Chapter 14
Leadership Models, Processes, and Practices

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Objectives

Provide up to date and in-depth information on the following topics to assist prospective candidates to both pass the CI Board Exam, and provide a level of understanding that will allow someone reading the chapter to implement a better level of leadership and management in any CI or CXIO position. Topics covered include:

- Leadership vs Management; Leadership Models;
- Dimensions of effective leadership;
- Strategic, tactical, analytical and innovative thinking for leaders;
- Analytical and critical thinking; Understanding, surviving and changing organizational culture; Governance (e.g., processes; responsibility versus authority);
- Negotiation; Conflict management; Collaboration; Motivation; Decision making and accountability; Communication and leadership; Emerging leadership trends.

Core Content Covered

4.1. Leadership Models, Processes, and Practices
4.1.1. Dimensions of effective leadership
4.1.2. Governance (e.g., processes; responsibility versus authority)

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4.1.3. Negotiation
4.1.4. Conflict management
4.1.5. Collaboration
4.1.6. Motivation
4.1.7. Decision making

Case Vignette

George Linksys has been splitting his time between clinical practice and clinical informatics as a 0.5 FTE in the Clinical Informatics Department. He recently applied for and was selected to become the Chief Medical Informatics Officer (CMIO) for the hospital. In his new role, he leads a department of 30 people…trainers, clinical workflow analysts, data analysts and two other clinical informaticists. Due to budget restrictions brought on by changing reimbursement, he has to consolidate his department and reduce staffing to twenty-four. He has also been assigned to develop and implement a governance process that will require all departments to submit new software application requests, as well as any equipment purchases that come with software, through the governance process. This will put him at significant risk for conflict with various department heads and require solid conflict management and negotiation skills. In addition, some of the new responsibilities are quite different than what people in his department have done in the past. This will require solid leadership skills to ensure success for everyone, including the organization as a whole.

Definitions of Leadership/Leadership vs. Management/ Leadership Models

There is not a single definition of leadership. In this chapter, we use a combined definition drawn from multiple sources:

1. Leadership is a process of social influence in which a person can enlist the aid and support of others, in a small group or an entire organization, to accomplish a common task/mission [1].
2. Leadership involves the following [2]:

    (a) Establishing a clear vision
    (b) Sharing that vision with others so they will follow willingly
    (c) Providing the information, knowledge and methods to realize that vision
    (d) Coordinating and balancing conflicting interests of all members and stakeholders

Table 14.1   Summary table comparing leadership and management traits/behaviors

Subject	Manager	Leader
Make up of role	Stability	Change
Decision making	Makes	Facilitates
Approach	Plans detail around constraints	Sets and leads direction
Vision	Short-term – today	Long-term – horizon
Control	Formal influence	Personal charm
Appeals to	The head	The heart
Culture	Endorses	Shapes
Action	Reactive	Proactive
Risk	Minimizes	Takes
Rules	Makes	Breaks
Direction	Existing direction/keeps status quo	New direction/challenges norm
Values	Results	Achievement
Concern	Doing the thing right	Doing the right thing
Focus	Managing work	Leading people
Human resource	Subordinates	Followers

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Leadership vs. Management

Management is a set of well-known, well-defined processes, such as planning, budgeting, structuring and staffing jobs, measuring performance and problem-solving. These processes help organizations to predictably do what they know how to do, and do them well. Management helps an entity to produce products and services of consistent quality, on budget, day after day, week after week. This is a difficult, complex task, but it is not leadership.

Leadership is associated with taking an organization into the future, finding opportunities that are coming at it faster and faster and successfully exploiting those opportunities. Leadership is about vision, people buying in, empowerment and producing useful change. Leadership is all about behavior, not attributes. In the ever faster moving world of today and the future, leadership is increasingly needed from more people, no matter where they are in the organizational hierarchy [3]. See Table 14.1 for a summary comparing leadership and management traits/behaviors [4].

Leadership Models

Leadership models may be defined as guides that suggest specific leadership behaviors to use in specific environments or situations. There are multiple leadership models in the literature with various levels of research and internal/external validity to

support them. Some of the more common general models include the following: **leadership/managerial grid**; four framework approach; **situational leadership**; **servant leadership** and **action-centered leadership**. Within the healthcare field, some of the accepted models include: **functional results-oriented healthcare leadership model**; **healthcare quality professional leadership development model**; **National Center for Healthcare Leadership competency model**; **Healthcare Leadership Alliance model**; and the **Center for Creative Leadership six part model**.

Leadership/Managerial Grid

The leadership/managerial grid model was developed from work by two researchers, Robert Blake and Jane Mouton, in 1985. Based on a questionnaire given to leaders about how they approached tasks and people, the model placed the leader in one of four quadrants: authoritarian; country club; impoverished; or team leader [5].

According to Blake and Mouton, the ideal leader model is the team leader, who is both strong on task and on people skills/relationships. These leaders lead by positive example and foster a team environment to assist members in reaching their full potential, both as team members and as individuals. A key characteristic is encouraging the team to reach goals as effectively as possible, while also working hard to strengthen the interpersonal bonds among team members [5].

The authoritarian leader is highly task oriented and hard on his/her workers. A synonym would be autocratic. There is little room for cooperation or collaboration with this style.

The country club leader predominantly uses reward power to maintain discipline and encourage the team to accomplish its goals. This leader is almost incapable of exerting more punitive coercive or legitimate power for fear of jeopardizing relationships.

The impoverished leader uses a "delegate and disappear" style, and they show almost no commitment to either task accomplishment or relationship maintenance. They pretty much allow their teams to do whatever they want. Blake and Mouton emphasize that the team leader model is preferred, but allowed that situational use of the other models might be appropriate in specific settings [5].

Situational Leadership

That brings us to the next leadership model, that of Situational Leadership, which was originally developed in 1977 by Paul Hersey and Ken Blanchard. It is based on two continuums: (1) the required level of supervision (directing); and (2) the arousal (support) required to coach workers in specific situations so they can develop into great performers. Each level of supervision and arousal is driven by the worker's skill and knowledge level, also referred to as the maturity level [6].

The levels of directing and supporting are driven by the employee's skill and knowledge level for a given task or situation. This requires on-going assessments of

the employee's abilities as new tasks are assigned or situations arise. The goal is to provide the needed level of direction/support to ensure task success and continued employee growth/development [6].

According to the theory, and continued in the current version, are four styles of leadership and four levels of maturity. The four leadership styles are Telling (S1), Selling (S2), Participating (S3), and Delegating (S4). The four maturity levels are simply numbered 1–4. M1 is low maturity. M2 is medium maturity and limited skills. M3 is medium maturity and higher skills, but lacking confidence. M4 is high maturity. Each maturity level is matched with the similarly numbered leadership style [6, 7].

