Supplemental Guide:
Pediatric Hospital Medicine

ACGME

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Milestones Supplemental Guide

This document provides additional guidance and examples for the Pediatric Hospital Medicine Milestones. This is not designed to indicate any specific requirements for each level, but to provide insight into the thinking of the Milestone Work Group.

Included in this document is the intent of each Milestone and examples of what a Clinical Competency Committee (CCC) might expect to be observed/assessed at each level. Also included are suggested assessment models and tools for each subcompetency, references, and other useful information.

Review this guide with the CCC and faculty members. As the program develops a shared mental model of the Milestones, consider creating an individualized guide (Supplemental Guide Template available) with institution/program-specific examples, assessment tools used by the program, and curricular components.

Many pediatric hospital medicine fellows may enter their programs at a higher level in the non-Patient Care/non-Medical Knowledge areas given the emphasis on interest/experiences of fellows before entering into fellowship.

Additional tools and references, including the Milestones Guidebook, Clinical Competency Committee Guidebook, and Milestones Guidebook for Residents and Fellows, are available at the end of this document as well as on the Resources page of the Milestones section of the ACGME website.

Patient Care 1: Clinical Reasoning **Overall Intent:** To integrate multi-source data to develop an initial differential diagnosis and to revisit and refine it as needed to inform appropriate patient management	
Milestones	**Examples**
Level 1 *Generates a focused differential diagnosis using an illness script based on the clinical facts*	• Identifies the top three diagnoses in a six-year-old with medical complexity, including a ventriculoperitoneal shunt and gastrostomy tube dependence presenting with feeding intolerance as constipation, acute gastroenteritis, or technology malfunction
Level 2 *Organizes clinical facts to compare and contrast potential diagnoses, resulting in a prioritized differential diagnosis*	• Prioritizes shunt malfunction as the top diagnosis in a six-year-old with medical complexity, including a ventriculoperitoneal shunt and gastrostomy tube, based on parental description of similar behavior with past malfunctions
Level 3 *Integrates clinical facts into a unifying diagnosis(es); reappraises in real time to avoid diagnostic error*	• Recognizes that in a six-year-old with medical complexity, including a ventriculoperitoneal shunt and gastrostomy tube dependence, new bilious output from the gastrostomy tube and an increasingly distended abdomen should have a reprioritized differential diagnosis to focus on intra-abdominal pathology, including acute bowel obstruction versus ileus
Level 4 *Synthesizes clinical facts and evidence to develop a prioritized differential diagnosis, including life-threatening diagnoses, atypical presentations, and complex clinical presentations*	• Balances management of the working diagnosis of acute bowel obstruction versus ileus in a six-year-old with medical complexity, including ventriculoperitoneal shunt and gastrostomy tube dependence, while maintaining suspicion for critical illness such as appendicitis, shunt infection, and ascending cholangitis • Explores additional diagnosis when the same patient develops hypocalcemia with an unclear etiology, and takes a clinical systems-based approach to investigate etiology
Level 5 *Role models clinical reasoning*	• Involves learners, the patient's family, and bedside staff in discussions of expected clinical course with current working diagnosis; includes contingency planning for clinical changes and consideration of biases that could contribute to diagnostic error
Assessment Models or Tools	• Chart review • Direct observation • Multisource feedback • Simulation
Curriculum Mapping	•
Notes or Resources	• Bowen, Judith L. 2006. "Educational Strategies to Promote Clinical Diagnostic Reasoning." *NEJM* 355: 2217-2225. https://www.nejm.org/doi/full/10.1056/NEJMra054782. • Holmboe, Eric S., Steven J. Durning, Richard E. Hawkins. 2017. *The Practical Guide to the Evaluation of Clinical Competence*. 2nd ed. Elsevier. • Society of General Internal Medicine. Journal of General Internal Medicine. "Illness Scripts Overview." https://www.sgim.org/web-only/clinical-reasoning-exercises/illness-scripts-overview#. Accessed 2022.

	● Society to Improve Diagnosis in Medicine. “Tools and Toolkits.” https://www.improvediagnosis.org/toolkits/. Accessed 2020. ● State of Hospital Medicine (SOHM). “Teaching Scripts.” https://www.sohmlibrary.org/teaching-scripts.html. Accessed 2022.

Patient Care 2: Collaborative Patient Management (e.g., Co-Management, Multidisciplinary Care, Consultation) **Overall Intent:** To lead the health care team in the creation of a comprehensive, patient-centered management plan based on multiple patient factors, including social factors and varied patient backgrounds, regardless of complexity	
Milestones	**Examples**
Level 1 *Develops a collaborative management plan for common diagnoses*	● Identifies patient with prolonged fever needing additional diagnostic studies and recognizes when to consult with infectious disease ● Asks bedside nurse on rounds for input on current plan ● Utilizes Child Life to assist with a lumbar puncture on a three-year-old
Level 2 *Develops a collaborative management plan for uncommon diagnoses and/or patients with increasing medical complexity*	● Coordinates with infectious disease and clinical pharmacy to appropriately start antifungal coverage for an immunocompromised patient with pneumonia ● Develops an airway clearance plan with respiratory therapy and the parents of a child with a tracheostomy in acute-on-chronic respiratory failure
Level 3 *Develops and implements collaborative management plans for complicated and atypical diagnoses, with the ability to modify plans as necessary*	● Adjusts electrolyte replacement for an infant with pyloric stenosis to stabilize for surgical intervention ● Coordinates replacement central line access and nutritional needs for a patient with short-gut syndrome who is total parenteral nutrition (TPN) dependent with a line infection ● Notifies surgical team that a newly placed gastrostomy tube (G-tube) has been dislodged in a non-verbal child with medical complexity
Level 4 *Synthesizes multidisciplinary input to develop and implement collaborative management plans, even in the face of uncertainty and ambiguity*	● Leads a multidisciplinary conference to discuss a teenager with multiple behavioral and psychiatric diagnoses who presents with recurrent vomiting of unknown etiology ● Reviews and implements plan of care preferences with the palliative care team and the family of a child with Trisomy 18 admitted for acute bronchiolitis who has an out-of-hospital do-not-resuscitate (DNR) order
Level 5 *Serves as a role model for development of collaborative management plans*	● Leads a discussion on rounds for a medically complex child and discerns which members of the care team need to be consulted with this hospital stay ● Works within the pediatric hospital medicine division to develop a consultation/co-management pathway for patients with asthma ● Advocates for an in-person discussion with other subspeciality teams to optimize patient care management plans
Assessment Models or Tools	● Case-based discussion ● Direct and indirect observation ● Multisource feedback
Curriculum Mapping	●
Notes or Resources	● The American Board of Pediatrics (ABP). “Entrustable Professional Activities for General Pediatrics.” https://www.abp.org/entrustable-professional-activities-epas. Accessed 2020.

	● ABP. “Entrustable Professional Activities (EPAs): EPA 2 for Pediatric Hospital Medicine.” https://www.abp.org/sites/public/files/pdf/epa-hmed-2-curricula.pdf. Accessed 2022. ● Cook, David A., Steven J. Durning, Jonathan Sherbino, and Larry D. Gruppen. 2019. “Management Reasoning: Implications for Health Professions Educators and a Research Agenda.” *Academic Medicine* 94(9):1310–1316. doi: 10.1097/ACM.0000000000002768. ● Society of Hospital Medicine. “Resources for Effective Co-Management of Hospitalized Patients.” https://www.hospitalmedicine.org/practice-management/co-management/#:~:text=Co%2Dmanagement%20is%20the%20shared,a%20mainstay%20of%20hospital%20medicine. Accessed 2022.

Patient Care 3: Provide Appropriate Supervision **Overall Intent:** To function as the leader of the inpatient pediatric health care team for physicians at various levels of training and education and other health professionals; provides effective and efficient real-time management of the health care team while addressing the needs of patients and their families, learners, and staff members	
Milestones	**Examples**
Level 1 *Provides supervision that aligns with patient care needs and team dynamics, with direct guidance*	● Reviews comprehensive patient list with the senior resident after rounds ● Allows team to discharge patient with bronchiolitis who recently came off high-flow nasal cannula after safe interval monitoring in room air ● Identifies that orthopaedic team patient (which hospitalist is co-managing) has routine anti-epileptic medication ordered while in hospital
Level 2 *Provides supervision that aligns with patient care needs and team dynamics, with indirect guidance*	● Encourages resident team to re-engage the subspecialty consultant to clarify clinical question ● Prompts discussion of discharge goals and case management needs for patient with medical complexity on rounds ● Debriefs with residents after they experience microaggressions from a patient's family member
Level 3 *Provides supervision that balances patient safety and learner progressive autonomy*	● Recognizes need for direct communication between self and the consultant to call in weekend radiology tech for urgent study when residents received pushback ● Leads with questions to redirect the team — "What organism were you planning to cover?" — instead of giving the team the correct choice of antibiotics ● Repositions self in room to allow residents to lead patient-centered rounds
Level 4 *Provides supervision that optimally balances safe patient care with learner competence and professional development needs*	● Identifies senior resident who minimizes severity of illness for several patients on the team, gives on-the-fly feedback and discovers that the resident has significant personal struggles, and involves the residency or other support mechanisms ● Coaches underperforming PGY-1 resident to re-work pre-round routine to maximize efficiency ● Allows resident management plan style that differs from own management style ● Uses non-verbal cues to subtly prompt senior resident to modify the management plan while rounding ● Encourages and assists the senior resident in leading a debrief with a PGY-1 resident who experienced microaggression and how to manage similar situations when they occur in the future
Level 5 *Role models reflective, flexible, and supportive supervision*	● Prepares senior resident to lead multidisciplinary family meeting prior to meeting ● Teaches junior learners to be flexible with stylistic patient management differences while still considering patient safety

	● When a resident is experiencing microaggressions/implicit bias by a patient's family, takes measures to mitigate situation by engaging with the family and utilizing appropriate hospital resources; checks in on resident well-being and looks for root causes
Assessment Models or Tools	● Direct attending assessment of patient/family encounters ● Direct observation ● EPAs ● Multisource feedback ● Patient/family evaluations/questionnaires ● Simulation (low or high fidelity), e.g., mock code ● Teaching evaluations
Curriculum Mapping	●
Notes or Resources	● ABP. "Entrustable Professional Activities: EPA 2 for Pediatric Hospital Medicine." https://www.abp.org/sites/abp/files/pdf/phm_epa_2.pdf. Accessed 2022. ● Hauer, Karen E., Olle ten Cate, Christy Boscardin, David M. Irby, William Iobst, and Patricia S. O'Sullivan. 2014. "Understanding Trust as an Essential Element of Trainee Supervision and Learning in the Workplace. *Advances in Health Sciences Education*. 19(3):435-456. https://link.springer.com/article/10.1007%2Fs10459-013-9474-4. ● O'Hara, Kimberly, Ashlie Tseng, Stephanie Moss, Lori Herbst, Sarah Marsicek, Kira Molas-Torreblanca, Brian Herbst, Jr., Jennifer Maniscalco, and Sonja I. Ziniel. 2022. "Defining Supervision Preferences and Roles within a New Subspecialty: Pediatric Hospital Medicine." *Academic Pediatrics* 22(5): 858-866. https://doi.org/10.1016/j.acap.2022.02.015. ● Ramani, Subha. 2009. "Twelve Tips to Improve Bedside Teaching." *Medical Teacher* 25(2): 112-115. https://www.tandfonline.com/doi/abs/10.1080/0142159031000092463. ● ten Cate, Olle, Danielle Hart, Felix Ankel, Jamiu Busari, Robert Englander, Nicholas Glasgow, Eric Holmboe, et al. 2016. "Entrustment Decision Making in Clinical Training." *Academic Medicine* 91(2): 191-198. https://journals.lww.com/academicmedicine/Fulltext/2016/02000/Entrustment_Decision_Making_in_Clinical_Training.19.aspx. ● Vepraskas, Sarah, Michael Weisgerber, Heather Toth, and Dawn Bragg. 2015. "The Instructor's Guide for Promoting Presenter Empowerment Actions and Evaluating Presenters during Patient− and Family-Centered Rounds." *MedEdPORTAL*. https://doi.org/10.15766/mep_2374-8265.10160.

