

Microsystems in Health Care

Microsystems in Health Care:

Part 5. How Leaders Are Leading

Paul B. Batalden, MD
Eugene C. Nelson, DSc, MPH
Julie J. Mohr, MSPH, PhD
Marjorie M. Godfrey, MS, RN
Thomas P. Huber, MS
Linda Kosnik, RN, MSN, CS
Kerri Ashling, MD, MS

Much is written about leading health care today, but little is written about leading health care at the level of the small systems of care that work at the place where patients and caregivers usually meet. Many times that which is written about leading small systems of health care leaves out the voices of those involved at the front lines of care delivery. Even less is available from the perspectives of those engaged in the daily work of the best of the small systems. This article is about the active process of leading that we observed, what microsystem leaders and staff told us about, and what we have come to think of as being helpful to the daily work of a clinical microsystem.

It is tempting to think of leading as what a person—the leader—does. But what if you consider the three commonly used words *leader*, *leadership*, and *leading* as all arising from the same ancient root words *laitho* or *laithan*, meaning way, journey, or “to travel”?^{1,2}

Leader is a word that we use to label a person who is guiding or leading. *Leadership* is a word that we use to describe the phenomenon of leading. *Leading* describes the active process. What we learned from the 20 high-performing clinical microsystems we studied is that they used all three words in describing their “journeying,” but it was the active process of leading that they described as being helpful to their work.

Leading and leadership by formal and informal leaders goes on at all levels of an organization. Leading goes on within microsystems and between them. It goes on

Article-at-a-Glance

Background: Leading and leadership by formal and informal leaders goes on at all levels of microsystems—the essential building blocks of all health systems—and between them. It goes on between microsystems and other levels of the systems in health care. This series on high-performing clinical microsystems is based on interviews and site visits to 20 clinical microsystems in the United States. This fifth article in the series describes how leaders contribute to the performance of those microsystems.

Analysis of interviews: Interviews of leaders and staff members offer a rich understanding of the three core processes of leading. Building knowledge requires many behaviors of leaders and has many manifestations as leaders seek to build knowledge about the structure, processes, and patterns of work in their clinical microsystems. Taking action covers many different behaviors—making things happen, executing plans, making good on intentions. It focuses action on the way people are hired and developed and involves the way the work gets done. Reviewing and reflecting provides insight as to how the microsystem’s patterns, processes, and structure enable the desired work to get done; what success looks like; and what will be next after that “success” is created.

Conclusion: The focus on the processes of leading is intended to enable more people to develop into leaders and more people to share the roles of leading.

between microsystems and other levels of the “system” in health care. It goes on at the level of the larger organizations in which these smaller clinical units function.

This article is based on qualitative research, as described in Part 1³ of the *Microsystem Series*³⁻⁶ and as summarized in Sidebar 1 (right). Its focus is on the ways that leadership contributes to the high performance across the 20 clinical microsystems studied.

These methods ultimately generated the results that are summarized in Table 1 (pp 299–300), Table 2 (pp 301–303), and Table 3 (pp 304–305). These tables contain the words of microsystem leaders and staff; some of the behaviors illustrated in their words are noted in the tables.^{7,8}

A clinical microsystem can be defined as the combination of a small team of people who work together on a regular basis—or as needed—to provide care and the individuals who receive that care (who can also be recognized as members of a discrete subpopulation of patients). Sidebar 2 (pp 306–307) presents the critical distinguishing features that people involved in leading should understand if they are to be effective in their roles (the distinguishing features will be discussed in greater detail in a forthcoming article in this series).

Herbert Simon, the Nobel economist, noted that in an information age, the resource in short supply was attention.⁹ Ronald Heifetz proposed that the gift of attention is essential to the process of leading.¹⁰ Karl Weick observed that systems cannot become more reliable or more safe until the performance of the factors preventing failure are noticed. People then need to make sense of what has been noticed, and after making sense of what has been noticed, they need to be prepared to take action.¹¹ Attending to and noticing prepares them for leading. But for this type of leading to be possible, some space must be created in an overstimulated life that enjoys too much input. Schön invited us to be reflective practitioners.¹²

Three Fundamental Processes of Leading: What Clinical Microsystem Members Observe and Report

By observing and listening to leaders at work, three fundamental processes of leading can be recognized: (1) building knowledge, (2) taking action, and (3) reviewing and reflecting.¹³

Sidebar 1. Recap of Methods

The research study was conducted from June 2000 through June 2002. First, the research team used multiple search patterns to identify high-performing clinical microsystems in the United States and Canada. Second, the most promising sites were screened, using brief survey instruments and telephone interviews with key contacts from the sites. Third, we selected 20 of the most exemplary sites from across the health care continuum for in-depth study. Fourth, we conducted 1.5- to 2-day site visits, during which in-depth, semistructured individual interviews and group interviews were conducted with diverse staff representing the major work roles in those microsystems. In addition, we observed care processes, interviewed some senior leaders within the larger organization, and gathered clinical data via chart review and financial data from administrative sources. Fifth, to analyze the information collected, we entered verbatim data transcribed from the staff interviews and used a software program to perform a content analysis on the data. The data were placed into affinity groups to identify common themes across the 20 microsystems that contributed to high performance. One of the affinity groups of verbatim comments was labeled *leadership*. Sixth, focusing on the leadership affinity group of verbatim comments, we used induction to develop a framework for the data reflected in the verbatim comments and the site visit. Seventh, we classified the comments on leading under the classifications building knowledge, taking action, reviewing, and reflecting.

