

Making time for learning-oriented leadership in multidisciplinary hospital management groups

Sara J. Singer

Jennifer E. Hayes

Garry C. Gray

Mathew V. Kiang

Background: Although the clinical requirements of health care delivery imply the need for interdisciplinary management teams to work together to promote frontline learning, such interdisciplinary, learning-oriented leadership is atypical.

Purpose: We designed this study to identify behaviors enabling groups of diverse managers to perform as learning-oriented leadership teams on behalf of quality and safety.

Approach: We randomly selected 12 of 24 intact groups of hospital managers from one hospital to participate in a Safety Leadership Team Training program. We collected primary data from March 2008 to February 2010 including pre- and post-staff surveys, multiple interviews, observations, and archival data from management groups. We examined the level and trend in frontline perceptions of managers' learning-oriented leadership following the intervention and ability of management groups to achieve objectives on targeted improvement projects. Among the 12 intervention groups, we identified higher- and lower-performing intervention groups and behaviors that enabled higher performers to work together more successfully.

Findings: Management groups that achieved more of their performance goals and whose staff perceived more and greater improvement in their learning-oriented leadership after participation in Safety Leadership Team Training invested in structures that created learning capacity and conscientiously practiced prescribed learning-oriented management and problem-solving behaviors. They made the time to do these things because they envisioned the benefits of learning, valued the opportunity to learn, and maintained an environment of mutual respect and psychological safety within their group.

Practice Implications: Learning in management groups requires vision of what learning can accomplish; will to explore, practice, and build learning capacity; and mutual respect that sustains a learning environment.

Key words: Collective learning, leadership, learning-oriented leadership, mixed methods, safety

Sara J. Singer, MBA, PhD, is Associate Professor of Health Care Management and Policy, Harvard School of Public Health/Harvard Medical School, Boston, Massachusetts. E-mail: ssinger@hsph.harvard.edu.

Jennifer E. Hayes, EdM, was Qualitative Research Analyst, Massachusetts General Hospital and Center for Organization, Leadership and Management Research, VA Boston Healthcare System, Massachusetts; currently, Health Systems Specialist, Office of Academic Affiliations, Veterans Health Administration, Washington, D.C.

Garry C. Gray, PhD, is Assistant Professor of Sociology, University of Victoria, British Columbia, Canada; and a Network Fellow, Edmond J. Safra Center for Ethics, Harvard University, Cambridge, Massachusetts.

Mathew V. Kiang, MPH, is Doctoral Candidate, Department of Social and Behavioral Sciences, Harvard School of Public Health, Boston, Massachusetts.

The authors have disclosed that they have no significant relationship with, or financial interest in, any commercial companies pertaining to this article.

DOI: 10.1097/HMR.0000000000000037

Health Care Manage Rev, 2014, 00(0), 00–00

Copyright © 2014 Wolters Kluwer Health | Lippincott Williams & Wilkins

Health care management is increasingly a job for teams. As patient care becomes more dynamic, complex, and interdisciplinary, so too do the managerial requirements in organizations that deliver it. Unlike groups of individual managers attuned to problems and problem-solving within disciplines, interdisciplinary management teams promote collaboration and communication among frontline workers by conducting joint problem solving and providing consistent direction across disciplines (Katzenbach & Smith, 2005). As they have for frontline workers, multidisciplinary training initiatives have the potential to improve quality and safety by improving interdisciplinary cooperation and collective learning among groups of managers (Neily et al., 2010).

Although the clinical requirements of health care delivery imply the need for teams of managers to coordinate to promote learning orientation in their work areas, such interdisciplinary, learning-oriented leadership (LOL) is atypical (Wageman, Nunes, Burruss, & Hackman, 2008). When managers fail to collaborate, performance suffers (Yukl, 2008). By learning orientation, we mean a group's climate for learning (Bunderson & Sutcliffe, 2003; Edmondson, 2003a). Collective learning, in contrast to individual learning, refers to shared analysis and interpretation of experience (Kim, 1993). LOL is leadership that promotes a collective learning orientation.

Like those they manage, groups of managers may benefit from learning to work together as teams in order to lead in learning-oriented ways (Yukl, 2008). Although conditions that promote collective learning among frontline workers is a topic of considerable study (Berson, Nemanich, Waldman, Galvin, & Keller, 2006; Fenwick, 2008), conditions that advance learning in management groups composed of diverse professionals have been underexplored (Tucker, Nembhard, & Edmondson, 2007).

This article describes a field study of intact groups of hospital managers—managers of organizational departments, divisions, units, and centers—that participated in a training program designed to promote LOL. Among 12 management groups that were randomly selected from 24 that volunteered to complete the training, we used qualitative methods to understand behaviors that distinguished those groups that performed as LOL teams.

Theory

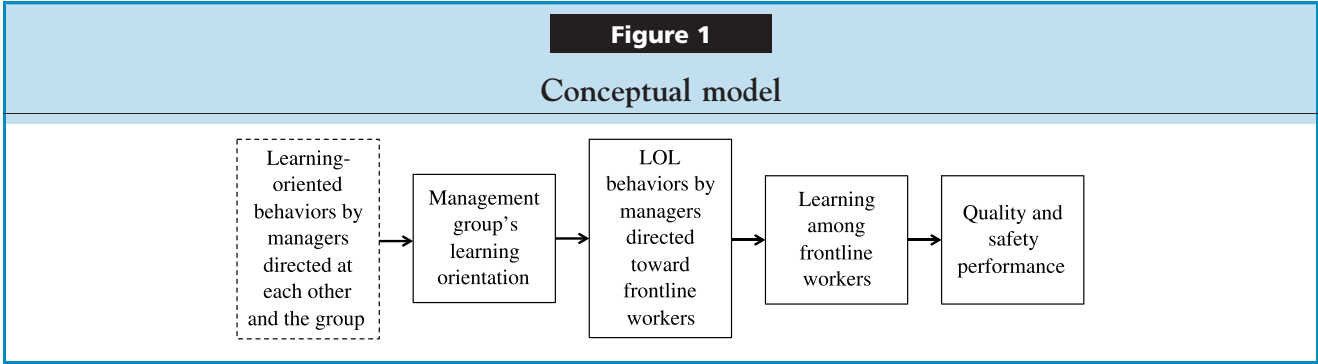
In organizations, collective learning is a process by which groups take action, obtain and reflect upon feedback, and make changes to develop or improve capabilities (Edmondson, 2002). Learning enables organizations to implement new routines (Edmondson, Bohmer, & Pisano, 2001), permanently resolve recurrent problems (Tucker & Edmondson, 2003), transfer and retain best practices (Berta & Baker, 2004), and sustain quality and safety improvements (Carman et al., 1996).

