

Are Hospital Harms From ‘July Effect’ Real Or Imagined?



By Jamie Wells, M.D. — July 2, 2018



Credit: Pixabay [1]

It is officially July, and that means something in the medical world. With the passage of one day, the first of the month exalts recent medical school graduates to the rank of intern. The same holds true for those who completed residency training, spontaneously morphing into subspecialty fellows or attendings. Along with such promotions comes high turnover departures which prompts the tongue-in-cheek refrain *don't get sick in July*. The *July effect*. The notion that teaching-hospital halls are riddled with newbies, or those a bit green in terms of experience, tends to make many reticent about seeking their care this time of year.

But, is this attitude regarding this annual transition ritual a false perception?

Let's look at some data

In 2011, a team of researchers performed a [systematic review](#) [2] of 39 studies to determine the impact on patient outcomes of trainee changeover at year-end. They found

“Mortality increases and efficiency decreases in hospitals because of year-end changeovers, although heterogeneity in the existing literature does not permit firm conclusions about the degree of risk posed, how changeover affects morbidity and rates of medical errors, or whether particular models are more or less problematic.”

That said, [these published works](#) [2] did not include ambulatory care or the capacity to differentiate the weighted difference between delayed adjustment to a hospital's clinical systems and lack of

experience or capability. There was a mixture of low to high-quality research and it is unclear which circumstances or procedures might be more influenced or institutions. The authors discuss a host of challenging complexities surrounding studying the issue in the first place, in part due to the difficulty of generalizing or making data reproducible, and suggest hospitals consider implementing policies like staggered start dates to interns acquiring graded degrees of responsibility based on competency, for example.

In 2013, [the journal *Circulation* published work](#) ^[3] reviewing the mortality of high risk patients suffering acute heart attacks (aka acute myocardial infarction (AMI)) who were admitted to U.S. teaching-intensive hospitals in July. The researchers, believing much of the prior “small to mixed” results regarding the *July effect* was problematic due to the inclusion of low-risk populations whose death rates likely would not be as impacted by the "[organizational disruption](#)" ^[3] or influx of less seasoned doctors, opted to focus on those at highest risk. They report

“High risk AMI patients experience similar mortality in teaching- and non-teaching-intensive hospitals in July, but lower mortality in teaching-intensive hospitals in May. Low risk patients experience no such “July effect” in teaching-intensive hospitals.”

Basically, the teaching-intensive hospitals did see a negative deviation from their norm for high risk patients in July compared to other months.

Another piece published in the [Journal of Neurosurgery](#) ^[4] in 2013 conveys a

“minor to negligible July effect may be present in those undergoing spinal surgery.”

The authors found higher rates of hospital discharge to long-term care facilities (also with patients undergoing complex procedures), wound infections and dehiscence, or rupture along the surgical site in July compared to other months. They attribute this to a learning curve for residents and fellows. But, they did not see an impact in those at higher risk which they suggest could be due to the focused attention from senior staff.

In the [Journal of the American Board of Family Medicine](#) ^[5] in 2017, scientists examined the *July effect*'s role or lack thereof in heart attack (or myocardial infarction), heart failure and pneumonia medical admissions in teaching and non-teaching hospitals with respect to cost, length of stay and mortality. They determined

“This study suggests small increases in mortality among patients admitted with myocardial infarction in the first academic quarter compared with all other quarters in teaching versus nonteaching hospitals. Increased cost and longer stay were seen for those admitted with heart failure.”

A tertiary care free-standing academic children’s hospital was studied in a 2017 [Pediatric Quality & Safety](#) [6]. The researchers observed

“In this single-center evaluation, there is an increase in reported medical errors involving pediatric residents in July compared with the months surrounding July. However, there is no difference in numbers of adverse events from those errors between these months.”

Now what

Patient safety is a year-round endeavor for the healthcare community and requires continued hypervigilance, not simply in July. New physicians and medical trainees can be an invaluable asset to the care team often picking up relevant components to a patient’s history or identifying issues before they become a problem. They enter their new career with enthusiasm and are typically desiring to do more, not less. Having overcome the many hurdles along their path to get to this point (eg multiple board exams, countless clinical hours), interns and residents or fresh attendings onboard this phase in rapid fire entry to obtain the requisite apprenticeship training necessary to assess and manage patients ultimately on their own.

This learning continuum is essential to independence down the line and the July blips in some of the data mentioned underscores how important extensive clinical experience is in ensuring patient safety (which makes certain online degrees in alternative [non-doctor paths](#) [7] that marginalize clinical exposure from nonexistent to minimal particularly scary and dangerous). Just because some does not reflect increase in mortality, protracted recovery and postoperative infections, for instance, can incur great expense in addition to emotional distress and physical discomfort.

The message this evidence shows is the *July effect* is variable in conditions, complexity of patient and individual facility. So, the answer to the original question depends on a number of factors. Fortunately, there are many checks and balances being consistently refined to improve the adjustment periods. New graduates come from different parts of the country to new environments that use different electronic health records and other systems. Orientations, as a result, are being extended and better tailored to streamline the process more efficiently. This is also why accrediting bodies visit hospitals and constantly upgrade their policy recommendations to improve safety and quality. In many instances, because it is July, senior staff tend to be uber-involved, watching junior members like a hawk. There are facilities that do it well while others are in need of more continued improvement. And, of course, research along a multitude of care trajectories is crucial to further understanding where best to initiate targeted improvement measures.

While common sense tells us this time of year is a more susceptible period for adverse events, the data's significance is often debated. Given this and the other meaningful impacts of further fragmented care, in general, being your own advocate in yours or a loved one's care is important in closing loopholes in the system (check out my recent guide [here](#) [8] on how to do so as well as [this article](#) [9] addressing the power of patients and families at teaching hospitals). People get sick every day of the year. [Hospital staffing](#) [10] definitely matters, but whether it is July or any other month delaying medical treatment is not in anyone's best interest. Know who is treating you, this transparency will help you in your advocacy.

COPYRIGHT © 1978-2016 BY THE AMERICAN COUNCIL ON SCIENCE AND HEALTH

Source URL: <https://www.acsh.org/news/2018/07/02/are-hospital-harms-%E2%80%98july-effect%E2%80%99-real-or-imagined-13143>

Links

[1] <https://pixabay.com/en/cardiac-people-doctor-cardio-217139/>

[2] <http://annals.org/aim/fullarticle/747098/july-effect-impact-academic-year-end-changeover-patient-outcomes-systematic>

[3] <http://circ.ahajournals.org/content/early/2013/10/23/CIRCULATIONAHA.113.004074>

[4] <http://thejns.org/doi/pdf/10.3171/2012.12.SPINE12300>

[5] [http:// https://www.ncbi.nlm.nih.gov/pubmed/28379825](http://https://www.ncbi.nlm.nih.gov/pubmed/28379825)

[6] https://journals.lww.com/pqs/Fulltext/2017/03000/Is_the__July_Effect__Real__Pediatric_Trainee.3.aspx

[7] <https://www.acsh.org/news/2017/09/20/word-doctor-may-not-mean-what-you-think-it-means-11774>

[8] <https://www.acsh.org/news/2018/06/21/doctors-guide-how-be-patient-advocacy-rock-star-you-or-loved-one-13106>

[9] <https://www.acsh.org/news/2017/10/23/power-patients-and-families-teaching-hospitals-12003>

[10] <https://www.acsh.org/news/2016/11/07/survive-hospital-make-sure-your-heart-stops-weekday-10406>