

Population Health Milestones in Graduate Medical Education

A report to the Centers for Disease Control and Prevention
and the Fullerton Foundation

August 2015



Resources: For more information regarding population health improvement, visit cfm.mc.duke.edu/population-health.

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SUMMARY

Population health is “studying and addressing of health outcomes in a meaningful group, including health outcomes and their distribution within the group, the patterns of health determinants, and the policies and interventions and other socioecological factors linking determinants and outcomes”¹. The importance of training physicians and other providers to participate in population health improvement is now widely recognized. The costs of medical care continue to rise, the health status of Americans ranks far below that of other developed nations, and the burdens of chronic disease and health disparities are increasing. Social conditions, such as poverty, lack of education, and the built environment are widely acknowledged to be the most important determinants of ill health, and are key to substantially improving the impact that quality medical care can have on health status². Moreover, chronic conditions cannot be addressed solely by the clinical encounter, but require that individuals manage their behavior and diseases on a daily basis, and that their social and physical environments support self-management³.

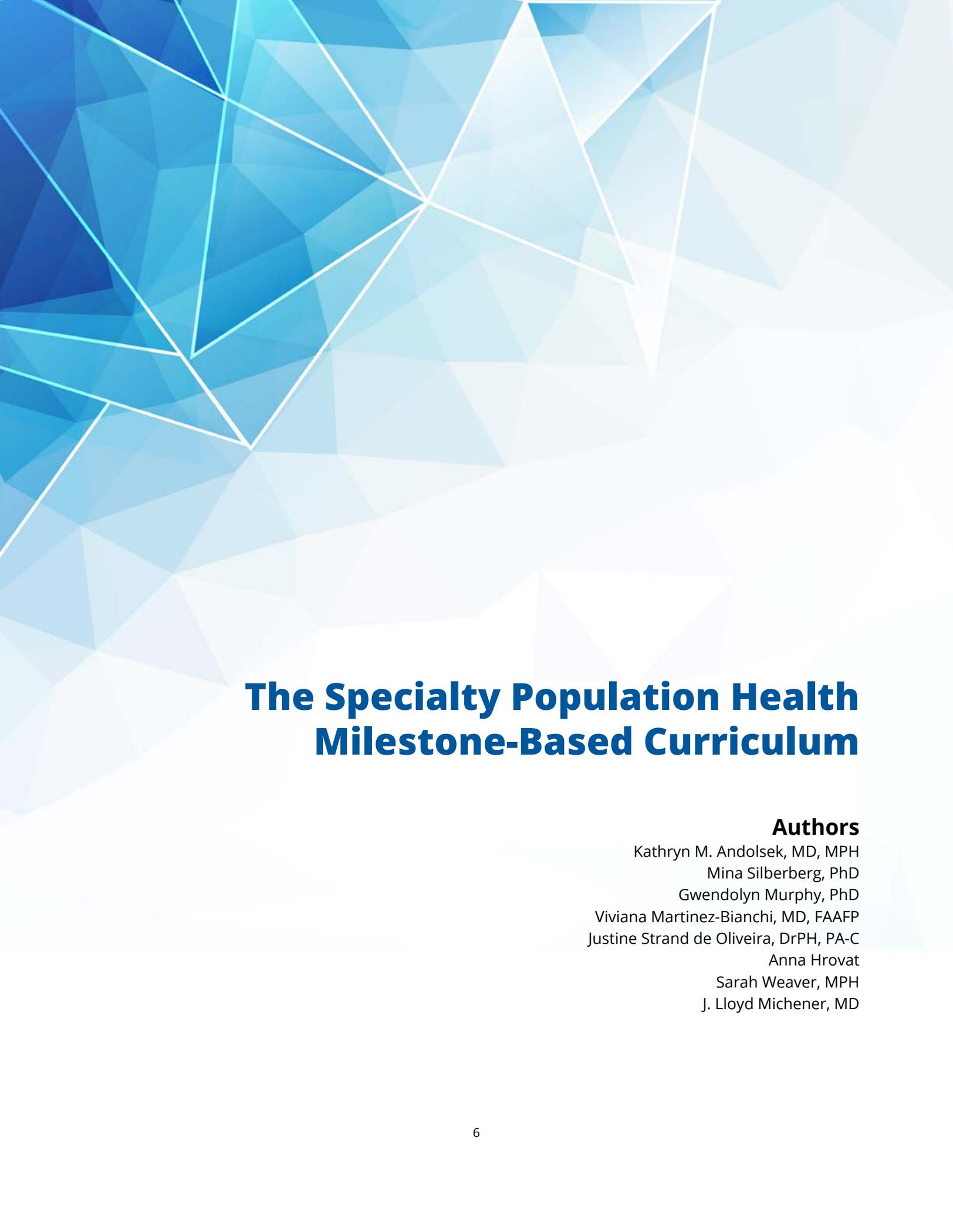
Despite the importance of training clinicians to participate in population health improvement, there has until recently been little attention to the development of curricula and materials to support that work. The goal of the attached report is three-fold: 1) highlight the population health training requirements embedded in the ACGME Milestones for resident physicians, 2) suggest educational materials and assessment tools that residency programs can use to develop resident competencies in population health and meet required milestones, and 3) propose a generic set of population health milestones to inform future development of population health education and residency training. While primary care is an obvious partner for population health improvement, there is a significant role for all specialties in this work, as evidenced by our review of population health content in the milestones of over 40 disciplines. We hope that the generic milestones will contribute to the development of more robust population health training for all residents.

Footnotes:

¹ Kindig, D., & Stoddart, G. (2003). What is population health?. *American Journal of Public Health*, 93(3),380-383.

² Frieden, T. R. (2010). A framework for public health action: the health impact pyramid. *American journal of public health*, 100(4), 590-595.

³ Wagner, E. H. (2010). Academia, chronic care, and the future of primary care. *Journal of general internalmedicine*, 25(4), 636-638.



The Specialty Population Health Milestone-Based Curriculum

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INTRODUCTION

Many professional associations and other expert commentators are calling for physicians to effectively manage the health of a defined group of people, whether a geographic community, a clinician's designated patient panel, patients with a particular disorder, or another cohort with some defining characteristics (Maeshiro, R et al. 2010).

If this vision is to be realized, population health needs to be codified among the competencies that physicians are expected to demonstrate by the completion of graduate medical education training. The standards shaping physician GME training now include "milestones" defined by the Accreditation Council for Graduate Medical Education (ACGME) and the American Board of Medical Specialties (ABMS) (Holmboe, Edgar, and Hamstra, n.d). The objective of the work presented here was to identify the population health content within these milestones, in order to:

1. Highlight the importance of population health in medical training.
2. Extract those aspects of population health that are sufficiently important to medical specialties to be considered for inclusion in a core or generic set of population health milestones.
3. Form a basis for mapping potential curricular content and assessment strategies to the generic milestones.

BACKGROUND

The health status of Americans ranks well below that of other developed nations, even as our health care expenditures, as a proportion of Gross Domestic Product, are the highest (US Burden of Disease Collaborators 2013).

The US burden of chronic disease is increasing (Bauer, Briss, and Bowman, 2014) and health disparities remain large (Braveman et al., 2011). Interrelated social conditions, such as poverty, lack of education, and the built environment (e.g., sidewalks, grocery stores) are widely acknowledged to be the most important determinants of health, and are key to substantially improving the impact that quality medical care can have on health status (Frieden 2010). Moreover, chronic conditions (increasingly the major component of health care costs) cannot be addressed solely by the traditional clinical encounter, but require that individuals actively participate in choosing healthy behaviors and optimizing the care of their health conditions on a daily basis, and that their social and physical environments support self-management (Wagner 2010).

To effectively address these issues, clinicians must participate in population health, defined as, “studying and addressing of health outcomes in a meaningful group, including health outcomes and their distribution within the group, the patterns of health determinants, and the policies and interventions and other socioecological factors linking determinants and outcomes” (Kindig and Stoddart 2003). In recognition of this fact, several influential national organizations including the Institute of Medicine, the Centers for Disease Control and Prevention (CDC), the Association of American Medical Colleges, and the Carnegie and Macy Foundations and the Academic Partnerships to Improve Health (APIH) have recommended that academic health centers align health professionals’ education with the needs of the public (Frenk et al., 2011; Kreitzer, Kligler, & Meeker, 2009; New Report 2012; Thibault 2014; <http://www.cdc.gov/ophss/csels/dsepd/academic-partnerships>).

For over a decade, the ACGME Outcome’s Project required that GME program directors teach and assess resident competence in six general dimensions of practice: patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and system-based practice. In transitioning to ACGME’s next accreditation system (NAS), each medical specialty board together with the ACGME Residency Review Committees (RRCs) defined milestones representing progressive mastery of specific skills within these competency domains typically along a continuum from Level 1 to Level 5. Seven specialties implemented milestones in July 2013. Most of the others started in July 2014, and virtually all of the remaining specialties will implement milestones over the next two years.

Program directors will report resident performance against milestones to the ACGME twice yearly. At the time of program completion it is anticipated (but not yet known) that residents will have achieved mastery of level 4 in most, if not all milestones. Level 4 generally involves being able to work independently and handle complexity. For most specialties, the fifth and final milestone level – often involving leadership or innovation -- is aspirational, to be achieved later during a clinician’s career, if at all.

The goal of this project was to 1) Highlight the importance of population health in medical training. 2) Extract those aspects of population health that are sufficiently important to medical specialties to be considered for inclusion in a core or generic set of population health milestones. 3) Form a basis for mapping potential curricular content and assessment strategies to the generic milestones.

METHODS

A group of faculty representing family medicine, community health, pediatrics, internal medicine, and central graduate medical education (GME) independently reviewed the family medicine milestones, and then met to compare their lists of population health-related skills/knowledge in the family medicine milestones, and arrive at a consensus list. Through this process, they developed decision rules reflecting the logic behind the agreements. With this exercise in mind, one GME specialist from the group (board certified in family medicine) then reviewed the milestones for more than 40 medical specialties (posted to the ACGME website as of February 2014) to identify population health content.

The work presented here should not be seen as providing definitive lists of milestones with population health content. Rather it is a starting point to frame a broader discussion. We acknowledge there are numerous gray areas to this work. For example, should the communication skills essential for a physician to communicate with individual patients be included in population health milestones, since being competent in communicating with an individual is foundational to communicating with a population? Should patient safety and quality milestones be included, since quality improvement efforts and error reporting by their very nature involve populations? Or would these concepts be more generally seen as their own content areas with sufficient attention and resources already directed to them, and not be recognized by others as specifically relevant to population health? Attempting to resolve these and similar issues would not have been appropriate for a small team representing only a small number of institutions and disciplines. Nor was it necessary, given the purposes described above. Rather, what we have to offer is one perspective on population health.

What follows are the major findings from our review and a discussion of representative milestones with population health content for several disciplines. They reflect the diversity of how milestones with population content are classified, as each of the four examples reflects a different GME competency: Patient Care, Systems Based Practice, Communication and Professionalism. An appendix to this report provides the milestones identified as including population health content for all of the specialties with published milestones available on the ACGME web site as of February 2014.

Individual specialties can review curricular resources and assessment tools suggested for the Population Health Milestones.

RESULTS

Major Findings

1. When is Population Health, Population Health?

There was lively debate on what should be counted as population health skill or content. Some panel members wished to include all competencies, believing that a physician is probably best equipped to care for a population once they can care for an individual patient. Should individual milestones reflecting the ability to conduct accurate history, physical examination, order appropriate tests, and communication among health team members regarding an individual patient be included as population health? In general our consensus was to identify only those milestones unique to caring for a population.

2. Should patient safety and quality milestones be included since they generally involve a population for whom care is being improved?

This issue, too, brought forward excellent discussion. In general the consensus favored recognizing the content overlap between patient safety and quality and population health.

However nationally there has been far greater faculty and program development around patient safety and quality. Resources, such as the Institute for Health Care Improvement Open School are broadly known and utilized. Similarly, safety and quality are two of the 6 Clinical Learning Environment Review (CLER) focus areas incenting a greater partnership between programs and their sponsoring institutions. There has been much less attention to population health principles beyond safety and quality. The initial analysis of the first round of CLER visits concluded that most “residents and fellows generally report having completed educational programs related to patient safety quality and professionalism. Over 80 percent residents report participation in education on patient safety (Weiss, K & Bagian, J 2014).

3. Are milestones for an individual meaningful in population health, given that providing population health requires the competencies of a team?

Teamwork is both a skill and an intentional strategy required to improve population health outcomes. Individuals must reach specific milestones on a variety of team competencies demonstrating the ability to effectively participate in, and at times, lead teams.

4. Are our proposed levels realistically leveled?

Many believed only a few primary care faculty are at greater than level 1 or 2 as described. The consensus was to describe a full spectrum of performance using a milestones framework and accept that programs and specialties may reasonably set their expectation at the conclusion of residency is only level 1 or 2.

5. Have we identified the right nomenclature?

Are our Milestones which we identified, truly “milestones”, “competencies”, “competency domains”, or even “Entrustable Professional Activities (EPAs)”?

Do they better represent a 7th competency (in addition to patient care, medical knowledge, practice based learning and improvement, systems based practice, interpersonal communication and professionalism) or do they reflect components, concepts or elements embedded within these 6 existing competencies?

With the transition to competency based teaching and assessment there are several frameworks that have been adopted. The Accreditation Council for Graduate Medical Education (ACGME) initiated the outcomes project in 1998 and articulated the concepts of six core competencies in 1999 (Swing 2007). Canada's Royal College adopted the CanMEDS Framework a few years earlier in 1996, which has been adopted by countries on five continents (CanMEDs 2015).

Both ACGME and the Royal College have worked toward implementation of specialty specific milestones to better articulate the behaviors within each competency domain/role.

Entrustable professional activities (EPAs) are more explicit translations of these qualities to clinical practice, and potentially have greater utility in assessment of proficiency. EPAs are “units of professional practice, defined as tasks or responsibilities to be entrusted to the unsupervised execution by a trainee once he or she has attained sufficient specific competence... [they]... are independently executable, observable, and measurable in their process and outcome“ (Ten Cate 2013).

We suspect this is a debate the community of users will decide. We have settled on attempting to identify the abilities we believe clinicians should demonstrate to best care for populations, even if only through the lens of the individual in the clinic or hospital.

Interestingly, none of the existing ACGME competencies or newly proposed CanMed roles explicitly identify the physician as caring for a population distinct from caring for an individual.

OUR FOUNDATION

All Physicians Care for Populations

We believe that all physicians care for populations. At the very least, they care for the population represented by the individual patient for whom they provide care. Increasingly their performance in caring for that population is benchmarked and the results widely shared. Performance metrics, including quality, cost, and satisfaction may form the basis for rewards, reimbursement, recognition and promotion. These metrics may be broadly disseminated on public websites and sought out by patients who may use them in part to decide where to obtain care. The extent to which this transparency enhances performance, however, is debatable (Lamb, Smith, Weeks, & Queram 2013; Gray, Vandergrift, Guodong, McCullough, & Lipper 2014).

Although not surprising, we identified at least one milestone for each specialty that we believed reflected population health. Some specialties had population health content distributed over a dozen milestones although only a minority of specialties explicitly used the terms population or population health. In this example from the Family Medicine milestones, Level 2 emphasizes behavioral and social determinants of health; Level 3 emphasizes linking the patient with the community, and Level 4 focuses on tracking and monitoring disease prevention and health promotion for the practice population. Level 5 requires integrating practice and community data explicitly to improve population health; and partnerships with the community to improve population health.

Family Medicine Milestones Patient Care-3

PC-3. Partners with the patient, family and community to improve health through disease prevention and health promotion.

Level 1	Level 2	Level 3	Level 4	Level 5
Collects family, social, and behavioral history	Collects family, social, and behavioral history	Explaining the basis of health promotion and disease prevention recommendations to patients with the goal of shared decision making	Tracks and monitors disease prevention and health promotion for the practice population	Integrates practice and community data to improve population health
Demonstrates awareness of recommendations for health maintenance and screening guidelines developed by various organizations	Demonstrates awareness of recommendations for health maintenance and screening guidelines developed by various organizations	Describes risks, benefits, costs, and alternatives related to health promotion and disease prevention activities.	Integrates disease prevention and health promotion seamlessly in the ongoing care of all patients	Partners with the community to improve population health
		Partners with the patient and family to overcome barriers to disease prevention and health promotion		
		Mobilizes team members and links patients with community resources to achieve health promotion and disease prevention goals.		

Primary care specialties might be expected to include population health content. However, the following example from Plastic Surgery indicates that all physicians, not just those in primary care or treating chronic disease, recognize their care for populations.

Plastic Surgery Milestone-Systems Based Practice

Resource Allocation — Systems-based Practice				
Level 1	Level 2	Level 3	Level 4	Level 5
Describes practice variations in resource consumption, such as the utilization of diagnostic tests	Describes the cost implications of using resources and practice variation	Participates in responsible use of health care resources seeking appropriate assistance	Practices cost-effective care (e.g., managing length of stay, operative efficiency)	Designs measurement tools to monitor and provide feedback to providers/teams on resource consumption to facilitate improvement

Beyond the individual patient, the physician is part of the aggregate care experience for all patients with that same condition, and physicians are increasingly evaluated on the care provided for that population. Sometimes evaluation takes the form of publicly reportable measures. The physician may even be paid for performance. The surgical site wound infection rate for a given surgeon, for example, may be compared with all other surgeons within a hospital, within the hospital's health system, within the state, or even the entire United States or internationally. Moreover, the treatment decisions of all physicians have an impact on the aggregate health care systems' costs. This Plastic Surgery milestone in Systems Based Practice recognizes the critical importance of physicians developing skills in recognizing practice variability and developing an awareness of cost.

Undersea and Hyperbaric Medicine is one of the smallest specialties. Yet their milestone within "Interpersonal and Communication" identifies the communication skills physicians require for individual patients and the public as well as vulnerable populations.

Undersea Hyperbaric Medicine Milestones-Interpersonal and Communication Skills

Patients, Families, and Public – Interpersonal and Communication Skills				
Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes the importance of effective communication with patients, families, and the public across a broad range of socioeconomic and cultural backgrounds	Demonstrates effective communication with patients, families, and the public Engages in shared decision making when obtaining informed consent	Educates patients and the public regarding issues related to diving and hyperbaric medicine Effectively communicates with vulnerable populations, including patients at risk and their families	Communicates with patients and families regarding confidential medical information Educates the public regarding environmental risks (e.g., safe diving practices, toxic gas exposure)	Consults on undersea and hyperbaric issues outside of the local health care environment, such as with regional and national health care agencies

Orthopedic Hand Surgery is another small and very specialized discipline. Nonetheless, in the following example from that specialty, a Level 3 “Professionalism” milestone requires that their fellows “understand the beliefs, values, and practices of diverse and vulnerable patient populations and their impact on patient care”; Level 4 requires that fellows “develop a mutually agreeable plan” when patient and physicians values and beliefs when conflict; and Level 5 requires that fellows “develop programs to ensure equality of care in diverse vulnerable and underserved populations.”

Ethics and Values — Professionalism

Level 1	Level 2	Level 3	Level 4	Level 5
Understands basic bioethical principles and is able to identify ethical issues in hand surgery	Recognizes ethical issues in practice and is able to discuss, analyze, and manage common ethical situations	Analyzes and manages ethical issues in complicated and challenging situations	Uses a systematic approach to analyzing and managing ethical issues, including advertising, billing, and conflicts of interest	Leads institutional and organizational ethics programs
Demonstrates behavior that conveys caring, honesty, and genuine interest in patients and families	Demonstrates behavior that shows insight into the impact of one's core values and beliefs on patient care	Understands the beliefs, values, and practices of diverse and vulnerable patient populations, and the potential impact of these on patient care	Develops a mutually-agreeable care plan in the context of conflicting physician and patient values and beliefs	Develops programs to ensure equality of care in diverse, vulnerable, and underserved populations
Understands and manages the issues related to fatigue	Demonstrates management of personal emotional, physical, and mental health	Identifies and manages situations in which maintaining personal emotional, physical, and mental health is challenged	Recognizes signs of physician impairment, and demonstrates appropriate steps to address impairment in self and in colleagues	Develops institutional and organizational strategies to improve physician wellness
Exhibits professional behavior (e.g., reliability, industry, integrity, and confidentiality)	Recognizes individual limits in clinical situations and asks for	<ul style="list-style-type: none"> Understands conflicting interests of self, family, and others, and their effects on the delivery of medical care 	Prioritizes and balances conflicting interests of self, family, and others to optimize medical care	

At a minimum ACGME expects residents receive performance “feedback” regarding the resident’s own population or practice. The annual ACGME resident survey can be used to benchmark a program’s performance in providing these data compared with other programs in their specialty and institution

It contains a question on whether residents receive feedback on their practice habits. The expectation is that “residents should be provided with information such as surveys or comparative data to promote self-monitoring and to improve their clinical skills.” For example, residents may be regularly provided information on their own population of patients compared to their peers, or their faculty/division/department. In some cases benchmarking to a national database is possible, such as for post-heart catheterization outcomes, for interventional cardiology fellows, (Tcheng & Sketch, personal communication) or surgical outcomes compared with the American College of Surgery NSQIP profiles. Some programs use pertinent CMS measures.

These reports may include information on volume: such as the number of tests/diagnostic images ordered, patient safety surveys, most common diagnoses or patient’ demographics, adherence to disease-specific standard protocols, and productivity (such as number of patients seen or number of procedures performed). Surgical and other procedural specialties frequently employ case logs to document residents are acquiring sufficient experience with key procedures. Frequently benchmarked to national standards. This helps Programs proactively adjust resident experience, for example assigning patients with diabetes to an internal medicine resident’s panel if they lack appropriate patients with chronic disease.

In the 2013-2014 ACGME resident survey, this was the lowest rated by the over 113,000 resident respondents. Only fifty nine percent of residents indicated they were provided data about proactive habits (By comparison, residents reported adherence to ACGME expectations from 59-100 percent; the next worst area was reported at 71 percent.)

A Program should review their residents' answers to this ACGME survey question and benchmark to their institution and to programs nationally to identify opportunities for improvement. (ACGME 2013-2014 Resident Survey)

The Clinical Learning Environment Review (CLER) with its 6 focus areas including efforts to reduce health disparities are another opportunity for resident integration into population health (ACGME 2013; ACGME 2014). CLER may be especially valuable in benchmarking GME involvement with the sponsoring institution related to health care disparities, and approaching disparities as a healthcare quality measure.

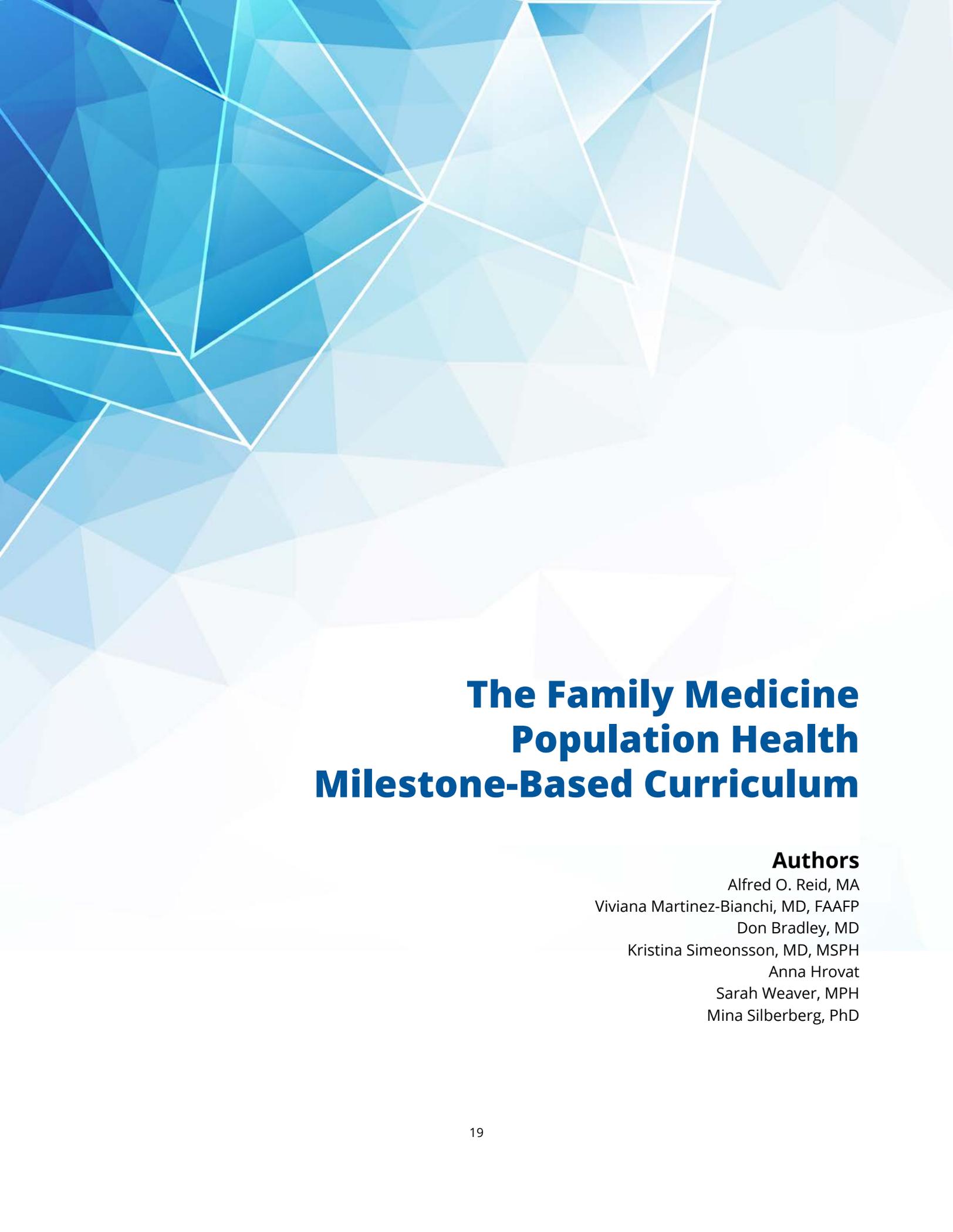
Core Population Health Competencies

In May of 2014, participants at a workshop at the annual meeting of the Society for Teachers of Family Medicine took the first step in developing a set of generic population health milestones using the four population health competency domains delineated by Kaprielian et al (2013): public health, community engagement, critical thinking, and team/leadership skills. These milestones are currently being revised by a small team – including the authors of this report -- through an iterative process involving feedback from a variety of stakeholders from public health, multiple medical specialties, non-physician clinicians, and others. Reviewing the population health content in the existing specialty milestones highlighted, for example, the importance of including the following in these generic milestones:

1. Engage patients, families, collaborators/stakeholders on population health improvement.
2. Recognize and address the needs of vulnerable populations, including those with inequitable health outcomes.
3. Appreciate the role of and/or practice advocacy in a variety of arenas, ranging from community programs to federal policymaking.
4. Analyze and reduce practice variation through understanding the drivers of health care costs.

CONCLUSION

There have been many calls to incorporate population health into future medical training. Our review of the ACGME milestones as of February 2014 indicated that population health is recognized -- to varying degrees -- across all specialties and across multiple competency domains, even if the term "population health" is not explicitly used. This review particularly highlighted the importance of including the following content in population health for all physicians: engagement/communication skills, understanding of vulnerable populations and health disparities/inequities, advocacy, and an awareness of practice variation and the drivers of health care costs.