Extensive research suggests that collective learning on the frontlines requires that managers drive change, create supportive environments, and establish infrastructure that reinforces learning (Garvin, Edmondson, & Gino, 2008). A climate conducive to learning is one in which group members slow down enough to reflect on lessons from their experience (Argyris & Schön, 1996; Matsuo, 2012) and feel psychologically safe to risk asking questions, speaking up, and experimenting with new ideas (Edmondson, 1996). A learning environment also requires openness and appreciation of member differences and contributions (Van Der Vegt & Bunderson, 2005).

Managers can lead collective learning among frontline workers by establishing learning practices such as experimentation with routines, training to update skills, processes for acquiring new knowledge, monitoring and interpreting data, and responding to results (Edmondson, 2003b). Managers can create the opportunity for people to engage in candid discussion and collaborative problem solving, leading to a greater level of learning and improvement (Edmondson et al., 2001). Managers can also facilitate integration of information and ideas across professional and departmental boundaries (Brown & Duguid, 1991). Research suggests that managers create psychological safety and promote learning orientation by engaging in specific behaviors that help to frame errors and failures as learning opportunities, develop group problem-solving skills, and build learning capacity (Edmondson, 2003a; Nembhard & Edmondson, 2006; Tucker & Edmondson, 2002).

Building on this organizational learning literature, our conceptual model (Figure 1) recognizes that working together as learning-oriented teams is an unnatural condition for multidisciplinary management groups. Differences in individual managers' training, background, expertise, responsibilities, and workflow naturally divide rather than attract them (Ancona & Caldwell, 1992; Ferlie, Fitzgerald, Wood, & Hawkins, 2005; Gray & Silbey, 2014; Yukl, 2008). Strong professional identification that values autonomy promotes disrespect rather than collaboration (Leape et al., 2012).

In this article, we consider behaviors that promote learning among managers to work together as teams to provide LOL in a consistent and effective manner. Without such learning, groups of managers are unlikely to develop a collective learning orientation and will be less likely to exercise LOL in a way that creates frontline environments that foster quality and safety improvement. The data for this study came from a training program designed to help groups of managers lead together in more learning-oriented ways (Singer et al., 2011). The training emphasized seven evidence-based leadership behaviors: (a) *demonstrating that they really care about safety*, (b) *welcoming suggestions* rather than being defensive, (c) *encouraging speaking up* by inviting and acknowledging suggestions, (d) *facilitating communication and teamwork*, (e) *taking action* to improve patient safety when concerns come



to their attention, (f) *mobilizing information* for effective and efficient problem solving and decision-making, and (g) *seeking input* about frontline worker concerns and responding to information received (Carroll & Edmondson, 2002; Edmondson, 1999, 2003a, 2003b; Edmondson et al., 2001; Nembhard & Edmondson, 2006; Tucker & Edmondson, 2002). Variation in results of the training provided an opportunity to explore the behaviors that enabled groups of diverse managers to learn to work together as teams to provide LOL. We found that learning-orientated behaviors directed toward one another within the group promoted group learning and LOL toward frontline workers.

Methods

After exposing 12 randomly selected management groups to a Safety Leadership Team Training program designed to improve their LOL for quality and safety, we used a qualitative approach to assess behaviors associated with their performance. Using data on relative group performance, we first identified higher- and lower-performing intervention groups. We then coded and analyzed observation, interview, and archival data to identify behaviors that differentiated them.

Safety Leadership Team Training

The training program employed multiple instructional modes, including realistic simulation, to promote behavior change (Cooper et al., 2011). Within a month prior to each group’s training, training facilitators met with some or all group members (n ranged from 2 to 9, at the groups’ discretion) to describe the training, to discuss group dynamics and composition, to identify an improvement initiative—one that was important to the work area and feasible within a year—to serve as a case study for the group to practice LOL, and to complete a “project charter” defining project responsibility, objectives, scope, and metrics for success (Table 1). Facilitators used information from this session to customize the training to the group. Training entailed a full-day, off-site program for all group members, (n ranged from 6 to 12) at which facilitators presented the semistructured curriculum, including

a team-based simulation exercise, appreciative inquiry, and project planning exercises. Afterward, groups were expected to apply LOL behaviors generally and particularly in leading their improvement projects. There was a 2-hour follow-up “Booster Shot” program delivered about 3–7 months after the initial training for all group members. About 15 months post initial training, facilitators met with some or all group members (n ranged from 1 to 10, at the groups’ discretion) for a final interview to review progress on targeted behaviors and the group’s improvement project. The training program

Table 1

Improvement projects selected by management groups as a case study for training

Group	Improvement project
1	Improve compliance with evidence-based protocol
2	Establish a consistently reliable process for key process in the work area
3	Improve compliance with evidence-based protocol
4	Improve communication among health care team members and with patients
5	Reduce pain and distress associated with a specific procedure
6	Improve patient and family/member education about patient care
7	Foster a culture of service among all disciplines in the work area
8	Improve work area efficiency and throughput
9	Balance pain management and patient recovery related to specific patient condition
10	Reduce complications associated with delivering patient care
11	Reduce complications associated with delivering patient care
12	Reduce complications associated with delivering patient care

Note. Descriptions of improvement projects have been modified in order to protect the confidentiality of the work areas.

and evidence of resultant behavioral change among participating managers has been described elsewhere (Singer et al., 2011).

