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FEATURE

QUALITY IMPROVEMENT

Getting more health from healthcare: quality improvement must acknowledge patient coproduction—an essay by Paul Batalden

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Modelling healthcare as either a product or a service neglects essential aspects of coproduction between doctors and patients. **Paul Batalden** shares his learning from 10 years of studying change

Paul Batalden *professor emeritus, paediatrics, community, and family medicine*

Dartmouth Institute for Health Policy and Clinical Practice, Geisel Medical School, Dartmouth College, Lebanon, New Hampshire 03756, USA

All clinicians experience moments when the healthcare system in which they work makes it difficult for them to deliver good care for their patients.[1] Healthcare increasingly seems to include frustrating processes and unmanageable administrative burdens that reduce the time available for patient care, with negative effects on health outcomes.

Clinicians are also increasingly called on to improve the quality of the systems of care that they deliver. Many participate in improvement efforts, from experiencing large scale, top-down organisational change to making small changes that improve the ways their team works and cares for patients. Some will have taken courses on audit, the Model for Improvement,[2] Lean,[3] and more.

For many clinicians, however, the underlying question, "What is quality improvement, and how can it transform healthcare?" remains unanswered.[4] Full appreciation of what it means to get more health from healthcare demands as full an understanding as possible of the systems to be improved. Fortunately, the past decade has afforded many opportunities to fundamentally challenge thinking about how healthcare actually works and how it contributes to health.

Healthcare as a product: an oversimplified model

In 2007, a colleague and I described a frame for thinking and working to improve and transform healthcare.[5] This involved a substantial shift in the way we thought about healthcare; the shift became widely used as one definition of quality improvement. Through asking the question, "How might system-wide improvement strategies and efforts usefully improve healthcare?" we began to think in terms of systems and processes, considering how to integrate improvement efforts with daily clinical operations and professional development.

Our models were taken from manufacturing, with products ranging from electronics to cars. This had led us to assume that "making a product" and "making a service" were similar—they were both systems for "making"—and that we could think in either way as we developed and tested changes to improve healthcare.

Product dominant thinking sometimes fits well with healthcare: consider an older patient with pain and limited mobility because of hip osteoarthritis who receives the product of a new hip. Through this improvement approach we could understand the elective surgery process, improving how quickly patients progressed and achieved a pain-free outcome.

Sometimes, however, the fit was awkward and it was necessary to include a service model as well as a product model—for example, a patient supplied a need (a painful hip); service processes transformed the need into an output (analgesia); and patients received a benefit that could be measured as outcomes (reduced pain and increased mobility).

Using this language, we could consider the clinician-patient relationship as a "supplier and customer partnership." Yet this also didn't seem quite right: patients are both suppliers and customers. Patients with heart disease, for example, consume healthcare in the form of drugs and check-ups but they also are potential suppliers of activities that improve their health, such as exercise and eating a healthy diet.

Thinking about "supplier-customer partnerships" taught us new aspects of the transactions involved in professional activities, such as the exchange of a symptom (less mobility and pain) for a treatment and an outcome (more mobility and less pain). It's

paul.batalden@gmail.com

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important to remember, however, that this focus on transactions also potentially diminished the nature of the human relationships between a patient and a health professional, and their contribution to health. These ways of thinking failed to encompass the "swampy lowlands" of healthcare, such as physical pain as an expression of loneliness or psychological anguish.[6]

Over time, as we saw thousands of teams improving system performance, we noticed how often ways of product dominant thinking framed how healthcare was perceived. Professionals were increasingly seen as "making" healthcare actions using resources of time and materials, such as requesting investigations or generating prescriptions. Productivity was measured as the number of actions produced in each unit of time—such as the number of patients seen a day in an outpatient clinic—and the amounts of other resources consumed. Furthermore, what had been introduced as "improvements"—such as shorter waits and delays, better documentation, altered work processes, and measured outputs—were instead increasingly seen as inimical to the joy and mastery of real professional work. Professionals and patients were increasingly frustrated.