The Family Medicine Population Health Milestone-Based Curriculum

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INTRODUCTION

This section of the report highlights the population health content in the existing Family Medicine Milestones, as defined by the ACGME and the Board of Family Medicine. In addition to identifying those milestones, the attached document provides sample materials and assessment tools that can be used in training learners in these competencies

Family Medicine Materials and Assessment Tools for Population Health

MK-2. Applies critical thinking skills in patient care

Level	Milestone	Materials	Activities/Assessment Tools
1	<p>Recognizes that an in-depth knowledge of the patient and a broad knowledge of sciences are essential to the work of family physicians.</p> <p>Demonstrates basic decision making capabilities.</p> <p>Demonstrates the capacity to correctly interpret basic clinical tests and images.</p>		
2	<p>Synthesizes information from multiple resources to make clinical decisions.</p> <p>Begins to integrate social and behavioral sciences with biomedical knowledge in patient care.</p> <p>Anticipates expected and unexpected outcomes of the patients' clinical condition and data.</p>		
3	<p>Recognizes and reconciles knowledge of patient and medicine to act in patients' best interest.</p> <p>Recognizes the effect of an individual's condition on families and populations.</p>	<p>Using a simple registry to improve your chronic disease care http://www.aafp.org/fpm/2006/0400/p47.html</p>	<p>Preceptor review & discussion of chronic illness patients' characteristics representative of the larger population</p>
4	<p>Integrates and synthesizes knowledge to make decisions in complex clinical situations.</p> <p>Uses experience with patient panels to address population health.</p>	<p>Patient empanelment: the importance of understanding who is at home in the medical home. http://www.ncbi.nlm.nih.gov/pubmed/25748755</p>	<p>Preceptor review of common patient panel characteristics related to population health</p>
5	<p>Integrates in-depth medical and personal knowledge of patient, family and community to decide, develop, and implement treatment plans.</p> <p>Collaborates with the participants necessary to address important health problems for both individuals and communities.</p>	<p>Periodic review of materials for Levels 3 and 4</p>	<p>Peer review of relevant cases</p>

PC-2 *Cares for patients with chronic conditions*

Level	Milestone	Materials	Activities/Assessment Tools
1	<p>Recognizes chronic conditions.</p> <p>Accurately documents a clinical encounter on a patient with a chronic condition, and generates a problem list.</p> <p>Recognizes that chronic conditions have a social impact on individual patients.</p>		Chart review/audit
2	<p>Establishes a relationship with the patient as his or her personal physician.</p> <p>Collects, organizes and reviews relevant clinical information Recognizes variability and natural progression of chronic conditions and adapts care accordingly.</p> <p>Develops a management plan that includes appropriate clinical guidelines.</p> <p>Uses quality markers to evaluate the care of patients with chronic conditions.</p> <p>Understands the role of registries in managing patient and population health.</p>	<p>Improving Chronic Illness Care: Clinical Practice Change http://www.improvingchronic-care.org/index.php?p=Assessment&s=240</p> <p>Using a simple registry to improve your chronic disease care http://www.aafp.org/fpm/2006/0400/p47.html</p>	<p>Part 3 of the Assessment of Chronic Illness Care from http://www.improvingchroniccare.org/index.php?p=ACIC_Survey&s=35</p>
3	<p>Consistently applies appropriate clinical guidelines to the treatment plan of the patient with chronic conditions.</p> <p>Engages the patient in the self-management of his or her chronic condition.</p> <p>Clarifies the goals of care for the patient across the course of the chronic condition and for his or her family and community.</p> <p>Begins to manage the conflicting needs of patients with multiple chronic conditions or multiple co-morbidities.</p>		

PC-2 Cares for patients with chronic conditions
(continued)

Level	Milestone	Materials	Activities/Assessment Tools
4	<p>Leads care teams to consistently and appropriately manage patients with chronic conditions and co- morbidities.</p> <p>Facilitates patients' and families' efforts at self- management of their chronic conditions, including use of community resources and services</p>	<p>Clinician-Community Linkages (connecting clinical providers, community organizations, and public health agencies.) http://www.ahrq.gov/professionals/prevention-chronic-care/improve/community/index.html</p>	<p>Part 2 of the Assessment of Chronic Illness Care from http://www.improvingchroniccare.org/index.php?p=ACIC_Survey&s=35</p>
5	<p>Personalizes the care of complex patients with multiple chronic conditions and co- morbidities to help meet the patients' goals of care.</p> <p>Continually uses experience with patients and evidence-based medicine in population management of chronic condition patients.</p>	<p>Periodic review of materials for levels 2 and 4</p>	<p>Periodic administration/ review of the Assessment of Chronic Illness care from http://www.improvingchroniccare.org/index.php?p=ACIC_Survey&s=35</p>

PC-3. Partners with the patient, family and community to improve health through disease prevention and health promotion

Level	Milestone	Materials	Activities/Assessment Tools
1	<p>Collects family, social, and behavioral history.</p> <p>Demonstrates awareness of recommendations for health maintenance and screening guidelines developed by various organizations.</p>		
2	<p>Identifies the roles of behavior, social determinants of health, and genetics as factors in health promotion and disease prevention.</p> <p>Incorporates disease prevention and health promotion into practice.</p> <p>Reconciles recommendations for health maintenance and screening guidelines developed by various organizations.</p>	<p>Materials pertinent to your state on social determinants of health http://www.cdc.gov/socialdeterminants/Resources.html</p> <p>Healthy People 2020: Genomics https://www.healthypeople.gov/2020/topics-objectives/topic/genomics</p> <p>USPSTF Guide to Clinical Preventive Services http://www.ahrq.gov/professionals/clinicians-providers/guidelines-recommendations/guide/</p>	Portfolio: list recommended preventive measures for a patient with particular characteristics
3	<p>Explains the basis of health promotion and disease prevention recommendations to patients with the goal of shared decision making.</p> <p>Describes risks, benefits, costs, and alternatives related to health promotion and disease prevention activities.</p> <p>Partners with the patient and family to overcome barriers to disease prevention and health promotion.</p> <p>Mobilizes team members and links patients with community resources to achieve health promotion and disease prevention goals.</p>	<p>Clinician-Community Linkages (connecting clinical providers, community organizations, and public health agencies.) from http://www.ahrq.gov/professionals/prevention-chronic-care/improve/community/index.html</p> <p>Choosing Wisely: 15 Things Physicians and Patients Should Question http://www.choosingwisely.org/doctor-patient-lists/american-academy-of-family-physicians/</p>	Portfolio: describe one or more patients referred to community resources
4	<p>Tracks and monitors disease prevention and health promotion for the practice population.</p> <p>Integrates disease prevention and health promotion seamlessly in the ongoing care of all patients.</p>	<p>Using a simple registry to improve your chronic disease care http://www.aafp.org/fpm/2006/0400/p47.html</p>	Record review: compare outcomes for those in the same clinical setting

PC-3. *Partners with the patient, family and community to improve health through disease prevention and health promotion*
 (continued)

Level	Milestone	Materials	Activities/Assessment Tools
5	<p data-bbox="298 321 667 386">Integrates practice and community data to improve population health.</p> <p data-bbox="298 407 667 472">Partners with the community to improve population health.</p>	<p data-bbox="695 321 1070 386">A Guide for Assessing Primary Care and Public Health Resources</p> <p data-bbox="695 386 1070 491">https://practicalplaybook.org/further-guidance/guide-assessing-primary-care-and-public-health-resources</p>	<p data-bbox="1092 321 1425 386">Completion of a project as outlined in the above guide</p>

PC-5 *Performs specialty-appropriate procedures to meet the health care needs of individual patients, families, and communities, and is knowledgeable about procedures performed by other specialists to guide their patients' care*

Level	Milestone	Materials	Activities/Assessment Tools
1	<p>Identifies procedures that family physicians perform.</p> <p>Demonstrates sterile technique.</p>		
2	<p>Performs procedures under supervision, and knows the indications of, contraindications of, complications of, how to obtain informed consent for, procedural technique for, post- procedure management of, and interpretation of results of the procedures they perform .</p> <p>Begins the process of identifying additional procedural skills he or she may need or desire to have for future practice.</p>		
3	<p>Uses appropriate resources to counsel the patient on the indications, contraindications, and complications of procedures.</p> <p>Identifies and actively seeks opportunities to assist with or independently perform additional procedures he or she will need for future practice.</p>		
4	<p>Independently performs all procedures required for graduation.</p> <p>Counsels the patient regarding indications, contraindications, and complications of procedures commonly performed by other specialties.</p> <p>Identifies a plan to acquire additional procedural skills as needed for practice.</p>		
5	<p>Seeks additional opportunities to perform or assist with procedures identified as areas of need within the community.</p>	<p>Resources for Implementing the Community Health Needs Assessment http://www.cdc.gov/policy/chna/</p>	<p>Portfolio: list of specialty procedures identified as needed in community, annotated with experience</p>

C-2. Communicates effectively with patients, families, and the public

Level	Milestone	Materials	Activities/Assessment Tools
1	<p>Recognizes that respectful communication is important to quality care.</p> <p>Identifies physical, cultural, psychological, and social barriers to communication.</p> <p>Uses the medical interview to establish rapport and facilitate patient-centered information exchange.</p>		
2	<p>Matches modality of communication to patient needs, health literacy, and context.</p> <p>Organizes information to be shared with patients and families.</p> <p>Participates in end-of-life discussions and delivery of bad news.</p>		
3	<p>Negotiates a visit agenda with the patient, and uses active and reflective listening to guide the visit.</p> <p>Engages patients' perspectives in shared decision making.</p> <p>Recognizes non-verbal cues and uses non-verbal communication skills in patient encounters.</p>		
4	<p>Educates and counsels patients and families in disease management and health promotion skills.</p> <p>Effectively communicates difficult information, such as end-of-life discussions, delivery of bad news, acknowledgement of errors, and during episodes of crisis.</p> <p>Maintains a focus on patient-centeredness and integrates all aspects of patient care to meet patients' needs .</p>		
5	<p>Role models effective communication with patients, families, and the public.</p> <p>Engages community partners to educate the public.</p>	<p>Principles of Community Engagement (CDC) http://www.cdc.gov/phppo/pce</p>	<p>Peer review of work with community partners and public education efforts</p>

C-3 Develops relationships and effectively communicates with physicians, other health professionals, and care teams.

Level	Milestone	Materials	Activities/Assessment Tools
1	Understands the importance of the health care team and shows respect for the skills and contributions of others.	Leasure EL, Jones RR, Meade LB, Sanger MI, Thomas KG, Tilden VP, et al. There is no “i” in teamwork in the patient-centered medical home: defining teamwork competencies for academic practice. Acad Med. 2013 May;88(5):585–92.	Portfolio, preceptor review, 360° review
2	Demonstrates consultative exchange that includes clear expectations and timely, appropriate exchange of information. Presents and documents patient data in a clear, concise, and organized manner.		
3	Effectively uses Electronic Health Record (EHR) to exchange information among the health care team. Communicates collaboratively with the health care team by listening attentively, sharing information, and giving and receiving constructive feedback.	Practical Playbook: Using EHRs for population health. https://practicalplaybook.org/further-guidance/electronic-health-records-meaningful-use-and-integration <i>Core Competencies for Interprofessional Collaborative Practice.</i> Interprofessional Education Collaborative Expert Panel. Washington DC 2011. From http://www.aacn.nche.edu/education-resources/ipecreport.pdf	Portfolio: preceptor record review, 360°/multisource evaluation
4	Sustains collaborative working relationships during complex and challenging situations, including transitions of care. Effectively negotiates and manages conflict among members of the health care team in the best interest of the patient.	Core Competencies for Interprofessional Collaborative Practice. Interprofessional Education Collaborative Expert Panel. Washington DC 2011. From http://www.aacn.nche.edu/education-resources/ipecreport.pdf	Portfolio: preceptor, record review; 360°/multisource evaluation
5	Role models effective collaboration with other providers that emphasizes efficient patient-centered care.		

C-4 Utilizes technology to optimize communication

Level	Milestone	Materials	Activities/Assessment Tools
1	<p>Recognizes effects of technology on information exchange and the physician/patient relationship.</p> <p>Recognizes the ethical and legal implications of using technology to communicate in health care.</p>		
2	<p>Ensures that clinical and administrative documentation is timely, complete, and accurate.</p> <p>Maintains key patient-specific databases, such as problem lists, medications, health maintenance, chronic disease registries.</p> <p>Uses technology in a manner which enhances communication and does not interfere with the appropriate interaction with the patient.</p>	<p><i>Using a simple registry to improve your chronic disease care</i> http://www.aafp.org/fpm/2006/0400/p47.html</p>	<p>Preceptor/resident record review of chronic illness patients</p>
3	<p>Ensures transitions of care are accurately documented, and optimizes communication across systems and continuums of care.</p>	<p>How-to Guide: Improving transitions from hospital to home health care to reduce avoidable rehospitalizations. http://www.ih.org/resources/Pages/Tools/HowtoGuideImprovingTransitionsfromHospitaltoHomeHealthCareReduceAvoidableHospitalizations.aspx</p>	<ul style="list-style-type: none"> Portfolio: case examples of 30-day readmissions Preceptor record review
4	<p>Effectively and ethically uses all forms of communication, such as face-to-face, telephonic, electronic, and social media.</p> <p>Uses technology to optimize continuity care of patients and transitions of care.</p>		
5	<p>Stays current with technology and adapts systems to improve communication with patients, other providers, and systems.</p>	<p>Periodic review/update of materials for Levels 2 & 3</p>	<p>Peer review</p>

SBP-1 Provides cost-conscious medical care

Level	Milestone	Materials	Activities/Assessment Tools
1	Understands that health care resources and costs impact patients and the health care system.	IHI Open School QCV 100 Introduction to Quality Cost and Value in Healthcare http://app.ihl.org/lms/onlinelearning.aspx	Portfolio: Documented completion of QCV 100
2	Knows and considers costs and risks/benefits of different treatment options in common situations.	IHI Open School QCV 101 Achieving Breakthrough Quality Access and Affordability http://app.ihl.org/lms/onlinelearning.aspx USPSTF <i>Guide to Clinical Preventive Services</i> http://www.ahrq.gov/professionals/clinicians-providers/guidelines-recommendations/guide/	Portfolio: <ul style="list-style-type: none"> • Documented completion of QCV 101 • List of common preventive services & associated costs
3	Coordinates individual patient care in a way that is sensitive to resource use, efficiency, and effectiveness.		
4	Partners with patients to consistently use resources efficiently and cost effectively in even the most complex and challenging cases.		
5	Role models and promotes efficient and cost-effective use of resources in the care of patients in all settings.	Periodic review of Level 1, 2 materials IHI Open School L 101: <i>Becoming a Leader in Healthcare</i> http://app.ihl.org/lms/onlinelearning.aspx	Peer review

SBP-2 Emphasizes patient safety

Level	Milestone	Materials	Activities/Assessment Tools
1	<p>Understands that medical errors affect patient health and safety, and that their occurrence varies across settings and between providers.</p> <p>Understands that effective team-based care plays a role in patient safety.</p>	<p>IHI Open School PS 101 <i>Fundamentals of Patient Safety</i> IHI Open School PS 103 <i>Teamwork and Communication</i> http://app.ihi.org/lms/onlinelearning.aspx</p>	<p>Portfolio: Documented completion of PS 101 and PS 103</p>
2	<p>Recognizes medical errors when they occur, including those that do not have adverse outcomes. Understands the mechanisms that cause medical errors.</p> <p>Understands and follows protocols to promote patient safety and prevent medical errors. Participates in effective and safe hand-offs and transitions of care.</p>		
3	<p>Uses current methods of analysis to identify individual and system causes of medical errors common to family medicine.</p> <p>Develops individual improvement plan and participates in system improvement plans that promote patient safety and prevent medical errors.</p>	<p>IHI Open School PS 104 <i>Root Cause and System Analysis</i> IHI Open School QI 201 <i>Guide to the IHI Open School Quality Improvement Practicum</i> http://app.ihi.org/lms/onlinelearning.aspx</p>	<p>Portfolio: documented completion of PS 104 and QI 201</p>
4	<p>Consistently engages in self-directed and practice improvement activities that seek to identify and address medical errors and patient safety in daily practice.</p> <p>Fosters adherence to patient care protocols amongst team members that enhance patient safety and prevent medical errors.</p>	<p>Periodic review of materials for Levels 1 and 3 IHI Open School QI 202 <i>Quality Improvement in Action</i> http://app.ihi.org/lms/onlinelearning.aspx</p>	<p>Portfolio:</p> <ul style="list-style-type: none"> • Documentation of ongoing work to identify & address systematic error • Documented completion of QI 202
5	<p>Role models self-directed and system improvement activities that seek to continuously anticipate, identify and prevent medical errors to improve patient safety in all practice settings including the development, use and promotion of patient care protocols and other tools.</p>	<p>Periodic review of materials for Levels 1, 3, and 4 IHI Open School L 101 <i>Becoming a Leader in Healthcare</i> http://app.ihi.org/lms/onlinelearning.aspx</p>	<p>Peer review</p>

SBP-3 *Advocates for individual and community health*

Level	Milestone	Materials	Activities/Assessment Tools
1	Recognizes social context and environment, and how a community's public policy decisions affect individual and community health.	<p>APTR Learning Module 3: Social Determinants of Health: A Lens for Public Health https://www.mededportal.org/colaborative/resource/939</p> <p>CDC Social Determinants of Health http://www.cdc.gov/socialdeterminants/Resources.html</p> <p>Meurer LN, et al. The urban and community health pathway: preparing socially responsive physicians through community-engaged learning. Am J Prev Med. 2011 Oct;41(4 Suppl 3):S228–36. http://www.ncbi.nlm.nih.gov/pubmed/?term=The+Urban+and+Community+Health+Pathway%3A+Preparing+Socially+Responsive+Physicians+Through+Community-Engaged+Learning</p>	Portfolio: Identify a community policy and describe its potential effects on public and/or individual health
2	Recognizes that family physicians can impact community health. Lists ways in which community characteristics and resources affect the health of patients and communities.	<p>Resources for Implementing the Community Health Needs Assessment Process http://www.cdc.gov/policy/chna</p>	Portfolio: List ways in which characteristics of the local community may affect the health of patients and the community
3	Identifies specific community characteristics that impact specific patients' health. Understands the process of conducting a community strengths and needs assessment.	<p>Resources for Implementing the Community Health Needs Assessment Process http://www.cdc.gov/policy/chna/</p>	<p>Portfolio:</p> <ul style="list-style-type: none"> • Explain the process of conducting a community needs assessment. • Describe a patient whose health is affected by community characteristics
4	Collaborates with other practices, public health, and community-based organizations to educate the public, guide policies, and implement and evaluate community initiatives. Seeks to improve the health care systems in which he or she practices.	<p>Principles of Community Engagement (CDC) http://www.cdc.gov/phppo/pce</p>	Portfolio: case examples of policies, evaluations of community initiatives
5	Role-models active involvement in community education and policy change to improve the health of patients and communities.		Peer review

SBP-4 Coordinates team-based care

Level	Milestone	Materials	Activities/Assessment Tools
1	Understands that quality patient care requires coordination and teamwork, and participates as a respectful and effective team member.	Leasure EL, Jones RR, Meade LB, Sanger MI, Thomas KG, Tilden VP, et al. There is no “i” in teamwork in the patient-centered medical home: defining teamwork competencies for academic practice. Acad Med. 2013 May;88(5):585–92.	Portfolio, preceptor review, 360° review
2	Understands the roles and responsibilities on oneself, patients, families, consultants, and interprofessional team members needed to optimize care, and accepts responsibility for coordination of care.	Core Competencies for Interprofessional Collaborative Practice. Interprofessional Education Collaborative Expert Panel. Washington DC 2011. http://www.aacn.nche.edu/education-resources/ipereport.pdf	See Figure 7, p31 in <i>Core Competencies for Interprofessional Collaborative Practice</i> for an outline of knowledge, attitudes, and skills appropriate for levels of interprofessional competencies from exposure to competence.
3	Engages the appropriate care team to provide accountable, team-based, coordinated care centered on individual patient needs. Assumes responsibility for seamless transitions of care. Sustains a relationship as a personal physician to his or her own patients.		
4	Accepts responsibility for the coordination of care, and directs appropriate teams to optimize the health of patients.		
5	Role models leadership, integration, and optimization of care teams to provide quality, individualized patient care.		

PROF-1 *Completes a process of professionalization*

Level	Milestone	Materials	Activities/Assessment Tools
1	<p>Defines professionalism Knows the basic principles of medical ethics.</p> <p>Recognizes that conflicting personal and professional values exist.</p> <p>Demonstrates honest, integrity, and respect to patients and team members.</p>		
2	<p>Recognizes own conflicting personal and professional values.</p> <p>Knows institutional and governmental regulations for the practice of medicine.</p>		
3	<p>Recognizes that physicians have an obligation to self-discipline and to self-regulate.</p> <p>Engages in self-initiated pursuit of excellence.</p>		
4	<p>Embraces the professional responsibilities of being a family physician.</p>		
5	<p>Demonstrates leadership and mentorship in applying shared standards and ethical principles, including the priority of responsiveness to patient needs above self-interest across the health care team.</p> <p>Develops institutional and organizational strategies to protect and maintain these principles.</p>	<p>Markakis KM et al. The Path to professionalism: cultivating humanistic values and attitudes in residency training. <i>Acad. Med</i> 2000 Feb;75(2):141-50. http://www.ncbi.nlm.nih.gov/pubmed/10693844</p>	<p>Peer review</p>

PROF-3 *Demonstrates humanism and cultural proficiency*

Level	Milestone	Materials	Activities/Assessment Tools
1	<p>Consistently demonstrates compassion, respect, and empathy.</p> <p>Recognizes impact of culture on health and health behaviors.</p>		
2	<p>Displays a consistent attitude and behavior that conveys acceptance of diverse individuals and groups, including diversity in gender, age, culture, race, religion, disabilities, sexual orientation, and gender identity.</p> <p>Elicits cultural factors from patients and families that impact health and health behaviors in the context of the biopsychosocial model.</p> <p>Identifies own cultural framework that may impact patient interactions and decision-making.</p>		
3	<p>Incorporates patient's beliefs, values, and cultural practices in patient care plans.</p> <p>Identifies health inequities and social determinants of health and their impact on individual and family health.</p>	<p>Healthy People 2020: Social determinants of health http://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health</p> <p>Materials pertinent to your state on social determinants of health http://www.cdc.gov/socialdeterminants/Resources.html</p>	<p>Portfolio: case review of patients whose health was impacted by social determinants</p>
4	<p>Anticipates and develops a shared understanding of needs and desires with patients and families; works in partnership to meet those needs.</p>		
5	<p>Demonstrates leadership in a cultural proficiency, understanding of health disparities, and social determinants of health.</p> <p>Develops organizational policies and education to support the application of these principles in the practice of medicine.</p>	<p>The Relative Contribution of Multiple Determinants to Health http://www.healthaffairs.org/healthpolicybriefs/brief.php?brief_id=123</p>	<p>Peer review of individual's leadership role in developing education and policies to promote cultural proficiency in her/his practice</p>

PLBI-3 *Improves systems in which the physician provides care*

Level	Milestone	Materials	Activities/Assessment Tools
1	Recognizes inefficiencies, inequities, variation, and quality gaps in health care delivery.	IHI Open School: Quality, Cost and Value http://www.ihl.org/education/IHIOpenSchool/courses/Pages/default.aspx	Portfolio: documented completion of IHI Quality, Cost, and Value course
2	Compares care provided by self and practice to external standards and identifies areas for improvement.		
3	Uses a systematic improvement method (e.g., Plan-Do-Study-Act [PDSA] cycle) to address an identified area of improvement. Uses an organized method, such as a registry, to assess and manage population health.	IHI Open School: Improvement Capability http://www.ihl.org/education/IHIOpenSchool/courses/Pages/default.aspx <i>Using a simple registry to improve your chronic disease care</i> http://www.aafp.org/fpm/2006/0400/p47.html	Portfolio: documented completion of IHI <i>Improvement Capability</i> course
4	Establishes protocols for continuous review and comparison of practice procedures and outcomes and implementing changes to address areas needing improvement.		
5	Role Models continuous quality improvement of personal practice, as well as larger health systems or complex projects, using advanced methodologies and skill sets.		

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The Internal Medicine Population Health Milestone-Based Curriculum

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INTRODUCTION

This section of the report highlights the population health content in the existing Internal Medicine Milestones, as defined by the ACGME and the Board of Internal Medicine. In addition to identifying those milestones, the attached document provides sample materials and assessment tools that can be used in training learners in these competencies.

Internal Medicine Materials and Assessment Tools for Population Health

8. Works effectively within an interprofessional team (e.g. peers, consultants, nursing, ancillary professionals and other support personnel) SBP1

Level	Milestone	Materials	Activities/Assessment Tools
1	<p>Refuses to recognize the contributions of other interprofessional team members.</p> <p>Frustrates team members with inefficiency and errors.</p>		
2	<p>Identifies roles of other team members but does not recognize how/when to utilize them as resources.</p> <p>Frequently requires reminders from team to complete physician responsibilities (e.g. talk to family, enter orders).</p>	<p>Representative Descriptions of health care team members</p> <p>http://dcahec.gwumc.edu/education/session3/members.html</p>	<p>Portfolio activity: select health profession (perhaps one of which previously unaware). Interview team member regarding training, scope of practice, typical salary/satisfaction, challenges</p>
3	<p>Understands the roles and responsibilities of all team members but uses them ineffectively.</p> <p>Participates in team discussions when required but does not actively seek input from other team members.</p>		<p>360°/multisource evaluation</p>

8. Works effectively within an interprofessional team (e.g. peers, consultants, nursing, ancillary professionals and other support personnel) SBP1
(continued)

Level	Milestone	Materials	Activities/Assessment Tools
4	<p>Understands the roles and responsibilities of and effectively partners with, all members of the team</p> <p>Actively engages in team meetings and collaborative decision-making</p>	<p>Leasure EL, Jones RR, Meade LB, Sanger MI, Thomas KG, Tilden VP, et al. There is no “i” in teamwork in the patient-centered medical home: defining teamwork competencies for academic practice. Acad Med. 2013 May;88(5):585–92. Assessment: Portfolio, preceptor review, 360° review</p> <p>Core Competencies for Interprofessional Collaborative Practice. Interprofessional Education Collaborative Expert Panel. Washington DC 2011. From http://www.aacn.nche.edu/education-resources/ipcreport.pdf (FM SBP-4)</p> <p>Module E. On Rounds: Medical Students, Teams, and High Value Care http://www.med-u.org/population-health/high-value-care-hvc# (Med U :High Value Care Course)</p> <p>Royeen CB, Jensen GM, Harvan RA. Leadership in Interprofessional Health Education and Practice, Boston, MA; Jones and Bartlett Publishers;2009. [book for purchase]</p> <p>Interprofessional collaboration: three best practice models of interprofessional education: Medical Education Online 2011, 16: 6035 - DOI: 10.3402/meo.v16i0.6035</p>	<p>See Figure 7, p 31 in <i>Core Competencies for Interprofessional Collaborative Practice. Interprofessional Education Collaborative Expert Panel</i> for an outline of knowledge, attitudes, and skills appropriate for levels of interprofessional competencies from exposure.</p> <p>360°/multisource evaluation</p>
5	<p>Integrates all members of the team into the care of patients, such that each is able to maximize their skills in the care of the patient.</p> <p>Efficiently coordinates activities of other team members to optimize care.</p> <p>Viewed by other team members as a leader in the delivery of high quality care.</p>		

10. Identifies forces that impact the cost of health care, and advocates for, and practices cost-effective care/(SBP3)

Level	Milestone	Materials	Activities/Assessment Tools
1	<p>Ignores cost issues in the provision of care.</p> <p>Demonstrates no effort to overcome barriers to cost-effective care interventions.</p>		
2	<p>Lacks awareness of external factors (e.g. socio-economic, cultural, literacy, insurance status) that impact the cost of health care and the role that external stakeholders (e.g. providers, suppliers, financiers, purchasers) have on the cost of care.</p> <p>Does not consider limited health care resources when ordering diagnostic or therapeutic interventions .</p>	<p>Healthy People 2020: Genomics from https://www.healthypeople.gov/2020/topics-objectives/topic/genomics</p> <p>US Preventive Health Services Task Force http://www.uspreventiveserVICEStaskforce.org/Page/BasicOne-Column/28 Vaccinations http://www.immunize.org/cdc/schedules/</p> <p>ACP High Value Care Videos https://hvc.acponline.org/videos.html</p> <p>Public Health Learning Modules, Module 3 Social Determinants of Health Resource ID 939 March 10, 2014. iCollaborative https://www.mededportal.org/icollaborative/resource/939</p> <p>Beyond consumer driven health care: purchasers' expectations of all plans. Lee Peter V, Hoo Emma Find information of financiers, purchasers) have on the cost of care Health Aff November 2006 25:w544-w548; published ahead of print October 24, 2006</p>	<p>Small bytes : Population Level Determinants of Health 1</p> <p>ACP High Value Care interactive cases https://hvc.acponline.org/physres_cases.html</p>
3	<p>Recognizes that external factors influence a patient's utilization of health care and may act as a barrier to cost-effective care.</p> <p>Minimize unnecessary diagnostic tests</p> <p>Possesses an incomplete understanding of cost-awareness principles for population of patients (e.g. screening tests)</p>	<p>A Practical Playbook</p> <p>https://practicalplaybook.org/topics</p> <p>https://hvc.acponline.org</p> <p>ACP High Value Care Videos https://hvc.acponline.org/videos.html</p>	<p>Small Bytes: Population Level Determinants of Health 2</p> <p>ACP High Value Care interactive cases https://hvc.acponline.org/physres_cases.html</p>

10. Identifies forces that impact the cost of health care, and advocates for, and practices cost-effective care/ (SBP3) (continued)

Level	Milestone	Materials	Activities/Assessment Tools
4	<p>Consistently works to address patient-specific barriers to cost-effective care.</p> <p>Advocates for cost-conscious utilization of resources (i.e. ED visits, hospital).</p> <p>Incorporates cost-awareness principles into standard clinical judgments and decision-making, including screening tests.</p>	<p>Americans Face Barriers to Health Care Beyond Cost</p> <p>http://www.cfah.org/hbns/2011/americans-face-barriers-to-health-care-beyond-cost</p> <p>The AHA 2015 Environmental scan pinpoints changes in costs, economy, aging generations and more as factors affecting health care.</p> <p>http://www.hhnmag.com/display/HHN-news-article.dhtml?dcrPath=/templatedata/HF_Common/NewsArticle/data/HHN/Magazine/2014/Sep/gate-aha-environment-scan-2015</p> <p>http://consumerhealthchoices.org/#health-professionals</p> <p>ACP High Value Care Videos</p> <p>https://hvc.acponline.org/videos.html</p>	<p>Chart audits, Quality Improvement data</p> <p>ACP High Value Care interactive cases https://hvc.acponline.org/physres_cases.html</p>
5	<p>Teaches patients and healthcare team members to recognize and address common barriers to cost-effective care and appropriate utilization of resources.</p> <p>Actively participates in initiatives and care delivery models designed to overcome or mitigate barriers to cost-effective high quality care.</p>	<p>Improving Quality and Value in the U.S. Health Care System ...Brookings Institution http://www.brookings.edu/~media/research/files/reports/2009/8/21%20bpc%20qualityreport/0821_bpc_qualityreport.pdf</p> <ul style="list-style-type: none"> Identifying and analyzing current and available resources Planning program sustainability through renewed funding channels <p>https://practicalplaybook.org/further-guidance/guide-assessing-primary-care-and-public-health-resources</p> <p>http://consumerhealthchoices.org/#health-professionals</p>	<p>Quality Improvement data</p>

11. Transitions patients effectively within and across health delivery systems. (SBP4)

Level	Milestone	Materials	Activities/Assessment Tools
1	<p>Disregards need for communication at time of transition.</p> <p>Does not respond to requests for information from caregivers in other delivery systems.</p>		Evaluation
2	<p>Inconsistently utilizes available resources to coordinate and ensure safe and effective patient care within and across delivery systems.</p> <p>Written and verbal care plans during times of transition are incomplete or absent.</p> <p>Inefficient transitions of care lead to unnecessary expense or risk to a patient (e.g. duplication of tests or possible medication errors).</p>	<p>The Joint Commission Center For Transforming Healthcare</p> <p>http://www.centerfortransforminghealthcare.org/assets/4/6/handoff_comm_storyboard.pdf</p>	<p>Chart Audit</p> <p>Root cause analysis of patients readmitted within 30 days.</p> <p>Use of program/institutional "handoff" process</p>
3	<p>Recognizes the importance of communication during times of transition.</p> <p>Communicates with future caregivers but with lapses in pertinent or timely information.</p>		Survey of providers receiving patients back from hospital-based residents
4	<p>Appropriately utilizes available resources to coordinate care and ensures safe and effective patient care within and across delivery systems.</p> <p>Proactively communicates with past and future care givers to ensure continuity of care.</p>	<p>Transition of Care Achieve Meaningful Use</p> <p>http://www.healthit.gov/providers-professionals/achieve-meaningful-use/menu-measures/transition-of-care</p> <p>Success stories of transition of care programs</p> <p>https://practicalplaybook.org/search?keys=Care+transitions</p>	
5	<p>Coordinates care within and across health delivery systems to optimize patient safety, increase efficiency and ensure high quality patient outcomes</p> <p>Anticipates needs of patient, caregivers and future care providers and takes appropriate steps to address those needs</p> <p>Role models and teaches effective transitions of care</p>	<p>Objective A: Make coverage more secure for those who have insurance, and extend affordable coverage to the uninsured</p> <p>http://www.hhs.gov/strategic-plan/goal1.html#obj_a</p>	

