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Opinion paper

Value co-creation in healthcare through positive deviance

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ABSTRACT

Purpose: To explore how converging fields of co-creation and positive deviance may increase value in healthcare.
Methods: Informed by research in positive deviance, patient engagement, value co-creation, and quality improvement, we propose a positive deviance approach to co-creation of health.
Results: Co-creation has shown to improve health outcomes with regard to multiple health conditions. Positive deviance has also shown to improve outcomes in multiple healthcare and patient community environments.
Conclusion: A positive deviance co-creation framework may aid in achieving improved outcomes for patients, care teams and their respective healthcare organizations.

1. Introduction

Healthcare is shifting towards increasing value. Value based care can be defined as the health outcomes achieved per unit of expenditure.[1] To improve value one must either, improve outcomes, reduce costs or ideally achieve both at the same time. The focus of this paper is to identify a way to increase value through improving the dynamic interactions of healthcare team systems and patient self-care systems in order to improve outcomes and reduce costs.

Value for patients is often manifested in longer-term outcomes revealed over time such as the degree of recovery, time to recovery or return to normal activities, disutility of treatment or care, sustainability of recovery or health, and long term consequences of therapy and survival.[2] These outcomes impact a patient's quality of life through, for example, reduced functionality and emotional wellbeing, hindering their ability to be with family members, and deficits to their income.[1,2]

Recent evidence has indicated that both patients and populations continue to suffer from poor outcomes and there is much waste in the system.[1–4] A barrier to improving value is the paucity of resources (e.g., money, personnel, training, physical resources, equipment) that many patients, populations and healthcare institutions suffer from. There is also evidence that when quality improvement initiatives are attempted, at times, they are designed as an added workload to an already overworked staff.[5] However, even among resource-constrained settings, and in the face of adversity, some patients and some care teams within healthcare systems are able to achieve good, and sometimes even remarkable outcomes.

Whether these kinds of exceptional or extraordinary outcomes are demonstrated by a healthcare professional team or an individual patient, lessons can be learned from the actions of these groups – which may be alternatively characterized as deviants of a positive nature,[6] so that value based health and healthcare delivery can be proliferated. Learning from success stories also aligns with various approaches to healthcare redesign and improvement, which appreciate that both healthcare professionals and patients are critical members of developing new delivery models.[7–9] If we were to work towards value creation, patients and care teams would be crucial stakeholders in value development. This concept of patient collaboration with healthcare teams to develop care and improvement processes is supported further through many leading healthcare initiatives such as The National Committee for Quality Assurance's Patient-Centered Medical Home Recognition program, the Centers for Medicare and Medicaid Services Accountable Care Organization Shared Savings Program.[10,11]

Therefore, in this paper we aim to explore how converging fields of positive deviance and co-creation may increase value in healthcare. We present an overview of these two approaches. We also provide a cystic fibrosis case example of how they have converged thus far and how this combination of approaches may be formally developed in the future. In doing so, we seek to appeal to a broad audience of individuals interested in learning about, developing, using, and testing a novel approach to achieve value

Abbreviations: PD, Positive Deviant or Positive Deviance

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Table 1
Relevance of co-creation and positive deviance approach to audiences.

Audience	Area of interest
Healthcare professionals Healthcare managers	Enhancing the service they provide and outcomes for patients across primary, secondary, and community care.
Health services researchers	Developing, implementing and evaluating the mentioned approaches
Data miners or managers	Developing new ways of identifying positively deviant healthcare providers and patients across different settings.
Patient advocacy groups across various conditions	Searching for new ways to learn from patients who have achieved positive healthcare outcomes, and to enhance patient participation in their own healthcare journeys.

for patients (Table 1).