Sample

Our sample included 24 of 33 invited work areas from one academic medical center in the Northeast United States that volunteered to participate and completed an initial interview. Work areas included medical/surgical units, departments (e.g., surgical and respiratory care), divisions (e.g., orthopedics), and interdisciplinary centers (e.g., transplant). Of the 24, we selected 12 intervention groups using stratified random sampling that ensured equal distribution of groups in four strata: groups working on safety initiatives considered high priority by the hospital, groups managing intensive care units, nonclinical groups, and groups managing any other work areas.

Each intervention group participated in the training program and was observed intermittently over a 15-month period between May 2008 and March 2010. For intervention groups, the director, chief, or quality assurance chairperson determined the group's membership by identifying individuals comprising the group's formal and informal leadership. Each intervention group included 6–12 physician, nurse, and other clinical and administrative managers. Managers ranged from senior-most officials in the work area to individuals with project management roles.

A total of 108 managers participated in intervention groups; 93% of these provided demographic data (Table 2). Among these participants, 61% were female, 73% were clinicians, and 33% were considered senior managers by the hospital. Two of the 12 intervention groups were composed entirely of nonclinician managers; others were all clinicians

or mixed. One group was composed entirely of senior managers; three groups included zero or one senior manager.

Data, Measures, and Analysis

Performance on perceived LOL. Survey data on LOL were collected before implementation of the training program (March–May 2008) and again after the training had been completed (December 2009 to February 2010). In 2008, we surveyed all clinicians and operations personnel working 20 or more hours per week at the hospital ($N = 9,332$) about the LOL of their managers. Surveys were conducted by paper, Web, or email. In 2010, we electronically surveyed personnel who were surveyed in 2008, had associated themselves with an intervention or control work area in 2008, and could be contacted by e-mail ($N = 4,448$). The baseline response rate was 60%; the follow-up response rate was 63%. For the analysis in this article, we used data from respondents ($n = 1,752$ in 2008 and $n = 907$ in 2010).

A LOL composite score was calculated as the average of seven survey items developed for this study, which were administered with the AHRQ Hospital Survey on Patient Safety Culture (available on request). Each item corresponded to one of the leader behaviors targeted by the training program. Respondents were asked the extent to which they agreed with the items using a 5-point Likert response scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*; agreement indicated that respondents felt the leaders in their department provided LOL. The scale exhibited high internal consistency (Cronbach's $\alpha = .89$). We calculated intraclass correlations (ICC) to test whether work area level aggregation of LOL was appropriate. Significant ICCs (ICC[1] = .04, $F = 7.35, p < .0001$ and ICC[2] = .86) supported aggregation.

Table 2				
Sample characteristics of managers in intervention groups				
Characteristic	All intervention groups	Lower performers	Higher performers	t Test (low vs. high)
N	100	29	24	NS
Number of groups	12	4	3	NS
Average n per group	8	7	8	NS
Average % female	61%	70%	71%	NS
Average % clinicians	73%	90%	18%	$p < .0001$
Average % designated senior manager	33%	48%	29%	NS
Perceived LOL (SD), 2008 (scale: 1–5, higher is better)	3.9 (0.7)	3.9 (0.7)	4.0 (0.6)	NS
Perceived LOL (SD), 2010	4.0 (0.8)	3.8 (0.8)	4.2 (0.7)	$p = .003$
Percent change in perceived LOL 2010–2008	1.0%	–1.9%	4.1%	$p = .012$
Project performance (scale: 1–5, higher is better)	3.3	1.5	4.7	$p < .0001$

N = total number of individuals across groups; n = number of individuals within a group; LOL = learning-oriented leadership; SD = standard deviation.

For each respondent, we calculated the 2008 LOL composite score for the seven items. We then calculated the 2008 LOL composite score for each work area by averaging the 2008 scores of respondents in that work area. We repeated this process using the 2010 data to generate 2010 LOL scores for each work area. Change in perceived LOL was the difference in these scores.

Performance on selected improvement initiatives. The longitudinal design of the training program enabled study investigators to have serial contact with participating groups (instruments available on request). One or more researchers transcribed the discussion at the preparatory meeting, full day and booster shot trainings, and final interview for each group. We also gathered archival data including a project charter, “game plan” (blueprint for accomplishing the improvement project that each group developed through the training), assessments prepared by facilitators after each group meeting, and evidence of project progress provided by the groups. Using transcript and archival data (10–11 hours; 45–60 pages per group), one investigator developed a summary description of the development of each group’s improvement project over the study period, including project selection, execution, and outcome. A second investigator reviewed this description and discussed suggested modifications with the study team. Next, all four investigators evaluated groups’ project performance on a scale of 1–5, with 1 being least and 5 being most suc-

cessful at accomplishing project objectives, including positive spillovers such as replication, worker empowerment, or publishable results (Table 3). Discrepancies were few and never more than 1 point on the 5-point scale. Differences were discussed and resolved based on consensus.

Identification of higher- and lower-performing intervention groups. We distinguished among intervention groups based on 2010 LOL scores, change in perceived LOL, and improvement project performance (results available on request). We ranked groups on all three metrics (1–12, with 1 as the highest) and summed the overall ranks. We defined groups as “higher” or “lower” performing according to overall rank as well as relative performance on each of the three criteria, requiring groups to perform in the top 40% of each criterion to be considered higher performing and in the bottom 40% of each criterion to be considered lower performing.

Distinctions between higher- and lower-performing management groups. We applied the constant comparative method (Glaser & Strauss, 1967) with classification and pattern matching (Ragin, 1987; Yin, 1994) to transcript and archival data to identify important themes and to compare across cases and performance categories. Initially, we identified preliminary codes for application to transcripts based on reflections about the training experience from facilitators and investigators, review of transcript summaries, and literature on LOL. This process developed iteratively as we conducted observations and interviews.

