



# Healthcare Risk Management™

July 2010: Vol. 32, No. 7  
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## Off-peak hours threaten patient safety, require more vigilance from RM

*Research shows greater risk on nights, weekends*

A risk manager would never want to sit down with a family and try to explain that their loved one was harmed because the patient was treated in the middle of the night or on a Saturday, when standards are lower and risks are higher. But that could be the truth in some facilities, where patients are at higher risk during off-peak hours.

The threat to patient safety in off-peak hours is common to all health care providers, but the difference comes in how they address it, says **Patti Hamilton**, PhD, RN, graduate studies at Midwestern State University in Wichita Falls, TX. Hamilton is the lead author on a recent study that confirmed prior research showing off-peak threats and explored ways to address the problem.<sup>1</sup>

“The thing that was the most compelling to me was the moment that I realized the majority of hours nurses work are off-peak hours, usually nights and weekends,” Hamilton says. “When they’re working 12-hour shifts, the majority of those are not Monday through Friday and 7 a.m. to 7 p.m. It’s important to remember that being in this off-peak environment is not an aberration, that it is normal for most nurses.”

Off-peak hours represent a challenge, because patient safety and quality of care should be maintained at the same level no matter when the patient is treated, says **Theresa Zimmerman**, RN, JD, CPHRM, DFASHRM, president of the American Society for Healthcare Risk Management (ASHRM)

### EXECUTIVE SUMMARY

More research is confirming that off-peak hours in health care facilities pose a higher risk of medical errors and subpar care. The reasons for the drop in quality are not clear, but risk managers can take steps to mitigate the risk.

- A majority of nurses’ work hours are during off-peak periods.
- Staffing ratios are only part of the problem.
- Aggregated data may hide off-peak risks.

Financial Disclosure: Author Greg Freeman, Managing Editor Karen Young, Executive Editor Russ Underwood, and Nurse Planner Maureen Archambault report no consultant, stockholder, speaker’s bureau, research, or other financial relationships with companies having ties to this field of study.

in Chicago and a risk management consultant in Solon, OH. But the reality of health care organizations means that the resources and staffing are not the same around the clock, she says.

Zimmerman notes that respiratory therapy, EKG support, radiology services, and pharmacy support usually have fewer staff during off-peak hours.

“There is no doubt that there is [less] support and fewer resources . . . available to nurses in these hours,” she says. “I think that is one factor contributing to the problem, but I’m not sure it’s fair to say it is the only one. There are a lot of dynamics at work here.”

For instance, many providers staff off-peak hours with the less experienced staff, who do not have the seniority to request the more desirable shifts, she says.

## Fewer resources at night, weekends

Hospital activity is at its peak from 7 a.m. to 7 p.m., Monday through Friday, Hamilton explains, and this is a time when maximum resources are available. However, these peak periods make up only 36% of the time hospital nurses actually work, she says. The rest of the time, nurses work in off-peak environments with limited ancillary services, fewer support staff, reduced supervision, and strained communication with other on-call health care providers, Hamilton says.

The danger of off-peak hours has been known for some time, and researchers have associated weekends and/or nights with increased mortality in hospitals for more than 25 diagnoses/patient groups, Hamilton says. Acute myocardial infarction is more likely to result in death among Medicare patients admitted on the weekend, and

## HRM wins first place in SIPA awards

*Healthcare Risk Management* was awarded first place in the category of “Best Instructional Reporting” by the Specialized Information Publishing Association.

The newsletter was honored for special reporting in two issues last year on the risks associated with the use of medical helicopters following a series of deadly crashes.

The award went to Greg Freeman, editor/writer of the newsletter; Karen Young, managing editor; and Russ Underwood, executive editor.

Donald Johnston, senior vice president and group publisher of AHC Media LLC, publisher of *Healthcare Risk Management*, accepted the award on behalf of the winners at a presentation in June in Washington, DC.

**Healthcare Risk Management**® (ISSN 1081-6534), including HRM Legal Review & Commentary™, is published monthly by AHC Media, LLC, 3525 Piedmont Road, Building Six, Suite 400, Atlanta, GA 30305. Telephone: (404) 262-7436. Periodicals Postage Paid at Atlanta, GA 30304.

**POSTMASTER:** Send address changes to Healthcare Risk Management®, P.O. Box 740059, Atlanta, GA 30374.

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This activity has been approved for 15 nursing contact hours using a 60-minute contact hour.

Provider approved by the California Board of Registered Nursing, Provider #14749, for 15 Contact Hours.

This activity is valid 24 months from the date of publication.

Healthcare Risk Management® is intended for risk managers, health system administrators, and health care legal counsel.

