

Promoting Cancer Screening Within the Patient Centered Medical Home

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Abstract

While consensus has grown that primary care is the essential access point in a high-performing health care system, the current model of primary care underperforms in both chronic disease management and prevention. The Patient Centered Medical Home model (PCMH) is at the center of efforts to reinvent primary care practice, and is regarded as the most promising approach to addressing the burden of chronic disease, improving health outcomes, and reducing health spending. However, the potential for the medical home to improve the delivery of cancer screening (and preventive services in general) has received limited attention in both conceptualization and practice. Medical home demonstrations to date have included few evidence-based preventive services in their outcome measures, and few have evaluated the effect of different payment models. Decreasing use of hospitals and emergency rooms and an emphasis on improving chronic care represent improvements in effective delivery of healthcare, but leave opportunities for reducing the burden of cancer untouched. Data confirm that what does or does not happen in the primary care setting has a substantial impact on cancer outcomes. Insofar as cancer is the leading cause of death before age 80, the PCMH model must prioritize adherence to cancer screening according to recommended guidelines, and systems, financial incentives, and reimbursements must be aligned to achieve that goal. This article explores capacities that are needed in the medical home model to facilitate the integration of cancer screening and other preventive services. These capacities include improved patient access and communication, health risk assessments, periodic preventive health exams, use of registries that store cancer risk information and screening history, ability to track and follow up on tests and referrals, feedback on performance, and payment models that reward cancer screening. *CA Cancer J Clin* 2011;000:000-000. © 2011 American Cancer Society.

Introduction

The Patient Centered Medical Home (referred to hereafter as “medical home”), also referred to as the “patient-centered health care home,” is at the center of efforts to reinvent primary care practice.¹ The principles of the medical home emphasize a reorganization of the traditional primary care model to highlight fundamental attributes: a comprehensive approach to primary care, a personal relationship with a physician-led team that has collective responsibility for the patient’s needs in a manner that is coordinated and enhanced with supporting systems, and a reimbursement approach that pays the cost of these systems. Although numerous private and public organizations have invested intellectual energy and resources to develop and evaluate the medical home model, the Patient Centered Primary Care Collaborative (hereafter referred to as the Collaborative) and the National Committee for Quality Assurance (NCQA) have had the greatest influence on the definition of the model to date (Table 1). The Collaborative was initiated by IBM in 2006 when it brought together Fortune 100

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We would like to acknowledge the National Colorectal Cancer Roundtable for convening a meeting in September 2010 on integrating cancer screening into the patient centered medical home, and the panel of experts from around the country who attended the meeting and contributed to the ideas expressed in this article.

DISCLOSURES: This work was supported by Centers for Disease Control and Prevention (CDC) Cooperative Agreement No. U50/DP001863. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the CDC.

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TABLE 1. Features of the Patient Centered Medical Home as Defined by Leading Organizations

PATIENT CENTERED PRIMARY CARE COLLABORATIVE^a
Personal physician
Physician-directed medical practice
Whole-person orientation
Care is coordinated and/or integrated
Quality and safety
Enhanced access
Payment that recognizes added value
NATIONAL COMMITTEE FOR QUALITY ASSURANCE^b
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

^aAvailable at: www.pcpcc.net.

^bAdapted from National Committee for Quality Assurance. Standards for Patient-Centered Medical Home (PCMH). Appendix 3, 3-2. Washington, DC: National Committee for Quality Assurance; 2011.

companies, TRICARE, and 4 predominant primary care associations. It organized a working group of internists, family physicians, pediatricians, and osteopaths representing the 4 primary care associations (American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, and American Academy of Osteopathy) to develop a new model of primary care delivery. The model that was developed was endorsed by a host of specialty organizations and the American Medical Association, and the Collaborative has grown into a broad nationwide coalition of providers, purchasers, payers, and consumers. The NCQA, the major national quality organization that manages the Healthcare Effectiveness Data and Information Set (HEDIS), focused attention on the medical home by promulgating criteria, including structures and processes, that practices must meet to gain recognition as a medical home.