The comments of the individuals we interviewed reflect these themes and are grouped for convenience in the comments and behaviors listed in Tables 1–3. These tables provide actual quotations from people who were interviewed in our microsystem study. They offer a rich understanding of the three core processes of leading.

1. Building Knowledge

Building knowledge occurred in many ways, required many behaviors, and had many manifestations as leaders sought to build knowledge about the structure, processes, and patterns of work in their clinical microsystems.

Leading involves building knowledge of the basic structural characteristics of the microsystem: its organization

Table 1. Quotations on Leading the Building of Knowledge in Clinical Microsystems

Observations/Comments	Behaviors Illustrated
<p>In 1994, the facility had a pressure ulcer rate of 33% among its residents. They hired _____, a very dedicated nurse, to start a wound care team. In 1995 the team really took off when Dr _____ joined and began to go to the nursing home and round weekly on the patients with wounds. By observing the patients in their natural environment he was able to recognize factors that contributed to wounds, such as nutrition, positioning and bedding. As the floor nurses realized that he would be around reliably and [the nurse] would pursue the treatment orders throughout the week they became more interested in wound care. Dr _____ took the opportunity to educate them about different types of wounds and treatments in a non-accusatory manner. He took the heat off the nurses by talking to the patients and families about the wounds himself. As the question changed from "What did I do wrong?" to "What is going on with this patient?" all the staff became more proactive in looking for and treating wounds early. Wound recognition and treatment decisions improved as the team learned and worked together. [the nurse] took the lead in creating protocols for wound assessment and treatment. Together, Dr _____ and [the nurse] brought the pressure ulcer rate down to less than 2 %, where they have kept it since 1996. (Director)</p>	<ul style="list-style-type: none"> ■ Observe actual context of work. ■ Have a predictable presence. ■ Show interest in follow-up. ■ Lead learning as needed. ■ Focus on "what" not "who" ■ Encourage proactive thinking.
<p>The center brought together 20 different disciplines to care for patients with ... disorders. One of the challenges facing _____, the medical director, was that the neurosurgeon, the chiropractor, the physical therapist, the nurse, the physiatrist, the orthopedic surgeon, the family practitioner, the internist, the psychologist, and others each had their own language for discussing ... care. How could they all understand each other to collaborate in the care of their mutual patients? (Medical director)</p>	<ul style="list-style-type: none"> ■ Foster a common language for the common work.
<p>If the health center finds that a needed service is not provided in the community, its practice is to find the funding and develop the capacity to provide it. (Staff member)</p>	<ul style="list-style-type: none"> ■ Determine the need for new services, based on community availability.
<p>At _____ they are asked to collect data that demonstrates the problem and pinpoints where the flaw is. As [the] nurse practitioner in _____ clinic explains, "If we want change, we track our data. So when I looked at 20 people and found out it was taking me 45 seconds to open and close a normal mammogram report, this is not a good use of my time. So then I had the data and I got [a faster] computer. So you can't just whine. (Staff nurse)</p>	<ul style="list-style-type: none"> ■ Use data to characterize problems, foster change.
<p>[The medical director] does a "state of the office" presentation each year for his employees, in which he shares the financial details of the practice, including his own salary, as well as his goals for himself and the practice for the upcoming year. And it's all shared. We all know that. It's not just like the managers and the supervisors know that and we know there is something going on, but we don't know what it is. (Staff nurse)</p>	<ul style="list-style-type: none"> ■ Creates widespread information about operational performance.
<p>I get more questions where they want me to do research to come up with the latest data. . . . [they] utilize that information and seek information in a way that's different than perhaps what we're accustomed to in other areas. (Pharmacist)</p>	<ul style="list-style-type: none"> ■ Seek information from every helpful source.
<p>This is the first place that I've ever worked where I could come to work and use my imagination in coming up with how to do something. Other places that I've worked, you have ideas, but . . . there's no point to bring it up because nobody's going to listen. And so it's exciting, even though you think of primary care as being the same old thing, it really is not the same old thing at _____. (Staff member)</p>	<ul style="list-style-type: none"> ■ Encourage use of imagination, ideas by listening and using them.

continued

Table 1. Quotations on Leading the Building of Knowledge in Clinical Microsystems (continued)

