

When the cardiology patient ends up in the oncology care ward

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Credit: INFORMS

If you end up needing to go to the hospital, often times you're hoping to get a bed without having to wait hours, but a new study shows you may want to wait a little longer, so that you are placed in the best ward for your needs. New research in the upcoming INFORMS journal *Management Science* shows that among patients admitted to the hospital, 19.6% are placed in beds in a ward outside the area of care they require. These patients who are placed 'off service' end up experiencing a 23% longer hospital stay and a higher chance of being readmitted within a month.

The bottom line for patients is that it may be worth the wait if you can be placed in a bed in the right ward for your specific clinical needs. For hospitals, improving the match between patients and wards means fewer patient days and helps free up beds for patients who need them.

The study entitled "Capacity Pooling in Hospitals: The Hidden Consequences of Off-Service Placement," was conducted by Hummy Song of The Wharton School at the University of Pennsylvania and Anita Tucker of the Questrom School of Business at Boston University. They analyzed data from a large academic medical center in the northeastern U.S. from 2016 to 2019.

According to the researchers, off-[service placement](#) contributes to an additional 3,995 patient-days per year in the studied hospital, or an additional 11 beds being occupied each day. Because of the unintended consequences of off-service placement, the capacity constraints hospitals face can be made even worse.

"At first glance, it may not seem like there is a [significant difference](#) in outcomes between patients who are placed on service versus off service," said Song. "This is because, typically, patients who are placed off service are significantly healthier than the patients who are placed on service. Without accounting for this selection bias, we would significantly underestimate the negative effects of off-service placement."

"As patients, we expect to receive the same type and quality of care regardless of where the bed is located within the hospital. However, the location of the bed does have significant implications for how physicians and nurses coordinate patient care, which in turn impacts the length of stay and the likelihood of readmission to the hospital following discharge," added Song.

In that spirit, this research finds that when there are no more available beds on the right ward and therefore a patient must be placed off service, the placement should be based on physical proximity to where they should be. Surprisingly, it is less important to try to find a bed in a ward that cares for patients with more clinically similar conditions.

Ultimately, the study has found that through the proper accounting of the effect of off-service placement on patient flow, [hospital](#) leadership can begin to work towards better management of capacity by specialty and begin to shift away from the off-service placement, bed-pooling model to address capacity challenges.

More information: Hummy Song et al. Capacity Pooling in Hospitals: The Hidden Consequences of Off-Service Placement, *SSRN Electronic Journal* (2018). [DOI: 10.2139/ssrn.3186726](https://doi.org/10.2139/ssrn.3186726)

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