The medical home is often discussed as a promising approach to addressing the growing burden of chronic disease with the overarching goals of improving health outcomes and reducing health expenditures.² Large demonstration programs of the medical home model have been supported by the Commonwealth Foundation, the federal government (through

the Centers for Medicare and Medicaid Services), state governments, and other entities.³⁻⁵ Although a variety of outcome measures have been utilized to evaluate medical home pilots, the greatest attention has focused on some combination of 1) cost of care; 2) achievement of intermediate outcomes in the form of laboratory values or consistent medication use for the chronic diseases of diabetes, asthma, and congestive heart failure; 3) provision of appropriate care processes; 4) patient and clinician satisfaction; and 5) hospitalization and emergency department utilization.^{6,7}

The potential for the medical home to deliver preventive services related to cancer has received limited attention despite the facts that cancer is the leading cause of death for individuals aged younger than 80 years and the leading cause of premature mortality in the United States.^{8,9} Furthermore, the human and dollar costs associated with cancer to the nation are immense. According to the National Institutes of Health, in 2010, cancer cost the nation \$263.8 billion, of which \$102.8 billion was for direct medical costs.¹⁰ Data confirm that what does or does not happen in the primary care setting has a substantial impact on cancer outcomes. The evidence that the recommendation of a physician has the greatest influence on whether an individual gets this screening continues to be strong.¹¹ Screening has contributed to declining age-adjusted cancer mortality rates for cancers that are amenable to early detection such as breast, cervical, and colorectal cancer, and to the primary prevention of colorectal and cervical cancer.¹²

The purpose of this article is to explore how cancer screening and other preventive services can be promoted within the medical home or, said another way, to explore how the principles of the medical home can be applied to cancer screening and prevention. We will discuss capacities, structures, and processes of the medical home that are relevant to early detection and prevention, and payment structures that will influence the successful adoption of cancer screening within the medical home.^{6,7}

Payment Models and Cancer Screening Within the Medical Home

Primary care practices cannot transform into highly effective units that produce better outcomes without adequate financial support. Because the

reimbursement model will dictate success or failure of the medical home, it is necessary to briefly address the financial issues that affect the delivery of primary care. The current models of ambulatory care reimbursement are largely fee-for-service or capitated rates, and for the most part, neither has supported nor incentivized many of the functions that are integral to the medical home model. Furthermore, as reimbursement rates have declined, practitioners have been compelled to increase volume in an effort to maintain income, which leads to visits of shorter duration and diminished opportunities for the delivery of preventive services.

Evolving approaches to reimbursement are designed with the intent of encouraging the incorporation of medical home features, but few are attuned to the reimbursement requirements that support the underlying concept.¹³ For example, some medical home payment models reward practices for reducing the total cost of health care, predominately through improved management of chronic illness and a reduction in emergency department visits and hospitalizations. Others provide bonus incentives for practices that meet quality standards for specific chronic conditions or preventive services, such as diabetes care measures, cancer screening, and vaccination rates. These 2 new models of reimbursement, one linked to the higher achievement of quality outcomes and one linked to generating savings, may be at odds with each other. Although screenings for breast, cervical, and colorectal cancer have been demonstrated to be cost-effective and save lives, none has been shown to save money in the near term.¹⁴ If reimbursement models that reward clinicians for limiting health care expenditures fail to identify and protect cancer screening costs, they risk discouraging screening. The emerging shared savings models will need to require both the generation of savings and the achievement of quality measures, including cancer screening, to support continued progress in screening rates. Broader approaches that address both chronic disease care and recommended preventive services are required. An approach currently used by some insurance companies as a part of their quality pay-for-performance programs is to define specific carve outs or bonus elements based on the achievement of higher cancer screening rates.

TABLE 2. “Must Pass” Criteria of the NCQA Standards

STANDARD	“MUST PASS” CRITERIA FOR STANDARD
Enhance access and continuity	Access during office hours
Identify and manage patient populations	Use data for population management
Plan and manage care	Care management
Provide self-care support and community resources	Support self-care process
Track and coordinate care	Referral tracking and follow-up
Measure and improve performance	Continuous quality improvement

NCQA indicates National Committee for Quality Assurance.