Medical Knowledge 1: Diagnostic Evaluation **Overall Intent:** To order diagnostic tests and subspecialty consultations (if appropriate), to tailor the evaluation to patient complexity, severity of illness, and the most likely diagnosis(es); to interpret results accurately within the context of the clinical picture	
Milestones	**Examples**
Level 1 *Demonstrates knowledge of evidence-based diagnostic evaluations*	● When evaluating a nine-year-old child presenting with a three-day history of fever and cough and household contacts with similar symptoms, considers both typical and atypical pneumonia ● Shares knowledge of Infectious Disease Society of America (IDSA) pneumonia guidelines when considering diagnostic evaluation
Level 2 *Demonstrates knowledge of risks, benefits, indications, alternatives, and cost of diagnostic evaluations*	● Recommends an appropriate, limited workup for a four-year-old admitted with clinical evidence of pneumonia with mild hypoxia ● Discusses the risks, benefits, and indications of performing a blood culture ● Considers the cost implications of a false positive blood culture ● In a patient with low muscle tone, considers risk for aspiration pneumonia
Level 3 *Prioritizes diagnostic evaluations based on risks, benefits, indications, alternatives, and cost in common scenarios*	● Discusses mode of oxygen delivery and chooses most appropriate mode for clinical scenario ● Once the patient is off supplemental oxygen, changes to pulse oximeter checks instead of continuous oxygen monitoring ● Discerns the need for repeat chest x-ray during hospitalization, particularly if the patient is not responding to standard treatment ● Acknowledges data pertaining to social influences of health for patients presenting with a history of asthma and environmental exposures, and their impact on decision making
Level 4 *Prioritizes diagnostic evaluations based on risks, benefits, indications, alternatives, and cost in complex or atypical scenarios*	● In a patient with worsening hypoxia, distress, and progressively absent breath sounds, orders an immediate chest ultrasound to determine need for chest tube ● Uses a stepwise approach to diagnostic testing for a medically complex patient with progression of pneumonia and worsening respiratory distress to identify the development of acute mediastinitis
Level 5 *Educates others about risks, benefits, indications, alternatives, and costs to guide diagnostic decision making*	● Explains to the team the risks of premature closure on a diagnosis of hypoxia in the setting of infection and lists additional evaluations that may be necessary to identify other serious or fatal etiologies of disease, including pulmonary embolism ● Educates the team and patient's family on the comprehensive factors involved in peripherally inserted central catheter (PICC) line placement for consideration of long-term parenteral antibiotic therapy, including the benefits and risks of inpatient versus outpatient management
Assessment Models or Tools	● Chart audits ● Clinical evaluations ● Direct observation

	● In-training examination ● Multisource feedback
Curriculum Mapping	●
Notes or Resources	● The American Board of Pediatrics. “Entrustable Professional Activities for General Pediatrics.” https://www.abp.org/entrustable-professional-activities-epas. Accessed 2020. ● Bradley, John S., Carrie L. Byington, Samir S. Shah, Brian Alverson, Edward R. Carter, Christopher Harrison, Sheldon L. Kaplan, et al. 2011. “The Management of Community-Acquired Pneumonia in Infants and Children Older Than 3 Months of Age: Clinical Practice Guidelines by the Pediatric Infectious Diseases Society and the Infectious Diseases Society of America.” *Clinical Infectious Diseases*. 53(7): 25-76. https://doi.org/10.1093/cid/cir531. ● Cutler, Paul. 1998. *Problem Solving in Clinical Medicine: From Data to Diagnosis*. 3rd ed. Baltimore, MD: Lippincott, Williams & Wilkins. ● Englander, Robert, and Carol Carraccio. 2014. “Domain of Competence: Medical Knowledge.” *Academic Pediatrics* 14(2)Supp: S36-S37. https://www.sciencedirect.com/science/article/abs/pii/S1876285913003240. ● Epner, Paul L., Janet E. Gans, and Mark L. Graber. 2013. “When Diagnostic Testing Leads to Harm: A New Outcomes-Based Approach for Laboratory Medicine.” *BMJ Quality & Safety* 22(Supp 2): ii6-ii10. https://pubmed.ncbi.nlm.nih.gov/23955467/.

Medical Knowledge 2: Scholarly Activity **Overall Intent:** To identify areas for scholarly investigation, design and implement a plan for investigation, and disseminate the findings of scholarly work	
Milestones	**Examples**
Level 1 *Identifies areas for scholarly investigation*	• Recognizes that the clinical question of frequency of methicillin-susceptible Staphylococcus aureus (MSSA) positive blood cultures in neonates can be developed into a worthwhile scholarly project • Identifies the value of measuring a change in clinical practice for the purpose of quality improvement • Recognizes that external influences may impact resident clinical reasoning and identifies it as a potential medical education scholarly project
Level 2 *Designs a hypothesis-driven or hypothesis-generating scholarly activity, under the direction of a research mentor*	With assistance of a research mentor: ○ Designs study to evaluate the frequency of MSSA positive blood cultures in neonatal fever ○ With the goal of practice improvement and evidence-based medicine, designs a quality improvement project to increase rates of compliance with use of combined inhaled corticosteroids following new national guidelines ○ Designs study to investigate how prior knowledge of the working diagnosis influences a PGY-1 resident's clinical reasoning process
Level 3 *Completes a comprehensive written scholarly activity that demonstrates appropriate research methodology, design, and statistical analysis*	● In collaboration with a statistician and/or supervisor, reviews data collected during a scholarly project, and writes an abstract
Level 4 *Disseminates products of scholarly activity at local, regional, or national meetings, and/or submits an abstract to regional, state, or national meetings*	● After a significant contribution to a scholarly project, submits an abstract to a nationally recognized educational meeting (e.g., Pediatric Hospital Medicine (PHM), Pediatric Academic Society (PAS)) ● Incorporates results of scholarly work into a curriculum redesign
Level 5 *Publishes independent research that has generated new medical knowledge, educational programs, or process improvement*	● Publishes scholarship in peer-reviewed journal ● Independently leads other learners in scholarly activity
Assessment Models or Tools	● Direct observation (by research mentor and/or scholarly oversight committee) ● Scholarly portfolio
Curriculum Mapping	●
Notes or Resources	• Abramson, Erika L., Pnina Weiss, Monique Naifeh, Michelle D. Stevenson, Jennifer G. Duncan, Jennifer A. Rama, Elizabeth Mauer, Linda M. Gerber, and Su-Ting T. Li. 2021. "Scholarly Activity During Pediatric Fellowship." *Pediatrics* 147(1): e2020013953. https://doi.org/10.1542/peds.2020-013953.

	• ACGME. “Specialty-Specific Program Requirements: Resident/Fellow Scholarly Activity.” https://www.acgme.org/globalassets/pdfs/specialty-specific-requirement-topics/dio-scholarly_activity_resident-fellow.pdf. Accessed 2022. • The American Board of Pediatrics. “Scholarly Activity Requirement for Pediatric Fellows.” https://www.abp.org/content/scholarly-activity. Accessed 2022. • Blome, Christine, Hanno Sondermann, Matthias Augustin. 2017. “Accepted Standards on How to Give a Medical Research Presentation: A Systematic Review of Expert Opinion Papers.” *GMS Journal for Medical Education*. 34(1): Doc11. doi:10.3205/zma001088. • Schünemann, Holger J., Wojtek Wiercioch, Jan Brozek, Itziar Etxeandia-Ikobaltzeta, Reem A. Mustafa, Veena Manja, Romina Brignardello-Petersen, et al. 2017. “GRADE Evidence to Decision (EtD) Frameworks for Adoption, Adaption, and De Novo Development of Trustworthy Recommendations: GRADE-ADOLOPMENT.” *Journal of Clinical Epidemiology* 81: 101-110. doi:10.1016/j.jclinepi.2016.09.009.