Making services differs from making products

In his groundbreaking book, *The Service Economy*, the health economist Victor Fuchs noted that making a service in retail or banking was different from making a product. Unlike for a product, two parties are always involved in making a service.[7] The economists Elinor and Vincent Ostrom later suggested that public services were "coproduced."[8] More recently, management researchers have observed that people making public services (social work, healthcare, education, police services, and others) have often been encouraged to adopt a "product dominant" logic.[9]

In product making, one party makes and then conveys that product to a second party, the consumer. For example, a car manufacturer makes a vehicle and sells it to a customer. If we adopt that "product" logic for making a healthcare service, the professional "makes" the service and then sells it to a consumer-patient. But by confusing the logic of product making with service making we risk distorting our understanding of some of the elements of health services that actually contribute to health. If we look at quality improvement solely through a product dominant lens we will focus on processes, actions, and outputs, which risks neglecting relationships, outcomes that are less easy to measure, and, most importantly, individual patient preferences. Rethinking healthcare as a coproduced service adds depth to our understanding of how we might better design and make services, improve them, and ultimately increase their contribution to better health.

To help us shift to a "service dominant" mindset we created a model of healthcare service coproduction[10] based on the work of Wagner[11] and Coulter.[12] Coproduction of health describes the interdependent work of users and professionals who are creating, designing, producing, delivering, assessing, and evaluating the relationships and actions that contribute to the health of individuals and populations. At its core are the interactions of patients and professionals in different roles and degrees of shared work.

On an individual level, according to this model, a healthcare service is usually composed of a relationship and an action. When a trusted health professional explores a patient's need, a relationship is formed. This relationship is key to agreement and to shared actions that might follow, such as procedures or drugs. Patient and professional are held together by knowledge, skill, habit, and a willingness to be vulnerable.

Trustworthiness, respect, and trust make this relationship possible. Both parties bring their knowledge, skill, and habits to the service making task. A willingness to be vulnerable arises from being fully present and able to fully engage another person. This idealised model does not always exist in practice, but conceptualising it helps us to focus on those elements of the relationship that typically require improvement; they grant professionals important permission to be vulnerable and to value more fully the knowledge and skills patients bring to making health services.

In some interactions, the focus may be more on the action than the relationship, such as properly immobilising a fractured limb. Even within these apparently product dominant interactions, however, practising within a contextualising "service making" frame allows professionals to pay attention to the patient's lived reality, assets, social support, and aims. These might include a patient's caring responsibilities for an elderly parent, or the role of their stress relieving weekend basketball game. Attending to such experiences is not simply a matter of courtesy but recognising what is necessary to do the real, shared work of limiting the burdens of illness and treatment and optimising health.

How has our understanding changed the way we think about healthcare systems?

Eleven years after our first publication, it is clear that generating sustainable improvement in a coproduced system entails several elements absent from our initial taxonomy:

Health—The aim of these elements and their interaction is the improvement of health. Our earlier emphasis on better outcomes becomes more specific: better health. Health "belongs" to the individual whose health it is. It is their responsibility and difficult to "outsource," even to a professional. In the context of daily healthcare services, health usually includes minimising the burdens of illness and treatment.

Network or system—The operating organising structure is more than a building, and its performance must be characterised by quality, safety, and good benefit for money spent to deliver value. Earlier we separated better system performance from learning. Today we acknowledge the benefit of integrating system performance with learning into a network that reflects active learning and never ending change for improvement. It includes the development and use of knowledge to offer standardised responses to common needs, customised responses to particular needs, and flexible responses to emergent needs. Although some commentators have described continuous learning as the hallmark of a "professional," learning for patients or users is important as well.

Patient participation—Coproduced healthcare services always include patient participation in some way. Active participation makes it possible to understand the assets and social support that patients contribute to the service and their health. Patient participation is built on trust and relationships.