Medical home reimbursement models, by contrast, emphasize quality and provide additional payment to practices to achieve formal recognition as medical homes from certification programs such as the one offered by the NCQA. This program has required practices to document practice features that provide a comprehensive approach to the management of patients with several chronic illnesses. Table 1 presents the current features of the NCQA-recognized medical home. The NCQA recently released new criteria for medical home recognition, which represent a revision of their initial criteria set. These new criteria place greater emphasis on preventive services and explicitly list cancer screening as an area of quality improvement effort that satisfies an NCQA requirement.¹⁵ This is a step toward promoting a payment system that supports cancer screening quality improvement efforts.

Structures, Processes, and Capacities of the Medical Home That Promote Cancer Screening

The headings in this section conform to the NCQA standards for recognition as a medical home. A list of the standards, and the required “Must Pass” component of each standard, may be found in Table 2. There are several levels of achievement that are recognized by the NCQA. The most minimal level rests on achieving all the “Must Pass” elements.

Access and Continuity

Structures and processes that support access and continuity are just as important for cancer screening and other preventive services as for any acute

or chronic medical condition.¹⁶ The literature consistently demonstrates that the likelihood of undergoing cancer screening is associated with having a regular place of care, a regular physician, more visits, and among these, more visits for preventive care (checkups), and a recommendation for cancer screening from a clinician.¹⁷⁻²⁰ While the pivotal importance of a recommendation for cancer screening from a clinician has been repeatedly demonstrated, the opportunity to deliver preventive health recommendations depends on the type of encounter with the patient. It can be greatly enhanced in a planned, dedicated preventive health examination, but is less so when the patient is seeing a clinician for a health problem and less time is available.²¹ The latter model, often referred to as *opportunistic* preventive care, is currently the most common way in which preventive care is delivered. Opportunistic preventive care, in which the clinician takes advantage of visits chiefly dedicated to an acute health care problem or to chronic care management to recommend additional preventive services, such as cancer screening, holds great potential to promote the delivery of preventive health services. The strength of this model is that it can theoretically reach a large number of individuals, including patients who only access health care services to address acute needs. Figuring out how to mobilize the health care team to address prevention at every visit is a central competency of the Patient Centered Medical Home. Nevertheless, the opportunistic preventive health model, even in the mature PCMH, is not ideally designed to effectively address the full range of evidence-based preventive health needs. In fact, the limitations of the opportunistic paradigm have contributed to the substantial gaps in preventive care that the population currently faces. An alternative approach to preventive health care delivery is the institution of preventive health examinations, ideally tailored to the patient's needs by a health risk appraisal and administered by a health care team. The ability of planned preventive health visits to promote cancer screening has strong supporting evidence.²² The strongest predictor of whether or not an individual receives a recommendation to be screened for breast or colon cancer is whether or not they have had a preventive health visit.^{20,22}

The central strength of the preventive health visit model derives from a focus on the set of messages and services that are tailored to the age and risk profile of the patient. A visit dedicated to prevention affords more time to address lifestyle factors which are key determinants of health. The concept of the planned visit is included in the Wagner Chronic Care Model; the preventive health visit is a derivation of the planned visit model.

Under the NCQA recognition system, the capacity to maximize access and continuity with the provider team is verified by the presence of "open-access" scheduling and whether there is demonstrable continuity with a personal physician in a system of care that provides continuous access in person, by telephone, or by e-mail. Appointment barriers reduce the likelihood of completing preventive services, including cancer screening. "Open access" or "advance access" refers to scheduling that facilitates patient access to care. Appointments are held open until the day before or the day of the appointment so that patients are less likely to wait for an appointment and more likely to get same-day or next-day appointments. This is a patient centered approach and responds to perceived needs for acute care. Open access improves patient show rates and reduces cancellations by the patient and the office.²³

While open access scheduling has the potential to enhance access to preventive care, it will do so only if the rapid access opportunities are used to deliver preventive services. An opportunistic approach, defined as offering and performing preventive care at every visit regardless of the circumstance triggering the visit, is also required. If all services cannot be fit into the time available, prioritization for the delivery of specific cancer screening services rather than others at a visit may be based on individual patient risk factors and the work of the National Commission on Prevention Priorities.^{11,21,24}

