Regionalizing Health Care May Be Robbing Peter to Pay Paul

By Chuck Dinerstein, MD, MBA — April 25, 2019

There is little doubt that when it comes to more complex care, experience, be it the physicians or their affiliated institutions, is a crucial determinant. For complex medical problems that lie somewhere between uncommon and common, there is a strong argument to be made for regionalizing care, to only a few centers. But what happens when a patient experiences a complication after returning home? Where do these patients turn for help, after all, the regional center can be an hour or more away; and how do they fair? A new study begins to look at this question. A question that will assume greater and greater importance as we regionalize care to improve outcomes and control costs.

The authors made use of an Ontario, Canada administrative dataset capturing nearly all of the patients in the province. They looked at adults, aged 20 or more with a diagnosis of cancer who had undergone chemotherapy or radiation therapy as an outpatient, within 30 days before an emergency department (ED) visit. They characterized EDs in two ways; first, was it the same or a network member of the hospital associated with the treatment, or was it an “alternative hospital.” Second, was the alternative hospital another cancer center or a general purpose, think community, hospital.

Their primary focus was on how many patients were admitted to the hospital at the time of the ED visit, but they also looked at subsequent 30-day mortality, return visits to the ED or hospital, and CT scans. As you would expect, the researchers had a wealth of other demographic data and took pains to try and compare apples to apples. During five years, ending in 2011, 42,820 patients met their criteria, roughly 39% were seen in alternative hospitals and of those approximately 11% were...
seen in alternative cancer centers.

- Patients seen in alternative EDs had a 22% lower odds of being admitted, compared with those patients seen in the original hospital or a network affiliate, but there was no difference in 30-day mortality or utilization of CT imaging.
- Patients seen in the alternative, general purpose, hospitals had a 17% lower odds of being admitted, but a 13% greater chance of dying within 30-days, and a lower chance of undergoing CT imaging. There was also a slight increase in return visits for this group. [1]

Choosing hospital admission as the primary endpoint focuses on the decision of how best to treat. Some patients need to be hospitalized and are admitted; others can be safely discharged; the problem lies with those in the middle. Are these patients who can safely be seen in their original hospital preserving expertise and continuity of care? Or is it possible that “markers of illness acuity,” the nuances of complex care, might be missed? The data suggest that being cared for in an alternative hospital by itself is not the issue; after all, there was no difference in 30-day mortality. The critical factor for more unsatisfactory outcomes was in receiving care at institutions that have less experience and are not aware of the intricacies of cancer care.

The study shows how centralizing care, in a hub-spoke arrangement, is a two-edged sword. It does promote building expertise and improving outcomes to the hub’s regional center but at the cost of reducing expertise and perhaps outcomes at the periphery, in the spokes of that wheel. We might think of regionalization as a form of internal “medical tourism,” where you go outside your geography for specialized care. The outcomes of traditional medical tourism between countries vary; there are anecdotal horror stories and triumphs. As we begin to move toward regionalization, as more patients are referred to centers of excellence, it would be helpful to have a better idea of how the outcome of the travelers differs from that of the locals. Perhaps this is an overlooked role for telemedicine, linking physicians to allow expertise to flow back to the periphery and better inform care.

[1] The researchers employed a bit of statistical magic in this calculation as there was no actual control group. They used a technique called propensity matching. In this instance, they developed a regression analysis for patients seen in alternative general hospitals and then matched them with patients who have similar characteristics at the original hospitals. The technique is used widely but does introduce a bit more uncertainty in numeric conclusions.


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