The complete clinician model

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ABSTRACT

Historically, medical education has focused on acquiring knowledge of basic science and clinical medicine. Relationship management skills are an essential aspect of excellent clinicians that may have been overlooked in the educational curriculum and undervalued in practice. The complete clinician model is a theoretical model for clinician development that describes why knowledge acquisition and relationship management are both imperative skills to refine when progressing to be an excellent clinician. Four quadrants are described, with ideal progress going from the trainee quadrant to the golden quadrant, ultimately aiming for competence in both knowledge acquisition and relationship management. The pediatric resident milestones from the Accreditation Council for Graduate Medical Education were placed in the model to underscore the importance placed on both knowledge acquisition and relationship management skills. Relationship management training should be integrated into the medical curriculum. This model may be applicable to professional education in other health care disciplines.

KEYWORDS Complete clinician; medical training; psychological safety; relationship management

Helping novice learners transition to professionals is the goal of medical education. Students select fields of study, complete residency and perhaps fellowship training, and then graduate and pass board examinations to practice medicine. Basic science and clinical medicine are foundations of providing patient care. Comprehension of anatomy, physiology, pathology, diagnostics, and remedy or treatment with medicine and surgery is imperative. Trainees gain critical thinking skills, learn to investigate illness, and use knowledge to create care plans to achieve treatment goals. Having a knowledge acquisition (KA) skill set becomes a lifelong endeavor.

However, the complexity and pace of change in medicine is stretching the knowledge and skills of health professionals.¹ Having knowledge about an illness does not automatically heal a patient. For example, understanding that smoking is unhealthy is not the same as smoking cessation.² Multiple interventions are needed to help patients stop smoking, such as enabling their ability to quit, improving their motivation, and helping them learn about self-management. Motivational interviewing can also be used.³ In essence, improving health can be viewed as a social

diplomacy matter that partners the physician and patient to achieve the best possible outcomes.⁴

Despite formidable challenges,^{5–7} clinicians form patient goals as they manage relationships with patients, families, and health care team members to deliver optimal patient care. The physician-patient interaction is impacted by the physician's ability to build relationships of trust with patients.⁸ Physicians teach families of pediatric patients who cannot comprehend treatment themselves. Physicians also interact with team members at multiple levels of health care to improve care delivery.

To be optimally effective, clinicians combine knowledge and skills with the relationship management (RM) skills of emotional intelligence. Elements of emotional intelligence such as self-awareness and social awareness are fundamental to crafting relationships that result in simple things like using names and making eye contact.⁹ Giving and responding to feedback, cultivating self-reflection, promoting psychological safety, and engaging in teamwork are all integral to relationship building.^{10–14} Good communication skills support relationships and include debriefing, negotiation, and conflict

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Figure 1. The complete clinician model 2 × 2 table.

resolution.^{15–17} Self-management skills include mindfulness, flexibility, gratitude, and resilience, which improve an individual’s emotional and behavioral regulation.^{18,19} Emotional intelligence has been said to represent an individual’s character, “which is the psychological muscle that moral conduct requires.”²⁰ Suffice it to say, a comprehensive RM skill set for individuals in health care contains numerous principles.

Perhaps minimizing the importance of this skill set, RM has previously been, and continues to be, referred to as “soft skills”²¹ or “nontechnical skills.”²² Although most individuals have an awareness of this skill set, clinicians can learn and apply RM principles to improve their teams and ultimately all of health care, even if team restrictions create limits or using these skills is not the standard.²³

Physician behavior affects both the health care team and patient outcomes.²⁴ Physicians who understand the art of teamwork²⁵ and the science of health systems²⁶ will learn and apply RM principles to improve the quality of care delivery and patient outcomes. Examples of reliable behavior creating and maintaining high-performing teams abound.^{27–29} A physician who has clinical knowledge of what needs to improve and uses RM skills to inspire a multitude of teams will advance health care.³⁰ Innovation is hindered if any individual physician lacks knowledge of how to improve or does not use RM skills to influence needed improvements.

MODEL DEVELOPMENT

The complete clinician model (CCM) was designed to highlight and enhance the connections between KA skills and RM skills. Acquiring KA skills is ultimately an individual responsibility, while developing RM skills is an interpersonal undertaking. The vertical axis consists of an individual’s KA skills, which include knowledge, talent, and technical skill—the personal resources an individual has at his or her disposal. The horizontal axis contains an individual’s RM skills and includes all individual practices of human interactions. The two axes form four quadrants (Figure 1):

- *Trainee quadrant.* Most learners start medical training in trainee quadrant and progress from “novice corner” as they gain skills and knowledge. Predictably, they use KA skills to understand fundamentals in basic science and

clinical medicine as well as learn how to expand RM skills with patients, families, and teams.

