Personalization and standardization: Can we have it all?

What other industries can teach healthcare

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Healthcare enterprises face unprecedented pressure to generate higher value while managing costs. It may seem that personalization and standardization are opposing forces in making medicine more precise – but are they?
Learning from other industries:

Manufacturing industry

Retail industry

Digitalization enabled industries

We took a look at many other industries (from manufacturing to retail, including digitally sophisticated organizations) to see how they manage the seemingly competing imperatives of personalization and standardization. From these innovators, we identified relevant approaches and practices that can be successfully translated to healthcare, in order to achieve personalization at scale. Mass customization – the digitally enabled fusion of personalization and standardization – is the key to expanding the reach of precision medicine, so that every patient may benefit from it.

Healthcare: Can we have it all?

Personalization and standardization seem to exist on opposite poles, each with its strengths and weaknesses, each signifying different values. Conventional perception holds that personalization means higher quality, but at higher cost; standardization plays to the other side of the value equation, offering fewer features for less cost, and with limited opportunity for customization.

Manufacturing industries have pioneered techniques and technologies to lower costs and reduce unwarranted variations by focusing on standardization. Retail, on the other hand, has in recent years developed sophisticated segmentation and communication tools to help guide customers to the right product, at the right time, in the right context. Successful retail operations thrive by learning about the differences between customers, and delivering a tailored experience based on those implicit and explicit expectations.

At first glance, it may seem that healthcare providers must lean heavily toward the “personalization” end of the spectrum. No two patients are alike, and an individual patient’s wants and needs change over time. And there is nothing more deeply, personally impactful than a person’s health.

At the same time, evidence-based medicine demands that healthcare providers devise, document, and promulgate best practices. There are officially sanctioned diagnostic and treatment guidelines for just about any condition you can think of. Yet many healthcare professionals resist the urge to standardize, to treat everyone “by the book,” insisting that their clinical judgment supersedes narrowly written guidelines.

In this environment, it seems like something has to give – but is that accurate? Can we have validated, standardized approaches to medicine that still allow creation of a tailored treatment plan that respects the physical, mental, social, and cultural particularities of every individual patient?

We looked to other industries – manufacturing, retail, finance, transportation, and hospitality—to learn how they (and their customers) benefit from standardization and personalization, and how lessons learned in those industries can help build healthcare systems that strike a balance between the two.

Manufacturing: You can have any color you want, as long as it’s black

This quote, attributed to Henry Ford, illustrates the double-edged nature of standardization in manufacturing. In order to deliver high quality, affordable cars at scale, Ford standardized everything he could. A few decades later, Toyota pioneered what we now know of as lean methodology, which identifies and seeks to remove processes that don’t generate value, refining the manufacturing line to enable even greater economy and efficiency, and thus deliver more value to the customer.

Beyond efficiency gains, standardization delivers another kind of value: peace of mind.

If you purchase an iPhone, you know what it is, how it works, and what to expect. If you get a coffee at Starbucks, you can be confident that it’s going to be essentially the same as the last one you got. Customers, anywhere in the world, count on that experience. Maintaining customer confidence while delivering good value for money is the result of dedication to process improvement and standardization. Standardized processes and products, like those we see in manufacturing, can deliver quality, safety, and efficiency at scale.

The benefits and drawbacks of standardization in healthcare are the subject of ongoing debate. Two key points to keep in mind regarding the limits of standardization in healthcare are:

1) We are dealing with human lives, not consumer goods, and 2) the application of medical guidelines today still demands clinical judgment for effective care delivery (clinical judgment and experience should be respected,
as the guidelines are not meant to be a rigid, detailed process for every single patient).

**Retail: As you like it**
As mentioned earlier, successful retailers have mastered personalization. They provide their customers with customized recommendations, personalized offers, loyalty programs, and more. The unprecedented accuracy with which retailers can refine and target their “pitch” to new and existing customers is enabled by the rise of digital technologies. The days when everyone received the same 300-page catalog in the mail are long gone; now, tailored offerings are served to you directly on your mobile device, in your preferred format and at your desired frequency.

The benefits of this approach to healthcare are immediately apparent. You will receive the kind of care that suits your preferences. You will be heard, and you will have an active role in developing your tailored treatment or wellness program. Choice is another key imperative for consumers, and that includes healthcare consumers.

But healthcare providers must avoid offering too much choice. The patient is generally not the right person to choose the stent that will be implanted. And while patient input on a treatment’s efficacy and tolerability is welcome, responsible clinicians can’t delegate key treatment decisions to patients. Not to mention that some patients have physical, cognitive, or emotional limitations that prevent them from making constructive decisions about their health. Simply put, healthcare is a complex process, one in which even educated patients require expert clinical guidance.

**Banking, transportation, and hospitality: Digital transformation**
In recent years, the way people bank has fundamentally changed. Many customers will never set foot in a bank branch. Some banks don’t even have physical branches. Online transactions are now secure and swift enough that they have become the norm. Likewise, online booking through aggregators like Expedia has upended many traditional travel agents, while ride-hailing services like Uber and Lyft have revolutionized personal transportation. And AirBnB has created serious competition for travel accommodations, forcing hotels and other traditional travel agencies to up their online game in terms of convenience, quality, and price.

