JOURNAL OF PALLIATIVE MEDICINE
Volume 10, Number 3, 2007

DOI: 10.1089/jpm.2007.9955

Taming Wicked Problems in Modern Health Care Systems

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> Some problems are so complex that you have to be highly intelligent and well informed just to be undecided about them.
>
> —Laurence J. Peter

In order to be most effective, health care systems need to be able to prioritize not just the provision of technologically advanced and potentially curative care but also the psychosocially advanced and compassionate palliative care. However, it is well known that modern health care systems are socially complex organizations often fraught with perverse incentives and internal conflicts that serve as fertile grounds for wicked problems.

The concept of "wicked problems"[1] was originally proposed by Horst Rittel who stratified problems into tame or wicked problems. Tame problems are problems that have a definitive solution that can be identified using linear methods of problem solving involving the classic steps of data gathering, data analysis, solution formulation, and solution implementation (Fig. 1).

Once the solution is implemented, the tame problem will usually be solved. For example, dirty hands often spread infection and frequent hand washing decreases spread of infection.

In stark contrast to tame problems, wicked problems are those that cannot be solved using the standard linear methods of problem solving. In fact, wicked problems are characterized[2] by the following:

Wicked problems have incomplete, contradictory, and changing requirements and complex interdependencies that are often unique to the local setting of the problem. The stake holders of a wicked problem often have radically different world views for both understanding the problem and approaching its solution.

The intricacies of a wicked problem are often not well understood until after formulation and trial of a solution. Every implemented solution to a wicked problem usually has consequences, and may even uncover additional problems deeply embedded in the structure of care. Wicked problems require adaptive solutions that are tailored to work in the local setting and need to be implemented by a group of local stakeholders and champions who are well acculturated in their organizational culture.

The Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatment (SUPPORT) study is a seminal study that identified and wrestled with a wicked palliative care problem that was (and still often is) widely prevalent in our health care system. The study was originally designed to improve end-of-life decision making and reduce the frequency of mechanically supported, painful, and needlessly prolonged process of dying. The phase 1 of SUPPORT identified problems in communication and an increased frequency of aggressive treatments in the face of terminal illness. In an effort to solve these (wicked) problems, the phase II of the study used specifically trained nurses to facilitate patient–physician communication and advance care planning. The solution attempted in the phase 2 of the SUPPORT did not solve the problem, but in fact exposed new aspects of the wicked problem which were deeply and insidiously rooted in the culture of modern biomedicine. Thus understandably the problem refused to lend itself to the traditional linear mode of problem solving. As Dr Lynne states in her pioneer essay, "SUPPORT's authoritative defeat of prognostic information and shared decision-making as a strategy for reform pushed me to seek other strategies."

The use of the rapid cycle quality improvement process is certainly one of the more effective ways of taming wicked problems, as wisely identified by Dr Lynn. The intrinsically recurrent and iterative nature of the plan-do-study-act (PDSA) engine empowers local

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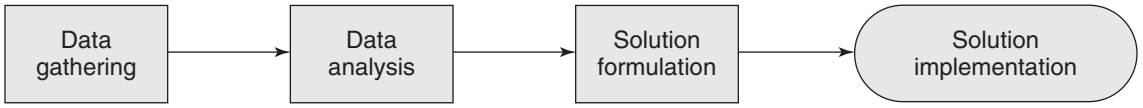

FIG. 1. Solving a tame problem using linear methods.

champions, who typically are well immersed in the culture of their health care systems, to act as change agents and take effective control of their microcosm. Also the adaptive nature of the PDSA solution is well matched to grapple with the multilayered and changing nature of the wicked problem and thus is optimally designed to tame the problem. Finally and most importantly, as Dr. Lynn states, this nonlinear approach to problem solving helps front line clinicians to "fix something of importance to (their) patients."

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