Figuring out how to ensure that all enrolled patients participate in a preventive health visit at an appropriate periodicity poses a daunting challenge and will likely require payment reform and a substantial overhaul of how we currently organize primary care services. Furthermore, the preventive health visit model cannot entirely replace opportunistic

preventive care. First, not all adults will schedule checkups, and among those that do, not all will follow up on cancer screening and lifestyle recommendations. The updated “Welcome to Medicare” visit and the new annual Medicare health maintenance examination with the elimination of copayments for prevention promulgated by health reform may help increase planned prevention visits among Medicare beneficiaries. Ferrante et al measured medical home characteristics and documented that higher rates of preventive services delivery including cancer screening were associated with having a personal physician, visits with the same provider, well visits, and a larger number of visits.⁷ Of course, other members of the medical team can also improve continuity with patients and families in the context of the overall care process. Still, manpower issues at this time suggest that there will be a long transition into new models of preventive care delivery. A policy of aggressive use of the opportunistic delivery of preventive care will be required in the near term, and over the long term as part of the care delivery model. While no single access model reaches an entire enrolled population of patients, and different access models have different strengths, when physicians and their teams build on their relationships with patients, when screening is recommended to every appropriate patient at every visit, and when planned preventive visits are encouraged and scheduled, rates of preventive care should increase.

Broader access to care is also pivotal for addressing disparities.^{23,25} A meta-analysis of studies of breast cancer screening concluded that in cases in which disparities exist, when access was addressed based on removal of cost barriers to care, it produced the highest odds ratio of improvement among several interventions intended to improve screening rates. Additional structural changes that have been shown to expand access and increase health equity include those that address cultural and language barriers, transportation, etc. The expansion of insurance coverage with the elimination of deductibles and copayments for preventive services under the 2010 Patient Protection and Affordable Care Act should improve access and the potential to address disparities specific to subpopulations in the United States.

Identify and Manage Patient Populations

Registries

Registry functions are central features of the medical home model that help a primary care practice to manage a patient population and achieve population-based objectives. Registries are searchable lists of patients, with patient data used to identify patients with certain conditions, characteristics, or risk factors for purposes of patient care.¹⁵ They are well established as tools for tracking as part of chronic disease management. They are necessary for effective chronic disease care because they enable outreach and scheduling of planned visits for patients with the same diagnosis and permit quality assessment in an orderly, sequential way. Patient registries are especially important for tracking cancer screening and immunizations.²⁶

Listings by age and risk group are needed so at-risk populations can be identified and notified, and patient charts can be flagged to help in achieving higher rates of screening and primary preventive services like immunizations. A young adult population requires services that differ from those needed by a senior population. Men require different services from women, and individuals with different ethnic or racial characteristics may be at higher or lower risk for specific cancers and conditions and may require different services. Most primary care practices provide care to diverse populations, and the practice must know patient age, gender, ethnicity, family history, and personal habits to determine who will benefit from what services. Information relevant to determining risk must be systematically gathered, updated regularly, and stored in a convenient and retrievable database. For example, if the practice can use patient registries to identify all adults who are smokers; or overweight; or who have personal or family histories of cancers like colorectal, breast, ovarian, or prostate cancer, it will be possible to efficiently plan for the allocation of practice resources to intervene within the practice and/or reach out to ensure that appropriate services are delivered. The practice must be able to identify, contact, and remind every individual who has a salient risk factor or cancer history, and must have the capability to do this both by reaching out to the patient as needed (ie, reminders for regular cancer screening) and during scheduled visits. Health assessment tools and the

clinical team can be used to facilitate gathering this information. A thorough family history is vital for determining risk status and making decisions about whether any patient should be considered for a different screening schedule or referred for genetic counseling.^{27,28}

How this information will be obtained and entered into data systems are subjects that need to be addressed because the information system of the practice must meet this need. Because patients often do not have a mental inventory of this information, identifying patients in need of preventive care requires a variety of methods: combining insurance company data, claims data, billing information, and information gleaned from paper and electronic charts. To avoid a laborious and ineffective process, these data must be collected consistently and reside in a searchable practice-wide patient registry to permit the medical home to make use of them in real time, and for the purpose of outreach. The Veterans Administration (VA) health system has made this type of information accessible to providers all over the country for patients who receive their care from a VA source. Registries that reside outside the point of care, like vaccine registries, could provide a robust source of information. The state of New Hampshire has a statewide colonoscopy registry. Health information exchanges may provide another avenue for the development of such registries.