Observations/Comments	Behaviors Illustrated
<p>The unit leaders kicked off their patient safety project by presenting their systems-focused philosophy toward medical errors to their entire staff. Next, they streamlined the process for reporting errors and established a categorization system. Lastly, they set a contest to motivate their staff—whoever reports the most errors over the coming year gets two free dinners at the nicest restaurant in _____. [the city], paid for by the unit medical director. Thus far, error reporting has increased dramatically and they are getting much better data. (Director)</p>	<ul style="list-style-type: none"> ■ Share your own theories, assumptions. ■ Make it easy to do the right thing. ■ Recognize the desired behaviors.
<p>I would say empowerment is really important. It starts with [the medical director]; he feels that you can do anything you want to do. He has certainly helped me in that respect. He has a way of instilling self-confidence. He has enabled me and empowered me to be able to do what I wanted to learn how to do and to do it well. (Staff member)</p>	<ul style="list-style-type: none"> ■ Instill confidence.
<p>[The leader] has to have a passion for whatever that program is going to be. Um. But you also have to be able to push all of your information down." (Staff member)</p>	<ul style="list-style-type: none"> ■ Have a passion for the future. ■ Move information everywhere.
<p>It is not telling someone what to do, but [it] is showing what is right to do." (Nurse director)</p>	<ul style="list-style-type: none"> ■ "Show," don't "tell."
<p>I speak the language of the people I work with and the different languages of the people I work with. I answer the telephone at the _____. center sometimes at the reception desk to understand what the patients are asking. I will try to do a job that is not ever my job to understand the system and when I do that it provides me the incredible ability to communicate with all parts of the system. (Medical director)</p>	<ul style="list-style-type: none"> ■ Directly experience the work of others to better understand the systems.
<p>The issues are dealt with. (Employee)</p>	<ul style="list-style-type: none"> ■ Build knowledge of how issues are dealt with.
<p>The group gets to [have] discussions on where we're going to go in the future. (Staff member)</p>	<ul style="list-style-type: none"> ■ Encourage conversations about the future.
<p>If your primary language is English, and you were born in this country, that is a stumbling block. It was for me, certainly, in the beginning. But, I worked on that over time. And, actually, it adds richness to the team. That's how I see it now. Things get reduced to nouns and adjectives and not a whole lot of other verbiage. (Director)</p>	<ul style="list-style-type: none"> ■ Work on using common language.
<p>Meeting as a microsystem can have a great efficiency if you have one day that you just meet massively—and we do. So when people call with complaints, compliments, concerns, whatever, we give them times inside this microsystem management day and we literally have people from everywhere. It seems like the whole world comes to us during that day. (Medical director)</p>	<ul style="list-style-type: none"> ■ Create predictable "space" for communication in the midst of busy-ness.
<p>I started the breakfast club where people came in to eat if they wanted to from 7:30 – 9:00 unpaid. We start here around 9 for pay. Since folks were not getting paid, they figure it would be ok to voice their opinions. The way we started was simply to sit down together and invite whomever wanted to come and have a relaxed breakfast, sometimes we talked about issues; other times we talked about personal family stuff. There was no agenda, no leader, everyone came into the room as equals until 9:00 AM when once again I was the boss and they were employees. (Director)</p>	<ul style="list-style-type: none"> ■ Find ways to learn informally, including personal and family issues.
<p>"I'm just an aide. They don't care, I don't know anything, they don't care, all I know how to do is clean poop or wipe the floor up, and the nurses will teach you anything you want to know. Anything you ask them, if things aren't coming out of their ears, or something you can learn anything. (Aide)</p>	<ul style="list-style-type: none"> ■ Foster inquiry-by everyone.

Table 2. Quotations on Leading the Taking of Action in Clinical Microsystems

Observations/Comments	Behaviors Illustrated
If you have a group of people and you know there has to be a change, you have to change. I mean, you can't just wait for it to run into the ground. (Director)	<ul style="list-style-type: none"> ■ Take timely action.
I think the first step [for our management team] was the three of them realizing that they were a team, that each one in one area wasn't totally responsible for the entire unit, that all three represent nursing, medicine, with a team approach, and I think they've instilled in all the rest of us that you don't ever say something can't be done without looking at it, assessing it, proposing a change, implementing it, and then evaluating it. (Clinician)	<ul style="list-style-type: none"> ■ Act together to encourage ideas, and suggestions.
When hiring new employees, the leadership team at the _____ center looks for individuals whose values closely match the mission and values of the clinic. (Staff member)	<ul style="list-style-type: none"> ■ Hire for shared values.
Patients become more compliant when he [the physician] gives them a copy of their office visit record and relevant self-management flow sheets, thus empowering them to better understand and manage their health issues. (Nurse)	<ul style="list-style-type: none"> ■ Share information in a format that connects to taking action.
The cross-training is facilitated by extensive process flowcharting, which clearly defines the work to be done. With the work clearly defined, competency-based training protocols can more easily be created. (Staff nurse)	<ul style="list-style-type: none"> ■ Foster process literacy as an adjunct to clarity of work definition.
The issues are dealt with. (Employee)	<ul style="list-style-type: none"> ■ Take action on "issues" of concern.
_____, RN, the practice manager at _____, uses "I statements" to build trust and deal with conflict among her staff. (Employee)	<ul style="list-style-type: none"> ■ Deal openly and directly with conflicting points of view.
[Our leaders] don't feel like they're up here and you're down there. And, as long as you come with the attitude of wanting to do something positive, they'll stand with you on that. I don't have any master's degree or anything. These people have master's degrees and they don't act like they have to stand out because they have them. They just treat you right... They meet you where you're at. And then they help you to grow. (Staff member)	<ul style="list-style-type: none"> ■ Accept co-workers as colleagues and promote their individual development.
The leader has to have credibility. And credibility, I learned, is different than competence. You can be a very competent physician and still not have credibility. Credibility has to do with supporting others, walking the talk, doing what you say you're going to do, being reliable, and being accountable, all of those things are very important in leadership. Being the person that the front line respects and knows that they can turn to. Once you have that relationship then the ability to involve the front line in the process and teach them how to do it rather than doing it for them I think, is very important. (Medical director)	<ul style="list-style-type: none"> ■ Support others. ■ Minimize the gap between what you say and what you do. ■ Follow through, connecting your voice and your actions. ■ Take the actions you say you are going to take—predictably. ■ Recognize the others that depend on you. ■ Maintain the respect of others by the actions you take.
I find one of the most incredible things is how empowered we feel as employees to make various decisions. Combined with all the computer programs that we are using, when a patient calls, we can right then and there know whether to get them in, to get a medication into them, to tell them to take some hot chicken soup, or to go to the ER. (Staff member)	<ul style="list-style-type: none"> ■ Enable others to act. ■ Provide the technology needed to do a good job.