Table 3

Coding manual for rating project performance

Project performance rating	Description
5	Successful outcome, often with positive spillover (e.g., replication elsewhere, empowered frontline workers, publishable result). Project addressed a pervasive issue about which group members were passionate; appropriate scope of project (ambitious but feasible within year to accomplish); project clearly defined. Execution characterized by appropriate goals, clearly defined measures, planning, quick wins, garnering necessary resources, obtaining executive sponsor; providing feedback to staff; breaking project down into phases; demonstrating view toward long-term learning or sustainability.
4	Successful or well on the way to being successful; may have modified original objectives with learning. Project identified and advocated by one or more members and supported by group (though less passionately); but scope not feasible within year or project could be defined more clearly. Some limitations, but execution demonstrated resilience and recovery; may have had slow start but strong finish; able to overcome obstacles.
3	Some success despite limitations. Project gained moderate support of at least some group members but no strong advocates; and scope not feasible or project could be defined more clearly. Obstacles partially or fleetingly addressed; moderate effort.
2	Limited progress but uncertain next steps, or some success but no real accomplishment for group. Project did not gain support of all group members (not considered relevant to all) and scope not feasible or not clearly defined (e.g., problem not fully understood). Unable or unwilling to address some obstacles; little effort; or executed in top down fashion without long-term learning or sustainability.
1	Project abandoned. Project chosen lacked champion, as well as agreement or support; scope of project inappropriate (either too trivial or too large); and project was not clearly defined. Few steps taken toward original objective.

Observation and interview data were loaded into qualitative software (Atlas.ti) and analyzed following recommendations for qualitative methods (Bradley, Curry, & Devers, 2007). We developed a coding scheme reflective of preliminary and emergent codes and coded the transcript data for each group (available on request). We established coding reliability by having at least two investigators code each group’s transcript data and comparing their results. Assignment of established codes to quotes that coders considered ambiguous or coded differently were resolved through discussion. Detailed review of transcripts led to a more descriptive code list.

We then examined themes within coded data across management groups, rating the strength of each group for each theme on a 4-point scale from strongest to weakest. At least two members of the research team independently rated each group. All team members met to resolve discrepancies, resulting in full agreement in ratings. We then compared each theme across performance categories (higher versus lower) to identify those areas that differentiated higher from lower performers.

Findings

Higher- and Lower-Performing Intervention Groups

Our criteria for selecting higher- and lower-performing intervention groups suggested three higher-performing and four lower-performing groups. Across the three higher-performing groups, average 2010 LOL was 4.2 (*SD* = 0.7), change in LOL after training was 4.1%, and average project performance was 4.7. Across lower performers, average 2010 LOL was 3.8 (*SD* = 0.8), change in LOL after training was −1.9%, and average project performance was 1.5. Differences between higher and lower performers on all three metrics were statistically significant (*p* < .05).

At baseline, higher and lower performers did not differ based on perceived LOL (mean = 4.0, *SD* = 0.6 for higher performers and mean = 3.9, *SD* = 0.7 for lower performers) nor did they differ with regard to group size (8 for higher performers and 7 for lower performers), the percentage of group members who were female (71% for higher performers, 70% for lower performers), the percentage who were senior managers (29% for higher performers and 48% for lower performers), or training order. However, higher-performing groups had significantly fewer clinician members in their groups (18% for higher performers, 90% for lower performers, *p* < .0001).

Factors Differentiating Higher- and Lower-Performing Management Groups

Transcript and archival data revealed behaviors distinguishing management groups whose LOL ended higher and improved and who succeeded in their improvement projects relative to other groups (Table 4, theme comparison; Table 5, illustrative quotes). These data also recorded consequences of the differences in LOL between higher- and lower-performing groups.

Envisioning benefits of learning and valuing the opportunity. Although all volunteered for the training, the 12 participating groups varied in their belief of the potential for learning as a leadership team. Groups more inclined to learn from their participation viewed the training as a place for the group to explore and practice novel approaches to quality improvement and appreciated the opportunity to experiment. In contrast, for groups ultimately designated as lower performers, willingness to be present did not equate with buy-in to the purpose of the training.

Similarly, following their initial training, higher-performing groups were quick to brainstorm ideas about how they might use the training to improve safety in their work areas.

Table 4

Factors differentiating higher- and lower-performing management groups

Theme	Lower performers									Higher Performers		
	Grp 9	Grp 3	Grp 6	Grp 5	Grp 8	Grp 1	Grp 11	Grp 12	Grp 10	Grp 2	Grp 4	Grp 7
Envisioning benefits of learning and valuing the opportunity												
Investing in infrastructure to support team learning												
Proactively and creatively solving problems through deliberate reflection												
Managing in an open and shared manner												
Maintaining mutual respect and psychological safety												
Consequences of making and not making time for learning												

Notes:

Weakest

Weaker

Stronger

Strongest

Table 5

Quotations illustrating themes in higher- and lower-performing management groups

Distinguishing themes	Illustrative quotes	
	Higher performers	Lower performers
Envisioning benefits of learning and valuing the opportunity		
Viewed training as opportunity to improve as a leadership team	"I would like to come away with something brand new, a model we haven't used before that we can apply to problems in the group." (Group 2, director)	"I don't understand how the [training program] applies to us." (Group 9, CNS)
Envisioned potential benefits of the training for their unit and others	In response to question about what they hope to get from the training: "We decided that it is core to get the right culture. I want to come away with two or three things that we can learn and do as leaders and incorporate into our own goals. As a team, how we can learn to better interact together?" (Group 7, business manager) "I would like to come away with something brand new, a model we haven't used before that we can apply to problems in the group." (Group 2, director)	"When I think about change it requires time as well as commitment, but time. Part of what you are suggesting is that I make time to do these things, which isn't exactly built into my job description. The time part or the pay for time part. But just the time part. We are all over committed." (Group 6, associate director)
Investing in infrastructure to support collective learning		
Employed structures that supported collective learning by facilitating improvement, collaboration, and communication	"The other teams' [managers] are having more difficulty than I am because the others aren't meeting with their teams on a regular basis. Friday morning. Half an hour. It's a great dialogue about practices." (Group 4, administrative manager) "Different subsets meet as a group. Once a month there is a managers' forum. All of us... are present." (Group 7, director)	"I am afraid, 'no', there is no communication mechanism." (Group 3, associate chief nurse/QA co-chair) "We've had an infrastructure in mind that hasn't come about." (Group 5, medical director)
Developed leadership capacity by cultivating and empowering new leaders	"...some staff morphed into a leadership role through the project. Another tier of leadership evolved through the project." (Group 4, operations coordinator)	"There is concern about putting a nurse up a notch compared to other nurses...It would be seen as favoritism. It could create disharmony in the family." (Group 9, co-director)
Proactively and creatively solving problems		
Engaged in proactive, creative, learning-oriented problem identification and resolution	"I proactively do more consensus building even though it's time consuming." (Group 7, business manager) "We realized it would create a challenge. ...[So,] We asked for support. We initiated meetings...." (Group 4, nurse director)	"When we have major events, things happen. When the Joint Commission comes in or says we have to do something, we do it." (Group 5, nurse specialist) "In part we're putting out fires. We're dealing now with things that we stumble upon. These are the low hanging fruit; we will get to the bigger things later." (Group 6, QA chair)

