ABOUT THIS TOOLKIT

The pursuit of excellence in ambulatory patient care and the pursuit of excellence in resident education in ambulatory medicine are mutually dependent objectives. Neither can be fully realized without addressing the other. Numerous factors have made improvement in care processes and resident education in hospital-operated teaching clinics a strategic and operational imperative. In response, the Greater New York Hospital Association (GNYHA) launched a multi-year project to address the challenges New York’s hospital-sponsored and hospital-affiliated teaching clinics face in improving the delivery of primary care.

One result of this effort was the recognition that teaching hospital leadership, ambulatory care directors and staff, ambulatory faculty, and residency program directors needed informational resources that could 1) stimulate thinking about innovative care delivery models and resident education in hospital-operated and hospital-affiliated teaching clinics, and 2) serve as a catalyst for efforts to pursue the simultaneous redesign of patient care processes and resident education in these sites. This “toolkit” is intended to be a resource for all parties with a passion for and commitment to improving patient care and resident education in these ambulatory teaching settings.

The information provided is not medical advice and should not be relied upon as such, nor should the information be used as a substitute for clinical or medical judgment.
# TABLE OF CONTENTS

3  INTRODUCTION  

5  SETTING THE STAGE  

9  ESTABLISHING AN INSTITUTIONAL FRAMEWORK FOR IMPROVEMENT  

13  MODULE 1: Redefining the Care Team to Improve Patient Care and Optimize the Residents’ Learning Experiences  

21  MODULE 2: Improving Communication  

29  MODULE 3: Coordinating Care  

35  MODULE 4: An Introduction to Patient Empanelment Principles, Methods, and Tools  

45  MODULE 5: Using Technology to Support Patient-Centered Care  

49  MODULE 6: Resident Scheduling  

57  MODULE 7: Ambulatory Medicine Education  

65  MODULE 8: Measuring Performance Improvement for Sustainability  

77  GLOSSARY, REFERENCES & RESOURCES  

91  APPENDICES: Tools and Resources
INTRODUCTION

While hospitals are generally thought of as providers of tertiary care and other inpatient services, many also provide a variety of outpatient and ambulatory services. Hospitals in New York are no exception. In 2010, the most recent year for which data was available, New York’s hospital-sponsored clinics provided 14.4 million primary care visits. Of the primary care services provided at hospital clinics, 40% were to Medicaid patients; 13% were to those who did not have health insurance or self-paid; 21% were provided to individuals with Medicare; and 24% were for the commercially insured. Many clinic patients are treated for multiple chronic conditions and deal with complicated socioeconomic factors, making their care that much more challenging for the clinic staff.

In addition to this care delivery challenge, many of New York’s hospital-sponsored clinics also serve as training sites for medical residents. New York teaching hospitals train more than 17,000 residents each year, and the Accreditation Council for Graduate Medical Education and other accrediting organizations require that a significant portion of the training these residents receive occur in ambulatory settings. For example, teaching institutions must ensure that each general internal medicine resident spends at least one-third of his or her training time in ambulatory settings. The challenge of delivering high-quality care to a complex patient population while addressing the educational needs of doctors in training is the driving force behind this toolkit’s development.

One of the toolkit’s recurring themes is the importance of “the team,” and its development is a perfect illustration of that very concept. Two GNYHA project managers, Anu Ashok and Shawna Trager, led this toolkit’s development and oversaw the activity of our workgroups (see following page). We were also fortunate to have had three outstanding consultants, Joslyn Levy and Rachel Sacks, both of Joslyn Levy & Associates, and Alan Burgener. Their participation, guidance, and insights were invaluable to keeping us on track to complete the toolkit.

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The aging of the American population and the increase in the incidence of chronic disease has placed a renewed focus on access to optimal primary care services that provide high-functioning coordination and continuity of patient care. New York’s health care delivery system, like others across the United States, is in the midst of a major transition as it seeks to shift from a system defined by episodic patient care services to one of population health management. To support this effort, the New York State Department of Health (DOH) has undertaken major initiatives to address the needs of the underserved and those with multiple chronic illnesses, while also making significant investments to develop the State’s health information technology infrastructure. New York’s extensive hospital system, an essential player in the State’s primary care delivery system, is undergoing major restructuring as it adapts to this larger change.

As the delivery, financing, and overall approach of the health care system shifts, resident education is undergoing its own major transformation. The Medicare Payment Advisory Commission (MedPAC) has drawn attention to the need for the medical education community to adapt more rapidly to the public’s changing needs, and shift resident education toward more team-based care that takes advantage of all the changes occurring in the health care system. To build on these calls for action, in February 2012 the Accreditation Council for Graduate Medical Education (ACGME) announced the Next Accreditation System (NAS), which represents its effort to transform the graduate medical education (GME) accreditation process by emphasizing measurable educational outcomes, as opposed to the current accreditation model, which is largely built around certain prescribed structures, processes, and resources.

INITIATIVES TO ENCOURAGE CHANGES IN PHYSICIAN EDUCATION AND TRAINING

In June 2010, MedPAC issued its Report to the Congress and made significant recommendations regarding Medicare’s support for GME. Noting that the Medicare program provided $9.5 billion in support to teaching hospitals in 2009, MedPAC recommended that Congress use the leverage of Medicare GME support to spur changes in the medical education system. Its major recommendation was that Congress should authorize the Centers for Medicare & Medicaid Services (CMS) to establish standards that would “specify ambitious goals for practice-based learning and improvement, interpersonal and communication skills, professionalism, and system-based practice, including integration of community-based care with hospital care.”

Within the report, MedPAC highlighted the ACGME’s standards and called for more focus on those that encourage training in team-based care and quality and patient safety. Under the MedPAC recommendation, Medicare GME funding levels for each teaching institution would be tied in part to meeting these and other standards. Although Congress has not passed the recommendation, a number of legislators have expressed interest in using this mechanism to encourage change to the GME system.

ACGME’s NAS and Milestones

NAS, which will be phased in beginning in July 2013, will mandate that training and evaluating medical residents be based on educational milestones. Measuring resident learning and resident program performance through this milestone process will cover training provided in inpatient and outpatient settings. Although milestone implementation details are largely being left to the discretion of individual teaching institution officials, a number of important concepts will inform the medical community’s common efforts. Because training programs will be asked to craft implementation strategies best suited to their local needs, it is incumbent upon clinic and residency leadership to understand the rationale for competency-based education through milestones and NAS’ basic elements.

NAS represents the extension of the ACGME’s multi-year outcomes project that established the six basic domains of clinical competency. In the words of Dr. Thomas Nasca, the ACGME’s Chief Executive Officer, “The aims of the NAS are threefold: to enhance the ability of the peer-review system to prepare physicians for practice in the 21st...
century, to accelerate the ACGME’s movement toward accreditation on the basis of educational outcomes, and to reduce the burden associated with the current structure and process-based approach.”

The milestones are “developmentally based, specialty specific achievements that residents are expected to demonstrate at established intervals as they progress through training.” Milestones specific to internal medicine were published in 2009 by a task force jointly established by the ACGME and American Board of Internal Medicine. NAS details (including core competency–specific milestones) are available at http://www.acgme-nas.org/; see also: http://www.im.org/AcademicAffairs/milestones/Pages/default.aspx.

INITIATIVES TO ENCOURAGE CHANGES IN PATIENT CARE DELIVERY

As patient care services move out of inpatient settings, New York State’s hospital system and its leaders are being challenged to reconfigure service delivery models toward a more preventive and population-based approach. This shift is being driven by the development of treatment options that allow patients to be discharged from the hospital after a relatively short stay or cared for entirely on an outpatient basis. The Federal government and New York State seek to support this transformation as a way to promote health, improve quality, and potentially reduce costs. What follows are just a few of the Federal and State initiatives currently underway in New York that are transforming the hospital system and challenging traditional approaches to care.

PCMH Medicaid Incentive Program

New York’s 2009 State Budget Agreement included a special program to spur the development of patient-centered medical homes (PCMHs) and encourage primary care settings to achieve PCMH recognition from the National Committee for Quality Assurance (NCQA). According to NCQA, a PCMH is “a health care setting that facilitates partnerships between individual patients, and their personal physicians, and when appropriate, the patient’s family,” and is characterized by the use of “registries, information technology, health information exchange and other means to assure that patients get the indicated care when and where they need and want it in a culturally and linguistically appropriate manner.”

As of July 2010, New York’s Medicaid program provides incentive payments to office-based practitioners and institutional providers, including hospitals, to become recognized PCMHs. Under the incentive program, a primary care clinic or practice recognized as a PCMH receives a higher level of reimbursement (anywhere from $5.50 to $21.25 extra per claim) for each visit provided to a Medicaid beneficiary who receives fee-for-service benefits or benefits through enrolling in a managed care plan. Under the 2011 State Budget Agreement, the incentive payments now apply to children’s visits under the Child Health Plus program.

Hospital-Medical Home Demonstration Program

In 2011 CMS approved a request from DOH to invest up to $250 million to conduct the Hospital-Medical Home (H-MH) Demonstration Program. DOH will award funds to teaching hospitals that wish to transform ambulatory sites to benefit both the residents training and the patients being served in those sites. Eligible settings include hospital outpatient departments, freestanding ambulatory care facilities, diagnostic and treatment centers, federally qualified health centers, clinics, or private practices that provide health care services to Medicaid beneficiaries.

The H-MH program’s principal requirement is that hospitals expand, enhance, or otherwise extend their continuity training sites for primary care residents and achieve NCQA’s Level 2 or 3 PCMH recognition (under its 2011 standards) at those sites. The 2011 standards expanded upon earlier NCQA standards and are more closely aligned with specific elements of the “meaningful use” requirements CMS established to reward providers for effectively using health information technology. Hospitals must also initiate changes that improve the level of integrated, coordinated, and culturally appropriate care in the participating outpatient settings, and implement inpatient safety improvements.

Medicaid Health Home Program

While New York State has been active in developing PCMHs, it has also embraced a major Federal incentive
program that encourages coordinated care for patients most in need. The Affordable Care Act (ACA) includes a provision in Section 2703 to encourage state Medicaid programs to develop a special “health home” initiative to coordinate care for Medicaid beneficiaries with multiple chronic conditions. In paying at least half of each state’s Medicaid costs, it is in the Federal government’s interest to find a solution to the soaring costs for caring for this population. Under the ACA’s state Medicaid health home program, 90% of the cost of the extra care coordination services would be paid by the Federal government.

Health homes are intended to support comprehensive medical and behavioral health care to patients through care coordination and integration that ensures access to appropriate services, improves health outcomes, reduces preventable hospitalizations and emergency room visits, promotes health information technology use, and avoids unnecessary care. While PCMH development focuses on optimizing the primary care setting to benefit all patients using that setting, health home development focuses on coordinating a set of services for a defined population most in need of them. DOH has designated 34 health homes in different regions (13 in Phase I and 21 in Phase II) to develop this coordinated group of services to treat this vulnerable population. For more information on health homes, please visit the DOH Web site: http://www.health.ny.gov/health_care/medicaid/program/medicaid_health_homes/prov_lead_designated_health_homes.htm.

GOAL OF THIS TOOLKIT

The interplay among these major restructuring projects forms the context for the issues addressed in this toolkit, which GNYHA developed as a resource for its member teaching hospitals as they embark upon these changes. While many of the toolkit’s recommendations are geared towards internal medicine residency programs and clinics, the concepts and considerations are equally applicable to other primary care specialties, such as family medicine and pediatrics. GNYHA has performed extensive research to compile the resources included herein and stands ready to help the leaders of our teaching hospitals and residency programs implement the changes to support this important transformation.
Simultaneously improving patient care processes and resident education in hospital-sponsored teaching clinics is a complex undertaking requiring stakeholders at all levels—institutional, residency program, and clinic management—to support the redesign effort while recognizing the interrelated nature and mutual dependency of patient care and education in these settings. While each hospital, health system, and clinic is unique and available resources may vary widely, a systematic and disciplined approach to pursuing improvement and managing change can be beneficial in any environment.

When beginning to think about redesign, there are important considerations for high-level system change and ground-level team development. The following can serve as a guide to promote communication, collaboration, and accountability in pursuing clinical and educational improvement and excellence in ambulatory medicine.

**HIGH-LEVEL INFRASTRUCTURE DEVELOPMENT**

- **Develop a collaborative framework.** Because patient care and resident education are inter-dependent activities within teaching clinics, any changes in patient care processes will affect resident education and vice versa. When working to make positive changes in patient care and resident education, it is essential that the clinic manager and residency program director work together and align their efforts. Active collaboration between these two individuals begins with agreeing on the ambulatory site’s mission. Next, it is important to agree on the desired changes and how to manage the change process, as agreement will greatly contribute to the project’s success. When the improvement effort is driven from the bottom up, the clinic manager and residency program director should strive to be inseparable partners and joint advocates for the desired changes.

- **Conduct a self-assessment.** Once a collaborative working relationship has been forged between the clinical and educational leadership, these individuals should next assess the strengths, weaknesses, and opportunities for improving teaching clinic operations and/or resident education. This self-assessment can range from the relatively informal (perceptions and anecdotes) to the highly structured (based on surveying, data collection, external benchmarking, “SWOT” [strengths, weaknesses, opportunities, threats] analyses, etc.). There is no single “standard approach” to conducting an initial assessment, but it is important that the results 1) be reasonable and defensible, and 2) take into account the history, culture, working environment, and practical realities of the hospital, health system, and clinic in question.

- **Define the vision, goals, and strategies.** Based on the self-assessment results and assuming there is a shared commitment to move forward, it can be helpful to develop a “vision statement” (usually a one-sentence statement that reflects the improvement effort’s intended end-point) as a means of sharing the intended direction with all affected staff in the clinic, within the residency program, and within the broader institution. Clinical and educational leadership should also collaborate in identifying and prioritizing the goals, strategies, and specific operational initiatives (tactics) that will be used to pursue the vision.

- **Secure institutional support.** In many hospitals, ambulatory clinic operations and residency program oversight follow separate reporting hier-

*See Editorial Note, page 11.*
archies that never come together below the level of the chief executive or chief operating officer. In teaching hospitals with close affiliations with medical schools, ambulatory clinic operations and GME often do not even formally reside within the same organization, with clinic management reporting through the hospital’s patient care structure and GME reporting to an Associate Dean in the medical school’s educational structure. It is also not uncommon for teaching clinics to be “off-campus” or located in a geographic setting separate from the main hospital, leading to an “out-of-sight, out-of-mind” relationship with senior hospital management. After agreeing on the importance of launching an improvement effort, defining a vision, and supporting strategies for the effort, clinical site and residency program leadership should approach their senior leaders and seek top-level institutional support. This provides an opportunity to 1) educate senior leadership about the importance of enhanced teaching clinic operations; 2) outline the projected benefits of operational improvement to the larger hospital, health system, and residency program; 3) link the improvement to the State and Federal redesign initiatives such as receiving PCMH recognition; and 4) identify potential resource implications of the planned changes. The desired outcome is to secure senior leadership’s informed support, and (if needed) potential funding for the improvement effort.

GROUND-LEVEL TEAM DEVELOPMENT

- Establish a clinic Performance Improvement Team. Once a consensus plan has been developed and received institution support, it is important to expand the group of engaged and committed stakeholders from clinic operations and GME. Creating a Performance Improvement Team can be an excellent vehicle to build understanding and support for the overall effort, as well as for coordinating and carrying out ongoing work. The Performance Improvement Team could be co-chaired by leadership from the clinical arena and the educational program to better reflect the collaborative nature of the work being undertaken. The Performance Improvement Team should be small enough (6–10 members) to be efficient and task-oriented, with membership representing key stakeholders and optimally balanced between clinic operations and GME.

- Formulate a charge to the Performance Improvement Team To focus the Performance Improvement Team’s work, promote accountability, and lend stature and credibility to the effort, it is necessary to define the Team’s aim (or charge). The scope of the efforts, and what lies outside the project scope, should be defined and explicit. The Team’s goal(s) and the reasoning behind the charge should be clear to everyone involved, supported by senior leadership, and aligned with the organization’s mission.

- Develop a Charter or Action Plan. Charters are summary documents that should be developed for each quality improvement team and guide their purpose, efforts, and outcomes. A charter describes:
  - specific and action-oriented outcomes;
  - resources that are assumed and required for the initiative;
  - target completion dates, with accountable personnel assigned;
  - key stakeholders;
  - senior and project leadership; and
  - defined outcome measures.

Some charters also include potential barriers and challenges identified at the outset and countermeasures to meet them. The charter serves as an “action plan” and ongoing roadmap for the improvement effort, keeps everyone on the same page, promotes accountability, and provides a means of assessing progress and communicating the status of the effort to others outside the team. It should be explicit in describing the project’s scope and completion criteria.

- Meet regularly to ensure follow-through and coordination. The Performance Improvement
Team should meet weekly or every other week to accomplish the charter’s defined goals. Regular meetings ensure that timelines are respected, communication and coordination across all stakeholders is optimized, and conflicting objectives or other barriers to progress are identified and addressed as early in the process as possible.

The Performance Improvement Team process should become part of all improvement efforts. When a project has been completed, the team should create a new charter that focuses their efforts towards another area.

Improvement work can be challenging if it has not been done before. Ensuring that all team members are growing in the process and learning how to improve the system together is paramount to sustainability and continued success.

**Editorial note:** The precise titles of the clinic and residency program leaders may vary considerably across settings. Throughout this toolkit, GNYHA uses the terms “clinic manager” and “residency program director” to describe the individuals with primary responsibility for clinic operations and resident education, respectively. It may be that the key individuals who must collaborate with one another are actually a clinic medical director and a residency program site director, or individuals with entirely different titles. The important point is that the multiple responsible parties who oversee patient care and resident education in the teaching clinic—such as clinic site managers, educational leaders, and senior administrators—must work closely to form a united leadership team.
MODULE 1

Redefining the Care Team to Improve Patient Care and Optimize the Residents’ Learning Experiences
The team care model is a critical vehicle for achieving the six aims articulated in the Institute of Medicine’s (IOM) 2001 *Crossing the Quality Chasm*, a report that lays out a framework founded on ensuring that care is:

- **Safe**: Avoiding harm to patients from the care that is intended to help them.
- **Effective**: Providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding underuse and misuse, respectively).
- **Patient-Centered**: Providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.
- **Timely**: Reducing waits and sometimes harmful delays for both those who receive and give care.
- **Efficient**: Avoiding waste, including waste of equipment, supplies, ideas, and energy.
- **Equitable**: Providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socio-economic status.

Until recently, the care model for achieving these aims has been a 1:1 approach, in which physicians were responsible for the majority of patient care tasks. However, with the current demands on primary care practice, this approach is no longer feasible or effective. Among the issues contributing to the need for a new care delivery paradigm are the increasing number of patients with multiple chronic diseases, the ever-expanding list of primary prevention requirements, increasing productivity demands resulting in very brief physician-patient encounters, growing documentation burden, health information technology changes, and issues pertaining to language and cultural diversity.

Developing strong interdisciplinary clinical care teams that are responsible for the ongoing and comprehensive care of the patient panels assigned to them provides a critical vehicle for achieving the IOM report’s six aims. Interdisciplinary care teams have been shown to contribute to improved patient care and outcomes; easier access to health care; improved health care provider recruitment and retention; enhanced communications among health care providers; more efficient and effective employment of human resources; and improved satisfaction among patients and health care providers.

Shifting from the traditional 1:1 care delivery model toward a team approach is not easy. The challenges of developing care teams with consistent patient panels may be even more pronounced in hospital-sponsored teaching clinics (teaching clinics) due to their complexity. The relationships among the ambulatory care department, hospital administration, clinical departments, and residency program; the schedules and varied roles of attending physicians; the multiple responsibilities and competing priorities for residents; and the intermittent and limited schedules for residents’ primary care clinic rotations are some of the factors that can complicate the care team model’s development.

Despite the challenges, the potential benefits of integrating the team approach and implementing empanelment within the teaching clinic are significant:

- **The team approach improves the patient experience**. Assigning patients to a team encourages them to be connected to the practice site, and not a single provider. In teaching clinics, where residents have time-limited engagements with their patients, strengthening the overall relationship of the patient to the practice site and team is essential to improving continuity of care. Enhancing connectivity may be the key to achieving improvements in clinical outcomes and overall care delivery.

- **The team approach improves the resident learning experience**. The dual goals of excellence in patient care and excellence in resident education depend upon effectively integrating residents into high-functioning care delivery models that embody prevailing best practices in continuity and care coordination. The role of residents in ambulatory medicine is particularly complex and challenging because residents function simultaneously as learners and providers of direct patient care. Incorporating residents into high-functioning teams where they play a clearly defined clinical leadership role results in better clinical experiences.
for residents and may stimulate their interests in pursuing primary care careers. Even if residents are not drawn to primary care, teaching them how to work alongside empowered clinical staff and colleagues is important for anyone in training, regardless of specialty, and allows all staff to understand each other’s role and how it relates to patient care delivery and outcomes.

- The team approach is consistent with the future of education in primary care. The team approach has become the standard ambulatory care delivery model and must be incorporated into residents’ learning experiences to prepare them for the future. Integrating the team approach will put the teaching clinic in step with current ambulatory care trends, ensure the clinic’s ability to meet standards set by The Joint Commission and other oversight organizations, and garner enhanced reimbursement for providing continuous, comprehensive care. It will require a change in curricula to ensure that residents achieve competence on standards, algorithm-based guidelines, and protocol-based areas of medicine.

DEFINING CARE TEAM ROLES AND RESPONSIBILITIES

A care team includes the patient, the patient’s family or caregivers (if available), and all of the clinical staff members who interact with the patient, including—at a minimum—residents, attending physicians, nurses, medical assistants, and other clinical support staff. Depending on how the teaching clinic is organized, nurse practitioners, physician assistants, nutritionists, social workers, physical therapists, psychologists and other specialized staff may be included on the care team. Practices often include people who interact with patients most regularly, such as administrative staff and even security guards.

Each care team member should have a clearly defined role, with specific responsibilities assigned to him or her. These responsibilities include tasks and activities related to the fundamental elements of patient care as outlined below:

- **Patient Health Assessment**
  - Performing physical assessment (vital signs, physical exam, on-site lab studies)
  - Reconciling medication
  - Reviewing results from lab tests, radiology, other studies, specialty consults, etc.
  - Diagnosing the patient’s condition
  - Discussing findings with the patient, family, and other care team members
  - Documenting results in the patient record

- **Treatment**
  - Developing the patient’s care plan
  - Identifying and ordering necessary diagnostic tests
  - Prescribing necessary medications
  - Referring to medical specialists or allied health services, as needed
  - Providing treatment (e.g., monitoring blood pressure or Coumadin)

- **Panel Management**
  - Generating and reviewing reports for all of the team’s empanelled patients
  - Using data to identify patients for follow-up (e.g., calling patients into the clinic for flu shots, contacting diabetic patients who need an annual foot exam)
  - Using data to stratify panels by risk and identify patients who may require higher-intensity care, such as a referral to Medicaid Health Home

- **Patient Education**
  - Teaching newly diagnosed patients about their conditions
  - Providing ongoing contact with patients to field questions and provide information
  - Informing patients about community resources and how to access them

See Appendix B: Sample Team Schematic and Workflow Diagram (used at Montefiore Medical Group)
Self-Management Support
- Setting self-management goals for patients with chronic conditions
- Documenting the goals in the patient’s record
- Following up with patients by phone or e-mail and in subsequent visits to check on their progress; modifying goals as needed

Follow-Up
- Scheduling follow-up visits
- Sending reminders and calling patients about follow-up visits
- Contacting specialists/clinicians to follow up on referrals as needed
- Incorporating follow-up tests and clinical assessments in the patient record

Transitional Management
- Managing transitions of care, medication reconciliation, and post-discharge follow-up
- Ensuring medications are obtained and taken as prescribed
- Monitoring functional status and capacity to ensure safety and optimal outcomes

Socioeconomic Assessment and Support
- Assessing, monitoring, and providing outreach to patients as needed
- Identifying barriers to care and optimizing community resource allocation to patients to promote stronger linkage with health care providers

These responsibilities correspond well with NCQA’s 2011 PCMH standards, which are:
- Enhance Access and Continuity
- Identify and Manage Patient Populations
- Plan and Manage Care
- Provide Self-Care Support and Community Resources
- Track and Coordinate Care
- Measure and Improve Performance

For more information about NCQA’s 2011 standards and the required elements for scoring, please see http://www.ncqa.org/tabid/631/Default.aspx.

Think through the patient care delivery process to identify specific tasks in the teaching clinic and determine the best staff members to fulfill them. The assignment of these various tasks and responsibilities is unique to each setting based on staffing configurations, residency scheduling, and attending roles.

BUILDING EFFECTIVE CARE TEAMS
A first step toward building effective care teams is to assess the current team’s structure and function. Along the spectrum of introducing team care, there are many opportunities to improve. Here are some ways to build and support care teams at a teaching clinic:

- Define your current team’s status and performance. Tuckman defines four stages of team development: Forming, Storming, Norming, and Performing.
  - The “Forming” stage is a group in the infancy of becoming a team. In this stage, people agree on goals and the work necessary to tackle objectives and start to develop relationships with each other, and members begin the work of identifying themselves as part of a “team.”
  - The “Storming” stage is a phase not every team will enter, but is highlighted by identifying the problems that need to be solved, how the team will function, and what leadership methods they will accept. During this stage, the focus is on ensuring that all members are clear on the direction, path, and roadmap so the team can progress to the next stage.
  - The “Norming” stage is defined when the team has one common goal and is able to come to a mutual plan for next steps. Team members have come together to achieve the team’s goals and own responsibility for its actions.