This model was refined in 1985 by Ken Blanchard, and it is now a four-step model, but still dependent on the situation/task and employee's maturity level. The leader can jump into any step dependent on how well an employee can perform and is motivated to perform. [7]

The four steps of Situational Leadership are: Directing, high direction and low support; Coaching, decreased direction and increased support; Supporting, further decreased direction and similar support as for Coaching; and Delegating, providing direction and support as needed [7].

USE Case Example

George has studied different models of leadership, and he feels that situational leadership best fits for the new responsibilities the Informatics Department personnel will need to take on. George takes each new task (governance, cross training, expanded roles), evaluates who might serve in that role, and determines their current skill level for that task. He uses a skill/role matrix to determine this, and then uses the situational leadership curve to determine the type of leadership he should apply for each person and each task. This will allow him to better allocate both his time and personnel resources to successfully accomplish the new mission.

Servant Leadership

While servant leadership is a timeless concept, dating as far back as 570 BC, the phrase "servant leadership" was coined by Robert K. Greenleaf in "The Servant as Leader", an essay that he first published in 1970 [8].

A servant-leader focuses primarily on the growth and well-being of people and the communities to which they belong. While traditional leadership generally involves the accumulation and exercise of power by one at the "top of the pyramid," servant leadership is different. The servant-leader shares power, puts the needs of others first and helps people develop and perform as highly as possible [8].

The servant leader (SL) believes himself/herself "first among equals." This idea is at the very core of servant leadership. A servant leader does not consider himself/herself *above* those he/she leads. The SL sees those he/she leads as peers to teach and to learn from. He/She is willing to lead others in order to reach an agreed upon goal, but doesn't believe that being the leader makes him/her better than others.

Because of this, the servant leader is a consummate team builder. He/She will draw on the strengths of followers, and be a follower *himself/herself* when appropriate. Such a leader doesn't lead by decree or dictate. Instead, he/she leads by allowing everyone to do what they do well [9].

Principles of servant leadership defined by the Alliance for Servant Leadership are:

1. Transformation as a vehicle for personal and institutional growth.
2. Personal growth as a route to better serve others.
3. Enabling environments that empower and encourage service.
4. Service as a fundamental goal.
5. Trusting relationships as a basic platform for collaboration and service.
6. Creating commitment as a way to collaborative activity.
7. Community building as a way to create environments in which people can trust each other and work together.
8. Nurturing the spirit as a way to provide joy and fulfilment in meaningful work [10].

Use Case

George has long been a believer in servant leadership. He has practiced this style with his people for as long as he has been in leadership positions in his clinical department and practice. As he assumes the role of CMIO, simultaneous to the change in personnel and scope, he realizes that the only way to help his people not have significant morale issues (and possibly leave) and create a supportive atmosphere to help people succeed in their new, expanded roles, is to apply servant leadership techniques to the department as a whole. Servant leadership nicely dovetails with situational leadership to help subordinates feel both supported and valued by focusing on their success and their personal needs to be successful.

Action-Centered Leadership

The next model is called Action-Centered Leadership. It is from a book of the same name, published in 1973 and authored by John Adair [11]. In this model, leadership is represented by a set of behaviours that assist/support people or a group perform tasks and reach goals. It is focused on meeting needs in three areas: task, team and individual [11].

Functional Results-Oriented Healthcare Leadership Model

Another model, more focused on healthcare, is the Functional Results-Oriented Healthcare Leadership model. It is based on Adair's action-centered model, but adds a results element onto the foundational elements of individual, team and task. The results element is added to emphasize leadership's responsibility for measurable outcomes in healthcare, which includes patient outcomes [12].

Healthcare Quality Professional Leadership Development Model

The National Association for Healthcare Quality published a leadership model in 2008 that is focused on professional leadership development. In this model, the primary tenets are fostering positive change, organizational awareness, performance improvement, communication, self-development, self-management, professionalism and professional values [13].

National Center for Healthcare Leadership Competency Model

The National Center for Healthcare Leadership published a model, also in 2008, based on three domains: transformation, execution and people. The transformation domain deals with visioning, energizing and stimulating change processes that bring together communities, patients and professionals around new models of healthcare and wellness. The execution domain focuses on translating vision and strategy into optimal organizational performance. The people domain is about creating an organizational climate that values employees from all backgrounds and provides them with an energizing environment [14].

Within the three domains are 26 competencies. Eight are skills and knowledge competencies, and they include communication skills, financial skills, human resources management, information technology management, performance measurement, process management, organizational design, project management and strategic orientation [14].

Healthcare Leadership Alliance model

The American College of Healthcare Executives published a leadership model in 2013 called the Healthcare Leadership Alliance model and includes a competencies assessment tool [15].

The primary domains for this model and the competency assessment tool are those of leadership, communication and relationship management, professionalism, knowledge of the healthcare environment and business skills and knowledge. Each domain has its own set of associated competencies, which can be assessed using the competency tool. Only the leadership domain overlaps the other four [15].

Center for Creative Leadership Six Part Model

The Center for Creative Leadership has created a six-part model for collaborative healthcare leadership focused on transformational change and the requirement for cross-organizational collaboration [16].

The six organizational capabilities considered essential for this model include collaborative patient care teams; resource stewardship; talent transformation; boundary spanning; capacity for complexity, innovation and change; and employee

engagement and well-being. Within each of these six areas are key leadership practices needed to maximize effectiveness [16].

Dimensions of Effective Leadership

As with leadership models, there are numerous theories that attempt to explain the dimensions of leadership. Most of these theories have various levels of primarily qualitative research providing some level of evidence supporting them.

McKinsey Global identifies five dimensions of effective leadership based on their research. These five dimensions constitute what they call "centered leadership" [17]:

1. Meaning: finding meaning in work
2. Positive Framing: converting fear or stress into opportunity
3. Connecting: leveraging connections and community
4. Engaging: acting in the face or risk
5. Managing Energy: sustaining the energy that is the life force of change

Of these five dimensions, McKinsey's research has shown that meaning has the most significant impact on work and life satisfaction. In fact, meaning's contribution to life satisfaction is five times more powerful than any other dimension [17].

Another theory based on research by Sugerman, Scullard and Wilhelm [18] proposes eight dimensions of leadership. In this theory, the eight dimensions are pioneering, energizing, affirming, inclusive, humble, deliberate, resolute and commanding [18].

The authors state that all leaders need to be able to stretch beyond their primary leadership dimensions to have their greatest impact, and they need to understand how their individual personalities play a part in their leadership styles. This understanding allows them to incorporate other dimensions and thus optimize their leadership capabilities [18].

A third and final leadership dimension theory comes from Douglas Reeves [19]. Dr. Reeves uses a variety of published research to support his proposed leadership dimensions model. While the book is focused on school leadership, the dimensions are quite generalizable to other fields, including clinical informatics [19].

