



ELSEVIER

Contents lists available at ScienceDirect

Healthcare

journal homepage: [www.elsevier.com/locate/hjdsi](http://www.elsevier.com/locate/hjdsi)

The Leading Edge

# A design thinking framework for healthcare management and innovation



Jess P. Roberts <sup>a,\*</sup>, Thomas R. Fisher <sup>b</sup>, Matthew J. Trowbridge <sup>c</sup>, Christine Bent <sup>d</sup>

<sup>a</sup> Division of Applied Research, Allina Health, Minneapolis, MN, United States

<sup>b</sup> Metropolitan Design Center College of Design, University of Minnesota, Minneapolis, MN, United States

<sup>c</sup> Department of Emergency Medicine, University of Virginia School of Medicine, Charlottesville, VA, United States

<sup>d</sup> Allina Health Group, Allina Health, Minneapolis, MN, United States

## ARTICLE INFO

### Article history:

Received 26 June 2015

Received in revised form

23 September 2015

Accepted 7 December 2015

Available online 14 January 2016

### Keywords:

Design thinking

Innovation

Human-centered

Systems thinking

## ABSTRACT

The business community has learned the value of design thinking as a way to innovate in addressing people's needs – and health systems could benefit enormously from doing the same. This paper lays out how design thinking applies to healthcare challenges and how systems might utilize this proven and accessible problem-solving process. We show how design thinking can foster new approaches to complex and persistent healthcare problems through human-centered research, collective and diverse teamwork and rapid prototyping. We introduce the core elements of design thinking for a healthcare audience and show how it can supplement current healthcare management, innovation and practice.

© 2015 Elsevier Inc. All rights reserved.

## 1. Introduction

Health systems in the U.S. have proven quite effective at doing what they were designed to do; treat illness and manage chronic disease for those with access to it. However, the current practice is not sufficient to address many complex health challenges, including growing rates of obesity and diabetes, health and economic disparities and cost control. A call for change has come not only from politicians and news pundits, but also from those delivering and receiving healthcare's services. Physicians face one of the highest burnout rates of any profession in the United States<sup>1</sup> and a recent Commonwealth Fund survey found that “more than seven out of 10 adults believe the U.S. health system needs fundamental change or complete rebuilding.”<sup>2</sup>

With unprecedented and growing financial, social and political pressures, health systems must develop a more robust capacity for better aligning current and future services with where, how, when and with whom health occurs. Successful health systems will have the ability to innovate in delivering services that cut across organizational, political, geographical and sectorial boundaries. While these concepts are not new, robust yet easily accessible practice frameworks for integrating them effectively within health systems' day-to-day operations and culture remain limited. We argue

that design thinking, an innovation framework increasingly utilized within the private sector,<sup>3</sup> has the potential to offer healthcare professionals a well-defined and recognizable practice framework for the broad-scaled integration of more creative, interdisciplinary and human-centered approaches to healthcare management, innovation and practice.

The good news is that healthcare is not alone in facing this challenge of developing broad-based competency and capacity to innovate within complex systems. Highly competitive and rapidly evolving industries, such as consumer electronics, have succeeded in doing so by identifying and understanding customers' latent needs, and challenges as the basis for developing effective and marketable solutions that meet customer expectations. This has become particularly important and difficult in recent years in domains such as mobile technology, where companies can no longer develop products and services in isolation. Instead, as in healthcare or public health advocacy, companies must increasingly integrate disparate technical and programmatic components (e.g. smartphone hardware, online cyber-infrastructure and applications) to deliver seamless, compelling, and effective end-user experiences.

This rapid and accelerating market shift towards integrated products and services has spurred significant changes in how companies invest in innovation, train their employees, and engage with their customers. Among these, one of the most visible and, arguably, successful trends is a broad-based investment in 'design

\* Corresponding author.

E-mail address: [Jess.Roberts@Allina.com](mailto:Jess.Roberts@Allina.com) (J.P. Roberts).

thinking<sup>3</sup> – an applied research and innovation framework that prioritizes *empathy for users* of a service or product, involves *highly diverse and collaborative project teams*, and encourages an *action-oriented rapid prototyping* of user-derived insights rather than top-down hypotheses. In this paper, we consider the potential value that design thinking may offer healthcare management and practice.