Systems-Based Practice 1: Patient Safety **Overall Intent:** To engage in the analysis and management of patient safety events, including relevant communication with patients, patients' families, and health care professionals	
Milestones	**Examples**
Level 1 *Demonstrates knowledge of common patient safety events* *Demonstrates knowledge of how to report patient safety events*	● Lists common patient safety events such as patient misidentification or medication errors ● Lists "patient safety reporting system" or "patient safety hotline" as ways to report safety events
Level 2 *Identifies system factors that lead to patient safety events* *Reports patient safety events through institutional reporting systems (simulated or actual)*	● Identifies that electronic health record (EHR) default timing of orders as "routine" (without changing to "stat") may lead to delays in antibiotic administration time for sepsis ● Reports delayed antibiotic administration time using the appropriate reporting mechanism
Level 3 *Participates in analysis of patient safety events (simulated or actual)* *Participates in disclosure of patient safety events to patients and families (simulated or actual)*	● Participates in department morbidity and mortality presentations ● Participates in root cause analyses (mock or actual) ● With the support of an attending or risk management team member, participates in the disclosure of a medication order error to a patient's family
Level 4 *Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual)* *Discloses patient safety events to patients and families (simulated or actual)*	● Leads a simulated or actual root cause analysis related to a patient fall from a crib and develops action plan that includes signs to remind caregivers to always put side rails up and add floor mats under cribs, bedside shift report fall-prevention checklists, and information on environmental stressors ● Following consultation with risk management and other team members, independently discloses a medication error to a patient's family
Level 5 *Actively engages teams and processes to modify systems to prevent patient safety events* *Role models or mentors others in the disclosure of patient safety events*	● Leads a multidisciplinary team to work on improved medication reconciliation processes to prevent discharge medication errors and considers biases among team members ● Leads a simulation for a multidisciplinary team demonstrating techniques and approaches for disclosing patient safety events ● Teaches a course during PGY-1 bootcamp about the resident's role in disclosure of patient safety events

Assessment Models or Tools	● Case-based discussion ● Direct observation ● Guided reflection ● Multisource feedback ● Simulation
Curriculum Mapping	●
Notes or Resources	● The American Board of Pediatrics. “Entrustable Professional Activities for General Pediatrics.” https://www.abp.org/entrustable-professional-activities-epas. Accessed 2020. ● Institute for Healthcare Improvement. http://www.ihi.org/Pages/default.aspx. Accessed 2020. ● Jerardi, Karen E., Erin Fisher, Caroline Rassbach, Jennifer Maniscalco, Rebecca Blankenburg, Lindsay Chase, Neha Shah, Council of Pediatric Hospital Medicine Fellowship Directors. 2017. “Development of a Curricular Framework for Pediatric Hospital Medicine Fellowships.” *Pediatrics*, *140*(1): e20170698. https://doi.org/10.1542/peds.2017-0698. ● Singh, Ranjit, Bruce Naughton, John S. Taylor, Marlon R. Koenigsberg, Diana R. Anderson, Linda L. McCausland, Robert G. Wahler, Amanda Robinson, and Gurdev Singh. 2005. “A Comprehensive Collaborative Patient Safety Residency Curriculum to Address the ACGME Core Competencies.” *Medical Education*. 39(12): 1195-204. DOI: 10.1111/j.1365-2929.2005.02333.x.

Systems-Based Practice 2: Quality Improvement **Overall Intent:** To understand and implement quality improvement methodologies to improve patient care	
Milestones	**Examples**
Level 1 *Demonstrates knowledge of basic quality improvement methodologies and metrics*	● Describes fishbone diagram ● Describes components of a "Plan-Do-Study-Act" cycle
Level 2 *Describes local quality improvement initiatives (e.g., community vaccination rate, infection rate, smoking cessation)*	● Describes initiatives to increase appropriate initiation of high-flow nasal cannula for patients with bronchiolitis ● Describes an initiative to improve influenza vaccination rates in the children admitted to the inpatient unit
Level 3 *Participates in local quality improvement initiatives*	● Participates in an ongoing interdisciplinary project to improve medication reconciliation on the inpatient wards at institution ● Collaborates on a project to improve discharge efficiency for patients admitted to the general pediatrics unit
Level 4 *Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project*	● Develops and implements a quality improvement project to improve medications in hand for patients admitted for asthma within a hospital; includes engaging the health care team, assessing the problem, articulating a broad goal, developing a SMART (Specific, Measurable, Attainable, Realistic, Time-bound) aim, collecting data, analyzing, and monitoring progress and challenges ● In developing a quality improvement project, considers team bias and social influences of health in patient population ● Acts as site lead in a national multicenter, collaborative pediatric hospital medicine project
Level 5 *Creates, implements, and assesses quality improvement initiatives at the institutional or community level*	● Initiates and completes a quality improvement project to reduce unsafe transfers within the hospital system by collaborating with unit leadership to develop a shared use of an early warning score ● Engages partners across health care system in quality improvement around reducing unsafe transfers within and between multiple hospitals ● Leads opportunities to improve pre-discharge communication with medical home for patients with medical complexity
Assessment Models or Tools	● Direct observation ● Mentor evaluations ● Scholarly oversight committee (SOC) evaluations ● Poster or other presentation ● Comparison to metrics (e.g., hospital, national)
Curriculum Mapping	●
Notes or Resources	● The American Board of Pediatrics. "Entrustable Professional Activities for General Pediatrics." https://www.abp.org/entrustable-professional-activities-epas. Accessed 2020.

	● Institute for Healthcare Improvement. http://www.ihi.org/Pages/default.aspx. Accessed 2020. ● Murtagh Kurowski, Eileen, Amanda C. Schondelmeyer, Courtney Brown, Christopher E. Dandoy, Samuel J. Hanke, and Heather L. Tubbs Cooley. 2015. “A Practical Guide to Conducting Quality Improvement in the Health Care Setting.” *Current Treatment Options in Pediatrics*. 1:380-392. https://doi.org/10.1007/s40746-015-0027-3.

Systems-Based Practice 3: System Navigation for Patient-Centered Care – Coordination of Care **Overall Intent:** To effectively navigate the health care system, including the interdisciplinary team and other care practitioners; to adapt care to a specific patient population to ensure high-quality patient outcomes	
Milestones	**Examples**
Level 1 *Lists the various interprofessional individuals involved in the patient's care coordination*	● For a child with medical complexity, identifies the team members and roles, including other subspecialists, clinic and hospital nurses, and social workers ● Identifies important members of the medical home team for a complex care patient who will follow up in the clinic
Level 2 *Coordinates care of patients in routine clinical situations, incorporating interprofessional teams with consideration of patient and family needs*	● Coordinates home health and subspecialty care for a child with a gastrostomy tube being discharged from the hospital ● Designs treatment plans using shared decision making to help individuals with low incomes or little/no insurance minimize financial strain ● Identifies a parent's health literacy, labels the patient's prescriptions, and elicits teach-back for safe administration
Level 3 *Coordinates care of patients in complex clinical situations, effectively utilizing the roles of interprofessional teams, and incorporating patient and family needs and goals*	● Works with the social worker to coordinate outpatient care and ensures appropriate clinic follow up for a patient who resides in a rural area with limited family transportation options ● Refers patients to a local pharmacy that offers a sliding fee scale and provides pharmacy coupons for patients in need ● Recognizes that many communities may have additional barriers to access and the need to involve a social worker or case manager in finding community resources
Level 4 *Coordinates interprofessional, patient-centered care among different disciplines and specialties, actively assisting families in navigating the health-care system*	● Advocates for and coordinates rescheduling a patient who was "fired" from a subspecialty clinic for missing appointments due to underlying socioeconomic issues ● Recognizes the need for and coordinates a multidisciplinary team/family meeting to include appropriate subspecialists, physical therapist/occupational therapist, nutrition, child life, mental health resources, chaplain services, the primary care physician, etc. ● Navigates the system for an uninsured patient who recently emigrated to the US to ensure access to care and continued follow up within the system
Level 5 *Coaches others in interprofessional, patient-centered care coordination*	● Leads an initiative to educate residents about home health services or medical home model for medically complex children, ensuring inclusion of discussion on health care disparities ● Coaches and mentors colleagues through a multidisciplinary team meeting of a child with complex health care needs
Assessment Models or Tools	● Direct observation ● EPAs ● Medical record (chart) audit ● Multisource feedback ● Objective structured clinical examination (OSCE)

	● Review of discharge planning documentation
Curriculum Mapping	●
Notes or Resources	● American Academy of Pediatrics (AAP). https://www.aap.org/en-us/Pages/Default.aspx. Accessed 2020. • AAP. Pediatric Care Coordination Resources. https://www.aap.org/en/practice-management/care-delivery-approaches/care-coordination-resources/. Accessed 2022. ● The American Board of Pediatrics. "Entrustable Professional Activities for General Pediatrics." https://www.abp.org/entrustable-professional-activities-epas. Accessed 2020. ● Skochelak, Susan E., Maya M. Hammond, Kimberly D. Lomis, Jeffrey M. Borkan, Jed. D. Gonzalo, Luan E. Lawson, and Stephanie R. Starr. 2020. *AMA Education Consortium: Health Systems Science*, 2nd ed. Elsevier. ● Starr, Stephanie R., Neera Agrwal, Michael J. Bryan, Yuna Buhrman, Jack Gilbert, Jill M. Huber, Andrea N. Leep Hunderfund, et al. 2017. "Science of Health Care Delivery: An Innovation in Undergraduate Medical Education to Meet Society's Needs." *Mayo Clinic Proceedings: Innovations, Quality & Outcomes*. 1(2): 117-129. https://www.sciencedirect.com/science/article/pii/S2542454817300395.

Systems-Based Practice 4: System Navigation for Patient-Centered Care – Transitions in Care **Overall Intent:** To effectively navigate the health care system during transitions of care to ensure high-quality patient outcomes	
Milestones	**Examples**
Level 1 *Uses a standard template for transitions of care/hand-offs*	• When handing off to colleagues on a night shift, uses a templated hand-off
Level 2 *Adapts a standard template, recognizing key elements for safe and effective transitions of care/hand-offs in routine clinical situations*	● Routinely uses a standardized hand-off for a stable patient but is also able to adapt conversation to provide more understanding of active plans and provides contingency planning, a basic understanding of active problems ● While discharging a patient from the hospital, utilizes a template format for hand-off communication, but tailors conversation to provide additional details on active problems and social influences of health that may impact the patient's transition
Level 3 *Performs safe and effective transitions of care/hand-offs in complex clinical situations, and ensures closed-loop communication*	● Routinely uses a standardized hand-off when transferring a patient to the intensive care unit, with direct communication of clinical reasoning, problems warranting a higher level of care, and status of completed/planned interventions; solicits read-back and confirms/uses specific resources and timeline for transfer to occur
Level 4 *Performs and advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems, including transitions to adult care*	● Prior to going on vacation, proactively seeks out colleagues to follow up on tests results that are pending from the prior week on service, leaving specific instructions and contingency plans for the follow up ● Seeks out appropriate adult general and subspecialty practitioners to facilitate the transition of a 20-year-old patient with complex health care needs to adult care; ensures a thorough hand-off, including the patient's cultural preferences and social needs, to the identified new adult practitioners
Level 5 *Coaches others in improving transitions of care within and across health care delivery systems to optimize patient outcomes*	● Designs and implements a standardized hand-off workshop for medical students prior to the start of their clinical rotations that includes use of a standardized template for communication, sharing of a mental model, contingency planning, and eliciting of read-back by the accepting practitioner ● Develops and implements a process for inpatient services to improve the transition from pediatrics to adult medicine
Assessment Models or Tools	● Direct observation ● Standardized hand-off assessment checklist ● Multisource feedback ● OSCE/Simulation ● Review of sign-out tools, use and review of checklists
Curriculum Mapping	●
Notes or Resources	● The American Board of Pediatrics. "Entrustable Professional Activities for General Pediatrics." https://www.abp.org/entrustable-professional-activities-epas. Accessed 2020.