Use Data for Population Management

This is a “Must Pass” essential requirement within the NCQA criteria (Table 2). It describes the ability of the practice to use data to identify the demographic, social, personal history, and family history characteristics of its enrolled population so that steps may be taken to manage populations with similar characteristics such as age, gender, or risk status that define their medical needs. When these population demographics can be identified, population-based reminders may be utilized. In this case, reminders can be mailed at regular recommended intervals to classes of patients or individual patients based on gender, age, and test history. It will maximize the application of reminders if information retained by the practice is included that alerts the practice to special considerations, such as

when patients are at greater risk or when they are already screened with long-lasting protective procedures like colonoscopy.

While simple automated patient enrollment registration systems serve as the population management systems for many private office-based practices (every patient is registered in a central management information system that holds contact information and demographics), practices are increasingly likely to use more sophisticated electronic medical record (EMR) systems for this function. Several types of systems, including simple electronic registration systems, EMR-based systems, or other electronic registration systems, can enable the practice to manage its population and identify people who should be screened for cancer, immunized for infectious diseases, or targeted for other preventive services. In the long run, well-designed EMR systems should provide the basis to do this more precisely, taking into consideration the relevant inclusions and exclusions.¹⁵

Unlike the management of chronic illness, cancer screening and immunizations are directed at all patients, including those who seek medical care only when they have a specific problem, and patients who are enrolled but do not ever schedule appointments. Thus, even if opportunistic preventive services are utilized in addition to health maintenance visits to increase cancer screening, these approaches are insufficient to reach all patients and achieve the highest possible rates. Population-based approaches are necessary and have been used effectively in the VA, Group Health Cooperative, Kaiser Permanente, and other organizations, allowing them to achieve high screening rates for colon and breast cancer.^{29,30} For cervical cancer screening, which is widely and routinely accepted as a part of needed well woman care, best practice rates are greater than 90% of all patients being up to date.³¹

Reminders to patients provide the basis for the outreach portion of population management. Breast cancer screening offers an example. In the primary care setting, the challenge posed by mammography screening is the need to rescreen women very frequently: every year or at least every other year depending on age and which guidelines are used by the practice. National mammography screening rates have plateaued and are declining in some states.¹⁰ The reasons for this decline are manifold, but they highlight the challenge to achieving very high practice-wide rates in the absence of reminder systems. Relying on

patient visits to initiate a recommendation to screen is not sufficient. Practices may design and implement outreach via mailed or telephone call contacts, and employ office staff to help patients respond to the outreach by scheduling or navigating the screening process. While a personal recommendation from an individual's primary clinician is most effective, population outreach as a part of population management is required for bridging some of the screening gap.

Plan and Manage Care

While the capacity for care management is more relevant to chronic conditions and is generally offered to patients who have complex problems, the way the NCQA defines this standard gives it the potential to be relevant to cancer. The NCQA requires that the practice utilize the analysis of its own registered population to identify significant medical conditions that reside in that population. One of the significant conditions must be related to an unhealthy behavior, substance abuse, or mental health. Use of tobacco is an example of an unhealthy behavior for which the practice should be screening with a question about smoking.