See Appendix C: Sample Patient-Related Tasks and Care Team Assignments (Baystate Medical Center)
The “Performing” stage describes the goal for all highly functioning teams. They work together as a unit and find ways to get the job done smoothly and effectively without overt conflict. Members are knowledgeable and motivated for the team’s benefit. Supervisors participate actively during this phase.

Having a solid grasp on where the team is functioning can help it progress toward the planned outcomes.

Assign responsibilities to staff members in a way that allows them to function at the top of their abilities. The team approach allows physicians to dedicate their time and attention to the responsibilities that most require their expertise—diagnosis and treatment. Other staff members on the care team have the training, or can be trained, to conduct basic assessments and provide routine education and self-management support, and nurses can then be freed up to support patients with complex chronic illnesses and supervise the non-medical members of the care team. For example, by introducing standardized protocols for diabetic foot exams, medical assistants can conduct these tests, nurses can spend more time with patients on self-management support, and physicians can focus on adjusting treatment to optimize patient outcomes.

Communicate the roles and responsibilities to everyone on the team, including the patient and his or her family and caregivers. Team members must have a clear understanding of their roles and responsibilities for the team model to be successful. In addition, patients must understand how the team operates and how they fit into the team model. Module 3 details methods and techniques that will help to clearly communicate with staff.

Designate “go to” people for each patient. Make sure patients can always get in touch with their care team by identifying which care team member is their main contact. Some health centers also identify a second-line contact for each patient. Be sure to identify multiple possible communication channels that patients can use to contact designated team members outside of regular office hours (e.g., cell phone, office phone, and e-mail).

Train and supervise staff. Once the new roles and responsibilities have been introduced to staff, it is important to train them so they may function effectively in their new roles. Training should be ongoing and include interdisciplinary sessions to allow staff to determine how various components of a new process can be divided among the care team members. To support staff learning new skills, and to ensure that new responsibilities become standard practice, multiple short training sessions may be required, followed by competency assessment and close clinical supervision. A formal training and competency assessment process assures all team members that they may comfortably and confidently assign tasks to others.

Allocate protected time for panel review and train teams to use the time effectively. Attending physicians and residents should review patient data with their teams regularly. Panel review allows the team to anticipate upcoming needs, problem-solve, and make sure that each team member knows his or her role in delivering needed patient care. It plays a similar role as inpatient rounds and provides opportunities to identify any patterns suggestive of inequitable care and outcomes the team will want to address. Designating protected administrative time for panel review signals the importance of this process to providers and staff. Ideally, allocate one hour per week to panel review for each team. Refer to Module 4 for more guidance on patient empanelment.

Create resident firms. An effective approach to organizing resident involvement in ambulatory medicine is creating resident “firms.” By organizing residents into small practice groups, resident firms function in much the same way as a small...
medical group, with residents cross-covering for one another to ensure patient care continuity and coordination. A resident firm remains together for at least one year, or for the duration of the residency program, and is aligned with a stable group of faculty preceptors to promote consistent faculty oversight and supervision. Stable resident firms strengthen patient-provider relationships, increase accountability for clinical quality and outcomes, encourage the development of a group practice culture, and allow residents to develop deeper mentoring relationships with the faculty preceptors, who function as integral members of the firm.

- Share lessons learned among teams. What challenges are common to all teams, and what innovative responses to those challenges have been successfully implemented? Identifying team strengths and addressing challenges at the management level is essential to ensuring that the team model works in practice, and sharing team successes will encourage innovation and improvement. Observing team meetings may also help managers identify training and technical assistance needs. Refer to Module 2 for more information on team meetings.
CASE STUDY
Introducing the Team Approach Within a Multi-Site Primary Care Network

**Hospital Name:** Montefiore Medical Center  
**Location:** Bronx, New York  
**Size:** 1,491 beds across four hospitals  
**Clinic Visits:** Approx. 595,000 primary care clinic visits per year  
**Residency Program:** 245 Internal Medicine Residents

**Organization Description**
Montefiore Medical Center, the University Hospital for the Albert Einstein College of Medicine, is an academic medical center and integrated health care delivery system. Montefiore Medical Group (MMG) provides primary and specialty care services at 22 clinic sites throughout the Bronx and Westchester County. www.montefiore.org

**Background**
In 2011, MMG introduced care team redesign as part of a larger commitment to transforming care delivery using the PCMH model. MMG leadership selected two pilot sites for PCMH transformation: Bronx East (BE) and Family Health Center (FHC). These sites were chosen because (1) there was strong interest and support from clinical leadership and the medical directors; (2) both sites were well established with strong operations; and (3) FHC was a teaching site while BE was not, giving MMG two different environments for the pilot.

**Action**
New R.N. care managers were hired to augment the PCMH support teams. These teams (called “pods” at BE) include attendings and residents, social workers, health educators, medical assistants, and clerical staff. The R.N. care manager is responsible for leading the transformation and serves as the integral member of the team as the lead for care transition, coordination, outreach, and education.

Teams at each site started by focusing on adult medicine, specifically diabetes, hypertension, and behavioral health. The R.N. care manager identified gaps in patients’ chronic disease care and filled those gaps by reaching out to the patient and proactively connecting them to the necessary care, education, or medication.

The new staffing model significantly changed how care was delivered at these two sites. Previously, care providers were focused on the patients when they were right in front of them—the acute situation and what they could do “today” to help them. Now the care team is much more focused on taking care of all patients, even those not necessarily right in front of them. The new staffing model, led by the R.N. care manager, is much more proactive and geared to support population health.
**Successes**

MMG has invested significant time in developing and tracking process and outcome measures to drive and evaluate the results of its redesign efforts. Although still in the early stages, MMG has seen some improvement in specific measures at its two pilot sites, most markedly in the diabetes indicators. This is also the area that MMG is the furthest along in tracking, as it uses a diabetes registry to run reports, track patients, and provide proactive outreach to patients who have not followed their care plan. MMG has been tracking A1c, LDL, and BP measures (specifically, the percent of patients with A1c measured within the past six months and the percent of patients within specific A1c, LDL, and BP levels). MMG has seen an improvement of anywhere from one to five percentage points over the past several months in these indicators. There has also been a similar impact on process measures, such as whether the patient received a foot or eye exam. Given the large number of patients in the diabetes registry, even a slight change in percentage points is considered significant.

**Challenges**

MMG encountered a few challenges in implementing its newly designed care team model, the toughest being communicating the change to the staff so the new model was understood on a clinic-wide level. Another challenge was an understanding of all new roles, especially within the context of a pilot (where roles constantly evolve). It was challenging for staff to sort out the core responsibilities of each team member, role boundaries, and accountability. A final challenge was one that occurs when implementing any change: MMG faced some resistance from some staff who were concerned about the role shifts and how they would affect the day-to-day level of their work.

On the data side, while MMG reviews and tracks patient satisfaction surveys, the surveys are aimed at evaluating physician services, and not necessarily the nurse or other care team members. As a result, MMG cannot use hard data to directly tie any variability in patient experience to the changes at the two pilot sites. Anecdotally, however, MMG has noticed an improvement in patient experience and satisfaction.

**Lessons Learned**

The key lessons learned from the two pilot sites are directly tied to the challenges MMG encountered:

- **Communication:** by far the biggest lesson MMG leadership learned is that communication with all staff, and constant reinforcement of new workflows, is key to successful practice change. MMG learned that it is important to carve out dedicated time to this process to explain all aspects of the transformation to every level of staff.

- **Role Definition:** MMG leadership also learned the importance of having a defined role for all levels of staff before putting someone into a new role. Comprehensive clinical, technical, and team skills training is needed to support everyone performing at the top of their license and ensure that new roles are understood.

MMG plans to transform all 22 ambulatory care sites into PCMHs, starting with six ambulatory sites that began transforming in May 2012.
MODULE 2
Improving Communication
Clear and effective communication, the cornerstone of team-based care, is essential to supporting patient care continuity and quality, and for ensuring patient safety. The benefits of a team approach and clear communication among care team members are well demonstrated across health care settings, including emergency rooms, surgical suites, and critical care departments. Team members who work together consistently develop trust and are better equipped to follow routines and approaches that facilitate more efficient and safer ways of delivering care. Effective communication improves the patient experience and the academic experience for residents. Further, in light of recently introduced incentives for practices to attain high patient satisfaction scores, enhancing communication may improve an institution’s financial viability.

A hospital’s ability to impact the information flow depends on setting communication expectations for the residents and clinic staff. Improving communication among care team members and optimizing streams of communication from the care team to their patients and to other professionals is a key component in delivering comprehensive, high-quality care.

Figure 1 is a diagram of the different levels of the patient care system. These levels should be considered when thinking about how to guide assessment and direct intervention for change within a teaching clinic. Understanding how the relationships work both within and among these tiers is an important step to determining appropriate communication methods, context, and frequency.

While as a whole residents may be a stable part of the clinic-based care team, each individual resident, by virtue of his or her educational program’s requirements, will be a part-time clinic provider only periodically assigned to the outpatient setting. In addition, because each year brings the graduation of one group of senior residents and the arrival of a new first-year class, there will always be highly variable levels of knowledge and experience within the overall cadre of residents. Consequently, effective delivery of team-based care requires particular sensitivity to the importance of communication with teaching clinic residents and staff.

**IMPROVING COMMUNICATION WITHIN THE PATIENT CARE SYSTEM**

Improving communication with the patient, staff, clinic, hospital, medical neighborhood, and community are important elements to enhancing communication across the care system. There are several levels of communication to focus on within the patient care system:

- Communication among care team members.
  - The care team can only provide safe, comprehensive, continuous care when its members all have access to the same information. The more
staff roles and responsibilities are clearly defined (as outlined in Module 1), the clearer intra-team communication will be, meaning that each member knows what patient information he or she is responsible for collecting and acting upon. Train staff to ensure uptake of communication protocols and procedures, and to support correct documentation of patient care, etc. For guidance on developing communication training, consult the Institute for Healthcare Communication (http://healthcarecomm.org/) or the American Academy on Communication in Healthcare (http://aachonline.org).

- Communication between the care team and the patients they serve. Once the care team’s internal communications are strengthened, establish procedures to guide appropriate, timely, and clear communications between the team and their patients. Be sure all appropriate permissions have been obtained and the protocols comply with all regulations in the Health Insurance Portability and Accountability Act of 1996 (HIPAAA). Once these elements are in place:
  - Specify communication methods to be used
  - Train team members to document patient interactions in the health record
  - Identify which team member is responsible for communicating with patients about particular procedures, lab results, appointments, and other aspects of care
  - Ask the patient to identify—if he or she desires—family members or caregivers to include in communications, and engage family and caregivers in supporting patients with chronic illnesses
  - Consider how patient portals may be utilized to maximum benefit

- Communication between the care team and other clinical staff. Depending on the teaching clinic’s structure, it may be necessary to develop protocols and structures that the care team may use to communicate with other health professionals within your organization. This is particularly true for practices with on-site specialists and other health professionals (such as social workers, nutritionists, and behavioral health professionals).

- Communication between the care team and the medical neighborhood. Coordinating care between the clinic and other entities in the medical neighborhood—including specialists, laboratories, and pharmacies—can be a challenge. Developing agreements with each specialist and agency the clinic works with is a way of formalizing these relationships and ensuring that each partner in the patient’s care understands its responsibilities to provide information, communicate about patient care needs, and contribute to providing continuous, comprehensive care.

- Communication between the care team and leadership. Information from care team members about best practices and challenges must reach administrative and clinical leadership for the clinical experience to improve. As every clinic is structured differently, each facility should find its own ways of developing communication channels that allow information from the clinic site to reach the Performance Improvement Team referenced in Module 1 and institutional leadership. Consider how to use panel review data, provider reports, The Joint Commission reports, and other mechanisms to support this flow of information from the care team to administrators.

TOOLS AND TECHNIQUES FOR IMPROVING COMMUNICATION

Many tools and techniques exist to improve communication among teams. Some tools outlined below can be used to strengthen communication, and most rely on continuous performance to provide sustainability and ongoing dialogue. Before implementing any new communication tool or method, assess the current status to avoid duplication and instead focus efforts on areas that need strong linkage.

- Protocols and Guidelines. Formal protocols for communication procedures are essential to guide administrative and medical staff in interactions
with each other, patients, administrators, and professionals outside of the clinic. Protocols should be kept in a centralized location that is readily accessible to people on- and off-site. Review existing protocols to assess how well these guidelines address communication, given your clinical site’s current needs.

Communication guidelines pick up where protocols leave off, providing additional information to direct staff through various activities. Guidelines may provide operational checklists or even scripting to steer care team members through implementing care processes.

See Appendix D: Sample Communication Workflow using Example of Abnormal Lab Results (Montefiore Medical Group)

- **Team Meetings.** Module 1 discussed the importance of allocating administrative time for teams to review their panel. To ensure that this time is well used, establish a clear process for reviewing patient information that addresses essential patient needs and make sure all care team members contribute to the discussion. Often, non-clinical staff members have access to vital patient information that providers do not. For instance, patients and their families may tell things to the receptionist that they aren’t comfortable sharing with the physician. Non-clinical staff should be encouraged to participate in these team meetings, and providers should be urged to welcome the input of others.

- **Weekly Team Meetings.** In weekly team meetings the care team can discuss operational and patient issues in a more extensive, structured format. Effective weekly team meetings have a structured agenda or a general list of topics, and a wide variety of clinic staff—including medical students, residents, nurses, pharmacists, and social workers—attend them. The meetings can also be an opportunity to discuss performance reports (both individual and clinic-based) to allow the various members to compare outcomes on data metrics with themselves and their peers. Other topics might include technical issues in the electronic medical record and changes in finance and billing practices. Weekly meetings can also serve as quality improvement exercises to help address operational issues in the clinic. A key to successful weekly meetings is to avoid canceling, moving, or rescheduling them. When consistent and regular, they can provide clinic staff with a sense of cohesiveness and general sense that the care they are providing is patient-centered and continuously improving.

- **Huddles.** Quick, informal team briefings can take place anywhere, at any time, to enhance communication with residents and among the entire team. Huddles should not take more than five to 10 minutes, and can take place whenever and wherever a quick team consult is required. An effective way of using huddles is in the morning, before the workday begins. The morning huddle can be seen as a daily care team briefing during which the team reviews the day’s schedule, informs one another of floating or covering staff, addresses specific issues or questions related to patient care plans, and reinforces each team member’s roles and responsibilities. The morning huddle also provides an opportunity for faculty preceptors to reiterate the approach to resident supervision.

- **Ambulatory Medicine Rounds.** Just as inpatient rounds ensure that all inpatient care team members are informed and aligned in their thinking about patient care, ambulatory medicine rounds allow the clinical team to confer and review outpatient care. These rounds typically include multiple team members and are usually a 45- to 60-minute chart review at the end of the clinic day that focuses on selected complex or educationally valuable cases. Introducing ambulatory medicine rounds helps make the residents and the resident education process integral to the care team while enhancing communication, building team relationships, and fostering clarity about practice expectations in the clinic.
Faculty-Resident Meetings. Faculty preceptors should meet with each resident assigned to them at either the beginning of a block rotation or when a resident is first assigned to the clinic. These face-to-face conversations help the preceptor review resident learning objectives, set expectations, and identify supervision procedures. The preceptor may also use this time to describe the care team model, explain the resident’s role on the team, and respond to residents’ questions and concerns. Faculty preceptors in the clinic setting often change according to the schedule. In these instances it is crucial to have an assigned clinic director that serves as a point person for the residents and fulfills the role of a consistent preceptor.

Electronic Health Records (EHRs). Most practices have, or will soon introduce, EHRs. A key advantage of EHRs is that they facilitate clear and consistent information sharing among clinicians and staff. When documentation procedures are clearly delineated, EHRs allow all care team members, and any other providers with access to the record, to easily view the results of previous patient visits and build on conversations with that patient that other care team members began. Many EHRs also support messaging among team members and task assignments that can facilitate intra-practice communication quickly and in a more streamlined fashion than many other methods. In addition, the transparency EHRs bring is a true benefit to stronger communication. Refer to Module 5 for more information on the role of technology in care coordination.

Remote Communication. Establishing guidelines and expectations for how and when clinicians and other team members should communicate by e-mail, telephone, and mail is a key element in developing a comprehensive communication plan. Guidelines should include communication among clinicians, between clinicians and patients, and between clinicians and specialists or off-site providers. These guidelines should include a process for residents to communicate remotely with the clinic, particularly since they are the most likely to be away from the site. Be sure to consider HIPAA regulations and privacy concerns when developing these procedures, and pair new guidelines with staff training to ensure rapid uptake.

Make sure to consider all steps in each communication process. For instance, guidelines for calling patients back for follow-up visits need to incorporate communication between the clinicians and front desk staff (e.g., request to the front desk staff by e-mail, with receipt to be confirmed by the front desk staff), and between the front desk staff and the patient (e.g., three attempts by phone, follow-up by mail). As these guidelines are established, try to build in mechanisms for alerting the team when the process breaks down.
Introduce the huddle concept to the team during a standing team meeting. Explain that huddles are a tool for improving continuity of care, and that they enable the team to frequently communicate about patient care.

Agree on the time and place that regular huddles will occur. Bring the team together in the place that is most convenient for team members with the least time available for meetings.

Huddle frequently (as often as daily or more) to discuss patient care.

Have a clear set of objectives for every huddle. Identify which patients are to be discussed during that particular huddle.

Limit huddles to 10 minutes or less. Within this timeframe, the team should review the huddle’s objectives, identify patients’ progress since their last visit, act on new information, and plan next steps.

Adapted from the Institute for Healthcare Improvement’s “Directions for Huddles.”
CASE STUDY
Implementing Team Huddles

Hospital Name: Metropolitan Hospital Center
Location: New York, New York
Size: 341 beds
Clinic Visits: Approx. 248,000 primary care clinic visits per year
Residency Program: 66 Internal Medicine Residents

Organization Description
Metropolitan Hospital Center is a full-service, acute-care community hospital and is part of the New York City Health and Hospitals Corporation (HHC), the largest municipal health care organization in the country. Metropolitan Hospital Center is affiliated with New York Medical College. www.nyc.gov/html/hhc/mhc/html/home/home.shtml

Background
Metropolitan added daily huddles into its clinic workflow processes to provide all clinic team members with an improved mechanism to communicate operational matters. The care teams discussed operational issues such as patient flow process, scheduling, and registration.

Action
This year, Metropolitan changed the structure of its daily huddle to be team specific—composed of an attending physician, three or four residents, a registered or licensed practical nurse, patient care associate or medical assistant, and clerical staff. In the new system, huddles are centered on specific patients and the challenges associated with their care, since now every team that participates in the huddle will have the same panel of patients.

The clinic itself is divided into two separate areas, so the care teams meet in each respective area simultaneously to discuss specific patients from their panel who are coming in that day. The full interdisciplinary team gathers for five minutes at 8:55 a.m. and 1:25 p.m., right before the morning and afternoon clinic sessions begin. The attending physician assigned to the morning or afternoon shift leads the huddle discussion. The topics typically include operational items such as patient registration, and clinical issues such as a patient on the schedule who is having difficulty with a specific clinical, lifestyle, or compliance issue.

Success
As a result of these regular team activities, Metropolitan has seen communication improve among clinic staff at their clinic, which has led to more effective management of both patient-specific and operational issues. This has been particularly helpful in implementing major operational changes in the clinic.
Challenges
A challenge for Metropolitan in implementing this daily huddle model, as with any significant change, is adjusting to a change in culture and communicating to the staff the value added by changing the structure of the huddle to be team specific.

Lessons Learned
Metropolitan learned that it is important that the chosen team leader, in this case the attending physician, is able to address all clinical and administrative concerns during a huddle. However, it is also essential that all care team members (resident physicians, nurses, medical assistant, and clerical associate) participate in the huddles to have a smooth flow of communication each day, especially to disseminate pertinent patient care data.
MODULE 3
Coordinating Care
As patients present with increasingly complex chronic conditions, primary care assumes more responsibility for care coordination. Providing effective care coordination requires a whole-patient orientation to care that is fundamentally based on a trusting relationship between a patient and his or her care team and that effectively uses data and health information technology (HIT). Aspects of care coordination include developing relationships and agreements with key providers and agencies, establishing feedback loops to ensure that patient information is transmitted and acted upon in a timely, appropriate manner, and maintaining ongoing and clear communication with patients and their family and caregivers. In hospital-sponsored teaching clinics, successful team care coordination also includes incorporating the logistics of resident education.

**STEPS TO MAXIMIZE CARE COORDINATION IN AN AMBULATORY SETTING**

- Determine which patient groups would benefit most from care coordination. Use panel data and registries to determine where finite staff resources should be concentrated.
- Identify the top three diagnoses among patients in the teaching clinic and focus efforts on patients with those diagnoses.
- Stratify patients according to intensity of clinical needs and develop patient lists for care coordinators to follow up. More information about developing and managing patient panels is in Module 4.
- Map out the care continuum. Define necessary components of care for the patient groups identified, and then provide guidance for ensuring that all necessary care is delivered effectively and efficiently. Be as explicit as possible.
- Identify the primary and secondary person(s) responsible for each step in all processes of care.
- Define the rollout and timing of each step.
- Identify the communication mechanisms necessary to properly obtain and pass along clinical information.

- Assess care coordination practices and identify points in the care continuum where coordination is most likely to break down. Care coordination challenges will likely emerge when communication protocols are absent or not followed, and when roles and responsibilities are unclear. Work with the care team to develop a comprehensive picture of which care coordination aspects are working well and which are the most challenging.

- Within the Clinic. Identify potential trouble spots and institute protocols and procedures to improve coordination of care across the care team in your teaching clinic. Examples of trouble spots are hand-offs from the provider to the nurse for basic diabetes education, and hand-offs from the nurse to the on-site dietician for intensive nutrition counseling.

- Between the Clinic and Other Providers and Agencies. Examine processes for referring patients to consulting specialists and services such as physical therapy, radiology, labs, or diabetic supply companies. Again, identify potential trouble spots and work with the receiving providers and services to develop protocols and procedures.

- Review job descriptions for all staff and update them as necessary to reflect care coordination responsibilities. Clear job descriptions are essential to facilitating care coordination. Ensure that the clinic manager and residency program director review staff job descriptions and contribute to updating them. This review will facilitate a discussion of residents’ roles on the care team and
Definitions of care coordination and care management differ significantly throughout the health care system. In this toolkit, we use the Commonwealth Fund’s (www.commonwealthfund.org) definition of care coordination: the deliberate organization of patient care activities between two or more participants involved in a patient’s care to facilitate the appropriate delivery of non-duplicative, cost-effective health care services.

Care coordination encompasses administrative tasks such as facilitating referrals, clinical activities such as patient education, and navigator functions to help patients manage the logistics of moving through the medical neighborhood and health care system at large. To fulfill these care coordination responsibilities, all providers working with a particular patient must share important clinical information effectively and efficiently with each other and with the patient and family or caregivers; ensure that patient preferences are understood and respected; have clear expectations about their roles vis-à-vis the patient and the other care team members; and ensure that effective referrals and transitions take place.

Care management, on the other hand, indicates a more intensive level of service provided by nurses or other highly trained health care staff. The Center for Health Care Strategies (www.chcs.org) defines care management as a model of service provision that applies systems, science, incentives, and information to improve health care practice and assist patients and their families and caregivers to become engaged in a collaborative process designed to manage medical, social, and mental health conditions more effectively. Although all patients will benefit from strong care management, it focuses on high-risk, high-need patients.

Care coordination and care management represent services across a spectrum, and the distinction between the two may blur at times. Care coordination applies to all patients, whereas care management is generally reserved for patients with specialized clinical and psychosocial needs. Therefore, all clinical sites need some facility with care coordination, as well as basic skills in some care management fundamentals, such as patient stratification by clinical care needs.

This module focuses on care coordination as a first step toward improving continuity of care in teaching clinics. For more information about care management, see www.safetynetmedicalhome.org/safety-net/evidencebasedcare.cfm.
how their responsibilities intersect with other care team members’ responsibilities. The more explicit this discussion, the more effective care coordination will be.

- Define the patient’s role. Shared decision-making between the patient and the care team should be emphasized and enhanced when possible. Discuss the patient’s role with providers and staff to ensure that the patient is incorporated as a full member of the care team, and provide guidance on how to engage patients as partners. Doing so will support improved communication—a key to ensuring coordinated care. Develop new protocols to guide communication with the patient and family, if necessary. Discuss the care team’s role with the patient and emphasize his or her role on the team.

- Define the resident’s role. Placing residents at the center of care coordination and information exchange will enhance their educational experience. To work effectively with other members of the care team, however, residents must understand care processes, information sharing, and all team members’ roles and responsibilities.

During the residents’ initial training, they may be paired with whichever staff members have been assigned care coordination responsibilities to learn how to effectively expedite consultations, arrange for laboratory and radiology test referrals, and ensure all key care processes are implemented and followed up.

Once this training component has been completed and residents have developed a thorough understanding of care coordination, they should reduce their involvement in care logistics and focus on clinical assessment, diagnosis, and treatment. When ready, residents should develop comprehensive care plans and refer patients to the Care Coordinator (or to the staff responsible for care coordination) for follow-up.

Ensure that all clinical data from each patient panel is forwarded to the responsible resident (and attending physicians or faculty preceptors) for review. Lab results and other data often arrive in the clinic when residents are off-site, leading to poor communication and care coordination. Establish a protocol that identifies specific steps for sharing and reviewing information that includes requiring electronic signatures to document that residents and attendings have seen and followed up on the information.

