Duplicate, Replicate, Speculate, or Innovate? How Health Care Managers Solve Problems

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Introduction
The health care industry in the United States has a strong scientific base, is firmly grounded in research and development (Berwick, 2003) and accounts for nearly one-sixth of the gross domestic product at $2 trillion (NCHC, 2007). However, despite this favorable position, most of the industry’s innovative energy is concentrated around the advancement of medical technologies (Pisek, 2003) and does not easily permeate into the delivery of treatment (Herzlinger, 2006). Part of the problem may be that innovation in the field is generally measured in terms of the United States Food and Drug Administration approval rate for new drugs, biotech agents, and devices (OECD, 2005). This limited focus may hamper the application of novel solutions in other domains of the industry.

For example, it is well known that the health care industry, in general, is hesitant to adopt innovative approaches to improve inefficient processes, patient safety concerns, consumer expectations, and fragmented services (Porter-O’Grady and Malloch, 2007). This hesitancy may largely be due to health care managers’ perceptions regarding the amount of risk and complexity associated with conceptualizing and adopting innovative solutions. After all, it has been known for quite some time that risk and complexity are inversely related to the rate of adoption (Bauer, 1960; Rogers, 1962). Therefore, it could be speculated that the same two forces are behind health care managers’ reluctance to contemplate novel approaches when trying to solve problems they face at work.

The purpose of this study is to build on the mainstream of innovation literature, which largely addresses the adoption of innovations by health care organizations (Berwick, 2003; Fleuren, Wiefferink, and Paulussen, 2004) to explore how individuals — namely health care managers — contemplate innovative solutions in their workplace. During this exploration, we focus on two factors that we believe influence health care managers’ attitudes toward innovation: (1) the perception of complexity associated with the problem; and (2) the perception of risk associated with the solution.

Background
A widely accepted definition of innovation among researchers (Anderson, DeDreu, and Nijstad, 2004) is the “intentional introduction and application within a role, group, or organization of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, or wider society” (West, 1990). This definition is grounded in and has evolved from seminal works in the field (Rogers, 1962; Rogers and Shoemaker, 1971; Schumpeter, 1930). Based on this particular definition, the construct comprises three essential components: (1) novelty, (2) practical application, and (3) observed benefit (Lansisalmi, Kivimaki, Aalto, and Ruoranen, 2006).

The current use of the term innovation as applied to the health care industry mainly represents novel methods, approaches, and technologies to improve the efficiency, safety, or quality of operations (Lansisalmi et al., 2006) as well as to support the diagnosis, treatment and overall well-being of patients (Faulkner and Kent, 2001). Within that context, health care managers seeking solutions to a given problem need to take into account each solution’s (a) relative advantage, (b) compatibility, (c) complexity, (d) trialability, and (e) observability (Rogers and Shoemaker, 1971). Furthermore, these five factors play a crucial role in determining
managers’ attitudes not only during initial contemplation, but also across all three stages of innovation dissemination in health care: (1) generation of an idea within a specific unit of the system; (2) implementation of that idea within the same unit; and (3) widespread adoption across multiple units (Plsek, 2003).

Therefore, assessing complexity and risk inevitably becomes an inherent part of decision-making in health care organizations. Managers constantly need to evaluate the complexity of the problem and the risk associated with each potential solution before arriving at a decision. Since their operating environment is one in which behaviors of clinicians are usually hard to change (Greco and Eisenberg, 1993), medical practices are fairly well-established (Shortell, Bennett, and Byck, 1998; Shortell et al., 2001), laws and regulations largely determine the boundaries of practice (Faulkner and Kent, 2001), questions regarding existing organizational habits are met with considerable resistance (Anderson et al., 2004), and individual autonomy and reputation promote a culture of blame (Huntington, Gilliam, and Rosen, 2000), it is not hard to imagine that the influence of perceived complexity and perceived risk play a significant role in the way managers contemplate innovative solutions.

**Methods**
The following sections describe the assumptions and rationale for qualitative design, the type of design employed in the study, the role of the researchers, the sample, the data collection procedures, and the data verifications methods.

**Assumptions and rationale for adopting a qualitative approach**
Perceptions of risk and complexity are individually constructed factors that enter the decision-making process. Furthermore, the dynamics involved in contemplating innovative solutions based on perceived risk (of the solution) and perceived complexity (of the problem) are not simple and require in-depth qualitative analysis. We feel it is difficult, if not impossible, to observe the way individuals perceive risk and complexity and how these perceptions influence their desire and willingness to use innovative solutions when solving problems at work. Therefore, we seek to understand risk and complexity as perceived and experienced by managers themselves, using a qualitative approach.