Continued

Table 2. Quotations on Leading the Taking of Action in Clinical Microsystems (continued)

Observations/Comments	Behaviors Illustrated
One of the goals for the corporation, that I talked about last night a little bit was their desire to liberate the potential of people. I love that. I mean that I think that is one of the best phrases or slogans, or whatever you want to call it. Liberate the potential of the people is an awesome concept, and what that says to me is that there is so much potential out there that the quiet employee is as valuable as the extrovert. And if you tap into people and find out what drives them and what moves them. There are a lot of opportunities. (Staff member)	<ul style="list-style-type: none"> ■ Recognize and take steps to enable the potential of people.
We have an administrator who is terrific. ... I wouldn't describe him as religious, but I would describe him as a human being who has such a tremendous value system that it guides his life. (Staff member)	<ul style="list-style-type: none"> ■ Demonstrate your values.
The eight values that are on the wall...they are not just on the wall, they are what we do. (Staff member)	<ul style="list-style-type: none"> ■ Make daily work and values congruous.
[The key is] people who are cognizant of the philosophy of how the process is running. (Nurse director)	<ul style="list-style-type: none"> ■ Build process knowledge, including the underlying rationale for the process.
We're all treated as valued employees and not just an employee. (Staff member)	<ul style="list-style-type: none"> ■ Treat people so they feel respected.
[it is] respect and ... trust that [are] critical.... And you know that is something that is earned all the time. (Medical director)	<ul style="list-style-type: none"> ■ Work to earn respect and trust.
You always have to have someone to go to. (Staff member)	<ul style="list-style-type: none"> ■ Be reliably available and accessible.
[The patient] was so glad she got to die of a terminal illness and be in hospice because she had waited all of her life to feel loved and accepted and to be treated with dignity and respect, and she finally got it those last few months before she died because she was [under our care], and she... got what she had wanted all of her life. (Staff member)	<ul style="list-style-type: none"> ■ Foster an environment of respect and love for patients.
And if it's not working from my perspective, I'm going to get back to them and say, "You know, it's not working. We need to fix it." But I'm not going to come up with the solution. I'm not going to come up with the details of, you know, fixing it. I'm going to let them decide. I'll tell what the problem is and then [they] work [it] out. (Director)	<ul style="list-style-type: none"> ■ Tell the truth about what isn't working well. ■ Offer room for others to solve the problem.
We start from the assumption that everyone is working as hard as they can, we want to try to help people work differently. (Medical director)	<ul style="list-style-type: none"> ■ Help people work better by helping them work differently.
Clear-cut protocols remove emotion, let us get to the facts, [and] let us work on the real issues. (Nurse director)	<ul style="list-style-type: none"> ■ Recognize the part of the work that is factual, objective.
At this job, people take care of one another and the same spirit that takes care [of] them [serves] our clients. We don't sort of switch gears and not take care of one another. There's just a lot of care here. And, it feels very much like a family. People are very interested. We celebrate everything. (Staff member)	<ul style="list-style-type: none"> ■ Care for one another. ■ Demonstrate your interest in others. ■ Celebrate whatever you can.
Being able to realize that you cannot provide care—you cannot care adequately for this person in front of you without the help of 10 other people. And that is a realization that most physicians don't come with. (Director)	<ul style="list-style-type: none"> ■ Recognize your interdependence.
I would never ask someone to do something I would not do myself. (Nurse director)	<ul style="list-style-type: none"> ■ Lead by example.
I wouldn't ask the staff to do something I could not do. (Director)	<ul style="list-style-type: none"> ■ Ask others to do only what you would do yourself.

Table 2. Quotations on Leading the Taking of Action in Clinical Microsystems (continued)

Observations/Comments	Behaviors Illustrated
[The director] never says this is how we are going to do it. Instead it's, "here is what we have to do, how can we do it?"(Staff member about director)	■ Be clear about what needs to be done and invite people to contribute to how it might be done.
. . . taking a short-sleeve attitude . . . (Director about his role)	■ Recognize the need to be in the midst of the action.
. . . [realizing that] leadership was not usually one person (Director)	■ Be aware of the others needed for leadership of the work.

and language, its physical arrangements and its technology to promote flow of patient care, its intended—and its practiced—policy about patient care and about work, the constraints of daily good work, and the current skills and knowledge base of those who work there (Table 1).

