - b. Sharing findings and information with other fatality teams as allowable;
 - c. Inviting persons from one fatality review team to participate in other death reviews as appropriate;
 - d. Possible joint death reviews as to not duplicate efforts of teams;
 - e. Coordination between clinical, public health, law enforcement, first responders, and social service communities to assist with prevention strategies;
 - f. Healthy and safe campaign recommendations for the State of Hawaii for both residents and visitors;
 - g. Updates of legislative measures related to fatality reviews;
 - h. Funding for preventative services;
 - i. Involvement of the community in implementing preventative activities;
 - j. Recommendations of relevant preventative programs and necessary systems changes;
 - k. Understanding risk factors;
 - l. Training and education sessions; and,
 - m. Appropriate data reporting to federal and state agencies.
- 6) National experts from Louisiana, Maryland, and Washington D.C. presented training and informational sessions statewide on Child Death Review and Maternal Mortality Review practices, data quality, and health equity (June 26-30, 2017).

Collaborative Efforts

- 1) Child Death Review Council Meetings were held with local government (military & state) and private organizations to find consensus in recommendations generated from the Child Death Reviews.

Pertinent Data

- 1) **Total number of child deaths beginning in July 2017-** Data for deaths are provided one year after the death occurs. For 2016 there were 163 child deaths.
- 2) **Number of deaths of children in state custody** -There were three (3) foster home child deaths reported and reviewed through the Department of Human Services.
- 3) **Recommendations for system changes including any proposed legislation-**

- a. **Unexpected infant deaths:**

Of 18 deaths reviewed, 17 were secondary to unsafe sleeping arrangements including 15 due to suffocation while sleeping with parents. In several cases parents were impaired due to alcohol or substance abuse.

Recommendations for system changes:

1. All hospitals should ensure, prior to hospital discharge with a newborn, that parents are educated about safe sleep practices as recommended by the American Academy of Pediatrics and contained in Hawaii Administrative Rule Title 14, Subtitle 6, Chapter 895.
2. Agencies providing services to infants, such as Women Infant and Children (WIC), home visiting, child care reinforce the importance of safe sleep with posters and educational materials.
3. Following the birth of a first child, **all** families should have a home visit to assure the safety of the environment
4. A public awareness campaign be initiated and sustained, based on effective programs in other states, to increase public awareness.
5. Consideration of establishing a fund for the provision of safe sleep for the first night (**Sleep right the first night**) at home through providing hospitals with Baby Boxes, bassinets, cribs or playpens for those without.
6. Review the occurrences of infant suffocation deaths associated with parental incapacity due to alcohol or substance abuse. Prepare the findings and include in the 2019 legislative report for consideration of law changes for contributory negligence.

- b. **Drownings:**

There were four preventable deaths that occurred. Nationally, drownings are the number two cause of death for children less than five years old. For 2015, three drownings occurred in swimming pools and one in the ocean. Unsupervised toddlers died at home and resort pools.

Recommendations for system changes:

1. The Department of Health Maternal Child Health Branch and Emergency Medical Services and Injury Prevention Branch programs are encouraged to take the lead developing and distributing water safety information (including stickers) or distribution to hotels and pool supply companies.
2. Work with State of Hawaii and City and County of Honolulu officials to inquire about ongoing inspections of hotel and commercial swimming pools to ensure conforming signage about child safety in multiple languages by facility management.
3. All Hawaii airports should be encouraged to adopt the ocean safety education program as currently used on Kauai.
4. Encourage an increase in the availability of swimming classes for children ages 2 and above by parks and recreation.

c. **Suicide:**

1. Six children and teens took their own lives in 2015. A growing national epidemic, this is an issue for the population of Hawaii's children attending schools. The Department of Education now has the Hawaii Keiki program with advanced practice nurses and registered nurses in almost all school complexes. Child and Adolescent Mental Health Division has in schools and community child psychiatry services. These organizations have an opportunity to study and address this problem. Reviews of the suicide deaths in 2016 will be done by teams in 2018

Recommendation for system change:

1. Deaths in Hawaii due to suicide should be reviewed in order to make recommendations about opportunities for prevention

d. **Deaths due to prematurity and fetal deaths:**

Overall, the largest group of deaths were attributed to prematurity. In addition, fetal deaths were not included in the reviews.

Recommendation for system change:

1. Deaths in Hawaii due to prematurity should be reviewed in order to make recommendations about opportunities for prevention
2. Consider the review of fetal deaths.