	● Got Transition. “Clinician Education and Resources.” https://www.gottransition.org/resources-and-research/clinician-education-resources.cfm. Accessed 2020. ● Matern, Lukas H., Jeanne M. Farnan, Kristen W. Hirsch, Melissa Cappaert, Ellen S. Byrne, and Vineet M. Arora. 2018. “A Standardized Handoff Simulation Promotes Recovery from Auditory Distractions in Resident Physicians.” *Simulation in Healthcare*. 13(4): 233-238. DOI: 10.1097/SIH.0000000000000322. ● O'Toole, Jennifer K., Jennifer Hepps, Amy J. Starmer, Shilpa J. Patel, Glenn Rosenbluth, Sharon Calaman, Maria-Lucia Campos, et al. 2020. “I-PASS Mentored Implementation Frontline Provider Training Materials.” *MedEdPORTAL*. https://www.mededportal.org/doi/10.15766/mep_2374-8265.10912. ● Society for Adolescent Health and Medicine. 2020. “Transition to Adulthood for Youth with Chronic Conditions and Special Health Care Needs.” *Journal of Adolescent Health*. 66(5): P631-634. https://www.jahonline.org/article/S1054-139X(20)30075-6/fulltext. ● Starmer, Amy J., Nancy D. Spector, Rajendu Srivastava, Daniel C. West, Glenn Rosenbluth, April D. Allen, Elizabeth L. Noble, et al. “Changes in Medical Errors after Implementation of a Handoff Program.” *New England Journal of Medicine*. 371:1803-1812. DOI: 10.1056/NEJMsa1405556.

Systems-Based Practice 5: Systems Navigation – Organization and Prioritization of Patient Care Across Systems of Care **Overall Intent:** To organize and appropriately prioritize pediatric inpatient care with recognition of patient acuity and system limitations to optimize patient outcomes	
Milestones	**Examples**
Level 1 *Organizes and prioritizes the simultaneous care of patients with efficiency in a single system of care*	• Triages and manages patient care, including admissions and discharges within a busy hospital ward
Level 2 *Anticipates and triages time-sensitive issues while organizing and prioritizing patient care responsibilities in a single system of care*	• Identifies early signs of acute decompensation and escalates the patient to a higher level of care while managing a busy inpatient team
Level 3 *Organizes and prioritizes patient care responsibilities across multiple systems of care, even during times of high census or acuity*	• While completing a shift in a community hospital setting, triages two admissions from the emergency department and transfers one to the nearest tertiary care center while admitting the other patient to the inpatient unit at the community hospital
Level 4 *Organizes, prioritizes, and delegates patient care responsibilities across multiple systems of care, even during times of high census or acuity*	• When completing an admitting shift with a resident teaching team and the team receives five admissions at the same time, simultaneously: ○ Attends to the highest acuity patient admission first ○ Coordinates transfer to a higher level of care ○ Delegates stable patient care to the resident team
Level 5 *Serves as a role model for orchestrating patient care across multiple systems of care for optimal patient care*	• While completing a shift in a community hospital setting, simultaneously: ○ Triages multiple admissions from the emergency department and local outpatient practitioners ○ Creatively navigates the health care system to transfer patients to escalated level of care in times of limited bed capacity ○ Calls administrator to expand access to additional resources (e.g., beds, staff) for admissions who are boarding in the emergency department
Assessment Models or Tools	• Direct observation • Multisource feedback • Self-assessment
Curriculum Mapping	•
Notes or Resources	• The American Board of Pediatrics. “Entrustable Professional Activities for Pediatric Subspecialties. EPA 1 for Pediatric Hospital Medicine.” https://www.abp.org/sites/public/files/pdf/epa-hmed-1-curricula.pdf. Accessed 2022. • The American Board of Pediatrics. “Entrustable Professional Activities for Pediatric Subspecialties. EPA 2 for Pediatric Hospital Medicine.” https://www.abp.org/sites/abp/files/pdf/phm_epa_2.pdf. Accessed 2022. • Gawande, Atul. 2009. *The Checklist Manifesto: How to Get Things Right*. Metropolitan Books.

Systems-Based Practice 6: Population and Community Health **Overall Intent:** To promote and improve health across communities and populations through patient care and advocacy, including public education and elimination of structural racism	
Milestones	**Examples**
Level 1 *Demonstrates awareness of population and community health needs and disparities*	● Identifies social influences of health, such as poverty and structural racism ● Identifies adverse childhood experiences
Level 2 *Identifies specific population and community health needs and disparities; identifies local resources*	● Screens patients for adverse childhood experiences and acknowledges social influences of health and the impact of structural racism for individual patients ● Discusses food insecurity with patients and identifies Women, Infants, and Children (WIC) program as an option to address the insecurity
Level 3 *Uses local resources effectively to meet the needs and reduce health disparities of a patient population and community*	● Consistently refers patients to the WIC program and early intervention services as needed based upon their personal social influences of health and risk factors ● Promotes institutional programs aimed at eliminating structural racism and improving health disparities
Level 4 *Adapts practice to provide for the needs of and reduce health disparities of a specific population*	● Participates in an advocacy project to improve health care access and/or decrease practices that support structural racism ● Organizes mental health resources for patients who screen positive for an adverse childhood experience ● Guides learners to screen for health disparities and ensures they are appropriately referring to institutional or community resources to help alleviate the disparities
Level 5 *Advocates at the local, regional, or national level for populations and communities with health care disparities*	● Engages in a project to address food insecurity for patient's family during the hospital stay ● Partners with a community organization working to increase vaccination rates for children in an underserved area ● Participates in longitudinal discussions with local, state, or national government policy makers to eliminate structural racism and reduce health disparities
Assessment Models or Tools	● Analysis of process and outcomes measures based on social influences of health and resultant disparities ● Direct observation ● Medical record (chart) audit ● Multisource feedback ● Reflection
Curriculum Mapping	●
Notes or Resources	• AAP. Bright Futures. Promoting Lifelong Health for Families and Communities. https://downloads.aap.org/AAP/PDF/Bright%20Futures/BF4_LifelongHealth.pdf?_ga=2.268230030.1236819861.1654476607-929400881.1619626826&_gac=1.229642574.1651085941.cj0kcqjw06otbhc_arisaau1yov

	dcxkc8cjmzqntgqmfsj0_flej6v7e95sxi3exmdjyivnt1vv9rxoaamnzealw_wcb. Accessed 2022. ● AAP. "Advocacy." https://services.aap.org/en/advocacy/. Accessed 2020. ● The American Board of Pediatrics. "Entrustable Professional Activities for General Pediatrics." https://www.abp.org/entrustable-professional-activities-epas. Accessed 2020. ● Blankenburg, Rebecca, Patricia Poitevien, Javier Gonzalez del Rey, Megan Aylor, John Frohna, Heather McPhillips, Linda Waggoner-Fountain, and Laura Degnon. 2020. "Dismantling Racism: Association of Pediatric Program Directors' Commitment to Action." *Academic Pediatrics.* 20(8): 1051-1053. doi: 10.1016/j.acap.2020.08.017. ● Centers for Disease Control and Prevention. "Fast Facts: Preventing Adverse Childhood Experiences." https://www.cdc.gov/violenceprevention/aces/fastfact.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fviolenceprevention%2Facestudy%2Ffastfact.html. Accessed 2020. ● CommonHealth ACTION. 2016. "Leveraging the Social Determinants to Build a Culture of Health." https://healthequity.globalpolicysolutions.org/wp-content/uploads/2016/12/RWJF_SDOH_Final_Report-002.pdf. Accessed 2020. ● DallaPiazza, Michelle, Mercedes Padilla-Register, Megana Dwarakanath, Elyon Obamedo, James Hill, and Maria L. Soto-Greene. 2018. "Exploring Racism and Health: An Intensive Interactive Session for Medical Students." *MedEdPORTAL*. 14:10783. https://doi.org/10.15766/mep_2374-8265.10783. ● Johnson, Tiffani J. 2020. "Intersection of Bias, Structural Racism, and Social Determinants with Health Care Inequities." *Pediatrics*. 146(2): e2020003657. https://doi.org/10.1542/peds.2020-003657. ● MedEdPORTAL. "Anti-Racism in Medicine Collection." https://www.mededportal.org/anti-racism. Accessed 2020. ● Trent, Maria, Danielle G. Dooley, Jacqueline Dougé, Section on Adolescent Health, Council on Community Pediatrics, Committee on Adolescence, Robert M. Cavanaugh, et al. 2019. "The Impact of Racism on Child and Adolescent Health." *Pediatrics*. 144(2):e20191765. https://doi.org/10.1542/peds.2019-1765.

Systems-Based Practice 7: Physician Role in Health Care Systems **Overall Intent:** To understand the physician's role in health systems science to optimize patient care delivery, including cost-conscious care	
Milestones	**Examples**
Level 1 *Engages with patients and other providers in discussions about cost-conscious care and key components of the health care delivery system*	● Considers the cost for different laboratory tests for a patient in the hospital ● Recognizes that insurance coverage, or lack of coverage, can affect prescription drug availability/cost for individual patients
Level 2 *Identifies the relationships between the delivery system and cost-conscious care and the impact on the patient care*	● Proactively discusses the patient's prescription drug coverage with the pharmacy to optimize choice of inhaled corticosteroid for the treatment of persistent asthma ● Balances the cost to a patient with asthma exacerbation for discharge with follow-up care and an additional night in the hospital
Level 3 *Discusses the need for changes in clinical approaches based on evidence, outcomes, and cost-effectiveness to improve care for patients and families*	● Accepts an appropriate level of uncertainty when balancing cost-conscious care (e.g., not ordering a respiratory viral panel when it will not change management) ● Discusses risks and benefits of pursuing sedated magnetic resonance imaging (MRI) in the setting of a first unprovoked seizure in a patient with a normal electroencephalography and normal neurological examination in light of costs to patient's family and health system ● Adapts plan to minimize costs while providing appropriate care for an uninsured patient
Level 4 *Advocates for the promotion of safe, quality, and high-value care*	● Works collaboratively with the pediatric emergency department to identify febrile neonates at low risk of serious bacterial infection to reduce unnecessary diagnostic testing ● Implements an asthma action plan program to minimize hospital readmissions ● Raises awareness at a systems level to promote cost-conscious care (e.g., implementation of Choosing Wisely recommendations or development of a local evidence-based guideline)
Level 5 *Coaches others to promote safe, quality, and high-value care across health care systems*	● Leads team members in conversations around care gaps for LGBTQIA+ teens and creates team plans to provide comprehensive care in a clinic ● Educates colleagues on local or regional food deserts and coordinates activity to address the need (e.g., develops a community garden)
Assessment Models or Tools	● Direct observation ● Comparison to hospital quality metrics (e.g., dashboard) ● Medical record (chart) audit ● Multisource feedback ● Review and guided reflection on costs accrued for individual patients or patient populations with a given diagnosis
Curriculum Mapping	●