One very important aspect of this model is that a deficiency in one leadership dimension is not necessarily a prescription for focusing on and improving that deficiency, but rather a suggestion that the leadership team be broadened to include complementary dimensions. Reeves argues that leaders need not, in fact cannot, be every dimension themselves. However, the effective leader can and must ensure that every leadership dimension is provided by some member of the leadership team [19].

The leadership dimensions included in this model are visionary, relational, systems, reflective, collaborative, analytical and communicative [19].

While the book goes into great detail and provides the research behind each dimension, most are superficially self-explanatory except for the systems dimension. The leader with systems intelligence must understand each interaction within the system under their purview and its impact on the entire system. They then must communicate this complexity in a manner that enables each member of the

organization to understand and consistently use these important interconnections. Systems leadership is not just about complexity. The greater challenge is converting that complexity into simplicity for others to understand and act upon [19].

Strategic/Tactical/Analytical/Innovative Thinking

It is important to have a deliberate, systematic process for making decisions and managing work to guide individuals, teams and organizations towards desired outcomes. Those decisions have to be made with an awareness of the future and its implications, organize teams and individuals to execute those decisions and measure the results against expectations [20].

This is called strategic thinking, and it is the ability to step back from day-to-day activities and develop a long-term plan for sustained growth and development. Strategic thinking is called for when considering organizational goals, management plans and long-term development of people. Using strategic thinking allows for systematic and efficient strategic planning for the organization, teams and people [20].

Strategic thinking and strategic planning, while complementary, are not the same thing. F. Graetz created a model that helps to define the differences. She said that the role of strategic thinking is "to seek innovation and imagine new and very different futures that may lead the company to redefine its core strategies and even its industry". Strategic planning's role is "to realize and to support strategies developed through the strategic thinking process and to integrate these back into the business" [21].

Liedtka observed five major attributes of strategic thinking that resemble competencies.

These five attributes/competencies are:

1. A systems perspective – ability to understand implications of actions
2. Intent focused – more determined and less distractible than others/competitors
3. Thinking in time – being able to hold past, present and future in mind simultaneously to create better decision making and speed implementation
4. Hypothesis driven – ensuring that both creative and critical thinking are incorporated into strategy creation. This competency explicitly incorporates scientific method into strategic thinking.
5. Intelligent opportunism – being responsive to good opportunities and not losing sight of alternative strategies as they present themselves [22]

People often confuse strategic thinking with tactical thinking. Strategic thinking is focused on the long term, which can vary based on the organizational and competition dynamics. It challenges the status quo, looks at future ROI (return on investment) and takes into account the preparation/level of effort needed to reach the long-term goals. Tactical thinking is more immediate or "in the moment", often safe and conservative and status quo maintaining. It looks for the immediate payoff and involves automatic and routine execution of a task. It is the immediate "what to do and how to do it" mode of thinking [20].

A number of factors can drive tactical thinking:

1. Culture – the biggest driver of tactical thinking, especially when strategy execution drags out and the organization misses targeted opportunities.
2. Lack of strategic clarity – middle managers often make tactical decisions when they do not fully comprehend the intended strategy and its implications.
3. Renegade managers – fairly rare; this occurs when managers make tactical decisions counter to strategy because they do not accept the strategy and have their own agenda.
4. Onetime events – if only happening once, the strategic impact will not likely be a big one
5. Small investments – small in terms of time and resources; they can be revised later to align with strategy
6. Idea testing – new ideas can support the current strategy or challenge it; either way, these new ideas are good and should be nurtured. Cutting them off because they challenge/do not fit current strategy is a tactical error [23].

Use Case

George understands that he will never be successful in his new role and his department's new set of responsibilities if he only focuses on short-term goals (tactical thinking). While he needs to ensure that he accomplishes day-to-day responsibilities, the success of his and the department's mission (as well as that of the organization as a whole) is dependent on him working with his people to create and accomplish a long term strategic plan. He accomplishes this by engaging in critical thinking and working with both the organizational leadership and his people to ensure a strategic plan that supports both his departmental mission and that of the organization as a whole. Creating such a plan allows George to work with other department leaders to harmonize their individual department strategic plans by focusing on the organizational mission (shared values).

Analytical/Critical Thinking

Analytical thinking skills are critical because they help one to gather information, articulate, visualize and solve complex problems. Some people make the incorrect assumption that analytical thinking and critical thinking are the same. That is not true, and it is important to differentiate the two so one can understand when to think critically and when to think analytically [24].

When thinking critically, one makes the decision whether or not an event, object or situation appears to be right or wrong. Once provided information, one evaluates the data and determines how best to interpret it. Conclusions and assessments are made based on one's perception of the information and knowledge of the world,

often looking at other pieces of data that might be relevant. Critical thinking takes facts and uses them to form an opinion or belief [24].

Analytical thinking is used to break down complex bits of information, thinking step-by-step to develop an overall conclusion, answer or solution. Analytical thinking uses facts to support conclusions or a train of thought. Analytical thinking may require you to think about some (or all) of the following [24, 25]:

1. Cause and effect
2. Similarities and differences
3. Trends
4. Associations between things
5. Inter-relationships between the parts
6. The sequence of events
7. Complex systems and how they work
8. Ways to solve complex problems
9. Steps within a process
10. Examples of what is happening

Innovative thinking is rooted in creativity and would be considered the other side of the creative thinking "coin". Creativity is bringing into existence an idea that is new to you. Innovation is the practical application of creative ideas. Creative thinking is an innate talent we were born with and a set of skills that can be learned, developed and utilized in daily problem solving. Innovative thinking is taking the same skills as creative thinking and applying them to practical solutions [26].

There are multiple cultural and physiological barriers to both creative and innovative thinking. Such things as making assumptions, following the rules, over-reliance on logic and fear of failure restrict the ability of the left brain (analytic), right brain (creative), conscious and subconscious to properly collect information needed, choose and calculate which information is important, communicate those ideas to our consciousness and provide an innovative solution [26, 27].

As stated, one of the prime reasons to engage in creative or innovative thinking is to solve problems. The first step in solving problems is to define them. There are well-studied tools for defining problems. These include the Kipling Method, the Problem Statement and the Challenge Method. The Kipling Method (from Rudyard Kipling) uses a set of questions, the 5 W's and the 1 H, to help trigger ideas and solve problems. The Problem Statement method is self-explanatory, but not easy to accomplish in many cases. This method works when everyone identifies what the problem is for them and then collaborate/negotiate to arrive at a single best problem statement for all. The Challenge Method works well to get people out of a thinking rut. It is good for testing idea validity. It starts with identifying a problem or situation and then challenging it, or some component of the problem domain, with deep questions about: concepts; assumptions; boundaries; the 'impossible'; the 'can't be done'; the 'essential'; and the "sacred cows" [26].

There are a number of well-studied tools for creating new ideas or innovating. Three of the more common ones, out of more than 27 known tools, are: attribute listing; brainstorming; and visioning [26, 28].