**The type of design used**
Due to the nature of the relationship we wanted to investigate, our study used a phenomenological research design (Creswell, 1998; Moustakas, 1994). The elements composing the study’s phenomenological research design are (a) epoche, (b) phenomenological reduction, (c) imaginative variation, and (d) synthesis of meanings and essences (Moustakas, 1994). Achieving a state of epoche is required so that the researcher may set aside “prejudgment, biases, and preconceived ideas about things” (Moustakas, 1994) prior to, during, and following the interviews. Phenomenological reduction helps the researcher in “describing in textural language just what one sees, not only in terms of the external object but also the internal act of consciousness, the experience as such, the rhythm and relationship between phenomenon and self” (Moustakas, 1994). Phenomenological reduction consists of the following: (a) bracketing, where “the focus of the research is placed in brackets, everything else is set aside so that the entire research process is rooted solely on the topic and question” (Moustakas, 1994); (b) horizontalizing, initially treating every statement as “having equal value” (Moustakas, 1994) and later deleting irrelevant statements as well as those that are repetitive or overlapping, leaving behind only horizons — which are “textural meanings and invariant constituents of the phenomenon” (Moustakas, 1994); (c) clustering — arranging “the horizons into themes” (Moustakas, 1994); and (d) as a final step “organizing the horizons and themes into a coherent textural description” (Moustakas, 1994).

Phenomenological reduction is followed by imaginative variation where the focus is to “seek possible meanings through the utilization of imagination, varying the frames of reference, employing polarities and reversals, and approaching the phenomenon from divergent perspectives, different positions, roles, or functions,” and to “arrive at structural descriptions of an experience, the underlying and precipitating factors that account for what is being experienced” (Moustakas, 1994). As a final step, the researcher synthesizes the meanings and essences, which is basically “the intuitive integration of the fundamental textural and structural descriptions into a unified statement of the essence (essential, invariant structure) of the experience of the phenomenon as a whole” (Moustakas, 1994).
Despite the amount of care and effort that goes into the design of a study, it is reasonable to expect that one involving phenomenological elements may present the following challenges (Creswell, 1998):

- the researcher requires a solid grounding in the philosophical precepts of phenomenology;
- the participants need to be carefully chosen individuals who have experienced the phenomenon;
- bracketing personal experiences by the researcher may be difficult; and
- the researcher needs to decide how and in what way his or her personal experiences will be introduced into the study.

The role of the researchers
The researchers assumed the role of interviewer (i.e., the instrument) during this study. As this role entailed interviewing participants who worked in the building where the researchers’ offices were located, reflection was used to assess the potential impact of the researchers’ proximity to the participants (Denzin and Lincoln, 2000). The researchers viewed their role as describing a phenomenon as it appeared, without the limiting effect of their own opinions or prejudices, by applying ecopehe throughout all phases of data collection and analysis (Moustakas, 1994). In addition, special care was taken to keep the content of the interview sessions within the boundaries set by the formal interview questions and to minimize the disturbance caused by the interviewer (Lincoln and Guba, 1985).

Sample
Ten health care professionals were recruited from a hospital in the Washington D.C. area through personal referrals. The sample size was determined to be appropriate, as 10 participants are generally considered sufficient for a phenomenological study (Creswell, 1998). The roles of individuals constituting the sample are summarized in Table 1.

Data collection procedures
Separate interviews were conducted with the participants in private rooms. Prior to the interviews, all participants received an informed consent form to sign that indicated the purpose of the study, what would be involved during their participation, and how their privacy and confidentiality would be ensured. Each participant was also told that they could stop or withdraw from the study at any point.

The in-depth interviews were each completed in less than 60 minutes. The objective of the data collection process was to obtain a detailed description of how participants defined complexity and risk within the context of problems they faced at work and how their perception of these two constructs influenced their desire and willingness to contemplate innovative solutions when solving problems. All interviews were audio-taped with prior permission from participants and then transcribed.