13. Learns and improves via performance audit (PBLI2)

Level	Milestone	Materials	Activities/Assessment Tools
1	<p>Disregards own clinical performance data.</p> <p>Demonstrates no inclination to participate in or even consider the results of QI efforts.</p>		
2	<p>Limited awareness of or desire to analyze own clinical performance data.</p> <p>Nominally participates in a QI projects.</p> <p>Not familiar with the principles, techniques or importance of QI.</p>		
3	<p>Analyzes own clinical performance data and identifies opportunities for improvement.</p> <p>Effectively participates in a QI project.</p> <p>Understands common principles and techniques of QI and appreciates the responsibility to assess and improve care for a panel of patients.</p>	<p>Module J. Statistics and Clinical Decision Making Richard Wardrop III, MD, PhD, FAAP, FACP University of North Carolina, Franklin Niblock University of North Carolina (Med U :High Value Care Course)</p> <p>Institute for Healthcare Improvement http://app.ihi.org/lms/onlinelearning.aspx</p>	<p>Complete module on quality improvement such as IHI online module(s).</p> <p>Participate in quality improvement project in clinical setting.</p> <p>Lead quality improvement project and present findings from QI project as poster presentation.</p>
4	<p>Analyzes own clinical performance data and actively works to improve performance.</p> <p>Actively engages in QI initiatives.</p> <p>Demonstrates the ability to apply common principles and techniques of QI to improve care for a panel of patients.</p>	<p>IHI Open School QI 201 Guide to the IHI Open School Quality Improvement Practicum both from http://app.ihi.org/lms/onlinelearning.aspx</p> <p>IHI Open School QI 202 Quality Improvement in Action IHI Open School: Improvement Capability from http://www.ih.org/education/IHIOpenSchool/courses/Pages/default.aspx</p> <p>Using a simple registry to improve your chronic disease care from http://www.aafp.org/fpm/2006/0400/p47.html</p>	
5	<p>Actively monitors clinical performance through various data sources.</p> <p>Is able to lead a QI project.</p> <p>Utilizes common principles and techniques of QI to continuously improve care for a panel of patients .</p>		<p>Portfolio: documented completion of IHI Improvement Capability course</p>

15. Learns and Improves at the Point of Care (PBLI-4)

Level	Milestone	Materials	Activities/Assessment Tools
1	<p>Fails to acknowledge uncertainty and reverts to a reflexive patterned response even when inaccurate.</p> <p>Fails to seek or apply evidence when necessary.</p>		
2	<p>Rarely “slows down” to reconsider an approach to a problem, ask for help, or seek new information.</p> <p>Can translate medical information needs into well-formed clinical questions with assistance.</p> <p>Unfamiliar with strengths and weaknesses of the medical literature.</p> <p>Has limited awareness of or ability to use information technology.</p> <p>Accepts the findings of clinical research studies without critical appraisal.</p>		

15. Learns and Improves at the Point of Care (PBLI-4)
(continued)

Level	Milestone	Materials	Activities/Assessment Tools
3	<p>Inconsistently “slows down” to reconsider an approach to a problem, ask for help, or seek new information.</p> <p>Can translate medical information needs into well-formed clinical questions independently.</p> <p>Aware of the strengths and weaknesses of medical information resources but utilizes information technology without sophistication.</p> <p>With assistance, appraises clinical research reports, based on accepted criteria.</p>	<p>Critical appraisal of the medical literature. A set of online tutorials from the Scottish International Guidelines Network (SIGN). From http://www.sign.ac.uk/methodology/tutorials.html</p> <p>Introduction to Evidence-Based Practice http://guides.mcclibrary.duke.edu/content.php?pid=431451&sid=3529491 This tutorial is intended for any health care practitioner or student who needs a basic introduction to the principles of Evidence-Based Practice. Upon completion of this self-paced tutorial, you will be able to:</p> <ul style="list-style-type: none"> • define Evidence-Based Practice (EBP) • identify the parts of a well-built clinical question • identify searching strategies that could improve PubMed searching • identify key critical appraisal issues that help determine the validity of a study <p>2PICO Worksheet and Search Strategy from http://www.usc.edu/hsc/ebnet/ebframe/PICO%20Worksheet%20SS.pdf PEDS: MK-1</p>	<p>Completion of Evidence-Based Practice tutorial</p> <p>Completion of PICO question worksheet related to a clinical program</p> <p>Presentation at journal club Supervises medical student completing PICO worksheet</p>
4	<p>Routinely “slows down” to reconsider an approach to a problem, ask for help, or seek new information.</p> <p>Routinely translates new medical information needs into well-formed clinical questions.</p> <p>Utilizes information technology with sophistication.</p> <p>Independently appraises clinical research reports based on accepted criteria.</p>		<p>Publishes or otherwise disseminates lessons learned from quality improvement project</p>

15. Learns and Improves at the Point of Care (PBLI-4)
 (continued)

Level	Milestone	Materials	Activities/Assessment Tools
5	<p>Searches medical information resources efficiently, guided by the characteristics of clinical questions</p> <p>Role models how to appraise clinical research reports based on accepted criteria.</p> <p>Has a systematic approach to track and pursue emerging clinical questions.</p>		

16. Has professional and respectful interactions with patients, caregivers and members of the interprofessional team (e.g. peers, consultants, nursing, ancillary professionals and support personnel). (PROF1)

Level	Milestone	Materials	Activities/Assessment Tools
1	<p>Lacks empathy and compassion for patients and caregivers.</p> <p>Disrespectful in interactions with patients, caregivers and members of the interprofessional team.</p> <p>Sacrifices patient needs in favor of own self-interest.</p> <p>Blatantly disregards respect for patient privacy and autonomy.</p>		
2	<p>Inconsistently demonstrates empathy, compassion and respect for patients and caregivers.</p> <p>Inconsistently demonstrates responsiveness to patients' and caregivers' needs in an appropriate fashion.</p> <p>Inconsistently considers patient privacy and autonomy.</p>	<p>Leasure EL, Jones RR, Meade LB, Sanger MI, Thomas KG, Tilden VP, et al. There is no "i" in teamwork in the patient-centered medical home: defining teamwork competencies for academic practice. Acad Med. 2013 May;88(5):585-92.</p> <p>Core Competencies for Interprofessional Collaborative Practice. Interprofessional Education Collaborative Expert Panel. Washington DC 2011. From http://www.aacn.nche.edu/education-resources/ipecreport.pdf FM: SPB-4</p>	360°/multisource evaluation
3	<p>Consistently respectful in interactions with patients, caregivers and members of the interprofessional team, even in challenging situations.</p> <p>Is available and responsive to needs and concerns of patients, caregivers and members of the interprofessional team to ensure safe and effective care.</p> <p>Emphasizes patient privacy and autonomy in all interactions.</p>		360°/multisource evaluation

16. *Has professional and respectful interactions with patients, caregivers and members of the interprofessional team (e.g. peers, consultants, nursing, ancillary professionals and support personnel). (PROF1)*
(continued)

Level	Milestone	Materials	Activities/Assessment Tools
4	<p>Demonstrates empathy, compassion and respect to patients and caregivers in all situations.</p> <p>Anticipates, advocates for, and proactively works to meet the needs of patients and caregivers.</p> <p>Demonstrates a responsiveness to patient needs that supersedes self-interest.</p> <p>Positively acknowledges input of members of the interprofessional team and incorporates that input into plan of care as appropriate.</p>		360°/multisource evaluation

16. Has professional and respectful interactions with patients, caregivers and members of the interprofessional team (e.g. peers, consultants, nursing, ancillary professionals and support personnel). (PROF1)
(continued)

Level	Milestone	Materials	Activities/Assessment Tools
5	<p>Role models compassion, empathy and respect for patients and caregivers.</p> <p>Role models appropriate anticipation and advocacy for patient and caregiver needs.</p> <p>Fosters collegiality that promotes a high-functioning interprofessional team.</p> <p>Teaches others regarding maintaining patient privacy and respecting patient autonomy.</p>	<p>Accreditation Council for Graduate Medical Education. Advancing education in medical professionalism. Accreditation Council for Graduate Medical Education, 2004. (Accessed at http://www.acgme.org/outcome/implement/Profm_resource.pdf.) This is an educational resource developed by the ACGME to help program directors teach and assess professional behavior. Some sample evaluation instruments are reviewed.</p> <p>Coulehan J. Today's professionalism: Engaging the mind but not the heart. Acad Med 2005;80:892-8. The author argues that the medical education environment is hostile to altruism and a number of other qualities that are essential to professionalism. He proposes a comprehensive plan to change the culture of medical education and to address the tension between self-interest and altruism.</p> <p>Baldwin DC, Jr., Daugherty SR, Rowley BD. Unethical and unprofessional conduct observed by residents during their first year of training. Acad Med 1998;73:1195-200. This article reports on the results of a survey of 571 first-year residents and their observations of unethical and unprofessional conduct by peers or superiors. Not surprisingly, these behaviors are too frequent. The authors also reported that these observations have an inverse correlation with resident satisfaction.</p> <p><i>PEDS: PROF-2</i></p>	360°/multisource evaluation

20. Communicates effectively with patients and caregivers. (ICS1)

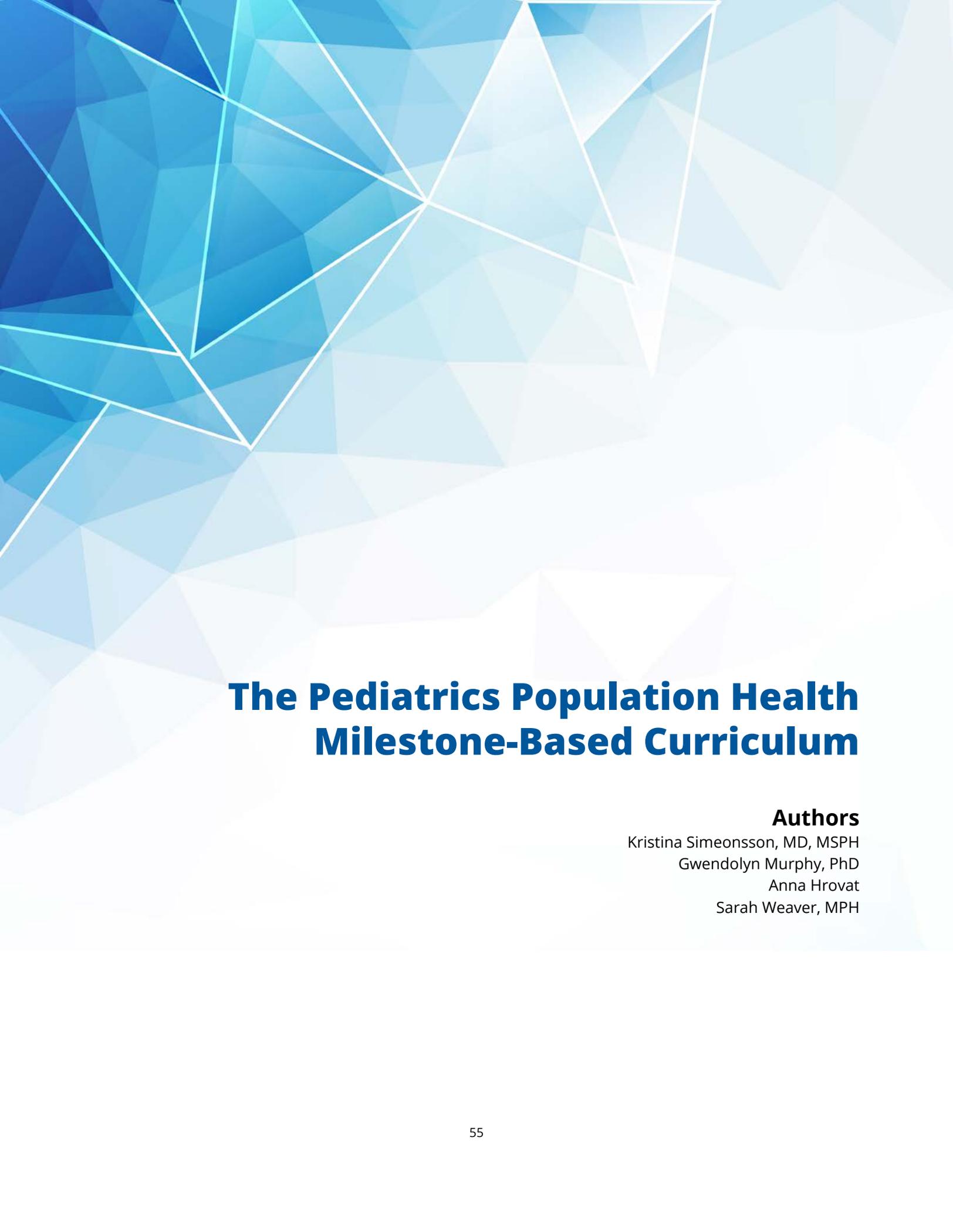
Level	Milestone	Materials	Activities/Assessment Tools
1	<p>Ignores patient preferences for plan of care.</p> <p>Makes no attempt to engage patient in shared decision-making.</p> <p>Routinely engages in antagonistic or counter-therapeutic relationships with patients and caregivers.</p>		
2	<p>Engages patients in discussions of care plans and respects patient preferences when offered by the patient, but does not actively solicit references.</p> <p>Attempts to develop therapeutic relationship with patients and caregivers but is often unsuccessful.</p> <p>Defers difficult or ambiguous conversations to others.</p>	<p>Informed Medical Decisions foundation Shared Decision Making http://www.informedmedicaldecisions.org/patient-resources/</p> <p>Dartmouth Center for Shared Decision Making http://med.dartmouth-hitchcock.org/csdm_toolkits.html</p>	360°/multisource evaluation
3	<p>Engages patients in shared decision making in uncomplicated conversations.</p> <p>Requires assistance facilitating discussions in difficult or ambiguous conversations.</p> <p>Requires guidance or assistance to engage in communication with persons of different socioeconomic and cultural backgrounds.</p>	<p>Mayo Clinic Shared Decision Making National Resource Center http://shareddecisions.mayoclinic.org/</p>	360°/multisource evaluation
4	<p>Identifies and incorporates patient preference in shared decision making across a wide variety of patient care conversations.</p> <p>Quickly establishes a therapeutic relationship with patients and caregivers, including persons of different socioeconomic and cultural backgrounds.</p> <p>Incorporates patient-specific preferences into plan of care.</p>		

20. Communicates effectively with patients and caregivers. (ICS1)
 (continued)

Level	Milestone	Materials	Activities/Assessment Tools
5	Role models effective communication and development of therapeutic relationships in both routine and challenging situations. Models cross-cultural communication and establishes therapeutic relationship with persons of diverse socioeconomic backgrounds.	<p>The Health Communicator's Social Media Toolkit (CDC) http://www.cdc.gov/healthcommunication/ToolsTemplates/SocialMediaToolkit_BM.pdf</p> <p>A guide to using social media to improve reach of health messages, increase access to your content, further participation with audiences and advance transparency to improve health communication efforts.</p>	<p>Residents will review the CERC module online with particular emphasis on the tenets of risk communication</p> <p>Watch the CDC TV video of a public health physician answering questions from vaccine hesitant parents.</p> <p>Observe resident in clinical setting discussing vaccines with vaccine hesitant parent.</p> <p>Portfolio: preceptor, record review; 360° review</p>

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The Pediatrics Population Health Milestone-Based Curriculum

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INTRODUCTION

This section of the report highlights the population health content in the existing Pediatrics Milestones, as defined by the ACGME and the Board of Pediatric Medicine. In addition to identifying those milestones, the attached document provides sample materials and assessment tools that can be used in training learners in these competencies

Pediatrics Materials and Assessment Tools for Population Health

PROF2. *Professionalization: A sense of duty and accountability to patients, society, and the profession*

Level	Milestone	Materials	Activities/Assessment Tools
1	Appears to be interested in learning pediatrics but not fully engaged and involved as a professional, which results in an observational or passive role.		
2	Although the learner appreciates her role in providing care and being a professional, at times has difficulty in seeing self as a professional, which may result in not taking appropriate primary responsibility.		
3	Demonstrates understanding and appreciation of the professional role and the gravity of being the "doctor" by becoming fully engaged in patient care activities; has a sense of duty; has rare lapses into behaviors that do not reflect a professional self-view.		
4	Has internalized and accepts full responsibility of the professional role and develops fluency with patient care and professional relationships in caring for a broad range of patients and team members.		

PROF2. *Professionalization: A sense of duty and accountability to patients, society, and the profession*
(continued)

Level	Milestone	Materials	Activities/Assessment Tools
5	<p>Extends professional role beyond the care of patients and sees self as a professional who is contributing to something larger (e.g., a community, a specialty, or the medical profession).</p>	<p>Accreditation Council for Graduate Medical Education. Advancing education in medical professionalism. Accreditation Council for Graduate Medical Education, 2004. (Accessed at http://www.acgme.org/outcome/implement/Profm_resource.pdf.) This is an educational resource developed by the ACGME to help program directors teach and assess professional behavior. Some sample evaluation instruments are reviewed.</p> <p>Baldwin DC, Jr., Daugherty SR, Rowley BD. Unethical and unprofessional conduct observed by residents during their first year of training. Acad Med 1998;73:1195-200. This article reports on the results of a survey of 571 first-year residents and their observations of unethical and unprofessional conduct by peers or superiors. Not surprisingly, these behaviors are too frequent. The authors also reported that these observations have an inverse correlation with resident satisfaction.</p> <p>Cohen JJ. Professionalism in medical education, an American perspective: From evidence to accountability. Med Educ 2006;40:607-17. This article reviews the current state of the teaching and assessment of professionalism in medical education. The author stresses the need for performance assessment using multiple evaluators and multiple methods.</p> <p>Coulehan J. Today's professionalism: Engaging the mind but not the heart. Acad Med 2005;80:892-8. The author argues that the medical education environment is hostile to altruism and a number of other qualities that are essential to professionalism. He proposes a comprehensive plan to change the culture of medical education and to address the tension between self-interest and altruism.</p>	<p>Teaching and Assessing Professionalism 2008 (American Board of Pediatrics and Association of Pediatric Program Directors) https://www.theabfm.org/about/guidelinesforprofessionalism.pdf Professionalism and Society (Ch 5) Professionalism After Residency (Ch 6) Both chapters contain learning objectives, vignettes for small group discussion</p>

PROF2. *Professionalization: A sense of duty and accountability to patients, society, and the profession (continued)*

Level	Milestone	Materials	Activities/Assessment Tools
		<p>Cruess R, McIlroy JH, Cruess S, Ginsburg S, Steinert Y. The professionalism mini-evaluation exercise: A preliminary investigation. Acad Med 2006;81:S74-8. This is the original article describing the use of the professionalism mini-evaluation exercise (PMEX). Initially tested in medical students, it appears to have very good psychometrics. It would be relatively easy to incorporate this instrument into a residency program.</p> <p>Klein EJ, Jackson JC, Kratz L, et al. Teaching professionalism to residents. Acad Med 2003;78:26-34. The authors describe their curriculum for introducing principles of professionalism into a pediatrics residency. Their curriculum is incorporated into their annual five-day intern retreat, during which eleven sessions are devoted to addressing key professionalism issues.</p> <p>Stern D, Papadakis MA. The developing physician: Becoming a professional. N Engl J Med 2006;355:1794-9. The authors describe a thoughtful approach to teaching and assessing professionalism. This is worthwhile reading for all program directors.</p>	

PBLI3. Systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement.

Level	Milestone	Materials	Activities/Assessment Tools
1	Unable to gain insight from encounters due to a lack of reflection on practice. Does not understand the principles of quality improvement methodology or change management. Is defensive when faced with data on performance improvement opportunities within one's practice.		
2	Able to gain insight from reflection on individual patient encounters, but potential improvements limited by lack of systematic improvement strategies and team approach. Dependent upon external prompts to define improvement opportunities at the population level.		
3	Able to gain insight for improvement opportunities from reflection on both individual patients and populations. Grasps improvement methodologies enough to apply to populations. Still reliant on external prompts to inform and prioritize improvement opportunities at the population level.	<p>Quality Improvement Innovation Networks (QuIIN)</p> <p>The AAP Quality Improvement Innovation Networks (QuIIN) is home to multiple pediatric quality improvement networks designed to improve care for children and their families in both the inpatient and outpatient settings. QuIIN serves as the infrastructure for pediatric improvement networks by providing staff, financial, and standard operating systems to the Value in Inpatient Pediatrics (VIP) Network and the Practice Improvement Network (PIN).</p> <p>https://www.aap.org/en-us/professional-resources/practice-support/quality-improvement/Quality-Improvement-Innovation-Networks-QuIIN.aspx</p>	<p>Complete module on quality improvement such as IHI online module(s).</p> <p>Participate in quality improvement project in clinical setting.</p>

PBL13. *Systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement.*
(continued)

Level	Milestone	Materials	Activities/Assessment Tools
4	<p>Able to use both individual encounters and population data to drive improvement using improvement methodology. Analyzes one's own data on a continuous basis, without reliance on external forces, to prioritize improvement efforts. Uses that analysis in an iterative process for improvement. Able to lead a team in improvement.</p>	<p>Education in Quality Improvement for Pediatric Practice (EQIPP)</p> <p>EQIPP, a unique online learning program developed by the American Academy of Pediatrics (AAP) weaves improvement principles and concepts with pediatric-specific clinical content. EQIPP provides the information, tools and guidance needed to make systematic and continuous practice improvements on such topics as asthma, immunizations, GERD, Bright Futures, newborn screening, tobacco control and others. Using built-in online tools, EQIPP enables you to collect, analyze, and measure data over time and make small, rapid cycles of change. Successful changes proven to improve office efficiency and patient care can then be implemented into practice. You can also collaborate with other physicians in your practice or area to accelerate improvement. You will be able to transfer the skills you learn in EQIPP to other clinical and practice management topics.</p> <p>http://eqipp.aap.org/home/home</p>	<p>Lead quality improvement project and present findings from QI project as poster presentation.</p>
5	<p>In addition to demonstrating continuous improvement activities and appropriately utilizing quality improvement methodologies, thinks and acts systemically to try to use one's own successes to benefit other practices, systems, or populations. Open to analysis that at times requires course correction to optimize improvement.</p>	<p>Additional QI Resources from AAP</p> <p>https://www.aap.org/en-us/professional-resources/practice-support/quality-improvement/Pages/Quality-Improvement.aspx</p>	

ICS1. *Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds*

Level	Milestone	Materials	Activities/Assessment Tools
1	Uses standard medical interview template to prompt all questions; does not vary the approach based on a patient's unique physical, cultural, socioeconomic, or situational needs; may feel intimidated or uncomfortable asking personal questions of patients.		
2	Uses the medical interview to establish rapport and focus on information exchange relevant to a patient's or family's primary concerns; identifies physical, cultural, psychological, and social barriers to communication, but often has difficulty managing them; begins to use non-judgmental questioning scripts in response to sensitive situations.		
3	Uses the interview to effectively establish rapport; is able to mitigate physical, cultural, psychological, and social barriers in most situations; verbal and non-verbal communication skills promote trust, respect, and understanding; develops scripts to approach most difficult communication scenarios.		
4	Uses communication to establish and maintain a therapeutic alliance; sees beyond stereotypes and works to tailor communication to the individual; a wealth of experience has led to development of scripts for the gamut of difficult communication scenarios; is able to adjust scripts ad hoc for specific encounters.		

ICS1. *Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds*
(continued)

Level	Milestone	Materials	Activities/Assessment Tools
5	<p>Connects with patients and families in an authentic manner that fosters a trusting and loyal relationship; effectively educates patients, families, and the public as part of all communication; intuitively handles the gamut of difficult communication scenarios with grace and humility.</p>	<p>Crisis & Emergency Risk Communication (CDC) http://emergency.cdc.gov/cerc/</p> <p>The CERC training program educates and trains public information officers, public health responders, leaders, and others about the principles and application of crisis and emergency risk communication when responding to a public health emergency.</p> <p>CERC draws from lessons learned during public health emergencies and research in the fields of health and emergency risk communication; it incorporates best practices from the fields of risk and crisis communication. With this comprehensive training program, CDC has moved forward in meeting the needs of partners and stakeholders in preparing for, responding to and recovering from the threat of bioterrorism, emergent diseases, and other hazards.</p> <p>Crisis and emergency risk communication is an approach used by scientists and public health professionals to provide information that allows an individual, stakeholders or an entire community, to make the best possible decisions about their well-being, under nearly impossible time constraints, while accepting the imperfect nature of their choices.</p> <p>Activity: Review the basic tenets of risk communication available at CDC website. This can either be done as a self-study through online modules or with a faculty member led discussion with Powerpoint slides available. Second approach has been done effectively with both small, medium and large groups.</p>	<p>Residents will review the CERC module online with particular emphasis on the tenets of risk communication</p>

ICS1. *Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds*
(continued)

Level	Milestone	Materials	Activities/Assessment Tools
		<p>The Health Communicator's Social Media Toolkit (CDC) http://www.cdc.gov/healthcommunication/ToolsTemplates/Social-MediaToolkit_BM.pdf</p> <p>A guide to using social media to improve reach of health messages, increase access to your content, further participation with audiences and advance transparency to improve health communication efforts.</p>	
5		<p>TIDE Vaccine Safety Module. This module is designed to help you explain the dangers of vaccine-preventable diseases and the effectiveness of vaccines against them, as well as answering parents' common vaccine safety questions. http://tide.musc.edu/</p> <p>Watch the CDC TV video of a public health physician answering questions from vaccine hesitant parents. https://www.youtube.com/watch?v=3uVvq7dbf4s</p>	<p>Observe resident in clinical setting discussing vaccines with vaccine hesitant parent.</p> <p>Have residents reflect (in a small group or as a written reflection) about a situation in which they addressed concerns from a vaccine hesitant parent. Have them describe a situation in which the parent decided to vaccinate and a situation in which the parent decided against vaccination. Discuss in small group setting reasons for the outcomes and ideas for improvement.</p> <p>Role play activities with residents counseling the vaccine hesitant parent. This could be done in small group setting or be part of an OSCE.</p>

MK-1. *Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems*

Level	Milestone	Materials	Activities/Assessment Tools
1	Explains basic principles of Evidence-based Medicine (EBM), but relevance is limited by lack of clinical exposure.		
2	Recognizes the importance of using current information to care for patients and responds to external prompts to do so; is able to formulate questions with some difficulty, but is not yet efficient with online searching; is starting to learn critical appraisal skills.		
3	Able to identify knowledge gaps as learning opportunities; makes an effort to ask answerable questions on a regular basis and is becoming increasingly able to do so; understands varying levels of evidence and can utilize advanced search methods; is able to critically appraise a topic by analyzing the major outcomes, however, may need guidance in understanding the subtleties of the evidence; begins to seek and apply evidence when needed, not just when assigned to do so.		
4	Is increasingly self-motivated to learn more, as exhibited by regularly formulating answerable questions; incorporates use of clinical evidence in rounds and teaches fellow learners; is quite capable with advanced searching; is able to critically appraise topics and does so regularly; shares findings with others to try to improve their abilities; practices EBM because of the benefit to the patient and the desire to learn more rather than in response to external prompts.		