The common thread running through these industries is digitalization. The power to identify and obtain the “right” products and services is now literally in consumers’ hands. This translates to a faster, more convenient experience, an experience over which the consumer holds more power than ever. The power to quickly find the right product, to compare prices, to book travel, to apply for a loan, all without setting foot in a brick and mortar establishment.

Digital transformation is underway in healthcare, but there are still many analog holdovers. Some practices are beginning to adopt online scheduling, appointment reminders, etc.; and some health systems have nascent telemedicine/telehealth applications, but in many ways we’ve only scratched the surface of true digitalization of healthcare. Digitalization is the key to enable and operationalize both standardization and personalization in healthcare. And this goes far beyond placing today’s processes onto an online platform.

**The value of mass customization in healthcare**
Let us return to our earlier look at standardization vs personalization in healthcare. Standardization via evidence-based medicine, for its many virtues, has limitations. Over-reliance on external benchmarks and standards can alienate clinicians, and a one-size-fits-all approach is becoming less useful as the populations age, and patients deal with an increasing number of concomitant conditions and medications.

That same complexity also imposes limits on personalization, in the sense of customer choice in treatments. But there is another important type of personalization that has

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**Personalization takes a full multi-dimensional view of patients**

**Medical**
Patient’s clinical record and dispositions

**Cognitive and behavioral**
Patient’s ability to understand the situation and act accordingly

**Social**
Patient’s social network of help and support

**Functional**
Patient’s ability to move and carry out procedures independently

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emerged: Precision medicine. The ability to diagnose medical conditions early or even before they manifest clinically, or to predict therapeutic response based on any relevant patient information, means that healthcare providers can intervene more effectively, to diagnose, classify, prevent, or mitigate adverse consequences of disease progression.¹

Identifying sub-populations
The challenge, then, is one of identifying individual patients who are at risk, and then providing appropriate diagnosis and screening. This is a key area where healthcare can learn from retail and other industries providing highly personalized experiences. How? Healthcare providers now have the ability to segment populations into increasingly granular sub-categories, as marketers have done with great success over the past several years. But rather than look strictly at customer preference, they can develop segmentation schemes based on a broad range of clinical and non-clinical factors (e.g., social determinants of health), in order to identify people who may need timely diagnostic screening or intervention, and help them find treatment programs that work for them.¹

Improved diagnostic accuracy and personalized treatment are key tenets of precision medicine. Medicine should be striving for “mass customization,” a way of thinking that moves beyond the polarizing duality of standardization vs personalization. Many of the industries cited earlier in this article have embraced mass customization; for example, Nike and other shoe companies enable customers to create unique shoes, using a menu of standardized elements. You can’t dictate where the rubber in the sole is sourced from, but you can put together unique color combinations that fit your style. The same is true in the automotive industry and other businesses that still rely on standardized processes to achieve their financial goals while delivering great value.

The stakes in healthcare are much higher than other industries, so customized care has to be developed carefully and thoughtfully, in an environment that includes as many standardized elements as possible in order to reduce unwarranted variations in care quality. Reduction or elimination of unwarranted variations is another key principle of precision medicine.

In order to achieve mass customization in healthcare, important groundwork has to be laid. First, as mentioned, holistic, highly granular patient profiles or segments have to be developed. These should incorporate clinical and non-clinical factors, in order to provide the most complete picture.

Customer service orientation
Second, healthcare provider organizations should enhance their customer service competency. This gives patients the feeling that they are being heard, and respected, and are engaged as active participants in the healing process, which in turn may make treatments more effective.¹

Digital transformation of healthcare
Last, the groundwork we describe is only possible in the context of a complete digital transformation of the healthcare enterprise. Newer technologies, including diagnostic and decision support tools powered by artificial intelligence (AI) enable processing, integration, and analysis of vast quantities of both personal and population-level data, providing a comprehensive picture of individual patients’ health. Digital tools can also improve and streamline the clinical services as well as the patient experience by simplifying scheduling and reminders, aiding in wayfinding, and enabling more frequent communication between patients and care teams.³

Conclusion
Personalization and standardization are not intrinsically opposing imperatives in healthcare. There is great value in both, and, when applied thoughtfully and strategically, they can co-exist as powerful complementary forces, as is demonstrated in a broad range of industries. The concept of mass customization is a useful one for healthcare, as it balances the benefits of standardization with the benefits of personalization in order to deliver predictable, high-value outcomes that are a good fit for the individual patient’s health and wellness goals.

A more personalized approach, enabled by digitalization, can deliver meaningful improvements in clinical and non-clinical outcomes while leveraging the efficiency and
Creating higher value in healthcare by implementing lessons from industries on managing variations:

The delivery of value over time is increased with standardization (by reducing unwarranted variations), and with personalization on top of that (by adding appropriate patient variations). Diverse industries provide learning on how to standardize (manufacturing), how to personalize (retail), and how to use digitalization as key enabler (digital enabled industries).

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Additional Reading

References

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