Leading involves building knowledge of the processes of work, the sources of unwanted variation in those processes, and the methods associated with better practice performance, including ways of measuring and monitoring them, as mentioned in Part 2 of this series.⁶ Leading includes building knowledge of the patterns, habits, and traditions that support learning and creativity and that help everyone focus on the patient. Leadership helps people notice the work processes that need to be changed. Leadership involves inviting “upward questions” by making available opportunities for asking staff questions and by learning from their responses.¹⁴ Tools such as *Assessing Your Practice Workbook*¹⁵ and those found at www.clinicalmicrosystem.org can increase knowledge of a microsystem in an organized fashion.

2. Taking Action

Taking action covers many different behaviors—making things happen, executing plans, making good on intentions. It focuses action on the way people are hired and developed and involves the way work gets done.

As a review of Table 2 reveals, leading means taking action on the structure to create and modify formal reporting relationships, to have clearly identified “go to” people for the multitude of processes of the microsystem, and to change the physical arrangements for work when they stand in the way of optimal flow of work. It means leading the integration of information technology in the

care processes. Acting to hire people who can share the values of the clinical microsystem brings the right people together. It means noticing what needs to be done and having the courage to initiate action, while inviting others to join in the detailed specification of the work processes.

Leading action means having specific processes for making things happen. It involves careful, authentic respect for the people and staff in the clinical microsystem. It means being vigilant about ways that the current processes might fail or are failing. It usually involves active engagement of the leader in the daily working of the microsystem and in the actions to be taken. It means involving the patients as full members in the care that the microsystem creates and gives. It means using process knowledge to cross-train members of the microsystem as a means of increasing the process capabilities of the microsystem.

Leading involves taking action on the patterns of work to promote the cooperative functioning of the whole group of people and to recognize the microsystem members’ interdependence. It means caring for one another. It means celebrating in the midst of the work. It involves fostering trust and respect in caring for patients. It involves the daily practice of respect and trust among microsystem members. It means paying attention to the ways that differences and conflict are addressed. It means making the values of the microsystem “live” in the daily work. It means liberating the potential in each member of the microsystem.

3. Reviewing and Reflecting

When we take a half-step back, what do we see? Analysis of Table 3 suggests that reviewing and reflecting in leading means creating a structure for reflection. This begins with having an image of what the clinical

Table 3. Quotations on Leading Review and Reflection in Clinical Microsystems

Observations/Comments	Behaviors Illustrated
They found that they needed to redefine success, particularly by extinguishing the prevalent desire to return to "the good old days." They continually exposed the staff to the real facts about the old system—marginal financial success, patient and staff dissatisfaction, and poor access—through data displays and frequent discussions. (Staff member)	<ul style="list-style-type: none"> ■ Create definitions of "success" that serve the present, future best. ■ Ground interpretations of past, present in data and conversations grounded in the actual reality you face.
He wants to put his microsystem into a position where they can't go back—by focusing on whole system redesign. (Staff member)	<ul style="list-style-type: none"> ■ Foster an understanding of the imperative of leaving the past behind.
_____, MD, has developed . . . a monthly team meeting [for his department to communicate with both the internal and external environment]. This is a free-ranging half day when patients, representatives of other departments, even architects may be invited into the _____ department microsystem to discuss and work on major new issues and to catch up on the latest news and data. (Staff member)	<ul style="list-style-type: none"> ■ Create regular time for communication, conversation about the work. ■ Invite the "outside" connections to the microsystem to honor the time. ■ Let the reflective process serve the needs of the people involved.
I think it goes back to that first meeting of how are we going to put the ____ center together. When we drew the circle in the center, it was the patient, it wasn't the physician. And that has been a philosophy that's been the vision and that is how the leadership has taken us over time. (Staff physician)	<ul style="list-style-type: none"> ■ Center the review on those served.
We want to be the best neighborhood where people want to come and visit, where people know when they come to this neighborhood, this microsystem, they are going to get a group of people who are highly qualified, have an interest in working together across disciplines to the benefit of a given patient's needs. (Medical director)	<ul style="list-style-type: none"> ■ Recognize your microsystem as a "place" experienced by others. ■ Be mindful of the "signature" of your microsystem.
Success is ... seeing people happy and enjoying coming to work everyday. (Director)	<ul style="list-style-type: none"> ■ Explore the relation between joy and success.
I am here for a short time [life is short]. (Medical Director)	<ul style="list-style-type: none"> ■ Be explicit about the contributions that people can make to work that goes on beyond them.
I can continue to inspire and support and to lead, and lead not just from the top but lead from in the midst. (Director)	<ul style="list-style-type: none"> ■ Review the positioning of leaders and followers.
[The employees] know who they are and they know the mission that they're on and what they have to do. As well, I know who I am and what I have to do to help do my part in And, we all just come together... and...[it]...is beautiful. (Director)	<ul style="list-style-type: none"> ■ Revisit the mission and the relationship of the mission to what each person does. ■ Encourage reflection on the connection of individual's identity and the work itself. ■ Appreciate the aesthetics of interdependent work.