(continues)

Table 5

Continued

Distinguishing themes	Illustrative quotes	
	Higher performers	Lower performers
Conducted collective reflection to learn from events and information	"When I get the anecdotal data I ask the whole group, 'Why did that one go so well? How can we apply that to the next thing that comes around?'" (Group 7, director)	"Some groups come together to talk about operational success issues; for us it is a huge challenge to find the time." (Group 3, nurse director)
Managing in an open and shared manner		
Practiced open and appreciative management, espousing values of transparency and inclusiveness	"Everyone is heard and everyone has an opportunity to think of something else that no one else has thought of. Then, once all the thoughts are on the table we try to assign some tasks to get things going." (Group 7, assistant director)	"I'm impatient. That's why I tend to do it myself. That's why I've got too much to do, and don't necessarily get the input I should." (Group 6, associate director)
Shared responsibility for quality and safety across members, disciplines, and departments	"Everyone met and agreed that this [approach to their improvement project] is a good idea. Everyone's on board and behind this, so when I ask for things, they understand that it's important." (Group 4, nurse)	"Maybe it's just my temperament, but sometimes democracy is good, but not good enough. Sometimes you just have to say, this is what we're stocking." (Group 3, director)
	"We promote team problem-solving, so we have the power of the group to solve the hard nuts." (Group 2, director) "If I'm not willing to do it; I can't expect that of others." (Group 4, nurse director)	"When we lost [the senior manager in the department], the energy for quality and safety in the department was totally lost.... We have lots of individual cultures; each group is working on its own quality improvement activity." (Group 5, QA chair)
Maintaining mutual respect and psychological safety		
Supported and learned from one another	"The diversity of the group would be a problem if we weren't all really willing to help each other." (Group 2, project specialist)	When asked how he could support a colleague to overcome a challenge: "How would I know? Our roles are different, and I wouldn't know what [her] struggles are." (Group 6, nurse director)
Accepted and respected one another	"I think as a team we showed a lot of acceptance for differences in perception, and support. I think it shows some good qualities about the team to accept qualities of team members." (Group 2, department director) "I encourage the team to speak up themselves, but if it is an issue of being treated disrespectfully, then I step in." (Group 4, nurse director)	"My feeling was my statement wasn't valued.... It made me feel downtrodden." (Group 6, nurse manager)
Cultivated environments safe for interpersonal risk taking	"If it's the right thing to do, you need to speak up, especially if you do it in a non-inflammatory way. I...explain to people the organization chart doesn't matter. I have some responsibility just by being physically present." (Group 7, executive director)	"The problem is we don't have a vehicle. The staff has a vehicle—it is us—but if I go to the chief, he is not going to change.... He would totally disregard what I had to say, and I would be empty." (Group 9, physical therapist)

(continues)

Table 5
Continued

Distinguishing themes	Illustrative quotes	
	Higher performers	Lower performers
	"Over the years, when I feel like I've had some rockiness with one person because of things I need to deal with, I try to make time to have personal time with them.... In two cases it has been really significantly helpful." (Group 2, director)	"With peers, you have to work with them. Some people have been burnt by bringing things up." (Group 5, QA chair)
Consequences of making and not making time for learning		
Managed better and faster over time	"We come to consensus quickly. We have adopted and draw heavily on a set of guiding principles and precedents that we share. As a result we hold common, shared values along these lines." (Group 7, business manager)	"We often meet, say we'll meet in a month, rehash, and don't really move forward." (Group 5, QA chair) "We do a good job of getting staff input but not going back. Then something else happens so you go down that road." (Group 9, clinical nurse specialist) "We do work-arounds over and over again because we don't have time to think about the process." (Group 6, associate director)

Note. QA = quality assurance.

Lower-performing groups did not envision benefits to investing time upfront and dismissed potential improvement opportunities. Their managers often expressed the sentiment that time invested in managing took away from their “job” as clinicians.

Investing in infrastructure to support collective learning. Higher-performing groups invested in infrastructure that supported their collective learning by facilitating improvement, collaboration, and communication. Regular interdisciplinary meetings and committees typified higher performers. Purposefully designing an opportunity for managers with different disciplinary backgrounds to interact promoted shared values and mental models, enhanced knowledge sharing, and facilitated collaboration. Group 7, for example, cultivated shared objectives among multidisciplinary managers by establishing an employee leadership council, including representatives from all work groups, to interface with unit managers collectively. Higher-performing groups also supplemented existing infrastructure by leveraging available external resources. For example, Group 2 identified a survey being conducted elsewhere in the hospital, enabling them to avoid the investment in conducting their own. In contrast, lower-performing groups had little or ineffective infrastructure for communicating with each other about improvement work or for raising quality and safety concerns and discussing systemic solutions. Rather than leveraging or investing to develop infrastructure, some lower-performing

groups sought to delegate their improvement work by applying for administrative assistance from central administration.

Proactively and creatively solving problems through deliberate reflection. Higher performers were intentionally proactive and creative about identifying and solving problems and treated problem solving as a learning exercise. Managers in higher-performing groups solicited ideas for solving problems, persisted in efforts to influence others, and were resilient in the face of obstacles. Managers in Group 4 noted that being proactive was not natural, but rather something they actively sought to cultivate. In contrast, lower-performing groups primarily reacted to critical incidents or external pressures and never found time to address underlying problems.