MK-1. *Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems (continued)*

Level	Milestone	Materials	Activities/Assessment Tools
5	Teaches critical appraisal of topics to others; strives for change at the organizational level as dictated by best current information; is able to easily formulate answerable clinical questions and does so with majority of patients as a habit; is able to effectively and efficiently search and access the literature; is seen by others as a role model for practicing EBM.	<p>1Introduction to Evidence-Based Practice http://guides.mclibrary.duke.edu/content.php?pid=431451&sid=3529491 This tutorial is intended for any health care practitioner or student who needs a basic introduction to the principles of Evidence-Based Practice. Upon completion of this self-paced tutorial, you will be able to:</p> <ul style="list-style-type: none"> • define Evidence-Based Practice (EBP) • identify the parts of a well-built clinical question • identify searching strategies that could improve PubMed searching • identify key critical appraisal issues that help determine the validity of a study 	Completion of Evidence-Based Practice tutorial ¹
		<p>PICO Worksheet and Search Strategy form http://www.usc.edu/hsc/ebnet/ebframe/PICO%20Worksheet%20SS.pdf</p>	Completion of PICO question worksheet ²
		<p>OB/GYN Knowledge Bank / A Collaborative Learning Center http://www.nuthalapaty.net/kb/ebm/checklist.htm Includes critical evaluation checklists that can be used by residents in preparation for journal club.</p> <p>Journal of the American Medical Association http://jamaevidence.com/resource/520 The Users' Guides to the Medical Literature are a series of reading guides published by The Evidence Based Medicine Working Group in the Journal of the American Medical Association. These guides built upon the foundations developed by the McMaster University Department of Clinical Epidemiology and Biostatistics. These Users' Guides can be an invaluable tool in teaching critical appraisal in the setting of Journal Club. The reference for each guide is listed below. Consider requesting these references from your local library and making your own compendium.</p>	Present at journal club ^{3,4,5} Supervises medical student completing PICO worksheet ²

MK-1. *Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems (continued)*

Level	Milestone	Materials	Activities/Assessment Tools
		<p>Pediatrics in Review</p> <p>1. Research and statistics: study design and data sources. Palaia A. <i>Pediatr Rev.</i> 2013 Aug;34(8):371-2. doi: 10.1542/pir.34-8-371. Review. No abstract available.</p> <p>PMID: 23908366 [PubMed - indexed for MEDLINE]</p> <p>2. Research and statistics: qualitative research methods.</p> <p>Mistry KB. <i>Pediatr Rev.</i> 2012 Nov;33(11):521-3. doi: 10.1542/pir.33-11-521. No abstract available.</p> <p>PMID: 23118318 [PubMed - indexed for MEDLINE]</p> <p>3. Research and statistics: searching for answers: strategies for searching the clinical literature.</p> <p>Briccetti C, Rowe P. <i>Pediatr Rev.</i> 2011 Aug;32(8):350-2. doi: 10.1542/pir.32-8-350. No abstract available.</p> <p>PMID: 21807876 [PubMed - indexed for MEDLINE]</p> <p>4. Research and statistics: likelihood ratio in diagnosis.</p> <p>Crewe S, Rowe PC. <i>Pediatr Rev.</i> 2011 Jul;32(7):296-8. doi: 10.1542/pir.32-7-296. No abstract available.</p> <p>PMID: 21724905 [PubMed - indexed for MEDLINE]</p> <p><u>Related citations</u></p> <p>5. Research and statistics: distribution, variability, and statistical significance.</p> <p>Smith TK, Johnson SB. <i>Pediatr Rev.</i> 2010 Oct;31(10):431-2. doi: 10.1542/pir.31-10-431. No abstract available.</p> <p>PMID: 20889738 [PubMed - indexed for MEDLINE]</p>	

MK-1. *Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems (continued)*

Level	Milestone	Materials	Activities/Assessment Tools
		<p>6. Research and statistics: number needed to treat and intention to treat analysis.</p> <p>Tschudy MM, Rowe PC. <i>Pediatr Rev.</i> 2010 Sep;31(9):380-2. doi: 10.1542/pir.31-9-380. No abstract available.</p> <p>PMID: 20810703 [PubMed - indexed for MEDLINE]</p> <p>7. Research and statistics: generalizability and how it relates to validity.</p> <p>Crowne SS. <i>Pediatr Rev.</i> 2010 Aug;31(8):335-6. doi: 10.1542/pir.31-8-335. No abstract available.</p> <p>PMID: 20679099 [PubMed - indexed for MEDLINE]</p> <p>8. Research and statistics: a question of time: cross-sectional versus longitudinal study designs.</p> <p>Johnson SL. <i>Pediatr Rev.</i> 2010 Jun;31(6):250-1. doi: 10.1542/pir.31-6-250. No abstract available.</p> <p>PMID: 20516237 [PubMed - indexed for MEDLINE]</p> <p>9. Research and statistics: demystifying type I and type II errors.</p> <p>Jennings JM, Sibinga E. <i>Pediatr Rev.</i> 2010 May;31(5):209-10. doi: 10.1542/pir.31-5-209. No abstract available.</p> <p>Erratum in: PMID: 20435712 [PubMed - indexed for MEDLINE]</p> <p>10. Research and statistics: understanding and identifying bias in research studies.</p> <p>Jennings JM, Sibinga E. <i>Pediatr Rev.</i> 2010 Apr;31(4):161-2. doi: 10.1542/pir.31-4-161. No abstract available.</p> <p>PMID: 20360411 [PubMed - indexed for MEDLINE]</p>	

MK-1. *Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems (continued)*

Level	Milestone	Materials	Activities/Assessment Tools
		<p>11. Research and statistics: case-control studies.</p> <p>Upadhya K, Rowe P. <i>Pediatr Rev.</i> 2010 Feb;31(2):70-1. doi: 10.1542/pir.31-2-70. No abstract available.</p> <p>PMID: 20124276 [PubMed - indexed for MEDLINE]</p> <p>12. Research and statistics: validity hierarchy for study design and study type.</p> <p>Perry-Parrish C, Dodge R. <i>Pediatr Rev.</i> 2010 Jan;31(1):27-9. doi: 10.1542/pir.31-1-27. No abstract available.</p> <p>PMID: 20048036 [PubMed - indexed for MEDLINE]</p> <p>13. Research and statistics. Systematic reviews and meta-analyses.</p> <p>Bair-Merritt MH. <i>Pediatr Rev.</i> 2009 Oct;30(10):409-10. doi: 10.1542/pir.30-10-409. No abstract available.</p> <p>PMID: 19797485 [PubMed - indexed for MEDLINE] Free PMC Article</p> <p>14. Research and statistics: cohort studies.</p> <p>Hernandez RG, Rowe PC. <i>Pediatr Rev.</i> 2009 Sep;30(9):364-5. doi: 10.1542/pir.30-9-364. No abstract available.</p> <p>PMID: 19726703 [PubMed - indexed for MEDLINE]</p> <p>15. Research and statistics: case reports, anecdotal evidence, and descriptive epidemiologic studies in pediatric practice.</p> <p>Moore EM, Johnson SB. <i>Pediatr Rev.</i> 2009 Aug;30(8):323-4. doi: 10.1542/pir.30-8-323. No abstract available.</p> <p>PMID: 19648264 [PubMed - indexed for MEDLINE]</p>	

MK-1. *Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems (continued)*

Level	Milestone	Materials	Activities/Assessment Tools
		<p>16. Research and statistics: reliability and validity in pediatric practice.</p> <p>Copeland-Linder N. <i>Pediatr Rev.</i> 2009 Jul;30(7):278-9. doi: 10.1542/ pir.30-7-278. No abstract available.</p>	

SBP1. *Coordinate patient care within the health care system relevant to their clinical specialty*

Level	Milestone	Materials	Activities/Assessment Tools
1	<p>Performs the role of medical decision-maker, developing care plans and setting goals of care independently; informs patient/family of the plan, but no written care plan is provided; makes referrals, and requests consultations and testing with little or no communication with team members or consultants; is not involved in the transition of care between settings (e.g., outpatient and inpatient, pediatric and adult); shows little or no recognition of social/educational/cultural issues affecting the patient/family.</p>		
2	<p>Begins to involve the patient/family in setting care goals and some of the decisions involved in the care plan; a written care plan is occasionally made available to the patient/family; care plan does not address key issues; has variable communication with team members and consultants regarding referrals, consultations, and testing; answers patient/family questions regarding results and recommendations; may inconsistently be involved in the transition of care between settings (e.g., outpatient and inpatient, pediatric and adult); makes some assessment of social/educational/cultural issues affecting the patient/family and applies this in interactions.</p>		
3	<p>Recognizes the responsibility to assist families in navigation of the complex health care system; frequently involves patient/family in decisions at all levels of care, setting goals, and defining care plans; frequently makes a written care plan available to the patient/family and to appropriately authorized members of the care team; care plan omits few key issues; has good communication with team members and consultants; consistently discusses results and recommendations with patient/family; is routinely involved in the transition of care between settings (e.g., outpatient and inpatient, pediatric and adult); considers social, educational and cultural issues in most care.</p>		

SBP1. *Coordinate patient care within the health care system relevant to their clinical specialty*
(continued)

Level	Milestone	Materials	Activities/Assessment Tools
4	<p>Actively assists families in navigating the complex health care system; has open communication, facilitating trust in the patient-physician interaction; develops goals and makes decisions jointly with the patient/family (shared-decision-making); routinely makes a written care plan available to the patient/family and to appropriately authorized members of the care team; makes a thorough care plan, addressing all key issues; facilitates care through consultation, referral, testing, monitoring, and follow-up, helping the family to interpret and act on results/recommendations; coordinates seamless transitions of care between settings (e.g., outpatient and inpatient, pediatric and adult; mental and dental health; education; housing; food security; family-to-family support); builds partnerships that foster family-centered, culturally-effective care, ensuring communication and collaboration along the continuum of care.</p>	<p>Training for Better Care: A Cultural Competency Curriculum for the Health Professions http://www.columbia.edu/itc/hs/medical/residency/peds/new_com-peds_site/pdfs_new/cultural_competency_manual-10-25-07.pdf</p> <p>Columbia University Medical Center</p>	
5	<p>Current literature does not distinguish between behaviors of proficient and expert practitioners. Expertise is not an expectation of GME training, as it requires deliberate practice over time.</p>		

SBP2. Advocate for quality patient care and optimal patient care systems.

Level	Milestone	Materials	Activities/Assessment Tools
1	Attends to medical needs of individual patient(s); wants to take good care of patients and takes action for individual patients' health care needs.		
2	Demonstrates recognition that an individual patient's issues are shared by other patients, that there are systems at play, and that there is a need for quality improvement of those systems; acts on the observed need to assess and improve quality of care.		
3	Acts within the defined medical role to address an issue or problem that is confronting a cohort of patients; may enlist colleagues to help with this problem .		
4	Actively participates in hospital-initiated quality improvement and safety actions; demonstrates a desire to have an impact beyond the hospital walls .	<p>Immunization CME http://mcaap.org/immunization-cme/</p> <p>Includes recent webinar on strategies to improve HPV vaccination rates. CME available. Could be linked back to state or county data on HPV rates or even specific to practice site for pediatric residents wishing to do QI project / improve vaccination rates.</p> <p>Teaching Immunization for Medical Education (TIME) This curriculum is designed for use in medical schools to support immunization instruction. The materials provide student objectives, learning objectives, key teaching points, and resources.</p> <p>The TIME modules provide ready-to-use instructional materials that can be integrated into existing medical curricula. The modules include vaccine indications and contraindications, immunization schedules, and recommendations on efficient ways to increase vaccination levels. The following case-based modules are designed to encourage active, small-group learning, use modest amounts of faculty and learner time and are objective-driven.</p> <p>http://www.aptrweb.org/?page=time</p>	

SBP2. *Advocate for quality patient care and optimal patient care systems.*
 (continued)

Level	Milestone	Materials	Activities/Assessment Tools
5	Identifies and acts to begin the process of improvement projects both inside the hospital and within one's practice community.	<p>Teaching Immunization Delivery and Evaluation (TIDE)</p> <p>TIDE is a group of highly interactive, case-based modules. It's designed to help clinicians learn to store, give, and communicate about immunizations with technical excellence.</p> <p>http://tide.musc.edu/users</p>	

SBP3. *Work in inter-professional teams to enhance patient safety and improve patient care quality*

Level	Milestone	Materials	Activities/Assessment Tools
1	Seeks answers and responds to authority from only intra-professional colleagues; does not recognize other members of the interdisciplinary team as being important or making significant contributions to the team; tends to dismiss input from other professionals aside from other physicians.		
2	Is beginning to have an understanding of the other professionals on the team, especially their unique knowledge base, and is open to their input, however, still acquiesces to physician authorities to resolve conflict and provide answers in the face of ambiguity; is not dismissive of other health care professionals, but is unlikely to seek out those individuals when confronted with ambiguous situations.		
3	Aware of the unique contributions (knowledge, skills, and attitudes) of other health care professionals, and seeks their input for appropriate issues, and as a result, is an excellent team player.		
4	Same as Level 3, but an individual at this stage understands the broader connectivity of the professions and their complementary nature; recognizes that quality patient care only occurs in the context of the inter-professional team; serves as a role model for others in interdisciplinary work and is an excellent team leader.	<p>Core Competencies for Interprofessional Collaborative Practice, Report of an Expert Panel</p> <p>http://www.aacn.nche.edu/education-resources/ipcreport.pdf</p>	<p>Participate in family-centered rounds with members of health-care team.</p> <p>360 feedback from other members of healthcare team</p>
5	Current literature does not distinguish between behaviors of proficient and expert practitioners. Expertise is not an expectation of GME training, as it requires deliberate practice over time.		

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The Population Health Milestone-Based Curriculum

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INTRODUCTION

This section of the report provides a set of “generic” population health milestones for residency training. The goal of developing these milestones was to create a common set of goals for training medical professionals in the burgeoning field of population health, using the milestone framework recently developed by the Accreditation Council for Graduate Medical Education. Draft milestones were created based on the collective experience of the development team and the population health competency map published by Kaprielian et al in 2013, and refined through an iterative process of sharing these milestones and obtaining feedback from experts in the fields of population health and medical education, including many on the front lines of training physicians and residents.

We recognize that training programs will aspire to different levels of competency in population health for their learners. Some may only be concerned that their learners achieve level 1 or 2. Others may be seeking for their learners to reach level 4. Even for the programs most committed to population health, we consider level 5 to be aspirational, i.e., something to be achieved during the course of a career, not through a training program.

In addition to providing milestones for population health competency, the attached document provides sample materials and assessment tools that can be used in training learners in these competencies. We do not claim that these are the only or even the best materials and assessment tools for training programs to use. Rather, our goal in providing this information was to develop a curriculum that can be adopted wholesale, modified for use by a specific program, or inspire others to create new curricula. We hope you will find this work useful in supporting your own efforts to enhance training in population health and improve the health of the populations you and your residents serve.

The following tables suggest curricular resources and representative assessment strategies for each of the milestones. There are many materials available in the public domain. Program directors and faculty vary in their awareness of them, however. These tables are not meant to be comprehensive. A representative sample are included to provide a foundation upon which a program can further develop their own program specific materials.

Additional resources and strategies include:

- The Centers for Disease Control and Prevention
- Association of American Medical Colleges
- MedEdPORTAL
- iCollaborative (with its collection on Population Health)
- State and local Health Departments
- The Practical Playbook
- Organizations such as Association Teachers of Preventive Medicine
- Foundations such as Fullerton, Robert Wood Johnson

Population Health Milestones Materials and Assessment Tools

Population Health 1- *Applies principles of public health to improving the health of patients and populations.*

Level	Milestone	Materials	Activities/Assessment Tools
0	<p>Does not understand the term “population health”; does not view patients as a population, and cannot define a population or determine its needs and assets.</p> <p>Lacks knowledge about the local public health system (including reporting requirements), or health-related community resources (including third party payers and other commercial resources) beyond his/her own clinical site.</p> <p>Does not understand how social factors (e.g., employment, education, neighborhood of residence), policies and programs influence health.</p>		
1	<p>Defines “population health.”</p> <p>Describes and compares the essential functions and services of the local public health system and health-related community resources.</p> <p>Reports all required conditions to the local and state health departments.</p> <p>Provides appropriate high value preventive services to patients.</p>	<p>Review your Health System/Hospital’s most recent Community Health Needs Assessment.</p> <p>Check county rankings from RWJ. http://www.rwjf.org/en/research-publications/find-rwjf-research/2010/02/county-health-rankings.html</p> <p>Access CDC NCHHSTP Atlas http://www.cdc.gov/nchhstp/atlas/index.htm?s_cid=bb-od-atlas_005 http://www.cdc.gov/nchhstp/atlas/index.htm?s_cid=bb-od-atlas_005</p>	Multiple choice test; in-service exam

Population Health 1- *Applies principles of public health to improving the health of patients and populations.*
(continued)

Level	Milestone	Materials	Activities/Assessment Tools
2	<p>Identifies and appropriately refers individuals who may benefit from referral to public health services and community resources.</p> <p>Defines a population for health assessment and improvement, and lists benefits of a practice registry that includes data on social determinants of health.</p> <p>Analyzes how physical and social environments (including socio-economic factors), policies and programs influence health and wellness of individuals and populations.</p>	<p>Review the Practical Playbook Section on Integration of Primary Care and Public Health. https://www.practicalplaybook.org/</p>	<p>Portfolio: describe one or more patients referred for community services</p> <p>Access materials pertinent to your state on social determinants of health http://www.cdc.gov/socialdeterminants/Resources.html</p>
3	<p>Uses an organized method, such as a registry, to understand the needs and assets of his/her patient population, including social determinants of health and health disparities.</p> <p>Reviews public health data and trends and integrates that knowledge into patient care, including attention to the special needs and assets of vulnerable populations.</p> <p>Regularly coordinates with public health department and other community resources to help his/her patient population meet their needs.</p> <p>Interprets the health needs, assets and determinants of health in the local community and among subgroups in the community, and describes how these are assessed</p>	<p>Review registry example: http://www.aafp.org/fpm/2006/0400/p47.html</p> <p>Read: Gliklich RE, Dreyer NA, eds. Registries for Evaluating Patient Outcomes: A User's Guide. (Prepared by Outcome DEClIDE Center [Outcome Sciences, Inc. dba Outcome] under Contract No. HHS290200500351 TO1.) AHRQ Publication No. 07- EHC001-1. Rockville, MD: Agency for Healthcare Research and Quality. April 2007.</p> <p>iCollaborative</p> <p>https://www.mededportal.org/icollaborative/resource/168</p> <p>https://www.mededportal.org/icollaborative/resource/944</p>	<p>Chart audit: compare referral rates, follow-up, and outcomes to those within the same office/practice/clinic/health system/region/state/nation.</p>

Population Health 1- *Applies principles of public health to improving the health of patients and populations.*
 (continued)

Level	Milestone	Materials	Activities/Assessment Tools
4	<p>Participates with public health and other stakeholders in community health needs and assets assessment.</p> <p>Participates with public health department and others from outside his/her clinical site to improve health of a defined population beyond the patients at his/her clinical site.</p> <p>Participate in disaster/epidemic management.</p>	<p>iCollaborative Case Study https://www.mededportal.org/icollaborative/resource/768</p> <p>iCollaborative https://www.mededportal.org/icollaborative/resource/2325</p>	<p>360°/multisource evaluation from community health partners.</p>
5	<p>Leads and initiates collaborations with partners from outside his/her clinical site to improve health of a defined population beyond the patients at the clinical site; identifies likely implications of those efforts for sub-communities and disparities within the population.</p> <p>Collaborates with partners from outside the clinical site to advocate for public health, integrated population health improvement, and improvements to the determinants of health.</p> <p>Coordinates disaster/epidemic management.</p>	<p>iCollaborative https://www.mededportal.org/icollaborative/resource/2325</p>	<p>Publication, poster, abstract or dissemination from outcome/impact from initiative/intervention</p>

Population Health 2- *Applies principles of community engagement to improving the health of populations.*

Level	Milestone	Materials	Activities/Assessment Tools
0	<p>Does not understand how to define or identify a community, the role of communities in shaping population health, or the importance of engaging community partners in improving population health.</p> <p>Does not recognize that clinical practices are communities containing sub-communities.</p> <p>Cannot list stakeholders for community health issues.</p>		
1	<p>Provides a working definition of community.</p> <p>Identifies communities with shared health needs.</p> <p>Lists stakeholders for key community health issues.</p> <p>Provides a working definition of community engagement.</p> <p>Lists multiple communities to which a specific patient belongs.</p>	<p>Principles of Community Engagement- 2nd edition (2011). www.atsdr.cdc.gov/communityengagement/ or Amazon- \$49</p>	Multiple choice test
2	<p>Describes the benefits of community engagement in population health improvement.</p> <p>Describes how the clinical practice is itself a community and contains practice sub-communities with their own language, interests, biases, areas of expertise, and processes for doing things.</p>	<p>Principles of Community Engagement- 2nd edition (2011). www.atsdr.cdc.gov/communityengagement/ or Amazon- \$49</p> <p>Braveman P, Gottlieb L. The Social Determinants of Health: It's Time to Consider the Causes of the Causes. Public Health Reports. 2014; 129(Suppl 12), 19-31.</p> <p>Overview: What is Community Engagement? www.health.mn.us/communityeng/</p>	<p>Multiple choice test</p> <p>Portfolio: reflection on working with the community and how experience could be enhanced with implementation of these principles.</p>

Population Health 2- *Applies principles of community engagement to improving the health of populations.*
(continued)

Level	Milestone	Materials	Activities/Assessment Tools
3	<p>Engages effectively with practice communities and sub-communities on practice improvement efforts.</p> <p>Engages with the patient advisory committee or integrates other public input in implementing practice improvement efforts.</p>	<p>Principles of Community Engagement- 2nd edition (2011). www.atsdr.cdc.gov/communityengagement or Amazon- \$49</p>	<p>360°/multisource 360/multi-rater feedback from clinical setting</p>
4	<p>Partners effectively with others from <u>outside</u> the clinical setting to improve health of a defined population beyond the patients at the clinical site.</p> <p>Initiates contact with community partners and stakeholders with appropriate supervision and feedback from mentors.</p>	<p>Principles of Community Engagement- 2nd edition (2011). www.atsdr.cdc.gov/communityengagement or Amazon- \$49</p>	<p>360°/multisource 360 feedback from partner organization;</p> <p>Written summary describing of population health initiative</p>
5	<p>Collaborates effectively with inter-professional team and outside partners to address preventable conditions through systems redesign and attention to social determinants of health; and evaluates these efforts.</p> <p>Participates in and promotes sustainable community partnerships.</p> <p>Communicates effectively with media and local/state/regional and national stakeholders.</p> <p>Leads and initiates collaborations with partners from outside the practice/office/clinic to improve health of a defined population beyond the patients at his/her clinical site.</p>	<p>Mittler JN, Mertsof GR, Talenko SJ, Scanlon DP. Making Sense of “Consumer Engagement” Initiatives to Improve Health and Healthcare: A Conceptual Framework to Guide Policy and Practice. The Milbank Quarterly. 2013; 91(1):37-77. doi:10.1111/ncilq.12002</p>	<p>Publication, poster, abstract or other “artifact” documenting dissemination from outcome/ impact from initiative/intervention</p>

Population Health 3- Utilizes critical thinking to improve the health of populations.

Level	Milestone	Materials	Activities/Assessment Tools
0	<p>Unaware of information sources to measure population health.</p> <p>Does not understand basic principles or tools of critical thinking. Cannot correctly utilize key population health statistical or analytical terms.</p> <p>Unfamiliar with standard quality metrics or available benchmarks.</p>		
1	<p>Identifies and accesses quantitative and qualitative data and information (e.g., vital statistics, electronic health records, transportation patterns) that can be used to understand the health of a community.</p> <p>Identifies a relevant population for health assessment from the patients for whom s/he provides care.</p> <p>Lists quality metrics and available benchmarks related to his/her patient population.</p>	<p>Population Health: Creating a Culture of Wellness, Sudbury, MA: 2011. Jones & Bartlett Learning. (Chapter 9)</p> <p>Measuring Vital Signs: An IOM Report on Core Metrics for Health and Health Care Progress David Blumenthal, MD, Michael McGinnis, MD, <i>JAMA</i>. 2015;313(19):1901-1902</p> <p>Institute of Medicine. Vital Signs: Core Metrics for Health and Health Care Progress. Washington, DC: National Academies Press; 2015. http://www.iom.edu/coremetrics.</p>	<p>Faculty-learner review report on practice population identified, sources of data and metrics to be assessed. Together determine an action plan and re-evaluate after defined time frame.</p>
2	<p>Compares and contrasts data sources available for population health, including strengths and weaknesses for specific tasks.</p> <p>Understands basic principles of critical thinking and role of basic tools of critical thinking including literature review, QI, research, evaluation, systems-based thinking and other analytic tools (e.g. segmentation, predictive modeling, and prioritization).</p> <p>Correctly utilizes key population health statistical and analytical terms.</p> <p>Able to access practice-specific data regarding a patient population, identify benchmarks for assessment of care or health status, analyze results of data analysis and identify appropriate plan(s) for improvements.</p>	<p>Metrics for the Second Curve of Health Care. Health Research & Educational Trust, Chicago: April 2013. Accessed at www.hpoe.org Accessible at: www.hpoe.org/future-metrics-1to4</p> <p>http://www.countyhealthrankings.org</p> <p>http://kff.org</p> <p>http://www.commonwealthfund.org</p>	<p>Faculty-learner review report on practice population identified, sources of data and metrics to be assessed. Together determine an action plan and re-evaluate after defined time frame.</p>

Population Health 3- Utilizes critical thinking to improve the health of populations.
(continued)

Level	Milestone	Materials	Activities/Assessment Tools
3	<p>Applies critical inquiry and systems-based thinking to identify population health needs (including health disparities and particular needs and assets of vulnerable populations) and opportunities to address these, building on community assets.</p> <p>Compares quality metrics for his/her population to appropriate comparison groups and available benchmarks.</p> <p>Plans and/or implements plan(s) to evaluate initiatives to improve health of practice population.</p>	<p>Principles of Community Engagement, 2nd ed., NIH Publication No. 11-7782 Printed June 2011 (Chapter 5)</p> <p>AAMC Toolkit: Communities, Social Justice and Academic Medical Centers https://www.aamc.org/initiatives/research/healthequity/</p>	<p>Faculty advisor and learner presentation to colleagues on relevant population health improvement project</p> <p>Reflection sheet (for Communities, Social Justice and Academic Medical Centers) https://www.aamc.org/download/449096/data/socialjustice-reflectionsheet.pdf</p>
4	<p>Uses tools of critical thinking <i>together with</i> community engagement in the design and monitoring/evaluation of population health improvement initiatives beyond his/her practice.</p> <p>Disseminates lessons learned from these initiatives to affected stakeholders and the practice and research communities.</p>	<p>Principles of Community Engagement, 2nd ed., NIH Publication No. 11-7782 Printed June 2011</p>	<p>360°/multisource from the Community on work with them</p>
5	<p>Provides leadership on the use of critical thinking <i>together with</i> community engagement in designing, implementing, and evaluating population health improvement initiatives, and disseminating lessons learned.</p> <p>Applies more sophisticated analytical approaches and new tools to support critical thinking for population health.</p>		<p>Feedback on paper, poster, abstract or presentation submitted from event organizer and/or faculty</p>

Population Health 4- Utilizes team and leadership skills to improve the health of populations

Level	Milestone	Materials	Activities/Assessment Tools
0	<p>Fails to recognize the importance of the team in providing care for a population.</p> <p>Does not incorporate feedback on working with populations/communities into practice.</p> <p>Does not recognize the need to defer to others to assume leadership.</p> <p>Does not effectively participate in, manage, or lead teams.</p>		
1	<p>Recognizes importance of working in teams to address needs of a population.</p> <p>Lists and compares the sub-communities that comprise the interprofessional clinical care team (e.g., doctors, nurses, admin staff, interpreters, case managers, students, social workers, pharmacists, CMAs).</p> <p>Compares the value and roles of interprofessional and intersectoral team members in working with individual patients and addressing population health.</p> <p>Effectively receives feedback on working with populations/communities/teams and incorporates into practice improvements.</p>	Resident orientation	Multiple choice test or “reflection” exercise.
2	<p>Respects and honors unique contributions of team members.</p> <p>Demonstrates basic team skills such as work planning, time management in practice improvement.</p> <p>Demonstrates basic team skills in carrying out practice-based population health management, e.g., transitions of care.</p> <p>Critically inventories personal leadership and interpersonal styles, and creates a personal development plan.</p>	<p>Royeen CB, Jensen GM, Harvan RA. Leadership in Interprofessional Health Education and Practice, Boston, MA; Jones and Bartlett Publishers;2009. [book for purchase]</p> <p>Interprofessional collaboration: three best practice models of interprofessional education: Medical Education Online 2011, 16: 6035 - DOI: 10.3402/meo.v16i0.6035</p>	In practice 360°/multisource evaluation of team and leadership behaviors

Population Health 4- *Utilizes team and leadership skills to improve the health of populations*
(continued)

Level	Milestone	Materials	Activities/Assessment Tools
3	<p>Demonstrates leadership skills in working with clinic-based teams and patient advisory committees on population health improvement.</p> <p>Anticipates and engages with partners' perspectives both inside and outside of clinic to identify collective goals and strategies.</p> <p>Participates effectively in teams that are diverse in terms of culture, socioeconomic status, or other salient attributes.</p>	<p>Shirley D. Project Management for Healthcare, Boca Raton, FL; CRC Press; 2011. [book for purchase]</p>	<p>Faculty review of project plan and post-implementation debrief</p>
4	<p>Engages with complex community teams.</p> <p>Evaluates team dynamics and intentionally improves team function in practice-based teams.</p> <p>Leverages team diversity to more effectively accomplish practice-based team goals.</p> <p>Effectively manages crucial conversations, conflicts, and celebrates successes.</p> <p>Effectively participates in multi-sectoral teams from outside the clinic to improve population health beyond the clinic.</p>	<p>http://www.kenblanchard.com/img/pub/pdf_critical_leadership_skills.pdf</p> <p>http://www.forbes.com/sites/tomaspremuzic/2014/10/26/social-skills-leadership-in-healthcare-the-case-for-boosting-doctors-eq/</p> <p>Tom Rath, <i>Strength Finders 2.0</i>; New York; Gallup Press; 2007 (Available on Amazon- \$15)</p>	<p>360°/multisource evaluation for team and leadership behaviors in an external setting.</p>

Population Health 4- *Utilizes team and leadership skills to improve the health of populations*
(continued)

Level	Milestone	Materials	Activities/Assessment Tools
5	<p>Facilitates both individual and team growth and development.</p> <p>Builds diverse teams.</p> <p>Demonstrates vision and strategic thinking to accomplish population health goals.</p> <p>Effectively leads and initiates multi-sectoral teams from outside the clinic to improve population health beyond the clinic.</p> <p>Defers to others to assume leadership in community teams when appropriate; fluidly negotiates roles.</p> <p>Effectively provides feedback to others on working with community teams.</p> <p>Effectively participates in collective processes to confront the implications of race, class, and power for team dynamics.</p>	<p>Daniel Pink; Drive; New York; Riverhead Books; 2009</p> <p>Participate in a leadership development activity through your community (e.g. Leadership Durham), your medical society (e.g. NC Medical Society Leadership College), or your medical school. (At Duke, LEAD curriculum, Feagin Scholars)</p>	<p>360°/multisource evaluation for team and leadership behaviors in an external setting.</p> <p>Completion of any number of potential leadership tools with debrief by faculty following by personal action plan.</p> <p>Myers Briggs, http://www.myersbriggs.org/my-mbti-personality-type/mbti-basics/</p> <p>LIME http://deepblue.lib.umich.edu/bitstream/handle/2027.42/115886/AAMC2015-LIME-poster.pdf?sequence=3&isAllowed=y</p> <p>EQ http://www.emotionalintelligence.net/products/?gclid=C-jwKEAiAws20BRCs</p>

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Appendix

Hospital Based Specialities

Professionalism 1: Responsibility to patients, families, and society

Level 1

Acts responsibly and reliably with commitment to patient care as expected for level of experience

Completes most assigned clinical tasks on time, but may occasionally require direct supervision

Recognizes a patient's right to confidentiality, privacy, and autonomy, and treats patients and their families with compassion and respect

Seeks assistance appropriate to the needs of the clinical situation while taking into consideration one's own experience and knowledge

Displays sensitivity and respect for the needs of diverse patient populations and challenges associated with limited access to health care

Level 2

Completes routine tasks reliably in uncomplicated circumstances with indirect supervision

Identifies issues of importance to diverse patient populations and how limited resources may impact patient care and resource allocation

Level 3

Completes tasks reliably in complex clinical situations or unfamiliar environments, utilizing available resources, with indirect supervision

Identifies options to address issues of importance to diverse patient populations, and creates strategies to provide care when patient access or resources are limited

Level 4

Completes all work assignments reliably and supports other providers to ensure patient care is optimized; supervises and advises junior residents on time and task management with conditional independence

Level 5

Manages the health care team to ensure patient care is the first priority while considering the needs of team members

Completes all work assignments reliably, and independently supports other providers to ensure patient care is optimized

Demonstrates leadership in managing multiple competing tasks

Manages the health care team in a manner that is respectful of patient confidentiality, privacy, and autonomy, and ensures that patients and their families are treated with compassion and respect

Demonstrates mentorship and role modeling regarding responsibilities to diverse patient populations and optimizing patient care when resources are limited

Interpersonal and Communications Skills 3: Team and leadership skills

Level 1

Recognizes and respects the expertise of other members of the health care team

Functions effectively as a member of the health care team

Level 2

Identifies the care team member with appropriate expertise to address a clinical issue

Participates actively in team-based conferences or meetings related to patient care

Level 3

Coordinates team-based care in routine circumstances

Level 4

Demonstrates leadership skills in relationships with members of the anesthesia and other patient care teams

Facilitates team-based conferences or meetings related to patient care

Level 5

Effectively contributes to and leads team-based decision making and clinical care

Participates in and provides leadership in the practice of team-based care

Professional Values and Ethics				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Demonstrates the following professional behaviors: recognizes the Importance and priority of patient care and advocates for patient interests</p> <p>Fulfills work-related responsibilities</p> <p>Is truthful</p> <p>Recognizes personal limitations and seeks help when appropriate</p> <p>Recognizes personal impairment and seeks help when needed</p> <p>Responds appropriately to constructive criticism</p> <p>Places needs of patients before self</p> <p>Maintains appropriate boundaries with patients, colleagues, and others</p> <p>Exhibits tolerance and acceptance of diverse individuals and groups</p> <p>Maintains patient confidentiality</p> <p>Fulfills institutional and program requirements related to professionalism and ethics</p> <p>Attends required conferences</p>	<p>Is an effective health care <u>team member</u></p> <p>Demonstrates professional behaviors listed in the second column</p>	<p>Is an effective health care <u>team leader</u>, promoting primacy of patient welfare, patient autonomy, and social justice</p> <p>Demonstrates professional behaviors listed in the second column</p>	<p>Serves as a role model for professional behavior</p> <p>Demonstrates professional behaviors listed in the second column</p>	<p>Participates in local and national organizations to advance professionalism in radiology</p> <p>Mentors others regarding professionalism and ethics</p>

Emergency Medicine

Multi-tasking (Task-switching) (PC8) Employs task switching in an efficient and timely manner in order to manage the ED.