- Enhance the availability of information at the point of care. Identify the types of information that are needed at the point of care, such as pharmacy data, ancillary clinical information, medication reconciliation, or consultant reports. What are some strategies to ensure this information is available to the care team during patient encounters?

- Develop, implement, and adhere to patient care plans. Comprehensive care plans incorporate all actions the patient and care team need to take. It begins with the medical treatment plan, but ex-
tends to incorporate educational, self-management, and other aspects of the plan.

- Consider implementing different types of quality improvement interventions to improve the patient encounter and facilitate data collection and sharing. Develop the clinical decision support facility within the EHR to help support information sharing, documentation, and improved care processes and outcomes. Redesign the patient visit to improve patients’ encounters, facilitate follow-up, and support better data collection and sharing.

For more information about redesigning patient visits, see the California Healthcare Foundation’s guide to work process redesign to increase primary care productivity: http://www.chcf.org/publications/2010/03/towards-a-better-patient-experience-reengineering-californias-safetynet-clinics.

THE CARE COORDINATOR ROLE
Care Coordinators have the primary responsibility for ensuring that patients have timely access to continuous care, that communication is clear, and that self-management is supported. Redefining the care team, as described in Module 1, may have involved considering how to assign care coordination duties to different care team members based on their skills and expertise. However, designating an individual to serve explicitly as the Care Coordinator, and assigning that staff member to work with one or more care teams, can further facilitate care coordination.

Developing a job description will also help in identifying important job functions to serve the teaching clinic’s needs so responsibilities can be assigned to existing care team members who are best able to fulfill them.

Clinical settings benefit from Care Coordinators with a variety of educational backgrounds and experience. For example, many teaching clinics use Bachelor’s-prepared nurses to function as Care Coordinators. Other teaching clinics train clinical support staff, such as medical assistants or licensed practical nurses, to fulfill Care Coordinator responsibilities. Experience, personality, skills, and the particular patient population’s needs should be considered when selecting staff for this role. Training staff appropriately is a key element in supporting successful care coordination in a teaching clinic.

Teaching clinic Care Coordinators must be able to work effectively and efficiently with residents. In addition to considering the right person to work with patients in this way, think about who has the skills to train and support residents as they learn new care coordination techniques and skills.

For example, consider the University of Cincinnati’s Hoxworth Ambulatory Practice, a clinic where administrators and providers identified challenges in implementing effective post-discharge care for patients of diverse socioeconomic backgrounds and varying psychosocial needs. To bridge the gap between hospital discharge and outpatient management for these patients, the clinic hired a social worker to be responsible for care coordination functions. An integral part of this new staff member’s job description was to train residents to ask patients the right questions and communicate effectively with them. The training was essential in improving the patient assessment and facilitating care plan development for the post-discharge period, and the residents gained skills that will serve them throughout their careers.

The value of the social worker’s role was summarized by Shivani Jindal, M.D., a resident training at the University of Cincinnati:

“Sonia [the social worker] is a great asset to our internal medicine clinic because she helps residents to navigate the social situations and community resources that are available to our patients. There have been numerous times that she has met with my patients one-on-one to discuss what they can do to improve their situation. Sonia has an impact on improving our ability, as a patient-centered medical home, to deliver well rounded health care to our patients.”

See Appendix G: Sample Care Coordinator Job Description and Worksheet
### BENEFITS: FOCUSED CARE COORDINATION IN A TEACHING CLINIC

- **Reduces unnecessary utilization** of costly medical resources. Depending on the clinic’s reimbursement model, documenting reductions in unnecessary medical services can help make the business case for hiring a Care Coordinator for the clinic.

- **Educates residents** on the availability and appropriate use of social services, enhancing their options for problem-solving and for better facilitating their patients’ access to resources.

- **Allows residents to focus** more on immediate clinical problems.

- **Develops residents’ skills** for identifying and addressing the needs of high-risk patients.

- **Teaches residents** patient self-management techniques.

- **Contributes to developing the ACGME core competencies** of patient care, communication, system-based practice, and professionalism.
MODULE 4
An Introduction to Patient Empanelment Principles, Methods, and Tools
EMPANELMENT DEFINED

Empannelment is the act of assigning each patient to a care team (or a primary care provider, or PCP) that assumes responsibility for coordinating comprehensive services for a panel of patients. In accordance with IOM principles, empanelment ensures that care teams are assigned ongoing responsibility for individual patient care, thereby minimizing disruptions to care continuity.

Empanelment is critically important in hospital-sponsored teaching clinics. In many resident-staffed clinics, patients are assigned to see the provider who is available at their appointment time—an approach marked by reactive, episodic, and often redundant care that is unsatisfying for the patient and provider. At every visit, the provider must learn about each patient anew, rendering provider-patient communication weak and interfering with the provider’s ability to deliver care based on a thorough knowledge of the patient and his or her health problems, health beliefs, and health behaviors. This unstructured approach to care also prevents residents from learning about treating medical problems over time, and makes it difficult for residents to hone their patient engagement skills.

PATIENT EMPANELMENT PRINCIPLES

While patients can be empanelled to individual PCPs (including residents), care teams with one or more PCPs, or to nurses, it is important that there is a single entity to which the patient is consistently linked. Once empanelment is accomplished, each provider or team is responsible for managing a defined group, or “panel,” of patients.

In the teaching clinic, a critical first step in empanelling patients is establishing resident workload capacity, which entails defining the number of new and returning patients a resident can be assigned to see during each clinic session. Defining the residents’ workload capacity, by program year, forms the basis for daily resident scheduling templates and establishes residents’ aggregate patient capacity. To ensure that each resident experiences the full scope of

TIPS: EMPANELLING PATIENTS IN THE TEACHING CLINIC

- Each patient in a practice’s population is assigned to a care team (or individual PCP) panel.
- Panel assignments should be:
  - Based on the patient need and utilization of services;
  - Confirmed with care team members and with patients;
  - Reviewed and updated regularly.
- Scheduling coordinators know when residents will rotate in the clinic so they can assign patients to the appropriate PCP.
- Empanelment must be supported by policies and procedures that prioritize a stable, ongoing relationship between patients and the care teams to which they are assigned.
- HIT must support empanelment.
- There should be open communication between the clinic and the residency program leadership to ensure the shared goal of continuity.
the outpatient practice, they should be assigned a patient mix that reflects a range of diagnoses and levels of clinical complexity.

Because individual residents will not be available to see patients at all times, patient assignments should include both a care team assignment and a resident assignment.

- Assigning patients to a care team ensures a continuous patient relationship with the practice, and with a defined, stable group of clinicians. All care team members should be empowered to review and act on patient data and contribute to care planning at a level consistent with their licensure (see the team approach to care described in Module 1). Successful empanelment to a team requires that clear communication pathways be in place, such as those described in Module 2, to facilitate information flow among care team members, and between the care team and the patient, and the patient’s family or caregivers.

- Assigning patients to a specific resident supports the development of the patient-provider relationship and allows the resident to participate in the patients’ treatment over time. This enhances the resident education experience while allowing for other resident firm or care team members to cross-cover, when necessary. The ACGME also requires residents to follow a panel of patients longitudinally. Although patients may be assigned to a specific resident, the resident still functions within the team and other providers may continue to play an active role in care.

- Assigning attending or faculty providers to a specific care team can also support empanelment development beyond the resident-to-patient level. A faculty member assigned to oversee a core team becomes familiar with that larger panel and can facilitate continuity if a resident is not in the practice.

**CALCULATING PANEL SIZE**

Empanelling patients requires an assessment of current supply (providers) and demand (patients) in a practice to determine the ideal panel size for each provider.

<table>
<thead>
<tr>
<th>See Appendix H: Patient Panel Size Worksheet</th>
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The steps below describe the process detailed in the worksheet provided in Appendix H. Please note that the process described here relates to provider empanelment, but a similar process could address team empanelment.

**Step 1. Determine the current panel size for a provider in your practice.**

- Calculate the entire practice’s panel as determined by the number of unique patients seen by any provider in the practice in the last 12 or 18 months.

- Calculate each individual provider’s actual panel.
- Use Murray’s “four-cut method” to determine which patients “belong” to each provider. (See box, page 38.)
- Invite providers to review their assigned panels for correctness. Providers may disagree with some patient assignments, particularly for high-risk, high-need patients they do not see regularly. Be prepared to discuss those patients with the providers individually.
- Assigning an equitable case mix will standardize workload and make the practice sustainable by ensuring a manageable panel size for each provider. Weigh panels by age and gender average utilization, and by complexity or morbidity.

- Calculate the “target” panel size for each provider by dividing the entire practice panel by the number of full-time equivalent (FTE) clinical providers.
- For providers (including residents) who work part time, calculate their contribution based on the percentage of FTE spent on clinical work. This number is a “target” for what is actually going on in the clinic now and can be compared to the actual individual provider’s panel.
Step 2. Determine the ideal panel size for a provider in your practice by quantifying current supply and demand.

- Calculate the number of visits per patient per year by dividing the number of unique patients seen in the last 12 or 18 months into the number of visits to the practice these patients generated within the same period.

For example, at Clinic A, 50,000 patients generated 175,000 patient visits during a one-year period. Therefore, the average number of visits per patient at Clinic A was 3.5 for that 12-month period.

- Calculate the number of provider visits per day by looking at historical data to determine how many visits are actually occurring each day, per provider (not how many slots are assigned to each provider).

- Calculate the number of provider days per year by determining how many days are devoted to patient visits each year, as compared to other work.

- Next, calculate the ideal panel size using Murray’s formula:

\[
\left( \frac{\text{provider visits}}{\text{day}} \right) \times \left( \frac{\text{provider days in clinic}}{\text{year}} \right) = \frac{\text{# patients}}{\text{provider panel}}
\]

- Finally, assess the difference between the actual panel size calculated in Step 1, and the ideal size calculated above.

Please refer to http://www.safetynetmedicalhome.org/change-concepts/empanelment for additional empanelment resources and guidance on completing these steps.

TOOLS AND METHODS TO SUPPORT EMPANELMENT

To ensure that empanelment is well understood by providers and staff, and that they are able to clearly communicate with patients about panel assignments and team-based care, consider the following suggestions:

**MURRAY’S FOUR-CUT METHOD**

1. Patients who have seen only one provider for all visits are assigned to that provider.

2. Patients who have seen more than one provider are assigned to the provider they have seen most often.

3. The remaining patients who have seen multiple providers the same number of times are assigned to the provider who performed their most recent physical or health check.

4. The remaining patients who have seen multiple providers the same number of times, but have not had a routine physical exam, are assigned to the provider they saw last. (Alternatively, allow clinical teams to talk through this list of patients and determine where they belong.)

- Develop a policy to guide provider assignments. The policy should have clear criteria and decision-making rules for initially assigning providers, assigning new patients to providers, transferring patients from one provider to another, for patients who are undergoing care transitions, and other considerations. Ensure that all staff understand the policy and why it is being put into place. The policy should be updated regularly, based on evolving needs in the clinic.
- Assign empanelment roles within the practice. Modify job descriptions to include specific responsibilities. As part of this process, determine which few staff members will be allowed to change the provider assignment in the practice management system. There should also be a defined mechanism for residents to formally request a change to provider assignments.

- Enhance definitions of care team member roles to include panel management responsibilities. Who will be responsible for producing patient reports? Who will convene meetings to discuss patient data? Who will be tasked with contacting patients for follow-up? Ensure that care team members are working at the top of their licenses, certifications, or scope of function so the promise of empanelment can be realized. For more information on redefining the care team, see Module 1.

- Promote clinical and informational continuity in patient care by emphasizing the use of clinical tools and HIT. Ensure that staff has access to HIT applications that support empanelment (see box, page 40). Problem lists, care plans, and best practice alerts are examples of tools that support comprehensive care planning and service delivery, and are essential to ensuring continuity of care. The EHR should be configured to generate panel-based patient listings (as described in “Panel Management” on page 40) and performance feedback reports (as described in Module 8). The practice management system should allow identification of the responsible provider to facilitate appropriate scheduling and follow-up. Develop policies and train

**BENEFITS: EMPANELMENT**

- Facilitates the development of continuous, team-based relationships between patients and care teams to promote patient-centered interactions and deliver organized, well-coordinated care.

- Establishes accountability because providers and teams have a set of patients for whom they are responsible, allowing for more accurate and meaningful measurement of practice utilization, capacity, and productivity.

- Decreases the patient “no show” rate.

- Guides practice improvement and evaluation through panel-level reporting, which contributes to an understanding of the patient population.

- Enhances residents’ learning experiences by challenging them to develop their communication skills, take responsibility for the ongoing care of patients, and work as part of a team to direct care at the level and intensity each patient requires.

- Maximizes the utility of measurement and feedback loops, as both educational and quality improvement tools are substantially increased.
HOW TO: USE HIT TO SUPPORT PANEL MANAGEMENT

- Within the entire patient population, identify groups of patients who share a certain condition (e.g., diabetes, asthma, or hypertension) or belong to a specific population (e.g., age 65 or older).
  - Use the EHR’s reporting function to facilitate this step.

- Determine how well the practice (or team) is managing each group of patients. Consult clinical guidelines to identify appropriate care and assess the practice or team’s performance. For instance, what percentage of diabetes patients has received two A1c tests, three months apart, in the last 12 months? What percentage of adults over 65 has received flu shots this season?
  - Customize the EHR report to calculate the proportions of patients who have received necessary clinical services.

- Based on the data analysis, determine which conditions or preventive services should be focused on to improve patient outcomes (e.g., “80% of hypertension patients will be well controlled within 12 months”). See Module 8 on selecting appropriate measures and introducing a measurement strategy.
  - Automate monthly reporting to facilitate performance review.

- To improve care process and patient outcomes for the selected group of patients and measures, introduce evidence-based interventions for the care team to implement.
  - Customize clinical decision support within the EHR to prompt care team members to carry out the interventions for patients who require them. If possible, enable the EHR to archive, call up, and print resources (such as patient education materials and clinical guidelines) as needed.


Staff on how to use these tools to enhance care coordination and support panel management. For more information on HIT to support patient-centered care, please see Module 5.

- Develop a standard approach to communicating with patients about empanelment, clearly explaining their care team assignment. Patients benefit most from empanelment when they understand how the care team works. “Warm hand-offs,” in which the physician introduces care team members and their roles to patients, have been shown to lead to a more coordinated approach to care. 14 Establish policies to guide practice-initiated
outreach and patient-initiated communication. See Module 2 for guidance on developing effective communication policies and procedures.

- **Train staff.** Strong staff training and accuracy with scheduling is integral for optimal performance and effective empanelment. Key aspects helpful for success include ensuring that staff understands the importance of empanelment, has clarity on each team member’s roles and responsibilities, and demonstrates knowledge of clear guidelines on the scheduling and empanelment process.

See Appendix I: Sample Empanelment Script

**PANEL MANAGEMENT**

Once patients are empaneled, panel management can be used to proactively address conditions of greatest concern, such as diabetes, asthma, or hepatitis, or to deliver preventive services, such as flu shots or cancer screening. Whichever patient population subsets a practice decides to focus on, panel management requires the care team to take responsibility for the health of the entire patient panel. By reaching out to patients proactively between office visits, the care team will improve follow-up. Clinical indicators of care delivery and patient outcomes can then be monitored to assess improvements. For example, if a practice focuses on controlling hypertensive patients, the care team may identify the percentage of patients with uncontrolled hypertension, provide intensified support and treatment, and then monitor progress among that population and assess improvements in hypertension control among patients receiving intensified services.
CASE STUDY
Developing Patient Panels for Residents

Hospital Name: Hennepin County Medical Center
Location: Minneapolis, Minnesota
Size: 477 beds
Clinic Visits: Approx. 30,000 primary care clinic visits per year
Residency Program: 60 Internal Medicine Residents

Organization Description
Hennepin County Medical Center is a public teaching hospital in downtown Minneapolis with a system of primary care clinics and retail clinics located throughout Hennepin County. www.hcmc.org/medcenter/about.htm

Background
At Hennepin County Medical Center, creating patient panels for residents training in the hospital-based clinic has formed a key component of redesign efforts in the ambulatory setting. The system has been structured so that the panel of patients assigned to interns is inherited from a graduating third-year resident.

Action
To maintain consistency, the supervising attending physician is the same for the graduating resident and the intern inheriting the patients as often as possible. The panel transfer begins as early as right after Match Day in March, when the program gets its list of incoming interns. At that time, the graduating third-year resident reviews the list of patients on his or her panel for accuracy and “transfer of care” letters are sent to the patients. Once the interns begin their training, quarterly reports are generated to review the panel size and ensure that the resident’s name is listed as the primary care provider in the record.

When residents begin training at Hennepin, they are matched with another first-year resident and the two become “practice partners.” The residents are scheduled in inpatient and outpatient blocks in alternating months, and during inpatient months they do not care for patients in the continuity clinic. The practice partners are assigned to opposing schedules, so that one of them is always in the clinic to care for the patients on the panel. This helps with continuity because while a patient’s primary care doctor may not be available in the clinic during a four-week block, that doctor’s practice partner is available and is the provider with whom the scheduling center attempts to place with the patient. At Hennepin, clinic sessions are scheduled as two half-day sessions a week during three years of training. The practice partner model has allowed first-year residents to cover for each other in the clinic when necessary, and using EHRs help ensure accurate transfer of patient information.

See Appendix J: Sample “Transfer of Care” Letter
Successes
Hennepin maintains strong continuity of care in the resident clinics. In its teaching clinics, residents see their assigned primary care patients on average 70% of the time. EHRs have been crucial in the system’s success because it allows for real-time review of continuity data and allows for clear assignment of residents as patients’ primary care providers.

The frontline staff is also engaged in the concepts of continuity and proper empanelment of patients. As part of its clinic redesign efforts, Hennepin conducted patient-centered care training that helped all staff, including residents, have a complete understanding of the clinic’s care delivery expectations. Residents are also given scripted language (see below) that outlines how to communicate with patients about the practice partnership.

“Hello, I am Dr. XXX, your new primary care doctor. I am not in the clinic every week, but if I am not available, usually Dr. YYY, my practice partner, will be. I will always attempt to schedule routine follow-up visits for you with me, but if you have an urgent problem and I am not available, please ask to be seen by Dr. YYY. Dr. YYY and I are in frequent communication, so if s/he sees you in clinic, s/he will let me know what happened.”

Challenges
The biggest challenge to maintaining continuity in the clinic is the central scheduling system. At Hennepin, patients are encouraged to schedule follow-up appointments with their doctors before leaving a clinic appointment to ensure that the scheduling department can find a time when they can come back to see their primary care physician. For acute care visits, however, the patients call a central scheduling center that schedules patients for all hospital-based ambulatory clinics. This loss of local control makes it difficult to ensure that call center employees make every attempt to schedule patients with their primary care residents or, failing that, with their practice partners.

Lessons Learned
One of the major lessons learned through the process of maintaining continuity was the importance of communication. To address the scheduling challenges, the clinic medical director began meeting periodically with call center staff to reinforce a written, distributed algorithm to identify the order in which to prioritize clinicians with whom the patient should be attempted to schedule for follow-up (i.e., primary care resident, if not available, then practice partner, if not available, then nurse practitioner within the small group practice, etc.). Enforcing this process has taught Hennepin educators the importance of ongoing, clear communication with the individuals at the front line of this process of care, a significant concept for any redesign effort.
MODULE 5
Using Technology to Support Patient-Centered Care
EHRs, along with registries, e-prescribing programs, patient health records (PHRs), and other software hold great promise as tools to support team-based care and population management. When properly configured and used, these applications can facilitate care coordination, communication, patient engagement, care planning, and performance reporting. Well-integrated, interoperable HIT systems have the potential to eliminate unnecessary paperwork and redundancies throughout the health care system, reduce duplicate and unnecessary services, ensure that providers and care teams have access to patient information wherever they are seen, and share data with community partners and patients to support their engagement in the team-based approach.

MEANINGFUL USE
To facilitate the adoption and use of appropriate technology in health centers nationwide, CMS established a set of objectives to encourage providers to demonstrate the meaningful use (MU) of HIT in their practices. Simply put, providers and practices must show that they are using technology to measure and assess the quality and quantity of the services they provide to patients. The 2011 PCMH standards also align closely with the elements of MU requirements by pointing practices towards using electronic systems to track care.

Goals for measurement and evaluation are organized under five areas:\textsuperscript{15}
\begin{itemize}
  \item Improve quality, safety, efficiency, and reduce health disparities
  \item Engage patients and their families
  \item Improve care coordination
  \item Ensure adequate privacy and security protections for personal health information
  \item Improve population and public health
\end{itemize}

For more information on MU objectives and measures, please visit https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/ Meaningful_Use.html.

DETERMINING WHICH INFORMATION SYSTEMS AND DATA TOOLS A TEACHING CLINIC NEEDS
EHR vendors are now producing “MU-certified” software, which may be used to fulfill MU reporting requirements and objectives. When it comes to technology, though, one size never fits all. While MU-certified products may be capable of measuring quality of care, supporting population health management, and facilitating patient engagement, most practices find it necessary to work with their HIT teams (or the product vendor) to tailor the software’s functions to local needs.

Since hospital-sponsored teaching clinics face particular communication, scheduling, and care coordination challenges, customizing standard packages is crucial. The more a facility’s information systems reflect and support clinical policies and procedures, the more technology will facilitate clinical practice and, consequently, the more likely that providers and staff will use the technology consistently and to its full potential.

Some considerations for selecting and configuring HIT are included in table on page 47.

HIT IN THE RESIDENCY PROGRAM
One drawback to using HIT when residents are involved is that the systems are designed around the premise that the attending physician is ultimately responsible for each patient’s care. When billing statements are generated, it is generally in the attending physician’s name. While this assumption is necessary from legal and financial perspectives, grouping all patient encounters under the attending’s HIT identifier for supervising and billing purposes can make it difficult, if not impossible, for individual residents to receive information about their performance and the health status of patients for whom they are the primary caregiver.

This issue can be overcome, however, by establishing resident identifiers in addition to the identifiers used for attending physicians and faculty preceptors. Resident identifiers allow individual residents to be linked to individual patients and patient encounters, which is a key tool in promoting continuous care, ensuring compliance with
### CONFIGURING HIT TO SUPPORT PATIENT-CENTERED CARE

<table>
<thead>
<tr>
<th>PACKAGE/TOOL</th>
<th>DESCRIPTION</th>
<th>SAMPLE CONFIGURATIONS</th>
</tr>
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| **Electronic Health Record**/ **Electronic Medical Record** (EHR/EMR) | Software that collects, stores, and organizes health information about individual patients, manages orders and results, facilitates communication between clinicians about patient issues, and supports improved clinical decision-making. EHRs contain the legal record of individual patient care. | Identify the physician of record to facilitate payment. Identify the panel to which the patient belongs to facilitate care planning and population management. Incorporate clinical decision support at the point of care, e.g.:  
  - Clinical guidelines  
  - Reminders and alerts  
  - Standardized protocols that allow non-physicians to request medical tests and lab work  
  Incorporate attending physician electronic “sign-off” on resident-directed care. |
| **Practice Management System** (PMS) | Software that facilitates day-to-day scheduling and billing operations within a health care practice. The PMS collects and organizes data related to patient demographics and insurance payers, performs billing tasks, and generates reports. | Automates monthly reports, such as patient visit statistics, including the “no show” rate and other trends. |
| **Registry**                       | Database that collects clinical data on patients with a specific condition (such as diabetes, asthma, or hypertension) and tracks specific medical tests (such as a pap smear, mammogram, or flu shot). The registry can produce reports to guide proactive care planning for individual patients. Registries can also assess the health of the patient population, or subpopulations with specific conditions or diseases. | Produce monthly reports for residency quality improvement (QI) projects. Produce monthly reports to support care planning and management, e.g.:  
  - Generate patient lists by disease status  
  - Stratify patients by risk  
  - Use reports to conduct patient outreach  
  Produce monthly reports for performance or quality review over time, e.g.:  
  - Percent of patients with documented smoking status  
  - Percent of diabetes patients who had two A1c tests in the last 12 months (three months apart) |
| **E-Prescribing Program**           | Software that allows prescribers to send accurate, error-free prescriptions directly to the pharmacy from the point of care.                                                                              | Teach residents drug-drug interactions, medication administration information, dosing guidelines, allergy conflicts, and demonstrate high patient safety criteria. |
| **Health Information Exchange** (HIE) | Software that facilitates transmitting and receiving clinical data among different HIT systems and clinical entities, while maintaining the integrity, accuracy, and privacy of the information being moved. | Facilitate history gathering, medication reconciliation, and appropriate test utilization through aggregating data from multiple sources. |
clinical guidelines, and assessing clinical quality and outcomes. Resident identifiers allow each resident to receive regular reports on his or her performance, and ensure that data for multiple residents who are members of a single team can be rolled up to the team level to promote accountability and follow-up.

The time and effort required for developing and introducing resident identifiers within your HIT system will be well spent, not only in terms of improving patient care, but also in enhancing the resident learning experience and promoting the team approach within your teaching clinic.

A special consideration for residents in teaching clinics involves supervision when an ambulatory EHR is in place. Unlike the inpatient setting, clinical decision-making and its documentation in the EHR may occur long after the patient has left the clinic. How residents document their clinical decisions in the EHR (e.g., follow-up lab results, follow-up radiographs, medication renewals) and how attending physicians supervise these tasks can be challenging. Staff at each clinic should decide how to supervise such discrete and voluminous resident decisions and tasks, especially when the patient is not physically present in the clinic. All decisions should be intended to maximize workflows, efficiency, and resident learning. Anticipating the supervisory issues an EHR brings to the resident ambulatory setting can save time and confusion for residents and their supervising faculty working in busy ambulatory practices.