Table 3. Quotations on Leading Review and Reflection in Clinical Microsystems (continued)

Observations/Comments	Behaviors Illustrated
They allow people to do things informally or formally to enhance professional development. (Staff member)	<ul style="list-style-type: none"> ■ Focus on the enhancement of people as professionals—in formal and informal ways.
It's not about nursing care, it's not about medical care, it's really about patient care. (Nurse director)	<ul style="list-style-type: none"> ■ Be mindful of the professional/disciplinary focus that can compete with attention to the patient.
The group is very much on the edge of technology. (Staff member)	<ul style="list-style-type: none"> ■ Explore the ways technology can help (and hinder) the work.
[It is important to recognize] the changes in the environment that changed the leadership that was needed. (Staff member)	<ul style="list-style-type: none"> ■ Regularly scan for the reality of the environment and explore implications for leading the work.
[The leader helps us in]...remembering who we serve. (Staff member)	<ul style="list-style-type: none"> ■ Help visualize, understand, remember those served by the microsystem—in the daily conversations about the work.
[As a leader,]...you have to visualize what happens after you succeed. (Operations director)	<ul style="list-style-type: none"> ■ Be clear about what "next" will look like.
We're changing ourselves, you know... it's a change from within. (Staff member)	<ul style="list-style-type: none"> ■ Recognize change in your midst. Certify it as the help it is.
It's very important [for me] to hold the vision, be able to articulate it, to hold it, persevere and [have it] become part of how I worked as an individual... the success is being able to hold that vision even when you are challenged. (Director)	<ul style="list-style-type: none"> ■ Continually review the vision informing the direction of the work. ■ Explore the threats that erode a focus on the vision. ■ Have conversation about the competing commitments that "crowd" the vision.
[We have to ask ourselves honestly,] Is the work getting done? (Staff member)	<ul style="list-style-type: none"> ■ Create a safe place where truthful conversations about the facts of performance can occur.

microsystem is trying to become. It provides insight into the vision of how its patterns, processes, and structure will enable the desired work to get done, what success will look like; and what will be next after that success is created. It means creating time—and geographic space—in which people can gather to have meaningful conversations about their work. Part of the structure of review and reflection is an awareness of the temporal limits of the members' participation in the work of the microsystem and the ability to anticipate the future time when the current leaders' turns are over.¹⁶

Leading reviewing, and reflecting mean having a process for honestly asking "Is the work getting done?" and "Is there a good match between the needs of the beneficiaries and our work outputs?" It means that people are regularly invited to assess the degree to which their own professional growth and development are addressed. Exploring and noticing the predicted and unforeseen effects of change are another part of leading reflection on the work of the microsystem.

A final aspect of leading—reflecting on the patterns in practice and the assumptions driving them—involves

Sidebar 2. Clinical Microsystems: Distinguishing Features

Microsystems are the setting for professional formation. Creating workflow management systems that link and integrate learning with operations in the microsystems can make this easier.^{1,2}

Microsystems are living, complex systems that have some structure, some patterns of ordered relationships, and some processes, which are the means of connecting the patterns and structures to create the output and work. Deciding what type of problem is being faced and selecting the right strategy for addressing it is fundamental. Because they are complex, the parts or elements of the systems themselves can change, thereby changing the patterns of interactions and relationships.³⁻⁵

Microsystems are the locus of control of most of the work practice "dissatisfiers" and many of the "genuine motivators" for health professionals pride and joy in work. The attention given by leaders to both types of policies and procedures (and their constituent elements) is reflected in Tables 1-3 (pp 299-305).⁶

Microsystems are the basic building blocks of health care. Connecting the work of one clinical microsystem to another is illustrative of leaders who recognize the integrity of the clinical microsystem as a functional "building block" of health care.⁷

Microsystems are the unit of clinical policy-in-use. Taking action to embed the science of disease biology and clinical practice into the daily work process of the clinical microsystem is illustrative of the helpful behavior of leaders.⁸⁻¹¹

Microsystems are where good value and safe care are "made." Microsystems practice "heedful interrelating" by their vigilance about the possibility of failure, by their reluctance to oversimplify interpretations, by their sensitivity to the daily operations of their system, by the ways they cultivate "resilience" to the unexpected, and by their willingness to organize around expertise in their midst.¹²⁻¹⁴

Microsystems are the locus of control for many, if not most, of the variables that account for patient satisfaction with health care. An application of this behavior can be seen in the use of "advanced access principles" in the processes of the clinical microsystem.¹⁵⁻²⁰

References

1. DePree M: *Leadership Jazz*. New York: Currency/Doubleday, 1992.
2. Regan-Smith M, Young WW, Keller AM: An efficient and effective teaching model for ambulatory education. *Acad Med* 77:593-599, Jul 2002.
3. Capra F: *The Web of Life: A New Understanding of Living Systems*. New York: Anchor Books, 1996.
4. Plsek P: Redesigning health care with insights from the science of complex adaptive systems. In *The Institute of Medicine: Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington DC: National Academy Press, 2001, pp 322-335.
5. Glouberman S, Zimmerman B: Complicated and complex systems: What would successful reform of Medicare look like? Commission on the Future of Health Care in Canada, Health Canada. Ottawa, Jul 2002. http://collection.nlc-bnc.ca/100/200/301/pco-bcp/commissions-ef/future_health_care-ef/discussion_paper-e/no08/8_e.pdf (Mar 27, 2003).
6. Herzberg FM: One more time: How do you motivate employees? *Harvard Business Review* 65(5):109-120, 1987.
7. Henderson LJ: The physician and patient as a social system. *N Engl J Med* 212:819-823, 1938.
8. Adams F: *The Genuine Works of Hippocrates*. London: Sydenham Society, 1849.
9. Eddy DM: *Clinical Decision Making*. Boston: Jones and Bartlett, 1996.
10. Institute of Medicine: *Guidelines for Clinical Practice: From Development to Use*. Washington, DC: National Academy Press, 1992.
11. Ackoff RL: *Creating the Corporate Future*. John Wiley and Sons, 1981.
12. Weick KE, Sutcliffe KM: *Managing the Unexpected*. San Francisco: Jossey-Bass, 2001.
13. Weick KE: The reduction of medical errors through mindful interdependence. In Rosenthal MM, Sutcliffe KM (eds): *Medical Error: What Do We Know? What Do We Do?* 1st ed. New York: John Wiley and Sons, 2002, pp 177-199.
14. Mohr JJ, Batalden PB: Improving safety on the front lines: The role of clinical microsystems. *Qual Saf Health Care* 11(1):45-50, 2002.
15. Wenger E: *Communities of Practice: Learning, Meaning and Identity*. Cambridge, UK: Cambridge University Press, 1998.