Attribute listing is a good technique for ensuring all possible aspects of a problem have been identified and examined. This tool breaks the problem down into smaller and smaller bits, allowing one to see/discover the details. The steps in attribute listing are the following: list the attributes; consider the value of each attribute; and modify the attributes to increase value, reduce negative value or create new value [26, 28].

Brainstorming, also called "Classic Brainstorming", became popular in the 1950s as a way to come up with new ideas. There have been various versions developed since in an effort to overcome perceived deficiencies in "Classic Brainstorming": Brainwriting 6-3-5; Harvey Cards; Imaginary Brainstorming; and Reverse Brainstorming. The steps in brainstorming include the following [28]:

1. Arrange the meeting for four–eight people
2. Write a well-defined, clearly stated problem where everyone can see it
3. Ensure that everyone understands the problem/issue to be addressed
4. Review the ground rules (there are at least five)
5. Have someone (or two people) facilitate the discussion, enforce the rules and write down all ideas as they occur
6. Generate ideas via unstructured or structured methodology – the goal is complete participation by all in attendance
7. Clarify and conclude the session, combining identical ideas and obtaining consensus on the next steps/actions and a timeline

The last of the three methods/tools for creative/innovative thinking is called Visioning. It works by imagining the desired future and what the organization, team or individual is trying to achieve. Visualize what that future state holds, and describe it to others in dynamic and emotive words (like 'sharp', 'now' and 'value') to paint a picture. Phrase it in the present tense and use action verbs that talk about what is happening in the vision. Test it against others to ensure that vision works for them as well. Visioning works because humans are an imaginative species and are motivated by what we perceive as a possible and/or desired future [26].

Use Case

George understands that he must engage his people to help define the best approach to accomplish the strategic plan for the department. He, fellow department heads and his people have already engaged in critical thinking to develop a strategic plan. Now they must engage in innovative thinking to determine how best to carry out that strategic plan in an ever evolving Health IT environment. George engages his people in several brainstorming sessions to come up with ideas to best approach and accomplish the tasks ahead. Each brainstorming session is facilitated by one of the Human Resources Department's persons trained to do so, and he limits his group to no more than eight people to allow brainstorming success. He does this by breaking down the sessions to focusing on a particular area…training, workflow analysis, implementation and governance. For the governance brainstorming session, he engages department heads from other departments to make them owners of the process and minimize conflict.

Understanding, Surviving and Changing Organizational Culture

Organizational culture is a system of shared assumptions, values and beliefs, and they govern how people behave in organizations. Every organization develops and maintains a unique culture, and each of these unique cultures is composed of seven characteristics that range in priority from high to low. Every organization has a distinct value for each of these characteristics. When combined, these characteristics values define the organization's unique culture. Members of each organization use these values to adjust their behavior to match [29, 30].

The seven characteristics of organizational culture are [29]:

1. Innovation (Risk Orientation)
2. Attention to detail (Precision Orientation)
3. Emphasis on outcome (Achievement Orientation)
4. Emphasis on people (Fairness Orientation)
5. Teamwork (Collaboration Orientation)
6. Aggressiveness (Competitive Orientation)
7. Stability (Rule Orientation)

In order to implement change in an organization, which informaticists must do on a regular basis, it is critical to first understand the organizational culture. Here are some basic guidelines to help with that task [30]:

1. Understand the major types of cultures. Research efforts into organizational cultures have identified four major types: academy culture; baseball team culture; club culture; and fortress culture.
2. Describe the culture of your organization. Consider what you see and hear, not what you feel or think. Answer the following questions:

   (a) Who seems to be accepted and who doesn't? What is different between the two groups?
   (b) What kinds of behaviors get rewarded? What kind seem to get punished?
   (c) What does management pay the most attention to? This would be things like problems, successes, crises, etc.
   (d) How are decisions made? Are they made by one person, by discussion and consensus, or are they made at all?

Be aware that there may not be close alignment between what the organization espouses as its values compared to what is actually seen by others within and outside the organization. This is a common disparity, and can create internal confusion. It is important to discuss this disparity with other, trusted leaders. An ideal time is during strategic planning discussions [30].

Changing the culture of an organization is never easy, but it is possible. The best and most enduring method to change organization culture is to change behavior, not by changing structure. In order to change behavior, one must change the underlying mechanism that drive existing behavioural patterns: norms, social values, identity

structure and mental models. Culture is resistant to change because many of the cultural control mechanisms become mentally internalized by organizational members. Changing culture often means changing members' entire social identity [31].

While often difficult, organizational culture can change. The key lies in symbolic action, dealing with important symbols of values, norms and assumptions. Here are some general guidelines:

1. Change social values

    (a) Role modelling and emphasizing what's important in terms of desired social values
    (b) Symbolic action – actions speak louder than words; it is the actions of leaders that let the organization know what is valued and what is not. Reward members whose behaviors reflect what is important, and discourage behaviors that do not reflect what is important by providing feedback, warnings or termination (that does not mean punish or cause prolonged discomfort)
    (c) Selective hiring – social values are often changed through the selection process, which tends to support current or new values [30, 31]

2. Changing mental models and basic assumptions

    (a) Single loop learning – maintains current mental models and basic assumptions, because people do not question them when something goes wrong. They simply question their inputs.
    (b) Double loop learning – in this setting, people do question both the mental models and basic assumptions when things go wrong. To accomplish this, it takes a concerted effort from leaders to outline, challenge and agree on changes to the shared mental model [31].

Use Case

While Health IT, clinical workflow analysis and implementation are already components of the organizational culture, governance is not. George is going to have to change the previous culture of departments purchasing whatever clinical software and hardware they wanted to one where all purchases of clinical software, and any purchase of clinical hardware with a software interface, go through a governance process that both prioritizes and ensures compatibility of the system. He will need the support of the senior leadership, and he will need to educate other departments/department heads as to why this is a better idea for both the organization as a whole and for them as a department. He does this by focusing on hypothetical comparisons between governance and non-governance process and their relative costs to the departments and the organization. The intent is to change mental models and basic assumptions about governance versus non governance for purchases.

Governance (e.g., Processes; Responsibility Versus Authority)

Health IT governance can be defined as putting structure around how organizations align Health IT strategy with business strategy, ensuring that they stay on track to achieve their strategies and goals, and implementing good ways to measure Health IT's performance. A Health IT governance framework should answer some key questions, such as how the Health IT (Clinical Informatics) department is functioning overall, what key metrics management needs and what return on investment Health IT is providing to the organization from its investments [32].