Data verification
Once the interviews were completed and transcribed, the next step was member checks and data review by the participants. Following the review and acknowledgment of the interview data, participants’ statements were then horizontalized — a step where, initially, every statement from a participant was treated as if it had equal weight (Moustakas, 1994). Once irrelevant statements and those deemed repetitive or overlapping were deleted, leaving only textural meanings and invariant constituents of the experience, the remaining horizons were then clustered into invariant themes (Moustakas, 1994). The emergence of a textural description was followed by the formation of a structural description through imaginative variation (Moustakas, 1994). Finally a synthesis of textural and structural meanings revealed the essence of the study, which was then reviewed again by means of member checks to establish trustworthiness (Moustakas, 1994).
Table 2. Factors Affecting Managers’ Perception of Complexity and Risk

<table>
<thead>
<tr>
<th>Category</th>
<th>Factors</th>
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<tbody>
<tr>
<td>Perception of Complexity</td>
<td>• magnitude of operational impact on own unit</td>
</tr>
<tr>
<td>Associated with Problem</td>
<td>• impact on other units, departments, or organizations</td>
</tr>
<tr>
<td></td>
<td>• degree to which bounded by manager’s realm of authority</td>
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<td></td>
<td>• extent to which safety of patients is compromised</td>
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<tr>
<td></td>
<td>• degree of clarity regarding guidelines, regulations, and requirements</td>
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<td>• level of need for data collection and analysis</td>
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<td></td>
<td>• severity of legal implications</td>
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<td></td>
<td>• frequency of occurrence</td>
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<tr>
<td>Perception of Risk Associated</td>
<td>• likelihood of encountering legal consequences</td>
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<tr>
<td>with Solution</td>
<td>• likelihood of compromising patient safety</td>
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<td></td>
<td>• probability of regulatory non-compliance</td>
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<td>• likelihood of damaging own (or unit) image</td>
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<td>• probability of eroding staff morale</td>
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<td>• likelihood of causing a drop in patient satisfaction</td>
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<td>• probability of needing approval and support from others</td>
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<td>• likelihood of jeopardizing relationships</td>
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Findings
The invariant themes from the interviews revealed several major factors that ultimately determined managers’ perceptions of complexity and risk. Factors shaping the perception of complexity associated with a given problem and factors shaping the perception of risk associated with a potential solution are listed in Table 2. In combination, factors grouped under these two categories influenced managers’ willingness to employ innovative approaches in solving problems at work.

Perceptions of complexity

- **Magnitude of operational impact on own unit.** Managers said that their perception of complexity associated with a problem has a lot to do with the impact the problem is likely to have on their unit’s operations. Managers perceive less complexity when the issue at hand has little or no impact on their financial base, equipment, staff allocation levels, or patient capacity—making “the problem seem simpler.” However, if the problem requires managers to come up with “a new system” or configuration to run their operations, because they are “losing patients,” have staff shortages, are forced to “seriously alter the hours of care [they] provide,” experience financial losses, encounter significant “mistakes” and “medication errors,” or lack “the equipment [they] need,” then the problem is perceived as having a high level of complexity. The level of complexity is further amplified if the issue is “a lot bigger to [their] boss” and their boss wants something done immediately.

- **Impact on other units, departments, or organizations.** Managers almost always look at the broader impact of the problem at hand when assessing the complexity associated with the problem. In general, problems that “involve other departments,” “affect other people,” have “multiple factors,” or require “interpersonal relationships between staff” are considered more complex compared with those that don’t. Conversely, else remaining the same, simple problems are “small internal problems” that present little or no impact on the way other units, departments, or organizations operate and which managers can “fix within [their] own community.”

- **Degree to which bounded by manager’s realm of authority.** Managers take into account their own realm of authority when evaluating the complexity of a problem. Problems that clearly fall within managers’ authority and autonomy are perceived as relatively simple compared with problems where issues spill into domains controlled by superiors or other
managers. If the problem is one where managers can “solve it on [their] own” and “[they] can pretty much see the issue,” the level of complexity is perceived to be low. However, if the scope of the problem includes “more than just [the manager] making decisions,” if the nature of the problem demands that managers “need to have someone higher than [them] to intervene,” the problem is perceived as relatively complex. Similarly, if the problem involves elements that “[they] cannot control,” such as “patients’” or “regulatory agencies,” managers perceive it as more complex.