Notes and Resources	● Agency for Healthcare Research and Quality (AHRQ). **“**Measuring the Quality of Physician Care.” https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/challenges.html. Accessed 2020. ● AAP. Practice Management. https://www.aap.org/en/practice-management/. Accessed 2022. ● American Board of Internal Medicine. “QI/PI Activities.” https://www.abim.org/maintenance-of-certification/earning-points/qi-pi-activities.aspx. Accessed 2020. ● The American Board of Pediatrics. “Entrustable Professional Activities for General Pediatrics.” https://www.abp.org/entrustable-professional-activities-epas. Accessed 2020. ● American College of Physicians. “Newly Revised: Curriculum for Educators and Residents (Version 4.0).” https://www.acponline.org/clinical-information/high-value-care/medical-educators-resources/newly-revised-curriculum-for-educators-and-residents-version-40. Accessed 2020. ● Choosing Wisely. “American Academy of Pediatrics: Ten Things Physicians and Patients Should Question.” https://www.choosingwisely.org/societies/american-academy-of-pediatrics/. Accessed 2020. ● The Commonwealth Fund. “State Health Data Center.” http://datacenter.commonwealthfund.org/?_ga=2.110888517.1505146611.1495417431-1811932185.1495417431#ind=1/sc=1. Accessed 2020. ● Crowe, Byron, Sami G. Tahhan, Curtis Lacy, Jule Grzankowski, and Juan N. Lessing. 2020. “Things We Do for No Reason™: Routine Correction of Elevated INR and Thrombocytopenia Prior to Paracentesis in Patients with Cirrhosis.” *Journal of Hospital Medicine*. 16(2): 102-104. https://doi.org/10.12788/jhm.3458. ● Dzau, Victor J., Mark McClellan, Sheila Burke, Molly J. Coye, Thomas A. Daschle, Angela Diaz, William H. Frist, et al. 2017. “Vital Directions for Health and Health Care: Priorities from a National Academy of Medicine Initiative.” *NAM Perspectives*. Discussion Paper, National Academy of Medicine, Washington, DC. https://doi.org/10.31478/201703e. ● Solutions for Patient Safety. “Hospital Resources.” https://www.solutionsforpatientsafety.org/for-hospitals/hospital-resources/. Accessed 2020.

Practice-Based Learning and Improvement 1: Evidence-Based and Informed Practice **Overall Intent:** To gather, interpret, and appropriately apply evidence to individual patients and patient populations	
Milestones	**Examples**
Level 1 *Develops an answerable clinical question and demonstrates how to access available evidence, with guidance*	● Identifies a question such as, "What is the appropriate treatment for this patient with newly diagnosed acute hematogenous osteomyelitis?", but needs guidance to focus it into a patient intervention comparison and outcome (PICO) question ● Uses general medical resources such as UpToDate or DynaMed to search for answers
Level 2 *Independently articulates clinical question and accesses available evidence*	● Clearly identifies a PICO question: "What is the role of early transition to oral therapy for acute hematogenous osteomyelitis?" ● Uses an appropriate search engine like PubMed to search for the answer to a clinical question and appropriately filters results
Level 3 *Locates and applies the evidence, integrated with patient preference, to the care of patients*	● Obtains, appraises, and applies evidence to a discussion with the patient's parents to determine if a febrile neonate should be observed in the hospital versus discharged with close patient follow up ● Efficiently searches and filters key search engines, retrieving information that is specific to the clinical question and patient population
Level 4 *Critically appraises and applies evidence, even in the face of uncertainty and conflicting evidence to guide care tailored to the individual patient*	● Weighs level of evidence for the placement of chest tube in an immunosuppressed patient with empyema and engages in shared decision making with the patient, patient's family, and multidisciplinary team ● Utilizes the expertise of a medical librarian to modify and refine searches when evidence is conflicting or uncertain ● Adapts literature from the adult population for use of prophylactic venous thromboembolism therapy in pediatric patients and acknowledges the uncertainty when discussing with patient and family
Level 5 *Coaches others to critically appraise and apply evidence for complex patients*	● Provides feedback to learners on their ability to formulate a question and obtains, appraises, and applies evidence to the care of patients ● Serves as a mentor for learners presenting an evidence-based medicine topic or conference ● Creates a library of resources with updated primary literature or clinical guidelines ● Participates in the development of clinical guidelines/pathways
Assessment Models or Tools	● Critical appraisal tool ● Direct observation ● Multisource feedback
Curriculum Mapping	●
Notes or Resources	● Duke University. "Evidence-Based Practice." https://guides.mclibrary.duke.edu/ebm/home. Accessed 2020.

	● Guyatt, Gordon, Drummond Rennie, Maureen O. Meade, and Deborah Cook. 2015. *Users' Guides to the Medical Literature: A Manual for Evidence-Based Clinical Practice*, 3rd ed. USA: McGraw-Hill Education. https://jamaevidence.mhmedical.com/Book.aspx?bookId=847. Accessed 2020. ● US National Library of Medicine. "PubMed® Online Training." https://www.nlm.nih.gov/bsd/disted/pubmedtutorial/cover.html. Accessed 2020.

Practice-Based Learning and Improvement 2: Reflective Practice and Commitment to Personal Growth **Overall Intent:** To adopt a continuous process of self-reflection, goal setting, and growth mindset to promote professional development	
Milestones	**Examples**
Level 1 *Participates in feedback sessions* *Develops personal and professional goals, with assistance*	● Attends scheduled feedback sessions with supervising faculty member ● Develops a plan with faculty member to assess comfort in leading a teaching team and baseline teaching skills ● Acknowledges own implicit/explicit biases
Level 2 *Demonstrates openness to feedback and performance data* *Designs a learning plan based on established goals, feedback, and performance data, with assistance*	● Reviews the resident's evaluation of self on rounds with the attending ● After reviewing the resident's evaluation of rounds, devises a plan with attending to ensure rounds start on time ● Devises a plan to explore biases and how they impact care of peer relationships
Level 3 *Seeks and incorporates feedback and performance data episodically* *Designs and implements a learning plan by analyzing and reflecting on the factors which contribute to gap(s) between performance expectations and actual performance*	● Asks attending to observe rounds and provide feedback on ways to improve efficiency. ● Identifies personal barriers to effective time management on rounds, such as repeating information already stated by the senior resident ● Recognizes own implicit biases that affected care for a transgender male seeking contraception and takes steps to mitigate bias
Level 4 *Seeks and incorporates feedback and performance data consistently* *Adapts a learning plan using long-term professional goals, self-reflection, and performance data to measure its effectiveness*	● Requests multiple sources of feedback on timeliness of rounds, including own metrics on pre-noon discharges, senior resident feedback, and nursing multisource feedback ● Actively seeks out educational opportunities to learn about anti-racism and bystander culture ● Uses metrics on starting times to adapt the plan for improved rounds
Level 5 *Role models and coaches others in seeking and incorporating feedback and performance data* *Demonstrates continuous self-reflection and coaching of others on reflective practice*	● Coaches others to improve their efficiency on rounds ● Provides education on implicit bias during rounds ● Facilitates team debrief after a critical incident and identifies areas to improve
Assessment Models or Tools	● Direct observation ● Individualized learning plan ● Multisource feedback

	● Practice metrics
Curriculum Mapping	●
Notes or Resources	● Burke, Anne E., Bradley Benson, Robert Englander, Carol Carraccio, and Patricia J. Hicks. 2014. “Domain of Competence: Practice-Based Learning and Improvement.” *Academic Pediatrics.* 14(2): S38-S54. DOI: https://doi.org/10.1016/j.acap.2013.11.018. ● Dweck, Carol. 2014. “Developing A Growth Mindset.” YouTube. https://www.youtube.com/watch?v=hiiEeMN7vbQ. ● Lockspeiser, Tai M., Su-Ting T. Li, Ann E. Burke, Adam A. Rosenberg, Alston E. Dunbar 3rd, Kimberly A. Gifford, Gregory H. Gorman, et al. 2016. “In Pursuit of Meaningful Use of Learning Goals in Residency: A Qualitative Study of Pediatric Residents.” *Academic Medicine*. 91(6):839-846. DOI: 10.1097/ACM.0000000000001015. ● Lockspeiser, Tai M., Patricia A. Schmitter, J. Lindsey Lane, Janice L. Hanson, Adam A. Rosenberg, and Yoon Soo Park. 2013. “Assessing Residents’ Written Learning Goals and Goal Writing Skill: Validity Evidence for the Learning Goal Scoring Rubric.” *Academic Medicine*. 88(10):1558-1563. DOI: 10.1097/ACM.0b013e3182a352e6. ● Sabin, Janice A., and Anthony G. Greenwald. 2012. “The Influence of Implicit Bias on Treatment Recommendations for 4 Common Pediatric Conditions: Pain, Urinary Tract Infection, Attention Deficit Hyperactivity Disorder, and Asthma.” *American Journal of Public Health* 102: 988–995 https://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.2011.300621.

Professionalism 1: Professional Behavior **Overall Intent:** To demonstrate ethical and professional behaviors and promote these behaviors in others, and to use appropriate resources to manage professional dilemmas	
Milestones	**Examples**
Level 1 *Identifies expected professional behaviors and potential triggers for lapses*	● Recognizes that post-call fatigue may impact professional behavior
Identifies the value and role of pediatric hospitalist as a vocation/career	● Articulates the critical value of the pediatric hospitalist in primary and co-management roles in the inpatient setting to improve child health
Level 2 *Demonstrates professional behavior with occasional lapses*	● Identifies being late to morning rounds as a lapse in professionalism, and immediately apologizes to peers and attendings upon arrival
Demonstrates accountability for patient care as a pediatric hospitalist, with guidance	● Ensures that laboratory results submitted after a patient discharge are forwarded to the appropriate practitioner after prompting from the attending physician
Level 3 *Maintains professional behavior in increasingly complex or stressful situations*	● Demonstrates caring and compassionate behaviors with patients, patients' families, colleagues, and clinical staff with increasing volumes at night ● Advocates for a patient transfer to the intensive care unit (ICU) when bed capacity is limited
Fully engages in patient care and holds oneself accountable	● Maintains a calm and collaborative demeanor when called for multiple admissions in the midst of taking care of an acutely ill patient
Level 4 *Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others*	● Models respect and compassion for patients and promotes the same from colleagues by actively identifying positive professional behavior ● Notifies the appropriate personnel when a colleague is noticeably struggling with the workload or personal stress ● Recognizes the senior resident is overwhelmed with admissions and redistributes patient care tasks to other practitioner
Exhibits a sense of duty to patient care and professional responsibilities	● Calls patient's school to relay information about administration of new medications upon discharge ● Speaks up in the moment when observing racist/sexist behavior within the health care team and uses reporting mechanisms to address it
Level 5 *Models professional behavior and coaches others when their behavior fails to meet professional expectations*	● Coaches a first-year resident in appropriate communication skills during a difficult encounter with a nurse