Level 1	Level 2	Level 3	Level 4	Level 5
Manages a single patient amidst distractions	Task switches between different patients	Employs task switching in an efficient and timely manner in order to manage multiple patients	Employs task switching in an efficient and timely manner in order to manage the ED	Employs task switching in an efficient and timely manner in order to manage the ED under high volume or surge situations

Suggested Evaluation Methods: *Simulation, SDOT, mock oral examination, multi-source feedback*

Technology (SBP3) Uses technology to accomplish and document safe healthcare delivery.

Level 1	Level 2	Level 3	Level 4	Level 5
Uses the Electronic Health Record (EHR) to order tests, medications and document notes, and respond to alerts	Ensures that medical records are complete, with attention to preventing confusion and error	Recognizes the risk of computer shortcuts and reliance upon computer information on accurate patient care and documentation	Uses decision support systems in EHR (as applicable in institution)	Recommends systems re-design for improved computerized processes
Reviews medications for patients	Effectively and ethically uses technology for patient care, medical communication and learning			

Suggested Evaluation Methods: *Direct observation-SDOT, chart review, global ratings, billing records, simulation, multi-source feedback*

Professional values (PROF1) Demonstrates compassion, integrity, and respect for others as well as adherence to the ethical principles relevant to the practice of medicine.

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates behavior that conveys caring, honesty, genuine interest and tolerance when interacting with a diverse population of patients and families	Demonstrates an understanding of the importance of compassion, integrity, respect, sensitivity and responsiveness and exhibits these attitudes consistently in common/uncomplicated situations and with diverse populations	Recognizes how own personal beliefs and values impact medical care; consistently manages own values and beliefs to optimize relationships and medical care Develops alternate care plans when patients' personal decisions/beliefs preclude the use of commonly accepted practices	Develops and applies a consistent and appropriate approach to evaluating appropriate care, possible barriers and strategies to intervene that consistently prioritizes the patient's best interest in all relationships and situations Effectively analyzes and manages ethical issues in complicated and challenging clinical situations	Develops institutional and organizational strategies to protect and maintain professional and bioethical principles

Suggested Evaluation Methods: Direct observation, SDOT, portfolio, simulation, oral board, multi-source feedback, global ratings

Patient Centered Communication (ICS1) Demonstrates interpersonal and communication skills that result in the effective exchange of information and collaboration with patients and their families.

Level 1	Level 2	Level 3	Level 4	Level 5
Establishes rapport with and demonstrate empathy toward patients and their families Listens effectively to patients and their families	Elicits patients' reasons for seeking health care and expectations from the ED visit Negotiates and manages simple patient/family-related conflicts	Manages the expectations of those who receive care in the ED and uses communication methods that minimize the potential for stress, conflict, and misunderstanding Effectively communicates with vulnerable populations, including both patients at risk and their families	Uses flexible communication strategies and adjusts them based on the clinical situation to resolve specific ED challenges, such as drug seeking behavior, delivering bad news, unexpected outcomes, medical errors, and high risk refusal-of-care patients	Teaches communication and conflict management skills Participates in review and counsel of colleagues with communication deficiencies

Suggested Evaluation Methods: Direct observation, SDOT, simulation, multi-source feedback, OSCE, global ratings, oral boards

Team Management (ICS2) Leads patient-centered care teams, ensuring effective communication and mutual respect among members of the team.

Level 1	Level 2	Level 3	Level 4	Level 5
Participates as a member of a patient care team	Communicates pertinent information to emergency physicians and other healthcare colleagues	Develops working relationships across specialties and with ancillary staff Ensures transitions of care are accurately and efficiently communicated Ensures clear communication and respect among team members	Recommends changes in team performance as necessary for optimal efficiency Uses flexible communication strategies to resolve specific ED challenges such as difficulties with consultants and other health care providers Communicates with out-of-hospital and nonmedical personnel, such as police, media, and hospital administrators	Participates in and leads interdepartmental groups in the patient setting and in collaborative meetings outside of the patient care setting Designs patient care teams and evaluates their performance Seeks leadership opportunities within professional organizations

Suggested Evaluation Methods: Direct observation, SDOT, simulation, multi-source feedback, OSCE, global ratings, oral boards

EM Subspecialty of Emergency Management Services

Quality Management – Practice-based Learning and Improvement

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Describes and understands the roles for members of pre-hospital team (e.g., first responders, law enforcement, public health, EMS providers, medical direction, receiving hospital-based personnel)</p> <p>Participates in a quality management project</p>	<p>Develops familiarity with data sources and elements (e.g., National EMS Information System [NEMIS])</p> <p>Under supervision, conducts a quality management audit for a condition, procedure, or systems-based issue</p>	<p>Uses data sources to identify quality concerns</p> <p>Evaluates evidence-based guidelines related to quality management efforts</p> <p>Performs a quality management audit for a condition, procedure, or systems-based issue using acquired data</p>	<p>Identifies system-wide quality needs and develops appropriate interventions</p> <p>Implements evidence-based guidelines into quality management efforts</p> <p>Evaluates the effectiveness of quality interventions</p>	<p>Implements a comprehensive quality management plan</p> <p>Develops policy or procedure for regional or state-based quality management</p>

Team Communications and Management – Interpersonal and Communication Skills

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Recognizes the importance of effective and timely communication with the health care team</p> <p>Ensures transitions of care are accurately and efficiently communicated</p> <p>Ensures clear communication and respect among team members</p>	<p>Demonstrates effective and timely communication with the health care team in low-stress/low-acuity clinical situations</p> <p>Accurately documents care provided in the pre-hospital setting</p> <p>Develops working relationships with other public safety and pre-hospital professionals</p>	<p>Provides effective and timely communication with the health care team in high-stress/high-acuity situations</p> <p>Educates others in accurate and timely documentation of care provided in the pre-hospital setting</p> <p>Participates with professional organizations</p>	<p>Works effectively with the pre-hospital and hospital teams</p> <p>Uses flexible communication strategies to resolve specific challenges</p>	<p>Leads change in team activities and/or communication pathways to optimize performance</p> <p>Seeks leadership opportunities within professional organizations</p>

Systems-based Management – Systems-based Practice				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies the members and roles of the hyperbaric team	Recognizes need for participation in a multidisciplinary care team Understands principles of hyperbaric-related procedure coding	Coordinates multidisciplinary care of the hyperbaric patient Practices cost-effective hyperbaric care Understands the role of utilization review	Coordinates system resources and transitions of care for a complicated hyperbaric patient Effectively manages the hyperbaric team Engages in utilization review	Creates appropriate use criteria for hyperbaric therapy Participates in national decision-making for coding and reimbursement of hyperbaric therapy

Self-directed Learning – Practice-based Learning and Improvement				
Level 1	Level 2	Level 3	Level 4	Level 5
Acknowledges gaps in personal knowledge and frequently asks for feedback Understands the importance of setting learning and improvement goals	Develops learning and improvement goals based on feedback Utilizes online data resources appropriately	Performs ongoing self-assessment and implements individual learning plans Critically appraises scientific literature and applies evidence-based medicine principles for self-improvement as a clinician Participates in a quality improvement project	Engages in performance improvement by incorporating feedback from multiple stakeholders (e.g., patients, members of the health care team, third-party payors) Demonstrates best clinical practice, including use of evidence-based pathways	Creates novel ways to assess performance Applies results from self-directed learning to educating others Completes scholarly activity (e.g., scientific presentation, publication, research)

Patients, Families, and Public – Interpersonal and Communication Skills

Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes the importance of effective communication with patients, families, and the public across a broad range of socioeconomic and cultural backgrounds	Demonstrates effective communication with patients, families, and the public Engages in shared decision making when obtaining informed consent	Educates patients and the public regarding issues related to diving and hyperbaric medicine Effectively communicates with vulnerable populations, including patients at risk and their families	Communicates with patients and families regarding confidential medical information Educates the public regarding environmental risks (e.g., safe diving practices, toxic gas exposure)	Consults on undersea and hyperbaric issues outside of the local health care environment, such as with regional and national health care agencies

Communication with Health Care Professionals – Interpersonal Communication Skills

Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes the importance of effective, timely consultation and communication with the health care team Ensures transitions of care are accurately and efficiently communicated Ensures clear communication and respect among health care team members	Demonstrates effective, timely consultation and communication with the health care team in clinical situations Develops working relationships across specialties with other health care professionals	Provides effective, timely consultation and communication with the health care team in stressful/crisis situations Provides education to the health care team Participates in peer review	Adapts communication strategies to resolve challenges with consultants and other health care professionals Provides undersea and hyperbaric education to other specialties within own institution	Seeks leadership opportunities within professional organizations Delivers presentations advocating for undersea and hyperbaric medicine to regional or national audiences

Epidemiology and Population Exposure

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Identifies major routes of human exposure</p> <p>Identifies and recognizes basic measures of disease frequency (e.g., incidence, prevalence, mortality)</p> <p>Distinguishes between experimental and observational studies</p>	<p>Identifies common illnesses that may be caused or influenced by environmental exposures</p> <p>Identifies broad environmental factors that may impact the health of a community</p> <p>Identifies and recognizes basic measures for comparing risk (e.g., risk ratios, odds ratios)</p> <p>Describes commonly used study designs (e.g., randomized clinical trial, cohort, case-control, cross-sectional)</p>	<p>Describes individual factors that impact susceptibility to adverse health effects from environmental exposures</p> <p>Identifies potential population health effects from exposure to chemical, physical, and biological hazards</p> <p>Explains validity, bias, confounding, and effect modification; distinguishes between association and causation; lists criteria for causal inference</p>	<p>Recommends methods of reducing adverse environmental health effects for individuals</p> <p>Identifies sources and routes of environmental exposures to chemical, physical, and biological hazards for defined populations</p> <p>Critically reviews and interprets toxicologic literature for commonly used study designs, identifying purpose, population, design, and biases</p>	<p>Develops protocols to limit the exposure of populations to chemical, physical, and biological hazards</p> <p>Uses data to characterize effects of exposure of a local population based on comparison with other populations</p>

Clinical Application of Information Technology

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Creates a timely, accurate, and complete medical record</p> <p>Recognizes the risks of computer shortcuts, such as electronic health records (EHR), on accurate patient care and documentation</p>	<p>Demonstrates the use of electronic databases to facilitate exact ingredient/product identification</p> <p>Uses information technology to locate scientific studies related to patient health problems</p> <p>Recognizes the limitations of social media/open source databases</p>	<p>Demonstrates the use of electronic databases and systems for the reporting of exposures (e.g., surveillance)</p> <p>Differentiates between reference sources based on quality, accuracy, and peer review</p>	<p>Routinely integrates data from multiple reliable information sources/databases into clinical decision making</p>	<p>Develops a database or recommends a system redesign for improved processes</p>

Professional Values

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates behavior that conveys compassion, honesty, genuine interest, and tolerance when interacting with a diverse population of patients, families, and other members of the health care team	Demonstrates an understanding of the importance of compassion, integrity, respect, sensitivity, and responsiveness, and exhibits these attitudes consistently in common/uncomplicated situations (e.g., disclosure of error) and with diverse populations	Recognizes how own personal beliefs and values impact medical care; consistently manages own values and beliefs to optimize relationships and medical care Develops alternate care plans when patients' personal decisions/beliefs preclude the use of commonly accepted practices	Develops and applies a consistent and appropriate approach to evaluating appropriate care, possible barriers, and strategies to intervene that consistently prioritizes the patient's best interest in all relationships and situations Effectively analyzes and manages ethical issues in complicated and challenging clinical situations (e.g., end-of-life, unexpected outcomes, suicidality)	Develops institutional and organizational strategies to protect and maintain professional and bioethical principles

Patients Families and Public

Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes the importance of effective communication with patients, families, and the public across a broad range of socioeconomic and cultural backgrounds	Demonstrates effective communication with patients, families, or the public in common situations Provides appropriate poison prevention, medication safety, or workplace safety counseling to patients and caregivers	Demonstrates effective communication with patients or the public in issues related to confidential and/or highly sensitive medical information Effectively communicates with vulnerable populations, including patients at risk and their families	Demonstrates effective communication with patients and the public in issues related to confidential and/or highly sensitive medical information using multiple communication modalities Understands how to develop appropriate risk communication to the community Able to communicate with non-medical personnel, such as police, media, risk managers, and hospital administrators	Demonstrates effective communication outside of the local health care environment, such as state and federal agencies, and regional health care systems

Communication with Health Care Professionals

Level 1

Recognizes the importance of effective, timely consultation and communication with the health care team

Ensures transitions of care are accurately and efficiently communicated

Ensures clear communication and respect among team members

Level 2

Demonstrates effective, timely consultation and communication with the health care team in clinical situations

Develops working relationships across specialties with other health care professionals

Level 3

Able to provide effective, timely consultation and communication with the health care team in stressful/crisis situations

Provides educational support across specialties and to other health care professionals

Level 4

Able to work effectively with the health care team in public health events (e.g., mass exposures)

Uses flexible communication strategies to resolve specific challenges, such as difficulties with consultants and other health care professionals

Level 5

Leads change in team activities to optimize performance

Seeks leadership opportunities within professional organizations

Function effectively within the larger context of health care systems, and practice cost-effective medicine — Systems-based Practice

Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes how health care systems influence individual practice and patient care.	Functions effectively within different systems with substantial guidance	Functions effectively within different systems with minimal guidance	Independently functions effectively within different systems	Leads systems change
Sensitive to cost-effectiveness of care	Incorporates and advocates for genetics services to enhance cost-effectiveness of care with substantial guidance	Incorporates and advocates for genetics services to enhance cost-effectiveness of care with minimal guidance	Independently incorporates and advocates for genetics services to enhance cost-effectiveness of care	
Recognizes that diagnosis and management have implications for care at home and in the community across the lifespan of the patient	Recognizes and manages the variation in access to genetic testing with substantial guidance	Recognizes and manages the variation in access to genetic testing with minimal guidance	Independently recognizes and manages the variation in access to genetic testing	
	Facilitates management and transitions of care teams as the patient ages with substantial guidance	Facilitates management and transitions of care teams as the patient ages with minimal guidance	Independently facilitates management and transitions of care teams as the patient ages	
	Participates in identifying system errors and implementing potential system solutions with substantial guidance	Participates in identifying system errors and implementing potential system solutions with minimal guidance	Independently participates in identifying system errors and implementing potential system solutions	

Use technology to accomplish safe health care delivery — Systems-based Practice

Level 1	Level 2	Level 3	Level 4	Level 5
Utilizes the Electronic Health Record (EHR) and Computerized Physician Order Entry (CPOE) in prevention of medical errors	Documents essential elements of genetics encounters to enhance the transfer of information and patient safety with substantial guidance	Documents essential elements of genetics encounters to enhance the transfer of information and patient safety with minimal guidance	Independently documents essential elements of genetics encounters to enhance the transfer of information and patient safety	Develops new technologies to improve health care in genetics
Recognizes the risk added by copy/paste strategies to create notes	Utilizes decision support tools with substantial guidance	Utilizes decision support tools with substantial guidance	Independently utilizes decision support tools	

Demonstrate personal responsibility to maintain emotional, physical, and mental health and accountability to patients, society, and the profession — Professionalism

Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes the importance of maintaining personal emotional, physical, and mental health	Demonstrates adequate management of personal, emotional, physical, and mental health	Identifies and manages situations in which maintaining personal emotional, physical, and mental health is challenged by common and typical clinical care situations	Identifies and manages situations in which maintaining personal emotional, physical, and mental health is challenged by complicated and less frequent clinical care situations	Develops institutional and organizational strategies to improve physician performance
Maintains professional appearance	Effectively manages the issues related to fatigue and sleep deprivation			
Is aware of the issues related to fatigue and sleep deprivation	Recognizes limits of knowledge and asks for assistance		Recognizes signs of physician impairment and demonstrates appropriate steps to address impairment in colleagues	
	Completes professional responsibilities in a timely manner			

Relationship building, teamwork, and conflict management — Interpersonal and Communication Skills

Level 1	Level 2	Level 3	Level 4	Level 5
Develops a positive relationship based on mutual trust with patients/families in uncomplicated situations	Develops and sustains relationships with families and health care team members with substantial guidance	Develops and sustains relationships with families and health care team members with minimal guidance	Independently develops and sustains relationships with families and health care team members	Develops institutional and organizational strategies to improve physician performance
Recognizes conflicts, especially those that pertain to patient care	Manages conflicts with patients/families and within the health care team with substantial guidance	Manages conflicts with patients/families and within the health care team with minimal guidance	Independently manages conflicts with patients/families and within the health care team	
	Participates in team-based care with substantial guidance	Participates in team-based care with minimal guidance	Independently participates in team-based care	
	Joins professional organizations	Participates in regional and national organizations		

Information gathering and sharing — Interpersonal and Communication Skills

Level 1	Level 2	Level 3	Level 4	Level 5
Actively seeks and understands the patient's/family's perspective	Communicates general and sensitive information with awareness of the social context with substantial guidance	Communicates general and sensitive information with awareness of the social context with minimal guidance	Independently communicates general and sensitive information with awareness of the social context	Makes a nationally recognized contribution by developing educational materials for patients and/or providers
Is aware of factors that affect communication	Demonstrates knowledge of and sensitivity to cultural values in communicating genetic information with substantial guidance	Demonstrates knowledge of and sensitivity to cultural values in communicating genetic information with minimal guidance	Independently demonstrates knowledge of and sensitivity to cultural values in communicating genetic information	
	Provides information and resources with substantial guidance	Provides information and resources with minimal guidance	Independently provides information and resources	
	Utilizes multiple sources and genetic counselors to obtain information with substantial guidance			

Computer Systems —Systems-based Practice				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Accesses clinical computer systems; is familiar with word processing and spreadsheet programs</p>	<p>Retrieves basic patient information from the electronic medical record; is able to use the basic functions of picture archiving and communication system (PACs) and voice recognition systems</p> <p>Understands Health Insurance Portability and Accountability Act (HIPAA) policies and appropriate use concepts</p>	<p>Retrieves complex patient information from the electronic medical record; is able to use the advanced functions of PACs and voice recognition systems</p>	<p>Is familiar with the basic functions of the billing systems</p>	<p>Recommends changes to computer systems/records to provide additional useful functionality</p>

Economics —Systems-based Practice				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Has a basic understanding of the advantages and disadvantages of different payment systems</p>	<p>Has a basic understanding of the economics of inpatient vs. outpatient care, and the impact of quality improvement incentives</p> <p>Develops understanding of relative cost per procedure</p>	<p>Has a basic practical understanding of the pre-certification process, radiology benefits managers, structured computer-based order entry systems, and Medicare/Medicaid procedure and report requirements</p>	<p>Has an advanced practical understanding of the pre-certification process, radiology benefits managers, structured computer-based order entry systems, and Medicare/Medicaid procedure and report requirements</p>	<p>Has a basic understanding of current state and national health care policies and their implications</p>

Professionalism: Demonstrates honesty, integrity, and ethical behavior (AP/CP)

Level 1	Level 2	Level 3	Level 4	Level 5
Behaves truthfully and understands the concepts of ethical behavior, occasionally requiring guidance; seeks counsel when ethical questions arise	Is truthful, acknowledges personal near misses and errors, and puts the needs of patients first	Demonstrates truthfulness to all members of the health care team	Exemplifies truthfulness to all members of the health care team	Models truthfulness to all members of the health care team; is viewed as a role model in accepting personal responsibility by members of the health care team; and always puts the needs of each patient above his or her own interests
Understands the concepts of respect, compassion, and empathy	Engages in ethical behavior	Identifies, communicates, and corrects errors	Serves as a role model for members of the health care team in accepting personal responsibility	Models respect, compassion, and empathy, in complex situations
	Observes patient confidentiality	Demonstrates respect, compassion, and empathy, even in difficult situations	Puts the needs of each patient above his or her own interests	
	Manifests sensitivity to patient's fears and concerns		Promotes respect, compassion, and empathy in others	
	Demonstrates respect, compassion, and empathy to all			

Professionalism: Demonstrates responsibility and follow-through on tasks (AP/CP)

Level 1	Level 2	Level 3	Level 4	Level 5
Completes assigned tasks on time	Dependably completes assigned tasks in a timely manner	Anticipates team needs and assists as needed	Anticipates team needs and takes leadership role to independently implement solutions	Exemplifies effective management of multiple competing tasks, including follow-through on tasks
	Assists team members when requested			Is source of support/guidance to other members of health care team
	Respects assigned schedules			

Professionalism: Gives and receives feedback (AP/CP)

Level 1	Level 2	Level 3	Level 4	Level 5
Receives feedback constructively	Accepts feedback constructively and modifies practice in response to feedback	Able to provide constructive feedback	Exemplifies giving and receiving constructive feedback Encourages and actively seeks feedback to improve performance	Models giving and receiving constructive feedback Encourages and actively seeks feedback to improve performance

Professionalism: Demonstrates responsiveness to each patient's unique characteristics and needs (AP/CP)

Level 1	Level 2	Level 3	Level 4	Level 5
Respects diversity, vulnerable populations, and patient autonomy	Embraces diversity and respects vulnerable populations Is aware of potential for bias or cultural differences to affect clinical care	Demonstrates cultural competency Identifies and avoids biases, and recognizes cultural differences that may affect clinical care	Exemplifies cultural competency Identifies and avoids biases, and recognizes cultural differences that may affect clinical care	Models cultural competency Works with peers to avoid biases Recognizes cultural differences that may affect clinical care

Intra-departmental interactions and development of leadership skills: Displays attitudes, knowledge, and practices that promote safe patient care through team interactions and leadership skills within the laboratory (AP/CP)

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Demonstrates respect for and willingness to learn from all members of the pathology team</p> <p>Is aware of the significance of conflict in patient care</p>	<p>Works effectively with all members of the pathology team</p> <p>Attends laboratory, departmental, or institutional committee meetings</p> <p>Aware of the mechanisms for conflict resolution</p> <p>Participates in a cytopathology team with cytopathologists, cytotechnologists and lab assistants, or surgical pathology team with surgical pathologists, histotechnicians and lab assistants or clinical pathology team with the pathologist, clinical laboratory scientists and lab assistants</p>	<p>Understands own role on the pathology team, and flexibly contributes to team success through a willingness to assume appropriate roles as needed</p> <p>Understands the basics of running a meeting</p> <p>Utilizes mechanisms for conflict resolution and helps to defuse and ameliorate conflict</p> <p>Participates in groups to accomplish goals</p>	<p>Helps to organize the pathology team to facilitate optimal communication and co-education among members</p> <p>Demonstrates the ability to lead and run an effective meeting</p> <p>Participates effectively in conflict resolution</p> <p>Demonstrates ability to lead groups to reach a consensus and accomplish goals</p>	<p>Leads the pathology team effectively</p> <p>Models respect for others</p> <p>Models effective conflict prevention and resolution skills</p>

Inter-departmental and Health care Clinical Team interactions: Displays attitudes, knowledge, and practices that promote safe patient care through interdisciplinary team interactions (AP/CP)

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Recognizes the importance of clinical input in formulating a differential diagnosis and composing a final diagnosis</p> <p>Is aware that multi-disciplinary conferences are used to further appropriate patient care</p> <p>Is aware of pathologist's role in the clinical team</p> <p>Understands utility of communication with other members of the clinical team</p>	<p>Participates through observation and active interaction with clinicians to obtain relevant clinical and/or radiologic data</p> <p>Attends multidisciplinary conferences</p> <p>Recognizes the importance of timely production of a final diagnosis and the role it plays in patient care</p> <p>Appropriately triages requests for information from the clinical team</p> <p>Is aware of the limitations of own knowledge</p>	<p>Assesses, analyzes, and interprets pathology reports and is able to discuss findings in consultation with clinical colleagues</p> <p>Prepares and presents cases at multidisciplinary conferences</p> <p>Responds to inquiries from the clinical team to contribute to patient care</p> <p>Effectively communicates clinically significant or unexpected values, including critical values</p> <p>Is aware of the limitations of medical knowledge</p>	<p>Routinely interfaces with clinical colleagues to formulate a narrow differential diagnosis and arrive at a final diagnosis</p> <p>Can lead multidisciplinary conferences</p> <p>Knows how subtleties may impact or alter patient care; recognizes and uses nuances in the proper wording in the discussion of pathology findings</p> <p>Participates in or leads communication with the clinical team to contribute to patient care</p> <p>Communicates the limitations of medical knowledge</p>	<p>Fully participates as a member of the health care team, and is recognized as proficient by peers and clinical colleagues</p> <p>Organizes and is responsible for multidisciplinary conferences</p> <p>Serves as a consultant to the health care team</p>

Preventive Med Aerospace Subspecialty

Community Health: Monitor, diagnose, and investigate community health problems — Patient Care 2

Level 1	Level 2	Level 3	Level 4	Level 5
Identifies common health issues in a community	Identifies basic health status measures to assess/investigate a community's health	Selects and describes appropriate health status measures to assess a community's health	Monitors and interprets single health status indicator of the community	Monitors and interprets multiple and/or complex health status indicators of the community

Inform and Educate: Inform and educate populations about health threats and risks — Patient Care 3

Level 1	Level 2	Level 3	Level 4	Level 5
Conveys basic health information to individuals or small groups	Identifies proper communication techniques related to health threats and risks	Prepares and delivers a basic health hazard/risk presentation	Conveys complex health information to educate a community or group and responds to queries about risk	Conveys sensitive/high-stakes health information to educate a community or group through a variety of media platforms

Policies and Plans: Develop policies and plans to support individual and community health efforts — Patient Care 4

Level 1	Level 2	Level 3	Level 4	Level 5
Diagnoses disease and develops an individualized treatment plan	Links individuals to needed personal health services including appropriate referrals and follow-ups	Applies primary, secondary, and tertiary preventive approaches to disease prevention and health promotion for individuals or communities, with minimal supervision	Applies primary, secondary, and tertiary preventive approaches to disease prevention and health promotion for the individuals and community	Contributes to the development and/or implementation of a policy to improve community health efforts

Evaluating Health Services: Evaluate Population-based health services — Patient Care 5

Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes distinctions between population and individual health services	Describes basic measures of effect (e.g., risk ratio) Describes basic measures of quality (e.g., benchmarking) Lists populations known to be underserved (e.g., low income)	Assesses evidence for effectiveness of a population-based health service Uses scientific literature to identify a target population for a given population-based health service Uses scientific literature to identify barriers to delivery of population-based health service	Uses program goals and/or established performance criteria to evaluate a population-based health service Uses evaluation findings to recommend strategic or operational improvements Uses data to identify barriers to population-based health services	Develops program goals and/or performance criteria to evaluate a population-based health service

Conduct aeromedical research — Patient Care 13

Level 1	Level 2	Level 3	Level 4	Level 5
Understands basic methodology of literature searches Lists and defines basic types of statistical analysis Knowledge of basic principles underlying Ethics and Protection on Human Subjects	Develops a basic background for a particular research question from literature searches Describes the types of statistical analysis and study design Demonstrates understanding of ethics and good clinical practice with regards to the protection of human subjects	Selects a particular study design for an individual research question Interprets various types of statistical analysis Applies the principles of ethics and good clinical practice with regards to the protection of human subjects	Completes the components of an Institutional Review Board Performs and interprets various types of statistical analysis Applies the principles of ethics and good clinical practice with regards to the protection of human subjects	Identifies gaps in current aeromedical literature and develops pertinent research questions from these gaps Submits original research to peer-reviewed journal and/or peer-reviewed conference Applies the principles of ethics and good clinical practice with regards to the protection of human subjects

Behavioral Health — Medical Knowledge 1

Level 1	Level 2	Level 3	Level 4	Level 5
Lists major effects of individual behavior on health	Identifies social and behavioral factors that affect health of individuals	Identifies best practice and tools to assess risk behaviors	Integrates best practices and tools to assess risk behaviors	Develops and evaluates programs to change health behaviors of individuals
Recognizes that social and behavioral factors influence population health	Identifies social and behavioral factors that affect health of populations	Describes effective approaches to modify individual health behaviors	Implements effective approaches to modify individual health behaviors	
		Describes effective approaches to modify population health behaviors	Integrates best practices and tools to assess population risk behaviors	
		Identifies the causes of social and behavioral factors that affect health of populations	Implements effective approaches to modify population health behaviors	

Environmental Health — Medical Knowledge 2

Level 1	Level 2	Level 3	Level 4	Level 5
Identifies major routes of human exposure to environmental toxicants	Identifies common illnesses that may be caused or influenced by environmental exposures	Describes individual factors that impact susceptibility to adverse health effects from environmental exposures	Recommends methods of reducing adverse environmental health effects for individuals	Recommends, interprets, and explains the results of individual environmental monitoring
	Identifies broad environmental factors that may impact the health of a community	Identifies potential population health effects from exposure to chemical, physical, and biological hazards	Identifies sources and routes of environmental exposures to chemical, physical, and biological hazards for defined populations	
				Interprets and explains population level environmental monitoring results

Epidemiology — Medical Knowledge 4

Level 1	Level 2	Level 3	Level 4	Level 5
Identifies and recognizes basic measures of disease frequency (e.g., incidence, prevalence, mortality)	Identifies and recognizes basic measures for comparing risk (e.g., risk ratios, odds ratios)	Knows methods for calculating basic measures of disease frequency and risk	For a defined population, uses data to calculate measures of disease frequency and one or more risk factors for a specified disease or condition	Uses data to characterize the health of a local population, compares it with that of other populations, identifies localities or groups with poorer health, and identifies and assesses the importance of different risk factors, for at least one disease or condition
Distinguishes between experimental and observational studies	Describes commonly used study designs (e.g., randomized control test [RCT], cohort; case-control, cross-sectional)	Explains what is meant by validity, bias, confounding, and effect modification; distinguishes between association and causation; lists criteria for causal inference	Critically reviews and interprets epidemiologic literature for commonly used study designs, identifying purpose, population, design, and biases	Designs and conducts a basic observational study (defines aims; selects appropriate study designs, collects, analyzes, and interprets data; identified limitations; summarizes and discusses findings)