- **Extent to which safety of patients is compromised.** Concern for patient safety is paramount when managers assess the complexity of a problem. In situations where a patient is “confused,” “about to get physical,” strongly “insists” on having his way or managers “can’t provide safe care,” there is a sense of elevated complexity. Being able to provide an “environment that is going to be appropriate for the patients” is deeply engrained in managers’ assessment of the problem and clearly affects the way they perceive its complexity. Managers clearly state that “any issue [they] have with a patient is complex for [them]” because “patient safety is an aspect of the workplace which they cannot completely “control.”

- **Degree of clarity regarding guidelines, regulations, and requirements.** The clarity of guidelines, regulations, and requirements that define the scope of a problem has a substantial effect on the level of perceived complexity. If there is “no interpretation” as to what’s required, there are “fairly clear guidelines,” there is a “process to follow,” there aren’t “a lot of options,” or there are “known pathways,” then managers tend to perceive a lower level of complexity compared with instances where there is little or no guidance on the definition of a problem or the description is vague, highly subjective, and open to “interpretation.” Similarly, if the “number of people or systems involved” is fairly high, then it “lends itself to making the problem seem more complex.”

- **Level of need for data collection and analysis.** The need to collect data and analyze it so that the scope and magnitude of a problem is truly understood can greatly affect managers’ perceptions of the complexity associated with that particular problem. If the problem is unfamiliar, managers will “try to find out as much as [they] can about it” before contemplating solutions. Therefore, in cases where “there are lots of data elements involved” or when elaborate mechanisms are required to “capture the data,” the perceived complexity is much higher, compared with instances where “the data to extract is fairly straightforward.” If the “amount of steps that it takes” to identify and understand the problem are known, then managers “don’t really think about it” — they “just walk through the steps in [their] heads and it is done.”

- **Severity of legal implications.** Operating in an environment where the legal implications of taking action or not are significant, managers’ perceptions of the complexity associated with a given problem are greatly influenced by the “legal issues that are involved.” In cases where taking no action would mean that “a unit probably would have been liable” or in instances where “a patient wants to sue the hospital,” managers tend to see the problem as highly complex. In situations where the problem presents little or no severity in terms of legal implications, managers perceive relatively less complexity. Managers place a great deal of emphasis on legal implications and state that they “would have been in trouble” for ignoring problems with legal implications and that “the worst outcome” would have been for them “to go to court.”

- **Frequency of occurrence.** Managers’ perceptions of complexity associated with a problem is related partly to how often they confront it. Managers state that they generally encounter more complex problems on the “clinical side” because “they don’t happen very often.” These situations where managers or their staff “have never even thought about” the problem, “let alone having participated in doing something” similar, Managers express concern that they “may not be able to conceptualize” a solution if they “had never encountered it before,” a feeling that greatly influences the amount of complexity they perceive when facing certain problems for the first time. Problems encountered regularly are generally perceived as involving less complexity.
Perceptions of risk

- **Likelihood of encountering legal consequences.** One of the first considerations managers take into account when contemplating the risks associated with any potential situation is “trying to remain legally appropriate.” If “legal retribution aimed at the hospital or at [them]” is a clear and present threat, managers perceive the solution as carrying a high level of risk. Managers also weigh the risk of “getting fired” or committing “career suicide” when contemplating solutions that might have legal consequences. However, if a potential solution has little or no chance of having legal consequences, then it is not associated with a great deal of risk. Most managers see “legal issues” as the “biggest risk [they] are facing” today.

- **Likelihood of compromising patient safety.** The likelihood of compromising patient safety is another factor that strongly influences managers’ perceptions of risk associated with a potential solution. Managers first and foremost want to “respect patients’ wishes” and make sure that they are “keeping everyone safe” that “could be harmed.” Anytime they believe their units cannot “provide safe care,” the solution is deemed “a huge risk” that would put them in “trouble.” However, when contemplating alternatives that are unlikely to compromise patient safety, managers perceive less risk and are more “comfortable” pursuing those particular options. Managers want to strongly believe that what they do “is not going to create any more harm to the patient, to the staff, or to the hospital.”

- **Probability of regulatory noncompliance.** When weighing the perceived risk associated with a particular solution, managers strongly feel that “[they] need to stay in compliance with all the regulations.” In applying any solution, there is the urgent need to establish “pretty good compliance fairly rapidly” and to address “whatever needs to be addressed according to policies, rules, and standards.” Therefore, any potential solution likely to result in “poor compliance with core measures” is perceived as high risk. Conversely, all else being equal, solutions that clearly stay within “rules” and “regulations” are perceived to be lower risk, compared with those that could result in “noncompliance.”