Health IT governance is important for the following reasons [32, 33]:

1. Confers legitimacy on decisions
2. Standardizes processes
3. Shapes expectations
4. Ensures benefits are achieved
5. Aligns strategy
6. Provides input to capital budget process
7. Provides Health IT demand management
8. Provides Health IT portfolio management

One of the first steps in creating a functional governance process is to create a governance or steering committee. The governance or steering committee should govern all Health IT or all IT projects. If the latter, it will likely be chaired by the CIO. If the former, it will likely be chaired by the CMIO. Regardless of the Chair, the committee needs to include a senior financial person, a C-Suite level management person, a senior IT person, senior nursing leadership, a building services executive, senior ancillary services representatives (Rads, Pharmacy, Lab), senior medical staff and independent providers. This level of participation provides legitimacy and decision-making authority [33–35].

The governance or steering committee is the ultimate decision authority, but much of the baseline work is performed by area-focused subcommittees or advisory groups. These groups provide an easily identified place for concerns about existing systems. They can also originate projects or ideas for projects. Their most important role, however, is prioritization of projects within their purview. In smaller organizations, there may be a single subcommittee that reviews and prioritizes all project submissions. In that case, the subcommittee/advisory group needs broad representation from across the organization as well as Informatics and IT advisors. For larger organizations, there may be a subcommittee for each of the major areas, such as, providers, nurses, ancillary services, HIM (Health Information Management), patient billing/finance and business intelligence [33–35].

One of the key roles of the governance or steering committee is Health IT portfolio management. This is informed by both the CIO and the CMIO, and the CEO or CFO have the C-Suite responsibility, but the governance/steering committee

makes the decisions. This is a critical role for the governance committee, as portfolio management is needed to balance and prioritize new projects/investments with the operating costs of existing systems, as well as the costs associated with transitioning from existing systems to new systems. [35]

Portfolio management consists of the following components [35]:

1. Establish and maintain a portfolio of new and existing IT/Health IT capabilities needed to achieve business goals
2. Build a portfolio that recognizes the variety of investment categories that differ in complexity and degree of freedom in allocating funds
3. Aligning the portfolio with the strategic direction of the enterprise
4. Have evaluation criteria in place to include:

    (a) Alignment with enterprise strategic objectives
    (b) Financial worth
    (c) Delivery risk and benefits risk

5. Implement a decision-making process to prioritize allocation of resources for operations, maintenance and systems development

Use Case

George is well aware of the pitfalls of governance. The most common being that governance can become an obstruction to innovation and competitive "nimbleness". Governance, in George's mind, should both facilitate innovation and ensure alignment with the organizational strategic plan for any Health IT software or hardware with software interfaces. To best accomplish this, George creates a governance committee comprised of 1–2 senior leadership members (at least one of whom is the governance sponsor) and the department heads from all of the major departments in the organization. He also creates focused subgroups to review and present new submissions to the whole group. It is the whole group that decides what gets prioritized and purchased with an organizational focus and shared goals. The groups to be represented include, but are not limited to, providers, nurses, ancillary services (lab, rad), pharmacy, IT, facilities, HR, Finance and HIM. In some organizations, this group may also be the Informatics Committee. In other organizations, the Informatics Committee is one of the subgroups for the Governance Committee, though the Informatics Committee's scope does not include just governance-related topics.

Negotiation

Negotiation is a dialogue between two or more people or parties, where each person/party involved tries to gain an advantage for themselves by the end of the process. Negotiation is intended to aim at compromise [36].

Barriers to negotiation [37]:

1. Die-hard bargainers
2. Lack of trust
3. Informational vacuums and negotiator's dilemma
4. Structural impediments
5. Spoilers
6. Culture and gender differences
7. Communication problems
8. The power of dialogue

Rules for effective negotiations [38]:

1. Background homework: before negotiations begin, understand the interests and positions of the other side in relation to your own. Look at things from the other side.
2. During the process, don't negotiate against yourself: especially true if you do not fully know the other side's position. Stay firm on your initial set of positions, explain your rationale and do not give up too early on points. Wait until you better understand the other side.
3. The stalemate: this often occurs in negotiations. There is usually some negotiation "currency" (something they really want for something else you really want) outside of the stuck negotiation focus area.
4. To close or not to close: the uber golden rule of negotiation is to always let someone else walk away. Be honest and straightforward on what you are willing to do, and give the other person an honorable "out" if your best does not work for them.

There are a number of negotiating pitfalls to avoid. A list of seven common ones are [39]:

1. Poor planning
2. Thinking the pie is fixed: it usually is not. This is common when both parties want the same thing, but they fail to discuss it fully. Faulty assumptions are made.
3. Failing to pay attention to your opponent: this comes from failing to understand what biases the other party brings to the negotiation
4. Assuming that cross-cultural negotiations are just like "local" negotiations: understand and address cultural differences
5. Paying too much attention to anchors: anchors and adjustments are a normal part of the negotiating dynamic. Everyone needs to have a clear understanding of the other party's anchors and what adjustments can and will be made.
6. Caving in too quickly: no matter what the offer, even if fair, always make a counter-offer
7. Gloating: never a good thing. Stay professional at all times

Negotiation theorists generally distinguish two types of negotiation, though different theorists use different labels. The two types are [40, 41]:

1. Distributive negotiation: also called positional or hard-bargaining negotiation. Distributive bargainers conceive of negotiations as a process for distributing a fixed amount of value.

2. Integrative negotiation: also called interest-based or principled negotiation. Integrative negotiation often involves a higher degree of trust and relationship formation. It can also involve creative problem-solving to achieve mutual gains. It is sometimes called Win-Win negotiation.

Use Case

As stated above, George is faced with both internal and external issues that will require both conflict management and negotiation to be successful. Conflict will be covered below. George will need to negotiate with senior leadership to determine the right number of personnel for the Informatics Department and pay for those remaining commensurate with their increased roles and responsibilities. He will have to negotiate with his own people to determine who will stay and who will go. His own values and servant leadership style should help make those negotiations go more smoothly. He will have to negotiate with other department heads to get them on board with the new governance model and to get their participation in the governance process. George will look for shared values and collaboration wherever possible. He is willing to compromise if needed. He follows the principles of integrative negotiation, and he knows that dealing with hard bargainers will be challenging at best. That is why he will engage senior leadership to publicly support the governance model in an attempt to create openings for negotiation with those most opposed to the governance model.

Conflict Management

Conflict arises from differences, both large and small. It occurs whenever people disagree over their values, motivations, perceptions, ideas or desires. In most cases, conflicts arise from differing needs.