Population Based Data:

The following is a summary of trends and overall data on infant and child deaths in the State.

In reviewing 2016 provisional data, there were 108 infant deaths identified in Hawaii residents. Of these, preterm related deaths (28.7%; n=31) was most common, followed by Sudden Unexpected Infant Deaths (n=19), congenital malformations (10.2%; n=11), and maternal complications (10.2%; n=11). These are based on the National Center for Health Statistics standards for leading cause of death classifications. This pattern is similar to that seen in recent years and no significant changes to previous years.

The leading causes of infant death in the 2012-2016 aggregated data are: 1) Preterm related (33.1% of all infant deaths); 2) Other perinatal (13.8%); 3) Sudden Unexpected Infant Death (SUID; 12.84 %); 4) Congenital malformations (12.8%); and 5) Maternal complications (10.6%).

In reviewing 2016 provisional data, there were 55 child deaths (1-17 years of age) identified to Hawaii residents. Of these malignant neoplasm (18.2%; n=10) was most common, followed by transport related (18.2%; n=10) and suicide (10.9%; n=6). These are based on the National Center for Health Statistics standards for leading cause of death classifications. This pattern is similar to that seen in recent years and no significant changes to previous years.

The leading causes of child (age 1-17) death in the 2012-2016 aggregated data are: 1) Transport related (13.9% of all child deaths); 2) Malignant neoplasm (13.4%); 3) Suicide (11.3%); and 4) Drowning (9.2%).

CDR Data: The Child Death Review Program screens all deaths identified through vital statistics death certificate information. Those cases where there are likely elements of preventability are then further reviewed.

Maternal Mortality Review

Background and Purpose

There has been increasing focus on Maternal Mortality in the United States during 2017. An extensive six-month investigation by ProPublica led to a series of articles about maternal deaths that received wide distribution.^{1,2} Key highlighted points in the articles are that the rate of pregnancy related deaths is higher in the United States than in any other developed country and that these deaths may be preventable. In Hawaii, the death of a mother in childbirth receives front-page and prime time news coverage. At this moment of heightened attention, efforts by the State of Hawaii to address maternal death are increasingly important.

Each year women die of pregnancy-related complications in Hawaii. Although maternal mortality is a relatively rare event, these deaths are devastating for families and communities. According to the Centers for Disease Control (CDC) and Prevention, about half of maternal deaths are believed to be preventable. The purpose of the maternal mortality review process is to determine the causes of maternal mortality in Hawaii and identify public health and clinical interventions to improve systems of care and prevent maternal deaths.

The Hawaii Maternal Mortality Review Committee (HMMRC) reviews all maternal deaths in Hawaii, defined as deaths that occur during pregnancy or within one year of termination of pregnancy. The HMMRC reviews vital statistics, autopsy, and other available records for cases that may potentially be pregnancy-related or pregnancy associated. This includes looking at the standard World Health Organization (WHO) maternal definition, records identified through active surveillance for birth records among women of reproductive age, and review of death certificate records where a check box identifying the women as having a pregnancy in the past year. The work of the committee includes an assessment of these cases with determination not only of preventability, but also classification into pregnancy-associated and pregnancy-related types of deaths.

Pregnancy-associated death is defined by CDC as “The death of a woman from any cause during pregnancy or within one year of the end of pregnancy that is associated, but not related.” It would include causes such as suicide, traffic accidents, and other causes of death. The pregnancy-related death is defined by CDC as “The death of a woman during pregnancy or within one year of the end of pregnancy from a pregnancy complication, a chain of events initiated by pregnancy, or the aggravation of an unrelated condition by the physiological effects of pregnancy.” This definition of pregnancy-related is more in line with the standard WHO Maternal mortality classification and would include acute causes such as amniotic fluid embolism as well as other longer-term causes heart failure secondary to cardiomyopathy. The inclusion of both the pregnancy-associated and pregnancy-related causes of maternal death will lead to a higher overall rate than reported based on the standard WHO Maternal Death definition. There is also a category of unable to determine if it was associated or related, which could be due to lack of available information or other factors at the review. Finally, there are some cases that were identified incorrectly and may not have fit the time frame or have any documentation of pregnancy after review of the available records.