This criterion calls for the use of reminders for practitioners based on evidence-based guidelines and better use of staff to achieve the goals of the medical home. Use of consensus guidelines is a "Must Pass" criterion. Guidelines are a widely accepted part of practice and are recognized as critical in producing quality outcomes. They should be integrated into office-wide or practice-wide policy. The importance of a policy is not as appreciated as the importance of the guideline. However, practice policies on cancer screening are vital to implementing office-wide systems that achieve the screening objectives that are the subject of the guidelines. A policy will shape the answers to key questions such as: Who are we trying to reach? What tests do we recommend? Where do we believe that shared decisions are essential? In addition, if specific guidelines are the basis for practice-wide policies, they can be supported by office-wide systems (teams, structures, processes) and measured by practice-wide rates. Initiative from other staff is a part of this and can be accomplished for some types of cancer screening and other preventive services such as immunizations through the use of standing orders that do not require sign off from the physician at the time of service.³²

Most primary care practices base their cancer screening recommendations on the guidelines of the American Cancer Society and/or the US Preventive Services Task Force.³³ Where these guidelines diverge, there are choices to be made, but they should be made by patients in consultation with their physicians. Members of the same practice may advise differently. Discussions about these issues should be explicit because the guidelines of both organizations are in synch about the importance of screening asymptomatic adults for cervical, breast, and colorectal cancer, and support informed decision-making for prostate cancer screening.³⁴ While guidelines from these 2 organizations are more similar than different, whether the practice embraces 1 policy only or 2, developing a practice-wide screening policy is a key facilitator to developing team-based, systematic interventions. Developing consensus within a practice contributes to targeted use of resources. Furthermore, provider reminders should be based on guidelines and office policy to keep the practice on track to meet standards of care quality and avoid forfeiting the financial incentives that support the medical home.

Reminders alert staff to the need for screenings, immunizations, and other preventive services as well as the elements of chronic care. They may come from advance chart review, by an EMR that generates a reminder at the point of care, by linkage to an insurance system that produces reminders after mining a central database, or from a well-maintained registry. All of these approaches help ensure that whenever a patient visits the practice, he or she is encouraged to get recommended preventive services "opportunistically" by a prepared practice team. The evidence base supporting the value of provider reminders is extensive.²⁹

Provide Self-Care Support and Community Resources

The Collaborative stresses "patient engagement," which means improving patients' abilities to manage their own health by providing assistance, encouragement, and educational resources. In the parlance of the NCQA, patient self-management is underscored because it is a "Must Pass" criterion. This is the most "patient centered" aspect of the medical home, and it is highly relevant to cancer screening. It is of pivotal importance in areas of risk reduction

like smoking cessation, diet and physical activity counseling, and obesity management. Referrals to available community resources are often a route to additional support for patients. Support for self-management can narrow the gap between intention to screen and actual screening. Feldstein, et al found that additional efforts to engage the patient by advancing from written reminders to telephone reminders to in-person reminders raised breast cancer screening rates appreciably.³⁵

Navigation is one approach to reaping the benefits of self-management support. A patient navigator may be defined as “someone who helps assist patients to overcome barriers to care.”³⁶⁻³⁹ Navigators have been employed in the settings of cancer treatment and screening.⁹ With screening, the intensity of the navigation is tailored to the level of patient barriers and the difficulties inherent in completing the screening test. Navigation needs vary from simple to complex. Health literacy issues may be addressed through this mechanism. Navigation may begin by ensuring that appointments for cancer screening are made while the patient is still in the physician’s office, before he or she goes home. It typically includes helping to ensure that patients complete the screening process by keeping mammogram appointments, returning fecal occult blood test cards and being supported through the colonoscopy preparation process, or getting patients with abnormal Papanicolaou (Pap) tests to appear for colposcopy. Navigating may be done directly in person or by telephone, postal mail, or e-mail.

Patients need support when making decisions about cancer screening. This support is especially important in prostate cancer screening, where informed and shared decision-making are recommended as opposed to an unequivocal recommendation to undergo screening. While informed decision-making can be based on informational materials, shared decision-making requires that the clinician provide information about the potential risks and benefits of a particular action to guide the individual through a process of decision-making based on the patient’s personal values and preferences. Informed and shared decision-making are also key to colorectal cancer screening, where patients must choose among multiple testing options.^{40,41} Practices must be prepared to ensure that patients have access to relevant information and spend time with a member of the team, so they are able to

make informed and shared decisions about their options.^{32,42-44} In the Wagner Chronic Care Model, which includes a focus on patient activation and patient self-management, motivational interviewing is used to encourage the patient to set self-management goals.⁴⁵ Scripts and templates are utilized to encourage patient self-management. There is a similarity between this approach and shared decision-making.