Work and coordinate patient care effectively in various health care delivery settings and systems — Systems-based Practice 1

Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes various individual and population-based health care/services delivery settings and systems	Works and coordinates individual patient care in various health care delivery settings and systems	Works and coordinates population-based health services in various health care delivery settings and systems	Assess organizational performance of health care delivery system	Interacts with other stakeholders to improve the performance of the system

Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care, as appropriate — Systems-based Practice 2

Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes the importance of cost awareness and risk-benefit analysis in patient and/or population-based care	Identifies risks, benefits, and costs for a preventive service in an individual clinical patient	Demonstrates sound judgment relating to risks, benefits, and costs for a preventive service in an individual clinical patient	Demonstrates sound judgment relating to risks, benefits, and costs for a preventive service for a population	Articulates and weighs the costs, benefits, and risks of a proposed population-based service

Compassion, integrity, and respect for others as well as sensitivity and responsiveness to diverse patient populations including diversity in gender, age, culture, race, religion, disabilities, and sexual orientation; knowledge about, respect for and adherence to the ethical principles relevant to the practice of medicine, remembering in particular that responsiveness to patients that supersedes self-interest is an essential aspect of medical practice — Professionalism 1

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Seeks out, learns from, and models the attitudes and behaviors of physicians who exemplify appropriate professional attitudes, values, and behaviors, including caring, honesty, genuine interest in patients and families, and tolerance and acceptance of diverse individuals and groups</p> <p>Aware of basic bioethical principles; identifies ethical issues in clinical situations</p>	<p>Exhibits appropriate attitudes, values and behaviors in straightforward situations, including caring, honesty, genuine interest in patients and families, and tolerance and acceptance of diverse individuals and groups</p> <p>Consistently recognizes ethical issues in practice; discusses, analyzes, and manages in common clinical situations</p>	<p>Exhibits appropriate attitudes, values and behaviors in difficult situations, including caring, honesty, genuine interest in patients and families, and tolerance and acceptance of diverse individuals and groups</p> <p>Effectively analyzes and manages ethical issues in difficult clinical situations</p>	<p>Balances ethical principles required for individual patient care with those needed for addressing population health</p> <p>Consistently and effectively analyzes and manages ethical issues in both clinical and population-based medicine</p>	<p>Develops organizational policies and education to support the application of these principles in the practice of individual and population-based medicine</p>

Accountability to patients, society and the profession — Professionalism 2

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Recognizes limits of knowledge in most clinical situations</p> <p>Understands importance of physician accountability</p> <p>Aware of the basic causes of impairment in professionals such as fatigue, and substance use</p>	<p>Consistently recognizes limits of knowledge in common clinical situations and asks for assistance</p> <p>Demonstrates physician accountability to individual patients in clinical situations</p> <p>Identifies resources to address impairment of professionals</p>	<p>Appropriately engages other members of the healthcare team</p> <p>Demonstrates physician accountability to a patient population in clinical situations</p> <p>Able to recognize impairment in themselves or other members of the healthcare team</p>	<p>Consistently demonstrates the ability to identify limits of own knowledge and proactively incorporates the expertise of others from the healthcare team into clinical and population-based practice</p> <p>Demonstrates physician accountability to patients, society, and profession in the performance of clinical and population-based duties</p> <p>Able to respond appropriately to impairment in members of the healthcare team</p>	<p>Acts as a consultant for clinical and population health topics</p> <p>Exemplifies ethical leadership in clinical and population-based settings</p>

Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds; communicate effectively with physicians, other health care professionals and health related agencies; work effectively as a member or leader of a health care team or other professional group; act in a consultative role to other physicians and health professionals — Interpersonal Communication Skills 1

Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes the importance of effective communication with patients, families, and public	Demonstrates effective communication with patients, families, or public in common situations	Demonstrates effective communication with patients or the public in issues related to confidential and/or highly sensitive medical information	Demonstrates effective communication with patients and the public in issues related to confidential and/or highly sensitive medical information using multiple communication modalities	Creates policy for effective communication of complex health information
Recognizes the importance of effective communication with the health care team	Demonstrates effective communication with the health care team in common situations	Demonstrates effective communication with the health care team in clinical and population settings	Able to communicate effectively with the health care team in stressful situations/crises	Demonstrates effective communication outside of the local health care environment, such as state and federal agencies, regional health care systems
Recognizes the importance of working with other members of the health care team	Works effectively with the health care team in common situations	Works effectively with the health care team in clinical and population settings	Works effectively with the health care team in stressful situations/crisis	Understands the importance of working with diverse stakeholders outside of the local health care environment, such as state and federal agencies, regional health care systems

Preventive med subspecialty Occupational and Environmental Medicine (also includes many of those above)

Health and Productivity: Identify and address individual and organizational factors in the workplace in order to optimize the health of the worker and enhance productivity — Patient Care 11

Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes that individual and organizational factors in the workplace can influence health and productivity	Identifies individual and organizational factors in the workplace which influence the health and productivity of workers, such as ethnicity, language, health beliefs, absenteeism, presenteeism, safety culture, etc.	Describes the appropriate use and limitations of health risk assessment and screening for well populations, and the applications of screening, assessment, and early intervention for targeted high-risk groups Counsels employees about health risks and lifestyle	Monitors and surveys at least one workforce and interprets monitoring and surveillance data for prevention of disease in the workplace to enhance the health and productivity of workers under supervision (may be achieved through simulation) Communicates scientific knowledge related to health and productivity to target groups with supervision	Designs, implements, and evaluates worksite health promotion and disease prevention programs independently, incorporating authoritative guidelines as appropriate

Preventive Med Subspecialty of Public health and general preventive med

Clinical Preventive Services (CPS): Analyze evidence regarding the performance of proposed clinical preventive services for individuals and populations — Patient Care 10

Level 1	Level 2	Level 3	Level 4	Level 5
Locates and appraises evidence from a scientific study related to a patient's health problem	Leads a discussion with peers of the strengths and weaknesses of an individual study relevant to CPS	Participates in the examination of evidence to address a proposed clinical preventive service	Participates in the development or analysis of a guideline to address a proposed clinical preventive service	Systematically examines scientific evidence and develops an evidence-based guideline to address a proposed clinical preventive service

Conditions of Public Health Significance: Implement appropriate clinical care for individuals with conditions of public health significance — Patient Care 11

Level 1	Level 2	Level 3	Level 4	Level 5
Obtains history and basic physical Prescribes indicated medications	Generates a differential diagnosis for a disease or condition of public health significance and proposes a treatment plan Identifies diseases and conditions that require a public health response	Accurately diagnoses and effectively treats common presentations of diseases/ conditions of public health significance with direct supervision Participates in an appropriate public health intervention for a disease or condition that requires a public health response	Accurately diagnoses and effectively treats common presentations of diseases/ conditions of public health significance Initiates an appropriate public health intervention for a disease or condition that requires a public health response	Accurately diagnoses and effectively treats complex conditions and unusual presentations of diseases/ conditions of public health significance

Preventive Services: Select and provide appropriate evidence-based clinical preventive services — Patient Care 12

Level 1	Level 2	Level 3	Level 4	Level 5
Prescribes immunizations and chemoprophylaxis	<p>Identifies major risk factors of individual patients that would benefit from clinical preventive services (CPS);</p> <p>Understands the recommendations of the U.S. Preventive Services Task Force (USPSTF)</p>	Assesses relevant risks for disease and injury in individual patients and uses patient information, scientific evidence, USPSTF guidelines, and clinical judgment to select appropriate CPS for individual patients	Comprehensively assesses risks for diseases and injuries, and appropriately applies USPSTF and other evidence-based guidelines regarding screening, counseling, preventive medications, and immunization to individual patients	Comprehensively assesses risks for diseases and injuries, and appropriately applies USPSTF and other evidence-based guidelines regarding clinical preventive services in individual patients with complex health or social conditions (e.g., hospitalized, homeless, or nursing home patients)

Work and coordinate patient care effectively in various health care delivery settings and systems — Systems-based Practice

Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes various health care delivery settings and systems	Works and coordinates patient care in various health care delivery settings and systems for common clinical situations	Works and coordinates patient care in various health care delivery settings and systems for most clinical situations	Works and coordinates patient care in various health care delivery settings and systems for all clinical situations	Publishes research on coordinating patient care in various health care delivery settings and systems

Incorporate considerations of cost awareness and risk-benefit analysis in patient- and/or population-based care, as appropriate — Systems-based Practice

Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes the importance of cost awareness and risk-benefit analysis for patient- and/or population-based care	Incorporates considerations of cost awareness and risk-benefit analysis for patient- and/or population-based care for common clinical situations	Incorporates considerations of cost awareness and risk-benefit analysis in patient- and/or population-based care for most clinical situations	Incorporates considerations of cost awareness and risk-benefit analysis for patient- and/or population-based care for all clinical situations	Publishes research on cost awareness and risk-benefit analysis for patient- and/or population-based care

Participate in the education of patients, families, students, residents, and other health professionals — Practice-based Learning and Improvement

Level 1	Level 2	Level 3	Level 4	Level 5
Understands the importance of the education of patients, families, students, residents, and other health professionals	Participates in the education of patients and their families in common situations	Participates in the education of patients and their families, students, residents, and other health professionals in common situations	Participates in the education of patients and their families, students, residents, and other health professionals in all situations	Publishes research on patient education Develops a protocol for educating patients

Transitional Year

Coordinates patient care within various health care delivery settings

Level 1

Acknowledges and understands that different systems and levels of care are required to provide comprehensive patient care

Understands the importance of transitions in the continuum of care

Level 2

Understands the need for an interdisciplinary approach to effectively coordinate care

Transmits relevant information during transitions of care

Level 3

Understands coordination of care between different systems

Facilitates safe and effective transitions of care

Level 4

Works effectively in various health care delivery settings and systems, coordinating care relevant to the clinical specialty

Level 5

Leads efforts to better coordinate patient care within the health care system

Works in interdisciplinary teams to enhance patient safety and improve patient care quality

Level 1

Recognizes failures in teamwork and communication in health care as a leading cause of preventable patient harm

Level 2

Works with other members of the health care team to identify system errors and areas of potential quality improvement

Is respectful of other team members and actively seeks their input to solve problems

Level 3

Works in interdisciplinary teams to identify solutions (action plans) to identified system errors

Level 4

Analyzes team experience and works with the team to enhance patient safety and care quality in the specialty area

Level 5

Leads interdisciplinary teams to improve health care delivery systems

Accountability to patients, society, and the profession

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Consistently behaves in a responsible, reliable manner that demonstrates a commitment to patient care, safety, and privacy; works effectively with others and upholds the core values of medicine</p> <p>Demonstrates professional accountability, including timely and adequate completion of professional responsibilities, being dressed and groomed appropriately, and being ready and able to perform expected duties</p> <p>Is willing and able to ask for help when needed</p> <p>Demonstrates responsible use of social media</p>	<p>Defines and understands physician accountability to patients, society, and the profession</p> <p>Consistently recognizes limits of one's own knowledge in common and frequent clinical situations, and asks for assistance</p> <p>Recognizes the need to develop leadership skills</p>	<p>Develops an understanding of one's own beliefs and values and how they impact one's attitude and behavior; is able to understand and balance the needs of oneself and others to prioritize and provide appropriate medical care</p> <p>Consistently recognizes limits of one's own knowledge in uncommon and complicated clinical situations; develops and implements plans for the best possible patient care</p> <p>Demonstrates leadership skills</p>	<p>Develops and employs a coherent and systematic approach to making decisions about patient care that considers and integrates the values and beliefs of oneself, the patient, society, and the core values of medicine</p> <p>Consistently demonstrates the ability to identify limits of one's own knowledge and to develop and implement a plan for the best possible patient care</p>	<p>Is knowledgeable about and consistently able to consider and balance the needs, values, and available resources of the patient, society, profession, and self while providing good medical care, generally and in the specialty</p> <p>Demonstrates leadership and mentorship regarding these principles</p> <p>Develops organizational policies and provides education to support the application of these principles in the practice of medicine</p>

Communicates effectively with patients, family, and the public as appropriate across a broad range of socioeconomic and cultural backgrounds

Level 1	Level 2	Level 3	Level 4	Level 5
Develops a positive relationship with patients in uncomplicated situations	Develops positive relationships with patients and families	Adapts patient- and family-related information gathering to social cultural context	Customizes emotionally difficult information, such as end-of-life discussions to support patient and family	Sustains relationships across systems of care and with patients during long-term follow-up
Seeks and understands patient and family perspectives	Negotiates and manages simple patient/family-related conflicts	Effectively communicates with vulnerable populations, both patients and families	Effectively coordinates care for vulnerable populations across health care and social/governmental systems	Develops and models approaches to managing difficult communications
Demonstrates an awareness of vulnerable populations	Is aware of factors that affect communication (e.g. modality; language; appropriate use of interpreters family in the room; hearing, vision and cognitive impairments)	Uses strategies to ensure patient understanding		
Is aware of effects of computer use on potential disruption of the physician patient relationship	Identifies special communication needs of vulnerable populations			
	Can organize both written and oral information to be shared with patient and family, and engage patients in shared decision-making			

Works effectively as a member or leader of a healthcare team or other professional group

Level 1	Level 2	Level 3	Level 4	Level 5
Identifies benefits of interdisciplinary team-based care	Actively participates in team-based care	Actively participates in interdisciplinary meetings to improve patient care	Facilitates and leads team-based patient care activities	Seeks leadership opportunities within professional organizations and is able to lead/facilitate meetings within the organization/system
Describes and appreciates the expertise of each team member, including the patient and family	Supports activities of other team members	Participates in family/patient/team member conferences, and incorporates patient and family values and preferences	Facilitates and leads family/patient/team member conferences in an anticipatory manner and includes all relevant disciplines	

Allergy and Immunology

Coordination of Care: Coordinates the care of allergy/immunology patients, including the use of consultation and effective interactions with faculty members, peers, and support staff. Understands the role of subspecialty consultation in the overall care of patients. Participates in interdisciplinary teams to enhance patient safety. — Patient Care

Level 1

Identifies resources needed to implement a plan of care

Identifies the need for a multidisciplinary patient care team in a management plan

Level 2

Accesses and manages resources needed to implement a plan of care with substantial supervision

Participates in multidisciplinary patient care teams

Level 3

Accesses and manages resources needed to implement a plan of care with minimal supervision

Appropriately influences decision making in multidisciplinary patient care teams

Level 4

Accesses and manages resources needed to implement a plan of care independently

Demonstrates ability to lead a multidisciplinary patient care team

Level 5

Advocates for increased access to resources needed to implement a plan of care in the community

Dermatology--see target population ones

Adapts easily and works effectively in various health care delivery settings and systems

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Completes all required tasks for residency and first rotation site orientation</p> <p>Articulates health care missions at participating sites</p>	<p>Uses electronic health record (EHR) efficiently and independently</p> <p>Adapts to clinical work in different sites and health care systems (e.g., VA, university medical center)</p> <p>Maintains access to all needed systems</p> <p>Identifies target patient populations, and the differences in demographics and needs of these populations at each participating site</p> <p>Accesses support services appropriately at different practice sites</p>	<p>Effectively navigates systems to overcome obstacles to optimal patient care (e.g., facilitating access to care)</p> <p>Identifies target patient populations, differences in demographics, and can use the appropriate agencies/resources to address specific needs of these populations</p>	<p>Recognizes the differences between a system change and a work-around (a bypass of a recognized system fault that attempts to improve efficiency)</p> <p>Identifies at least one work-around, explores opportunities for change, and when possible, takes steps to improve the system fault that incited it</p>	<p>Adapts learning from one system or setting to another, and in this way, can effect or stimulate improvements in a system, and does so when the need arises</p>

Works effectively within an interprofessional team

Level 1	Level 2	Level 3	Level 4	Level 5
Identifies members of the team who coordinate patient care	Uses and consults with other health care providers in coordination of patient care	Delegates tasks appropriately to members of the health care team	Demonstrates how to manage, use, and coordinate the interprofessional team	Leads an interdisciplinary team
Describes own role as member of the health care team	Appropriately communicates and coordinates care with the primary care and/or referral provider(s)	Attends and contributes to academic department/division retreats (or similar organizational venue), as well as to clinic team/staff meetings at participating sites	Participates in an interdisciplinary team meeting for clinic or program improvement	
	Describes unique contributions (knowledge, skills, and attitudes) of other health care professionals, and seeks their input for appropriate issues	Facilitates checklist-guided briefings (e.g., pre-procedure timeouts) in health care activities		
	Describes the use of checklists and briefings to prevent adverse events in health care; recognizes the roles of team members and participates in briefings			

Improves health care delivery by identifying system errors and implementing potential systems solutions
 Advocates for quality patient care and optimal patient care systems

Level 1

Articulates understanding of the limitations of the health care system and potential for systems errors

Level 2

Participates in discussion during conferences that highlight systems errors

Articulates understanding of institutional risk-management resources available

Begins to identify the social/governmental services necessary for vulnerable populations, including determination of eligibility for services and delivery of some aspects of care

Begins to advocate for optimal patient care in the setting of interdisciplinary interactions (e.g., discussions with insurance companies or care providers in other specialties)

Level 3

Leads discussion during conferences that highlight systems errors

Articulates understanding of the intersection of the legal system and health care system in the context of medical errors

Consistently identifies the social/governmental services necessary for vulnerable populations, including determination of eligibility for services and delivery of some aspects of care

Consistently advocates for optimal patient care in the setting of interdisciplinary interactions

Level 4

Consistently encourages open and safe discussion of error, and begins to identify and analyze error events

Level 5

Consistently encourages open and safe discussion of errors, and characteristically identifies and analyzes error events, habitually approaching medical errors with a system solution methodology

Actively and routinely engages with teams and processes through which systems are modified to prevent medical errors

Advocates to improve patient care provided by health care, social, community, and governmental systems, including for vulnerable populations

Practices cost-conscious care (for patients and populations)

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Articulates awareness of health care costs</p>	<p>Demonstrates knowledge of how a patient's health care is paid for, and how this affects the patient's care</p> <p>Articulates awareness of costs for common diagnostic or therapeutic tests, including the cost of performing and interpreting skin biopsies</p> <p>Considers cost of medical and surgical therapies, and incorporates this into therapy decisions and discussions with the patient</p> <p>Demonstrates awareness of minimizing unnecessary care, including tests, procedures, therapies, and ambulatory or hospital encounters</p> <p>Usually applies principles</p>	<p>Articulates awareness of common socio-economic barriers that impact patient care</p> <p>Articulates understanding of how cost-benefit analysis is applied to patient care (i.e., via principles of screening tests and the development of clinical guidelines)</p> <p>Identifies the role of various health care stakeholders, including providers, commercial and government payers, and pharmaceutical industry and medical device companies, and their varied impact on the cost of and access to health care</p> <p>Consistently applies principles of coding (ICD-9/10) and reimbursement</p>	<p>Articulates an awareness of current debates/issues of health care financing and how it will affect patients, providers, third party payers, and other stakeholders</p> <p>Identifies inherent biases of interactions with pharmaceutical and medical device industries</p> <p>Demonstrates the incorporation of cost-awareness principles into standard clinical judgments and decision-making</p>	<p>Demonstrates the incorporation of cost-awareness principles into complex clinical scenarios</p>

Communication and Rapport with Patients and Families

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Describes the concepts of communication in the clinical setting, but usually needs guidance in using them to build rapport in encounters with patients and families</p> <p>Begins to demonstrate sensitivity to socio-cultural practices</p>	<p>Usually communicates effectively and builds rapport with patients and families in routine encounters, but requires guidance in stressful encounters</p> <p>Occasionally recognizes non-verbal cues from patients and uses non-verbal skills to convey empathy, but requires guidance in time-pressed, complex, and stressful situations</p> <p>Speaks in easily understandable language and avoids technical jargon</p> <p>Actively seeks the patient's and family's perspective; uses patient hand-outs and/or diagrams to explain diseases and treatments when appropriate</p> <p>Counsels and provides clear and specific verbal and/or written instructions to patients related to diagnostic tests, risks/benefits of treatment, treatment alternatives, and therapeutic plans (including prescriptions), and assesses patient comprehension</p>	<p>Consistently communicates effectively and builds rapport with patients and families in routine encounters, occasionally requiring guidance in stressful encounters</p> <p>Usually recognizes non-verbal cues from patients, and uses non-verbal skills to convey empathy</p> <p>Usually paces clinical interviews appropriately, spending extra time when indicated</p> <p>Consistently maintains composure in difficult patient and family encounters</p> <p>Considers patient beliefs in shaping the patient-physician relationship and therapeutic plan</p> <p>Adapts patient/family-related information gathering to social and cultural context</p>	<p>Consistently communicates effectively and builds rapport with patients and families in routine and stressful encounters</p> <p>Consistently recognizes and effectively uses non-verbal communication skills in relating to patients and families</p> <p>Consistently paces clinical interviews appropriately</p>	<p>Role models the communication skills necessary to build rapport with patients and families; uses a wide range of communication skills to optimize care in stressful or contentious situations</p> <p>Coaches others to improve communication skills and to work effectively with vulnerable populations</p> <p>Is regularly sought out by junior learners, peers, and other members of the health care team for his or her ability to allay fears and effectively address the concerns of patients and families</p>

Communication and Rapport with Patients and Families (continued)

Level 1

Level 2

Level 3

Level 4

Level 5

Identifies special communication needs of vulnerable populations (e.g., pediatric and elderly patients, persons with disabilities or illiteracy, immigrants, refugees, veterans, prisoners); appropriately uses translators to facilitate communication with patients and families

Demonstrates appropriate face-to-face interaction while using the electronic health record or completing the patient health record

Team Member Respect and Care Coordination

Level 1

Recognizes the importance of the other members of the health care team and the need to communicate in ways that show appreciation for the skills and contributions of other professionals

Level 2

Communicates effectively with health care team members in ways that demonstrate appreciation for their skills and contributions in **routine** situations, but **requires guidance** in difficult or contentious situations

Level 3

Consistently communicates effectively with health care team members in ways that demonstrate appreciation for their skills and contributions in **routine** situations, **occasionally requiring guidance** in difficult or contentious situations

Level 4

Consistently communicates effectively with health care team members in ways that demonstrate appreciation for their skills and contributions in **routine and difficult or contentious** situations

Level 5

Role models communication that shows appreciation for all members of the health care team, including in difficult or contentious situations
Is regularly **sought out** by junior learners, peers, and other members of the health care team for his or her ability to communicate effectively in a team-based approach to care

PC-2. Cares for patients with chronic conditions

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Recognizes chronic Conditions</p> <p>Accurately documents a clinical encounter on a patient with a chronic condition, and generates a problem list</p> <p>Recognizes that chronic conditions have a social impact on individual patients</p>	<p>Establishes a relationship with the patient as his or her personal physician</p> <p>Collects, organizes and reviews relevant clinical information</p> <p>Recognizes variability and natural progression of chronic conditions and adapts care accordingly</p> <p>Develops a management plan that includes appropriate clinical guidelines</p> <p>Uses quality markers to evaluate the care of patients with chronic conditions</p> <p>Understands the role of registries in managing patient and population health</p>	<p>Consistently applies appropriate clinical guidelines to the treatment plan of the patient with chronic conditions</p> <p>Engages the patient in the self-management of his or her chronic condition</p> <p>Clarifies the goals of care for the patient across the course of the chronic condition and for his or her family and community</p> <p>Begins to manage the conflicting needs of patients with multiple chronic conditions or multiple co-morbidities</p>	<p>Leads care teams to consistently and appropriately manage patients with chronic conditions and co-morbidities</p> <p>Facilitates patients' and families' efforts at self-management of their chronic conditions, including use of community resources and services</p>	<p>Personalizes the care of complex patients with multiple chronic conditions and co-morbidities to help meet the patients' goals of care</p> <p>Continually uses experience with patients and evidence-based medicine in population management of chronic condition patients</p>

PC-3. Partners with the patient, family and community to improve health through disease prevention and health promotion.

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Collects family, social, and behavioral history</p> <p>Demonstrates awareness of recommendations for health maintenance and screening guidelines developed by various organizations</p>	<p>Collects family, social, and behavioral history</p> <p>Demonstrates awareness of recommendations for health maintenance and screening guidelines developed by various organizations</p>	<p>Explaining the basis of health promotion and disease prevention recommendations to patients with the goal of shared decision making</p> <p>Describes risks, benefits, costs, and alternatives related to health promotion and disease prevention activities.</p> <p>Partners with the patient and family to overcome barriers to disease prevention and health promotion</p> <p>Mobilizes team members and links patients with community resources to achieve health promotion and disease prevention goals</p>	<p>Tracks and monitors disease prevention and health promotion for the practice population</p> <p>Integrates disease prevention and health promotion seamlessly in the ongoing care of all patients</p>	<p>Integrates practice and community data to improve population health</p> <p>Partners with the community to improve population health</p>

PC-5. Performs specialty-appropriate procedures to meet the health care needs of individual patients, families, and communities, and is knowledgeable about procedures performed by other specialists to guide their patients' care

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Identifies procedures that family physicians perform</p> <p>Demonstrates sterile technique</p>	<p>Performs procedures under supervision, and knows the indications of, contraindications of, complications of, how to obtain informed consent for, procedural technique for, post-procedure management of, and interpretation of results of the procedures they perform</p> <p>Begins the process of identifying additional procedural skills he or she may need or desire to have for future practice</p>	<p>Uses appropriate resources to counsel the patient on the indications, contraindications, and complications of procedures</p> <p>Identifies and actively seeks opportunities to assist with or independently perform additional procedures he or she will need for future practice</p>	<p>Independently performs all procedures required for graduation</p> <p>Counsels the patient regarding indications, contraindications, and complications of procedures commonly performed by other specialties</p> <p>Identifies a plan to acquire additional procedural skills as needed for practice</p>	<p>Seeks additional opportunities to perform or assist with procedures identified as areas of need within the community</p>

MK-2. Applies critical thinking skills in patient care

Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes that an in-depth knowledge of the patient and a broad knowledge of sciences are essential to the work of family physicians	Synthesizes information from multiple resources to make clinical decisions	Recognizes and reconciles knowledge of patient and medicine to act in patients' best interest	Integrates and synthesizes knowledge to make decisions in complex clinical situations	Integrates in-depth medical and personal knowledge of patient, family and community to decide, develop, and implement treatment plans
Demonstrates basic decision making capabilities	Begins to integrate social and behavioral sciences with biomedical knowledge in patient care	Recognizes the effect of an individual's condition on families and populations	Uses experience with patient panels to address population health	Collaborates with the participants necessary to address important health problems for both individuals and communities
Demonstrates the capacity to correctly interpret basic clinical tests and images	Anticipates expected and unexpected outcomes of the patients' clinical condition and data			

SBP-1 Provides cost-conscious medical care

Level 1

Understands that health care resources and costs impact patients and the health care system

Level 2

Knows and considers costs and risks/benefits of different treatment options in common situations.

Level 3

Coordinates individual patient care in a way that is sensitive to resource use, efficiency, and effectiveness

Level 4

Partners with patients to consistently use resources efficiently and cost effectively in even the most complex and challenging cases

Level 5

Role models and promotes efficient and cost-effective use of resources in the care of patients in all settings

SBP-2 Emphasizes patient safety

Level 1

Understands that medical errors affect patient health and safety, and that their occurrence varies across settings and between providers
Understands that effective team-based care plays a role in patient safety

Level 2

Recognizes medical errors when they occur, including those that do not have adverse outcomes.

Understands the mechanisms that cause medical errors
Understands and follows protocols to promote patient safety and prevent medical errors

Participates in effective and safe hand-offs and transitions of care

Level 3

Uses current methods of analysis to identify individual and system causes of medical errors common to family medicine

Develops individual improvement plan and participates in system improvement plans that promote patient safety and prevent medical errors

Level 4

Consistently engages in self-directed and practice improvement activities that seek to identify and address medical errors and patient safety in daily practice

Fosters adherence to patient care protocols amongst team members that enhance patient safety and prevent medical errors

Level 5

Role models self-directed and system improvement activities that seek to continuously anticipate, identify and prevent medical errors to improve patient safety in all practice settings including the development, use and promotion of patient care protocols and other tools.