- *Hidden quadrant.* Individuals in this quadrant have well-developed RM skills but lack necessary KA skills, which limits their ability to gain medical knowledge to competently care for patients. Advanced RM skills may result in team performance that hides their individual knowledge deficiencies. Individuals who remain here are collaborative but may place patients at risk with their knowledge deficits.
- *Blind quadrant.* Individuals in this quadrant have excellent KA skills and have acquired vast amounts of medical knowledge to use in clinical situations. However, they are deficient in RM skills and are blind to how their behavior negatively affects the work environment. Individuals who remain here do little to foster dynamics of high-functioning teams and may limit or impair team function.
- *Golden quadrant.* Learners in this quadrant have high levels of both KA and RM skills. They use KA skills to understand how to care for patients and know what needs to be developed to improve patient care. Their RM skills help them lead improvement efforts because they effectively promote cooperation and trust among their teams to nurture their teams’ unique abilities to improve outcomes. Having competence in both KA and RM is greater than the sum of both skills, as they enhance each other.

There is overlap and interplay between these quadrants. An individual learner may be in different quadrants at different times depending on context. For example, movement between quadrants may be affected by physical, mental, or emotional states. Stress or sleep deprivation may contribute to blind behaviors, or low motivation may prevent knowledge expansion. A learner may be compromised on any given day by individual, team, or system dynamics and may drift into blind or hidden quadrants or behaviors. Ideally, every individual supports optimal performance and outcomes by aiming to stay in the golden quadrant.

Experience and practice can eventually facilitate learner movement into the golden quadrant.³¹ However, the CCM includes catalysts that can be used to gain the golden quadrant easier and faster. Some catalysts undoubtedly depend on other team members’ abilities and behaviors. They include, but are not limited to, psychological safety,^{13,32} feedback,³³ teamwork,³⁴ and vulnerability³⁵ (Table 1). Many barriers can potentially keep learners from the golden quadrant. It is possible to reach this quadrant despite barriers, but it will likely be more difficult and time consuming if an individual must navigate past, or suffer through, these barriers. Some of these barriers undoubtedly depend on other team members’ abilities and behaviors. They include, but are not limited to, psychological distress,³⁶ incivility and intimidation,³⁷ vulnerability,³⁵ and abuse³⁸ in any form (Table 1).

Table 1. Factors affecting clinician development

Category	Factors
Catalysts	Psychological safety is a shared belief held by members of a team that the team is safe for interpersonal risk taking. In psychologically safe teams, team members feel accepted and respected and can speak up without fear of retribution. It is imperative for learning, enables innovation, and improves teamwork. Feedback is necessary to improve performance. Giving and receiving feedback are two different skills, and both can help a learner improve. Vulnerability is the state of being exposed to the possibility of being attacked or harmed, physically or emotionally, and can result in feelings of shame, fear, and a struggle for worthiness. However, it can also be the birthplace for joy, creativity, belonging, and love. When appropriately navigated, vulnerability can be a catalyst to learn and improve and may also lead to innovation, creativity, and change. Teamwork is important for every healthcare team and can be measured. It occurs when members of the team learn about a situation and understand others' needs by asking questions. When questions are asked to improve situational awareness, patients are safer. Team members who maintain a questioning attitude do not allow others to proceed in the face of uncertainty.
Barriers	Psychological distress is the opposite of psychological safety and leads to individual and team discontent. Methods to decrease psychological distress may improve psychological safety. Incivility and intimidation are well described in healthcare and have deleterious effects. They contribute to a power differential between organizational personnel or levels that must be distinguished from an effective organizational hierarchy needed for success. Vulnerability is not weakness, yet it contains emotional risk, fear of exposure, and uncertainty. At the extreme, this may lead to feelings of fear that may paralyze a learner's actions. Abuse in any form is the most extreme barrier, and its presence in healthcare is a tragedy. This places a professional individual and team on the brink of disaster.

APPLICATION TO ONE CLINICAL DISCIPLINE

The Accreditation Council for Graduate Medical Education (ACGME) endorsed six core competencies of medical training in 1999 that have since led to the development of milestone achievement and professional activities. These tools help track the development of learners over time and throughout their training as they become competent graduates. The competencies are medical knowledge (MK), patient care (PC), professionalism (Prof), interpersonal and communication skills (IPC), practice-based learning and improvement (PBLI), and systems-based practice (SBP).³⁹ Each competency is anchored by specific professional activities and developmental milestones that have been delineated by the ACGME for all medical specialties, including pediatrics. Applying each of these competency areas to behavioral elements, 21 developmental milestones have been delineated by the ACGME for each pediatric resident to be tracked and reported each year.³⁹

Each core competency was placed in the CCM on the KA axis (MK and PC), the RM axis (Prof and IPC), or the golden quadrant (PBLI and SBP), as the combination of KA and RM seems to promote PBLI and SBP. The 21 milestones were also placed in the model: six milestones fit into the KA axis, eight fit in the RM axis, and seven reflected combined skills, revealing a skill set that is greater than the sum of either axis alone (*Table 2*). Four theoretical descriptions of residents using the CCM as a guide are described next.

Resident 1

The resident ranked lower than peers in most milestone domains, particularly the PBLI and SBP competencies, which require integration of KA and RM skills. He required additional oversight in all learning and patient care activities. In-training examination (ITE) scores remained low throughout residency. The Clinical Competency Committee recommended continued mentorship and professional support to get the resident to develop insight into strengths and weaknesses. A lack of social awareness, self-regulation, and organizational skills persisted throughout residency, although he attempted to respond to feedback. He was in trainee quadrant.