HOW TO: MAXIMIZE TECHNOLOGY

1. **Establish policies and procedures.** Codify and communicate processes to providers and staff so everyone understands requirements related to documentation, reporting, and resident supervision of tasks that occur both during and after the patient encounter, along with patient communication and data exchange.

2. **Emphasize the use of structured data fields wherever possible to ensure maximum data usability.** Structured data allows clinical decision support, registries, and other tools to produce detailed reports and meaningful charting for use at the point of care and in performance review.

3. **Customize and configure.** Work with providers, staff, and the IT team to identify and prioritize customizations related to reporting, clinical decision support, and other processes.

4. **Train providers and staff.** Repeated, hands-on training is essential to ensure that all providers and staff understand policies and procedures, and are able to effectively and efficiently use technology packages and tools. Provide ongoing support to providers and staff, and continually emphasize the importance of collecting, tracking, trending, and analyzing data to improve patient outcomes and system performance.
MODULE 6
Resident Scheduling
A significant determinant of the resident experience in ambulatory medicine is the manner in which resident time is assigned to the teaching clinic. Creating resident schedules always requires balancing both clinical and didactic responsibilities and patient care responsibilities in different areas with different patient populations. Residency program directors have the added responsibility of making sure that 1) all residents in the program receive the ACGME-required mix of educational experiences, 2) each resident complies fully with limitations on duty hours, and 3) there are enough residents available to provide patient care in all venues where residents are an essential part of the care delivery model. These factors, along with the accreditation standards governing continuity clinic experience for residents, affect the amount and nature of the resident time spent in the teaching clinic.

DEFINING THE TRADITIONAL AMBULATORY MEDICINE EXPERIENCE

Historically, resident education in internal medicine has focused on acute inpatient, intensive care, and subspecialty settings. Ambulatory and primary care settings have accounted for a minority—and often fragmented—share of resident educational time. Resident time in continuity clinics, although long considered a required part of the curriculum by the ACGME’s Residency Review Committee (RRC) for Internal Medicine, for example, has most often been carved out of inpatient and subspecialty assignments, with residents leaving their area of “primary responsibility” for selected half-day sessions in the clinic. By using half-day clinic sessions and spreading the resident assignments to the teaching clinic over an extended period, it is possible to focus larger blocks of resident time in inpatient units, where they are often essential parts of the staffing mix, while also ensuring that residents’ clinic assignments are not interrupted by more than one month, as required by existing accreditation standards. Most internal medicine residency programs use a block rotation schedule built around 13 four-week blocks in each program year. During each four-week block, residents are assigned to a specific rotation site, such as an inpatient unit, intensive care unit, emergency department, or elective, but during each of these four-week rotations, they are released for one or two half-days per week to attend their ambulatory medicine continuity clinic.

DRAWBACKS TO THE HALF-DAY CLINIC SESSION MODEL

This approach, however, can create fragmentation, both in the care processes of the involved areas and the resident’s clinical responsibilities and learning objectives. It has also implicitly sent a message that clinic-based patient care is secondary to inpatient care. And as half-day clinic assignments often vary from month to month, the resident would have a continuity relationship with a particular geographic site, but not always with a defined patient population. The half-day clinic approach can make it more difficult to provide excellent resident education in ambulatory medicine. From the clinic perspective, the half-day schedules have been difficult for care teams that must continuously accommodate new residents who may have less-than-ideal familiarity with the patient population and the dynamics of providing integrated team care.

It may be necessary to rethink resident clinic assignments to provide a better ambulatory medicine educational experience and to ensure compliance with the ACGME’s Program Requirements that say “programs must develop models and schedules for ambulatory training that minimize conflicting inpatient and outpatient responsibilities.” While improved continuity can be achieved within the traditional scheduling system (see page 53), some of the alternate models specifically designed to minimize that conflict are described below.

COMMONLY USED ALTERNATIVE SCHEDULING MODELS

A variety of new approaches to scheduling resident time in clinic settings have emerged recently, and nearly all emphasize providing a more extended and more protected (from competing inpatient care demands) ambulatory medicine experience for residents.

One common approach to resident scheduling in clinic settings is expanded block rotations, which build on the traditional approach to resident scheduling but afford residents a much more extended and continuous ambulatory experience, ranging from a single four-week ambulatory block to multiple consecutive blocks to a full year of ambulatory clinic experience—in all cases uninterrupted by competing inpatient service demands.
The 4+1 model. The 4+1 model is built around five-week blocks during which the resident spends four weeks in a particular rotation site with no outpatient clinic assignments during this time. The fifth (or +1) week is devoted entirely to ambulatory services, with no overlapping responsibilities in inpatient, intensive care, or emergency department (ED) settings.

See Appendix K: Snapshot of the 4+1 Model (Lehigh Valley Health Network)

The 6+2 model. Like the 4+1 model, the 6+2 model provides residents with “protected time” for their clinic assignment, with no overlapping responsibilities in other clinical settings. It uses an eight-week scheduling cycle with six weeks of inpatient, intensive care, or ED, or assignments alternating with two-week blocks of clinic time. With this model, residents stay in the clinic for a longer period, which helps in adjusting to the routine of their rotation. The 6+2 model allows standardization of the rotation schedule so ambulatory time is just one of the rotation choices, rather than an interruption in the rotations’ progression. Regardless of whether the alternative scheduling model is 4+1 or 6+2 (or 3+1 or any other variation), the common goal is to ensure that residents receive an extended and uninterrupted exposure to ambulatory medicine.

See Appendix L: Sample of a 4+1 Scheduling Template (North Shore–Long Island Jewish Health System)

Continuity practice blocks. This approach, implemented at Ohio State University in 2007–08 as part of the ACGME’s Educational Innovation Project, assigns residents to the clinic every third four-week block. During the Continuity Practice Block, residents see clinic patients three or four half-days per week, during which they have no inpatient assignments. The residents are organized in three-person “practice groups,” with one group member assigned to the clinic at all times, while the other two members have traditional inpatient assignments. When a resident completes his or her four-week Continuity Practice Block, another resident from the three-person practice group moves into the clinic, ensuring that patients always have immediate access to one resident member of the group. To further enhance continuity of care between individual patients and individual residents, Ohio State uses “bridge clinics,” which are once-per-month half-day clinics that occur during the eight-week period when residents are away from the clinic. Bridge clinics provide an opportunity for residents to maintain personal continuity with patients who require monthly follow-up appointments.

See Appendix M: Snapshot of the 6+2 Model (St. Luke’s-Roosevelt Hospital)

Ambulatory “long block” rotations. The ambulatory “long block” rotation was pioneered by the University of Cincinnati, also as part of ACGME’s Educational Innovation Project. In this approach, residents spend an entire year practicing and learning in a clinic setting that has attained NCQA’s Level III designation as a PCMH. The University of Cincinnati ambulatory long block begins in the 17th month of residency training and continues for 12 consecutive months. While on the ambulatory long block, residents see continuity patients in the clinic during three half-days per week, but check in with the clinic and review patient records on a daily basis. On those half-days not devoted to clinic practice, the residents complete a variety of other educational activities, including subspecialty electives, research, and other assignments with limited call responsibilities.
Programs that have engaged their residents in a more extended ambulatory block experience may find that the residents have become more comfortable and feel more integrated into the clinic care team setting. In addition, due to the extended time in the clinic, residents may have a greater opportunity to experience and understand the ebb and flow of outpatient practice and the evolving nature of medical conditions treated on an outpatient basis without needing to constantly be oriented to the clinic setting. As a result, the resident has a greater chance of becoming familiar with an empanelled patient population and developing meaningful physician-patient relationships. The expanded block also allows the resident to experience a practice style that more closely mirrors the professional lifestyle of a general internist, while also becoming more familiar with—and an efficient participant in—the clinical care team. Clinic faculty may also find it easier to develop and deliver ambulatory medicine-focused curricular content that complements the resident’s hands-on clinical experiences.

**ADVANTAGES: THE “PLUS 1” OR “PLUS 2” MODELS & EXPANDED BLOCK SCHEDULES**

- Eliminates much of the conflict between inpatient and outpatient responsibilities.
- Provides residents with a more extended, less fragmented exposure to ambulatory medicine.
- Ensures that the resident’s clinical and educational focus is entirely on ambulatory medicine during the +1 or +2 week period.
- Allows the resident to become more comfortable and competent as an integral member of the clinic care team, making for more efficient clinic practice.
- Increases the ability to match individual patients with individual residents for continuity purposes, therefore improving continuity of care.

**CONSIDERATIONS IN CHANGING RESIDENT SCHEDULING METHODOLOGY**

- **Cultural Change.** A shift toward protected resident time for clinic-based education requires changes in resident and faculty lifestyle in the inpatient and outpatient settings. Specifically, the inpatient settings must adapt to more frequent changes in resident coverage, while the clinic settings must develop a more robust academic structure to accommodate the extended presence of each individual resident and ensure that each resident builds and maintains a continuity relationship with a specific panel of patients.

- **Logistic Complexity.** To maintain existing coverage levels in inpatient and outpatient settings, rotating resident teams must be scheduled in a coordinated fashion so inpatient residents or other providers are covering for the residents assigned to the clinic at any given time.

- Some programs may not be able to effectively implement an immersion model (like the 4+1 schedule) due to their size. Smaller programs with inpatient services requiring resident cover-
age may not be able to divide the residents into cohorts (a necessary element for rotating exposure to ambulatory care) and still staff necessary rotations. A key element to guide programs in making the change is to create a mock schedule and work through the details with all residency scheduling personnel. It is recommended that programs considering the transition to an immersion-based model connect with and learn from a program that has undergone it.

- **Potential Financial Issues.** If the alternative scheduling models result in an increase in aggregate resident time in outpatient settings, or if the residency program is too small to allow for continuous maintenance of inpatient resident staffing levels, additional hospitalists or physician-extenders will be needed for supplemental patient care support. This should be considered when deciding what type of scheduling change will work for an institution.

- **Assessing Outcomes.** Because resident schedule changes have implications for residents, faculty, and staff, as well as for the way in which patient care and educational experiences are structured in each clinical setting, it is important to assess the results of any changes. This applies not only in the teaching clinic, but also in the other settings from which resident time was reallocated, or in which the resident role and experience was restructured. Ideally, such assessment tools should measure resident, faculty, and staff satisfaction with the changes in each area affected, as well as cost, clinical efficiency, and patient care quality/outcomes.

## HOW TO: MAINTAIN CONTINUITY WITHOUT CHANGING RESIDENTS’ SCHEDULES

For some, the idea of completely overhauling residents’ schedules can be too resource-intensive and unfeasible, depending on the priorities in the clinic or within the residency program. Some strategies to consider when maintaining a weekly schedule while still undergoing redesign work include:

- **Build notifications into the EHR that allow the person responsible for scheduling patients to identify the correct PCP and schedule patients as such.**

- **Ensure that residents are completely relieved from their inpatient duties while they are at the clinic. This should involve a formal sign-out of patients to the covering resident or attending physician.**

- **Make efforts to assign the same care team members (resident, attending physician, nurse, medical assistant) to the patients in the panel.**

**Example:** At Metropolitan Hospital Center in New York, the program leadership maintained the weekly clinic schedule but created “modules” in the clinic as part of their restructuring. They physically reorganized the clinic space so the resident clinics were all in one cohort. The modules, which consist of a defined group of care providers assigned to the same sessions in the clinic and see patients in the same exam rooms, have helped improve continuity in Metropolitan’s clinic.
Ultimately, program schedule changes can dramatically impact the educational experience of residents and their perception of ambulatory medicine. GME leadership should base decisions of master schedule change on the organization’s culture, the program’s logistical abilities and limitations, the program’s size and composition, and institutional support. Because master schedule alterations can impact many areas beyond the residency program, they should be undertaken with adequate planning, forethought, and communication to ensure success.
Implementing the 4 + 1 Model

Hospital Name: Stony Brook University Hospital
Location: Stony Brook, New York
Size: 597 beds
Clinic Visits: Approx. 16,000 primary care clinic visits per year
Residency Program: 88 residents

Organization Description
Stony Brook University Hospital is an academic medical center on Long Island and the primary teaching hospital for Stony Brook School of Medicine. The Primary Care Center at Stony Brook is located near the hospital and serves as the outpatient site for the majority of the residents training in its program. www.stonybrookmedicine.edu/

Background
In 2009, as a result of the growth of its health care system, Stony Brook’s leadership struggled with maximizing continuity of care in the outpatient setting and simultaneously improving inpatient services and efficiency within the hospital. An opportunity arose to address both issues by changing how internal medicine residents were scheduled for continuity clinic.

Action
Understandably, this change was fairly daunting to the leadership, which decided to transition from a traditional weekly session model to a 4+1 model incrementally, starting with the current PGY 1 class and using the new model for each subsequent academic year that followed. It was not until July 2012 that all three PGY levels were in the new model. Changing the schedule incrementally allowed Stony Brook to work out kinks in the system along the way without major disruption to the staff and operations. It also served as a learning process for all involved.

Successes
 Resident feedback has been extremely positive. The residents reported that as a result of this scheduling model, they have felt less conflict between their inpatient and outpatient duties and a stronger connection with their patients. Since they are always in the clinic every fifth week and their patients know it, they have maintained a more continuous relationship with the patients in their panel. Detailed continuity measures are being established right now at Stony Brook using EHRs, but anecdotally, continuity between the residents and their assigned patients is around 70%.

The leadership also measured resident and faculty satisfaction with the new model (on both the inpatient and outpatient sides) using a simple survey tool that was administered five months after the new schedule
was implemented. The survey was administered to the first class of residents and faculty to experience the new schedule. Both residents and faculty attendings reported improvements in continuity for patients on their inpatient services, as well as their clinic patients. Additionally, both residents and faculty attendings reported increased access to teaching and learning, and improved work flow and efficiency.

Challenges
One of the biggest challenges Stony Brook faced related to clinic space. Reorganizing the residents’ schedule also meant considering the number of exam rooms and precepting rooms available in the clinic during the one week they were consistently there. Another challenge was dealing with the inpatient coverage that needed to be addressed when residents were in clinic. Support was needed from hospital administration to invest in additional hospitalists to supplement gaps in inpatient coverage. Consequently, transitioning the schedule incrementally proved to be the best strategy. It allowed everyone to confront one challenge at a time and slowly introduce a culture change.

Lessons Learned
Stony Brook learned the importance of introducing big changes in small increments. Transitioning to the 4+1 model of resident scheduling represented not only a change in how residents see patients, but also an institutional culture change. Based on their success, Stony Brook leadership is now exploring moving from a 4+1 model to a 4+2, which could improve continuity for residents as they work with each other, the clinic staff, and their faculty attendings.

Ahad Ashraf, M.D., PGY 2 resident at Stony Brook, summarized the scheduling change’s positive impact:

“I no longer feel like I have to rush from one patient to another thanks to this new scheduling model. In the past, I would have to rush through my work on the floors in order to make it to clinic. Now, I look forward to my one week in clinic because I can see my patients without being distracted.”
MODULE 7
Ambulatory Medicine Education
An essential element of excellent resident education in ambulatory medicine is a robust academic framework that encompasses:

- Learning objectives for the residents
- Teaching and supervision expectations for the faculty
- A curricular thread that links key concepts and topics with the clinic-based patient care experience
- Education in quality improvement
- A feedback and evaluation mechanism that fosters resident growth and development toward the ultimate educational goal of competence or proficiency in the care of the full range of ambulatory medicine patients and diagnoses.

It is no longer sufficient to focus exclusively on the resident role in patient care and assume that through engagement in patient care, the resident will acquire the full range of knowledge and skill associated with competent independent practice. On the contrary, excellence in ambulatory medicine education requires greater attention to the academic infrastructure to fully support the resident’s educational experience in the clinic setting.

**KEY ELEMENTS OF AN IDEAL AMBULATORY MEDICINE CORE CURRICULUM**

In addition to the elements noted above, an ideal ambulatory medicine curriculum should include information on practice management, billing and coding, quality assessment and improvement, evidence-based medicine, physician-patient communication, disease management, population health, behavioral medicine, team care dynamics, and a variety of other system-based practice topics. Core curricular content can be delivered through a variety of mechanisms, including (but not limited to):

- Ambulatory morning report
- Ambulatory medicine conference series
- Ambulatory medicine journal club
- Evidence-based medicine workshops and/or conferences
- Web-based learning modules

**CHALLENGES IN DESIGNING AND DELIVERING AN AMBULATORY MEDICINE CORE CURRICULUM**

- Managing and Updating Content. Maintaining a broadly relevant core curriculum requires strong and consistent faculty involvement, including identifying a responsible individual to oversee the curriculum and a curriculum committee to review and update content at least annually. The day-to-day management of a core curriculum includes ensuring that topics are scheduled at appropriate times, speakers are available, conference attendance is recorded, and evaluations are collected and aggregated. These activities require significant time commitments from program directors, program coordinators and administrative staff, and involved faculty.

- Avoiding Overlap. The ambulatory medicine core curriculum needs to be developed and delivered in the context of the residency program’s broader didactic activities. This will help avoid non-productive content overlap and ensure that all residents are exposed to key ambulatory medicine concepts, regardless of the timing or structure of their ambulatory medicine assignments. A prepared three-year curriculum, where topics build upon one another, can help ensure consistent exposure for all PGY learners.

- Ensuring Faculty Attendance. All strong didactic offerings largely depend on active faculty participation. Making sure that faculty attend and actively participate in conferences and other forms of non-clinical teaching is an ongoing challenge for many residency programs.

**RESIDENT QUALITY IMPROVEMENT (QI) PROJECTS**

ACGME’s Common Program Requirements, which apply to all residency programs in all specialties, state that “residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long
One way to ensure this accreditation requirement is fulfilled in the ambulatory setting is to require residents to design and conduct focused QI projects that address a care process or clinical practice in the clinic. If the resident scheduling model provides protected time for ambulatory care through a 4+1, 6+2, block, or long block experience, there is usually adequate time and flexibility to incorporate data-driven and resident-led QI projects.

The ACGME’s emphasis on practice-based learning is one reason to get residents involved with QI. Focusing effort on the ambulatory setting is also beneficial because the patient panels are more controlled and easier to follow. Projects in the ambulatory setting are more sustainable since the residents are able to see results longitudinally due to the nature of the chronic conditions present in the clinic population. Additionally, sample size is much smaller and more controlled.

Resident QI projects can address almost any topic related to improving care and teaching clinic outcomes. Elmhurst Hospital Center’s internal medicine residency program leadership recommends that faculty guide residents through the following steps in the project design process:

1. Choose the project topic.
2. Determine data collection methods.
3. Interpret data with the resident(s).
4. Establish aims for improvement.
5. Implement and test changes (see Module 8).
6. Integrate background knowledge into the project design.

One benefit of resident-led QI projects in ambulatory settings is that they lead to improved resident understanding and ownership of clinic care processes, as well as improvements in patient care quality and outcomes. Residents learn about QI and project design, the benefits of which extend to other clinical settings and future independent practice. Teaching clinics should consider developing a standardized and approved set of clinical practice guidelines (CPGs) for major diagnoses. QI projects are usually framed around improving care to ensure high-quality care is occurring. Defining a clinical performance standard around which to build QI initiatives can be a strong key to success and allow for stronger comparative outcomes. In addition, if CPGs are developed as a team, it can allow faculty and clinic managers to be aligned in their pursuit of optimizing process and workflow.

**ROLE OF SUPERVISING PHYSICIANS IN AMBULATORY SETTINGS**

Supervising, teaching, mentoring, and evaluating are essential to high-quality resident education in ambulatory settings. Residency programs seeking to distinguish themselves as leaders in ambulatory medicine education must have clearly articulated expectations for preceptors in clinic settings, and a means of providing for the ongoing professional development of ambulatory medicine teachers.

The ACGME Program Requirements speak to the central role of the supervising faculty physician in educating residents in ambulatory settings. For example, the ACGME’s Program Requirements in Internal Medicine indicate that residents must be supervised “by faculty who develop a longitudinal relationship with residents throughout the duration of their continuity experience” and that the ratio of residents and other learners to preceptors is not to exceed 4:1. The accreditation standards further state that “faculty must not have other patient care duties while supervising more than two residents or other learners” and “other faculty responsibilities must not detract from the supervision and teaching of residents.”

Complying with these standards requires ambulatory medicine teaching faculty who can establish the requisite longitudinal relationship with residents (as well as with patients and families). The care team model discussed in Module 1 provides an ideal structure for resident education in that it not only embodies many “best practices” in patient care and clinic operations, it also provides a natural framework for linking teaching faculty with both the team’s resident members and an empanelled group of patients.
Apart from functioning as an integral member of the care team, the ideal ambulatory medicine teaching physician models clinical excellence and professionalism, is a committed educator who is accessible and approachable, is adept at identifying teachable moments in the clinic setting, and is able to provide timely and constructive feedback to residents, both at or near the point of care and in summary sessions.

CHALLENGES IN ENSURING EFFECTIVE FACULTY SUPERVISION AND TEACHING IN THE AMBULATORY SETTING

- Building and Maintaining a Stable Faculty. Identifying, recruiting, compensating, and retaining ambulatory teaching faculty can be a challenge in an environment in which most physicians choose inpatient-oriented clinical practice. This is particularly true in major teaching hospitals.

- Securing Sustainable Financial Support for Faculty Compensation. Ambulatory medicine is generally less lucrative than other practice opportunities available to physicians. To attract and retain consummate clinician-educators in ambulatory practice settings, it is often necessary to secure financial support for faculty salaries. It may also be necessary to build a faculty compensation methodology that provides explicit recognition for the diminished clinical productivity associated with teaching and supervising residents in the clinic setting.

- Aligning Faculty Clinical Schedules with Resident Educational Needs. Optimal teaching in outpatient settings occurs when key faculty develop a longitudinal mentoring relationship with individual residents and a continuity relationship with a panel of patients. This requires the building of teams, groups, or “firms” comprising supervising faculty and residents that function as an integrated group practice and care for a specified panel of patients (see Module 1). While seemingly simple in concept, it can be difficult to achieve in teaching hospital environments in which faculty and residents face multiple competing priorities.

- Growing and Developing Faculty for Leadership Roles. Given the critical role of the ambulatory medicine teaching physician and the importance of developing and maintaining the skill set of the consummate clinician-educator, a commitment to faculty development is essential to pursuing excellence in resident education in clinic settings. A variety of well-established programs focus on enhancing clinical teaching effectiveness of faculty and improving teaching in ambulatory settings. One of the better known examples and models is the University of Massachusetts Medical School’s “Teaching of Tomorrow” Program, which provides a faculty development program specific to office-based and clinic settings. More information is available at: http://www.umassmed.edu/cfdc/programs/tot/index.aspx.

ROLES OF RESIDENTS AS TEACHERS AND LEARNERS IN THE AMBULATORY SETTING

Aside from the attending physician, residents can also have a distinct teaching role in the ambulatory setting. When team members are clearly defined as discussed in Module 1, ambulatory medicine education can be prioritized alongside patient-centered care delivery. For residents, progressive levels of autonomy can be achieved by demonstrating competency-based milestones in the ambulatory environment.

Example: Baystate Medical Center in Springfield, Massachusetts developed a hierarchical system of supervising and teaching that builds on competencies emphasized and mastered during the PGY-1 year, and prepares the resident for subsequent teaching responsibilities. This “Learner-Manager-Teacher Model” maximizes the learning experience for residents at all PGY levels and helps to fuse together education with the correct balance of autonomy and supervision.

See Appendix P: Learner-Manager-Teacher Model (Baystate Medical Center)
**TIPS: EFFECTIVE RESIDENT QI PROJECTS**

- Allow residents to select their own topics. This will make them interested and accountable for the project.
- Allow residents to work on similar topics. This will facilitate group discussion.
- Require residents to track and report their own patient data. This will help them take ownership of their project.
- Schedule regular progress reports, even if residents are not in the clinic. This will help residents stay accountable for their project.
- Focus the project on process, as opposed to outcomes. This will facilitate practice-based learning.
- Give residents an opportunity to showcase their data either to the hospital’s quality committee or at another high-level meeting. This will help the residents develop and refine their presentation skills.

See Appendix Q: Sample Data Collection Tools for Resident QI Projects (Elmhurst Hospital Center)
Hospital Name: Yale School of Medicine-Yale-New Haven Hospital
Location: New Haven, Connecticut
Size: 1,088 beds
Clinic Visits: Approx. 9,500 primary care visits per year
Residency Program: 119 Internal Medicine Residents

Organization Description
Yale-New Haven Hospital is a not-for-profit teaching hospital that provides comprehensive, multidisciplinary, family-focused care in more than 100 medical specialty areas, and serves as the primary teaching hospital for the Yale School of Medicine. http://medicine.yale.edu

Background
Linking didactics to ambulatory redesign is a key part of improving care management in teaching clinic sites. For the Yale School of Medicine residencies, special emphasis has been placed on developing and teaching a comprehensive ambulatory medicine curriculum so residents can learn about disease management, evidence-based medicine, shared decision-making, and patient-centered team-based care in the ambulatory setting.

Action
Yale residents are exposed to the Yale Office-Based Medicine Curriculum as part of their ambulatory medicine training, where they learn to assess and manage common ambulatory problems through an office visit. The Curriculum, which evolved from a Yale ethics curriculum, covers a wide range of primary care topics and subspecialty areas, as well as practical topics such as office management and billing. The comprehensive nature of the topics addresses more than one of the ACGME’s competencies, including medical knowledge, professionalism, and systems-based practice. The Curriculum is also used at Waterbury Hospital and West Haven Veterans Affairs Hospital.