At this time, implementing shared decision-making in primary care practice is difficult, and the evidence that it can actually be implemented effectively is sparse. Finding the time within an office visit is probably the principal obstacle. Accordingly, utilizing various decision aids, such as video, Web-based, or print tools, to facilitate this process is recommended.^{43-45,47,48} Some practices may choose to help members of the practice team develop the ability to guide patients through the decision-making process. However, care must be taken that patients receive consistent information and that the individual conducting the process has the skills to help guide patient decision-making.

One other aspect of the care management standard is the ability to communicate in a way that the patient can understand. This requires that language, hearing, or vision barriers are documented in the record and that the practice attempts to address the barriers with multilingual clinicians, interpreters, language lines, translated written materials, and other strategies.^{49,50} This is relevant to all aspects of medical practice.

Track and Coordinate Care

The practice should use tracking and follow-up processes for all test results and referrals. The NCQA considers referral tracking and follow-up essential for a medical home (“Must Pass”), and it is highly relevant for cancer screening. Nevertheless, the literature documents that follow-up of cancer screening has been suboptimal. For example, too many patients with positive stool blood tests do not receive follow-up colonoscopy.⁵¹ Tracking of referrals for colonoscopy could improve rates of follow-up.⁵²⁻⁵⁶ Too many patients with abnormal prostate-specific antigen (PSA) test results do not receive appropriate follow-up. This is also the case with abnormal Pap testing for cervical cancer.⁵⁷ At times, the health system may lose track of patients with positive cancer screening tests due to human error or other problems.^{58,59}

Such follow-up and follow-through depend on structures, processes, and use of the medical team. Overdue screening or follow-up results should be flagged to bring them to the clinician's attention. The ability to track referrals and follow-up testing requires coordination with other parts of the health care system, including laboratories, diagnostic imaging services, and specialists. The practice should notify patients of all normal tests results and follow up with patients for all abnormal test results. EMR systems can potentiate these functions. It seems obvious that the practice must persist in obtaining results for all ordered tests and referrals and give reminders to patients who need follow-up. Furthermore, tracked cancer screening results should become part of the patient registry. Results should be entered into EMRs in searchable fields that include the test(s), the date that it was performed, and the results. This requires systems and teamwork.

Electronic test ordering and result reporting can automatically populate an EMR or cancer screening registry. However, relying on this approach may not be sufficient to capture tests that were performed in years previously or that are performed at a facility that does not use the same EMR. For example, colonoscopy tracking is particularly challenging because this test is required only once each decade after normal results. A patient may have had this test at some time in the past, but it would have been ordered by a different clinician, performed at a different facility, and covered by a different insurer. Obtaining the results and entering them into a searchable EMR registry field is difficult and demands flexibility. For example, the patient recollection about when the test was performed (and the result) may or may not be sufficiently accurate, but it may be the only practical source of information. Such issues with capturing information may be confronted for cervical cancer screening, which is required every 3 years after age 30 years for women with a history of normal examinations. For men who choose to be tested, PSA testing is recommended every other year if there is a low value rather than every year.³⁴

The traditional primary care principle of care coordination is vital in cases in which specialty offices provide the screening services and evaluate abnormal results. This is the case with mammography, and typically the case with colonoscopy for colorectal cancer screening, colposcopy for abnormal

Pap tests, breast surgery consultation when a lump is found, and urology consultation and possible biopsy for an elevated PSA. There must be functioning systems for contact between the provider, the patient, the office where the specialty procedure or visit is performed, and a health care team that is accountable for completing the communication loop.⁶⁰⁻⁶²

Coordination in providing screening and attention to abnormal test results may provide additional opportunities for test completion. Because mammography is performed frequently and requires the cooperation of radiology and primary care practices, the medical home has the opportunity to enlist radiology partners or health insurers in the outreach effort. They can join in the process of reminding patients who are due for screening with clear endorsement from the medical home. If the medical home designs and implements systems of patient outreach, keeping collaboration in mind, the initial investment may be substantial, but this function should not absorb substantial resources over time.