1. A conflict is more than just a disagreement. One or both parties perceive a threat.
2. Conflicts continue to fester when ignored
3. People respond to conflicts based on personal perceptions, not necessarily based on facts
4. Conflicts trigger strong emotions
5. Conflicts are an opportunity for growth [42]

The key to managing conflict well is choosing and executing the strategy that best fits the situation. Thomas and Killmann proposed five styles of conflict management in 1972. These are [43–45]:

1. Forcing – using formal authority or other possessed power to satisfy one's concerns without regard to the concerns of the other party
2. Accommodating – allowing the other party to satisfy their concerns while neglecting one's own concerns

3. Avoiding – not paying any attention to the conflict and not taking any steps to resolve it
4. Compromising – attempting to resolve a conflict by identifying a solution that only partially satisfies each party's requirements (also known as Lose-Lose)
5. Collaborating – cooperating with the other party to find a solution that is mutually and completely satisfactory (also known as Win-Win)

Regardless of whether one uses the traditional conflict management styles of Thomas and Killmann, or one of the newer styles proposed by Khun and Poole (2000), DeChurch and Marks (2001) or Rahim's meta-model (2002), the key is to match the style and strategy to the situation [43, 46–48].

1. Time pressure – if there were never any time pressures, collaboration might always be the best approach to use
2. Issue importance – the extent to which important priorities, principles or values are involved in the conflict
3. Relationship importance – how important is it that a close, mutually supportive relationship is maintained with the other party
4. Relative power – how much power each party engaged in the conflict has relative to the other

If the conflict is over important issues, collaboration is best unless time pressures intercede. If they do, and there is markedly unbalanced power, forcing is more appropriate. However, always use forcing with caution, as there may be long term damage to the relationship unless the other party feels their concerns received adequate consideration.

With only moderately important issues, compromising can be appropriate. However, remember that compromising means neither party gets what they really want. If possible, collaboration is still the best approach.

When the conflict involves relatively unimportant issues, the accommodating strategy can offer a quick resolution and not strain existing relationships. Collaboration is still the best approach if it is worth the time investment (and you have the time to invest).

Avoiding should be reserved for those situations where there is clear advantage to waiting for conflict resolution. Too often, avoiding results in worsening of the conflict and increasingly strained relationships. If the issue is important, or even moderately important, to either party, avoidance is a poor strategy [43].

Use Case

George knows that the personnel reduction requirement in his new department will likely create some conflict, both within the department and between him and the people he has to let go. He will use the previously mentioned leadership style and negotiation methods to address the real or expected conflicts that may arise in his department. He will be as transparent about the process as possible, and he will be as supportive as possible for the people he must let go to get them past the denial and anger phases of job loss grief. That will go a long way towards reducing the

potential department level conflict. Getting senior leadership sponsorship and public support for the governance process will help reduce conflict between George, as the face of governance, and those department heads who may be (or feel) most adversely affected by the governance process. George will need to engage in collaborative negotiation (and possibly brainstorming) with all of the department heads to best engage them in the process and collaboratively (as much as possible) work towards a process that they can embrace. George must address the concerns that underlay the potential conflict in order to successfully manage it. Here again, shared organizational values can help find common ground as a way to overcome conflict.

Collaboration

According to Baggs and Schmitt (1988), collaboration involves coordination of individual actions, cooperation in planning and working together, sharing of goals, planning, problem-solving, decision-making, and responsibility. Collaboration can happen between two people who represent the same or different disciplines, or among small groups of people representing one or a range of disciplines [49].

Collaboration is a recursive process towards shared goals. Collaboration is NOT cooperation … it is more than the intersection of common goals, but a collective determination to reach an identical objective by sharing knowledge, learning, and building consensus [50].

Leadership is a key ingredient in effective collaboration, be that the leader of a team or the leader of an entire organization. Some of the key leadership skills for effective collaboration include the following [50]:

1. Build trust – build it through actions and evidence
2. Expect conflict to reach consensus – as stated, conflict can be an opportunity to grow, as long as the emotions are kept out of it and facts/evidence are kept the priority
3. Embrace change – initiate change rather than react to it; give the team clear and factual reasons why change is necessary
4. Establish a level of analysis, structure and control – balance is key here; if out of balance, chaos can result; be careful not to stifle innovation and creativity
5. Make decisions – a blended approach (between independent and collaboration) factoring in the best team input works best
6. Foster continuous communication – communication is the glue that forms the bond between team members and between leaders and teams; credibility is required – and that means honesty and integrity
7. Provide recognition – recognition drives motivation and human behavior; human behavior drives results; recognition validates people and their purpose
8. Create learning experiences – all people have a desire to learn a grow; the best learning opportunities are experience and sharing

Organizations can benefit from an atmosphere of collaboration that rewards teamwork. Creating a collaborative, team-oriented work community helps an

organization stay competitive. People, who might otherwise leave for a variety of reasons, will stay in a collaborative environment where they are challenged (in a good way) to grow both personally and professionally. There are several habits that have been shown to create such an environment of collaboration within an organization [51, 52]:

1. Lead by example
2. Focus on individual benefit versus corporate benefit when communicating collaboration
3. Strategy before technology – understand the "why" of collaboration before pursuing the solution
4. Learn to get out of the way – provide general guidelines and best practices, but don't stifle collaboration with policing/enforcement
5. Listen to the voice of the employee and not just the customer – employees must be a valued part of the process
6. Integrate into the flow of work – collaboration must naturally fit into the flow of work for those engaged
7. Create a supportive environment for collaboration – goes back to rewarding and recognizing people for collaborating
8. Measure what matters – to the team, to the organization, to the individual as part of the team
9. Persistence – make collaboration an organizational initiative; make collaboration THE option for working
10. Adapt and evolve – collaboration is perpetual and ever evolving; keep ahead of it and anticipate/innovate
11. Employee collaboration also benefits the customer – be they internal or external customers
12. Collaboration makes the world a better place – both at work and away from work; a collaborative environment leads to less stress at work and generally happier employees…which leads to less stress at home

Motivation

Motivation is defined in the Business Dictionary as internal and external factors that stimulate desire and energy in people to be continually interested and committed to a job, role or subject, or to make an effort to attain a goal [53].

Motivation and motivation theory have been the subjects of many experiments, studies and published papers since the 1930s when Elton Mayo studied the effects of motivation on productivity in the Hawthorne Works of the Western Electric Company (Hawthorne Effect). Mayo's experiments led to the idea that workplaces are social environments, where people are motivated by such things as recognition, security, and a sense of belonging vice purely economic interests or the physical environment [54].

Since the Hawthorne experiments, multiple theories have been developed in an attempt to better characterize motivation. Each has strengths and weaknesses. Each has

limits in generalizability. What is fairly universal is that the factors influencing motivation can be identified in two main categories: intrinsic factors and extrinsic factors.

1. Intrinsic factors – come from the work itself as well as the goals and aspirations of the individual (achievement, possibility for growth, social relationships, etc)
2. Extrinsic factors – depend on the surrounding environment or basic human needs (salary, office space, responsibility, etc) [54]

Three of the more prominent motivation theories are Abraham Maslow's hierarchy of human needs, Frederick Helzberg's theory on motivators and hygiene factors and David McClelland's achievement motivation theory [54, 55].