Sidebar 2. Clinical Microsystems: Distinguishing Features, *continued*

16. Schein EH: *The Corporate Culture Survival Guide*. San Francisco: Jossey-Bass, 1999.
17. Revans RW: *Standards for Morale: Cause and Effect in Hospitals*. Nuffield Provincial Hospitals Trust. Oxford, UK: Oxford University Press, 1966.
18. Revans RW: *Action Learning*. London: Blond & Briggs, 1980.
19. Murray M, Berwick DM: Advanced access: Reducing waiting and delays in primary care. *JAMA* 289:1035–1040, 2003.
20. Murray M, et al: Improving timely access to primary care: Case studies of the advanced access model. *JAMA* 289:1042–1046, 2003.

analyzing the ways in which the care and work processes connect to the structures of the microsystem. This calls for exploring the relationship of changes envisioned (or made) to the microsystem's patterns, structures, and processes.

Discussion

Approaches to the study of leaders have often focused on behaviors, traits, or styles.^{17–19} Other approaches have explored situational and contingent leadership responses, which focus on linking the style and content of leadership to the situation facing the leader; “team” leadership; and a variety of other concepts.^{20–24} Although helpful, these approaches have often made the daily actions of leading hard to recognize and even harder to improve. By focusing on the processes of leading, we believe we can complement these other traditional approaches and offer a model that encourages change and improvement.

Leading and Being

It has been said that “leading is a state of being.”²⁵ Our analysis underscores the wisdom of this point of view. In the high-performing microsystems we studied, the acts of leading were strongly associated with “being” in the forms of building knowledge, taking action, reviewing, and reflecting. Leading and being was a consistent and continuous process among this set of leaders and was recognized by both the leaders and the led.

Leading Macro-Organizations to Foster Strong Microsystems

Outstanding leaders of the large systems in which clinical microsystems are embedded who give their attention to the “local” leadership within discrete microsystems can enhance the functioning of these microsystems. The way they select the microsystem leaders and help them develop contributes enormously to the total enterprise's well-being. This was not always done in the large organizations that hosted the microsystems that were the subject of this research. Some of the microsystems we observed perceived themselves as “islands” in the larger oceans of their macro-organizations. If it is true that the performance of the larger system can be no better than the performance of the microsystems of which it is composed, then it is essential to have strong and effective leadership distributed throughout the entire organization. This fact is commonly known, but not often acted on, in many health systems.

In virtually all the 20 microsystems studied, we found not a single leader but two or three co-leaders who formed a powerful guiding force for their units. This often took the form of a physician leader and a nursing leader and/or an administrative leader. These leading partnerships—often like jazz ensembles—rounded out the work of leading in these small clinical units.

Conclusion

Max DePree has suggested that leadership is a matter of linking the leader's voice with the leader's touch.²⁶ Members of clinical microsystems have helped us understand what that means in their settings. In this article, we have attempted to provide a framework for understanding the process of leading by emphasizing three fundamental processes of successful leadership—building knowledge, taking action, and reviewing and reflecting.

We have considered the leading of clinical microsystems primarily as a matter of process, but in doing so, we do not wish to diminish the importance of the personal attributes of leaders, such as energy, creativity, caring, and persistence.^{27–30} Nor do we intend to diminish the importance of the leaders' own personal and professional development as they strive to unify their heads, hands, and hearts in the daily work of attempting to care for patients and meet the needs of patients.³¹ Nor do we mean to

downplay in any way the obsession that superior leaders must have to identify and meet the current requirements of the current situation.³² Rather, the focus on the processes of leading is intended to enable more people to develop into leaders and more people to share the roles of leading.

As you consider leading in your clinical microsystem, consider the following:

1. What knowledge do you need to build? How do you do it?
2. What actions do you need to take? How do you make things happen?
3. What do you review and reflect on? How do you create the “space” and habits for doing it? **J**

The authors acknowledge the important contributions made by our administrative team—Joy McAvoy, Elizabeth Koelsch, Coua Early and Gerald Collins—in conducting research and preparing the manuscript.