Stand-alone private practices may be at a relative disadvantage in implementing interdisciplinary communication and tracking compared with practices that are part of a larger system. The creation of accountable care organizations (ACO), one of the medical home payment models, has the potential to align quality incentives to promote interdisciplinary systems of communication. Although the concept of the ACO as a facilitator of cancer screening services is feasible and appealing, it should be remembered that incentive payments in the ACO model rely on generating shared savings as well as the achievement of quality outcomes. No "bonus" payment is received by provider groups unless savings are generated. Paradoxically, finding more cancers or cancer precursors might contribute to higher rather than lower costs. Negotiating the relative weight of high cancer screening rates in the ACO payment model can have a substantial impact on perceived and actual incentives to address cancer prevention.

Measure and Improve Performance

The medical home measures its own performance and reports to its clinician members on their individual performances. Evidence supports that reporting performance at the individual clinician level leads to increasing screening rates.⁶² The NCQA

considers performance improvement, which is a capacity that rests on both structure and process, to be essential (“Must Pass”). It includes reporting standardized measures, such as those contained in HEDIS, and goes beyond it to include setting goals and implementing practice reforms to improve outcomes.⁶³ Measurement and reporting back to individual physicians is one of the most effective methods of quality improvement. Audit and feedback have significant value for cancer screening, immunization, and other preventive services as well as for chronic disease management.^{15,63} The practice should ideally be able to provide individual-level feedback about screening rates to all clinicians.

The opinions and views of patients can also be a valuable part of performance feedback. Performance improvement operations in many health systems already include patient satisfaction surveys. Questions that ask specifically whether the provider or practice offers sufficient explanation and encouragement to complete cancer screening and other preventive services should be included in these surveys. Measurement constitutes one of the fundamental tools in quality improvement. Generally speaking, improving quality without measuring performance and progress cannot be done. If all the necessary steps are put into place to increase screening rates, a practice should be able to issue reports at the level of the entire practice and at the level of the individual clinicians.

Electronic Communication and Electronic Prescribing

Use of electronic records, communications, and prescribing is incorporated into several standards in the newest criteria for NCQA medical home recognition and is designed this way to be in alignment with the federal policy of encouraging the use of information technologies within the health care system.¹⁵ If used to communicate directly with patients, electronic communications may facilitate patient reminders and communication about results and provide new avenues for informed and shared decision-making. If used for communication between providers about referrals, they can lead to a faster, more accurate flow of information and can reduce duplication of effort.⁶⁴ The processes that enhance communication with patients or among providers should support

practice activities in the interest of cancer screening. Electronic prescribing is viewed as central to reducing prescribing errors.⁶⁵ Accuracy of prescribing would be directly relevant to cancer prevention when prescription medications are involved. An example is the use of chemoprevention agents for breast cancer (tamoxifen or raloxifene).

Conclusions

Several elements of the medical home model have the potential to promote cancer screening. There are significant challenges for practices that seek to transform to a medical home with all of its features. Nevertheless, collaborations and demonstration programs around the country are providing support for this transformation. The Collaborative has regular telephone calls and conferences in which members report on their experiences for the benefit of other members, and participants may ask questions that may aid them in the process of transformation to a medical home. Ongoing technical assistance from federal or state agencies, public-private cooperatives, or consultants may also be useful in this regard. Although many elements of the medical home can be leveraged to improve screening and preventive care, distinct challenges associated with the prevention and early detection of cancer demand varying applications of medical home elements.

Clinicians have the capacity to lead practice transformation. Realistically, however, these changes will not occur unless key stakeholders accept and embrace the fundamental concept that evidence-based cancer screening and other preventive services are lifesaving obligations of every practice and every member of the primary care team for every eligible patient. Employers, government, and insurers must share this commitment and partner with the Collaborative and primary care organizations to design, test, and implement reimbursement that aligns stakeholder incentives to promote preventive care, and carefully measures the changes and the outcomes. Practice transformation is not sustainable and ultimately will not succeed without payment reform that recognizes the vital contribution of preventive services in general, and cancer screening specifically, to improve the health of the nation.

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