One interesting aspect of the Curriculum is the way it is used at Yale and its related facilities. There are two versions, one specifically designed for residents and one for faculty. Each semester, residents receive a six-month electronic syllabus that covers 24 cases with related questions and electronic access to one or more peer-reviewed articles. During their three years of training, residents are exposed to more than 140 topics as part of this rotating syllabus. Prior to a clinic session, the residents participate in a 30-minute pre-clinic conference, where faculty reviews a case from the Curriculum as a “teachable moment.” Faculty or senior residents lead the discussion, depending on the
site. Residents are expected to have read the case in advance to enhance the discussion. The faculty version of the Curriculum, on the other hand, is designed to facilitate the discussion from a moderator perspective, which provides an excellent teaching opportunity.

**Successes**
Yale goes to great lengths to keep the Curriculum up to date, which is one of the biggest challenges in developing a comparably detailed academic medicine curriculum. The advantage of a Web-based curriculum is that it can remain timely and subscribers now have that expectation.

One success that has resulted from developing this curriculum is that many internal medicine programs around the country have used various adaptations at clinic sites as a way to structure didactics in the outpatient setting. Some teaching institutions have chosen to use the curriculum as part of a multi-disciplinary noon conference, and some have used it as self-directed learning modules.

**Challenges**
Yale has faced the challenge of who is responsible for updating a topic (the Curriculum’s editors or a module’s author), what kind of information is “critical” enough to warrant an update (defining a threshold), and how to communicate new information to subscribers (using a proactive notification or other form of regular communication).

To overcome these challenges, every six months the chapters are assigned to faculty who are involved in developing the Curriculum’s content. The faculty is responsible for reviewing the content and verifying that it is current and supported by recently published literature. This process ensures that the Curriculum remains up to date for the residents’ benefit, and serves as a faculty development exercise by keeping them engaged in scholarly activity.

**Lessons Learned**
Performing a local needs assessment and getting to know the local learners has allowed Yale to understand what resources are needed to develop the Curriculum. Also, it has been critical for Yale to consider how to keep the learners involved, determine the best ways to encourage learners to access resources, and how learners can provide feedback to continually improve it. Developing and implementing a curriculum such as the one at Yale is a good example of not only how important it is to formally structure didactics in the outpatient setting, but how equally challenging it can be.
MODULE 8
Measuring Performance Improvement for Sustainability
Modules 1 through 7 have reviewed a variety of operational improvement interventions an ambulatory teaching setting might make to benefit its patients, staff, and the residents training at the site. Undertaking some or all of them must be done with a clear goal of what needs to be improved and how to measure and track that improvement. A teaching clinic setting has at least three different sets of interrelated issues—clinical outcomes, clinic operations, and educational experience—that could be targeted for improvement. It is important to start with a clear sense of the intervention’s goal and its impact on each of the three areas.

Module 8 considers approaches to determining whether the changes made are having the desired impact. Before doing that, however, it is important to define a framework for any performance improvement undertaken, and to understand the general approach to making any kind of change. Once those critical issues are understood, the issues of the type of measure to change and how to measure improvement can be resolved.

DEFINING A FRAMEWORK FOR IMPROVEMENT

Measuring performance improvement helps projects be sustainable in a variety of ways. For example, documented improvement in patient outcomes, clinic efficiency, or resident education can help build senior leadership support, which can be useful when it is time to renew or expand a program. Documenting improvement also helps encourage care teams and clinic staff to continue their efforts. Conversely, even if what is measured shows that the intervention is not meeting intended goals, the data can help refocus the efforts for success.

To ensure success when undertaking performance improvement initiatives, clinics should ask themselves what they are trying to accomplish and how they will identify changes that will lead to improvement.

The IOM principles mentioned in Module 1 can guide this process. IOM states that care should be safe, effective, patient-centered, timely, efficient, and equitable. Also consider the ACGME’s framework for effective continuity of care and its stated goals for resident learning in ambulatory settings.

Measurement is fundamental to quality improvement. Testing out changes before implementing them across the entire ambulatory setting or residency program is also crucial. Testing helps to refine new processes and builds care teams’ confidence to support implementation.

It is important to engage the entire care team in the process of defining your performance improvement framework, as staff will have different ideas about processes and priorities than residents and senior leaders. Inviting and incorporating everyone’s ideas will be essential to successfully testing and refining new processes and procedures.

USING SMALL TESTS OF CHANGE

Small tests of change can be used to test any type of process intended to improve patient care, health outcomes, or resident experience, from strategies for patient engagement or optimizing pharmacotherapy to redesigning the visit. “Pilot testing” new ideas on a small scale before introducing changes clinic-wide allows care teams to quickly identify potential obstacles to success with minimal risk or burden. Once obstacles are identified, new processes can be modified, tested again, and refined until they are ready to be rolled out more broadly—whether to another care team in the practice, another set of residents, a broader patient population, or the full clinic setting.

These small tests of changes are often called “Plan-Do-Study-Act” (PDSA) cycles. As care teams repeat PDSA cycles to refine new processes, they build confidence in their own ideas and their abilities to implement changes. They develop a clear understanding of the challenges inherent in introducing new processes and become creative about finding solutions as they learn to test and refine them.

While the concept behind PDSA cycles is simple, integrating these small tests of change into the clinic’s normal workflow can be difficult. To begin using this method, start with something simple—and something small. Make a minor adjustment to a process that is already in place, or introduce a change that the team
has already been talking about and wanting to try. In this way, pilot testing a new process will not be overly burdensome or overwhelming to the care delivery team.

For example, if the clinic aims to improve patient-centered care by focusing on patient engagement around hypertension control, the following steps might occur:

- **Step 1: Plan.** The team selects an evidence-based change in practice for testing.

  For a panel of patients with uncontrolled hypertension who have been prescribed anti-hypertensive agents, use a new adherence assessment tool and plan to ask three to five patients in a day about how well they are adhering to their medication regimen.

  Identify roles for each care team member in this process. For example, the medical assistant might identify patients meeting the criteria and give them a self-administered tool to complete. The resident could review the completed tool with the patient and address any medication adherence challenges the patient identifies. Finally, the nurse could provide education and self-management support, and document the conversation in the patient record.

- **Step 2: Do.** During a single day, the care team asks three to five patients about medication adherence and documents the results.

- **Step 3: Study.** At the end of that day, the team huddles to discuss how things went. Whatever worked should be continued, and whatever didn’t

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**STEPS IN THE PDSA CYCLE**

**Step 1:** Plan
Plan the test or observation, including a plan for collecting data.
- **Step 1:** Plan
  - State the test’s objective.
  - Make predictions about what will happen and why.
  - Develop a plan to test the change. (Who? What? When? Where? What data need to be collected?)

**Step 2:** Do
Try out the test on a small scale.
- **Step 2:** Do
  - Carry out the test.
  - Document problems and unexpected observations.
  - Begin analyzing the data.

**Step 3:** Study
Set aside time to analyze the data and study the results.
- **Step 3:** Study
  - Complete the data analysis.
  - Compare the data to your predictions.
  - Summarize and reflect on what was learned.

**Step 4:** Act
Refine the change, based on what was learned from the test.
- **Step 4:** Act
  - Determine what modifications should be made.
  - Prepare a plan for the next test.

**IMPLEMENTING THE PDSA CYCLE IN THE CLINIC SETTING**

A PDSA cycle can be implemented in the clinic using the approach discussed above.
work should be identified and changed to enhance success.

- Step 4: Act. Repeat the test the following day with the changes identified in Step 3.

Once the team is confident the new process is working well, expand it to more patients on the panel, and ultimately to other panels and other teams. The testing data gathered regarding time required and results will provide compelling evidence for others to adopt the tool.

For more guidance on conducting small tests of change, as well as useful tools and resources, visit the Institute for Healthcare Improvement’s Web site at http://www.ihi.org/knowledge/Pages/HowtoImprove/default.aspx.

DECIDING WHAT TO MEASURE AND HOW TO MEASURE IT

While undertaking an initiative, measuring where you are and figuring out how to make things better will help you achieve actual performance improvement. By developing and tracking a set of measures over time, clinics can pinpoint successful changes, and reinforce and spread best practices. Measurement also uncovers areas of ongoing care delivery challenges, and may identify unintended consequences of changes in care processes (e.g., longer visit cycle times).

An effective measurement strategy will include outcome and process measures. These two different types of metrics are defined in the box on page 68.

### TYPES OF MEASURES

**PROCESS MEASURES**

Metrics that track improvement in the way the care team (or the practice as a whole) operates are called process measures. These metrics allow the care team (or practice) to evaluate the uptake and application of clinical guidelines for care, and of new care processes related to care coordination and care management. They assess how health care is provided and how the system works. Process measures can be data elements that describe a process completed or facilitated by the resident or staff member. Process metrics are integral for ensuring that residents (or team members) are “doing” what they should be doing and are well-suited for evaluating clinical competency.

**Example:** Percentage of eligible patients with an active diagnosis of uncontrolled hypertension that have been prescribed a thiazide.

**OUTCOME MEASURES**

Metrics that track improvement in patients’ clinical outcomes are called outcome measures. These metrics examine health status and evaluate the impact of changes on improvements in patients’ health. They can be condition-specific, tied to preventive measures, or related to patient experience. Outcome measures indicate an outcome change in clinical status or disease state. Improvements in outcome measures are what all QI projects strive to achieve through optimizing process efforts.

**Example:** Percentage of eligible patients with an active diagnosis of hypertension whose most recent blood pressure recording was less than 140/90.
By introducing changes discussed in this toolkit, teaching clinics can undertake initiatives and measure performance improvement in one or more of three domains of performance:

Quality and Patient Outcome Performance
For any quality improvement initiative to be considered successful in a clinical setting, patients’ clinical outcomes must improve. However, improving clinical outcomes can take a long time, so it is important to include measures that can show more short-term success. Because performance is generally based on a combination of factors that combine to result in a desired outcome, outcome measure performance is not easily aligned to one specific process. The factors that impact the performance outcome include not only the provider and health care recommendations and intervention, but many others, such as the patient’s lifestyle, behavior, and socioeconomic situation. Despite this inherent challenge, it is important to do as much as possible to improve outcome measure performance. Tracking improvements in process measures, however, allows care teams in the clinic to determine whether they are moving in the right direction.

To understand how process and outcome measures are used together, consider again the example of improving hypertension control in the PDSA cycle discussion. Even after the change being tested is refined and spread to a care team’s entire panel of patients with hypertension, it may take time to see control of patients’ hypertension improve. However, the team can review patient records for documentation of the medication adherence intervention. Since improving documentation will indicate improving on a process variable associated with hypertension control, it is likely that improving hypertension among patients receiving the intervention will improve over time. Using structured data fields within the record to allow for quick review of variables like documentation (e.g., “Conducted medication adherence review – Y/N”) will facilitate the measurement and reporting process.

In settings where an EHR can produce performance reports, administrators and clinical leaders may review all types of performance data. However, limiting data collection to high-priority measures is the best way to ensure careful review and follow-up of data. The clinic should consider including measures that close gaps in care, are related to common conditions, and are being utilized as part of a reimbursement incentive program.

For example, when deciding on a specific measure, an ambulatory setting in New York might review the specific measures utilized in NCQA’s PCMH recognition program and select one or more to focus on for its main data collection efforts.

As the clinic introduces new care delivery mechanisms and priorities, clinical indicators to assess their uptake and effectiveness should be defined. The clinic leadership should introduce new measures in a staged manner, according to current areas of clinical focus, so that care teams can concentrate their efforts on patients with certain conditions, or on delivering specific preventive measures. In that way, residents and other clinicians will likely see progress quickly, at least in process measures, and be inspired to keep working toward clinical goals. In the teaching clinic, it is especially important to define realistic goals that residents can achieve within the timeframe they will be working with their care teams and patient panels.

Always keep in mind that an effective measurement strategy collects data that is useful for evaluation and patient care improvement. The National Quality Forum’s (NQF) Web site (http://www.qualityforum.org/Home.aspx), as well as DOH’s Quality Assurance Reporting Requirements (QARR), (http://www.health.ny.gov/health_care/managed_care/reports/eqarr/2011/about.htm) have information about selecting nationally recognized, evidence-based measures for your practice.

Clinic Operations and Performance
Monthly performance reports allow residents, other members of the care team, and the entire staff to evaluate progress toward clinical goals. By using an EHR’s registry function, or by working with the IT department to draw data from other sources, the clinic can develop population reports on process and outcome measures, and track the progress of a defined patient panel.
Care teams should receive reports for their own patient panels, but they ideally should also see their data benchmarked against blinded data from other teams. Reporting in this format allows teams to evaluate their own performance and compare with their colleagues’ performance and the clinic as a whole. Because this performance reporting is meant to improve patient care and resident learning, and not to criticize or judge, it is important to create a proper environment that supports data sharing and performance improvement.

Finally, think through the details of measuring and reporting to maximize success. Articulate team roles and responsibilities by considering the following questions whenever introducing a change in practice:

- How will data be captured?
- Who will review data fields within the EHR to ensure that data is collected in a structured way, as a routine process of care delivery?
- Who is responsible for producing reports?
- Who reviews the reports? How often does the review occur, and in what setting?
- How will the report be used in evaluating the resident’s performance?
- How is performance data communicated to clinical leaders? To the administrative leadership? To the resident program leadership? To the entire staff?

Thinking through these practical issues as early as possible will go a long way to facilitating improvement in patient care and the resident learning experience at the clinic.

Resident and Faculty Performance

In teaching clinics, it is essential to combine the resident experience with data from performance improvement efforts for the care team and the entire clinic. With the impending rollout of the ACGME’s Next Accreditation System (as discussed in Setting the Stage), outcomes will be emphasized more and more in evaluating teaching institution and residency program performance. For example, the ACGME’s Program Requirements in Internal Medicine state that each resident’s longitudinal continuity experience “must include evaluation of performance data for each resident’s continuity panel of patients relating to both chronic disease management and preventive health care.” Residents must receive a continuous flow of information on their performance in the clinic to understand the implications of their clinical decisions and achieve proficiency in caring for ambulatory patients. The central element in a strong educational program, therefore, is timely, specific, and actionable evaluation and feedback.

With regard to resident competence, focus will be on measurable or observable attributes (knowledge, abilities, skills, or attitudes) at key stages of the resident’s training. Once the key performance measures the clinic will evaluate over time are selected, applying some—if not all—of them will be critical to evaluating the resident’s performance in the clinic.

Some key tools to achieve the goal of resident and residency program performance are described below.

- **Resident Report Cards.** Resident report cards use a selection of process and outcome measures to paint a comprehensive picture of a resident’s care of clinic patients. To define a resident report card’s key elements, consider a selection of the process measures the clinic manager, in collaboration with the residency program director or ambulatory faculty members, can develop and use:
  - **Preventive Care and Screening Metrics.** Examples include the percentage of each resident’s patient panel that has received gender- and age-appropriate vaccinations, mammograms, pap smears, colonoscopies, prostate exams, or other indicated tests and procedures.
  - **Chronic Disease Management Metrics.** Examples include ordering HbA1c tests, ordering and completing retinal eye exams, and performing foot exams for diabetic patients.
  - **Resource Utilization Metrics.** Examples include calculating the volume of lab tests, radiologic studies, and other resources used.
  - **Patient Experience Metrics.** Examples include patient experience or patient satisfaction data to assess resident communication skills and professionalism.
The selection of data elements may depend on the capabilities of your IT system to produce the desired data. Module 5 addresses the importance of including resident identifiers in your HIT infrastructure to facilitate the development of resident report cards.

Once data elements have been defined and the data sources identified, develop a report card template that may be populated with resident-specific data at regular intervals. Resident report cards should be produced at least twice a year, though more frequent reporting will better facilitate learning and improvement.

Develop a process for producing these reports and establish procedures for faculty to review them. Regular report card meetings between faculty and residents are essential, as they will foster discussions on the results and development of an action plan to achieve measurable improvement.

■ Firm-Based Reporting. A “firm” is a group of residents (and possibly faculty members) that work to cross-cover for each other when individual residents are not physically available in the clinic due to scheduling issues. (In this toolkit, we distinguish the firm from a “team.”) When a resident is working in the clinic, he or she functions as part of a clinical care team that includes a variety of staff members.) A firm would be set up in a clinic to encourage continuity of care for patients through a cross-coverage model, and is often utilized because of the various rotation assignments necessary for complying with residency program requirements.

In addition to achieving better continuity of care for patients, this cross-coverage model lends itself to firm-based data display and use of process and outcome measures for review. When using this model and feeding back performance on individual metrics to residents, it is also important to compile firm data, as multiple providers will be cross-covering for each other and caring in part for the same group of patients. All members should be provided with firm data for review for the firm to work most effectively.

■ Faculty Report Cards. Like resident report cards, faculty report cards promote review of aggregated data on clinical and educational performance at the attending or supervising physician level. A faculty report card’s clinical performance data will often include the same metrics described above for individual resident data, but for the broader population of clinic patients whose care is supervised by an individual faculty member.

The faculty report card may also include aggregated data from resident evaluations of faculty teaching and supervision. As with resident report cards, it is important to establish a process to ensure the clinic medical director and/or residency program director reviews and discusses report cards with individual faculty members to promote clinical practice and resident education improvement.

CONNECTING PERFORMANCE IMPROVEMENT IN THE TEACHING CLINIC TO THE ACGME CHANGES

The ACGME’s new Common Program Requirements state that “the program must provide objective assessments of competence in patient care and procedural skills, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice based on the specialty-specific Milestones.” On a semi-annual basis, milestones-based composite resident evaluation data will need to be submitted to the ACGME, while other data, such as resident and faculty survey results...
Collecting Milestones Data and Developing Entrustable Professional Activities (EPAs)

As part of the goal to develop a more outcome-based accreditation system and have individual residency programs focus on milestones, the ACGME is encouraging the development of EPAs for various specialties. The EPAs represent the knowledge, skills, and attitudes that society and the medical profession believe are critical to physician performance. EPAs are defined by milestones within each competency. To support this effort, the Alliance for Academic Internal Medicine Education Redesign Committee proposed a set of EPAs for internal medicine that, when considered collectively, “describe a resident who has sufficiently demonstrated competence and can be entrusted with entering into unsupervised practice.” These are:

- Manage the care of patients in general internal medicine continuity clinic.
- Manage the care of patients on general internal medicine inpatient ward.
- Manage the care of patients in the critical care unit.
- Provide general internal medicine consultation to nonmedical specialties.
- Provide preoperative assessment and preoperative care.
- Manage transitions of care.
- Lead inter-professional care teams.
- Lead family meetings.
- Assure patient safety.
- Improve the quality of personal and system-level care.
- Engage in lifelong learning.
- Provide patient advocacy.
- Behave professionally.

Westchester Medical Center emphasized direct observation, and the faculty created a number of new EPAs that addressed direct observation. Developing program milestones can also serve as a faculty development activity, as a case study on North Shore University Hospital’s internal medicine program illustrates (see page 77).

Residency programs in teaching clinics must ensure appropriate supervision of the trainee while also ensuring safe and effective patient care, all while providing a meaningful and appropriate learning experience. By undertaking changes, utilizing process- and outcomes-based metrics, measuring improvements, and tying these activities to evolving accreditation standards and expectations for resident learning, the clinic and residency program will move toward better serving patients’ needs, improving community health, and creating a robust educational environment for residents.

To learn more, see: [http://www.im.org/AcademicAffairs/milestones/Pages/default.aspx](http://www.im.org/AcademicAffairs/milestones/Pages/default.aspx).
CASE STUDY
Developing Meaningful Resident Report Cards

Hospital Name: University of Cincinnati Academic Health Center
Location: Cincinnati, Ohio
Size: 429 beds
Clinic Visits: Approx. 25,000 primary care clinic visits per year
Residency Program: 84 Internal Medicine Residents

Organization Description
University Hospital is the academic medical center for the University of Cincinnati College of Medicine and serves thousands of people from the region and around the world. It is also a major research facility and provides primary care, as well as multispecialty care. [http://www.uchealth.com/](http://www.uchealth.com/)

Background
A key component of the University of Cincinnati’s ambulatory redesign efforts has been to create a more data-driven environment.

Action
Quality data, based on clinical metrics, is generated regularly on the performance of the teams in the clinic as a whole, as well as within the resident mini-teams, and for individual physicians. The metrics are based on commonly seen chronic and preventative conditions in the clinic. While team data is discussed during the weekly meeting, individual resident data is compiled in a resident report card that contains between 30 and 40 clinical measures and is reviewed every three to four weeks. The Chief Resident and Program Director review each individual resident’s report card as part of the resident’s 360-degree evaluation. The data is discussed relative to the resident’s performance at that point in time, as well as longitudinally over time, to measure improvement.

Successes
Residents use their performance as friendly competition with each other. Those who see success over time become champions within the program for achieving positive patient outcomes for specific diseases seen in the clinic and the community as a whole. From a competency perspective, the Program Director believes that measuring educational outcomes at the patient level is the most important measurement that can be made, and touches on all the ACGME core competencies.

Challenges
One of the biggest challenges with developing a comprehensive data report card is gathering data from several different sources within the hospital, which was addressed by having a dedicated staff person from IT be part of this process.
Lessons Learned
The most significant lesson learned in developing this report card was in understanding the importance of coordinating with the IT Department. With the help of a dedicated IT staff person, a series of templates and automated processes have streamlined the process to make it easier and faster to generate data. This can be particularly challenging in the changing world of the EHR, where institutions often switch between products every few years. Another important lesson learned is the value of regularly reviewing the report card’s data elements. This helps to make sure that the measures are current and represent the conditions present in the clinic population, which benefits both the residents and patients.
## CASE STUDY

Using Resident Evaluation to Enhance Faculty Learning

<table>
<thead>
<tr>
<th>Hospital Name:</th>
<th>North Shore–Long Island Jewish (NS–LIJ) Health System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location:</td>
<td>Manhasset, New York</td>
</tr>
<tr>
<td>Size:</td>
<td>800 beds North Shore University Hospital (NSUH)/400 beds Long Island Jewish Hospital (LIJ)</td>
</tr>
<tr>
<td>Clinic Visits:</td>
<td>Approx. 50,000 primary care clinic visits per year (NSUH)/Approx. 100,000 primary care clinic visits per year (LIJ)</td>
</tr>
<tr>
<td>Residency Program:</td>
<td>140 Internal Medicine Residents</td>
</tr>
</tbody>
</table>

### Organization Description

NS–LIJ is the second largest not-for-profit health system in the country. With the addition of the new Hofstra NS–LIJ School of Medicine and a rapidly expanding ambulatory care network of more than 200 sites, NS-LIJ serves as a major provider of ambulatory care and education. [http://www.northshorelij.com/NSLIJ/NSLIJ+HomePage](http://www.northshorelij.com/NSLIJ/NSLIJ+HomePage)

### Background

With the recent merger of the NSUH and LIJ internal medicine residency programs, the creation of the new School of Medicine, and the development of the ACGME milestones, it was an appropriate time for faculty development in the internal medicine residency.

### Action

One arena where the program focused its efforts was in faculty evaluation of residents, using the ACGME milestones as a framework. Core faculty, including ambulatory preceptors, engaged in a mandatory workshop to help them use the milestones to evaluate residents. The faculty members were divided into groups of three or four with each assigned to one of the six competencies. Each group examined the milestones in their competency and debated when each behavior “should” reasonably be expected to emerge from trainees in the ambulatory arena. The ambulatory-specific global evaluation form included milestones that faculty members felt were specifically related to ambulatory skills. The global form also linked to information on all of the milestones. During the academic year, competency meetings were conducted with faculty, and the meetings included reviewing the ambulatory milestones that were agreed upon in the faculty development sessions.

### Successes

Incorporating the milestones into the ambulatory evaluation form, the ambulatory curriculum, and reviewing them at all competency meetings allowed the program to reiterate a behavioral-based assessment of trainees in the ambulatory setting. Having the faculty debate the applicability and timing of various milestones in each of the competencies was a useful way for them to become familiar with the milestones and abilities expected of the residents.
Challenges
One of the biggest challenges was adjudicating when faculty members disagreed on the importance or timing of a particular milestone for a specific competency in the ambulatory setting. It was also important to reiterate the milestones and competencies.

Lessons Learned
Faculty development is an important component of running a successful assessment system in the ambulatory setting. Having faculty weigh in on the applicability and timing of the milestones, and then creating the evaluation forms used in the ambulatory setting, is a valuable way to obtain buy-in of competency-based assessment.
GLOSSARY

REFERENCES

& RESOURCES
GLOSSARY OF TERMS USED IN THIS TOOLKIT

A basic challenge associated with introducing, adopting, and integrating new approaches to care delivery is confusion surrounding terminology. Terms commonly used to describe new approaches may be defined differently by the many individuals and organizations that employ them in their work.

This glossary is intended to establish a common understanding of terms used in this toolkit, even though terms included here may have different meanings in other settings.

ACCREDITATION COUNCIL FOR GRADUATE MEDICAL EDUCATION (ACGME)
The voluntary organization that accredits and oversees allopathic graduate medical education. ACGME develops institutional requirements for all organizations that sponsor residency programs. Requirements cover issues such as resident eligibility and selection, resident contracts, institutional agreements, and resident duty hours. ACGME also has final authority over all specific residency program requirements.

ACGME Competencies
Specific knowledge, skills, behaviors, attitudes, and the appropriate educational experiences required of residents to complete graduate medical education (GME) programs.

ACGME Core Competencies
Residents are regularly evaluated on six core competencies, eventually achieving the expected level of a new practitioner. The competencies are patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice.

ACGME Program Requirements
The set of ACGME programs of study that require residents to take specific courses, or courses from specified areas of study or disciplines, or courses at a specific level of study. These program requirements form part of the regulations for each program.

