

Competing Demands of Primary Care: A Model for the Delivery of Clinical Preventive Services

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Despite a high level of support for the importance of clinical prevention, physician delivery of preventive services falls well below recommended levels. Competing demands faced by physicians during the medical encounter present a major barrier to the provision of specific preventive services to patients. These demands include acute care, patient requests, chronic illnesses, psychosocial problems, screening for asymptomatic disease, counseling for behavior change, other preventive services, and administration and management of care.

This paper outlines how competing demands affect physician delivery of clinical preventive services and

provides a model designed to help practicing physicians improve the delivery of preventive services. This model can be helpful in the planning of preventive interventions in primary care settings and can facilitate a better understanding of physician behavior.

Key words. Preventive health services; delivery of health care; primary health care; primary prevention; primary care physicians.

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The delivery of clinical preventive health services can reduce many common causes of morbidity and mortality,¹⁻⁵ and primary care physicians are in a unique position to deliver these services.⁶ However, despite physician recognition of the importance of clinical prevention, current levels of preventive activity by physicians fall far below recommended levels. Numerous studies show that physicians perform only 20% to 60% of the recommended preventive services.⁷⁻¹²

The US Preventive Services Task Force recommended including preventive services in all medical encounters,¹ and most physicians agree with at least one set of preventive guidelines.¹³⁻¹⁵ For example, family physi-

cians concur with an average of 87% of the US Preventive Services Task Force recommendations.¹³

Although patients can incorporate some important health behavior changes into their lifestyles without physician input, physician involvement is essential for many preventive services. Physicians control access to screening services such as Papanicolaou (Pap) smears, mammography, and sigmoidoscopy. For example, the factor most strongly associated with women receiving a screening mammogram is physician recommendation.¹⁶ Additionally, since physicians are perceived as highly credible sources of medical information,¹⁷ the medical encounter can serve as a powerful "teachable moment" for initiating a patient's preventive efforts.¹⁸ Since 75% of Americans have contact with a physician in any given year,¹⁹ physicians can have a large impact on prevention efforts by taking the initiative in offering preventive services to patients. Pommerenke and Weed⁷ use the phrase "physician compliance" with preventive guidelines to describe preventive services in medical practices. This terminology calls appropriate attention to the physician as a pivotal point in the chain of events leading to preventive service

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delivery, but it is important to recognize that other demands compete with prevention during the medical encounter.

Existing models of preventive service delivery have been developed primarily to explain the behavior of individual patients in their efforts to improve health habits.²⁰⁻²² Since most preventive services require specific activities by *patients*,²¹⁻²³ understanding patient compliance is important; but we are concerned here with the provision of preventive services by primary care *physicians*.

Current Theoretical Models

Green and colleagues^{24,25} described predisposing, enabling and reinforcing factors involved in the delivery of preventive services. Predisposing factors include knowledge, attitudes, and beliefs about specific preventive services, particularly behavioral risk counseling.²⁵ These factors also include physician perceptions of patient concerns about prevention, and physician perceptions of their own abilities to effectively intervene.^{25,26} Enabling factors include preventive medicine skills and practice organization, including reminder systems and reimbursement policies.²⁶ Reinforcing factors include peer support, positive patient feedback, changes in patient risk behaviors, and reimbursement for preventive services delivered.^{25,26}

Walsh and McPhee²⁷ more recently described a "systems model" with emphasis on physician-patient interaction, including predisposing, enabling, and reinforcing factors for patients and physicians. Patient predisposing factors include demographics, beliefs and attitudes toward specific preventive services, and motivation and expectations from the clinical encounter. Patient enabling factors include knowledge of and education about specific preventive services, physiological factors such as nicotine addiction, and logistics such as scheduling and convenience of the specific service. Patient reinforcing factors include indirect benefits such as weight loss and improved self-esteem. Walsh and McPhee also described a role for health system organizations and the characteristics of specific preventive services. This model focuses on the interaction between patient and physician and specifies factors related to patients.