Extends the role of the pediatric hospitalist beyond the care of patients by engaging with the community, specialty, and medical profession as a whole	● Develops education and/or modules on microaggressions and bias for the division and disseminates materials at meetings
Assessment Models or Tools	● Direct observation ● Multisource feedback ● Oral or written self-reflection
Curriculum Mapping	●
Notes or Resources	● Below are resources that define professionalism and seek to focus it on what key knowledge, skills, and attitudes are required to ensure public trust and promote integrity within the profession. It is important to note a historical context in which the informal and formal assessment of "professionalism" has extended beyond these ideals to negatively impact the careers of women, LGBTQIA+ people, and underrepresented minorities in medicine. Explicitly, examples of this have included the way in which women, marginalized learners, and LGBTQIA+ learners have been targeted for certain forms of self-expression of racial, ethnic, or gender identity. The assessment of professionalism should seek to be anti-racist and eliminate all forms of bias. ● AbdelHameid, Duaa. 2020. "Professionalism 101 for Black Physicians." *New England Journal of Medicine.* 383(5): e34. doi:10.1056/NEJMpv2022773. ● American Board of Internal Medicine Foundation, ACP-ASIM Foundation, and European Federation of Internal Medicine. 2002. "Medical Professionalism in the New Millennium: A Physician Charter." *Annals of Internal Medicine* 136: 243-246. https://doi.org/10.7326/0003-4819-136-3-200202050-00012. ● The American Board of Pediatrics (ABP). "Entrustable Professional Activities for General Pediatrics." https://www.abp.org/entrustable-professional-activities-epas. Accessed 2020. ● ABP. "Medical Professionalism." https://www.abp.org/content/medical-professionalism. Accessed 2020. ● ABP. "Teaching, Promoting, and Assessing Professionalism Across the Continuum: A Medical Educator's Guide." https://www.abp.org/professionalism-guide. Accessed 2020. ● American Medical Association. "Ethics." https://www.ama-assn.org/delivering-care/ama-code-medical-ethics. Accessed 2020. ● Bynny, Richard L., Douglas S. Paauw, Maxine Papadakis, and Sheryl Pfeil. 2017. *Medical Professionalism Best Practices: Professionalism in the Modern Era*. Aurora, CO: Alpha Omega Alpha Medical Society. https://www.alphaomegaalpha.org/wp-content/uploads/2022/01/Monograph2018.pdf. ISBN: 978-1-5323-6516-4. ● Domen, Ronald E., Kristen Johnson, Richard Michael Conran, Robert D. Hoffman, Miriam D. Post, Jacob J. Steinberg, Mark D. Brissette, et al. 2016. "Professionalism in Pathology:

	A Case-Based Approach as a Potential Educational Tool." *Archives of Pathology and Laboratory Medicine* 141: 215-219. https://doi.org/10.5858/arpa.2016-0217-CP. ● Levinson, Wendy, Shiphra Ginsburg, Frederic W. Hafferty, and Catherine R. Lucey. 2014. *Understanding Medical Professionalism*. New York, NY: McGraw-Hill Education. https://accessmedicine.mhmedical.com/book.aspx?bookID=1058. ● Osseo-Asare, Aba, Lilanthi Balasuriya, Stephen J. Huot, et al. 2018. "Minority Resident Physicians' Views on the Role of Race/Ethnicity in Their Training Experiences in the Workplace." *JAMA Network Open*. 1(5): e182723. doi:10.1001/jamanetworkopen.2018.2723. ● Paul, Dereck W. Jr., Kelly R. Knight, Andre Campbell, and Louise Aronson. 2020. "Beyond a Moment - Reckoning with Our History and Embracing Antiracism in Medicine." *New England Journal of Medicine.* 383: 1404-1406. doi:10.1056/NEJMp2021812 https://www.nejm.org/doi/full/10.1056/NEJMp2021812.

Professionalism 2: Ethical Principles **Overall Intent:** To recognize and address or resolve common and complex ethical dilemmas or situations	
Milestones	**Examples**
Level 1 *Demonstrates knowledge of the ethical principles underlying informed consent, surrogate decision making, advance directives, confidentiality, error disclosure, stewardship of limited resources, and related topics*	● Identifies the ethical principles involved in informed consent of a lumbar puncture
Level 2 *Applies ethical principles in common situations*	● Articulates how the principle of "do no harm" applies to an infant with likely viral illness who may not need inflammatory markers, even though it may serve as a potential learning opportunity for the residents ● Respects the principles of "patient autonomy" by not disclosing information to family of an 18-year-old patient who requests not to share information about sexual preferences
Level 3 *Analyzes complex situations using ethical principles to address conflict/controversy; seeks help when needed to manage and resolve complex ethical situations*	● Seeks consultation from palliative care for treatment options for a terminally ill patient, minimizing bias, while recognizing own limitations and consistently honoring the patient's and family's choice ● Analyzes need for a radiologic study for a stable patient and does not to obtain study based on potential harm to the child even though the family wants to pursue the study ● Provides optimal care to a child of a young mother being investigated by child protective services and ensures the team considers their biases when offering plans of care
Level 4 *Manages and seeks to resolve ethical dilemmas using appropriate resources (e.g., ethics consultations, literature review, risk management/legal consultation)*	● Utilizes ethics resources to discuss additional medical and surgical interventions of unclear benefit to a child with multiorgan failure and poor prognosis ● Activates institutional resources, including social work and risk management, when a patient's parent chooses to leave the hospital against medical advice ● Engages with a multidisciplinary team to address issues when physicians and the patient's family disagree on care plan for a patient with brain death; recognizes that prior experiences of racism for the patient and family influence their trust, and defer discussion of most complex issues to those in whom the family have demonstrated trust, rather than assuming a hierarchical structure
Level 5 *Called upon by others to consult in cases of complex ethical dilemmas; identifies and seeks to address system-level factors that induce or exacerbate*	● Participates as part of the ethics consult service, providing guidance for complex cases ● Serves as a trusted physician for a family working with the multidisciplinary team for a patient with brain death; recognizes that prior experiences of racism for the patient and family influence their trust with complex medical issues ● Adeptly assumes care for a complex patient transferred from another service requiring difficult conversations and critical, shared decision making while maintaining the therapeutic alliance with patient and family

Assessment Models or Tools	● Direct observation ● Multisource feedback ● Oral or written self-reflection
Curriculum Mapping	●
Notes or Resources	● American Board of Internal Medicine Foundation, ACP-ASIM Foundation, and European Federation of Internal Medicine. 2002. "Medical Professionalism in the New Millennium: A Physician Charter." *Annals of Internal Medicine* 136: 243-246. https://doi.org/10.7326/0003-4819-136-3-200202050-00012. ● The American Board of Pediatrics. "Entrustable Professional Activities for General Pediatrics." https://www.abp.org/entrustable-professional-activities-epas. Accessed 2020. ● American Medical Association. "Ethics." https://www.ama-assn.org/delivering-care/ama-code-medical-ethics. Accessed 2020. ● Bynny, Richard L., Douglas S. Paauw, Maxine Papadakis, and Sheryl Pfeil. 2017. *Medical Professionalism Best Practices: Professionalism in the Modern Era*. Aurora, CO: Alpha Omega Alpha Medical Society. https://www.alphaomegaalpha.org/wp-content/uploads/2022/01/Monograph2018.pdf. ISBN: 978-1-5323-6516-4. ● deSante-Bertkau, Jennifer, Lori A. Herbst. 2021. "Ethics of Pediatric and Young Adult Medical Decision-Making: Cased-Based Discussions Exploring Consent, Capacity, and Surrogate Decision-Making." *AAMC MedEdPORTAL*. https://www.mededportal.org/doi/10.15766/mep_2374-8265.11094. ● Domen, Ronald E., Kristen Johnson, Richard Michael Conran, Robert D. Hoffman, Miriam D. Post, Jacob J. Steinberg, Mark D. Brissette, et al. 2016. "Professionalism in Pathology: A Case-Based Approach as a Potential Educational Tool." *Archives of Pathology and Laboratory Medicine* 141: 215-219. https://doi.org/10.5858/arpa.2016-0217-CP. ● Levinson, Wendy, Shiphra Ginsburg, Frederic W. Hafferty, and Catherine R. Lucey. 2014. *Understanding Medical Professionalism*. New York, NY: McGraw-Hill Education. https://accessmedicine.mhmedical.com/book.aspx?bookID=1058.

Professionalism 3: Accountability/Conscientiousness **Overall Intent:** To take responsibility for one's own actions and their impact on patients and other members of the health care team	
Milestones	**Examples**
Level 1 *Performs tasks and responsibilities, with prompting*	● Responds to reminders from program administrator to complete work hour logs ● After being informed by the program director that too many conferences have been missed, changes habits to meet the minimum attendance requirement ● Completes patient care tasks (e.g., callbacks, consultations, orders) after prompting from a supervisor
Level 2 *Performs tasks and responsibilities in a timely manner in routine situations*	● Completes administrative tasks (e.g., licensing requirements) by specified due date ● Completes routine patient care tasks as assigned ● Answers pages and emails promptly with rare need for reminders
Level 3 *Performs tasks and responsibilities in a thorough and timely manner in complex or stressful situations*	● Identifies multiple competing demands when caring for patients, appropriately triages tasks, and appropriately seeks help from other team members ● Sends follow-up emails after quality improvement project monthly meeting, reminding team members of individual tasks
Level 4 *Coaches others to ensure tasks and responsibilities are completed in a thorough and timely manner in complex or stressful situations*	● Supervises residents and students on a busy night, delegating tasks appropriately, and ensures that all tasks are completed for safe and thorough patient care
Level 5 *Creates strategies to enhance others' ability to efficiently complete tasks and responsibilities*	● Meets with multidisciplinary team (e.g., nurses, social worker, case manager) to streamline patient discharges ● Sets up shared folder for future learners to assist them during the transition to fellowship
Assessment Models or Tools	● Direct observation ● Multisource feedback ● Self-evaluations and reflective tools
Curriculum Mapping	●
Notes or Resources	● The American Board of Pediatrics. "Entrustable Professional Activities for General Pediatrics." https://www.abp.org/entrustable-professional-activities-epas. Accessed 2020. ● American Medical Association. "Ethics." https://www.ama-assn.org/delivering-care/ama-code-medical-ethics. Accessed 2020. ● Code of conduct from fellowship institutional manual

Professionalism 4: Well-Being **Overall Intent:** To identify resources to manage and improve well-being	
Milestones	**Examples**
Level 1 *Recognizes the importance of addressing personal and professional well-being*	● Acknowledges how individual response to participating in a difficult code blue impacts well-being and may impact the approach to patients seen later the same day ● Discusses the importance of a faculty mentor ● Recognizes that personal stress may require a change in schedule
Level 2 *Describes institutional resources that are meant to promote well-being*	● Identifies well-being resources such as meditation apps and mental health resources for fellows available through the program and institution ● Meets with program director to discuss Family Medical Leave Act options when expecting a child
Level 3 *Recognizes institutional and personal factors that impact well-being*	● Identifies that working with medically complex patients without a medical home or family engagement may be stressful and impact well-being ● Describes the tension between professional and personal responsibilities
Level 4 *Describes interactions between institutional and personal factors that impact well-being*	● Recognizes that rotating between multiple clinical sites is negatively impacting time with two toddlers and spouse at home and discusses a plan to mitigate the tension between a busy schedule and time with family ● Recognizes how microaggressions from coworkers and/or faculty members are impacting performance or engagement in patient care
Level 5 *Coaches and supports colleagues to optimize well-being at the team, program, or institutional level*	● Leads organizational efforts to address clinician well-being in both professional and personal settings; presents resources and invites speakers to the division ● Develops an affinity group to provide support for self and others to explore impact of microaggressions and biases
Assessment Models or Tools	● Direct observation ● Group interview or discussions for team activities ● Self-reflection and personal learning plan
Curriculum Mapping	●
Notes or Resources	● This subcompetency is not intended to evaluate a fellow's well-being, but to ensure each resident has the fundamental knowledge of factors that impact well-being, the mechanisms by which those factors impact well-being, and available resources and tools to improve well-being. ● ACGME. "Well-Being Tools and Resources." https://dl.acgme.org/pages/well-being-tools-resources. Accessed 2022. ● The American Board of Pediatrics. "Entrustable Professional Activities for General Pediatrics." https://www.abp.org/entrustable-professional-activities-epas. Accessed 2020.