- **Likelihood of damaging own (or unit) image.** When managers contemplate potential solutions, the likelihood of consequences that could damage either their own image or that of their unit affects their perceptions of the risk associated with any given solution. A solution that will “elevate [their] visibility considerably and put [them] out there on a level that now [their] people, the administration, and [their] boss will be asking how successful [they] were” weighs on managers’ minds as they assess risk. Any potential solution that could result in a negative outcome “being not only posted on the web site for the public to see” but also “being beat up on by the CEO” or having to “explain to Channel 9 News” is perceived as high risk. Conversely, solutions that do not visibly threaten managers’ own reputations or that of their unit are perceived to be low risk – all other factors remaining the same.

- **Probability of eroding staff morale.** When weighing the risks associated with potential solutions, managers take into account whether or not a given solution is likely to hurt staff morale. One of the major considerations is the probability that the chosen solution, if implemented, might “annoy” employees and lead managers to have to listen to things they “really didn’t want to hear about.” Any solution that has the potential to “make the staff unhappy” is considered a “human resource risk” and a threat capable of “pulling down the morale” of the entire unit. Therefore, any solution likely to erode staff morale is perceived as high risk. Conversely, any solution with no foreseeable adverse effect on staff morale is perceived as low risk.

- **Likelihood of causing a drop in patient satisfaction.** Managers are very sensitive to issues that could cause a decline in patient satisfaction. They clearly state that when “patients are unhappy” then “patient satisfaction goes down.” In managers’ minds, this is a simple but clear rule. Therefore, any solution that has the potential to make the patients “unhappy” is perceived by managers as high risk. Conversely, any solution with no foreseeable negative effect on patient satisfaction, other factors remaining the same, is perceived as low risk.
• **Probability of needing approval and support from others.** When managers have to “bring in other people” to implement a solution or if the solution requires “cooperation from more than one discipline and from people who don’t work for [them],” the solution is perceived as having greater risk. The perception of risk increases when the solution “involves more than just [them] making decisions” or is not “within [their] scope of practice.” Conversely, when managers can implement a solution and “nobody really cares” how it is done, the risk associated with the solution is perceived as relatively low. Managers usually see the best solution as the one implemented at “the right time and the right circumstances,” whereby they don’t “have to ask anyone else or involve anyone else” or deal with “a whole chain of people that had to be convinced.” In that low risk scenario, they are the only ones “responsible and accountable.”

• **Likelihood of jeopardizing external relationships.** Beyond considering the impact of potential solutions on their “interpersonal relationships” with colleagues and other employees within their own organization, managers also weigh the risk of jeopardizing their relationships with external parties. Whenever a supplier, consultant, or other type of personal contact has to follow a different arrangement, as the result of a solution being implemented, managers consider this as a “risk to [their] relationship with that person.” Any solution likely to jeopardize external relationships — especially established ones that have been working favorably to that point — is perceived as high risk. Conversely, if all else remains the same, solutions that are unlikely to affect existing relationships with external parties are perceived by managers as ones with relatively low risk.

**Willingness to innovate as a function of perceived complexity and risk**

When confronted with problems, managers generally believe that “the risk of doing nothing is greater” than trying a solution that “is not something [they] normally do.” In nearly all instances, managers prefer to apply solutions they have successfully used in the past, whether the problem is familiar or novel. Many express a willingness to adopt solutions developed by others, but because managers “don’t have that time anymore in health care to really sit and contemplate things” and because “people are looking for a response and they’re looking for it now,” few managers report coming up with innovative solutions of their own. Regardless of their willingness to try new things, managers admit that “it’s difficult to be innovative.”

Managers do not express an inclination to innovate just for sake of change, “especially if [they] are going to be changing a process” or because they are “bored with doing it a certain way.” They admit that it is “pretty scary to take a big or even small risk if it [process] seems to be OK” and require a “perceived benefit to doing something innovative” to begin with.

A hesitancy to disrupt the status quo prevents some managers from considering innovation. Many “don’t necessarily want to rock the boat” or “risk upsetting some applecart.” Because their “organization tends to be entrenched,” managers are apt to “do the same thing [they] did yesterday,” and admit that they find “a certain comfort in that.”