Burack²⁸ focused on the interaction among patient, physician, and health care system factors. Johns et al²⁹ discussed the multiple roles that the physician and other office staff members can play to foster prevention in the office. Physician roles include model, assessor, educator, counselor, referrer, and evaluator. Office staff roles include model, recorder, educator, reinforcer, and skills

builder. "Time constraints" was identified as a barrier to the delivery of prevention but was not considered one of the competing demands.

A new framework explaining preventive services delivery in primary care settings^{30,31} is needed to guide development of effective research interventions and the interpretation of outcomes.³⁰ This theory should have face validity, provide measurable variables, and enhance understanding beyond what would be expected from consideration of individual factors affecting preventive service delivery.

This paper describes a model designed to enhance understanding of the delivery of preventive health services in primary care settings. The premise of this model is that the medical encounter presents competing demands that vie with prevention for the limited time available. Multiple available preventive services also compete with each other for a place on the agenda of the ambulatory medical encounter. These demands pull physicians in many directions and should be considered a factor in how physicians choose to provide particular services during patient encounters, because the services physicians deliver during medical encounters result from interaction of these multiple demands. The components of the model are described in the Figure.

Model Components

The Physician

Physician attitudes. Physician attitudes about preventive services are important motivators for preventive practice.^{12,26,32-35} If physicians perceive prevention as an annoying part of their practice or beyond the scope of their responsibilities, they are unlikely to deliver state-of-the-art preventive services. Attitudes are likely to differ depending on the specific preventive intervention and how easy it is to implement.³⁶ For example, a physician who believes counseling for behavior change should be carried out by nonphysicians is unlikely to practice preventive services that require counseling. On the other hand, some physicians are motivated to practice community medicine because they are aware of the potential benefits of prevention. They perceive themselves as primary practitioners of prevention and adjust their practices accordingly.^{32,33}

Bandura's social learning theory²⁰ states that the probability of a behavior change taking place is determined by outcome expectations (ie, expectations that action will lead to a certain outcome) and efficacy expectations (ie, a belief in one's ability to successfully accomplish an action). There is evidence of a strong association

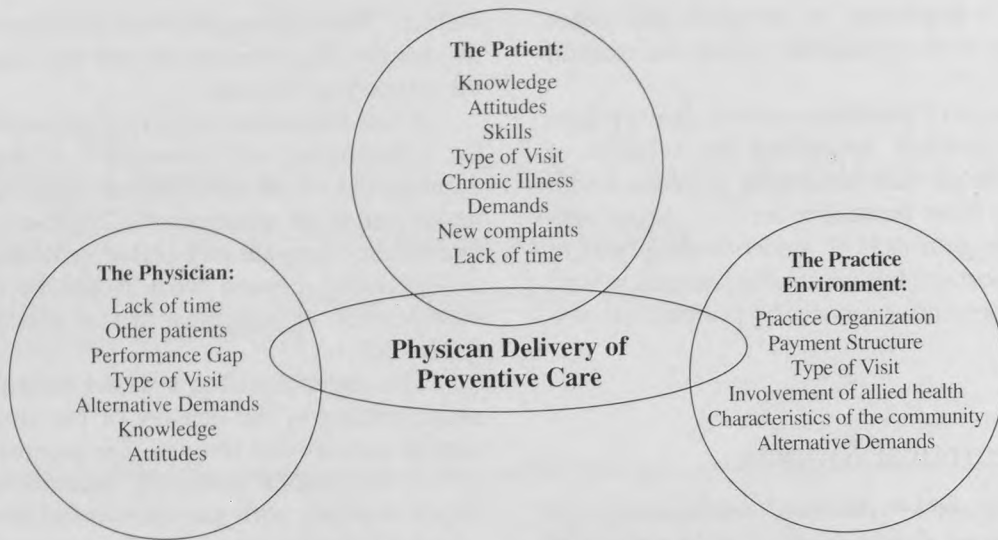


Figure. The competing demands model: interrelated factors involving patients, physicians, and the practice environment that affect physician delivery of preventive care services.

between efficacy expectations and health behavior change and maintenance.²³ Several studies^{37,38} indicate that physicians have relatively low efficacy expectations for counseling as a preventive service. Since efficacy can be increased with physician intervention,²³ counseling offers a good opportunity for intervention aimed at prevention.