2. Value co-creation in healthcare

Value co-creation in healthcare is a framework that combines quality improvement efforts by healthcare community staff members and teams with patient engagement to promote innovation in creating value.[12,13] Co-creation has been shown to improve outcomes in the fields of cancer care, community-based care, inflammatory bowel disease, cystic fibrosis and learning in health services.[14–18] The term itself may also be referred to as co-production or co-design in the literature.[19] This field has been studied to evaluate its impact on value since the late 1990s.[20] Collectively evidence has demonstrated enhanced quality of treatment with heart failure patients and care teams as well as increasing the clinical remission rate of inflammatory bowel disease (e.g., from 60% to 79% through a 71-site ImproveCareNow initiative).[18,21,22] Co-creation between care teams and patients was also recognized as a consistent practice pattern for the top performing US pediatric and adult cystic fibrosis care centers for pulmonary and nutritional outcomes.[23] These top centers that were performing co-creation were associated with a 7 year longer survival when compared to the other 197 centers within the care network.[23] Therefore there is current evidence to support co-creation as a practice pattern to improve outcomes for patients and thus improved value in healthcare.

Many co-creation in healthcare principles are well established within management literature.[17,22] Nambisan and colleagues depicted four healthcare value co-creation models that provide a framework for approaching the value co-creation field: Partnership, Diffusion, Open Source, and Support Group (see Table 2).[24]

Within the field of cystic fibrosis, co-creation has generated improved outcomes. The principle of partnership has been well established in high tier cystic fibrosis clinics through the active and informed participation of parents and families on the care team, as advisors to the clinic through a patient advisory committee, and as participants in new care programs. The principle of open source was accomplished through the sharing of outcome data to both patients as well as other cystic fibrosis care facilities. The care teams in these clinics regularly shared health outcomes data with each individual patient. They did so by sharing each patient's forced expired volume one second after blowing out (FEV1), body mass index (BMI) and radiographic findings. The principle of support group existed whereby parents of pediatric patients participated in the development and conduct of family education and support groups. The diffusion principle also existed, with clinics being participants in the US Cystic Fibrosis national network to collaborate and share knowledge. Additionally, participating patients and families in support groups and online networks were capable of sharing outcomes data and their own strategies as well.[23]

This cystic fibrosis practice pattern of co-creation exemplar was accomplished through the informal use of an improvement approach known formally as positive deviance.

3. Positive deviance in healthcare

Positive deviance (PD) is an asset-based and collaborative approach that identifies individuals or groups whose uncommon behaviors and strategies permit them to find better solutions to problems than peers despite having access to the same resources and facing comparable challenges.[6] The PD approach was introduced around the same time as co-design.[25] It has been used to identify and spread solutions within the healthcare community and within the patient community on issues ranging from hospital-acquired infections, diabetes management, maternal and child health, iron deficiency anemia, acute myocardial infraction, hypertension, immunizations, and cystic fibrosis.[25–34] Elements that allow PD to be so successful include its premise that solutions to complex problems already exist within each community and that certain members possess wisdom that can be spread to improve the performance of other members. Since the solution comes from within the community, the wisdom is being derived from within the context of the complex dynamics and local resources that exist there. This increases the likelihood of the initiative becoming sustainable, affordable and successful.[35]

To summarize (Fig. 1), the process of PD begins with developing a definition of who would be a PD within a specified community (step 1). The appropriate PDs are identified using valid and accurate data (step 2). Qualitative research methods are used to identify the strategies and behaviors that the PDs share between them (step 3). PDs develop and implement action-based learning tools to teach others in their community the identified behaviors and strategies (step 4); The learning experience is monitored and the impact on the community is tracked (step 5).[36]

In the cystic fibrosis co-design case an informal PD approach

Table 2
Frameworks and Initiatives of the four healthcare value co-creation models: Partnership, diffusion, open source and support group.[24]

Model	Framework	Initiatives
Partnership	• Healthcare organizations • Care teams	Improve existing care delivery models or create new models
Diffusion	• Patients and/or families	Inform knowledge about new delivery models throughout network and communication
Open source	• Care teams	Entail the creation of new knowledge through the access to important data or information
Support group	• Patients and/or families	Entail the sharing of experiential knowledge

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