When faced with a familiar problem, managers often “tend to go with what’s worked in the past.” Given the choice, instead of seeking innovative solutions, managers usually proceed with “what [they] had done in the past that [they] know would work.” If they know something has worked before, managers develop the perception that “there’s security and less risk involved” and they “continue to use it.”

When facing unfamiliar problems, most managers initially contemplate going with the “tried and true, hoping that it fits into this new scenario” — especially if the problem is perceived as “simple” and the risk associated with the solution is perceived as “low.” However, if no “tried and true” solution that comes to mind, managers usually turn to others for ideas. While managers view unfamiliar problems as “true opportunities for growth for an organization,” they usually hesitate to take the first step in an unknown direction all by themselves, which they see as risky. Instead, they spread the perceived risk by collaborating with others. Managers “want to have some security that it would work, like reading an article or somebody telling [them] that they had tried it and this worked.”

Managers say that the “scariest” scenario for them is an unfamiliar situation where new solutions have to be applied, “especially if there’s a whole group of people that trust [them] to do what’s right.” Many managers “don’t like to reinvent the wheel” and feel that “[they] don’t have to come up with it [the solution] if
somebody else came up with it" first. They believe "there are lots of best practices out there" and that they would rather "just go with what's simple," particularly if they are new in their positions.

Should both the problem and the solution be unfamiliar, managers would "at least have to be able to know that someone else had tried it and it had worked" to feel good about moving forward with an innovative approach. Managers state that they are likely to adopt an innovative solution, if "it were proven to work for a particular problem" and if the risk associated with the novel solution is relatively low. While uncertainties don't always feel comfortable, managers state that accepting the risk and moving forward "would give [them] an opportunity to maybe try something more innovative that [they] could apply to something else" in the future.

**Conclusions**

The findings of our study indicate that health care managers' willingness to employ innovative approaches to solve problems in the workplace is greatly influenced by their perceptions of complexity associated with the problem and of risk associated with the solution. While it has been known that risk and complexity are two dimensions of innovation that are inversely related to the rate of adoption (Bauer, 1960; Rogers, 1962), our study suggests that these same factors are in play well before the adoption process begins. Based on our findings, perceptions of complexity and risk influence whether or not managers are even willing to consider an innovative approach — even if there is no innovative solution for them to adopt as yet.

Managers feel most uncomfortable when they find themselves facing problems that are complex and potential solutions that are risky by design. Conversely, they are most comfortable when facing a familiar problem to which they can apply a known solution that has worked for them before. It seems that managers would almost always prefer to operate in this latter zone.

This is a significant implication, since factors affecting managers' perceptions of complexity associated with the problem and those affecting their perceptions of risk associated with the solution, when combined, must offer a favorable outlook for managers to even consider leaving their zones of comfort to contemplate innovative approaches. In other words, innovation is unlikely to occur if managers can afford to operate within the boundaries of this comfort zone, as illustrated in Figure 1, where they face a familiar problem and can apply a known solution. Operating in this zone and facing a familiar situation amenable to a known solution, all managers need to do is duplicate what has worked for them before.

There are three other instances in which managers operate outside of their comfort zones, where they apply (1) a novel solution to a familiar problem, (2) a known solution to an unfamiliar problem, and (3) a novel solution to an unfamiliar problem. All three are likely to present their own set of challenges. The first instance is likely to lead to a perception of increased risk, whereas in the second the known solution would be applied under a perception of increased complexity. The third instance, is probably the least desirable, as managers have referred to this zone as the "scariest" — where both the perception of complexity and the perception of risk are significantly higher. In this area, managers are likely to resort to others to diffuse the increased complexity and risk.

Applying a novel solution to a familiar problem may enable managers to innovate, even if doing so brings a perception of increased risk. Similarly, in the face of increased complexity, applying a known solution to an unfamiliar problem — regardless of whether the solution has worked for them to solve a familiar problem in the past or whether it has worked for someone else to solve the same problem they are currently facing — managers may hope to replicate the same success. However, applying a novel solution to an unfamiliar problem may, indeed, be the scariest since all the managers might be doing is to speculate.

We believe our study contributes to existing literature on health care innovation by illustrating the need to think about the problem and the solution at the same time. Developing theories on and designing practical applications around just the solution side, in our view, presents an incomplete argument. Innovation is a rich construct that encompasses various interactions of elements from the problem side as well as the solution side. Therefore, we invite future studies on the topic to explore innovation from an integrated perspective.

