

SENTINEL EVENT NEWSLETTER

DIVISION OF LICENSING AND REGULATORY SERVICES,
MAINE DEPARTMENT OF HEALTH AND HUMAN SERVICES

ISSUE 4, MARCH, 2015

CONTENTS OF THIS ISSUE

Fatigue and Its Effect on Patient Safety

Leadership's Role in Safety Culture, Part I

Perinatal/Neonatal Mortality

FATIGUE AND ITS EFFECT ON PATIENT SAFETY

Fatigue can be described as an overwhelming sense of tiredness, lack of energy and feeling of exhaustion associated with impaired physical and/or cognitive function. Healthcare workers experience fatigue for a variety of reasons, but the two major causes of fatigue are disruption of circadian rhythm sleep and sleep deprivation (*Healthcare Worker Fatigue: Current Strategies for Prevention*, Pennsylvania Patient Safety Authority, 2014). The effects of sleep loss are insidious and until severe, are not usually recognized by the sleep-deprived individual.

Misalignment of sleep with circadian rhythms leads to trouble with falling asleep, more disruptions during sleep and early awakenings leading to poor sleep quality and shorter sleep duration. Short sleep duration is reported by 52% of night shift healthcare workers. Studies have shown that 17 hours of sustained wakefulness is equivalent to a blood alcohol level of 0.05% and that after 24 hours, it is equivalent to 0.10%. The blood alcohol level that defines drunk driving in the U.S. is 0.08%. (*Running on Empty: Fatigue and Healthcare Professionals*, NIOSH, Workplace Safety and Health, 8/2/2012).

The Joint Commission, in its Sentinel Event Alert, Issue 48, identifies a number of problems that arise from fatigue:

- Lapses in attention and inability to stay focused;
 - Reduced motivation;
 - Compromised problem solving;
 - Confusion;
 - Irritability;
 - Memory lapses;
 - Impaired communication;
 - Slowed or faulty information processing and judgment;
 - Diminished reaction time; and
 - Indifference and loss of empathy.
- Direct healthcare workers who work long hours and off-shifts to provide 24/7 services are at risk of developing sleep debt. Individuals working nights



and rotating shifts rarely obtain optimal amounts of sleep; some studies have shown that night shift workers obtain 1 – 4 hours less sleep than normal when they work nights. Although some 75% of hospital staff nurses work 12 hour shifts, some nurses report being scheduled to work for periods as long as 20 consecutive hours. Data collected on 11,387 shifts revealed that nurses left work at the end of their scheduled shift less than once every six shifts. Working overtime, whether at the end of a regularly scheduled shift or working more than 40 hours per week has been associated with a statistically significant increase in the risk of making an error, with the most significant increase in risk of making an error occurring when nurses worked 12.5 hours or longer (Rogers, A, *The Effects of Fatigue and Sleepiness on Nurse Performance and Patient Safety*, Agency for Healthcare Research and Quality, 2008, April).

Efforts to address fatigue through implementation of hours-of-service standards, such as those implemented for residents in training have not been as successful as had been predicted, because they do not address disruption of circadian rhythm and sleep deprivation. Hours-of-services programs address how much work is performed, but may not take into effect the time of day or then number of consecutive days worked (*Healthcare Worker Fatigue: Current Strategies for Prevention*, Pennsylvania Patient Safety Authority, 2014).

The Joint Commission's Sentinel Event Alert, Issue 48 referred to a 2004 study of 393 nurses over more than

FATIGUE, CONTINUE

5,300 shifts that showed that nurses who work shifts of 12.5 hours or longer are 3 times as likely to make an error in patient care. Additional studies showed that longer shift length increases the risk of errors and close calls and were associated with decreased vigilance. The American College of Obstetricians and Gynecologists, Committee Opinion, Number 519, March 2012 point out that studies have shown that surgeons who had less than 6 hours of sleep opportunities had an increased rate of surgical complications.