	● Hicks, Patricia J., Daniel Schumacher, Susan Guralnick, Carol Carraccio, and Ann E. Burke. 2014. “Domain of Competence: Personal and Professional Development.” *Academic Pediatrics* 14(2 Suppl): S80-97. https://www.sciencedirect.com/science/article/abs/pii/S187628591300332X. ● Local resources, including employee assistance programs

Interpersonal and Communication Skills 1: Patient- and Family-Centered Communication **Overall Intent:** To establish a therapeutic relationship with patients and their families, tailor communication to the needs of patients and families, and effectively navigate difficult and sensitive conversations	
Milestones	**Examples**
Level 1 *Demonstrates respect and attempts to establish rapport* *Attempts to adjust communication strategies based upon patient/family expectations*	● Introduces self and faculty member, identifies patient and others in the room, and engages all parties in health care discussion ● Attempts to initiate sensitive conversations ● Identifies need for trained interpreter for patients/families with language other than English
Level 2 *Establishes a therapeutic relationship in straightforward encounters* *Adjusts communication strategies as needed to mitigate barriers and meet patient/family expectations*	● Establishes a partnership between parents and care team by discussing shared goals at the beginning of an acute hospitalization of a child with chronic medical problems ● Uses nonjudgmental language to discuss sensitive topics ● Uses patient's preferred pronouns when addressing patient ● When seeing a distraught teenager with a new diagnosis of genital herpes admitted for pain control, reassures the patient that the outbreak will be self-limited and that treatment is available, using terminology appropriate for the patient's level of health literacy ● Recognizes that mispronouncing a patient's name might be experienced as a microaggression; apologizes to the patient and seeks to correct the mistake
Level 3 *Establishes a culturally competent and therapeutic relationship in most encounters* *Communicates with sensitivity and compassion, elicits patient/family values, and acknowledges uncertainty and conflict*	• Explores parental concerns within their cultural and spiritual context at the time of admission of a teenager presenting with acute psychosis when family has differing opinions of the reason for behavior, discussing addition of a spiritual as well as medical therapy • Proactively asks patients how they would like to be addressed, including pronouns and name pronunciation, to avoid misgendering or mispronouncing the patients' names ● When seeing a distraught teenager with a new diagnosis of genital herpes admitted for pain control, explores specifics of the patient's fears, acknowledges uncertainty of future outbreaks, gives practical advice, and discusses risks/benefits of prophylactic medication
Level 4 *Establishes a therapeutic relationship in straightforward and complex encounters, including those with ambiguity and/or conflict*	● Engages parents of an unvaccinated teenager who transfers out of the pediatric intensive care unit (PICU) with multisystem inflammatory syndrome in children (MIS-C) in a discussion of post-recovery immunization, addressing misinformation and reviewing risks/benefits to alleviate these concerns in a nonjudgmental manner ● Facilitates sensitive discussions with a patient's family in a supportive and respectful manner during an interdisciplinary team meeting, validating family's feelings that a

Uses shared decision making with patient/family to make a personalized care plan	diagnosis may have been delayed while promoting a productive conversation for goals of hospitalization ● Engages family of a child with medical complexity along with other members of the multi-specialty care team in determining family wishes and expectations regarding resuscitative efforts in the event of an acute deterioration ● Engages in shared decision making with caregivers about options for further workup of a 30-day old febrile infant with reassuring laboratory and clinical exam findings
Level 5 *Mentors others to develop positive therapeutic relationships* *Models and coaches others in patient- and family-centered communication*	● Acts as a mentor for a junior resident disclosing bad news to a patient and the patient's family ● Models and coaches the spectrum of difficult communication ● Develops a curriculum on patient- and family-centered communication, including navigating difficult conversations
Assessment Models or Tools	● Direct observation ● Standardized patients/simulation
Curriculum Mapping	●
Notes or Resources	● The American Board of Pediatrics. "Entrustable Professional Activities for General Pediatrics." https://www.abp.org/entrustable-professional-activities-epas. Accessed 2020. ● Laidlaw, Anita, and Jo Hart. 2011. "Communication Skills: An Essential Component of Medical Curricula. Part I: Assessment of Clinical Communication: AMEE Guide No. 51." *Medical Teacher*. 33(1): 6-8. https://doi.org/10.3109/0142159X.2011.531170. ● Makoul, Gregory. 2001. "Essential Elements of Communication in Medical Encounters: the Kalamazoo Consensus Statement." *Academic Medicine*. 76(4): 390-393. https://journals.lww.com/academicmedicine/Fulltext/2001/04000/Essential_Elements_of_Communication_in_Medical.21.aspx#pdf-link. ● Makoul, Gregory. 2001. "The SEGUE Framework for Teaching and Assessing Communication Skills." *Patient Education and Counseling*. 45(1): 23-34. https://doi.org/10.1016/S0738-3991(01)00136-7. ● MedEdPORTAL. "Anti-Racism in Medicine Collection." https://www.mededportal.org/anti-racism. Accessed 2020. ● National LGBTQIA+ Health and Education Center https://www.lgbtqiahealtheducation.org/. Accessed 2022.

Interpersonal and Communication Skills 2: Interprofessional and Team Communication **Overall Intent:** To communicate effectively with all members of the health care team, including consultants and staff	
Milestones	**Examples**
Level 1 *Respectfully requests a consultation, with guidance*	● When requesting a consultation from the cardiologist for a patient with Marfan syndrome admitted with syncope, respectfully communicates a clear consult question after cardiologist helps to clarify
Identifies the members of the interprofessional team	● Recognizes the importance of input from the bedside nurse, case manager, and dietician in patient admitted with dysphasia
Level 2 *Clearly and concisely requests consultation by communicating patient information*	● When requesting a consult from the infectious diseases team, briefly describes pertinent details of a former intensive care unit patient who has a new fever and specifically requests guidance in further diagnostic evaluation
Participates within the interprofessional team	● Sends a message in the EHR to the dietician of a metabolic patient to discuss increasing the protein restriction
Level 3 *Formulates a specific question for consultation and tailors communication strategy*	● When unable to get an initial response regarding a patient with an acute abdomen, navigates additional modes of communication to reach a surgeon in the operating room for an urgent consultation need ● Identifies need to consult with rheumatology regarding a patient with refractory Kawasaki disease and formulates a specific question about additional management options
Uses bi-directional communication within the interprofessional team	● Summarizes consultant recommendations at the end of a consult request to ensure mutual understanding from both primary and consulting teams ● Coordinates with the metabolic dietician when a change is needed in a patient's home nutrition plan; contacts the metabolic team social worker to arrange for delivery of a specialized formula and completes the prescription
Level 4 *Coordinates consultant recommendations to optimize patient care*	● Initiates and facilitates a multidisciplinary meeting to develop shared care plan for a patient with 22q11.2 deletion syndrome; develops a clear meeting agenda with goals to be addressed
Facilitates interprofessional team communication	● When caring for a patient with suspected Down syndrome, discerns when to take primary responsibility for discussing testing options versus requesting that the genetics team come to speak with the family ● Thoughtfully verbalizes patient needs during weekly wards care coordination meetings and maximizes resources and communication across the interprofessional team

	● Effectively navigates racial discrimination or microaggressions from a colleague as it pertains to the patient
Level 5 *Maintains a collaborative relationship with referring providers that maximizes adherence to practice recommendations* *Coaches others in effective communication within the interprofessional team*	● Talks with team members about the importance of regular, professional interactions with the cardiologists providing care for their complex patient ● Recognizes the importance of re-engaging key specialists involved in the care of a patient who missed multiple appointments to see the patient for care optimization ● Coaches the senior resident in leading interdisciplinary rounds
Assessment Models or Tools	● Direct observation ● Global assessment ● Medical record (chart) audit ● Multi-source feedback ● Simulation
Curriculum Mapping	●
Notes or Resources	● ACAPT. "NIPEC Assessment Resources and Tools." https://acapt.org/about/consortium/national-interprofessional-education-consortium-(nipec)/nipec-assessment-resources-and-tools. Accessed 2020. ● The American Board of Pediatrics. "Entrustable Professional Activities for General Pediatrics." https://www.abp.org/entrustable-professional-activities-epas. Accessed 2020. ● Dehon, Erin, Kimberly Simpson, David Fowler, and Alan Jones. 2015. "Development of the Faculty 360." *MedEdPORTAL*. 11:10174. http://doi.org/10.15766/mep_2374-8265.10174. ● Fay, David, Michael Mazzone, Linda Douglas, and Bruce Ambuel. 2007. "A Validated, Behavior-Based Evaluation Instrument for Family Medicine Residents. *MedEdPORTAL*. https://www.mededportal.org/doi/10.15766/mep_2374-8265.622. ● François, José. 2011. "Tool to Assess the Quality of Consultation and Referral Request Letters in Family Medicine." *Canadian Family Physician.* 57(5): 574-575. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3093595/. ● Green, Matt, Teresa Parrott, and Graham Cook. 2012. "Improving Your Communication Skills." *BMJ*. 344:e357. https://doi.org/10.1136/bmj.e357. ● Henry, Stephen G., Eric S. Holmboe, and Richard M. Frankel. 2013. "Evidence-Based Competencies for Improving Communication Skills in Graduate Medical Education: A Review with Suggestions for Implementation." *Medical Teacher*. 35(5):395-403. https://doi.org/10.3109/0142159X.2013.769677. ● Interprofessional Education Collaborative Expert Panel. 2011. "Core Competencies for Interprofessional Collaborative Practice: Report of an Expert Panel." Washington, D.C.:

	Interprofessional Education Collaborative. https://www.aacom.org/docs/default-source/insideome/ccrpt05-10-11.pdf?sfvrsn=77937f97_2. ● Roth, Christine G., Karen W. Eldin, Vijayalakshmi Padmanabhan, and Ellen M. Freidman. 2019. “Twelve Tips for the Introduction of Emotional Intelligence in Medical Education.” *Medical Teacher*. 41(7): 1-4. https://www.tandfonline.com/doi/full/10.1080/0142159X.2018.1481499.