Differences in how groups approached problem solving emerged through their quality improvement project selection and execution. Higher-performing groups chose projects that addressed important issues for the whole group and the hospital. Doing so created support among managers of all disciplines in the group. For example, Group 7’s project targeted service excellence and easily galvanized project support. Projects selected by lower-performing groups were not carefully planned, lacked relevance for some group members, were dictated by external forces, and considered less important or even controversial within the group. In response, group members felt less motivated to devote time and attention to

execute project goals. For example, Group 9's project sought to apply a patient care guideline in an area where there was legitimate disagreement based on available evidence. As a result of choosing less unifying projects, lower performers were more likely than higher performers to founder before accomplishing project goals.

Higher-performing groups also took time to reflect collectively on events and information. By making time for reflection, these groups were able to identify opportunities to apply lessons learned to solving future problems. Lower performers were less successful in making this time, meeting in silos or not at all, or simply delegating decision-making to one party. Collective reflection was a secondary concern, as lower performers struggled simply with finding the time to meet as a group.

Managing in an open and shared manner. Higher-performing groups practiced appreciative management, espousing values of transparency and inclusiveness. In these groups, managers made substantial effort to seek and consider input from other managers. Although time consuming, higher performers also sought input from frontline workers, believing in the value of the input for them as managers. In lower-performing groups, senior members were more autocratic, less interested in input from other managers or frontline staff. The directive and self-reliant style of senior members of lower-performing groups was especially apparent in their quality improvement initiatives.

With regard to quality and safety, managers in higher-performing groups shared responsibility in ways that recognized what each manager could contribute. They were also more likely to share responsibility across disciplines and departments than lower-performing groups. Group 4 even viewed their responsibility for safety as extending beyond the hospital after patient discharge.

Compared to higher-performing groups, lower performers often viewed quality and safety as separable from the work of the unit and assigned responsibility to individual managers, often those with little formal authority or support for driving change. Managers in lower-performing groups also often pursued subsidiary projects, without regard to duplication or shared learning. For example, in Group 6, the quality assurance chair/associate director focused his energies on an information technology project of personal interest. Divided effort resulted in less progress toward the groups' projects.

Maintaining an environment of mutual respect and psychological safety. In higher-performing groups, managers deliberately expended effort to understand and support one another. Senior members of these groups often provided an example, for instance, by pausing to "really listen" to a colleague's feedback. Similarly, the nurse director in Group 4 advocated speaking up and described disrespect as uniquely unacceptable and cause for her personal intervention. Accepting and respecting personal and professional differences allowed higher-performing group members to learn from each other. For example, the executive director in Group 7

attributed its strong project performance to mutually supportive relationship among managers.

Higher performers also sought to ensure psychological safety, a safe environment for interpersonal risk-taking among managers (Edmondson, 1999). For example, the Group 7 executive director promoted speaking up by repeatedly referencing her personal epiphany about its importance. In Group 2, the director took time to re-establish psychological safety with colleagues when relationships frayed.

In contrast, managers within lower-performing groups appeared less interested in learning about their colleagues' perspectives and less willing to be supportive. Managers in these groups acted autonomously, indifferent to the support their colleagues may have needed. Group dynamics within lower performers also often reflected lack of respect. As a result, group members found speaking up within the group difficult. When members spoke up in the protected environment of the training program, fellow managers with more authority effectively silenced these overtures.

Hierarchical distinctions often undermined mutual respect in lower-performing groups. In Group 9, for example, "grunt work" was quickly delegated to the nurse managers who were accustomed to this role, despite their managerial status and clinical expertise. Managers in lower-performing groups commented that hierarchy made speaking up even more difficult for managers than for staff. Other managers noted difficulty speaking up to peers because their shared expertise made them more critical of questions.

Consequences of making and not making time for learning. Given their belief in the potential payoff, higher-performing groups invested, experimented, and practiced in ways that enabled them to learn to manage better as interdisciplinary teams. For example, Group 4, already a high performer at baseline, achieved leadership and project objectives by investing to develop new unit leaders and experimenting with project redesign based on preliminary feedback. Efforts to communicate and collaborate across departments allowed groups to build project momentum and avoid duplicated effort. Group 7, for instance, attributed success with its improvement project to its process of sharing information with other departments and adapting lessons to achieve its own objectives. Making the time to develop shared values and knowledge and to hone practices through experimentation also promoted mutual adjustment and enhanced efficiency.

Lower performers rarely invested or benefitted from learning to do things better or more efficiently. Meetings were inefficient because these groups were unable to convert decisions into action. Lack of investment in quality improvement capability also reduced their ability to gain traction on their improvement projects. The consequences of not making time among lower-performing groups were also evident in examples of losing focus or not completing what they started. Without a process to ensure follow-through and concerted effort to address suggestions, lower-performing groups wasted time and created ill will among those who provided input.

For some, problems resulted when managers missed project meetings. In Group 6, problems stemmed from failure to allocate time to clarifying roles and responsibilities.

Discussion

This article explored themes distinguishing higher- and lower-performing management groups participating in a training program designed to promote leadership that is learning-oriented. We used observation, interview, and archival data to distinguish groups whose LOL survey scores ended high and showed improvement and who were more successful in accomplishing improvement project goals versus lower performers.

Our findings suggest that higher performers valued the opportunity to learn as a group and invested time to create capacity for collective learning. Higher performers consciously practiced learning-oriented management and problem-solving behaviors, which were enabled by mutual respect, support, and psychological safety within the group. As a result, higher-performing groups experienced benefits from behaving as leadership teams that lower-performing groups did not. Conversely, hierarchy and status differences in lower-performing groups impeded open discussion, input seeking, and listening and disabled their learning.

Our study has implications for theory and research. First, our study identifies antecedents of collective learning orientation in diverse management groups. In this way, our study responds to calls by leading scholars for more intensive research to advance our understanding of leadership in promoting organizational learning (Yukl, 2009).

Second, the failure of some management groups in our study to invest in building capacity to act as multidisciplinary, learning-oriented teams stemmed from underweighting potential longer-term benefits. These groups experienced a vicious cycle, like those that frequently hamper frontline improvement, suggesting that the dynamic model of process improvement suggested by Repenning and Sterman, which shows that improvement requires upfront investment to build learning capability and enhance performance, may apply to managers' investment in their own improvement as well as improvement on the frontlines (Repenning & Sterman, 2002).