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Editorial Questions

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mortality is increased following night transfer from the ICU to a general unit — a 2.5-fold greater risk compared with discharge during the day, Hamilton says. Other researchers also have found lower survival rates from in-hospital cardiac arrest at night and on the weekend.

There is ample research showing the decline in patient safety during off-peak hours, but the reasons for that drop are not clear, Hamilton says. Most of the research has involved large data sets that can show the drop but not what causes it, she says, so the answers will have to come from the ground up.

“It’s going to take the nurse telling us what’s going on there at night and on weekends to really figure out what to do to fix it,” she says.

Some of the risks can be understood by drilling deeper into the data. For instance, Hamilton notes that research has shown the risk of neonatal death is higher on weekends, and birth weights also are lower. Researchers have theorized that both facts can be attributed to how women receiving prenatal care often schedule their deliveries for a weekday, and more of those who received no prenatal care end up at the hospital on weekends.

Hamilton’s research took that theory a step further to ask if a sick baby born on the weekend is at greater risk than a sick baby born during the week. She concluded that the baby is at greater risk on the weekend, because the same sick baby would be subjected to the additional stresses and shortcomings of off-peak hours.

## Tools for assessment

After talking with nurses to determine the reality of off-peak work hours, Hamilton and her colleagues came up with these two main theories to explain why the risk increases on nights and weekends:

- **Communication is more difficult.** Nurses must interact with others who are not at the hospital during the off hours, usually a physician. Delays in contacting the physician can threaten patient care, and imperfect communication between the nurse and physician can lead to errors. *(See the story on page 76 for more on improving communication.)*

- **Staffing is tighter.** Even when the nurse-to-patient ratio is consistent over a 24-hour period, that is sometimes made possible by cutting other staff to a minimum during off-peak hours. Hospitals may reduce the number of patient care aides, clerks, housekeeping staff, and other ancil-

lary people whom nurses depend on. Even though the nurse staffing seems high enough to ensure good patient care, the nurses in off-peak hours may be more burdened with work that would be done by other staff during peak hours — or the work might not get done at all.

## Assess your stats

Assessing your situation is the first step to addressing any problems with off-peak hours. Hamilton recommends the SWAN (Safety on Weekends and Nights) tool developed by **David Shulkin**, MD, president-elect and chief operating officer at Morristown (NJ) Memorial Hospital.<sup>2</sup> Available from the *Journal of Patient Safety*, the tool is a comprehensive set of questions that should be asked in your facility to determine the off-peak weaknesses that can threaten patient safety. For instance, is there an identified and accountable senior leader on staff at night? Does at least one senior member of the hospital staff perform night and weekend rounds at least monthly? Is risk management accessible at night and on weekends?

In the same vein, Zimmerman recommends analyzing records to search for indicators that off-peak care may be compromised. A serious adverse event on off-peak hours should be studied to determine if the time had anything to do with allowing the event to happen, she says. Also study any near-misses closely, she advises.

The number of incident reports from off-peak hours could be a red flag also, but Zimmerman cautions that a low or normal level of incident reports doesn’t necessarily mean nothing is wrong in those hours.

“If you’re short-staffed, you might not have any time to write those incident reports,” she says. “You may not have an increase in incident reports, even though you have more incidents.”

Zimmerman has found that the bigger units with more patient turnover are at risk in the off-peak hours. Any unit with a high bed turnover may need closer scrutiny for off-peak risks because of the chaos and confusion that can occur with so many patients coming and going, she says.

Zimmerman says these other indicators also could signal off-peak problems:

- missed respiratory treatments;
- performance time for EKGs;
- lab specimen turnaround time;
- response time for pharmacy calls.

“You have to look for a comprehensive picture rather than focusing only on one thing like staffing ratios,” Zimmerman says. “Some of the information can be too comforting if you don’t look deeper and see how the entire organization is affected in these off hours. You may see data indicating that the time for an ultrasound is not too bad at night, but is that because the few ultrasound staff make the ED a priority, and then all the response times are averaged? How long does it take someone on a unit to get an ultrasound in the middle of the night?”

*(See the story on page 76 for more information about data-gathering and averaging. Hamilton’s website offers more information on off-peak hours, risks, and strategies for addressing them. Go to: <http://www.nursingopen247.com/> .)*

## REFERENCE

1. Hamilton P, Mathur S, Gemeinhardt G, et al. Expanding what we know about off-peak mortality in hospitals. *J Nursing Admin* 2010; 40:124-128.
2. Shulkin DJ. Assessing hospital safety on nights and weekends: the SWAN tool. *J Patient Saf* 2009; 5(2):75-78.

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