ACGME Common Program Requirements
The set of ACGME requirements that apply to all specialties and subspecialties.

ACGME Milestones
Specific benchmarks of skills and knowledge that residents in every specialty must achieve at certain stages in their residencies to document residents’ steadily increasing mastery of the six competencies.

AMBULATORY BLOCK ROTATIONS
Defined periods of time, usually one month in duration, during which residents devote their primary educational and clinical efforts to outpatient medicine.

AMBULATORY LONG BLOCK
An extended and continuous period of time, ranging from several months to a full year, during which residents devote their primary educational and clinical efforts to outpatient medicine.

AMBULATORY MEDICINE ROUNDS
An organized discussion session, usually led by a faculty physician, focused on managing the care of a specific patient or patients from the clinic setting and that is intended to stimulate and challenge the clinical thinking of residents by highlighting key learning points.
GLOSSARY OF TERMS USED IN THIS TOOLKIT

AMBULATORY MORNING REPORT
An interactive learning session during which one or more interesting or educational cases are presented and discussed among residents and faculty physicians, with particular attention to identifying and teaching key concepts in outpatient medicine.

CARE COORDINATION
An approach that addresses patients’ interrelated medical, social, developmental, behavioral, educational, and financial needs to achieve optimal health and wellness outcomes. All providers working with a particular patient share important clinical information and have clear, shared expectations about their roles. The providers work together to keep patients and their families informed and to ensure that effective referrals and transitions take place. Care coordination is the deliberate organization of patient care activities between two or more participants involved in a patient’s care to facilitate the appropriate delivery of non-duplicative, cost-effective health care services.


CARE COORDINATOR
The member of the care team or primary care practice who is charged with overseeing the implementation of care coordination strategies for all patients. The care coordinator is responsible for ensuring clear communication among all team members, the patient, and the patients’ family; facilitating transitions for the patient; ensuring that recommended tests and appointments are made and occur; and making certain that test results are integrated into the EHR, reviewed, and acted upon by medical staff. Care coordinators may have allied health training or nursing qualifications.

Definition adapted from Ohio State University’s Care Management Plus, http://caremanagementplus.org/about.html.

CARE PLAN
A living document developed by the physician in collaboration with the care team that serves as a comprehensive guide to patient care. A care plan is patient-specific and addresses the patient’s total health to ensure optimal outcomes. The care team reviews and updates the care plan at every patient visit.

CARE TEAM
In the primary care setting, the care team is led by a primary care physician and comprises physicians, residents, and non-physician staff such as nurses, nurse practitioners, physician assistants, social workers, nutritionists, and allied health professionals. It also includes patients, families, caregivers, community-based organizations and support groups, hospice care, and others. Non-physician care team members perform many of the standardized clinical tasks associated with comprehensive, coordinated patient care. The care team approach is based on the assumption that certain aspects of chronic disease care (such as educating and monitoring patients) may be better performed by non-physician staff members who have special skills or experience, such as language proficiency, other cultural sensitivity, or personal experience of the disease. A team approach to chronic disease care can simultaneously provide increased
attention to chronic disease patients’ needs and reduce the burdens of such care on the practice’s physicians.  


**CLINICAL DECISION SUPPORT**

A process for enhancing health-related decisions and actions with pertinent, organized clinical knowledge and patient information to improve health and health care delivery. Information recipients can include patients, clinicians, and others involved in patient care delivery; information delivered can include general clinical knowledge and guidance, intelligently processed patient data, or a mixture of both; and information delivery formats can be drawn from a wide range of options that include data and order entry facilitators, filtered data displays, reference information, alerts, and others.  

*Definition adapted from Healthcare Information and Management Systems, [http://www.himss.org/asp/topics_clinicaldecision.asp](http://www.himss.org/asp/topics_clinicaldecision.asp).*

**CLINICAL PRACTICE GUIDELINES**

Systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances. They define the role of specific diagnostic and treatment modalities in diagnosing and managing patients. The statements contain recommendations based on evidence drawn from a rigorous systematic review and synthesis of the published medical literature.

**CLINICAL SUPERVISION**

A required faculty activity involving the oversight and direction of patient care activities that are provided by residents and fellows.

**CONTINUITY CLINIC**

Setting for a longitudinal experience in which residents develop a continuous, long-term therapeutic relationship with a panel of patients.

**CORE CURRICULUM**

The organizing framework for the key components of the body of knowledge, skills, and experiences transmitted from teachers to learners in the course of an educational program.

**DIDACTIC**

A kind of systematic instruction by means of planned learning experiences, such as conferences or grand rounds. It is generally distinct from clinical or patient care activities.

**EDUCATIONAL INNOVATION PROJECT (EIP)**

A pilot project of the ACGME to facilitate competency-based education and outcomes assessment in Core Internal Medicine programs well-suited and ready for innovation. This project, which began in 2006, engaged programs with demonstrated accreditation excellence to innovate and redesign their educational programs according to the proposed pilot project program requirements, and to enter into an alternative accreditation cycle (up to 10 years) commensurate with this project. These innovations are aimed at training interns to provide safe, patient-centered, data-driven care as informed leaders in health care delivery systems, and to transform internal medicine GME from a process-based to an outcomes-based educational system. The innovations and outcomes of this pilot project will be shared with the GME community and form a basis for future accreditation requirements in internal medicine, and potentially other specialties. EIP is overseen by the Residency Review Committee for Internal Medicine.

**EMPANELMENT**

A data-driven process that assigns individual patients to individual primary care providers who act as leaders of established care teams. Providers and their care teams are responsible for the ongoing comprehensive and coordinated care of the patients assigned to them.  


**FACULTY**

Individuals who have received a formal assignment to teach physicians at the residency or fellowship stage of their training. At some sites being appointed to the hospital’s medical staff constitutes being appointed to the faculty.
GRADUATE MEDICAL EDUCATION (GME)
The period after medical school when physicians receive their clinical or “residency” training. The first year of residency is often referred to as the “internship.” The training is typically from three to seven years, depending on the specialty, and relies primarily on learning acquired through providing supervised patient care.

GROUP PRACTICE
The practice of medicine by a group of physicians, each of whom is usually confined to a special field, but all of whom share a common site.

HEALTH HOME
An entity responsible for providing care coordination services across a network of medical and behavioral health care providers and community and support service providers for Medicaid patients with multiple chronic illnesses. The Affordable Care Act permits states to pay for health home services under their state Medicaid programs with 90% Federal funding for the first two years.

HUDDLE
A communication technique that replaces the standard one-hour meeting with frequent, short briefings for care team members so they can stay informed, review work, make plans, and move ahead quickly. Definition adapted from the Institute for Healthcare Improvement, http://www.ifi.org.

MEANINGFUL USE
In the context of health information technology, Congress defined meaningful use as 1) the use of certified electronic health record (EHR) technology; 2) a certified EHR that is connected in a manner that provides for the electronic exchange of health information to improve care; and 3) provider submission of information on clinical quality measures to the Centers for Medicare & Medicaid Services (CMS). The HITECH Act of the American Recovery and Reinvestment Act provides for Medicare and Medicaid incentive payments to eligible providers that are “meaningful users” of EHR technology. CMS is charged through rulemaking with further defining the criteria for demonstrating meaningful use of EHRs.

MEDICAL NEIGHBORHOOD
Includes specialty and subspecialty practices, the hospital, and all other entities surrounding the primary care practice involved in patient care. These “medical neighbors” must align their processes with the critical elements of the Patient-Centered Medical Home (PCMH) to achieve PCMH goals. Medical neighborhoods should have clear, coordinated, and efficient bi-directional communication with the primary care practice; ensure timely and appropriate consultations and referrals; ensure efficient, effective flow of necessary patient care information; effectively guide determination of responsibility in co-management situations; support patient-centered care, enhanced care access, and high levels of quality safety; and support the PCMH model’s “whole person orientation.” Definition adapted from the American College of Physicians, http://www.acponline.org/advocacy/where_we_stand/policy/pcmh_neighbors.pdf.

PANEL MANAGEMENT
A system that identifies groups of patients with similar needs to improve their quality of care and health outcomes. Patients at risk or with gaps in care are systematically identified to enhance preventive care and overall management of chronic conditions. Definition adapted from the New York City Department of Health and Mental Hygiene, http://www.nyc.gov/html/doh/downloads/pdf/chi/chi30-2.pdf.

PATIENT-CENTERED MEDICAL HOME (PCMH)
A collaborative and comprehensive approach to delivering primary care that involves partnerships between patients, their providers, and all those involved in the care delivery process. The PCMH model of care aims to provide the optimal level of quality primary care that is integrated, coordinated, patient-centered, and cost-efficient. The National Committee for Quality Assurance (NCQA) and The Joint Commission have set standards for eligible outpatient primary care practices to apply for and receive recognition as an NCQA PCMH. The New York State Department of Health provides enhanced Medicaid reimbursement for qualifying practices to encourage the development of NCQA-recognized PCMHs.
PATIENT PORTAL
Web-based application that allows patients to interact and communicate with their health care providers. Patient portals must have the ability to communicate individual patient health information in a secure manner through the Internet. Patient portals benefit patients and providers by increasing efficiency and productivity, and are considered a key tool to help physicians meet “meaningful use” requirements to receive Federal monetary incentives, especially for providing health information to patients. *Definition adapted from Physicians Practice, [http://www.physicianspractice.com/technology/content/article/1462168/1890621](http://www.physicianspractice.com/technology/content/article/1462168/1890621).*

PROGRAM DIRECTOR
A physician who has been given the authority and accountability for operating the residency and/or fellowship program.

PROTOCOL (OR CLINICAL PROTOCOL)
A detailed written plan specifying the procedures to be followed in giving a particular examination, providing care for a particular condition, or communicating with care team members, specialists, and others involved in the patient’s care. In the clinical setting, protocols should guide all care processes and associated communication and logistics.

REGISTRY (OR REGISTRY FUNCTION)
Software that collects clinical data on patients with a specific condition (such as diabetes, asthma, or hypertension) and/or tracks specific medical tests (such as a pap smear, mammogram, or flu shot). The registry may be used to guide proactive care planning for individual patients or to assess a patient’s health. In earlier years, registries used to be stand-alone packages that addressed individual diseases or conditions. Today, EHR software often includes a “registry function” to allow data mining and reporting, and the registry concept has become a tool in care coordination and management. *Definition adapted from the Primary Care Development Corporation, [http://www.pcdeny.org](http://www.pcdeny.org).*

RESIDENCY REVIEW COMMITTEE (RRC)
The ACGME entity that accredits a particular residency training program. RRCs develop and update program requirements for specialties that specify essential educational content and other curricular requirements. The program requirements are submitted to ACGME, which has the final authority for approving all specialty program requirements.

RESIDENT
Any physician in an accredited GME program, including interns, residents, and fellows.

RESIDENT FIRMS
A means of organizing residents into manageable groups for purposes of scheduling, sharing responsibilities, promoting peer-to-peer interaction, and enhancing longitudinal continuity of patient care (also referred to as “resident teams” or “resident practice groups”).

ROTATION
An educational experience of planned activities in selected settings, over a specific time period, developed to meet a program’s goals and objectives.

SELF-MANAGEMENT (SM)
A strategy within comprehensive chronic illness care that recognizes that patients with chronic conditions are responsible for the majority of their own care and prioritizes supporting patients so they can manage their illnesses effectively. To effectively conduct SM support, health care professionals conduct collaborative goal-setting with patients to identify achievable, measurable goals; document goals in the patient record; proactively follow up with patients over the long term to help them overcome challenges to achieving goals; and identify new goals as necessary. *Definition adapted from the Agency for Health Care Research and Quality, [http://www.ahrq.gov/qual/ptmgmt/ptmgmt2.htm](http://www.ahrq.gov/qual/ptmgmt/ptmgmt2.htm).*

“SWOT” ANALYSIS
A strategic planning method used to evaluate a project’s Strengths, Weaknesses/Limitations, Opportunities, and Threats. It involves specifying the project’s objective and identifying the internal and external factors that are favorable and unfavorable to achieve that objective.
THE JOINT COMMISSION (TJC)
A national accrediting and standards-setting body that evaluates and accredits health care facilities and programs on a voluntary basis (formerly the Joint Commission on Accreditation of Healthcare Organizations, or JCAHO). TJC is an independent not-for-profit organization governed by a board that includes physicians, nurses, consumers, and representatives of organizations such as the American Hospital Association. TJC grants accreditation by surveying and evaluating a health care organization’s performance against a set of standards in areas that affect patient health and safety. Accreditation is often required for affiliation agreements with other health care organizations and other contractual or financial arrangements. Under Federal law, hospitals accredited by TJC are considered or “deemed” to be in compliance with the Medicare Conditions of Participation, a necessary eligibility requirement to participate in Medicare and Medicaid reimbursement programs. TJC currently provides accreditation for a variety of organizations: ambulatory health care, behavioral health care, critical access hospitals, home care, hospitals, laboratory services, long-term care, and office-based surgery.
LIST OF REFERENCES CITED IN THIS TOOLKIT

3. See note 2.
13. See note 12.


ADDITIONAL RESOURCES ACCESSIBLE ON THE WEB

MODULE 1: REDEFINING THE CARE TEAM TO IMPROVE PATIENT CARE AND OPTIMIZE THE RESIDENTS’ LEARNING EXPERIENCES

Team Care and Resident Firms
- Tulane University: http://www.tulanemedicine.com/programinfo/firms.html
- Michigan State University/Sparrow Health: http://www.im.msu.edu/curricula/firm.asp
- Ohio State University: http://internalmedicine.osu.edu/education/welcome/educational-career-development-programs/outpatient/clinic/

MODULE 2: IMPROVING COMMUNICATION

Communication Training
- Institute for Healthcare Communication: http://healthcarecomm.org/
- American Academy on Communication in Healthcare: http://aachonline.org/

MODULE 3: COORDINATING CARE

Coordinating Care—White Papers, Tools, Web Tutorials, Links
- Patient-Centered Primary Care Collaborative: http://www.pcpcc.net/content/care-coordination
- Care Team Connect: http://www.careteamconnect.com/patient-centered-medical-home/whitepaper-full-version

MODULE 4: AN INTRODUCTION TO PATIENT EMPANELMENT PRINCIPLES, METHODS, AND TOOLS

- Safety Net Medical Home Initiative: http://www.safetynetmedicalhome.org/change-concepts/empanelment

MODULE 5: USING TECHNOLOGY TO SUPPORT PATIENT-CENTERED CARE


MODULE 6: RESIDENT SCHEDULING

Alternative Scheduling Models
- North Shore–Long Island Jewish Health System (4+1 Model): http://www.northshorelij.com/NSLIJ/Internal+Medicine+Residency+NSLIJHS
- Lehigh Valley Health Network (4+1 Model): http://internalmed.lvh.org/cwo/Internal_Medicine_Residency/Educational_Innovation
  - See Journal of Graduate Medical Education for more complete description of Lehigh Valley model: http://www.jgme.org/doi/full/10.4300/JGME-D-10-00044.1
  - Also see a presentation given at a 2011 Association of Program Directors in Internal Medicine meeting by Jennifer (Mariotti) Stephens, Associate Program Director, Internal Medicine Residency Program at Lehigh Valley Health Network: http://www.im.org/Meetings/Past/2011/2011APDIMSpringConference/Presentations/Documents/Spring%20Meeting/Wksp%20307_Mariotti.pdf
- Tulane University (4+1 Model): http://www.tulanemedicine.com/programinfo/system.html
 MODULE 7: AMBULATORY MEDICINE EDUCATION
Accreditation Council for Graduate Medical Education (ACGME)
- Program Requirements in Internal Medicine: http://www.acgme.org/acWebsite/downloads/RRC_progReq/140_internal_medicine_07012009.pdf
- Educational Innovation Project (EIP): http://www.acgme.org/acWebsite/RRC_140/140_EIPIndex.asp

Ambulatory Medicine Core Curriculum
- Yale University’s Office-Based Practice Curriculum: http://yobm.yale.edu/index.aspx
- Johns Hopkins Ambulatory Care Curriculum: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1492333/
- Cone Health Ambulatory Medicine Curriculum: http://www.conehealth.com/ambulatorymedicine

Chronic Care Models in Ambulatory Teaching Settings
- Academic Chronic Care Collaborative: http://www.ahrq.gov/populations/chroniccaremodel/chronicintro.htm

Faculty Development
- University of Massachusetts “Teaching of Tomorrow” Program: http://www.umassmed.edu/cfdc/programs/tot/workshop.aspx
- Stanford Faculty Development Center Clinical Teaching Program: http://sfdc.stanford.edu/clinical_teaching.html
- American Board of Internal Medicine Clinical Supervision Practice Improvement Module (PIM): http://www.abim.org/pdf/pim-demo/Clinical-Supervision-Walkthrough.pdf

Guidelines for Resident Supervision/Teaching
Resident Quality Improvement Projects in Ambulatory Medicine
- Elmhurst Hospital Center presentation given by Lucy Gordon, M.D., Faculty Attending, Internal Medicine Residency at Elmhurst Hospital Center: http://www.im.org/Meetings/Past/2011/2011APDIMSpringConference/Presentations/Documents/Spring%20Meeting/Wksp%20205_Gordon.pdf

MODULE 8: MEASURING PERFORMANCE IMPROVEMENT
- National Quality Forum: http://www.qualityforum.org

OTHER
Patient-Centered Medical Home Principles & Recognition
- Patient-Centered Medical Home Collaborative: http://www.pcpcc.net/content/joint-principles-patient-centered-medical-home

Practice Transformation
- TransforMED: http://www.transformed.com/

Quality Improvement—Science, Methods, Case Studies, and Training
- Improving Chronic Illness Care: http://www.improvingchroniccare.org/
- Institute for Healthcare Improvement: http://www.ihi.org
APPENDICES
LIST OF APPENDIX ITEMS

A. Self-Assessment (Lehigh Valley Health Network)
B. Team Schematic and Workflow Diagram (Montefiore Medical Center)
C. Patient-Related Tasks and Care Team Assignments (Baystate Medical Center)
D. Communication Workflow (Montefiore Medical Center)
E. Care Coordination Assessment Worksheet
F. Example of Investigating Gaps in Care Coordination
G. Care Coordinator Job Description and Worksheet
H. Patient Panel Size Worksheet
I. Empanelment Script
J. Transfer of Care Letter (Hennepin County Medical Center)
K. Snapshot of the 4+1 Model (Lehigh Valley Health Network)
L. Resident Schedule 4+1 Model (North Shore–Long Island Jewish Health System)
M. Snapshot of the 6+2 Model (St. Luke’s-Roosevelt Hospital Center)
N. Survey to Evaluate 4+1 Clinic Rotations (Stony Brook Hospital)
O. Guide for a Resident Practice Improvement Project (Elmhurst Hospital Center)
P. Learner-Manager-Teacher Model (Baystate Medical Center)
Q. Data Collection Tools for Resident QI Projects (Elmhurst Hospital Center)
R. Example of a Case Study in Ambulatory Medicine Education (Yale School of Medicine)
S. Resident Report Card (University of Cincinnati Academic Health Center)
T. Faculty Report Card (Maimonides Medical Center)
U. ACGME Milestones Evaluation Form (Westchester Medical Center)
## APPENDIX A: SELF-ASSESSMENT

**LEHIGH VALLEY HEALTH NETWORK PRIMARY CARE PRACTICE ASSESSMENT**

Practice Name: 

Position: 

Today's Date: 

<table>
<thead>
<tr>
<th>Section A. Please select one response. Fill in the bubble completely.</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
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<tbody>
<tr>
<td>1. There is a strong sense of urgency about needing to change how the practice does its work.</td>
<td>o</td>
<td>o</td>
<td>o</td>
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<td>2. Leadership strongly supports practice change efforts.</td>
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<tr>
<td>3. This practice has a clear, expressible vision.</td>
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<td>4. There is frequent and good communication throughout the practice.</td>
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<tr>
<td>5. Everyone in the practice feels able to act on the practice vision.</td>
<td>o</td>
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<tr>
<td>6. The practice has experienced many past changes and successes.</td>
<td>o</td>
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<tr>
<td>7. The practice appears to let setbacks and problems stop its change efforts.</td>
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<tr>
<td>8. Once this practice implements a change, the change tends to stick.</td>
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<tr>
<td>9. People in this practice regularly take time to reflect on how they do things.</td>
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<tr>
<td>10. Everyday information is communicated in this practice through memos, post-it notes, or emails.</td>
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<tr>
<td>11. People in this practice are comfortable telling others what they really think.</td>
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<td>12. Practice leadership promotes an environment that is an enjoyable place to work.</td>
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<tr>
<td>13. People in this practice are connected to people in other practices.</td>
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<tr>
<td>14. After trying something new, people in this practice take time to think about how it worked.</td>
<td>o</td>
<td>o</td>
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<tr>
<td>15. People in this practice can rely on others to do their jobs well.</td>
<td>o</td>
<td>o</td>
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<tr>
<td>16. The leadership in this practice is available for consultation of problems.</td>
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</table>
This practice works well together with the health care system.

Difficult problems are solved through face-to-face discussions in this practice.

People in this practice feel they need to check all information they receive before acting on it.

The practice leadership makes sure that people in this practice have the time and space necessary to discuss changes to improve care.

People in this practice are connected with the community.

Most people in this practice are willing to change how they do things in response to feedback from others.

Leadership in this practice creates an environment where things can be accomplished.

This practice is aware of community resources that are accessible to patients.

### Section B. Please select one response, unless otherwise instructed. Fill in the bubble completely.

1. Which of the following best describes the profitability of your practice during the most recent 12 months?
   - The practice made a substantial profit.
   - The practice made a small profit.
   - The practice broke even.
   - The practice had a slight loss.
   - The practice had a significant loss.
   - I don’t know the details.

2. Which of the following statements best describes your concerns about the long-term financial condition of your practice?
   - No concern for the foreseeable future
   - Slight concern
   - Major concern

3. During the most recent 12 months, have any paychecks been delayed or eliminated for any practice staff, including clinicians, due to financial constraints on the practice?
   - Yes
   - No
   - I don’t know

4. During the most recent 12 months, have any physicians received less than their expected monthly income?
   - Yes
   - No
   - I don’t know
5. During the most recent 12 months, have any vendor payments been postponed due to cash flow concerns?
   ○ Yes
   ○ No
   ○ I don’t know

6. Have any clinicians left or joined the practice during the last 12 months?
   ○ Yes
   ○ No

   If yes, please indicate how many of each type have left or joined:
   Physicians: Left [____] Joined [____]
   Physicians Assistants: Left [____] Joined [____]
   Nurse Practitioners: Left [____] Joined [____]
   Nurses: Left [____] Joined [____]
   Other Clinicians: Left [____] Joined [____]

7. Which of the following financial statements and reports are available and reviewed by management at the practice level on a monthly basis? Check all that apply.
   ○ Income Statement
   ○ Balance Sheet
   ○ Cash Flow Statement
   ○ Patient Volume by Clinician
   ○ Net Revenue per Patient or per Clinician
   ○ Accounts Receivable Aging Reports
   ○ Other Clinician Productivity Reports

8. When was the last time your practice gave most of your staff members a raise (for any reason)?
   ○ This year
   ○ Last year
   ○ Before last year
   ○ Not sure

9. Does your practice have internal control policies and procedures in place to detect the possibility of embezzlement?
   ○ Yes
   ○ No

10. Please provide information about the number of people working in your practice.
    Total Physician FTEs: [____] Total Physician Assistant FTEs: [____]
    Total Nurse Practitioner FTEs: [____] Total Other Staff FTEs: [____]

11. Please estimate the monthly average number of patient visits for the practice in the last 12 months.
    [____]
12. Has your practice participated in any diabetes care improvement efforts in the past two years?
  - Yes
  - No

13. Has your practice participated in any asthma care improvement efforts in the past two years?
  - Yes
  - No

14. Please estimate the percentage of visits in the following insurance categories:
   - Medicare: ___%  Other private insurers: ___%
   - Medicaid (MA): ___%  Other public insurers: ___%
   - Capitated plans: ___%  Self-pay/uninsured: ___%
   - Choice Plus: ___%  □ Don’t participate with insurance plans
APPENDIX B: TEAM SCHEMATIC AND WORKFLOW DIAGRAM

Patient-Centered Planned Care

Access
- by visit
- by e-mail
- by phone

Prepared Care Team
- lab/ser/ings
- team building
- specialist reports

Leadership

Medical Neighborhood
(co-located or referred)
- specialists
- mental health
- dental/vision services
- hospitals
- pharmacy
- community resources
- social work
- home health
- complex case managers
- peer programs
- other ancillary services

CARE PLAN

Visible Patient

During the Visit
- care plan management/coordination
- coach and SIM support
- implement plan
- assist in barriers/obstacles
- support change

Follow-Up
- test and referral tracking
- revise/revise plan
- problem solve

Population Management
- registry/reporting
- outreach
- prioritize population

Improved Outcomes
- increased healthy behaviors
- improved quality, safety, and clinical outcomes
- increased collaboration between patient, care team, and medical neighborhood
- improved physician and staff satisfaction and retention
- reduced cost trends

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### APPENDIX C: PATIENT-RELATED TASKS AND CARE TEAM ASSIGNMENTS

**List of Patient-Related Tasks to be Assigned to Team Members**

**Key**
- 1=Primary Responsibility (Accountability belongs to the person with primary responsibility)
- 2=Secondary Responsibility (Assists with these tasks when needed by the team or when primary responsibilities are completed)
- 3=Tertiary Responsibility (Assists with these tasks when needed by the team or when primary responsibilities are completed)

**Items in Bold Need Follow Up**

<table>
<thead>
<tr>
<th>Task</th>
<th>MD</th>
<th>RN</th>
<th>MA</th>
<th>PA</th>
<th>Interp</th>
<th>Grtr</th>
<th>HIM</th>
<th>Comments</th>
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<td>Complete Physical Forms School and Work</td>
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<td>Schedule Referral Appointments</td>
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<td>Respond to Pharmacy Calls</td>
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### PATIENT-RELATED TASKS AND CARE TEAM ASSIGNMENTS CONTINUED

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<td>Enter Incoming Data into Diabetic Flow Sheet</td>
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<td><strong>Inpt vs Outpt Policy</strong></td>
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<tr>
<td>Stamp Incoming Labs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open/Distribute Mail</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide Anticoagulation Instructions/ Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Perform/Charge Peak Flow</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perform Updraft</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Obtain Patient History</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Process</strong></td>
</tr>
<tr>
<td>Perform Physical Exam</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Complete Billing Ticket (2)</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marry Check-Out Sheet to Billing Ticket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Find Missing Check-Out/Make Duplicate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reconcile Billing Ticket to Roster</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitor Provider Schedule/Reassignment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Monitor Schedules for Unfilled Slots, Book Patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Wait List</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td><strong>Access Primary</strong></td>
</tr>
<tr>
<td>Page Provider Late for Clinic Session</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stock Exam Rooms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administer Immunizations/Injections</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td><strong>Assign specific exam rooms to each team</strong></td>
</tr>
<tr>
<td>Plant PPD/Read PPD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Complete CIS Out of Work Note/Document in Chart</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordinate Depression Protocol Appointments</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task</td>
<td>MD</td>
<td>RN</td>
<td>MA</td>
<td>PA</td>
<td>Interp</td>
<td>Grtr</td>
<td>HIM</td>
<td>Comments</td>
</tr>
<tr>
<td>-------------------------------------</td>
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<td>--------</td>
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<td>------------------------</td>
</tr>
<tr>
<td>Depression Follow-Up Phone Call</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Social Worker Primary</td>
</tr>
<tr>
<td>Empty Red Bag Trash</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empty and Stock Linens</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Care Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fill Open Appt Slots</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Stock Forms in Exam Rooms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flu Champion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hand Washing Champion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Superuser/MTGS</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QI Champion</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Joint Commission/Infec Control Rounds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POC Trainer</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Need to Coordinate staff start, end, and break times by team</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
APPENDIX D: COMMUNICATION WORKFLOW

ABNORMAL LAB – ELEVATED CHOLESTEROL – WORKFLOW

Snapshot: The purpose of this workflow is to expedite the follow-up of patients whose lab results show elevated cholesterol. Depending on whether this is a new diagnosis, whether the patient will require a change in medications or medications for the first time, or whether there is an adherence issue, the patient will be contacted either by their PCP, a health educator (HE), or an LPN/PCT.