Due to the nature of around-the-clock staffing in hospitals, fatigue is an occupational hazard for healthcare workers. The Agency for Healthcare Research and Quality in its 2008 Patient Safety and Quality Evidenced Handbook for Nurses recommends the following recommended safety practices:

- Rest breaks (nurses regularly sacrifice breaks and meal periods to provide patient care);
- Napping – even though napping during breaks or meal periods is often prohibited, both laboratory and field studies suggest that naps (15 minutes – 3 hours) are quite effective in increasing alertness during extended work periods or at night;
- Consumption of caffeine – usually caffeine's onset of action occurs approximately 15 – 30 minutes after ingestion and its effects last 3 – 4 hours;
- Bright lights in work areas; and
- Exercise.

Healthcare workers should be encouraged to accept that most people are not accurate judges of how impaired they are by fatigue or sleep loss.

Some healthcare facilities have developed Fatigue Risk Management Plans. One of the best known of these was developed in Queensland, Australia <http://www.health.qld.gov.au/qhpolicy/docs/pol/qh-pol-171.pdf> The objective of Queensland's Fatigue Risk Management Policy is: To ensure workplace fatigue is managed so as to minimize its effects and related risks on the workplace, employees, patients and others through the application of a best practice risk management framework as core business function.

LEADERSHIP'S ROLE IN PATIENT SAFETY, PART I

There is a considerable distance from the boardroom to the bedside that makes it difficult for governing directors and senior leaders to get a good understanding of the work being done within the organization. Yet support of senior leadership is critical to the success of patient safety programs, and cannot be delegated. Senior leaders have both the responsibility and the authority to position safety as a strategic priority in their organizations.

The Institute of Healthcare Improvement (IHI) published a White Paper in 2006 entitled Leadership Guide to Patient Safety. This is an excellent resource of healthcare leaders. <http://www.ihl.org/resources/Pages/IHIWhitePapers/LeadershipGuidetoPatientSafetyWhitePaper.aspx>

The IHI suggests the following steps that senior leadership can take to demonstrate the patient safety is a priority:

- Place safety issues prominently on senior staff and Board meeting agendas;
- Spend time visiting with staff and asking about safety issues;
- Assign executives to safety performance improvement teams and review outcomes regularly;
- Include patient safety in staff orientation sessions or require separate patient safety orientation for staff;
- Regularly schedule brief presentations from staff working on key projects relating to safety and ask how the senior staff could be helpful in supporting this work;
- When successful safety projects are presented, develop a plan to spread the word throughout the organization;
- Routinely monitor the spread of important safety changes through the use of an organization spread timetable and work plan;
- Connect executive performance and compensation to improvements in patient safety; and
- Refocus hiring and promotional practices to reflect patient safety as a priority.

Board members have a critical role to play in setting the tone for meaningful quality improvement. The Board's work takes many forms:

- Setting goals for organizational improvement;
- Reviewing data related to key organizational metrics;
- Reviewing adverse event reports and root cause analyses;
- Providing resources for improved infrastructure, education and staffing;
- Holding management accountable for addressing patient safety issues.

SENTINEL EVENT NEWSLETTER

DIVISION OF LICENSING AND REGULATORY SERVICES,
MAINE DEPARTMENT OF HEALTH AND HUMAN SERVICES

ISSUE 4, MARCH 2015

NEONATAL & PERINATAL MORTALITY

The death of an infant is perhaps one of the most heartbreaking of sentinel events. While parents, siblings, family and friends are devastated by the loss, caregivers, particularly those closest to the prenatal care and birth also experience sadness and loss, particularly when there is no evident underlying cause for the demise.

The World Health Organization (WHO) defines perinatal mortality as the "number of stillbirths and deaths in the first week of life per 1,000 live births, the perinatal period commences at 22 completed weeks (154 days) of gestation and ends seven completed days after birth". According to the National Institute of Health, half of stillbirths result from pregnancy disorders and conditions affecting the placenta. Stillbirth affects one in 160 U.S. pregnancies (WebMD, Studies Identify Stillbirth Risk Factors, Causes, 12/11).

The CDC defines neonatal mortality as death occurring between birth and 28 days. Child Health USA 2013 reported that neonatal mortality is generally related to short gestation and low birth weights and other perinatal conditions related to prematurity, as well as congenital malformations.