Interpersonal and Communication Skills 3: Communication within Health Care Systems **Overall Intent:** To effectively communicate using a variety of tools and methods	
Milestones	**Examples**
Level 1 *Records accurate information in the patient record* *Identifies the importance of and responds to multiple forms of communication (e.g., in-person, electronic health record (EHR), telephone, email)*	● Corrects progress note after identifying outdated plan ● Promotes limited use of copy/paste/forward and reviews notes to make changes as needed to include the most up-to-date information ● Identifies team, departmental, and institutional communication tools, methods, and hierarchies for patient care needs, concerns, and safety issues
Level 2 *Records accurate and timely information in the patient record* *Selects appropriate method of communication, with prompting*	● Submits PICU transfer note describing events requiring need for higher level of care immediately following hand-off ● Provides organized and accurate documentation that supports the treatment plan and limits extraneous information ● Avoids biased or stigmatized language in notes (e.g., “denies use of marijuana” instead of “doesn’t use marijuana”) ● Calls MRI technician and anesthesiologist after being prompted by attending to schedule a sedated MRI on the weekend instead of placing electronic order
Level 3 *Concisely documents updated, prioritized, diagnostic and therapeutic reasoning in the patient record* *Aligns type of communication with message to be delivered (e.g., direct and indirect) based on urgency and complexity*	● Produces documentation that reflects complex clinical thinking and planning, is concise, and includes an updated problem list, but may not contain contingency planning (i.e., if/then statements) ● When a patient begins to decompensate, immediately calls a rapid response and contacts the supervising attending ● Securely messages patient's cardiologist with non-urgent question rather than paging cardiologist on call
Level 4 *Documents diagnostic and therapeutic reasoning, including anticipatory guidance* *Demonstrates exemplary written and verbal communication*	● Produces documentation that is consistently accurate, organized, and concise; reflects complex clinical reasoning and frequently incorporates contingency planning ● Communicates effectively and proactively with collaborating physicians and teams to prevent communication gaps or miscommunication ● Verbal and written communication of medical decisions relays complete thought process with contingency plans that require minimal additions/edits by faculty members

Level 5 *Models and coaches others in documenting diagnostic and therapeutic reasoning* *Coaches others in written and verbal communication*	● Leads teams by modeling a range of effective tools and methods of communication that fit the context of a broad variety of clinical encounters ● Designs and facilitates the improvement of systems that integrates effective communication among teams, departments, and institutions ● Leads a team to discuss implementation and dissemination of preferred pronouns/names into EHR ● Empowers senior resident to run family-centered rounds by directing questions to the resident, repositioning self in the room, and using non-verbal cues; leads a workshop for residents on best documentation practices
Assessment Models or Tools	● Direct observation ● Medical record (chart) audit ● Multisource feedback ● Simulation
Curriculum Mapping	●
Notes or Resources	● The American Board of Pediatrics. “Entrustable Professional Activities for General Pediatrics.” https://www.abp.org/entrustable-professional-activities-epas. Accessed 2020. ● Bierman, Jennifer A., Kathryn Kinner Hufmeyer, David T. Liss, A. Charlotta Weaver, and Heather L. Heiman. 2017. “Promoting Responsible Electronic Documentation: Validity Evidence for a Checklist to Assess Progress Notes in the Electronic Health Record.” *Teaching and Learning in Medicine.* 29(4): 420-432. https://doi.org/10.1080/10401334.2017.1303385. ● Haig, Kathleen M., Staci Sutton, and John Whittington. 2006. “SBAR: A Shared Mental Model for Improving Communications Between Clinicians.” *Joint Commission Journal on Quality and Patient Safety*. 32(3):167-75. https://doi.org/10.1016/s1553-7250(06)32022-3. ● Starmer, Amy J., Nancy D. Spector, Rajendu Srivastava, April D. Allen, Christopher P. Landrigan, Theodore Sectish, and I-PASS Study Group. 2012. “I-Pass, a Mnemonic to Standardize Verbal Handoffs.” *Pediatrics* 129.2:201-204. https://doi.org/10.1542/peds.2011-2966.

To help programs transition to the new version of the Milestones, the ACGME has mapped the original Milestones 1.0 to the new Milestones 2.0. Indicated below are the subcompetencies that are similar between versions. These are not exact matches, but are areas that include similar elements. Not all subcompetencies map between versions. Inclusion or exclusion of any subcompetency does not change the educational value or impact on curriculum or assessment.

Milestones 1.0	Milestones 2.0
PC1: Provide transfer of care that ensures seamless transitions	SBP4: System Navigation for Patient-Centered Care – Transitions in Care
PC2: Make informed diagnostic and therapeutic decisions that result in optimal clinical judgement	PC1: Clinical Reasoning MK1: Diagnostic Evaluation
PC3: Develop and carry out management plans	PC2: Collaborative Patient Management ICS1: Patient- and Family-Centered Communication
PC4: Provide appropriate role modeling	PC3: Provision of Appropriate Supervision PBLI2: Reflective Practice and Commitment to Personal Growth
MK1: Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems	MK2: Scholarly Activity PBLI1: Evidence Based and Informed Practice
SBP1: Work effectively in various health care delivery settings and systems relevant to their clinical specialty	SBP3: System Navigation for Patient Cantered Care – Coordination of Care SBP7: Physician Role in Health Care Systems
SBP2: Coordinate patient care within the health care system relevant to their clinical specialty	SBP3: System Navigation for Patient Centered Care – Coordination of Care SBP4: System Navigation for Patient-Centered Care – Transitions in Care SBP5: Systems Navigation: Organization and Prioritization of Patient Care Across Systems of Care SBP6: Population and Community Health ICS1: Patient- and Family-Centered Communications ICS2: Interprofessional and Team Communication
SBP3: Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate	SBP6: Population and Community Health SBP7: Physician Role in Health Care Systems
SBP4: Work in inter-professional teams to enhance patient safety and improve patient care quality	SBP1: Patient Safety ICS2: Interprofessional and Team Communication
SBP5: Participate in identifying system errors and implementing potential systems solutions	SBP1: Patient Safety SBP2: Quality Improvement

PBLI1: Identifying strengths, deficiencies, and limits to one's knowledge and expertise	PBLI1: Evidence Based and Informed Practice PBLI2: Reflective Practice and Commitment to Personal Growth
PBLI2: Systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement	SBP2: Quality Improvement PBLI2: Reflective Practice and Commitment to Personal Growth
PBLI3: Use information technology to optimize learning and care delivery	PBLI1: Evidence Based and Informed Practice PBLI2: Reflective Practice and Commitment to Personal Growth ICS3: Communication within Health Care Systems
PBLI4: Participate in the education of patients, families, students, residents, fellows, and other health professionals	SBP6: Population and Community Health PBLI1: Evidence Based and Informed Practice ICS1: Patient- and Family-Centered Communications
PROF1: Professional Conduct: High standards of ethical behavior which includes maintaining appropriate professional boundaries	PROF1: Professional Behavior PROF2: Ethical Principles
PROF2: Trustworthiness that makes colleagues feel secure when one is responsible for the care of patients	PBLI1: Evidence Based and Informed Practice PROF1: Professional Behavior PROF3: Accountability/Conscientiousness ICS1: Patient- and Family-Centered Communications
PROF3: Provide leadership skills that enhance team functioning, the learning environment, and/or the health care delivery system/environment with the ultimate intent of improving care of patients	ICS2: Interprofessional and Team Communication ICS3: Communication within Health Care Systems PROF2: Ethical Principles PROF3: Accountability/Conscientiousness
PROF4: The capacity to accept that ambiguity is part of clinical medicine and to recognize the need for and to utilize appropriate resources in dealing with uncertainty	PROF2: Ethical Principles ICS1: Patient- and Family-Centered Communication PBLI1: Evidence Based and Informed Practice
	PROF4: Well-Being
ICS1: Communicate effectively with physicians, other health professionals, and health-related agencies	ICS2: Interprofessional and Team Communication ICS3: Communication within Health Care Systems
ICS2: Work effectively as a member or leader of a health care team or other professional group	ICS2: Interprofessional and Team Communication PBLI2: Reflective Practice and Commitment to Personal Growth PROF3: Accountability/Conscientiousness
ICS3: Act in a consultative role to other physicians and health professionals	PC1: Clinical Reasoning ICS2: Interprofessional and Team Communication ICS3: Communication within Health Care Systems

Available Milestones Resources

Milestones 2.0: Assessment, Implementation, and Clinical Competency Committees Supplement, 2021 - *https://meridian.allenpress.com/jgme/issue/13/2s*

Milestones Guidebooks: https://www.acgme.org/milestones/resources/

- *Assessment Guidebook*
- *Clinical Competency Committee Guidebook*
- *Clinical Competency Committee Guidebook Executive Summaries*
- *Implementation Guidebook*
- *Milestones Guidebook*

Milestones Guidebook for Residents and Fellows: https://www.acgme.org/residents-and-fellows/the-acgme-for-residents-and-fellows/

- Milestones Guidebook for Residents and Fellows
- Milestones Guidebook for Residents and Fellows Presentation
- Milestones 2.0 Guide Sheet for Residents and Fellows

Milestones Research and Reports: https://www.acgme.org/milestones/research/

- *Milestones National Report*, updated each fall
- *Milestones Predictive Probability Report,* updated each fall
- *Milestones Bibliography*, updated twice each year

Developing Faculty Competencies in Assessment courses - https://www.acgme.org/meetings-and-educational-activities/courses-and-workshops/developing-faculty-competencies-in-assessment/

Assessment Tool: Direct Observation of Clinical Care (DOCC) - https://dl.acgme.org/pages/assessment

Assessment Tool: Teamwork Effectiveness Assessment Module (TEAM) - https://team.acgme.org/

Improving Assessment Using Direct Observation Toolkit - https://dl.acgme.org/pages/acgme-faculty-development-toolkit-improving-assessment-using-direct-observation

Remediation Toolkit - https://dl.acgme.org/courses/acgme-remediation-toolkit

Learn at ACGME has several courses on Assessment and Milestones - https://dl.acgme.org/