Maslow's hierarchy of human needs defines five levels of human needs. Higher level needs become motivators only after lower level needs are satisfied. From lowest to highest, the hierarchy of needs, with examples from the business world, is [54]:

1. Physiological – salary, office space, appropriate facilities, lighting
2. Safety – job security, pension scheme, medical insurance, sick leave
3. Social – interactions with colleagues and customers, teamwork
4. Self-esteem – reputation, recognition and appreciation from colleagues, subordinates and supervisors
5. Self-actualization – realization of the full potential of the individual

Herzberg's motivators and hygiene theory relies on different assumptions. In this theory, there are factors that increase motivation (motivators) that align with intrinsic factors. There are also factors that help to avoid de-motivation, but do not motive in and by themselves. These are the hygiene factors and are aligned with extrinsic factors.

In this theory, motivators include such things as (in order of importance) importance, achievement, recognition, work itself, responsibility, advancement and possibility for growth. The hygiene factors relate to more basic biological needs. These include such things as (not in any order) company policy, office space, supervision, personal life and salary [54].

McClelland's achievement motivation theory is focused more on a particular group of people: those with a strong desire to achieve. In this theory, achievement-motivated people exhibit the following characteristics [55]:

• Like difficult, but potentially achievable, goals
• Like to take calculated risks
• Are more concerned with personal achievement than with rewards for success
• Have a strong need for concrete, job-relevant feedback so they know how well they are doing

Herzberg's extrinsic (hygiene) factors correspond to the lower level of Maslow's hierarchy, and the intrinsic (motivator) factors correspond to the higher levels. Achievement-motivated people tend to be more motivated by Herzberg's intrinsic (motivator) factors, as achievement itself is an intrinsic factor.

In general, intrinsic factors tend to be much more effective then extrinsic factors in motivating people, at least within the workplace [54].

Use Case

George is faced with the spectre of having to downsize his department almost as soon as he assumes his new leadership role. That is not an enviable position for any new leader. We have already discussed how George will engage his people for negotiation, strategic planning and critical thinking as well as conflict management. Through all the changes, one component that must be maintained is motivation. George has to motivate his people to maintain morale and assume greater roles and responsibilities at the same time they are seeing their co-workers be retired or terminated. It is likely many of his department members have some level of intrinsic motivation, but that is not enough by itself. George must determine what other motivators are important to his people and deliver on some or all of them, to at least some degree. That will require both advocacy and negotiation with senior leadership to entice George's people to deliver more with less personnel resources. He will also need to find motivating factors for the other department heads to participate and fully engage in the governance process. Motivating others often requires a needs assessment (what motivators to they desire/what motivates them) and then negotiation to deliver on those needs.

Decision Making/Accountability

Clinical Informaticians engage in decision making in two distinct realms: medical or shared medical decision making; and leadership/business decision making. The former is covered in an earlier section of this book. In this section, we will deal with the latter, which has much less scientific literature dedicated to it than the former.

The role of the leader, or manager, is to make decisions. Clearly, the better leaders and managers make effective decisions, and they generally do so repeatedly. Research has shown that there are four basic decision making styles: decisive (little information, one course of action); flexible (little information, many options); hierarchical (lots of data, one course of action); and integrative (lots of data, many options) [55].

Both the decisive and flexible decision making styles focus on speed in making the decision, but they differ in that decisive also values efficiency and consistency, while the flexible style focuses on adaptability and quickly changing course based on conditions encountered. Hierarchical and integrative styles are analysis-based. Here the focus is on getting both lots of information and lots of input from others. The difference in these two styles is the final decision process. Hierarchical will challenge others' input to ensure they are valid, will make the final decision and expect it to stand the test of time. The integrative decision maker tends to frame decisions very broadly, and often includes perspectives and choices that are very different than their own. They do not delegate the decision making process, but it is close [55].

There are other styles of decision making in the literature that somewhat align with those above. Some common terminology used includes: command or autocratic (leaders make decisions with total control of the input and ownership); collaborative or collective/participative (leaders gather their teams/member of the organization and asks/encourages input before making the final decision themselves; this is also called evidence-based decision making); consensus or democratic (leader gives up ownership and control of the decision and everyone votes on a course of action; majority rules; there is no responsibility for the decision); convenience or delegation (this is where the leader does not make the decision, instead delegating that to others… hopefully to those who are trusted and have good ideas) [56, 57].

One thing that research has found is that leaders and managers, especially those who are considered effective/successful, change their decision making styles over time. What was found is that there is a steady progression towards openness, diversity of opinion and participative decision making as one moves up the ranks in the organization (flexible/integrative). Conversely, there is a step-by-step, corresponding decrease in the use of more directive, command-oriented styles. At the same time, the leaders/managers exhibited a progression in their thinking (private) styles different from their leadership styles, showing a marked increase in their analytic, maximizing styles (hierarchical/integrative) but a marked decrease in the flexible style [55].

Decision making is about much more than styles. It is also about how to make decisions in a world that does not always follow the Newtonian-based, scientific management assumptions that a certain level of order and predictability exists in the world. Things often become more complex, and simplifications fail [58].

One model of complex decision making is called the Cynefin (pronounced Ku-*nev*-in) framework, which allows executives to see things from new viewpoints, assimilate complex concepts and address real world problems and opportunities. The Cynefin framework sorts all issues into five contexts defined by the nature of the relationship between cause and effect. Four of the contexts require leaders to diagnose situations and act in contextually appropriate ways. These four are simple, complicated, complex and chaotic. The fifth context, disorder, applies when it is unclear which of the other four is predominant in the situation [58].

Simple and complicated contexts assume an ordered universe. Here, the appropriate actions are to sense, analyse and respond for complicated and sense, categorize and respond for the simple context. Complex and chaotic contexts are unordered. The appropriate responses here are probe, sense and respond for the complex context, and act sense and respond for the chaotic context.

The disorder context is just as it seems from the name. The only way out of this mess is to break down the situation into constituent parts and assign each to one of the other four realms. Then decisions can be made in contextually appropriate ways [58].

Other models for decision making are based on emotional intelligence, managing uncertainty and choices and trusting one's intuition. None is perfect, including the Cynefin framework, but all are viable options for making decisions [59].

Use Case

As the department head and organization CMIO, George is now thrust into a position of both decision making authority and accountability. George can assume similar or different decisions making styles based on his level of control. Within the department, George is the boss. He can choose to make unilateral decisions based on his own desires/needs, he can elicit ideas/inputs from the department members and make a unilateral decision or he can engage the group and make a shared decision. Depending on the situation, one of the latter two decision making styles are the most functional from a long term leadership perspective. Given lots of time and full engagement, the shared decision making style is best. With the Governance Committee, George must employ a shared decision making style or face a significant backlash from the other department heads, who are his peers. It takes more time, and it also takes employing all of the tools we have previously discussed: negotiation, conflict management, motivation, strategic thinking, the appropriate leadership style and more. The only thing more challenging than leading a group of peers is leading from behind (i.e., leading your boss).

