The SPARC innovation programme: tackling health care delivery problems

It goes without saying that the US healthcare system almost universally underperforms. Almost no one is satisfied with the current system of delivery and payment of health services. In fact, if the most vocal healthcare quality critics are to be believed, the system we entrust to make us healthier and extend our lives routinely does precisely the opposite.

It is estimated that 225,000 people die annually in the USA due to flawed systems of care. Only deaths due to cardiovascular disease and cancer overshadow this staggering number. Access to care is likewise poor; 47 million people, or 15.8 per cent of the population, lack health insurance coverage.

Physicians and other health professionals, feeling the strain of an overburdened and wasteful system, are growing disillusioned with medical practice, a profession long held in high esteem.

Why is it so difficult to innovate in health services?

Increasingly tied to large governmental and private payers, health service providers lack sufficient incentive to provide care in highly innovative ways even if they were to show better outcomes.

The majority of interactions between doctors and patients are reimbursed only when delivered face-to-face. Fledgling pilot collaborations between provider and payer organizations designed to test unique, innovative delivery models are the exception rather than the rule. And despite the opportunities for economies of scale and influence, health care remains among the most fragmented of industries.

The lack of vertical integration within this field robs patients of most of the value they could obtain from the system; and as anyone who has had more than a passing encounter with the health care system can attest, it can be an intensely frustrating experience.

SPARC

The Mayo Clinic, with centres in Minnesota, Florida, and Arizona, is the largest multi-specialty group practice in the world. Throughout its system, Mayo comprises a staff of nearly 55,000, providing care to 520,000 ambulatory patients and another 135,000 patients in its hospitals. As a non-profit organization, Mayo applies a nearly $7 billion annual revenue to its medical education and research enterprises.

The same economic, demographic, and social trends affect the Mayo Clinic as affect other health service organizations, but often on a smaller scale. In 2002, recognizing that traditional process improvement methodologies alone were insufficient to meet these challenges, the Mayo Clinic’s largest department, the Department of Medicine, initiated a programme to systematically innovate in the delivery of health services. The SPARC (see, plan, act, refine, communicate) Innovation Programme, essentially a service laboratory, was intended to bring the complementary talents of designers, business professionals, physicians, and other medical staff together to tackle the complex problems facing health care using human-centred design methods.
To study something as complex, ambiguous and messy as people and their relationship to their health and health care, the SPARC Innovation Programme embraces a methodology with roots in creative problem solving. The four-step process begins with topic framing, followed by research, then design and development and finally implementation. At each phase, the tools of design and field research are used to understand human behaviour and to use that understanding as a focus for innovation rather than as an impediment.

It is, by necessity, a process challenged by the same messiness found in real world situations. SPARC’s success has been to find a way to bring an ordered methodology to that chaos.

What SPARC has learned about innovating in health services

In becoming a major organizational asset at the Mayo Clinic, SPARC has developed a number of insights about innovating in health service delivery that other health service organizations may find useful.

Curiosity about patient needs

At the core of SPARC’s work is a foundational curiosity about the far-reaching potential of Mayo’s primary value – “the needs of the patient are the only needs to be considered.” Looking beyond purely medical needs to consider the overall experience of receiving care has yielded some of the most important insights and innovation opportunities. It also consistently yields some of the most important surprises about what is important to patients.

The health care disciplines, heavily rooted in the biological sciences, have historically neglected the “softer” experiential side of health care delivery. Much of the success of SPARC as an in-house service design laboratory is the ability to give voice to the patient’s experience in helping the organization develop new innovative ways of meeting patient needs.

Patients as willing co-creators of innovative care delivery

Health care organizations are rightfully protective of patient safety, autonomy and privacy. However, they should not let these protections get in the way of involving patients meaningfully in co-creating new models of care.

The traditional quality improvement methods in health care are largely remote to the actual experience of receiving care. SPARC has found that this sort of “back-room innovation” can optimize current processes, but is ill-equipped to develop entirely new ways of meeting patient needs.

The importance of an in-house laboratory

Unique and highly differentiated insights about service delivery are difficult to come by. Creating and re-creating services requires a rich and intimate understanding of organizational culture, unique brand attributes, and both the generic and specific patient emotions and behaviours that shape the experience of care.

The sources of competition in the health care marketplace are many and varied. Patients are increasingly able to access detailed information about health services before choosing a service provider. Moreover, patients frequently come to the clinic already possessing a high level of understanding about their condition. Finally, user-friendliness, convenience, access, and experiential aspects of medical care are increasingly critical in choosing health care providers.

Service organizations therefore face a choice about how to distinguish themselves. They may choose to hire design expertise on an ad hoc basis, or they may choose to develop a design programme from within. In launching SPARC, Mayo Clinic explicitly chose to the
latter. An in-house design programme allows designers to develop cross-project themes, connect seemingly disparate projects, and understand project outcomes in ways that consulting design expertise cannot.

**Sacrificing rigour for speed**

The disciplines of health care owe most of their success in diagnosing and treating disease to a grounding in the basic and clinical sciences. To solve a problem scientifically involves not only understanding it mechanistically, but also rigorously testing the outcomes of interventions to ensure effectiveness and absence of unintended harmful consequences. Yet, this level of rigour has a price; it requires considerable time and vetting in the academic community to arrive at a consensus. But innovation cannot afford this level of rigour if health service institutions and their patients are to derive any value from it. Instead, Mayo Clinic developed the concept of a tiered approach to developing the sort of certainty that senior leaders are looking for in a service innovation.

Many of the types of innovations that SPARC has begun to move from design research into practice are of low risk to patients, and often use existing resources in a novel way, so their cost is relatively low. Thus, the typical rigour of the traditional biomedical approach can often be sacrificed in favour of speed.

**Natural convergence between design and health care**

Finally, Mayo Clinic has been continually surprised by the close connection between design and medicine. Both disciplines rely heavily on the power of empathic understanding of the individual; both need keen observational skills to enable that understanding; and both are fundamentally hypothesis-oriented.

For the designers and project managers at SPARC, the similarities between their orientation and methods of inquiry and those of medicine have created a natural home for design inside a health services organization.

**Adding value to health care**

The massive enterprise that comprises the field of health services delivery finds itself in dire need of reinvigoration. If this industry is to meet its goals, it needs to transform itself to deliver value not only to individual health consumers, but also to the population as a whole.

Historically, most health service organizations have sought to respond to the sweeping challenges of an aging population and declining reimbursement through production-centred, cost-saving, and other optimization processes. Instead, the Mayo Clinic has a novel divergent approach to health service innovation – one in which human-centred design and a deep understanding of patient needs takes centre stage in creating new approaches to adding value to health care.

The SPARC Innovation Programme represents the first in-house design programme within a health care institution, and seeks to innovate in service delivery through robust human-centred design research, live environment prototyping, and iterative development of new services. The natural affinity between design and clinical methods, including developing user empathy, information synthesis, and hypothesis generation, allow seemingly disparate disciplines to work collaboratively in the programme. Embedding a design-based innovation programme directly within a diverse medical practice gives designers a level of access to patients and health care experiences they would otherwise not have.

By developing a deep design competency in SPARC, the Mayo Clinic hopes to re-imagine and transform what it means to receive medical care.

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