Professional development—Health professionals capable of service coproduction understand and use several analytical frames: science informed practice, the experiences of individuals, and knowledge that integrates good design principles and daily practice. These professionals also bring

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their knowledge, skill, and habits to the interdependent work of service coproduction. Their way of work can contribute to a sense of trustworthiness. Coproducing professionals further recognise that when they work as whole people they may become vulnerable as they work to create a trusting, effective, interpersonal relationship. Joy and reflection on their own lives helps sustain these professions in the never ending confrontation with some of life's boundaries.

Assessment and measurement—Measuring the process and results of a coproduced service invites attention to how the patient's goals were elicited, how they were addressed, and whether they were attained. It also must assess the effectiveness of the professionals' interventions and practice. Good measurement becomes a means to create new knowledge about service development.

What knowledge do we need to improve healthcare systems?

Previously we recognised the multiple knowledge systems involved in designing and testing a change for improvement:

Generalisable scientific knowledge + Particular context → Measurable performance improvement

Today, in addition, we make explicit the contributions of patients and professionals, who each bring different expertise, knowledge, and experience to their shared interactions in the coproduction of a service:

(Patient aim + Generalisable, science informed practice) × Particular context → Measurable improvement

This modified improvement formula seeks to describe the coproduced world of healthcare service. Each element is driven by a different knowledge system (box).

Example characteristics of knowledge elements

Patient aim—Reason for seeking help, grounded in the reality of the patient's life. The circumstances surrounding that aim matter: a "well" patient may have different requirements for a coproduced service than a "sick" one

Generalisable, science informed practice—Observations and evidence from others and other contexts. This usually reflects empirical study of specific individuals in defined settings.[13] Benefit for a particular person may be difficult to predict given the ways in which the generalisable information was constructed

Particular context—The dynamic interactions among people and groups reflect the enormous complexity of human environments.[14] These physical, social, and cultural realities are expressed in the processes, systems, and dispositions of the local setting. This knowledge is constructed from the current state, its processes and systems, the "coproduction" of knowledge, skills, dispositions of the parties involved, the relationships of the parties, and their assets and social supports

Measurable improvement—Assessment of the degree to which the patient's aim was understood and achieved as well as the effect of the scientifically informed intervention. It usually includes a balanced set of measures to reflect performance over time

Connecting patient aim and science informed practice in design of intervention—Working from the patient's aim, scientifically informed interventions are sought, explored, and matched

Contextualising the planned change—Matching the possible interventions with the enabling and limiting features of the local setting as it changes

Testing the change—Mobilisation of the strategic, operational, and human resource realities that contribute to making changes happen

What do we need to do next?

The different knowledge systems invited by these perspectives require scientific and experiential learning. We have learnt a great deal in a decade of studying the improvement process and building the science of improvement. Now, explicitly extending this scholarly approach to understand healthcare service coproduction and its limits is likely to help us to maximise the health we get from healthcare still further.

Readers should note the service dominant or product dominant thinking in their organisation, assessment, improvement of services and in professional education. Acts of noticing can be important reminders to consider all knowledge elements, including the important domain of patient aim.

Whether clinicians are working in a coproduced healthcare service or designing and improving health services, thinking in this new way about the elements that produce health means undertaking professional development that goes beyond generalisable, science informed practice or improvement tools. Clinicians need to learn in ways that encompass all of the forms of knowledge described here, including eliciting a patient's immediate and long term aims. On an individual level, this can be described as shared decision making. On a system level, this way of thinking and practising may enable us to transform healthcare to improve health for our patients and populations.

Biography

Paul Batalden is a senior fellow of the Institute for Healthcare Improvement and an active faculty member at Dartmouth and the Jönköping University. He previously developed the Institute for Healthcare Improvement, the US Veteran Administration National Quality Scholars programme, the General Competencies of the Accreditation Council for Graduate Medical Education (ACGME), the Dartmouth leadership preventive medicine residency, the annual health professional educator's summer symposium, the SQUIRE publication guidelines, the improvement science fellowship programme of the UK Health Foundation, and the Vinnvård Improvement Science fellowships in Sweden.

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