Paul B. Batalden, MD, is Director, Health Care Improvement Leadership Development, Dartmouth Medical School, Hanover, New Hampshire. Eugene C. Nelson, DSc, MPH, is Director, Quality Education Measurement and Research, Dartmouth-Hitchcock Medical Center, Lebanon, New Hampshire. Julie J. Mohr, MSPH, PhD, is Director of Quality and Safety Research for Pediatrics, University of Chicago. Marjorie M. Godfrey, MS, RN, is Director, Clinical Practice Improvement, Dartmouth-Hitchcock Medical Center. Thomas P. Huber, MS, is Project Manager, Robert Wood Johnson Foundation Grant, Dartmouth Medical School. Linda Kosnik, RN, MSN, CS, is Chief Nursing Officer, Overlook Hospital, Summit, New Jersey. Kerri Ashling, MD, MS, is Medical Director, Correctional Health and Rehabilitation Services, Seattle and King County Department of Public Health, Seattle. Please address reprint requests to Elizabeth.A.Koelsch@Hitchcock.org.

References

1. Ayto J: *Dictionary of Word Origins*. New York: Arcade-Little, Brown and Co, 1990.
2. Barnhart R: *Dictionary of Etymology*. New York: Chambers, 2000.
3. Nelson EC, et al: Microsystems in health care: Part 1. Learning from high-performing front-line clinical units. *Jt Comm J Qual Improv* 28:472-493, 2002.
4. Nelson EC, et al: Microsystems in health care: Part 2. Creating a rich information environment. *Joint Comm J Qual Saf* 29:5-15, 2003.
5. Godfrey MM, et al: Microsystems in health care: Part 3. Planning patient-centered services. *Joint Comm J Qual Saf* 29:159-170, 2003.
6. Wasson JH, et al: Microsystems in health care: Part 4. Planning patient-centered care. *Joint Comm J Qual Saf* 29:227-237 2003.
7. Patton MQ: *Qualitative Evaluation and Research Methods*, 2nd ed. Newbury Park, CA: Sage Publications, 1990.
8. Denzin NK, Lincoln YS (eds): *Handbook of Qualitative Research* 2nd ed. Thousand Oaks, CA: Sage Publications, 2000.
9. Kelly K: *New Rules for the New Economy*. New York: Viking Press, 1998.
10. Heifetz RA: *Leadership Without Easy Answers*. Cambridge, MA: Belknap Press, 1994.
11. Weick KE: The reduction of medical errors through mindful interdependence. In Rosenthal MM, Sutcliffe KM (eds): *Medical Error: What Do We Know? What Do We Do?* 1st ed. New York: John Wiley and Sons, 2002, pp 177-199.
12. Schön DA: *The Reflective Practitioner: How Professionals Think in Action*. New York: Basic Books, 1983.
13. Batalden PB, Splaine ME: What will it take to lead the continual improvement and innovation of health care in the twenty-first century? *Qual Manag Health Care* 11(1):45-54, 2002.
14. Revans RW: *Standards for Morale: Cause and Effect in Hospitals*. Nuffield Provincial Hospitals Trust. Oxford, UK: Oxford University Press, 1966.
15. Godfrey MM, Nelson EC, Batalden PB: *Assessing Your Practice Workbook*, rev ed. Hanover, NH: Trustees of Dartmouth College, Dec 2002.
16. DeGeus A: *The Living Company*. Boston: Harvard Business School Press, 1997.
17. Stogdill RM: Personal factors associated with leadership: A survey of the literature. *J Psychol* 25:35-71, 1948.
18. Stogdill RM: *Handbook of Leadership: A Survey of Theory and Research*. New York: The Free Press, 1974.
19. Blake RR, Mouton JS: *The Managerial Grid III*. Houston: Gulf Publishing, 1985.
20. Graeff CL: Evolution of situational leadership theory: A critical review. *Leadership Quarterly* 8:153-170, 1997.
21. Fiedler FE: The leadership situation and the black box in contingency theories. In Chemers MM, Ayman R (eds): *Leadership, Theory, and Research: Perspectives and Directions*. New York: Academic Press, 1993, pp 1-28.
22. Hackman JR: *Leading Teams: Setting the Stage for Great Performances*. Boston: Harvard Business School Press, 2002.
23. Hackman JR (ed): *Groups That Work (and Those That Don't): Creating Conditions for Effective Teamwork*. San Francisco: Jossey-Bass, 1990.
24. Northouse PG: *Leadership: Theory and Practice*, 2nd ed. Thousand Oaks, CA: Sage, 2001.
25. Helgesen S: *The Female Advantage: Women's Ways of Leadership*. New York: Currency/Doubleday, 1995.
26. DePree M: *Leadership Jazz*. New York: Currency/Doubleday, 1992.
27. Vaill PB: *Learning as a Way of Being: Strategies for Survival in a World of Permanent White Water*. San Francisco: Jossey-Bass, 1996.
28. Greenleaf RK: *Servant Leadership*. New York: Paulist Press, 1977.
29. Senge PM: *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York: Doubleday, 1990.
30. Deming WE: *The New Economics*, 2nd ed. Cambridge, MA: MIT Press, 1994.
31. Personal communication between the author [P.B.B.] and Parker Palmer, PhD, Senior Advisor to the Fetzer Foundation, Kalamazoo, MI, May 13, 2002.
32. Maslow A: *Maslow on Management*. New York: John Wiley, 1998.