Resident 2

The resident ranked extremely high on milestones in the ICS and Prof competencies, often receiving comments about his pleasant demeanor and ability to build rapport with families and patients. However, MK and PC competencies were stagnant throughout residency. He struggled with technical skills and clinical skills competency. Commentary from the Clinical Competency Committee indicated concerns about underperformance and minimization of patient complaints. He was well regarded, but not highly trusted. He failed to pass the pediatric boards the first time, as predicted by poor ITE scores, but has since passed his boards and is in a general outpatient pediatric practice. He remained in the hidden quadrant.

Table 2. Clinician abilities, processes, and outcomes as measured by the pediatric resident competencies and milestones

Factor	Abilities (innate)	Processes (action)	Outcomes (result)	Pediatric competencies	Pediatric milestones
Knowledge acquisition	- Learn and study - Learn what you do not know - Know your limitations	- Responding to feedback - Practice (e.g., simulation)	Gain understanding, talent, and technical skills	PC, MK	PC 1, 2, 4, 5; MK 1; PBLI 4
Relationship management	- Self-awareness - Social awareness	- Self-discovery - Self-monitoring - Self-reflection - Exposure	- Self-regulation - Relationship management	Prof, ICS	Prof 1–6; ICS 1–22
Combination	Internal motivation	- Shared discovery - Modeling	- Dependability - Insight - Ownership	PBLI, SBP	PC 3; PBLI 1–3; SBP 1–3

ICS indicates interpersonal and communication skills; MK, medical knowledge; PBLI, practice-based learning and improvement; PC, patient care; Prof, professionalism; SBP, system-based practice. For descriptions of the milestones from the Accreditation Council for Graduate Medical Education, see Carraccio et al 2013.³⁹

Resident 3

The resident excelled in MK and PC, achieving high ITE scores and excellent reports in patient care activities. She was able to provide organized and efficient care and was well regarded in her clinical research efforts. She struggled, however, to achieve in areas of care coordination and had poor social engagement skills. IPC and Prof competencies were areas of concern with the Clinical Competency Committee, as she was disinterested in rotations not related to her interests. She blamed others for her failures, and her demeanor had a consistent negative impact on team dynamics and working relationships. She passed the boards and moved into a subspecialty fellowship with little change in behavior over time. She was in the blind quadrant.

Resident 4

This resident needed little guidance during residency. She was well rounded, with a solid fund of knowledge due to an advanced learning style. Interpersonally, she was known for wonderful communication ability, regardless of audience. She responded to feedback and shared discovery with other learners. She achieved a board-passing ITE score her intern year and continued to perform well in PBLI and SBP competencies. The resident had outstanding milestone rankings in all domains and was humble and always open to learning. The KA and RM skill sets were readily apparent in this golden quadrant resident.

DISCUSSION

Helping novices understand a dual aim of KA and RM can facilitate their development in numerous ways. As trainees integrate themselves into the health care workforce, they inevitably join or create interprofessional teams. Understanding CCM principles may help them be perceptive during their training to recognize team members who have these skills and learn how to attain and improve these skills themselves. They can discover which quadrant they are pointed toward as perceived by peers

and mentors. Individualized learning goals can increase medical trainees' commitment to lifelong learning.⁴⁰ The CCM can help trainee leadership teach KA and RM as important keystones in medical education and develop individualized learning plans to achieve maximal educational outcomes.

As RM skills are teachable, every physician can learn them to build and improve relationships with patients, caregivers, and team members. These skills improve patient care by empowering patients while increasing the effectiveness of teams, hospitals, and health care systems. As individuals are able to effectively manage relationships, they will move teams forward despite unpredictable or unfortunate setbacks or disagreements. Often, physicians are seen as a team leader, which compounds the need for them to understand and apply these principles to make their team effective amidst health care complexity.

Combining the increasing complexity of medicine with clinician turnover creates an obvious need to optimize training of new clinicians as they are integrated into existing teams. If physicians are unwilling to learn or implement RM skills, they will be less effective within their circle of influence. Conversely, if they intentionally gain a RM skill set, they will employ optimal behaviors that benefit their patients and teams, as well as themselves. Golden team members have their objective in mind, discuss and interact with other experienced team members, and consequently make the best possible decisions. "Golden teams" maintain the dual focus on KA and RM and will be able to solve health care challenges in amazing ways.

Limitations of this model and approach may be apparent and the model may need refinement. However, becoming complete clinicians is a lifelong pursuit that requires continuous KA and refinement of RM skills. Further study is needed to evaluate how the CCM can affect trainees and physicians in health care.

Necessary components of physician education and professional development should include RM skills. As medicine is not the only health care discipline that needs to teach students how to integrate RM principles into their practice, this model can

help guide professional development in every discipline. Every team member will need to embrace RM behaviors to have ideal team performance and obtain optimal patient outcomes.

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