Physician skills. Physician skills with respect to preventive services also have been associated with performance of these services.^{7,39,40} Communication skills are closely tied to physician ability to persuade and convey the need for preventive services.^{37,39} Technical skill, such as the ability to perform sigmoidoscopy, is related to performance of screening procedures and directly tied to outcome and efficacy expectations.

Physician attitudes and skills interact with physician knowledge in several ways. For example, physicians who believe in prevention are more likely to develop new skills through training in areas such as sigmoidoscopy or smoking cessation counseling. Physicians active in an exercise program are more likely to be knowledgeable about exercise⁴¹ and therefore may be more credible and skillful in recommending increases in physical activity.

Perceived performance gap. Another important determinant of physician motivation is perceived performance gap; that is, how physicians assess their practice as varying from those of other physicians in their community and the nation. For example, physicians may change how they order tests and prescribe drugs when they learn that their behavior in these areas differs from that of other physicians.⁴² Similarly, there is evidence that physicians who perceive a community norm for the interval for screening mammography are more likely to report order-

ing annual mammograms for women over 50 years of age.⁴³

Type of visit. Physician and patient preconceptions about whether prevention will be addressed during an encounter is often determined by the type of visit scheduled. Physicians perform more preventive services during visits for a complete physical examination. Although experts recommend integrating preventive service delivery into all types of medical encounters,^{1,4} physicians are trained to use well-care visits or check-ups to deliver general preventive services. Follow-up visits for chronic illnesses often include secondary or tertiary prevention focused on the chronic disease being treated. Prevention is not routinely on the agenda of "sick" or "acute" visits. In many practices, the amount of time scheduled for acute visits differs from that for well care. It is clear that acute visits can be used for preventive service delivery. For example, Pap smears can be obtained in the course of an evaluation for a urinary or vaginal complaint, and smoking cessation intervention is easily delivered in the context of an evaluation of acute upper respiratory illness. Even if no additional preventive services are delivered during acute visits, the physician can order, refer for, or reschedule preventive services during these visits.

The Patient

Patient demands and expectations. Like and Zyzanski⁴⁴ have identified five major categories of patient requests typically brought to the clinical encounter: medical information, psychosocial assistance, therapeutic listening,

general health advice, and biomedical treatment. Physicians are motivated to meet patient requests and demands, but the need to address the patient agenda often represents a more pressing demand than the delivery of preventive services. Therefore, the current illness or active symptoms often take precedence over prevention. For example, in the treatment of a pregnant woman who is Rh negative and presents for prenatal care at 28 weeks with reactive depression, the physician may spend most of his time arranging follow-up for her depression and miss giving a preventive injection with Rh immunoglobulin G. After addressing a patient's immediate problems, there is often little time left for prevention.

Patients are exposed to a myriad of messages that directly influence their health beliefs and demands for preventive services. Consequently, patients bring with them specific expectations and demands, such as lists of preventive services they request, independent of the reason for the current visit. For example, patients who expect a blood test and express concern about breast cancer may be more likely to have their total cholesterol checked and be scheduled for a mammogram than those not expressing these expectations. In a recent survey of practicing primary care physicians, 16% reported that their patients' demand for screening mammograms influenced their decision to order the tests.¹⁵

The Practice Environment

Payment structure. The current US health system payment structure is an important factor affecting the delivery of preventive services. Lack of payment or reimbursement is frequently cited as a reason for not performing clinical prevention.^{45,46} Uninsured patients are less likely to have the financial means to invest in preventive services for which the benefits are not immediately apparent.⁴⁷ Similarly, elderly patients are less likely to obtain preventive services not covered by Medicare.⁴⁸

Practice organization. The organization of clinical practice settings is an important factor in the delivery of preventive services.^{32,33,49-54} The use of physician reminders,^{32,51,52} flow sheets,^{33,49,53,54} and patient reminders^{33,49,55} has been found to increase delivery of preventive services. The availability of on-site services, such as a nutritionist or a mammography unit, is likely to facilitate the delivery of preventive care services. Environmental cues in the office also are likely to motivate patients to request preventive services. Posters, videotapes, and other forms of patient educational materials may have an impact on the delivery of preventive services by increasing patient demands for specific preventive services.