Our findings also extend this dynamic model of process improvement by suggesting an explanation for managers' inclination not to invest in their group's learning capacity, at least among managers who are also clinicians. Compared to higher performers, lower-performing groups included substantially more clinician-managers. These groups prized their professional capacity and viewed time invested in management—anything taking away from their clinical responsibilities—as a distraction from “their job.” Work pace did not explain this attitudinal difference, as some of the busiest groups were designated as neither higher nor lower performing. Rather, higher performers talked about *making* time, whereas lower performers complained about not *having*

or *finding* time. That is, higher performers were intentional about learning, despite the required investment of time, and lower performers were not. Some lower-performing groups even felt antipathy toward making time for learning to lead as a management group. When viewed as an extra-role responsibility, it is easy to understand how busy professionals never found time. Clinician-managers in lower-performing groups were also reluctant to make time to work as a group because doing so limited their ability to make decisions autonomously, something their training had taught them to value. As a result, making this time was seen as a burden. Additional research should explore the role of professional composition in management groups (Gray & Silbey, 2014) and how barriers might be overcome (Yukl, 2008).

Our findings should be viewed in light of limitations. First, our sample of 12 intact management groups came from one academic medical center, and although groups were randomly selected for the training from among those that volunteered, they may not be representative of hospital management groups more generally. Second, our measure of project performance was subjective, and differences in the scope and difficulty of the improvement projects and lack of quantifiable data for several of the projects made comparability challenging. Nevertheless, as a key objective of the training, project success merited consideration. Third, our qualitative study was not designed for causal inference. Although our conceptual framework suggests that learning-oriented behaviors enacted toward each other and the group enables managers to work together as teams to provide LOL in a consistent and effective manner, we have not tested these relationships. Moreover, additional contextual factors, such as problem complexity and human resources availability, may also influence learning and performance. Additional research will be required to explore these relationships. Fourth, interviews and discussion during training provided retrospective qualitative data, which may be subject to recall bias. We addressed this concern by combining interview with archival information and observation data from multiple, extended interactions with each group.

Practice Implications

Despite study limitations, we believe our findings provide important insights for health care managers about their role in leading quality and safety improvement. First, achieving objectives of quality and safety improvement initiatives involving multiple disciplines requires managers to act as interdisciplinary teams, promoting collaboration and communication through joint problem solving and consistent messaging (Katzenbach & Smith, 2005). Examples from lower-performing groups we studied indicated lack of appreciation for their collective leadership role. Our research suggests that developing as LOL teams requires first recognizing that groups of managers must make time for learning

collectively. This may require advocacy on the part of individual managers. Recognition and rewards from institutional leaders would also enhance motivation for developing as LOL teams.

Some steps for increasing appreciation of learning within management groups include emphasizing the value of investing in learning and encouraging tolerance of any initial productivity losses. Specific strategies also include setting expectations through job descriptions, evaluations, and team-based rewards that specify and reinforce managerial objectives and setting aside training time for clinicians who become managers. Coaching that directs attention to leaders' behavior may also be helpful (Hackman, 2002; Zohar & Luria, 2003).

Our findings also suggest that leading improvement requires that groups of diverse managers first learn to work together as leadership teams by behaving in learning-oriented ways toward each other. Our findings highlight the value of structured learning time together and deliberately practicing learning-oriented behaviors for accomplishing this aim. This suggests that devoting resources to management training and management infrastructure should be encouraged. Any payoff from the investment should be recognized and celebrated in order to encourage further investment.

Conclusion

Research has found that management groups are no more likely to engage in learning than frontline groups, despite greater awareness of external pressure for change (Edmondson, 2002). However, with managerial responsibilities, characteristics, and norms that promote division rather than collaboration (Van Der Vegt & Bunderson, 2005), the drivers of collaborative learning among multidisciplinary groups of managers are not self-evident. Our findings suggest that learning within management groups requires vision of what learning can accomplish; will to explore, practice, and build learning capacity; and mutual respect that sustains a learning environment. Together, these create the conditions that help management groups invest in learning, despite the requisite effort and time, enabling them to develop as LOL teams. Increasing pace, complexity, and differentiation in health care delivery make the need for managers to learn to lead as teams, despite differences in training, professional backgrounds, responsibilities, and workflow, ever more important.

Acknowledgments

The authors wish to thank participants in the Healthcare Adventures Safety Leadership Team Training Program for their insightful contributions to this program, to the faculty and staff of the Center for Medical Simulation, Cambridge, MA, for creating and conducting the simulations, and to the editor and reviewers for their insightful suggestions for improving an earlier version of this manuscript. We gratefully acknowledge financial support for this research from the

Donaghue Foundation of Hartford CT (#DF07-212) and from the Massachusetts General Hospital, Boston MA. The research described herein was approved by the institutional review board at participating institutions.