We also invite health care managers to move away from their traditional supervisory role that has been largely shaped by the don't fix it unless it's broken culture to a more transformational leadership role. Succeeding through this
transition will allow them to develop institutional capacity to better explore and exploit opportunities presented by the complex landscape in which they operate. However, more important, their success will enable health care managers to instill, nurture, develop, and reward innovation as a core value within their organizational culture and, thus, make it sustainable.

In closing, we encourage managers to move out of their comfort zones, so that there are fewer reasons to duplicate and more opportunities to innovate. We accept that there is a certain degree of comfort in adopting evidence-based research. However, we would like to ask our readers a question: If everyone were to wait for evidence-based research to change the way they practice their profession, who would be producing the evidence?

Dr. Ekmekci, who teaches in the Clinical Management and Leadership department at the George Washington University School of Medicine, is certified in six sigma lean sensei and qualified in Myers-Briggs type indicator. His research interests include organizational identification, quality and safety, process improvement, temporality, and agent-based modeling. Dr. Turley, who has degrees in the fields of Health Services Administration and Education, also holds certificates in leadership development, radiography, and radiation therapy. She is chairman of the editorial review board of Radiation Therapist and is on the research grants and advisory panel of the ASRT Education and Research Foundation.

REFERENCES
APPENDIX A

INTERVIEW SCRIPT

1. Tell me a little bit about your job.
2. What types of problems do you face on a day to day basis?
3. Tell me about a relatively simple problem that you solved at work.
4. Why would you classify that as a simple problem?
5. How did you solve the problem?
6. What alternative solutions did you consider?
7. What was the most innovative or creative of the possible solutions?
8. What role did risk play in choosing the ultimate solution?
9. Tell me about a relatively complex problem that you solved at work.
10. Why would you classify that as a complex problem?
11. How did you solve the problem?
12. What alternative solutions did you consider?
13. What was the most innovative or creative of the possible solutions?
14. What role did risk play in choosing the ultimate solution?
Duplicate, Replicate, Speculate, or Innovate? How Health Care Managers Solve Problems

Most of the innovative efforts in the huge health care industry are directed toward medical technologies, not delivery of treatment, patient safety, and expectations. Inefficient processes abound. What factors determine the willingness of health care managers to innovate? In-depth interviews with 10 health care managers in different roles explored how perceptions of complexity and risk arising from problems and situations and attached to potential solutions affect the choice of “safe” or familiar versus unknown or innovative actions. Findings suggest that health care managers are typically loath to leave their “comfort zones” to try innovative solutions.

Ozgur Ekmekci and Catherine L. Turley

How Trust Reduces Transaction Costs and Enhances Performance in China’s Businesses

It stands to reason that when businesses trust each other, the costs associated with transactions between them will be lower since safeguards are not needed. Lower transaction costs should enhance profit. But does trust have these results in a transitional economy like China’s, one with many state-owned businesses and with significant differences between rural and urban economies? A survey of almost 3,000 firms in 31 Chinese cities located throughout China finds that trust does lower transaction costs, but developing trust is another matter. Trust did not correlate positively with profitability. Details of these results should be of great interest to any firm seeking to do business in China or invest in that country.

Irene Hau-siu Chow

Competitive Strategy and the Wal-Mart Threat: Positioning for Survival and Success

The popular image is that Wal-Mart comes to town and locally-owned retailers shrivel up and die. This may happen, but it doesn’t have to. Retailers who carefully analyze their own strengths and weaknesses vis a vis Wal-Mart’s may survive and prosper. Retail owners should consider three strategies: a focus on low costs, a focus on differentiation, and a value orientation. Sometimes these can be mixed-and-matched among a retailer’s product lines. “There’s no substitute for knowing one’s customers, markets, and resources as a foundation for . . . a successful strategy,” according to the authors.

John A. Parnell and Donald L. Lester

Forced Ranking: A Review

When Jack Welch extolled a management tool, all managers took note. One such tool was “forced ranking,” in which managers rank employees in their department against others in that department or a designated peer group. The top 20% are rewarded and the bottom 10% are put on probation or possibly terminated. This is much different from the widely used “performance appraisal.” Managers attracted to the benefits of forced ranking should carefully review the pros and cons, especially the latter which include likely high turnover costs and injury to employee relationships and trust.

Beth Hazels and Craig M. Sasse