The “Weekend Effect” in Hospitals: Causes and Cures
Studies consistently show that patients have good reason to be wary about a weekend hospital admission. One widely reported study, published in the *Journal of the American College of Cardiology*, examined the outcomes of more than 150,000 cardiac arrest patients at 470 hospitals. Those patients who experienced a cardiac arrest during “off hours” had a 3.8 percent lower chance of survival. Another study from the *Journal of Hospital Medicine* found that patients admitted on the weekends had a 19 percent higher risk of mortality.

What is behind this phenomenon known as “the weekend effect”? How can hospitals accurately assess the extent it is happening in their own facilities—and bring it to a decisive end? Vizient experts Eric Burch, RN, associate principal, and Aman Sabharwal, MD, senior principal, shine a light on this very real danger in hospitals across the country.

Three common factors behind the weekend effect

“The weekend effect is something all hospitals face, some to a higher degree than others. This not only includes weekend admissions but also affects any case that includes a weekend stay. The first essential step is to identify the underlying issues and how they affect the hospital’s patient populations,” Burch says.

Identifying the vulnerabilities

While some hospitals may be fairly sure their own patients experience the weekend effect, they are less certain about how to confirm and quantify the full impact. One of the clearest indicators is length of stay (LOS).

“Those patients that have weekend dates as part of their LOS tend to have increases in complications and mortality. And often, that weekend stay could have been avoided. What we see when we study these cases is that patients who are discharged on a Monday or Tuesday could have been discharged on a Saturday or Sunday if there was no weekend effect—that is, adequate staff, resources or knowledge to discharge the patient earlier,” Sabharwal says. Figure 1 shows the increase in length of stay for admitted surgical patients that include a weekend stay. The effect seems to be more dramatic in academic medical centers than community hospitals.

Burch and Sabharwal have identified the following issues as contributing factors in lower survival rates and other adverse outcomes over the weekend.

**Lack of (the right) staff.** In almost every profession, weekday shifts are more popular and easier to staff than weekends. It is no different in hospitals. With fewer staff on hand, timeliness and responsiveness to patients is impacted. Yet as a later section details, the fix to this problem may not require more full-time employee hours.

**Lack of resources.** In a parallel factor, with fewer staff on hand, so too may be the needed expertise to use certain diagnostic equipment. And so, the equipment sits unused, maybe even locked away in a room until Monday. This can lead to missed diagnoses, which can put the patient in further jeopardy.

**Transitions in care.** Patients who were admitted on a weekday can also experience the weekend effect if their stay extends into Saturday. “Any shift or handoff in care can impact timeliness and efficiency of care,” Burch says.

A nurse who treated the patient all week, for example, is probably not the one who will be caring for the patient on the weekend. At least initially, the nurse who comes in on the weekend will be less familiar with the patient’s condition. This knowledge gap can lead to a delayed diagnosis, a missed test or other missed opportunity.
A performance database is an indispensable tool to correlate mortality and other outcomes to each physician, service lines and hours of the day or days of the week.

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Associate Principal
Vizient

Matching patient needs to resources

Hospitals that are concerned more full-time employee hours will be needed to mitigate the weekend effect may be surprised to learn that isn’t always necessary. In fact, it can be as simple as tweaking the staffing mix, such as having certain ancillary services on-call or scheduled during peak times of need over the weekend versus low-demand times during weekdays.

“It’s not always about adding resources — sometimes, it’s just a matter of flexing them. Perhaps some resources used on Thursdays and Fridays, for example, would be put to better use on the weekend. What is really important is to take a look at ‘how things have always been done’ to see if these ways are still relevant. Sometimes set hours no longer align with patient populations,” Sabharwal says.

Indeed, if more people complain of chest pains during the weekend, stress tests and cardiology staff should be available then, as well. Or if pediatric flu cases increase on weekends, then weekend staff should be versed in following the same protocols that are followed during the week to keep these cases from developing into sepsis.

Knowing the case composition in your hospital can be useful in planning or forecasting staffing. Figure 2 shows that for surgical DRGs, the cases coming in on the weekend are more likely to be emergency cases. However, if the scope widens to take cases that include a weekend stay into consideration, there is opportunity to examine how these cases are managed to better allocate resources and staff.

Sabharwal makes an observation that is particularly relevant to hospitals in a highly competitive market. “Patients are just so much more educated now on outcomes and services provided. And if those resources aren’t available, patients will talk about it ... online, offline, to everyone they know,” he says.

Process flow mapping is an effective method to determine the ideal staffing and resources mix. Timing studies can also optimize resources. Finally, it’s important to align goals to established benchmarks. Here, hospitals benefit from knowing the current outcomes by physician, service line and hours of the day, and comparing these outcomes with other hospitals.

How long for changes to take root?

A careful assessment to determine the extent of the weekend effect typically takes about four to eight weeks. Once recommended changes are implemented, the hospital should start seeing results almost immediately. By two or three months, direct correlations can be made.

Burch concludes with a final recommendation for improving outcomes any day of the week: “Once you create standard work and processes, it doesn’t matter what day of the week you apply them. You will see improvements.”