References

- Ancona, D. G., & Caldwell, D. F. (1992). Demography and design: Predictors of new product team performance. *Organization Science*, 3(3), 321–341.
- Argyris, C., & Schön, D. A. (1996). *Organizational learning II*. Reading, MA: Addison-Wesley.
- Berson, Y., Nemanich, L. A., Waldman, D. A., Galvin, B. M., & Keller, R. T. (2006). Leadership and organizational learning: A multiple levels perspective. *The Leadership Quarterly*, 17(6), 577–594.
- Berta, W. B., & Baker, R. (2004). Factors that impact the transfer and retention of best practices for reducing error in hospitals. *Health Care Management Review*, 29(2), 90–97.
- Bradley, E. H., Curry, L. A., & Devers, K. J. (2007). Qualitative data analysis for health services research: Developing taxonomy, themes, and theory. *Health Services Research*, 42(4), 1758–1772.
- Brown, J. S., & Duguid, P. (1991). Organizational learning and communities-of-practice: toward a unified view of working, learning, and innovation. *Organization Science*, 2(1, Special Issue: Organizational Learning: Papers in Honor of (and by) James G. March), 40–57.
- Bunderson, J. S., & Sutcliffe, K. M. (2003). Management team learning orientation and business unit performance. *Journal of Applied Psychology*, 88(3), 552–560.
- Carman, J. M., Shortell, S. M., Foster, R. W., Hughes, E. F. X., Boerstler, H., O'Brien, J., & O'Conner, E. (1996). Keys for successful implementation of total quality management in hospitals. *Health Care Management Review*, 21(1), 48–60.
- Carroll, J., & Edmondson, A. C. (2002). Leading organisational learning in health care. *Quality & Safety in Health Care*, 11(1), 51–56.
- Cooper, J. B., Singer, S. J., Hayes, J., Sales, M., Vogt, J. W., Raemer, D., & Meyer, G. S. (2011). Design and evaluation of simulation scenarios for a program introducing patient safety, teamwork, safety leadership, and simulation to healthcare leaders and managers. *Simulation in Healthcare: Journal of the Society for Simulation in Healthcare*, 6(4), 231–238.
- Edmondson, A. C. (1996). Learning from mistakes is easier said than done: Group and organizational influences on the detection and correction of human error. *The Journal of Applied Behavioral Science*, 32(1), 5–28.
- Edmondson, A. C. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, 44(2), 350–383.
- Edmondson, A. C. (2002). The local and variegated nature of learning in organizations: A group-level perspective. *Organization Science*, 13(2), 128.
- Edmondson, A. C. (2003a). Framing for learning: Lessons in successful technology implementation. *California Management Review*, 45(2), 34.
- Edmondson, A. C. (2003b). Speaking up in the operating room: How team leaders promote learning in interdisciplinary action teams. *The Journal of Management Studies*, 40(6), 1419–1452.
- Edmondson, A. C., Bohmer, R., & Pisano, G. (2001). Disrupted routines: Team learning and new technology implementation in hospitals. *Administrative Science Quarterly*, 46(4), 685–716.
- Fenwick, T. (2008). Understanding relations of individual-collective

- learning in work: A review of research. *Management Learning*, 39(3), 227–243.
- Ferlie, E., Fitzgerald, L., Wood, M., & Hawkins, C. (2005). The non-spread of innovations: the mediating role of professionals. *Academy of Management Journal*, 48(1), 117–134.
- Garvin, D., Edmondson, A. C., & Gino, F. (2008). Is yours a learning organization? *Harvard Business Review*, 86(3), 109–116.
- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Hawthorne, NY: Aldine de Gruyter.
- Gray, G. C., & Silbey, S. (2014). Governing inside the organization: Interpreting regulation and compliance. *American Journal of Sociology*, 120(1). doi:10.1086.677187
- Hackman, J. R. (2002). *Leading teams: Setting the stage for great performances*. Boston, MA: Harvard Business School Press.
- Katzenbach, J. R., & Smith, D. K. (2005). The discipline of teams. *Harvard Business Review*, 83(7), 162.
- Kim, D. H. (1993). The link between individual and organizational learning. *Sloan Management Review*, 35(1), 37–50.
- Leape, L. L., Shore, M. F., Dienstag, J. L., Mayer, R. J., Edgman-Levitan, S., Meyer, G. S., & Healy, G. B. (2012). Perspective: A culture of respect, part 1: The nature and causes of disrespectful behavior by physicians. *Academic Medicine*, 87(7), 845–852.
- Matsuo, M. (2012). Leadership of learning and reflective practice: An exploratory study of nursing managers. *Management Learning*, 43(5), 609–623.
- Neily, J., Mills, P. D., Young-Xu, Y., Carney, B. T., West, P., Berger, D. H., ... Bagian, J. P. (2010). Association between implementation of a medical team training program and surgical mortality. *JAMA*, 304(15), 1693–1700.
- Nembhard, I. M., & Edmondson, A. C. (2006). Making it safe: The effects of leader inclusiveness and professional status on psychological safety and improvement efforts in health care teams. *Journal of Organizational Behavior*, 27(7), 941–966.
- Ragin, C. (1987). *The comparative method: Moving beyond qualitative and quantitative strategies*. Berkeley, CA: University of California Press.
- Repenning, N. P., & Sterman, J. D. (2002). Capability traps and self-confirming attribution errors in the dynamics of process improvement. *Administrative Science Quarterly*, 47(2), 265–295.
- Singer, S. J., Hayes, J., Cooper, J. B., Vogt, J. W., Sales, M., Aristidou, A., ... Meyer, G. S. (2011). A case for safety leadership team training of hospital managers. *Health Care Management Review*, 36(2), 188–200.
- Tucker, A. L., & Edmondson, A. C. (2002). Managing routine exceptions: A model of nurse problem solving behavior. *Advances in Health Care Management*, 3, 87–113.
- Tucker, A. L., & Edmondson, A. C. (2003). Why hospitals don't learn from failures: Organizational and psychological dynamics that inhibit system change. *California Management Review*, 45(2), 55–72.
- Tucker, A. L., Nembhard, I. M., & Edmondson, A. C. (2007). Implementing new practices: An empirical study of organizational learning in hospital intensive care units. *Management Science*, 53(6), 894–907.
- Van Der Vegt, G. S., & Bunderson, J. S. (2005). Learning and performance in multidisciplinary teams: the importance of collective team identification. *Academy of Management Journal*, 48(3), 532–547.
- Wageman, R., Nunes, D. A., Burruss, J. A., & Hackman, J. R. (2008). *Senior leadership teams: What it takes to make them great*. Cambridge, MA: Harvard Business School Press.
- Yin, R. (1994). *Case study research: Design and methods* (2nd ed.). Thousand Oaks, CA: Sage.
- Yukl, G. (2008). How leaders influence organizational effectiveness. *The Leadership Quarterly*, 19(6), 708–722.
- Yukl, G. (2009). Leading organizational learning: Reflections on theory and research. *The Leadership Quarterly*, 20(1), 49–53.
- Zohar, D., & Luria, G. (2003). The use of supervisory practices as leverage to improve safety behaviour: A cross-level intervention model. *Journal of Safety Research*, 34(5), 567–577.