SBP-3 Advocates for individual and community health

Level 1	Level 2	Level 3	Level 4	Level 5
Recognizes social context and environment, and how a community's public policy decisions affect individual and community health	Recognizes that family physicians can impact community health Lists ways in which community characteristics and resources affect the health of patients and communities	Identifies specific community characteristics that impact specific patients' health Understands the process of conducting a community strengths and needs assessment	Collaborates with other practices, public health, and community-based organizations to educate the public, guide policies, and implement and evaluate community initiatives Seeks to improve the health care systems in which he or she practices	Role-models active involvement in community educations and policy change to improve the health of patients and communities

SBP-4 Coordinates team-based care

Level 1	Level 2	Level 3	Level 4	Level 5
Understands that quality patient care requires coordination and teamwork, and participates as a respectful and effective team member	Understands the roles and responsibilities on oneself, patients, families, consultants, and interprofessional team members needed to optimize care, and accepts responsibility for coordination of care	Engages the appropriate care team to provide accountable, team-based, coordinated care centered on individual patient needs Assumes responsibility for seamless transitions of care Sustains a relationship as a personal physician to his or her own patients	Accepts responsibility for the coordination of care, and directs appropriate teams to optimize the health of patients	Role models leadership, integration, and optimization of care teams to provide quality, individualized patient care

PBLI-1 Locates, appraises, and assimilates evidence from scientific studies related to the patient's health problems

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Describes basic concepts in clinical epidemiology, biostatistics, and clinical reasoning</p> <p>Categorizes the design of a research study</p>	<p>Identifies pros and cons of various study designs, associated types of bias, and patient-centered outcomes</p> <p>Formulates a searchable question from a clinical question</p> <p>Evaluates evidence-based point-of-care resources</p>	<p>Applies a set of critical appraisal criteria to different types of research, including synopses of original research findings, systematic reviews and meta-analyses, and clinical practice guidelines</p> <p>Critically evaluates information from others, including colleagues, experts, and pharmaceutical representatives, as well as patient-delivered information</p>	<p>Incorporates principles of evidence-based care and information mastery into clinical practice</p>	<p>Independently teaches and assesses evidence-based medicine and information mastery techniques</p>

PBLI-3 Improves systems in which the physician provides care

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Recognizes inefficiencies, inequities, variation, and quality gaps in health care delivery</p>	<p>Compares care provided by self and practice to external standards and identifies areas for improvement</p>	<p>Uses a systematic improvement method (e.g., Plan-Do-Study-Act [PDSA] cycle) to address an identified area of improvement</p> <p>Uses an organized method, such as a registry, to assess and manage population health</p>	<p>Establishes protocols for continuous review and comparison of practice procedures and outcomes and implementing changes to address areas needing improvement</p>	<p>Role Models continuous quality improvement of personal practice, as well as larger health systems or complex projects, using advanced methodologies and skill sets</p>

PROF-1 Completes a process of professionalization

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Defines professionalism</p> <p>Knows the basic principles of medical ethics</p> <p>Recognizes that conflicting personal and professional values exist</p> <p>Demonstrates honest, integrity, and respect to patients and team members</p>	<p>Recognizes own conflicting personal and professional values</p> <p>Knows institutional and governmental regulations for the practice of medicine</p>	<p>Recognizes that physicians have an obligation to self-discipline and to self-regulate</p> <p>Engages in self-initiated pursuit of excellence</p>	<p>Embraces the professional responsibilities of being a family physician</p>	<p>Demonstrates leadership and mentorship in applying shared standards and ethical principles, including the priority of responsiveness to patient needs above self-interest across the health care team</p> <p>Develops institutional and organizational strategies to protect and maintain these principles</p>

PROF-3 Demonstrates humanism and cultural proficiency

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Consistently demonstrates compassion, respect, and empathy</p> <p>Recognizes impact of culture on health and health behaviors</p>	<p>Displays a consistent attitude and behavior that conveys acceptance of diverse individuals and groups, including diversity in gender, age, culture, race, religion, disabilities, sexual orientation, and gender identity</p> <p>Elicits cultural factors from patients and families that impact health and health behaviors in the context of the biopsychosocial model</p> <p>Identifies own cultural framework that may impact patient interactions and decision-making</p>	<p>Incorporates patient's beliefs, values, and cultural practices in patient care plans</p> <p>Identifies health inequities and social determinants of health and their impact on individual and family health</p>	<p>Anticipates and develops a shared understanding of needs and desires with patients and families; works in partnership to meet those needs</p>	<p>Demonstrates leadership in a cultural proficiency, understanding of health disparities, and social determinants of health</p> <p>Develops organizational policies and education to support the application of these principles in the practice of medicine</p>

C-2 Communicates effectively with patients, families, and the public

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Recognizes that respectful communication is important to quality care</p> <p>Identifies physical, cultural, psychological, and social barriers to communication</p> <p>Uses the medical interview to establish rapport and facilitate patient-centered information exchange</p>	<p>Matches modality of communication to patient needs, health literacy, and context</p> <p>Organizes information to be shared with patients and families</p> <p>Participates in end-of-life discussions and delivery of bad news</p>	<p>Negotiates a visit agenda with the patient, and uses active and reflective listening to guide the visit</p> <p>Engages patients' perspectives in shared decision making</p> <p>Recognizes non-verbal cues and uses non-verbal communication skills in patient encounters</p>	<p>Educates and counsels patients and families in disease management and health promotion skills</p> <p>Effectively communicates difficult information, such as end-of-life discussions, delivery of bad news, acknowledgment of errors, and during episodes of crisis</p> <p>Maintains a focus on patient-centeredness and integrates all aspects of patient care to meet patients' needs</p>	<p>Role models effective communication with patients, families, and the public</p> <p>Engages community partners to educate the public</p>

C-3 Develops relationships and effectively communicates with physicians, other health professionals, and health care teams

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Understands the importance of the health care team and shows respect for the skills and contributions of others</p>	<p>Demonstrates consultative exchange that includes clear expectations and timely, appropriate exchange of information</p> <p>Presents and documents patient data in a clear, concise, and organized manner</p>	<p>Effectively uses Electronic Health Record (HER) to exchange information among the health care team</p> <p>Communicates collaboratively with the health care team by listening attentively, sharing information, and giving and receiving constructive feedback</p>	<p>Sustains collaborative working relationships during complex and challenging situations, including transitions of care</p> <p>Effectively negotiates and manages conflict among members of the health care team in the best interest of the patient</p>	<p>Role models effective collaboration with other providers that emphasizes efficient patient-centered care</p>

C-4 Utilizes technology to optimize communication

Level 1

Recognizes effects of technology on information exchange and the physician/patient relationship

Recognizes the ethical and legal implications of using technology to communicate in health care

Level 2

Ensures that clinical and administrative documentation is timely, complete, and accurate

Maintains key patient-specific databases, such as problem lists, medications, health maintenance, chronic disease registries

Uses technology in a manner which enhances communication and does not interfere with the appropriate interaction with the patient

Level 3

Ensures transitions of care are accurately documented, and optimizes communication across systems and continuums of care

Level 4

Effectively and ethically uses all forms of communication, such as face-to-face, telephonic, electronic, and social media

Uses technology to optimize continuity care of patients and transitions of care

Level 5

Stays current with technology and adapts systems to improve communication with patients, other providers, and systems

10. Identifies forces that impact the cost of health care, and advocates for, cost effective care.

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Ignores cost issues in the provision of care</p> <p>Demonstrates no effort to overcome barriers to cost-effective care</p>	<p>Lacks awareness of external factors (e.g. socio-economic, cultural, literacy, insurance status) that impact the cost of health care and the role that external stakeholders (e.g. providers, suppliers, financiers, purchasers) have on the cost of care</p> <p>Does not consider limited health care resources when ordering diagnostic or therapeutic interventions</p>	<p>Recognizes that external factors influence a patient's utilization of health care and may act as barriers to cost effective care.</p> <p>Minimizes unnecessary diagnostic and therapeutic tests.</p> <p>Possesses an incomplete understanding of cost awareness principles for a population of patients (e.g., screening tests).</p>	<p>Consistently works to address patient specific barriers to cost-effective care.</p> <p>Advocates for cost-conscious utilization of resources (i.e. emergency department visits, hospital readmissions).</p> <p>Incorporates cost-awareness principles into standard clinical judgments and decision-making, including screening tests</p>	<p>Teaches patients and healthcare team members to recognize and address common barriers to cost-effective care and appropriate utilization of resources</p> <p>Actively participates in initiatives and care delivery models designed to overcome or mitigate barriers to cost-effective high quality care</p>

11. Transitions patients effectively within and across health delivery systems. (SBP4)

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Disregards need for communication at time of transition.</p> <p>Does not respond to request of caregivers in other delivery systems.</p>	<p>Inconsistently utilizes available resources to coordinate and ensure safe and effective patient care within and across delivery systems</p> <p>Written and verbal care plans during times of transition are incomplete or absent</p> <p>Inefficient transitions of care lead to unnecessary expense or risk to a patient (e.g. duplication of tests readmission)</p>	<p>Recognizes the importance of communication during times of transition.</p> <p>Communication with caregivers is present but with lapses in pertinent or timely information</p>	<p>Appropriately utilizes available resources to coordinate care and ensures safe and effective patient care within and across delivery systems.</p> <p>Proactively communicates with past and future caregivers to ensure continuity of care.</p>	<p>Coordinates care within and across health delivery systems to optimize patient safety, increase efficiency and ensure high quality patient outcomes.</p> <p>Anticipates the needs of patient, caregivers and future care providers and takes the appropriate steps to address those needs</p> <p>Role models and teaches effective transitions of care.</p>

Work in inter-professional teams to enhance patient safety — Systems-based Practice

Level 1	Level 2	Level 3	Level 4	Level 5
Describes team members' roles in maintaining patient safety	Identifies and reports errors and near-misses	Describes potential sources of system failure in clinical care such as minor, major, and sentinel events	Participates in a team-based approach to medical error analysis	Engages in scholarly activity regarding error analysis and patient safety

Relationship development, teamwork, and managing conflict — Interpersonal and Communication Skills

Level 1	Level 2	Level 3	Level 4	Level 5
Develops a positive relationship with patients in uncomplicated situations Actively participates in team-based care	Manages simple patient/family-related conflicts Engages patients in shared decision-making	Manages conflict in complex situations Uses easy-to-understand language in all phases of communication	Manages conflict across specialties and systems of care Leads team-based patient care activities	Engages in scholarly activity regarding teamwork and conflict management

Relationship development, teamwork, and managing conflict — Interpersonal and Communication Skills

Level 1	Level 2	Level 3	Level 4	Level 5
Effectively communicates during patient hand-overs using a structured communication tool Completes documentation in a timely fashion Accurately documents transitions of care	Effectively communicates during team meetings, discharge planning, and other transitions of care Educates patients about their disease and management, including risks and benefits of treatment options Completes all documentation accurately, including use of EHR, to promote patient safety	Effectively communicates the results of a neurologic consultation in a timely manner Effectively gathers information from collateral sources when necessary Demonstrates synthesis, formulation, and thought process in documentation	Effectively leads family meetings Effectively and ethically uses all forms of communication Mentors colleagues in timely, accurate, and efficient documentation	Develops patient education materials Engages in scholarly activity regarding interpersonal communication

Community Resources – Systems-based Practice

Level 1	Level 2	Level 3	Level 4	Level 5
Describes educational, mental health, rehabilitation, and community support resources for patients with neurodevelopmental disabilities ranging across the lifespan	Makes initial referrals to educational, mental health, rehabilitation, and community support resources for patients with neurodevelopmental disabilities ranging across the lifespan Analyzes and summarizes results from reports from outside agencies	Makes more complex referrals with requests for specific interventions to educational, mental health, rehabilitation, and community support resources for patients with neurodevelopmental disabilities ranging across the lifespan Interprets reports from outside agencies for patients and families	Consistently demonstrates competency in referring and coordinating services Provides anticipatory guidance regarding further services across the lifespan	Participates in leadership role in educational, mental health, rehabilitation, and community support resources for patients with neurodevelopmental disabilities Engages in scholarly projects (e.g., QI projects, educational materials, inter-agency collaborations) regarding integration of medical, educational, mental health, rehabilitation, and community support resources for patients with neurodevelopmental and related disabilities

MK1. Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems

Level 1

Explains basic principles of Evidence-based Medicine (EBM), but relevance is limited by lack of clinical exposure

Example:
The senior resident asks each member of the inpatient team to answer a clinical question that he raised during rounds and to be prepared to discuss it the next morning. The learner goes to a more senior colleague for help, since he cannot work through a case or article using the critical appraisal approach, mainly due to lack of clinical context from which to work.

Level 2

Recognizes the importance of using current information to care for patients and responds to external prompts to do so; is able to formulate questions with some difficulty, but is not yet efficient with online searching; is starting to learn critical appraisal skills

Example:
In response to a clinical question raised during rounds and the senior resident's request that everyone answer the question, the learner is able, with some difficulty, to frame the question in a Population-Intervention-Comparison-Outcome (PICO) format. He has searching capability, but the search and the steps of analyzing and applying the evidence are time-intensive, so he is not prepared to discuss his findings on rounds the next morning.

Level 3

Able to identify knowledge gaps as learning opportunities; makes an effort to ask answerable questions on a regular basis and is becoming increasingly able to do so; understands varying levels of evidence and can utilize advanced search methods; is able to critically appraise a topic by analyzing the major outcomes, however, may need guidance in understanding the subtleties of the evidence; begins to seek and apply evidence when needed, not just when assigned to do so

Example:
In response to the clinical question raised during rounds, the learner develops an answerable clinical question in PICO format and efficiently searches for best evidence. He volunteers to present on rounds the next day and demonstrates effective analytic skills and the ability to apply his findings to the current patient. He has a bit of difficulty interpreting and applying some of the secondary outcomes and, in the context of this discussion, another question is raised, which he volunteers to search and answer.

Level 4

Is increasingly self-motivated to learn more, as exhibited by regularly formulating answerable questions; incorporates use of clinical evidence in rounds and teaches fellow learners; is quite capable with advanced searching; is able to critically appraise topics and does so regularly; shares findings with others to try to improve their abilities; practices EBM because of the benefit to the patient and the desire to learn more rather than in response to external prompts

Example:
In response to the clinical question raised during rounds, presents a second question that he has already researched in a PICO format as well as a critique of the evidence and its applicability to the current patient. He was motivated to be proactive by his interest in learning, as well as the needs of his patient. He shares his tactics with team members by teaching them the steps he engaged in to learn and apply this information.

Level 5

Teaches critical appraisal of topics to others; strives for change at the organizational level as dictated by best current information; is able to easily formulate answerable clinical questions and does so with majority of patients as a habit; is able to effectively and efficiently search and access the literature; is seen by others as a role model for practicing EBM

Example:
Is an EBM practitioner, as observed by conversations during rounds, whom others try to emulate. He enjoys teaching colleagues how to become EBM practitioners by role modeling. He helps team members develop and refine their skills using his expertise to make a difficult task practical and doable

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Performs the role of medical decision-maker, developing care plans and setting goals of care independently; informs patient/family of the plan, but no written care plan is provided; makes referrals, and requests consultations and testing with little or no communication with team members or consultants; is not involved in the transition of care between settings (e.g., outpatient and inpatient, pediatric and adult); shows little or no recognition of social/educational/cultural issues affecting the patient/family.</p>	<p>Begins to involve the patient/family in setting care goals and some of the decisions involved in the care plan; a written care plan is occasionally made available to the patient/family; care plan does not address key issues; has variable communication with team members and consultants regarding referrals, consultations, and testing; answers patient/family questions regarding results and recommendations; may inconsistently be involved in the transition of care between settings (e.g., outpatient and inpatient, pediatric and adult); makes some assessment of social/educational/cultural issues affecting the patient/family and applies this in interactions.</p>	<p>Recognizes the responsibility to assist families in navigation of the complex health care system; frequently involves patient/family in decisions at all levels of care, setting goals, and defining care plans; frequently makes a written care plan available to the patient/family and to appropriately authorized members of the care team; care plan omits few key issues; has good communication with team members and consultants; consistently discusses results and recommendations with patient/family; is routinely involved in the transition of care between settings (e.g., outpatient and inpatient, pediatric and adult); considers social, educational and cultural issues in most cases</p>	<p>Actively assists families in navigating the complex health care system; has open communication, facilitating trust in the patient-physician interaction; develops goals and makes decisions jointly with the patient/family (shared-decision-making); routinely makes a written care plan available to the patient/family and to appropriately authorized members of the care team; makes a thorough care plan, addressing all key issues; facilitates care through consultation, referral, testing, monitoring, and follow-up, helping the family to interpret and act on results/recommendations; coordinates seamless transitions of care between settings (e.g., outpatient and inpatient, pediatric and adult; mental and dental health; education; housing; food security; family-to-family support); builds partnerships that foster family-centered, culturally-effective care, ensuring communication and collaboration along the continuum of care</p>	<p>Current literature does not distinguish between behaviors of proficient and expert practitioners. Expertise is not an expectation of GME training, as it requires deliberate practice over time</p>

SBP2-Advocate for quality patient care and optimal patient care systems

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Attends to medical needs of individual patient(s); wants to take good care of patients and takes action for individual patients' health care needs</p> <p><i>Example:</i> Sees a child with a firearm injury and provides good care.</p>	<p>Demonstrates recognition that an individual patient's issues are shared by other patients, that there are systems at play, and that there is a need for quality improvement of those systems; acts on the observed need to assess and improve quality of care</p> <p><i>Example:</i> A physician notes on rounds, "We have sent home four-to-five firearm-injury patients and one has come back with repeated injury. We need to do something about that."</p>	<p>Acts within the defined medical role to address an issue or problem that is confronting a cohort of patients; may enlist colleagues to help with this problem</p> <p><i>Example:</i> The physician works with colleagues to develop an approach, protocol, or procedure for improving care for penetrating trauma injury in children and measures the outcomes of system changes.</p>	<p>Actively participates in hospital-initiated quality improvement and safety actions; demonstrates a desire to have an impact beyond the hospital walls</p> <p><i>Example:</i> The physician attends a hospital symposium on gun-related trauma and what can be done about it and then arranges to speak on gun safety at the local meeting of the parent-teachers association.</p>	<p>Identifies and acts to begin the process of improvement projects both inside the hospital and within one's practice community</p> <p><i>Example:</i> Upon completion of quality improvement project, the physician works on new proposed legislation and testifies in City Council.</p>

SBP3-Work in inter-professional teams to enhance patient safety and improve patient care quality

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Seeks answers and responds to authority from only intra-professional colleagues; does not recognize other members of the interdisciplinary team as being important or making significant contributions to the team; tends to dismiss input from other professionals aside from other physicians</p>	<p>Is beginning to have an understanding of the other professionals on the team, especially their unique knowledge base, and is open to their input, however, still acquiesces to physician authorities to resolve conflict and provide answers in the face of ambiguity; is not dismissive of other health care professionals, but is unlikely to seek out those individuals when confronted with ambiguous situations</p>	<p>Aware of the unique contributions (knowledge, skills, and attitudes) of other health care professionals, and seeks their input for appropriate issues, and as a result, is an excellent team player</p>	<p>Same as Level 3, but an individual at this stage understands the broader connectivity of the professions and their complementary nature; recognizes that quality patient care only occurs in the context of the inter-professional team; serves as a role model for others in interdisciplinary work and is an excellent team leader</p>	<p>Current literature does not distinguish between behaviors of proficient and expert practitioners. Expertise is not an expectation of GME training, as it requires deliberate practice over time</p>

PROF1. Humanism, compassion, integrity, and respect for others: based on the characteristics on an empathetic practitioner

Level 1

Sees the patients in a “we versus they” framework and is detached and not sensitive to the human needs of the patient and family

Level 2

Demonstrates compassion for patients in selected situations (e.g., tragic circumstances, such as unexpected death), but has a pattern of conduct that demonstrates a lack of sensitivity to many of the needs of others

Level 3

Demonstrates consistent understanding of patient and family expressed needs and a desire to meet those needs on a regular basis; is responsive in demonstrating kindness and compassion

Level 4

Is altruistic and goes beyond responding to expressed needs of patients and families; anticipates the human needs of patients and families and works to meet those needs as part of his skills in daily practice

Level 5

Is a proactive advocate on behalf of individual patients, families, and groups of children in need

PROF2. Professionalization: A sense of duty and accountability to patients, society, and the profession

Level 1

Appears to be interested in learning pediatrics but not fully engaged and involved as a professional, which results in an observational or passive role .

Level 2

Although the learner appreciates her role in providing care and being a professional, at times has difficulty in seeing self as a professional, which may result in not taking appropriate primary responsibility.

Level 3

Demonstrates understanding and appreciation of the professional role and the gravity of being the “doctor” by becoming fully engaged in patient care activities; has a sense of duty; has rare lapses into behaviors that do not reflect a professional self-view.

Level 4

Has internalized and accepts full responsibility of the professional role and develops fluency with patient care and professional relationships in caring for a broad range of patients and team members.

Level 5

Extends professional role beyond the care of patients and sees self as a professional who is contributing to something larger (e.g., a community, a specialty, or the medical profession).

ICS1. Communicate effectively with patients, families, and the public, as appropriate, across the broad range of socioeconomic and cultural backgrounds.

Level 1	Level 2	Level 3	Level 4	Level 5
Uses standard medical interview template to prompt all questions; does not vary the approach based on a patient's unique physical, cultural, socioeconomic, or situational needs; may feel intimidated or uncomfortable asking personal questions of patients	Uses the medical interview to establish rapport and focus on information exchange relevant to a patient's or family's primary concerns; identifies physical, cultural, psychological, and social barriers to communication, but often has difficulty managing them; begins to use non-judgmental questioning scripts in response to sensitive situations	Uses the interview to effectively establish rapport; is able to mitigate physical, cultural, psychological, and social barriers in most situations; verbal and non-verbal communication skills promote trust, respect, and understanding; develops scripts to approach most difficult communication scenarios	Uses communication to establish and maintain a therapeutic alliance; sees beyond stereotypes and works to tailor communication to the individual; a wealth of experience has led to development of scripts for the gamut of difficult communication scenarios; is able to adjust scripts ad hoc for specific encounters	Connects with patients and families in an authentic manner that fosters a trusting and loyal relationship; effectively educates patients, families, and the public as part of all communication; intuitively handles the gamut of difficult communication scenarios with grace and humility

Physical Med/Rehab

Systems thinking: demonstrates awareness of and responsiveness to larger context and system of care, including:

- Working effectively in various health care delivery settings and systems relevant to physical medicine and rehabilitation
- Coordinating patient care within the health care system
- Advocating for quality patient care and optimal patient care systems

Level 1	Level 2	Level 3	Level 4 (Graduation Target)	Level 5 (Aspirational)
Acknowledges that health care is delivered in a complex system of care	Describes and differentiates between the various systems of care in which rehabilitation is provided (e.g., acute care; inpatient rehabilitation facility (IRF); skilled nursing facility (SNF), outpatient, home health care, etc.)	Has learned to coordinate care across a variety of settings (e.g., inpatient, outpatient, consultative, etc.) Incorporates patient-specific rehabilitation needs, social factors, cost/benefit, and resources into decision-making (e.g., inpatient admission, length of stay, discharge destination, equipment, essential outpatient services, medical management, etc.)	Advocates for and provides high-quality, safe, well-coordinated, patient-centered care across the health care system Efficiently manages and coordinates patient transitions between various settings (e.g., acute, IRF, SNF, community, etc.)	Optimally coordinates care and advocates to improve care provided through health care, social/community, and governmental systems Successfully organizes appeals for coverage and advocates for patient and family in complex situations Maintains regulatory compliance, including accurate coding and billing

Team approach to enhance patient care coordination. Rehabilitation team members may include occupational and physical therapists, speech language pathologists, rehabilitation nurses, nurse practitioners, psychologists, therapeutic recreation specialists, case managers, social workers, and education and vocational specialists.

Level 1	Level 2	Level 3	Level 4 (Graduation Target)	Level 5 (Aspirational)
Actively participates in team-based care	Directs questions/comments to appropriate team members demonstrating understanding of their roles in patient care	Collaborates effectively and respectfully with the patient and family, multiple providers, and the interdisciplinary team to develop patient-centered goals	Leads the interdisciplinary team to ensure high quality, safe patient care Creates an environment where team members are encouraged to voice concerns and share their expertise	Anticipates team dynamics and effectively manages interactions to optimize group performance

Knowledge about, respect for, and adherence to the ethical principles (including beneficence, least harm, respect for autonomy, and justice) relevant to the practice of medicine

Level 1	Level 2	Level 3	Level 4 (Graduation Target)	Level 5 (Aspirational)
Demonstrates awareness of how personal values and beliefs can impact patient care	Identifies ethical issues in clinical situations (e.g., declining a feeding tube)	Analyzes common ethical issues and seeks guidance when appropriate (e.g., ethics consult, pastoral counseling, compliance)	Effectively manages ethical issues in clinical situations	Leads and mentors others regarding application of bioethical principles

Professional behaviors and accountability to self, patients, society, and the profession

Level 1	Level 2	Level 3	Level 4 (Graduation Target)	Level 5 (Aspirational)
Complies with HIPPA guidelines in all clinical situations Demonstrates professional accountability, including timely completion of professional responsibilities and being dressed and groomed appropriately	Demonstrates awareness of the influence of personal health and wellness, including the effect of fatigue and sleep deprivation on safe and effective patient care	Demonstrates that the responsibility of patient care supersedes self-interest (e.g., ensures all patient care hand-offs are completed before leaving the hospital) Utilizes effective individual strategies and local resources, as necessary, to limit stress or burnout	Actively participates in service activities, such as community service, professional organizations, or program or institutional committees Recognizes conflicts of interest and how they affect clinical decision-making, teaching, or research activities	Contributes to regional- or national-level service Models altruism and professional behaviors

Psychiatry

Practice of Psychiatry

A: Ethics

B: Regulatory compliance

C: Professional development and frameworks

Level 1	Level 2	Level 3	Level 4	Level 5
1.1/A Lists common ethical issues in psychiatry	2.1/A Lists and discusses sources of professional standards of ethical practice	3.1/A Discusses conflict of interest and management	4.1/B Describes the existence of state and regional variations regarding practice, involuntary treatment, health regulations, and psychiatric forensic evaluation	5.1/B Describes international variations regarding practice, involuntary treatment, and health regulations
1.2/B Recognizes and describes institutional policies and procedures ¹	2.2/A Lists situations that mandate reporting or breach of confidentiality	3.2/B Describes applicable regulations for billing and reimbursement	4.2/C Describes professional advocacy ²	5.2/C Proposes advocacy activities, policy development, or scholarly contributions related to professional standards
1.3/C Lists ACGME Competencies	2.3/C Describes how to keep current on regulatory and practice management issues		4.3/C Describes how to seek out and integrate new information on the practice of psychiatry	

Footnotes:

¹ "Institutional policies and procedures" refers to those related to the practice of medicine and psychiatry at the specific institution where the resident is credentialed.

These include a Code of Conduct (addressing gifts, etc.) and privacy policies (related to HIPAA, etc.), but not patient safety policies. These are usually covered during an orientation to the institution and program.

² Advocacy includes efforts to promote the wellbeing and interests of patients and their families, the mental health care system, and the profession of psychiatry. While advocacy can include work on behalf of specific individuals, it is usually focused on broader system issues, such as access to mental health care services or public

Resource Management (may include diagnostics, medications, level of care, other treatment providers, access to community assistance)

A: Costs of care and resource management

Level 1	Level 2	Level 3	Level 4	Level 5
1.1/A Recognizes need for efficient and equitable use of resources	2.1/A Recognizes disparities in health care at individual and community levels 2.2/A Knows the relative cost of care (e.g., medication costs, diagnostic costs, level of care costs, procedure costs)	3.2/A Coordinates patient access to community and system resources	4.1/A Practices cost-effective, high-value clinical care ¹ , using evidence-based tools and information technologies to support decision making 4.2/A Balances the best interests of the patient with the availability of resources	5.1/A Designs measurement tools to monitor and provide feedback to providers/teams on resource consumption to facilitate improvement 5.2/A Advocates for improved access to and additional resources within systems of care

Footnotes:

¹ *Examples include: avoids higher-cost, newer antipsychotics when older formulations are adequate; recommends levels of care that are matched to clinical need and available in the community.*

Community-Based Care

A: Community-based programs

B: Self-help groups

C: Prevention

D: Recovery and rehabilitation

Level 1	Level 2	Level 3	Level 4	Level 5
1.1/A Gives examples of community mental health systems of care	2.1/A Coordinates care with community mental health agencies, including with case managers	3.1/B Incorporates disorder-specific support and advocacy groups in clinical care	4.1/B Routinely uses self- help groups, community resources, and social networks in treatment ³	5.1/A Participates in the administration of community-based treatment programs
1.2/B Gives examples of self- help groups (Alcoholics Anonymous [AA], Narcotics Anonymous [NA]), other community resources (church, school) and social networks (e.g., family, friends, acquaintances)	2.2/B Recognizes prole and explains importance of self- help groups and community resource groups (e.g., disorder-specific support and advocacy groups)	3.2/C Describes prevention measures: universal, selective and indicated ¹	4.2/C Employs prevention and risk reduction strategies in clinical care	5.2/A Participates in creating new community- based programs
	2.3/C Describes individual and population risk factors for mental illness	3.3/D Describes rehabilitation programs (vocational, brain injury, etc.) and the recovery model ²	4.3/D Appropriately refers to rehabilitation and recovery programs	5.3/D Practices effectively in a rehabilitation and/or recovery-based program
			4.4/D Uses principles of evidence-based practice and patient centered care in management of chronically ill patients	

Footnotes:

¹ Universal prevention strategies are designed to reach the entire population; selective prevention are designed for a targeted subgroup of the general population; and indicated prevention intervention targets individuals.

² The Substance Abuse and Mental Health Services Administration (SAMHSA) has a working definition for the recovery model applied to mental health and addictions. This definition acknowledges that recovery is a process of change for an individual consumer to improve health and wellness, live a self-directed life, and strive and reach his or her full potential. The guiding principles that inform a recovery model of care include hope, person-driven, holistic, peer supports, social networks, culturally-based, trauma-informed, strength-based, responsibility, and respect (see: <http://www.samhsa.gov/newsroom/advvisor/1112223420.aspx>).

³ These community resources include supports and services from both the peer and professional workforces.