Involvement of allied health professionals. Another important element in the delivery of preventive services is

the involvement of nonphysicians in prevention.⁵⁶ Allied health professionals may be more effective at initiating and carrying out many preventive interventions.^{57,58} For example, a study comparing nurses' and medical residents' use of fecal occult blood testing for screening found that nurses were three times more likely to distribute the test to eligible patients, and patients receiving the fecal occult blood cards from nurses were more likely to return them.⁵⁸ This collaboration between nurses and patients can be formalized by the development of practice-specific guidelines, standing orders, and protocols.

Characteristics of the community. The community in which the practice is located also has important implications for the delivery of clinical preventive health services. Physicians practicing in areas of physician shortage often have strong motivation for prevention but are likely to be overwhelmed by the demands of sick patients that consume most of their energies in curative medicine.⁵⁹

Alternative demands. Finally, physicians are likely to be affected by a multitude of personal demands from their families and from their communities. Some may be involved in projects of primary prevention beyond the confines of their offices.⁶⁰ All these demands must be balanced and considered when interventions for increasing delivery of clinical preventive health services are introduced.

Implications

Although the efficacy of many clinical preventive services has been adequately established,¹ there is abundant evidence that the actual delivery of preventive interventions falls far below recommended levels.⁷⁻¹² Finding ways to consistently deliver preventive services to patients is a prerequisite for the success of clinical prevention efforts and an important clinical and public health challenge.

Our model's emphasis on competing demands experienced during the medical encounter is likely to ring true to practicing physicians. Putting the observed low rates of physician delivery of preventive services into the context of alternative priorities, the model can lead to creative problem-solving, rather than blaming physicians for poor performance. It is possible that much of what is labeled as poor physician compliance may actually be rational prioritization of competing demands. Increased insight into these demands within the medical encounter is prerequisite to deciding which preventive efforts belong in the medical encounter and which should be relegated to public health or other approaches.

The competing demands model provides a framework for examining the interrelated factors determining clinical prevention. The multifactorial nature of determi-

nants of preventive service delivery explains the limited effect of single interventions. Physician understanding of the determinants of clinical preventive service delivery, including physician, patient, and practice environment factors, should lead to the design of effective and innovative interventions to foster clinical prevention.

We have used components of this model to improve delivery of preventive services in an inner-city practice. A chart audit revealed that only 85% of eligible patients in the practice population were vaccinated appropriately. Further analyses revealed that nonimmunized children were taken to a physician only when sick. In this practice, the physician and staff collaborated on a new protocol that requires review of the chart for immunization and screening by the nurse for every sick-child visit, with immunizations administered or screenings performed on that visit as appropriate and well-child visits scheduled. The results of the intervention are yet to be evaluated, but the potential benefits are obvious. This model can be applied easily to the clinical setting to eliminate low rates of preventive service delivery and to design innovative interventions.

Competing demands inherent in primary care practice must be considered in order to understand the current state of preventive service delivery. Efforts to improve medical practice that do not take these competing demands into account are likely to be less effective. Because primary care physicians are busy and in short supply, it is improbable that patient care would be improved by placing additional burdens on primary care physicians without removing other demands. Individuals charged with making policy recommendations and increasing the level of clinical preventive service delivery must acknowledge this fact.

There is a need for research on what interventions are most effective in producing important outcomes in *primary care settings*. Attempts to gather primary care effectiveness outcome data require a high priority in this nation's research agenda.⁶¹ Office-systems approaches that help physicians to prioritize, delegate, and carry out important clinical interventions also are needed⁶²⁻⁶⁴ Finally, research and experience in maximizing the diagnostic, therapeutic, and preventive potential of the physician-patient relationship must be balanced with the competing demands of the medical encounter so that effective interventions can be defined and carried out for each patient.

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