Measurement: Patient educator outreach (by phone note) to diabetic patients with uncontrolled LDL (>100mg/dL).

Patient’s lipid panel shows elevated cholesterol.

Is this a new diagnosis?

Yes

Will it require medications?*

No

PCP Flags HE

Yes

HE calls patient and offers education about cholesterol lowering.

Should patient be seen?

No

PCP calls patient, prescribes medication.

PCP flags PSR and asks them to call patient to arrange for follow up per abnormal lab workflow.

No

PCP Flags LPN/PCT indicating that patient’s cholesterol is high

LPN/PCT calls patient to discuss result.

Did patient run out of medications?

No

Is the patient missing doses?

Yes

PCP calls patient, prescribes medication.

PCP sends e-prescription to pharmacy or leaves Rx for patient in front desk accordion folder.

NO

NO

NO

NO

NO

NO

NO

NO

**APPENDIX E: CARE COORDINATION ASSESSMENT WORKSHEET**

---

CARE COORDINATION ASSESSMENT WORKSHEET: HOW ARE YOU DOING?

Consider which elements are in place, and which require some additional attention.

<table>
<thead>
<tr>
<th>Care Coordination Element</th>
<th>No</th>
<th>Partially</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Patients know who their Care Coordinator is and how to access him or her (or the Care Coordinator’s back-up)?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2  Values of patient-centeredness are known to the primary care team and drive the development and provision of care coordination?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3  A Care Coordinator position description is established, roles and activities are clearly articulated, and care coordination training and education is available?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4  Administrative leadership helps to develop and support a care coordination service system, and protected time allows for Care Coordinator role development?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5  EHR- or registry-assisted care planning is a core care coordination and primary care activity?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6  Education and counseling are offered as an essential part of primary care coordination?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7  Care coordination includes comprehensive resource information, referrals, and cross-agency and organization communication?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8  Patients and families are asked for feedback about their experiences with health services and care coordination?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9  System improvements are implemented simultaneously with the development of care coordination, and the Care Coordinator contributes to this quality improvement process?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10 Team meetings occur on a regular basis with all members of the care team participating (including the Care Coordinator)?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

*Adapted from: Medical Home Practice-Based Coordination  
Author: Jeanne W. McAllister, B.S.N., M.S., M.H.A.  
Center for Medical Home Improvement (CMHI), Crotch Mountain Foundation and Rehabilitation Center (2007)*
Clinic X recently hired a Care Coordinator (CC) to focus on improving care for patients with diabetes. The CC took the following steps:

1. Using the EHR, the CC developed a list of all diabetes patients seen in the clinic.

2. Referring to Clinic X’s standard care protocols for diabetes patients, the CC then sorted the list of patients electronically, looking for diabetes patients who had not received indicated care. The CC identified subgroups of patients who were missing timely tests and procedures, such as HbA1c tests, blood pressure readings, foot exams, and eye exams.

3. The CC found that the list of patients needing foot exams was especially long and began with that list. Clinic X has a part-time podiatrist and several care teams dedicated to diabetic patient care. With these resources available, why were patients not receiving their annual foot exams in a timely manner? The CC examined a random sample of 20 patient records from the list to see what might be the problem.

4. From the 20 records reviewed, the CC found that 13 patients had been referred for exams, but had not completed them, and seven patients had not received a referral at all from their providers. Based on this information, the CC concluded that while some providers were not ordering tests as diligently as they should, some patients who even had the referral were not completing the tests.

5. To address the problem, the CC began with the providers. Since Clinic X already had a protocol in place directing the procedures for ordering exams, the CC asked several residents, nurses, and attendings why foot exams were not being ordered. Based on the information received from these interactions, the CC realized that residents needed training on foot exams for diabetic patients.

6. The CC then tried to determine why patients weren’t completing exams, even with referrals to the on-site podiatrist, and suspected that the extra podiatry visit either wasn’t convenient to the patients or they didn’t understand the exam’s importance. Again, this led the CC back to thinking about health care staff training. Perhaps residents and nurses weren’t conveying the importance of the test to the patient, or maybe they hadn’t made an effort to schedule the visits at times convenient to the patients, such as immediately following a check-up.

7. Next, the CC spoke with front-desk staff about patient scheduling and realized that it would be more efficient to schedule diabetes patients for visits only on the days when the podiatrist is in the office.

8. The CC met with the Clinic Administrator (CA) to discuss the findings.

9. Together, the CC and CA raised the issue at the next staff meeting. The CC re-introduced the importance of foot exams, reminded everyone of the existing protocol that directed referrals, encouraged providers and staff to emphasize to patients the importance of foot exams, and suggested scheduling visits for diabetes patients only when the podiatrist is in the office.
APPENDIX G: CARE COORDINATOR JOB DESCRIPTION AND WORKSHEET

SAMPLE JOB DESCRIPTION: PRACTICE-BASED CARE COORDINATOR

The Care Coordinator works in partnership with patients, their families, and the primary care team (including attending physicians, residents, nurse practitioners, nurses, clinical support staff, pharmacists, and others) to promote timely access for patients to needed care, enhance continuity of care, ensure clear communication, and support patient well-being.

Care Coordinator Qualifications:

- Bachelor’s preparation as a nurse, social worker, or the equivalent, with appropriate past experience in health care.
- Three years relevant experience, or the equivalent, in community-based primary care or pediatrics, particularly in caring for and serving vulnerable populations; quality improvement experience preferred.
- Essential leadership, advocacy, communication, information technology, education and counseling, and resource research skills.
- Core philosophy or values consistent with a patient- and family-centered approach to care.
- Culturally effective capabilities demonstrating sensitivity and responsiveness to varying cultural characteristics and beliefs.
- Goal- and outcome-oriented.

Care Coordinator Responsibilities:

1. Demonstrate and apply knowledge of the philosophy and principles of comprehensive, community-based, patient-centered, culturally sensitive care coordination services.
2. Serve as first point of contact from the patient and family to the care team; facilitate access to providers, staff, and resources, including community referrals.
3. Assist with or promote identifying patients in the practice with complex conditions and/or special needs, add to registries, and use registries to plan and monitor care.
4. Assess patient needs, strengths, and assets; identify unmet needs.
5. Initiate and document family contacts in the patient record.
7. Work with the primary care team to develop and carry out care plans, evaluate effectiveness, monitor in a timely way, and make changes as needed.
8. Serve as the contact point, advocate, and information resource for the patient and family for issues with payers and community partners.
9. Research, find, and link resources, services, and supports with and for the patient and family.
10. Educate, counsel, support, and provide guidance. In a crisis, intervene or facilitate referrals.
11. Cultivate and support primary care and sub-specialty co-management with timely communication, inquiry, and follow-up; integrate information into the care plan.
12. Coordinate inter-organizationally among the patient, family, practice, and involved agencies; facilitate “wrap-around” meetings or team conferences as needed.
13. Serve as a quality improvement team member; help measure quality and identify, test, refine, and implement practice improvements.
14. Coordinate efforts to gain patient and family feedback regarding their health care experiences (focus groups, surveys, other means); participate in interventions that address patient- and family-articulated needs.

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Greater New York Hospital Association
### CARE COORDINATOR JOB DESCRIPTION AND WORKSHEET CONTINUED

#### DEVELOPING A CARE COORDINATION POSITION DESCRIPTION:
**CARE COORDINATOR RESPONSIBILITIES WORKSHEET**

Use this worksheet to identify functions critical to the successful implementation of care coordination in your academic ambulatory care center.

<table>
<thead>
<tr>
<th>Care Coordination Function</th>
<th>Accept</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate and apply knowledge of the philosophy and principles of comprehensive community-based, patient-centered, culturally-sensitive care coordination services.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serve as first point of contact from the patient and family to the care team; facilitate access to providers, staff, and resources, including community referrals.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assist with or promote the identification of patients in the practice with complex conditions or special needs; add to registries and use them to plan and monitor care.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assess patient needs, strengths, and assets; identify unmet needs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initiate and document family contacts in the patient record.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Build care relationships among patient, family, and the care team.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work with the primary care team to develop care plans. Carry out care plans, evaluate effectiveness, monitor in a timely way, and make changes as needed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serve as the patient and family’s contact point, advocate, and information resource for issues with payers and community partners.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research, find, and link resources, services, and supports with or for the patient and family.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educate, counsel, support, and provide guidance. In a crisis, intervene or facilitate referrals.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultivate and support primary care and sub-specialty co-management with timely communication, inquiry, follow-up, and integrate information into the care plan.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordinate inter-organizationally among patient, family, practice, and involved agencies; facilitate “wrap-around” meetings or team conferences as needed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serve as a quality improvement team member; help measure quality and identify, test, refine, and implement practice improvements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordinate efforts to gain patient and family feedback regarding their health care experiences (focus groups, surveys, other means); participate in interventions that address patient- and family-articulated needs.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### OTHER FUNCTIONS SPECIFIC TO THE ACADEMIC AMBULATORY CARE ENVIRONMENT?

Adapted from: *Medical Home Practice-Based Coordination*

Author: Jeanne W. McAllister, B.S.N., M.S., M.H.A.

Center for Medical Home Improvement (CMHI), Crotched Mountain Foundation and Rehabilitation Center (2007)

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## APPENDIX H: PATIENT PANEL SIZE WORKSHEET

**Current Panel**

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Example</th>
<th>Your Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>The practice panel: The number of unique patients who have seen any provider (MD, NP, or PA) in the practice in the last 12 or 18 months</td>
<td>6000</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Full-time-equivalent (FTE) providers</td>
<td>4.00</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>FTE providers devoted to nonvisit work</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>FTE clinical providers (B - C)</td>
<td>3.00</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>The “target” panel for each FTE clinical provider (A ÷ D)</td>
<td>2000</td>
<td></td>
</tr>
</tbody>
</table>

**For an individual provider**

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>Clinical FTE of the individual provider being analyzed</td>
<td>0.80</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>Actual panel for the individual provider (This can be determined using the “four-cut” method described in the article.)</td>
<td>2000</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>Difference between actual and target panel for the individual provider [G - (E x F)]</td>
<td>400</td>
<td></td>
</tr>
</tbody>
</table>

**Ideal Panel**

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Example</th>
<th>Your Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Visits per patient per year (The average is 3.19, but your number may vary and can be adjusted based on patient acuity, as described in the article.)</td>
<td>3.19</td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>Provider visits per day</td>
<td>24.0</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>Provider days per year</td>
<td>240.0</td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>Ideal panel size [(J x K) ÷ I]</td>
<td>1806</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>Difference between actual and ideal panel for the individual provider (G - L)</td>
<td>194</td>
<td></td>
</tr>
</tbody>
</table>

---


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APPENDIX I: EMPANELMENT SCRIPT

EMPANELMENT SCRIPTING FOR APPOINTMENT SCHEDULING

Receptionist: “Which provider do you regularly see?”

Patient: “Dr. Moore, but it really doesn’t matter to me.”

Receptionist: “It really is better for you to see the same one as frequently as possible, so that he gets to know you better and can take better care of you. Dr. Moore is not in today, but I can schedule you tomorrow with him when he returns.”

Patient: “I would rather come in today.”

Receptionist: “That’s fine, you can see one of his partners today, and next time we will try to get you in with Dr. Moore.”

or

Patient: “I would like to make an appointment with Dr. Moore.”

Receptionist: “When would you like to come in?”

Patient: “Tomorrow sometime.”

Receptionist: “Dr. Moore is not in tomorrow. He could see you at 3:00 today, or he will be back in on Thursday and I could schedule you then.”

(Patient gets to choose.)

or

Patient: “I would like to make an appointment for next month with Dr. Moore for my physical.”

Receptionist: “We really try not to schedule out so far, since plans change, and it can be hard to keep an appointment that is scheduled so far in advance. Would you like to come in sooner, or would you like to call back within a few days of when you would like to be seen? We will have appointments available then.”

(If patient is insistent and the schedule is open, go ahead and schedule, but make a note for someone to confirm appointment the day before.)

or

Receptionist: “Dr. Moore’s schedule is full today, and we have already worked in a few emergencies. Since you are requesting a routine physical, I will need to schedule you for another day with Dr. Moore. What day is best?”

Patient: “@#$%^&*+%&!! You people first tell me something about a same-day appointment and have asked me to call on the same day, and now that I do, you tell me that I can’t come in today! When are you going to get your @#$%^%$#@ act together??”

Receptionist: (Pleasant and smiling) “We are doing the best that we can. We have gotten so busy that we have had to schedule out a few days, but we are working hard to get back to the same-day appointments. Remember when you used to call and it took a month to get in? If you really can’t wait, one of Dr. Moore’s partners can get you in today, but I know that Dr. Moore would really like to see you himself, since he knows all about you. He can see you at 8:00 a.m. tomorrow, and you will be his first patient of the day.”

or

Receptionist: “Dr. Moore’s schedule is full today, but you can see him tomorrow morning or one of his partners today.”

Patient: “I want to see Dr. Moore, but I don’t know what I am doing tomorrow. I want to call back tomorrow.”
Receptionist: “If that works better for you, that is fine. Try to call as early in the day as you can, since the schedules fill up fast, and I can’t guarantee that you will get the time that you want.”

Remember…

- It’s the patient’s choice—accommodate them whenever possible.

- Always confirm PCP and schedule with that provider whenever possible.

- Try not to schedule out any further than two weeks, if possible, since the no-show rate rises after that length of time.

- Anything that you are scheduling for another day, try to encourage the early morning appointments. If the patient insists on a later time, go ahead and schedule (it’s the patient’s choice!).

- If the conversation is getting tense, get the point across to the patient that we want his appointment time to work for him so that he will be sure to make it.
GREEN FIRM

June 6, 2011

Patient: ________________________________

HCMC#: ________________________________

Dear ____________________________:

I am writing to let you know that I will be leaving Hennepin County Medical Center at the end of June 2011, having completed my internal medicine training. It has been my privilege to serve as your primary care doctor.

I know that it may take some time to establish a relationship with another physician; however, as you know, the nurses, staff physicians, clerks, and myself have tried to function as a small group practice or firm so that your change of care will be easier and smoother. You will see lots of familiar faces in the Medicine Clinic.

Dr. __________ will be your new primary care doctor. When your new doctor is not available for clinic appointments, you get an appointment with practice partner Dr. __________. I have reviewed your case, and your new doctor will have a summary of your care and medical concerns. I would hope that you can schedule a visit with your new doctor in the next 3 to 4 months. It is best to get to know your new physician before severe problems arise. I will be available until June 30, 2011 and will be responsible for your care until I leave.

Please accept my best wishes for your health and happiness.

Sincerely,

_______________, MD
Green Firm, Medicine Clinic

P.S. If you have any questions or concerns, please call the Medicine Clinic at 612-873-2300 to speak to the Green Firm nurse or to make an appointment.
## APPENDIX K: SNAPSHOT OF THE 4+1 MODEL

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# APPENDIX L: RESIDENT SCHEDULE 4+1 MODEL

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Redesigning the Teaching Clinic: A Toolkit for Improving Care Coordination and Resident Learning
**APPENDIX M: SNAPSHOT OF THE 6+2 MODEL**

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APPENDIX N: SURVEY TO EVALUATE 4+1 CLINIC ROTATIONS

SURVEY OF 4:1 CLINIC ROTATIONS

SECTION 1.
The ACGME requires programs to develop schedules that minimize conflict between inpatient and outpatient schedules. Accordingly, in July 2010 we started having the PGYIs attend their continuity clinic for a full week every 4 weeks, as opposed to what the usual schedule had been—1/2 day each week. We would greatly appreciate if you could take a few moments and complete this brief survey as to your thoughts on how this has been working.

1. Please select whichever status is appropriate.
   - PGY1
   - PGY2
   - PGY3
   - PGY4
   - Attending (inpatient)
   - Attending (outpatient)

SECTION 2.

1. Thinking about the inpatient service…
   What effect has the 4/1 had on your feeling of continuity with your patients?
   - Much better continuity
   - A little better continuity
   - Not much different
   - A little worse continuity
   - Much worse continuity

2. Thinking about the inpatient service…
   What effect has the 4/1 had on your ability to get all your work done?
   - Much easier to get work done
   - A little easier to get work done
   - No change
   - A little harder to get work done
   - Much harder to get work done

3. Thinking about the inpatient service…
   What effect has the 4/1 had on your ability to learn/take advantage of the teaching offered?
   - Much easier to learn
   - A little easier to learn
   - No change
   - A little harder to learn
   - Much harder to learn
SURVEY TO EVALUATE 4+1 CLINIC ROTATIONS CONTINUED

4. Thinking about your continuity clinic…
   What effect has the 4/1 had on your feeling of continuity with your patients?
   - Much better continuity
   - A little better continuity
   - No change
   - A little worse continuity
   - Much worse continuity

5. Thinking about your continuity clinic…
   What effect has the 4/1 had on your ability to get your work in clinic done?
   - Much easier to get work done
   - A little easier to get work done
   - No change
   - A little harder to get work done
   - Much harder to get work done

6. Thinking about your continuity clinic…
   What effect has the 4/1 had on your ability to learn/take advantage of the teaching offered?
   - Much easier to learn
   - A little easier to learn
   - No change
   - A little harder to learn
   - Much harder to learn

SECTION 3.

1. ATTENDINGS (INPATIENT)
   Thinking about the inpatient service…
   What effect do you think the 4/1 schedule has had on resident continuity with the inpatients?
   - Much better continuity
   - A little better continuity
   - Not much different
   - A little worse continuity
   - Much worse continuity

2. Thinking about the inpatient service…
   What effect has the 4/1 schedule had on resident work efficiency and flow?
   - Much easier to get work done
   - A little easier to get work done
   - No change
   - A little harder to get work done
   - Much harder to get work done
3. Thinking about the inpatient service…
   What effect has the 4/1 schedule had on residents’ ability to learn/take advantage of the teaching offered?
   - Much easier to learn
   - A little easier to learn
   - No change
   - A little harder to learn
   - Much harder to learn

SECTION 4.

1. ATTENDINGS (OUTPATIENT)
   Thinking about resident continuity clinic…
   What effect has the 4/1 schedule had on resident continuity with their panel of patients?
   - Much better continuity
   - A little better continuity
   - No change
   - A little worse continuity
   - Much worse continuity

2. Thinking about resident continuity clinic…
   What effect has the 4/1 schedule had on residents’ ability to get all their work done?
   - Much easier to get work done
   - A little easier to get work done
   - No change
   - A little harder to get work done
   - Much harder to get work done

3. Thinking about resident continuity clinic…
   What effect has the 4/1 schedule had on residents’ ability to learn/take advantage of the teaching offered?
   - Much easier to learn
   - A little easier to learn
   - No change
   - A little harder to learn
   - Much harder to learn

4. Do you like the 4/1 schedule for alternating clinic with other rotations?
   - Yes
   - No
5. Are there any changes in this schedule you would like to make?

6. If you have any other feedback or comments, please indicate them below.
APPENDIX O: GUIDE FOR A RESIDENT PRACTICE IMPROVEMENT PROJECT

PRACTICE IMPROVEMENT: AMBULATORY CARE RESIDENT PROJECT

Why learn about practice improvement?
- To reflect upon and improve the care we provide to our patients; to encourage ongoing self-assessment.
- ACGME requirement (Practice-Based Learning and Improvement)
- Part of requirements for maintenance of certification by ABIM
- “Pay for performance”

Quality/Practice Improvement
Quality consists of the “degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (evidence).”—Institute of Medicine

IOM 6 Aims for Improvement of Healthcare: Safe, Effective, Patient-Centered, Timely, Efficient, and Equitable

The Process of Practice Improvement
Always start by considering the following questions:
- What are we trying to accomplish?
- How will we know that a change is an improvement?
- What changes can we make that will result in improvement?

1. Forming a team. Ideally the team should include both administrators/leaders and those involved in daily processes: doctors, nurses, front desk staff, pharmacists, etc. The team should include willing, eager participants.

2. Setting aims for improvement. Set a focused goal that is time-specific and can be measured. This may be a change in patient health status or behavior, patient satisfaction, etc. Consider improvements at the level of both an individual provider and the overall system.

3. Measurements are an essential part of the practice improvement process.
   - Measuring Outcomes: a result, such as HbA1C (reflects the patient)
   - Measuring a Process: a step in the system, such as ordering an Hba1c test (reflects the system)
   - Balance: make sure a new change is not causing a problem in another part of the system
   - Choice of measurement: choose a valid measure by an established organization, such as PQRI, practice guidelines, etc.
   - Inclusion criteria: ensure the patients you are choosing to include are appropriate

Note that measuring for PI is different than measuring for research. For PI we only need to gather just enough data to learn about our practice and evaluate changes. There can be many small, sequential tests of change rather than one large test that takes a long period of time.

4. Testing Changes. Study a change to see if it is helping to meet the aim for improvement.
GUIDE FOR A RESIDENT PRACTICE IMPROVEMENT PROJECT CONTINUED

Plan: Plan the observation or test. Define the objective and how data will be collected, and predict outcome.
Do: Carry out the change and document problems; begin to look at data.
Study: Analyze the data, compare to initial prediction, and reflect on what was learned. Remember that not all changes will result in improvement.
Act: Refine the change and plan for the next test.

Data Collection Methods
The approach used may vary, but should be determined to avoid any selection bias. Some examples include:

Prospective, sequential sample: This means that you will review the chart of all patients who have an appointment with you going forward and include all patients who meet inclusion criteria until your goal sample size is complete.

Retrospective, sequential sample: Use an appointment log or registry to identify patients with recent visits and who meet inclusion criteria. Review the charts of these patients going back in time, including all patients who meet inclusion criteria, until the sample is complete.

Chronic Care Model (information adapted from ACP Closing the Gap training materials)
The Chronic Care Model identifies elements of a health care system that support high-quality care for chronic diseases. Quality improvement plans that are based on elements of the chronic care model are more likely to be successful.

Elements of the CCM
- Self-management: Well-informed patients will be more active in managing their health; self-management can encompass support groups, telephone follow-up.
- Decision support: Treatment decisions should be consistent with scientific evidence and patient preferences. Providers should use evidence-based guidelines, share guidelines with patients, and be involved in ongoing education/training. Guidelines can be integrated into reminders, feedback.
- Delivery system: To deliver effective care, establish a system in which the roles and tasks of team members are clearly defined; ensure regular follow-up by the care team.
- Clinical information systems: Organize patient data to facilitate efficient and effective care. A registry or EMR can be used to follow individual patients, identify groups of patients that need additional care, and monitor performance.
- Community: Use community resources to meet the needs of patients.
- Health system: Create a culture that promotes high quality of care.