Information sharing and record keeping

A: Accurate and effective communication with health care team

B: Effective communications with patients

C: Maintaining professional boundaries in communication

D: Knowledge of factors which compromise communication

Level 1	Level 2	Level 3	Level 4	Level 5
<p>1.1/A Ensures transitions of care are accurately documented, and optimizes communication across systems and continuums of care</p> <p>1.2/A Ensures that the written record (electronic medical record [EMR], personal health records [PHR]/patient portal, hand-offs, discharge summaries, etc.) are accurate and timely, with attention to preventing confusion and error, consistent with institutional policies</p> <p>1.3/B Engages in active listening, "teach back," and other strategies to ensure patient and family understanding</p> <p>1.4/C Maintains appropriate boundaries in sharing information by electronic communication</p>	<p>2.1/A, B Organizes both written and oral information to be shared with patient, family, team, and others</p> <p>2.2/B Consistently demonstrates communication strategies to ensure patient and family understanding</p> <p>2.3/B Demonstrates appropriate face-to-face interaction while using EMR</p> <p>2.4/C Understands issues raised by the use of social media by patients and providers</p>	<p>3.1/ A, B Uses easy-to-understand language in all phases of communication, including working with interpreters</p> <p>3.2/B Consistently engages patients and families in shared decision making</p>	<p>4.1/A, B Demonstrates effective verbal communication with patients, families, colleagues, and other health care providers that is appropriate, efficient, concise, and pertinent</p> <p>4.2/A, B Demonstrates written communication with patients, families, colleagues, and other health care providers that is appropriate, efficient, concise, and pertinent</p> <p>4.3/C Uses discretion and judgment in the inclusion of sensitive patient material in the medical record</p>	<p>5.1/A Models continuous improvement in record keeping</p> <p>5.2/C Participates in the development of changes in rules, policies, and procedures related to technology</p>

Economics – Systems-based Practice

Level 1	Level 2	Level 3	Level 4	Level 5
Identifies the range of practice variation (e.g., medication, laboratory tests, imaging, and procedures)	Describes the cost impact of practice variation in the context of system and national health resource utilization	Use health care resources responsibly (e.g., test ordering, OR efficiency, timely discharges/transfers)	Cites peer-reviewed cost and outcomes data to support resource utilization decisions	Designs and implements cost-effective patient care pathways with monitoring and feedback mechanisms
Describes U.S. health payment systems	Describes principles of ethical coding (e.g., diagnostic, E&M, and procedural)	Accurately codes diagnoses and procedures in the ACGME Case Log System		

Health Care Maintenance and Disease Prevention — Medical Knowledge

Level 1

Demonstrates knowledge of the characteristics of a good screening test

Demonstrates knowledge of indications and limitations of commonly used screening tests

Level 2

Demonstrates knowledge of evidence-based, age-appropriate guidelines for women's health maintenance and disease prevention (e.g., breast screening, cervical cancer screening)

Recommends age- and risk-appropriate vaccinations

Level 3

Interprets age- and risk-appropriate tests (e.g., bone mineral density, mammogram, lipids, thyroid studies)

Develops patient-centered management plans to maintain health and prevent disease

Level 4

Formulates comprehensive management plans for high-risk patients (e.g., vulnerable populations)

Monitors one's own outcomes to improve practice

Level 5

Manages patients with highly complex medical diseases for health care maintenance and disease prevention

Applies innovative and complex approaches to health care maintenance and disease prevention and implements treatment plans based on emerging evidence

Cost-effective Care and Patient Advocacy — Systems-based Practice

Level 1	Level 2	Level 3	Level 4	Level 5
Understands the importance of providing cost-effective care	Is aware of common socioeconomic barriers that impact patient care	Demonstrates the incorporation of cost awareness into clinical judgment and decision making	Practices cost-effective care (e.g., formulary drugs, generic drugs, tailoring of diagnostic tests)	Participates in advocacy or health care legislation locally, regionally, or nationally
Understands the role of physicians in advocating for appropriate women's health care	Demonstrates an awareness of the need for coordination of patient care and patient advocacy	Coordinates and advocates for needed resources to facilitate patient care (e.g., effective discharge planning)	Analyzes patient care options from a quality of life (QOL)/cost-of-care perspective, and includes in patient counseling	Effectively communicates within health care systems to advocate for the needs of patient populations
			Effectively communicates within his or her own hospital/clinic to advocate for patient needs	Demonstrates an understanding of the political economics of health care legislation locally, regionally, and nationally

Compassion, Integrity, and Respect for Others — Professionalism

Level 1	Level 2	Level 3	Level 4	Level 5
Understands the importance of compassion, integrity, and respect for others	Consistently shows compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team	Consistently shows compassion, integrity, and respect for patients who decline medical advice or request un-indicated tests or treatments, for patients who have psychiatric comorbidities, and for team members in circumstances of conflict or high stress	Consistently models compassion, integrity, and respect for others	Assumes long-term or leadership role in community outreach activities to improve the health of vulnerable populations
Demonstrates sensitivity and responsiveness to patients	Consistently demonstrates sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations	Modifies one's own behavior based on feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others	Coaches others to improve compassion, integrity, and respect for patients	
	Accepts constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others			

Accountability and Responsiveness to the Needs of Patients, Society, and the Profession — Professionalism

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Understands that physicians are accountable to patients, society, and the profession</p> <p>Acts with honesty and truthfulness</p>	<p>Is consistently punctual for clinical assignments and responsive to requests for assistance; completes administrative duties (e.g., medical records, reports) on time and without reminders</p> <p>Understands the signs and symptoms of fatigue, stress, and substance abuse</p>	<p>Serves as an example for others in punctuality, responsiveness, and timely completion of duties</p> <p>Recognizes signs and symptoms of fatigue, stress, and substance abuse</p>	<p>Coaches others to improve punctuality and responsiveness; offers assistance to ensure patient care duties are completed in a timely fashion</p> <p>Demonstrates self-awareness of fatigue and stress, and mitigates the effects</p>	<p>Participates in institutional or community peer counseling related to professionalism</p>

Informed Consent and Shared Decision Making — Interpersonal and Communication Skills

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Understands the importance of informed consent</p>	<p>Begins to engage patients in shared decision making, and obtains informed consent for basic procedures</p>	<p>Uses appropriate, easy-to-understand language in all phases of communication, utilizing an interpreter where necessary</p> <p>Engages in shared decision making, incorporating patients' and families' cultural frameworks</p> <p>Obtains informed consent for complex procedures</p>	<p>Organizes and participates in multidisciplinary family/patient/team member conferences</p>	<p>Models and coaches shared decision making in complex and highly stressful situations</p> <p>Leads multidisciplinary family/patient/team member conferences</p>

Health Care Economics — Systems-based Practice

Level 1	Level 2	Level 3	Level 4	Level 5
Has a basic understanding of the advantages and disadvantages of different payment systems	Has a basic understanding of the economics of inpatient vs. outpatient care and the impact of quality improvement incentives Develops understanding of cost utility	Has a basic practical understanding of the pre-certification process, benefits managers, structured computer-based order entry systems, and Medicare/Medicaid procedure and report requirements	Has an advanced practical understanding of the pre-certification process, benefits managers, structured computer-based order entry systems, and Medicare/Medicaid procedure and report requirements	Has a basic understanding of current state and national health care policies and their implications

Works and coordinates patient care effectively in various health care delivery settings and systems — Systems-based Practice

Level 1	Level 2	Level 3	Level 4	Level 5
Knows unique roles of and services provided by local health care delivery systems, and how to access these resources for patient care Knows and appreciates the roles of a variety of health care providers, including consultants, therapists, nurses, home care workers, pharmacists, and social workers Advocates for quality patient care	Manages and coordinates care and care transitions across multiple delivery systems, including ambulatory, sub-acute, acute, rehabilitation, and skilled nursing Advocates for quality patient care and optimal patient care systems	Discusses non-pharmacologic and non-procedural patient resources (such as physical therapy, social work, alternative medicine providers, chaplains, etc.) with patients and families Demonstrates how to lead a health care team by utilizing the skills and coordinating the activities of inter-professional team members (physician extenders/ mid-levels, nurses, medical students, allied health workers, etc.) Negotiates patient-centered care among multiple care providers	Is adept at systems thinking Capably leads the health care team, understanding personal role as leader Contributes meaningfully to inter-professional teams	Creates a process for screening patients at risk (e.g., long-term care) Incorporates cost awareness and risk-benefit principles into all clinical scenarios

Systems-based Practice — Health Care Economics

Level 1

Describes how practice variations affect cost and resource consumption

Understands basic principles of coding (e.g., diagnosis, evaluation and management, procedure)

Level 2

Uses health care resources, including electronic medical records, responsibly

Codes routine diagnoses, encounters, and surgical procedures; documents medical necessity

Level 3

Practices cost-effective care to lower health care costs (e.g., generic medicines, time management, cost analysis)

Level 4

Codes complex and unusual diagnoses, encounters, and surgical procedures

Level 5

Advocates for cost-effective care and use of risk-benefit analyses within health care system

Ophthalmology

Communicate effectively with patients and families with diverse socioeconomic and cultural backgrounds

1. Rapport development
2. Interview skills
3. Counsel and educate
4. Conflict management

Level 1

Develops positive relationship with patients in uncomplicated situations

Describes factors that affect communication (e.g., language, use of interpreters, other family in the room, anger, depression, anxiety, and cognitive impairments)

Engages in active listening, teach-back, and other strategies to ensure patient understanding

Level 2

Develops working relationships in complex situations across specialties and systems of care

Counsels patients at appropriate level for comprehension regarding disease, and engages in shared decision-making

Negotiates and manages simple patient/family-related conflicts

Level 3

Uses appropriate strategies to communicate with vulnerable populations and their families

Actively seeks information from multiple sources, including consultations

Counsels patients regarding emotionally difficult information, such as blindness; uses appropriate technique for "breaking bad news"

Level 4

Sustains working relationships during complex and challenging situations, including transitions of care

Demonstrates effective integration of all available sources of information when gathering patient-related data

Counsels patients regarding impact of higher-risk disease and intervention; directs patients to resources

Negotiates and manages conflict in complex situations

Level 5

Counsels patients regarding unusual or experimental therapies, including clinical trial participation when indicated

Mentors junior members of the health care team to improve communication skills

Systems thinking, including cost-effective practice – Systems-based Practice

Level 1

Describes basic levels of systems of care (e.g., self-management to societal)

Understands the economic challenges of patient care in the health care system

Level 2

Gives examples of cost and value implications of care he or she provides (e.g., gives examples of alternate sites of care resulting in different costs for individual patients)

Level 3

Orders and schedules tests in appropriate systems for individual patients balancing expenses and quality

Successfully navigates the economic differences of the health care system

Level 4

Effectively manages clinic team and schedules for patient and workflow efficiency

Uses evidence-based guidelines for cost-effective care

Level 5

Leads systems change at micro and macro level (e.g., manages operating room [OR] team and patient flow in a multi-case OR day)

Orthopedics- subspecialty trauma

Systems thinking, including cost-effective practice — Systems-based Practice

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Describes basic levels of systems of care (e.g., self-management to societal)</p> <p>Understands the economic challenges of patient care in the health care system</p>	<p>Gives examples of cost and value implications of care he or she provides (e.g., gives examples of alternate sites of care resulting in different costs for individual patients)</p>	<p>Orders and schedules tests in appropriate systems for individual patients, balancing expenses and quality</p> <p>Successfully navigates the economic differences of the health care system</p> <p>Advocates for patient regarding socio-economic challenges within the health care system</p>	<p>Uses evidence-based guidelines for cost-effective care</p> <p>Critically analyzes new technology and impact on patient care and safety</p>	<p>Leads systems change at micro and macro levels (e.g., manages OR team and patient flow in a multi-case OR day)</p>

Teamwork (e.g., physician, nursing and allied health care providers, administrative and research staff) — Interpersonal and Communication Skills

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Recognizes and communicates critical patient information in a timely and accurate manner to other members of the treatment team</p> <p>Recognizes and communicates role as a team member to patients and staff members</p> <p>Responds to requests for information</p> <p>Examples: Lab results, accurate and timely progress notes, answers pages in a timely manner</p>	<p>Supports and respects decisions made by team</p> <p>Actively participates in team-based care; supports activities of other team members, and communicates their roles to the patient and family</p> <p>Examples: Hand-offs, transitions of care, communicates with other health care providers and staff members</p>	<p>Facilitates, directs, and delegates team-based patient care activities</p> <p>Understands the OR team leadership role and obligations</p> <p>Examples: Supervises daily rounds, communicates plan of action with OR personnel</p>	<p>Leads team-based care activities and communications</p> <p>Identifies and rectifies problems with team communication</p> <p>Effectively advocates for the musculoskeletal needs of the multiply injured patient</p> <p>Example: Supervises and verifies hand-off rounds, coverage issues</p>	<p>Seeks leadership opportunities within professional organizations</p> <p>Leads/facilitates meetings within organization/system</p> <p>Resolves conflicts between multispecialty trauma teams</p>

Orthopedics- subspecialty foot and ankle

Systems thinking, including cost-effective practice — Systems-based Practice

Level 1	Level 2	Level 3	Level 4	Level 5
Understands economic challenges of patient care in the health care system	Understands the cost and value implications of care decisions on the patient and the health care system	<p>Weighs the balance between cost and quality in patient care decisions</p> <p>Understands the use of evidence-based guidelines in patient care</p>	<p>Incorporates evidence-based medicine in clinical care</p> <p>Provides quality care in a cost-effective manner within the health care system</p>	Develops ways to better manage cost and quality concerns within the health care system

Communication — Interpersonal and Communication Skills

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Communicates with patients about routine care</p> <p>Understands the patient's and family's perspective, and demonstrates empathy and builds trust and rapport</p> <p>Communicates effectively during transitions of care between providers</p>	<p>Communicates effectively within the health care system</p> <p>Exchanges detailed information effectively with other providers to coordinate care</p> <p>Engages the patient and family in decisions about care</p> <p>Able to obtain informed consent (e.g., discusses risks, benefits, alternatives, expectations)</p> <p>Demonstrates comprehension of conflict resolution and appropriately utilizes chain of command</p> <p>Teaches students, residents, and ancillary staff members in the cognitive apprentice model</p>	<p>Coordinates care effectively within the system and among multiple providers or teams</p> <p>Communicates effectively with the patient and family under difficult circumstances</p> <p>Integrates the patient and family in decisions about care, incorporating personal/cultural values</p>	<p>Communicates effectively with the patient and family under complex/adversarial[sic] circumstances</p> <p>Maintains cooperation and communication between providers and teams during complex and challenging circumstances</p> <p>Prepares and delivers didactic presentations in a formal setting (e.g., grand rounds, conferences)</p>	<p>Demonstrates leadership in systems-based communication activities</p> <p>Engages in self-improvement to enhance communication skills</p> <p>Teaches communication skills to other providers</p>

Patient Safety, Resource Allocation, Practice Management — Systems-based Practice

Level 1	Level 2	Level 3	Level 4	Level 5
Understands the differences between medical errors, near misses, and sentinel events	Describes the common system causes for errors	Consistently uses tools to prevent adverse events (e.g., checklists, time-outs, hand-offs)	Leads team by promoting input by all team members	Leads curriculum design to teach teamwork and communication skills to health care professionals
Understands the roles of care team members	Practices cost-effective care (e.g., stewardship of resources, awareness of costs, managing length of stay, operative efficiency)	Reports problematic behaviors, processes, and devices, including errors and near misses	Conducts quality assurance activities to improve patient safety	Leads multidisciplinary teams (e.g., human factors engineers, social scientists) to address patient safety issues
Understands basic health payment systems, including uninsured care	Understands principles of procedure coding	Recognizes basic elements needed to establish practice (e.g., negotiations, malpractice insurance, contracts, staffing, compliance, facility accreditation)	Codes diagnoses, encounters, and surgical procedures	Participates in advocacy activities for hand-related health policy
Understands different practice models	Compares and contrasts different practice models		Establishes timeline and identifies resources for transition to practice	
	Understands principles of good documentation in all aspects of patient care			

Ethics and Values — Professionalism

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Understands basic bioethical principles and is able to identify ethical issues in hand surgery</p> <p>Demonstrates behavior that conveys caring, honesty, and genuine interest in patients and families</p> <p>Understands and manages the issues related to fatigue</p> <p>Exhibits professional behavior (e.g., reliability, industry, integrity, and confidentiality)</p>	<p>Recognizes ethical issues in practice and is able to discuss, analyze, and manage common ethical situations</p> <p>Demonstrates behavior that shows insight into the impact of one's core values and beliefs on patient care</p> <p>Demonstrates management of personal emotional, physical, and mental health</p> <p>Recognizes individual limits in clinical situations and asks for assistance when needed</p>	<p>Analyzes and manages ethical issues in complicated and challenging situations</p> <p>Understands the beliefs, values, and practices of diverse and vulnerable patient populations, and the potential impact of these on patient care</p> <p>Identifies and manages situations in which maintaining personal emotional, physical, and mental health is challenged</p> <p>Understands conflicting interests of self, family, and others, and their effects on the delivery of medical care</p>	<p>Uses a systematic approach to analyzing and managing ethical issues, including advertising, billing, and conflicts of interest</p> <p>Develops a mutually-agreeable care plan in the context of conflicting physician and patient values and beliefs</p> <p>Recognizes signs of physician impairment, and demonstrates appropriate steps to address impairment in self and in colleagues</p> <p>Prioritizes and balances conflicting interests of self, family, and others to optimize medical care</p>	<p>Leads institutional and organizational ethics programs</p> <p>Develops programs to ensure equality of care in diverse, vulnerable, and underserved populations</p> <p>Develops institutional and organizational strategies to improve physician wellness</p>

Resource Utilization — Systems-based Practice

Level 1

Uses resources (social work, patient care manager) to coordinate patient care

Level 2

Actively functions as part of an interdisciplinary team to care for patients

Aware of socio-economic issues in patient care and takes those into consideration when developing patient care plans

Level 3

Incorporates cost issues into care decisions

Contributes to leadership of the interdisciplinary care team

Uses technology and other hospital/clinic resources in patient care

Level 4

Practices cost-effective care (e.g., managing length of stay, operative efficiency)

Leads interdisciplinary team in patient care

Level 5

Designs measurement tools to monitor and provide feedback to providers/teams on resource consumption to facilitate improvement

Patient Safety — Systems-based Practice				
Level 1	Level 2	Level 3	Level 4	Level 5
Understands the differences between medical errors, near misses, and sentinel events	Participates in the use of tools to prevent adverse events (e.g., checklists and briefings)	Consistently uses tools to prevent adverse events (e.g., checklists and briefings)	Formally analyzes shared team experiences to prevent future errors using proven analysis techniques (e.g., root cause analysis, failure mode effects analysis)	Leads curriculum design to teach teamwork and communication skills to health care professionals
Understands the roles of care team members	Describes the common system causes for errors	Reports problematic behaviors, processes, and devices, including errors and near misses	Leads team by promoting situational awareness and input by all team members Conducts morbidity and mortality conferences to improve patient safety	Helps lead a multidisciplinary team (e.g., human factors engineers, social scientists) to address patient safety issues

Resource Allocation — Systems-based Practice				
Level 1	Level 2	Level 3	Level 4	Level 5
Describes practice variations in resource consumption, such as the utilization of diagnostic tests	Describes the cost implications of using resources and practice variation	Participates in responsible use of health care resources seeking appropriate assistance	Practices cost-effective care (e.g., managing length of stay, operative efficiency)	Designs measurement tools to monitor and provide feedback to providers/teams on resource consumption to facilitate improvement

*Level 5 for systems based practice
Participates in advocacy for health policy*

Patient Safety — Systems-based Practice						
Practice Domain	Competency	Critical Deficiencies	Level 1	Level 2	Level 3	Level 4
Care for Diseases and Conditions (CDC)	INTERPERSONAL AND COMMUNICATION SKILLS (ICS1)	<p>This resident is not able to clearly, accurately, and respectfully communicate with patients and their families.</p> <p>This resident fails to effectively communicate basic health care information to patients and families</p>	<p>This resident uses a variety of techniques to ensure that communication with patients and their families is understandable and respectful (e.g., non-technical language, teach back, appropriate pacing, and small pieces of information).</p> <p>This resident effectively communicates basic health care information to patients and their families.</p>	<p>This resident customizes communication, taking into account patient characteristics (e.g., age, literacy, cognitive disabilities, culture).</p> <p>This resident provides timely updates to patients and their families during hospitalizations and clinic visits.</p>	<p>This resident is capable of delivering bad news to patients and their families sensitively and effectively.</p>	<p>This resident can customize emotionally difficult information (e.g., when participating in end-of-life discussions).</p> <p>This resident is capable of negotiating and managing conflict among patients and their families.</p>

Surgery Sub specialty- pediatric surgery

Collaborator — Interpersonal and Communication Skills

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates an understanding of the importance of effective communication with other providers	Communicates effectively with attending staff members, peers, and other health care providers, including during transfer to other services and multidisciplinary rounds	Resolves disagreements with other health care providers in a professional manner	Negotiates and manages conflict among care providers Communicates effectively in times of crisis	Is viewed as an exemplary communicator, problem solver, and ambassador for the pediatric surgery service in the children's hospital

Healthcare Delivery and Cost – Systems Based Practice

Level 1	Level 2	Level 3	Level 4	Level 5
Understands cost implications of clinical decisions Understands how to appropriately utilize mid- level and other health care providers to optimize the delivery of care to children (inpatient, outpatient, on call, rounding)	Articulates risk-benefit analysis, including cost to patient Incorporates risk management in pediatric surgery	Incorporates cost considerations into clinical decisions Understands the principles of insurance coverage and access to care for children	Leads efforts to reduce costs by reducing variations in care Understands the concept of work relative value units (RVUs) and physician compensation	Develops or institutes a cost efficient clinical pathway which reduces cost of patient care Advocates on a national or regional level for health care policy

Systems-based Practice				
Level 1	Level 2	Level 3	Level 4	Level 5
Consistently uses tools to prevent adverse events (e.g., checklists, briefings)	Describes how practice variations affect cost and resource consumption	Understands the leadership, management, and funding of the congenital heart surgery team	Formally analyzes shared team experiences to prevent future errors using proven analysis techniques (e.g., root cause analysis, failure mode effects analysis)	Participates in advocacy activities for health policy for congenital heart disease patients
Understands principles of diagnosis, evaluation and management, and procedure coding	Uses health care resources responsibly	Leads team by promoting situational awareness and input by all team members	Establishes timeline and identifies resources for transition to practice	
Codes routine diagnoses, encounters, and surgical procedures; documents medical necessity		Codes complex and unusual diagnoses, encounters, and surgical procedures		
		Practices cost-effective care (e.g., managing length of stay, operative efficiency)		

Works effectively within and across health delivery systems.

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Describes basic levels of systems of care</p> <p>Identifies the types of health care providers within a health care delivery system</p> <p><i>Example:</i> <i>The physician</i> 1. Identifies patient issues that are beyond his or her personal scope and abilities and may require consultation</p>	<p>Knows unique roles of and services provided by local health care delivery systems and how to access these resources for patient care</p> <p>Knows and appreciates the roles of a variety of health care providers, including consultants, therapists, nurses, home care workers, pharmacists, and social workers</p> <p>Advocates for quality patient care</p> <p><i>Example:</i> <i>The physician</i> 1. Places consults for non-urologic issues affecting individual patients 2. Reconciles medications at transfer</p>	<p>Manages and coordinates care and care transitions across multiple delivery systems, including ambulatory, subacute, acute, rehabilitation, and skilled nursing</p> <p>Advocates for quality patient care and optimal patient care systems</p> <p><i>Example:</i> <i>The physician</i> 1. Involves the primary care physician and other consultants appropriately in the care of individual patients 2. Facilitates performance of the interprofessional care team by (a) timely, clear communication/ updating of patient condition and orders; and (b) skillful, respectful interaction (see ICS); complies with communication protocols 3. Reconciles medications at transfer</p>	<p>Discusses non-pharmacologic and non-procedural patient resources (such as physical therapy, social work, alternative medicine providers, chaplains, etc.) with patients and families</p> <p>Demonstrates how to lead a health care team by utilizing the skills and coordinating the activities of interprofessional team members (physician extenders/ mid-levels, nurses, medical students, allied health workers, etc.)</p> <p>Negotiates patient-centered care among multiple care providers</p> <p><i>Example:</i> <i>The physician</i> 1. Coordinates the interprofessional care team by (a) anticipating the need for multi-disciplinary involvement; and (b) skillful, respectful interaction with all team members (see ICS); and complies with communication protocols 2. Plans for appropriate post-hospitalization care of the patient</p>	<p>Is adept at systems thinking</p> <p>Capably leads the health care team, understanding personal role as leader</p> <p>Contributes meaningfully to interprofessional teams</p> <p><i>Example:</i> <i>The physician</i> 1. Capably leads interprofessional care teams by (a) anticipating the need for multi-disciplinary involvement; and (b) skillful, respectful interaction with all team members (see ICS) 2. Aligns appropriate post-hospitalization care of the patient</p>

Uses technology to accomplish safe health care delivery.

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Explains the role of the Electronic Health Record (EHR) and Computerized Physician Order Entry (CPOE) in prevention of medical errors</p> <p><i>Example:</i> The physician 1. Can use the EHR and CPOE to enter clinical information and basic orders</p>	<p><i>As is applicable in the institution, utilizes the EHR to order tests, medications, and document notes, and responds to alerts</i></p> <p><i>Recognizes the risks and limitations added by EHRs</i></p> <p><i>Example:</i> The physician 1. Competently uses the EHR and CPOE on a daily basis for patient care activities 2. Demonstrates efficiency in accomplishing repeated tasks (such as creating automated rounding lists or order sets) 3. Understands the risk of using defaults and cut and paste strategies to create notes</p>	<p>Efficiently uses information systems for patient care, including literature review (see also Practice-based Learning and Improvement [PBLI])</p> <p>Demonstrates medication reconciliation for patients using a variety of strategies</p> <p>Consistently demonstrates safe practices to minimize risks and limitations added by EHRs</p> <p><i>Example:</i> The physician 1. Efficiently uses the EHR and CPOE for patient care activities 2. Performs medication reconciliation with attention to details from the present clinical course that may lead to changes (such as when to resume medications that have been stopped for surgery) 3. Never uses copy/paste strategies without relevant revision</p>	<p>Contributes to reduction of risks of automation and computerized systems by reporting system problems</p> <p>Uses decision support systems in EHR (as applicable in the institution)</p> <p>Critiques decision support systems</p> <p><i>Example:</i> The physician 1. Capably uses the EHR and CPOE to care for patients and communicate essential information with other members of the health care team 2. Identifies flaws in decision support systems, automated care pathways, or system alerts</p>	<p><i>Judges safety of computer and device interfaces using heuristics</i></p> <p><i>Recommends systems re-design for faculty computerized processes</i></p> <p><i>Example:</i> The physician 1. Demonstrates familiarity with multiple systems, including relative strengths of each 2. Communicates with information technology personnel to improve systems, such as automated alerts for critical lab values, forwarding communication to PCP</p>

Improves the quality of care for a panel of patients.

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Demonstrates general appreciation of the need to constantly improve quality and safety</p> <p><i>Example:</i> Made aware of sub-optimal scrub technique associated with increased risk of infection, and adjusts accordingly</p>	<p>Demonstrates commitment to providing high quality care in clinic by raising specific quality and safety issues</p> <p><i>Example:</i> Raises the question in clinic about the appropriateness of varying antibiotic prophylaxis regimen used by the faculty for office-based procedures in the urology clinic</p>	<p>Engages in team-based quality improvement interventions</p> <p><i>Example:</i> Is an active participant in a quality improvement initiative to standardize antibiotic prophylaxis regimen in the urology clinic</p>	<p>Identifies areas in his or her own practice and local system that can be changed to improve the processes and outcomes of care</p> <p><i>Example:</i> Self-identifies apparent overutilization of diagnostic imaging studies (i.e., CT scan, bone-scan) in patients with clinically localized prostate cancer. In partnership with others, leads a quality improvement initiative that includes dissemination of guidelines, as well as periodic practice audits</p>	<p>Internalizes commitment to continuous quality and safety improvement</p> <p><i>Example:</i> Is recognized as a champion of quality improvement, frequently questioning current practices and suggesting and implementing changes</p>

Demonstrates sensitivity and responsiveness to diverse populations, including diversity in gender, age, culture, race, religion, disabilities, and sexual orientation.

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates reflective thinking, through written portfolio entries, regarding specific patient experiences that raise cultural and diversity issues	Usually sensitive to cultural and other patient diversity matters, but occasionally needs to be reminded by senior colleagues to be more aware of the needs of diverse patient groups	Almost always demonstrates sensitivity to patient diversity matters and usually recognizes ethical dilemmas related to cultural differences	Always sensitive to cultural and other patient diversity matters Anticipates complex needs of diverse patient groups and leads team effort in demonstrating sensitivity and responsiveness Never discriminates in providing care	Demonstrates ability to critique residents and peers with regard to observed diversity and cultural sensitivity issues or concerns

Examples (applies to levels 1-5):

1. *Sensitive to issues related to each patient's culture, age, gender, and disabilities*
2. *Recognizes ethical dilemmas related to patient diversity, e.g., patient rejection of treatment options due to religious or cultural reasons*
3. *Provides equitable care regardless of patient culture or socioeconomic status*

Communicates effectively with patients and families with diverse socioeconomic and cultural backgrounds.

- Medical Interviewing (also see PC)
- Counseling and education (also see PC)
- Hospitalization updates
- Delivers bad news
- Informs about medical error

Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates adequate skills of listening without interrupting, ensuring his or her message was understood, and allows an opportunity for questions	Exhibits most of the basic communication skills during medical interviews, counseling and education, and hospitalization updates where the patient condition is non-acute or life-threatening	Consistently and capably exhibits basic communication skills in non-stressful situations and in some stressful, challenging situations, e.g., time stressed, patient's condition is acute or life-threatening, or the patient is mentally impaired	Consistently and capably exhibits basic communication skills in a variety of contexts	Capable of effective communication in the most challenging and emotionally charged situations, and invites participation from all stakeholders
Demonstrates sensitivity to patients' cultures		Can capably deliver bad news to the patient or family related to condition severity	Consistently, capably, and confidently delivers bad news to the family about complications and death, and informs them of a medical error that caused harm	
			Role models effective communication to junior colleagues	

Examples (applies to levels 1-5): Basic Patient and Family Interpersonal and Communication Skills

The physician

1. *Listens actively, e.g., allows the patient to tell his or her story or to provide his or her perspective; does not interrupt and talk over*
2. *When explaining, presents smalls chunks of information at a time; avoids use of technical, medical words; paces speech appropriately (i.e. , not fast)*
3. *Ensures that his or her message was understood, e.g., when applicable, the patient can repeat/summarize treatment options, the patient can describe signs that would signal a need to contact the physician, the patient can repeat home care instructions*
4. *Responds supportively and empathetically to patients' emotions and concerns*
5. *Defuses emotionally charged situations to enable communication*
6. *Invites and encourages the patient and his or her family/advocates to participate in shared decision making*
7. *Allows the opportunity for patient questions throughout the encounter*
8. *Keeps patients and families up to date on care plans, test results, and health status during hospitalization*
9. *Demonstrates sensitivity to differences in patients, including race, culture, gender, sexual orientation, socioeconomic status, literacy, and religious belief*
10. *Utilizes translation services as needed to communicate with patients*

Works effectively as a member or leader of a health care team or other professional group. (Also see SBP3)

- OR Team
- Clinical team (Office, Inpatient, or Outpatient/Clinic)
- Professional work groups and committees (e.g., quality improvement, research)

Level 1	Level 2	Level 3	Level 4	Level 5
<p>Communicates and listens with sensitivity and respect for all members of the health care team</p>	<p>Consistently engages in basic communication and interpersonal behaviors that facilitate effective teamwork, including timely sharing of information, treating team members respectfully, being approachable and cooperative</p> <p><i>Examples:</i> <i>Attributes of Good Team Members-The resident</i> 1. Requests and provides information politely and respectfully 2. Provides updates/shares information in a timely fashion; in particular, keeps all team members up-to-date on patient care plans and status during hospitalizations 3. Focuses on team goal and not individual goal or agenda, i.e., is not competitive</p>	<p>Follows communication protocols for updating members on patient status, and expresses him or herself in an objective, straightforward way in situations of disagreement and conflict</p> <p>Recognizes duality of roles in that at times he or she must be able to step into a leadership role when chief resident is indisposed/ unavailable, while at other times must act as basic team member, despite more advanced knowledge base</p> <p><i>Examples:</i> <i>Advanced Attributes of Team Members</i> 1. Follows standardized communication protocols, e.g., SBAR 2. Suggests modifications to improve standardized communication protocols 3. Respectfully and proactively expresses viewpoint and critiques the viewpoints of others (i.e., without ridiculing, demeaning, or otherwise devaluing others' perspectives) 4. Able to organize rounds and delegate tasks when chief resident is operating or away</p>	<p>Demonstrates good team leadership skills, including providing direction, inviting and utilizing input, providing feedback, creating a positive team climate, managing conflict, and utilizing briefing protocols that facilitate safe care</p> <p><i>Examples:</i> <i>Team Leader Skills-The resident physician</i> 1. Shares plan with team 2. Invites input and involves others 3. Is appropriately assertive 4. Provides feedback 5. Initiates briefings, e.g., pre-operative and post-operative 6. Provides and solicits on-going updates so as to maintain situational awareness 7. Respectfully, directly, and proactively addresses behaviors</p>	<p>Leads by example and fosters continuous collaborative communication in any situation</p>

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