In 2014, the Maine Sentinel Event Team (SET) received nine sentinel events related to perinatal/neonatal mortality. Of these, one was a former pre-term birth baby at 28 days of age; one was early preterm (less than 34 weeks); one was preterm (34-36 weeks); and six were full term. In 2015, through mid-March, the SET received event reports for six more perinatal deaths. This is a marked increase over the last four years over which period of time only two perinatal deaths were reported.

In America's Health Rankings for 2014, a publication of the United Health Foundation, infant mortality in Maine increased from 5.5 deaths per 1,000 live births in 2013 to 6.6 per 1,000. Maine ranks 31st among all states in infant mortality, the lowest ranking of the New England states in this category (Massachusetts was #1, New Hampshire was #2 and Vermont was #4). This is in contrast to Maine's score of 8th out of the 50 states for low birthweight babies.

Two studies published in the Journal of the American Medical Association identified maternal factors associated with stillbirths (WebMD, Studies Identify Stillbirth Risk Factors, Causes, 12/11). These include:

- Being African American
- Having Diabetes
- Being age 40 or older

NEONATAL & PERINATAL MORTALITY

(cont.)

- Having AB blood type
- Having a history of illegal drug use with addiction
- Smoking in the 3 months before getting pregnant
- Being overweight or obese
- Not living with a partner
- Having previous stillbirth
- Carrying multiples.

Dartmouth Hitchcock's, *Themes in Problem Obstetrical Cases*, lists the following clinical themes recurring in 'near miss' situations or when an adverse event occurs:

- Inadequate communication or failed chain of communication, particularly during personnel changes, times with high census or acuity and situations when communication occurs against an authority gradient;
- Deficiencies in electronic fetal monitoring use and interpretation;
- Insufficient fetal surveillance and documentation in the hour before birth;
- Surprise when an infant is born depressed and requires resuscitation;
- Lack of adherence to evidence-based guidelines when managing labor protraction and arrest disorders, including the use of cervical ripening and labor augmentation/induction techniques;
- Pushing boundaries of safety because of secondary influences ("VIP" patients, productivity pressure, unit identity, personal issues);
- Lack of clear decision analysis when managing a prolonged second stage of labor;
- Delay in consultation or transfer after antepartum evaluation or during intra-partum course;
- Inadequate notes for complex vaginal delivery: shoulder dystocia, forceps, vacuum;
- Failure to document placental inspection and/or send the placenta to pathology, according to guidelines;
- Failure to recognize and act on a clinical condition (hypertension disorders of pregnancy, postpartum hemorrhage);
- Failure to adequately and/or accurately document patient status and clinical thought process and actions; and
- Lack of consistent and comprehensive guidelines and lack of underwater electronic fetal monitoring at sites conducting water births.

SENTINEL EVENT NEWSLETTER

DIVISION OF LICENSING AND REGULATORY SERVICES,
MAINE DEPARTMENT OF HEALTH AND HUMAN SERVICES

ISSUE 4 MARCH 2015

PERINATAL/NEONATAL MORTALITY, cont.

The Northern New England Perinatal Quality Improvement Network (NNPQIN) is a voluntary consortium of organizations involved in perinatal care, whose mission is to improve perinatal health in Northern New England. There are a number of guidelines available on the NNPQIN website that can be used as general education resources. Some of the guidelines include, without limitation: elective labor induction, indicated labor inductions, second stage labor management, electronic fetal monitoring, hypertension in pregnancy, obesity, and others.

<http://www.nnepqin.org/d>

The Maine CDC Maternal, Fetal & Infant Mortality Review Panel (MFIMR) publishes an annual report. The MFIMR uses a public health approach to strengthen community resources and enhance state and local systems and policies affecting women, infants and families in order to improve health outcomes in this population and prevent maternal, fetal and infant mortality.

http://www.maine.gov/dhhs/reports/2013_MFIMR_Legislative_Report.pdf

SENTINEL EVENT TEAM

Joseph Katchick, R.N.

Sentinel Event Team Manager

Jennene Murphy, R.N.

Health Services Consultant



*Department of Health
and Human Services*

*Maine People Living
Safe, Healthy and Productive Lives*

Paul R. LePage, Governor Mary C. Mayhew, Commissioner