Program Activities

The activities listed below were completed in 2017:

- 1) The Family Health Services Division, Maternal and Child Health Branch contracted with an abstractor and coordinator to organize, gather data and prepare for committee review of maternal mortality data.
- 2) The HMMRC members were invited and the committee convened. The committee is a private-public partnership. There are twenty-six (26) committee members consisting of seventeen (17) physician members and nine (9) other members with

diverse expertise including nursing, midwifery, social work, public health and healthcare.

- 3) The policies and procedures of the HMMRC were finalized and issued to the committee.
- 4) The HMMRC held two review meetings in July and October to review 2015 maternal deaths and discuss prevention strategies based on the findings.

Collaborative Efforts

- 1) The Hawaii Maternal Mortality Review engages a multi-disciplinary team to address the complicated dynamics which may surround maternal deaths. The committee members include:
 - a. Physicians with specialties in Maternal and Fetal Medicine, Obstetrics and Gynecology, Critical Care, Anesthesiology, Pediatrics, Family Practice, Mental Health and Substance Abuse, and Emergency medicine. Additional specialists may also be included in the committee as needed.
 - b. Major health care systems in Hawaii including Kapiolani Medical Center, Queen's Medical Center, Straub Medical Center, Kaiser Permanente, Kokua Kalihi Valley Clinic, Malama I Ke Ola Health Center (Maui), Wilcox Medical Center (Kauai), and the Healthcare Association of Hawaii.
 - c. John A Burns School of Medicine, University of Hawaii and the American Congress of Obstetricians and Gynecologists (ACOG)
 - d. March of Dimes Hawaii Chapter, Hawaii Maternal and Infant Health Collaborative, and Healthy Mothers, Healthy Babies Coalition of Hawaii.
- 2) Representatives from many Department of Health programs are included in the committee meetings to facilitate programmatic integration and future prevention efforts. These include representatives from the Office of Health Status Monitoring, nurses from the neighbor island District Health Offices, Domestic Violence Prevention Program, and the Office of Planning, Policy, and Program Development.
- 3) Consultation and assistance from the CDC, Building U.S. Capacity for Maternal Mortality Review program, was important as the committee moved from the implementation phase to active reviews. The HMMRC is utilizing the CDC's Maternal Mortality Review Information Application (MMRIA) data system to compile and collect case information. Hawaii's de-identified information will be included in the CDC's 2018 Multi-State report on maternal mortality.

Population Based Data

In addition to the actual review data obtained from MMR, the Department of Health also looks at other data sources to assess trends related to maternal death. Some of the major highlights from looking at trends in maternal deaths based on the World Health Organization (WHO) definition of Maternal Mortality (underlying cause of death with an ICD 10 code of A34, O00-O95, O098-O99), there has been some declines over time with a rate of 12.9 per 100,000 live births in 2012-2016 compared to a high of 22.1 in 2006-2010 aggregate.

HMMRC Data

- 1) During 2017, the committee reviewed maternal deaths that occurred in 2015. A total of 11 cases were identified and reviewed.
 - 4 cases were found to be Pregnancy-Related
 - 4 cases were found to be Pregnancy-Associated but not Related
 - 1 case a determination was deferred until further information could be obtained
 - 2 cases were found to not meet the criteria for review (not pregnant at the time of death or within one year of death).
- 2) 2 of 4 pregnancy-related deaths were found to be preventable.
- 3) Trends – The reviewed cases are not sufficient to generalize trends at this time.
- 4) Based on preliminary data of 2016 deaths, a total of 13 cases have been identified for potential review by the MMR team in 2018.

Recommendations

- 1) The committee contributed multiple suggestions for patient, community, provider, facility and system level changes that could prevent maternal mortality in the future. The recommendations are being compiled and further reviewed for dissemination to partners who could take action during 2018.
- 2) 2016 maternal mortality data will now be reviewed and a review of those cases has been scheduled for March 2018.

Staff Training

- 1) The HMMRC Abstractor and the CDC-Assigned epidemiologist attended a CDC Abstractor training on the MMRIA data system.
- 2) Members of the maternal mortality review staff and committee attended the Child Death Review training.

References

- ¹ Erickson B, Kravitz D, and Gallardo, A. (2017, May) Focus on Infants During Childbirth Leaves U.S. Moms in Danger. <http://www.npr.org/2017/05/12/527806002/focus-on-infants-during-childbirth-leaves-u-s-moms-in-danger>
- ² Martin N, Cillekens E, and Freitas, A. (2017, July) Lost Mothers. <https://www.propublica.org/article/lost-mothers-maternal-health-died-childbirth-pregnancy>