Resources:
ACP: http://www.acponline.org/running_practice/quality_improvement/
Alliance For Academic Internal Medicine: PIM Support: http://dev.im.org/toolbox/elearningresources/PIMSupport/Pages/default.aspx
Physician Quality Reporting System (a list of measures developed by various organizations): http://www.cms.gov/PQRS/15_MeasuresCodes.asp#TopOfPage
JAMA. 2002; 288: 1909–1914. “Improving Primary Care for Patients with Chronic Illness.”
Institute for Healthcare Improvement: http://www.ihi.org/ihi

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Greater New York Hospital Association
GUIDE FOR A RESIDENT PRACTICE IMPROVEMENT PROJECT CONTINUED

PRACTICE IMPROVEMENT: AMBULATORY CARE RESIDENT PROJECT DETAILS

Project Requirements, due by the end of the block:
- Oral presentation if you are on block when it is scheduled
- Written summary of findings, including specific AIM FOR IMPROVEMENT statement*
- Copy of your data collection form to be turned in

Data Collection:
During your ambulatory care block you will review some personal performance data about chronic diseases and/or preventive care. Throughout the year we will focus on different areas (such as diabetes, hypertension). You will either collect your own data or be provided with data for your patient panel from a registry.

If you are collecting your own data, when you encounter patients in clinic for whom you are the primary care provider (patients you have seen at least twice, including the present visit), please collect data on the form provided. To protect patient privacy the form will only ask for the last 2 digits of the MRN. Try to collect data from 5–10 patients on the form. Although the sample of patients will not be “random,” do not intentionally omit a patient you had initially chosen because the outcomes are not good.

As some of you are only on block for 2 weeks at a time, you should start to collect data and can complete the form during your continuity clinics and the next ambulatory care block.

Written Summary:
The written summary and oral presentation should touch on the same concepts.
- Description of your data (such as 7–10 patients with DM had a1c at goal)
- “Set an aim for improvement (be as specific as possible)—example: “In 6 months I will improve the percentage of my patients with blood pressure controlled from 50% to 60% by making sure they understand all changes to prescriptions…”
- Describe a plan of change to make the improvement
- Describe what you plan to measure to test the change and see if improvement occurred

Oral Presentations:
You will share what you have learned with the group in a brief oral presentation during a designated session. You can begin with a general description of your data, and then include ideas for changes you might make to improve outcomes. There will be a few presentations in each session, so plan to make yours about 5 minutes. During this session we will also brainstorm as a team on ways to improve practice in the areas discussed.

Your presentation should conclude with a clear statement of your aim for improvement.

Goal:
By end of the year residents should feel comfortable studying their practice, brainstorming, and implementing and testing ideas for change, and should be familiar with general concepts of quality improvement and the chronic care model.
APPENDIX P: LEARNER-MANAGER-TEACHER MODEL

“LEARN IT AND DO IT BEFORE TEACHING IT.”
The Learner-Manager-Teacher (LMT) Model from the Internal Medicine Residency Program at Baystate Medical Center

The LMT model creates three distinct and specific phases of residency progression. The inpatient roles and level of supervision are described below:

- The inpatient learner (PGY-1) resident is directly supervised by both a resident teacher (PGY-3) with core faculty oversight. This level of supervision allows the learner to become competent in managing common medical problems and stabilizing critically ill patients while knowing how to properly escalate a situation.
- The manager is the PGY-2 resident who is indirectly supervised by faculty and makes independent patient care decisions. At this level, the manager also cares for patients with more complex conditions, which allows him or her to develop more critical thinking and decision-making skills. This level of supervision prepares the manager for the future teacher role.
- The teacher is the PGY-3 resident who is indirectly supervised by faculty, but also supervises a pair of learners. In this role, the teacher is able to advance his or her teaching abilities and become more adept in the knowledge, skills, and attitudes involved in providing good quality care.

In the ambulatory setting the LMT model is described below:

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<th>A Progressive Model of Ambulatory Training</th>
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<td><strong>Learner</strong></td>
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<td>Skills required in Ambulatory Setting</td>
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### APPENDIX Q: DATA COLLECTION TOOLS FOR RESIDENT QI PROJECTS

#### Ambulatory Care Performance Data: Diabetes

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<th>PGY 1-2-3</th>
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Note: Please collect data for patients you have personally seen at least twice (including the present visit). If a test was ordered but not completed please record “ordered” and the date.

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<th>Date of Visit</th>
<th>Last Hb A1c GOAL: &lt;7%</th>
<th>Last LDL GOAL: &lt;100</th>
<th>Blood Pressure GOAL: &lt;130/80</th>
<th>Date of last monofilament foot exam GOAL: annually</th>
<th>Date last eye exam GOAL: annually</th>
<th>Date Last Nephropathy Screen (microalbumin or urine protein) GOAL: annually</th>
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## Mammogram and Pap Screening Practice Review: For Women ages 40–70 years old

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<td>(Please pick patients you have seen at least twice in clinic, including the current visit.)</td>
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<th>Mammogram up to Date by guidelines? (see below)</th>
<th>If no, had a mammogram been ordered?</th>
<th>Date Last Pap</th>
<th>Pap up to date by Guidelines? (see below)</th>
<th>If no, was pt referred to pap clinic or gyn?</th>
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**Pap Smears:** USPSTF 2012: normal-risk women 21–65 cytology every 3 years; >30 can do cytology-and Co-HPV testing. ACOG 2009 recommendations: Start age 21. Ages 21–19 every 2 years. age >30, 3 years after 3 normal consecutive smears, no history CIN 2 or 3, and no increased risk. (also for women >30, option to do HPV screening + pap together).

**Mammogram:** Differing recommendations. Most organizations (ACS, ACOG, AMA) advise starting at age 40 years old with screening every 1-2 years; yearly after age 50; USPSTF 2009 recc: screen age 50–74 every 2 years. No routine screening for 40–50 average risk, discuss with patient, (see attached). WHO 2009: mammo q 1-2 years women 50–69.

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PERIOPERATIVE CARDIAC EVALUATION

John Smith, M.D.

Week 4

Educational Objectives:

- Effectively assess a patient’s perioperative cardiac risk.
- Understand the data surrounding perioperative beta blocker use.
- Describe which patients benefit from perioperative statins.

CASE ONE:

Questions:

1. How will you go about assessing his perioperative cardiovascular risk? What specific guidelines are available to help you? What additional information would you like?

2. Does Mr. Goldman need a stress test before proceeding with knee replacement?

3. What about stress testing?

4. Describe the recent controversy. Do you plan to start Mr. Goldman on a beta-blocker?
EXAMPLE OF A CASE STUDY IN AMBULATORY MEDICINE CONTINUED

5. So, do we start Mr. Goldman on a beta-blocker?

6. Besides consideration of a beta-blocker, how else might you be able to reduce his perioperative risk?

7. Mr. Goldman’s surgeon would like to know if he has been “cleared” for surgery. What do you plan to tell her?

Primary References:


Additional References:


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Greater New York Hospital Association
# APPENDIX S: RESIDENT REPORT CARD

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## RESIDENT REPORT CARD CONTINUED

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<td>18</td>
<td>19</td>
<td>0</td>
</tr>
<tr>
<td>RANK_Mammo_UTD_percent</td>
<td>5</td>
<td>9</td>
<td>9</td>
<td>11</td>
<td>26</td>
<td>21</td>
<td>21</td>
<td>-12</td>
</tr>
<tr>
<td>RANK_PSA_UTD_percent</td>
<td>3</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>9</td>
<td>-2</td>
</tr>
<tr>
<td>RANK_HIV_UTD_percent</td>
<td>10</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>10</td>
<td>10</td>
<td>11</td>
<td>-2</td>
</tr>
<tr>
<td>RANK_Pneumovax_UTD_percent</td>
<td>8</td>
<td>7</td>
<td>8</td>
<td>7</td>
<td>8</td>
<td>5</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>RANK_Influenza_UTD_percent</td>
<td>12</td>
<td>13</td>
<td>16</td>
<td>8</td>
<td>11</td>
<td>13</td>
<td>14</td>
<td>-1</td>
</tr>
<tr>
<td>RANK_Tetanus_UTD_percent</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>-1</td>
</tr>
<tr>
<td>RANK_Varicella_UTD_percent</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Overall Rank</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>23.2</td>
</tr>
</tbody>
</table>

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## APPENDIX T: FACULTY REPORT CARD

### AMBULATORY HEALTH SERVICES NETWORK
#### Quarterly Provider Report

<table>
<thead>
<tr>
<th>Provider</th>
<th>1st QTR 2010</th>
<th>Peer Ranking</th>
<th>2nd QTR 2010</th>
<th>Peer Ranking</th>
<th>3rd QTR 2010</th>
<th>Peer Ranking</th>
<th>4th QTR 2010</th>
<th>Peer Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Patient Sessions:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avg. Pts. Seen Per Session:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Pts. Precepted:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number Precepting Sessions:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Pts. Seen During Precepting:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Performance Improvement Measures:

- Depression Screening:
- Hgb A1C:
- Microalbumin:
- Foot Exam:
- Eye Exam:

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APPENDIX U: ACGME MILESTONES EVALUATION FORM

1-CEX CLINIC (M1-12) LF

<table>
<thead>
<tr>
<th>Subject Name</th>
<th>Evaluator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject Status</td>
<td>Evaluator Name</td>
</tr>
<tr>
<td>Subject Employer</td>
<td>Subject Status</td>
</tr>
<tr>
<td>Subject Rotation</td>
<td>Subject Employer</td>
</tr>
<tr>
<td>Evaluation Dates</td>
<td></td>
</tr>
</tbody>
</table>

This form and format are recommended for use by the teaching faculty in conducting and documenting focused clinical evaluation exercises on internal medicine residents. The purpose of this new format is to enhance the assessment and educational value of the CEX.

The focused 10–15 minute exercise is to be conducted by a resident who will observe the resident interact with a patient and perform a focused history and/or physical examination. Upon completion, the evaluator should provide the resident with feedback on the strengths and weaknesses observed in his/her clinical performance. Select the category which best describes the resident’s skills and abilities for each component of clinical competence observed and evaluated.

1. PC-A1 – Acquire accurate and relevant history from the patient in an efficiently customized, prioritized, and hypothesis driven fashion.

<table>
<thead>
<tr>
<th>Needs Improvement</th>
<th>Meets Expectations</th>
<th>Exceeds Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3</td>
<td>4 5 6</td>
<td>7 8 9 N/A</td>
</tr>
</tbody>
</table>

2. PC-B1 – Perform an accurate physical examination that is appropriately targeted to the patient’s complaints and medical conditions. Identify pertinent abnormalities using common maneuvers.

<table>
<thead>
<tr>
<th>Needs Improvement</th>
<th>Meets Expectations</th>
<th>Exceeds Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3</td>
<td>4 5 6</td>
<td>7 8 9 N/A</td>
</tr>
</tbody>
</table>

3. PC-C2 – Develop prioritized differential diagnoses, evidence-based diagnostic and therapeutic plan for common inpatient and ambulatory conditions.

<table>
<thead>
<tr>
<th>Needs Improvement</th>
<th>Meets Expectations</th>
<th>Exceeds Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3</td>
<td>4 5 6</td>
<td>7 8 9 N/A</td>
</tr>
</tbody>
</table>

4. PC-E1 – Make appropriate clinical decisions based on the results of common diagnostic testing, including but not limited to routine blood chemistries, hematologic studies, coagulation tests, arterial blood gases, ECG, chest radiographs, pulmonary function tests, urinalysis and other body fluids.

<table>
<thead>
<tr>
<th>Needs Improvement</th>
<th>Meets Expectations</th>
<th>Exceeds Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3</td>
<td>4 5 6</td>
<td>7 8 9 N/A</td>
</tr>
<tr>
<td></td>
<td>PC-F3 – Provide appropriate preventive care and teach patient regarding self-care.</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Needs Improvement</td>
<td>Meets Expectations</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>PC-Overall Patient Care</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Needs Improvement</td>
<td>Meets Expectations</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>MK-A1 – Understand the relevant pathophysiology and basic science for common medical conditions.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Needs Improvement</td>
<td>Meets Expectations</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>MK-B1 – Understand indications for and basic interpretation of common diagnostic testing, including but not limited to routine blood chemistries, hematologic studies, coagulation tests, arterial blood gases, ECG, chest radiographs, pulmonary function tests, urinalysis, and other body fluids.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Needs Improvement</td>
<td>Meets Expectations</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>ICS-A2 – Effectively use verbal and nonverbal skills to create rapport with patients/families: Recognizes and interprets nonverbal clues.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Needs Improvement</td>
<td>Meets Expectations</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>Enlists the patient’s cooperation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Needs Improvement</td>
<td>Meets Expectations</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>Allows the patient adequate time to tell about the illness, yet directs questions smoothly and effectively to obtain pertinent and necessary information.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Needs Improvement</td>
<td>Meets Expectations</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
### ACGME Milestones Evaluation Form Continued

<table>
<thead>
<tr>
<th></th>
<th>Uses terminology that is meaningful and unambiguous.</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td><strong>Needs Improvement</strong></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td><strong>Meets Expectations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Exceeds Expectations</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>N/A</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

|   | Effectively use an interpreter to engage patients in the clinical setting including patient education. |   |   |   |   |   |   |   | N/A |
| 13| **Needs Improvement**                               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|   | **Meets Expectations**                              |   |   |   |   |   |   | 9 |   |
|   | **Exceeds Expectations**                            |   |   |   |   |   |   |   |   |
|   |                                                     |   |   |   |   |   |   |   |   |
|   |                                                     | N/A |   |   |   |   |   |   |   |

|   | Deliver appropriate, succinct, hypothesis-driven oral presentations. |   |   |   |   |   |   |   | N/A |
| 14| **Needs Improvement**                               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|   | **Meets Expectations**                              |   |   |   |   |   |   | 9 |   |
|   | **Exceeds Expectations**                            |   |   |   |   |   |   |   |   |
|   |                                                     |   |   |   |   |   |   |   |   |
|   |                                                     | N/A |   |   |   |   |   |   |   |

|   | Provide legible, accurate, complete, and timely written communication that is congruent with medical standards. |   |   |   |   |   |   |   | N/A |
| 15| **Needs Improvement**                               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|   | **Meets Expectations**                              |   |   |   |   |   |   | 9 |   |
|   | **Exceeds Expectations**                            |   |   |   |   |   |   |   |   |
|   |                                                     |   |   |   |   |   |   |   |   |
|   |                                                     | N/A |   |   |   |   |   |   |   |

|   | Document and report clinical information truthfully. |   |   |   |   |   |   |   | N/A |
| 16| **Needs Improvement**                               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|   | **Meets Expectations**                              |   |   |   |   |   |   | 9 |   |
|   | **Exceeds Expectations**                            |   |   |   |   |   |   |   |   |
|   |                                                     |   |   |   |   |   |   |   |   |
|   |                                                     | N/A |   |   |   |   |   |   |   |

|   | Follow formal policies: Correctly follows hand hygiene, universal precaution, equipment disinfection and other infection control procedures applicable to patient encounter. |   |   |   |   |   |   |   | N/A |
| 17| **Needs Improvement**                               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|   | **Meets Expectations**                              |   |   |   |   |   |   | 9 |   |
|   | **Exceeds Expectations**                            |   |   |   |   |   |   |   |   |
|   |                                                     |   |   |   |   |   |   |   |   |
|   |                                                     | N/A |   |   |   |   |   |   |   |

|   | Treats patients with dignity, civility and respect, regardless of race, culture, gender, ethnicity, age, or socioeconomic status. |   |   |   |   |   |   |   | N/A |
| 18| **Needs Improvement**                               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|   | **Meets Expectations**                              |   |   |   |   |   |   | 9 |   |
|   | **Exceeds Expectations**                            |   |   |   |   |   |   |   |   |
|   |                                                     |   |   |   |   |   |   |   |   |
|   |                                                     | N/A |   |   |   |   |   |   |   |

|   | TIME SPENT OBSERVING SUBJECT (Minutes) |   |   |   |   |   |   |   |   |
| 19| Range from 0 to 100                      |   |   |   |   |   |   |   |   |

|   | TIME SPENT PROVIDING FEEDBACK TO SUBJECT (Minutes) |   |   |   |   |   |   |   |   |
| 20| Range from 0 to 100                         |   |   |   |   |   |   |   |   |

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Subject Name
Subject Rotation
Evaluation Dates

Evaluator
Evaluator Name

During your clinic rotation, you should develop knowledge and skills relative to the following milestones. Please complete the following self assessment to let your faculty member know which milestones warrant your most intensive efforts to improve. Please copy and paste into the comment box at the end of the evaluation the 3 milestones on which you would like to focus your self-improvement efforts. Write a brief improvement plan for each milestone needing improvement.

Print the form, save as a draft, take to your attending mid-month, obtain feedback and then complete form and finalize submission as per your discussion with your attending physician.

This evaluation is purely for feedback to permit you to grow and improve as a clinician.

1-Patient Care: Are you confident in your abilities relative to the below listed milestones. If the answer is no, please describe any deficiency you identify (by copying and pasting in the milestone below) and explain your collaborative learning plan devised in cooperation with the attending physician below.

Yes o No o N/A o

PC-A1 – Acquire accurate and relevant history from the patient in an efficiently customized, prioritized, and hypothesis driven fashion.
PC-A2 – Seek and obtain appropriate, verified, and prioritized data from secondary sources (e.g., family, records, pharmacy).
PC-B1 – Perform an accurate physical examination that is appropriately targeted to the patient’s complaints and medical conditions. Identify pertinent abnormalities using common maneuvers.
PC-E1 – Make appropriate clinical decisions based on the results of common diagnostic testing, including but not limited to routine blood chemistries, hematologic studies, coagulation tests, arterial blood gases, ECG, chest radiographs, pulmonary function tests, urinalysis and other body fluids.
PC-F1 – Recognize situations with a need for urgent or emergent medical care, including life-threatening conditions.
PC-F2 – Recognize when to seek additional guidance.
PC-F5 – With minimal supervision, manage patients with common and complex clinical disorders seen in the practice of inpatient general internal medicine.

2-Medical Knowledge: Are you confident in your abilities relative to the below listed milestones. If the answer is no, please describe any deficiency you identify (by copying and pasting in the milestone below) and explain your collaborative learning plan devised in cooperation with the attending physician below.

Yes o No o N/A o

MK-A1 – Understand the relevant pathophysiology and basic science for common medical conditions.
MK-A2 – Demonstrate sufficient knowledge to diagnose and treat common conditions that require hospitalization.
MK-B1 – Understand indications for and basic interpretation of common diagnostic testing, including but not limited to routine blood chemistries, hematologic studies, coagulation tests, arterial blood gases, ECG, chest radiographs, pulmonary function tests, urinalysis, and other body fluids.
### Practice Based Learning and Improvement

Are you confident in your abilities relative to the below listed milestones. If the answer is no, please describe any deficiency you identify (by copying and pasting in the milestone below) and explain your collaborative learning plan devised in cooperation with the attending physician below.

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
</tr>
</thead>
</table>

|  | PBLI-B1 – Identify learning needs (clinical questions) as they emerge in patient care activities. |
|  | PBLI-C1 – Access medical information resources to answer clinical questions and support decision making. |
|  | PBLI-E1 – Determine if clinical evidence can be generalized to an individual patient. |
|  | PBLI-F1 – Respond welcomingly and productively to action plans and feedback from all members of the health care team including faculty, peer residents, students, nurses, allied health workers, patients, and their advocates. |

### Interpersonal and Communication

Are you confident in your abilities relative to the below listed milestones. If the answer is no, please describe any deficiency you identify (by copying and pasting in the milestone below) and explain your collaborative learning plan devised in cooperation with the attending physician below.

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
</tr>
</thead>
</table>

|  | ICS-A1 – Provide timely and comprehensive verbal and written communication to patients/advocates. |
|  | ICS-A2 – Effectively use verbal and nonverbal skills to create rapport with patients/families. |
|  | ICS-A4 – Engage patients/advocates in shared decision making for uncomplicated diagnostic and therapeutic scenarios. |
|  | ICS-A5 – Use patient-centered education strategies. |
|  | ICS-C1 – Effectively communicate plan of care to all members of the health care team. |
|  | ICS-E1 – Request consultative services in an effective manner. |
|  | ICS-F1 – Provide legible, accurate, complete, and timely written communication that is congruent with medical standards. |

### Professionalism

Are you confident in your abilities relative to the below listed milestones. If the answer is no, please describe any deficiency you identify (by copying and pasting in the milestone below) and explain your collaborative learning plan devised in cooperation with the attending physician below.

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
</tr>
</thead>
</table>

|  | P-A3 – Accept personal errors and honestly acknowledge them. |
|  | P-C1 – Communicate constructive feedback to other members of the health care team. |
|  | P-D1 – Respond promptly and appropriately to clinical responsibilities including but not limited to calls and pages. |
|  | P-F3 – Ensure prompt completion of clinical, administrative, and curricular tasks |
|  | P-J1 – Maintain patient confidentiality. |

### Systems-Based Practice

Are you confident in your abilities relative to the below listed milestones. If the answer is no, please describe any deficiency you identify (by copying and pasting in the milestone below) and explain your collaborative learning plan devised in cooperation with the attending physician below.

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
</tr>
</thead>
</table>
### ACGME MILESTONES EVALUATION FORM CONTINUED

- SBP-A1 – Understand unique roles and services provided by local health care delivery systems.
- SBP-B2 – Work effectively as a member within the interprofessional team to ensure safe patient care.
- SBR-B3 – Consider alternative solutions provided by other teammates.
- SBP-C1 – Recognize health system forces that increase the risk for error including barriers to optimal patient care.
- SBP-C2 – Identify, reflect on, and learn from critical incidents such as near misses and preventable medical errors.
- SBP-E2 – Minimize unnecessary care including tests, procedures, therapies, and ambulatory or hospital encounters.

<table>
<thead>
<tr>
<th></th>
<th>Please rate your current ability to respond welcomingly and productively to action plans and feedback from all members of the health care team including faculty, peer residents, students, nurses, allied health workers, patients, and their advocates.</th>
<th>Needs Improvement</th>
<th>Meets Expectations</th>
<th>Exceeds Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Please rate your current ability to calibrate self-assessment with feedback and other external data.</th>
<th>Needs Improvement</th>
<th>Meets Expectations</th>
<th>Exceeds Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Please rate your current ability to reflect on feedback in developing plans for improvement.</th>
<th>Needs Improvement</th>
<th>Meets Expectations</th>
<th>Exceeds Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>○</td>
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</tr>
</tbody>
</table>

Overall Comments:

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Redesigning the Teaching Clinic: A Toolkit for Improving Care Coordination and Resident Learning
This tool is designed to help identify the resident who is “ready to be indirectly supervised for Essential Ambulatory Care.” Please observe the house officer in the routine clinic encounter, making note of whether their knowledge and skills relative to the listed milestones would suggest to you that the house officer is ready to see some patients without the attending in the room for key components of the visit.

Complete only those sections relevant to the particular encounter. Check “Yes” if the house officer’s behavior suggests that he/she is consistently able to satisfy the milestone. Check “No” if the milestone was observed but the house officer needs to make further progress before being entrusted to perform this part of the encounter without supervision. Please enter a comment for each observed item.

1. The house officer is able to
   - (PC-F1) - Recognize situations with a need for urgent or emergent medical care, including life-threatening conditions.

2. The house officer is able to
   - (PC-F2) - Recognize when to seek additional guidance.

3. The house officer is able to
   - (PC-A1) - Acquire accurate and relevant history from the patient in an efficiently customized, prioritized, and hypothesis driven fashion.
     - Begins with open-ended questions, then uses more directive ones.
     - Appropriately sets an agenda and asks questions related to the presenting complaint.
     - Seeks to verify, understand patient’s meaning. Data gathering is efficient (questions organized around complaint).
     - Prioritizes (addresses life-threatening problems first, then lower impact problems).
     - Hypothesis-driven (asks questions reflecting a working hypothesis).

4. The house officer is able to
   - (PC-B1) - Perform an accurate physical examination that is appropriately targeted to the patient’s complaints and medical conditions. Identify pertinent abnormalitites using common maneuvers.
     - Physical exam includes key maneuvers targeted to the problem.
     - Identifies and confirms key positive physical findings.
### ACGME MILESTONES EVALUATION FORM CONTINUED

<table>
<thead>
<tr>
<th></th>
<th>The house officer is able to</th>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>(PC-C1) - Synthesize all available data, including interview, physical examination, and preliminary laboratory data, to define each patient’s central clinical problem.</td>
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</tr>
</tbody>
</table>
| 6 | (PC-C2) - Develop prioritized differential diagnoses, evidence based diagnostic and therapeutic plan for common inpatient and ambulatory conditions.  
  - Prioritized from highest to lowest acuity.  
  - Reflects a reasonable level of EB or consensus guideline knowledge (if available) about common inpatient and ambulatory disease states.  
  - Diagnostic or therapeutic plan corresponds to diagnoses.  
  - Diagnostic or therapeutic plan minimizes risk to patient. |     |    |     |          |
| 7 | (P-F5) - Recognize the scope of his/her abilities and ask for supervision and assistance appropriately.  
  - Understands scope of their abilities as a member of the practice team. Knows when to ask for help from a team member to coordinate care, provide education, or provide other services. |     |    |     |          |
| 8 | (P-I1) - Treat patients with dignity, civility and respect, regardless of race, culture, gender, ethnicity, age, or socioeconomic status.  
  - Explores patient preferences and incorporates them into a treatment plan appropriate for the individual.  
  - Strives to provide patient care regardless of differences in background; beliefs or opinions between physician and patient. |     |    |     |          |

Overall Comments:
Support for this work was provided by the New York State Health Foundation (NYSHealth). The mission of NYSHealth is to expand health insurance coverage, increase access to high-quality health care services, and improve public and community health. The views presented here are those of the authors and not necessarily those of the New York State Health Foundation or its directors, officers, or staff.