Communication and Leadership

There are all kinds of models of communication, some basic and some complex. For our purposes communication can be described as CREATING UNDERSTANDING.

Through words, actions, body language, voice tone, and other processes you send many messages about yourself and your organization. This constitutes one-half of the communication process. The second half consists of verifying that the message you intended to send was actually received and interpreted the way you intended.

Remember:

1. Although you communicate in a way that seems clear to you, the receiver of the communication filters the information through pre-conceptions that can distort the message received.
2. Receivers listen selectively. They hear and process some things and gate out other things. It is likely that the whole message was not received.
3. The ONLY way you can ensure that you have created common understanding is by asking the other people what they have heard, and what their reactions are to it [60].

Verbal communication is the most obvious form of communication. Research has shown, however, that people pay much less attention to the words that are said and much more attention to the actions and nonverbal cues that accompany those words. Nonverbal cues include facial expressions, use of hand motions, body posture and eye movements. Leaders should always strive to match nonverbal cues to their words. When they do so, they are more believable and trustworthy [61].

Skills acquired and/or knowledge gained about good communication are only valuable to the extent they can be practically applied when called for. The number one thing great communicators have in common is they possess a heightened sense of situational and contextual awareness. The best communicators are great listeners and astute in their observations. Great communicators are skilled at reading a person/group by sensing the moods, dynamics, attitudes, values and concerns of those being communicated with. Not only do they read their environment well, but they possess the uncanny ability to adapt their messaging to said environment without missing a beat. The message is not about the messenger; it has nothing to do with messenger; it is however 100 % about meeting the needs and the expectations of those you're communicating with [62].

You know you are a good communicator when you consistently use the following ten principles in your interactions with others:

1. Speak not with a forked tongue – earn/build trust
2. Get personal – engage people; think dialog, not monologue
3. Get specific – simple and concise communication
4. Focus on leave-behinds, not the take-aways – focus on contributing more than you receive (servant leadership); transfer ideas and inspire action
5. Have an open mind
6. Shut-up and listen – know when to talk and when to just listen
7. Replace ego with empathy – communicate with empathy, transparency and caring; get rid of any ego-driven façade
8. When you speak, know what you are talking about – develop technical command over your subject matter; address both the "what" and "how"
9. Speak to groups as individuals – hard to do; work to establish credibility, trust and rapport with the individuals in a group
10. Read between the lines – understand what is not said, witnessed or heard; keep your eyes and ears open, and your mouth shut (as appropriate) [62]

Whenever you have a message to communicate, make sure the message is true, correct, well-reasoned, and substantiated by solid business logic that is specific, consistent, clear and accurate. Most importantly, keep in mind that communication is not about you, your opinions, your positions or your circumstances. It's about helping others by meeting their needs, understanding their concerns, and adding value to their world [62].

Use Case

It is very easy for people to get the wrong idea about your intentions, and this is even truer with the more impersonal modes of communication we often employ today: e-mail and text messaging. You have to carefully craft e-mail messages to ensure you and your intentions are not mistaken. Whenever possible, it is best to resort to the old style of phone or in-person communication to ensure the message received

is the one you want to send. Even then, if there is lack of consonance between the spoken word and body language or subsequent actions, the spoken word is ignored in favor of the other. Given George's new role as CMIO and department head, he must engage in careful, face-to-face (F2F) communications to ensure his message to others is clear. He must back up that communication with action to reinforce the message and build trust. When trust is built, and transparency is maintained (i.e. the motivators for actions/words), then communicating by less personal modes is possible without having to worry too much about misconstrued intent. Phone conversations are an acceptable alternative to F2F communications, but should be intermixed with F2F discussions as long as trust is being built. E-mail and texting are convenient, but they are much less effective modes and much more likely to be misconstrued by the recipient.

Emerging Trends in Leadership

Both the Institute for Leadership and Management (ILM) and the Center for Creative Leadership (CCL) have published papers on future leadership trends [63, 64]. The Center for Creative Leadership has also published a paper on the future of leadership development [65].

The ILM paper describes the future of leadership in its 2020 Vision paper. Its key findings are the following [63]:

1. A flexible workforce – more flexible working arrangements, to include job sharing, teleworking, flexible hours
2. Core competency required – the core leadership functions (communication, delegating, goal-setting and motivating) will be more important but harder to achieve
3. The power of relationships – working relationships will become increasingly important both within teams and with external stakeholders; this is also driven by the flexible workforce

The CCL leadership paper describes ten trends for leadership. These are [64]:

1. The rise of complex challenges – internal organization changes, market dynamics, shortage of talent and continued globalization
2. The innovation revolution – everyone is looking for the next big thing
3. The art of virtual leadership – this extends from the flexible workforce in the ILM paper; the key here is communication skill, specifically frequency and clarity/message effectiveness
4. Collaboration nation – collaboration is becoming much more important to succeed as a leader; this is usually a learned skill, but requires constant practice
5. The world of interruption – most leaders are interrupted about every 30 min, but the range is from five minutes to never; lots of strategies here, from being

uninterruptible (turn off phones, close door, empower assistant) to technologically simplifying one's life

6. Authenticity is the next celebrity – be honest and open; do not compromise your values, beliefs or personality
7. The fallout from the Baby Boom – many millions of senior, experienced people will leave the workforce as Baby Boomers retire; create a plan for leadership succession and train new leaders
8. More from the Baby Boom – find innovative ways to attract and retain experienced workers while preparing the next generation to take over; of note, Millenials are harder workers and better community builders than Boomers
9. Leadership for longevity – improved levels of stress, health, diet and fitness will be even more essential to ensure a sustainable and productive career
10. What's next? – more participative leadership style; employee instant gratification; collaborative technology; work/life balance; internal alignment

The CCL paper on leadership development identifies four future trends [66]:

1. More focus on vertical leadership development (developmental stages) along with continued work on horizontal development (competencies)
2. Transfer of greater developmental ownership to the individual – making people responsible for their own development
3. Greater focus on collective rather than individual leadership – this goes back to collaborative or participative leadership
4. Much greater focus on innovation in leadership development methods – organizations will have to innovate and incorporate new methods and new technologies to develop good leaders in a world with increased complexity

Questions for Discussion

1. Why is leadership an essential skill for a clinical informatician?
2. Describe a leadership model you have observed in practice. Did the leader meet all of the criteria as outlined in the model definition?
3. Which motivational theory or aspects of motivation would work best when implementing a clinical decision support (CDS) module into a department or clinic? How about when implementing a medication reconciliation module? Would the motivating factors be the same in these two scenarios?
4. Is it possible to communicate well but be a poor leader?
5. What role does negotiation play in leadership?
6. Think about scenarios in which you've observed conflict management. Describe one scenario in which the conflict was resolved well and another where conflict was resolved poorly. What lessons from the first scenario could have improved the second?

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