## 2. What is design thinking?

Design thinking is, at its core, a systematic innovation process that prioritizes deep empathy for end-user desires, needs and challenges to fully understand a problem in hopes of developing more comprehensive and effective solutions. Designers begin with research and empathic engagement with the people most affected by and knowledgeable about a product, service or experience that needs changing. After this analytical phase, designers begin a synthesis phase in which they work with a diverse group of participants to devise alternative ways of achieving preferred results. Then they include those participants in a series of critical reviews of the ideas until the best scenarios – the ones that meet the greatest number of needs and can be accomplished within the constraints of budget and schedule – begin to emerge. Finally, the design process enters a rapidly iterative prototyping and testing phase in which multiple ideas get put into action, often at a small scale and in a trial manner, to learn something new about the problem or potential solution. After a series of critical evaluations of these trials, an optimized solution to the situation emerges and is ready for scaled implementation.

This process has many parallels to the ways in which science unfolds yet has some important differences in emphasis. Research into how scientists and designers solve problems has shown that the former put more emphasis on analysis of pre-formed hypotheses or theory-driven solution approaches, while the latter put more emphasis on synthesizing information and ideas from many different sources, in search of new and unconventional solutions.<sup>4</sup> In this way, design thinking can be an important new approach and toolset for complex problems in which existing practice paradigms do not work well, requiring whole new approaches to a problem.

Design thinking also shares numerous tenets with process improvement used extensively within healthcare administration, including a focus on brainstorming, user needs and collaboration.<sup>5</sup> Important differences include the types of problems being addressed, the context of the problems and where along the innovation continuum these innovation approaches are emphasized<sup>5</sup> (see Table 1). For instance, design thinking is most useful early in the innovation process when problems are not well defined, or it has become clear that current attempts to solve a problem are not working. In contrast, process improvement is most valuable when problems and possible solutions are less abstract and more relevant to current day-to-day operations.

**Table 1**  
Design thinking and process improvement.

Process improvement orientation	Design thinking orientation
Prioritizes evaluation of limited set of possible solutions	Prioritizes comprehensive understanding of underlying problems
Well suited to address problems that have predictable solutions	Well suited to address problems that have unpredictable solutions (wicked problems)
Promotes consensus building (convergent)	Promotes opposing ideas and debate (divergent)
Aims to uncover what is important to consumers within a particular experience	Aims to uncover what is important to consumers in their everyday lives
Empathy research focuses on what people <i>think</i> to reveal improved outcomes	Empathy research focuses on what people <i>feel</i> to reveal new/disruptive outcomes

## 3. Developing capacity for design thinking within healthcare administration

Developing solutions to the myriad multi-dimensional challenges facing the health of individuals and communities remains a formidable challenge in healthcare. We argue that design thinking as a core competency within healthcare administration could offer a valuable complement to cornerstone disciplinary skillsets such as strategic planning, operations management, personnel management and process improvement as a way to help navigate and drive innovative solutions to healthcare's 'wicked problems.' Design thinking is not a checklist of protocols, instead it is a translatable practice framework that can be learned and embedded within the DNA of an organization. In this section we detail key design thinking methods for broadly, yet safely embedding change and innovation within healthcare strategy and operations.

The core methods used in design thinking can differ among authors and practitioners,<sup>6</sup> but the methods most widely accepted and applicable to healthcare administration are *the development of empathy, radical collaboration and rapid prototyping*.

### 3.1. Developing empathy

The first and most critical design thinking method, empathy, prompts teams to focus on developing a deep and diverse understanding of the explicit and latent needs, desires and values of a particular user group. As a leading design-thinking theorist, Tim Brown observes, "although people often cannot tell us what their needs are, their actual behaviors can provide us with invaluable clues about their range of unmet needs."<sup>7</sup> Because what people say they do can be very different than what they actually do, a great starting point for health systems involves creatively engaging target populations within the context of their daily lives – where and how they live, learn, work and play. In this way, design thinking offers a framework for orienting diverse project teams around problems, as they exist within, and are experienced by individuals and communities, rather than around individual expertise, methodology or organizational structures. In addition to the 'themes' or commonalities among individuals and communities, this approach excels at exposing important 'insights' about what may be unique to a small subset of stakeholders, offering new perspectives into how individuals and communities experience health problems and how to address them in novel ways. Some activities for gaining empathy include:

1. *Contextual observations*: observations that occur in the 'users' environment (the context of their daily lives) allows teams to generate new insights that would otherwise not be accessible in more 'artificial' settings. One example would be to map a day in the life of particular individuals or communities.
2. *Self-documentation*: individuals take pictures, record video or audio, draw, write or utilize various tools such as apps to respond to prompts about their environments and experiences.
3. *Extreme user stories*: capture the challenges and work-arounds of those living outside the normal 'bell curve' because those same populations may address challenges in more creative and

Download English Version:

<https://daneshyari.com/en/article/514904>

Download Persian Version:

<https://daneshyari.com/article/514904>

[Daneshyari.com](https://daneshyari.com)