



# Reconstituting lean in healthcare: From waste elimination toward ‘queue-less’ patient-focused care

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**Abstract** With ultra-short sightlines to its patient-customers, healthcare should pursue lean in its own way rather than follow the often wayward lean practices of manufacturing, a sector in which few people ever see real customers. Because of the distance in manufacturing from end customers, this sector’s lean practices usually focus inward on operational efficiency through waste elimination. The nature of healthcare—with customers up close and immediate—calls for elevating its lean efforts toward *customer-focused lean effectiveness*: flexibly quick response along the multiple flow paths leading to and involving patients. This article illustrates that approach to lean by drawing from a case study in which widely scattered heart attack patients were transported to a central treatment hospital in a system-wide, highly coordinated program of quick response. This article shows that the keys to success—including high rates of saving lives and lean healthcare in general—boil down to just five lean methodologies, each focused on quick response. Lean healthcare, when practiced in this way, becomes deserving of status as a fixture in strategic management of the enterprise.

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## 1. Lean lessons from manufacturing: A poor fit in healthcare

A few years ago, I was in treatment at my health organization’s physical therapy department. As Jennie, my PT, showed me some stretches that

would loosen up my stiff and sore shoulder, she asked what kind of work I did. In my response, I mentioned research and writing, including on the topic of lean management. “Is lean management in use here?” I asked. Nodding, she replied impishly: “You said a bad word.”

I could not fully disagree. In this article, I explore the misapplication of lean manufacturing to healthcare, discuss reasons why lean’s essential focus on the customer (i.e., patients) should be leading to

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better results similar to those achieved with lean in manufacturing, and point to the most effective of lean's methodologies in this quest.

This could be seen as an opinion piece, especially since my contentions run counter to some of the current thinking in the still young and evolving area of lean healthcare (see [Table 1](#) regarding some of what led to this article). For several reasons, however, my stance regarding the need for healthcare to develop its own approach to lean as opposed to relying on ineffectual lessons from lean application in manufacturing stands on more than mere opinion:

- I am aware of convincing hard data evidence indicating that lean has not been working out well in manufacturing ([Schonberger, 2016](#)). Inasmuch as healthcare has taken most of its lean lessons from manufacturing, healthcare would seem not to be expected to do any better.
- On the other hand, healthcare interacts with its customers up close, which gives immediacy to lean's most essential pursuit of delivering flexibly quick response to customers. In contrast, most people in manufacturing rarely see a real customer, if at all. Such narrow vision tends to localize most lean efforts within the operations realm.
- Healthcare treats numerous patients concurrently. In contrast, most manufacturers process their catalog of product models or customer orders sequentially, which means long, un-lean wait times to receive their goods.
- Healthcare's high level of customer visibility should lead it to downplay waste reduction, which has been treated in manufacturing as lean's essence. Waste reduction makes up a fine

**Table 1. Why I wrote this article**

A number of factors led me to undertake this article. Among them is my involvement in advances in manufacturing management. In this area, I have isolated effective manufacturing practices from those that are not effective or that have proven to be flashes in the pan. I have also conducted sporadic research on how mistakes and weaknesses in lean manufacturing are being echoed in healthcare. Due largely to their distance from customers, manufacturers have done a poor job of directing their lean efforts toward effectiveness in the eyes of the customer. There are good reasons why healthcare can and should do what is necessary to reverse that state of affairs.

tool set, but it has a low-level, operations-oriented ring to it. In its place, healthcare should put *quick customer response* on the lean pedestal, with *queue-less response* and *time to care* as catchy, just-right-for-healthcare alternative phrases.

- A standout example, impressively saving patients' lives, comes from an article by [Shah, Goldstein, Unger, and Henry \(2008\)](#). It is a case study of a comprehensive set of practices—seen by its authors as following four lean principles—for getting heart attack patients from all over the state of Minnesota to Minneapolis for emergency treatment at the Minneapolis Heart Institute (MHI), snuffing out queuing delays along the way.
- Key elements of the MHI-directed processes are taken up in this article, reoriented here around five method-specific lean practices rather than couched in abstract lean principles as in the original case study. I advance these methodologies as a spare, specific, and easy-to-understand way forward in the cause of quick-response/queue-less lean in healthcare.

Through these approaches that emphasize healthcare's tight linkages to patients, lean healthcare may become a truly positive force and alter the negative views of it by insiders such as Jennie—and more importantly, though perhaps less vocally, by nurses, physicians, and administrators. Following sections elaborate on these points, while bringing in various arguments on lean's potential and obstacles to its fruition.

## 2. Living up to lean's potential in healthcare

After a late start, lean implementations today are flourishing in health centers globally ([Aherne & Whelton, 2010](#); [Bisgaard, 2009](#); [Protzman, Mayzell, & Kerpchar, 2011](#)). Oft-cited U.S. examples include Seattle Children's Hospital, ThedaCare with multiple locations in Northwestern Wisconsin, and Virginia Mason with a main hospital complex and network of clinics in greater Seattle. Virginia Mason's prominence in the practice of lean ([Kenney, 2011](#)) has made it a go-to location for lean healthcare tourism. As an example pertaining to lean healthcare internationally, Saint Goran's hospital in Stockholm, Sweden, has been called “a temple to ‘lean management’” (*'A Hospital Case,' 2013, p. 75*).

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