

Bridging the Why and the How of Clinical–Community Integration

Ronald T. Ackermann, MD, MPH

Preventive services include measures such as medications, procedures, devices, tests, education, and counseling that have been shown to improve well-being, and/or decrease the likelihood of or delay the onset of a targeted disease or condition.¹ Regardless of the exact focus, all preventive services require actions by the people being targeted and by the professionals taking part in their delivery. These actions can be discrete (e.g., influenza vaccination) or longitudinal (e.g., intensive lifestyle behavioral counseling), but all require human effort and additional resource inputs. Careful planning is needed to ensure that preventive services are implemented in a fashion that maximizes appropriate uptake and follow-up while minimizing the need for new resources.

The past 2 decades have uncovered a rising tide of chronic disease prevalence and morbidity,^{2,3} heralding an increasing need for prevention.⁴ As this need has increased, so have the numbers of preventive service recommendations, tasking the primary care system as a “home” for preventive service delivery.^{5,6} Not surprisingly, it has proved challenging to achieve high levels of uptake for many preventive services,⁷ as well as to reach all segments of the population equitably.⁷ These gaps in the uptake of preventive services have numerous root causes, such as economic barriers to healthcare access, limited time and resources, low provider awareness for when a service is indicated, linguistic and cultural barriers impeding patient–provider communication or shared decision making, or patient misperceptions about the relative harm of risk factors that do not cause symptoms.⁸

In this context, it is essential to consider broader approaches for delivering preventive services that extend beyond the existing health system, reaching settings where individuals “live, work, and recreate.” These

diverse settings contribute to the components of a larger prevention system, where health behaviors can be influenced by a wide array of multi-sector interventions that include not only clinical preventive services but also interventions at the policy, environment, community organizational, and social/interpersonal levels. These other interventions may interact to increase the appropriate uptake of preventive services or improve health behaviors more directly to amplify or extend the reach of prevention efforts overall. Leveraging such a social-ecologic system for the purpose of health improvement is by no means novel⁹; the challenge is, of course, *how*?

Over the past 20 years, several conceptual frameworks for health system improvement have been proposed, most of which focused on the influence of healthcare structures (leadership, health information technologies, delivery system design, and professionals) but also linking with community resources to enhance behaviors when patients are outside of the clinical sector.^{10,11} Although these frameworks have increasingly emphasized the importance of community integration,^{12,13} rarely have incentives and change processes been aligned to support the systemic integration of health promotion and disease prevention strategies from the perspective of a person. With a person-centered approach, the design of an integrated prevention system would include the delivery of services in settings where patients can be reached most efficiently and most conveniently. Population statistics show that Americans spend the bulk of their time in worksites; community organizations (e.g., supermarkets, schools, faith organizations, recreation facilities); and in their own homes, often in front of a television or computer.^{14,15} The typical person spends only a miniscule amount of time engaged with a healthcare professional. Strategic placement of clinical services in community settings has the potential to expand the accessibility and reach of these services to more individuals while aligning them with policies, public health initiatives, community organizational efforts, and immense levels of social and commercial marketing to enhance overall impact.

Another important consideration is to differentiate simple *relocation* of clinical preventive services into

From the Center for Community Health, Institute of Public Health and Medicine; Northwestern University Feinberg School of Medicine, Chicago, Illinois

Address correspondence to: Ronald T. Ackermann, MD, MPH, Northwestern University Feinberg School of Medicine, 750 N. Lake Shore Drive, Chicago IL 60611. E-mail: r.ackermann@northwestern.edu.

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community settings from full *integration* of resources and strategies for maximal impact. In this issue of the *American Journal of Preventive Medicine*, Krist and colleagues¹⁶ report on the results of a series of stakeholder-engaged deliberations to identify important infrastructure elements that would be needed if clinical and community resources are to be successfully aligned to maximize the uptake of clinical preventive services. One important highlight of this work is the recognized need for spanning infrastructure, including professionals and technologies to bring about the mutual engagement of different sectors and to align activities among them. Krist et al. propose that spanning infrastructures must include three critical components: engagement, administration, and follow-up. Although the need for infrastructure to support the administration of services may seem straightforward, the importance of resources to ensure engagement and follow-up warrant additional discussion.

One important issue raised by Krist's proposed framework is the challenge of how best to engage stakeholders to recognize how integration serves their mutual interests.¹⁶ This is a critical point because developing and sustaining the spanning infrastructure will incur costs that are both human and financial, and these costs could prove to be an insurmountable barrier without matching investments from both healthcare and nonhealthcare stakeholders. Quintessentially, each individual stakeholder must foresee a value to invest in this infrastructure. New models for health system reimbursement may enable greater flexibility in payments to nonclinical partners to administer health services, but health system financing alone may prove insufficient to fund the full costs of clinical preventive service delivery in community settings. The concept of shared risks and benefits should mean that community and public health partners also contribute upfront resources. Why would they do this? What would be the value to them?

It is probably overly simplistic to assume that just because delivery of a clinical preventive service is valued by the healthcare sector that other sectors would also be attracted to invest in its delivery. Although it may be easier to conceptualize why a public health department might want to partner with healthcare around a vaccination program, what about a church, a YMCA, or a Walgreens pharmacy? Many nonhealthcare organizations may have an indirect interest in health but are more regularly compelled to invest their resources to achieve other mission-driven goals, often linked to the sale or distribution of a product or other service. One fundamental concept for a successful partnership is synergy. Synergy has been defined as recognition by two or more partners that the sharing of resources will

help each to achieve a more complete solution or goal that could not have been achieved feasibly by working alone.^{17,18}

It is no secret that large supermarkets and pharmacy chains such as Wal-Mart offer many common prescription medications below wholesale costs. Do they do this exclusively to promote better health or, in part, to attract into the store more people who are likely to purchase other products? There are likely a variety of motivations for nonclinical organizations to provide health services or supplies for reasons far different from health promotion, whether or not they are able to recover any direct costs they might invest to administer the service. Whether or not other stakeholders fully understand these motivations, nonhealthcare organizations must recognize the potential for synergy from their own organizational perspective if they are to be true partners in the expanded delivery of clinical preventive services. In this context, spanning infrastructures to support clinical–community integration must help nonhealthcare stakeholders to recognize synergistic benefits and support the development of true partnerships involving shared risks and benefits.

If each partner must ultimately decide whether there is a value to investing additional resources in the delivery of clinical preventive services, it is essential that the clinical and public health research enterprise be equipped to provide the information needed to bring these entities to the table. Much of the evidence used currently to rate the value of clinical preventive services focuses on clinically measured health outcomes and in some cases costs. Is the research enterprise also generating and disseminating information needed by nonhealthcare stakeholders to make decisions about value? Do employers routinely have data from research that enables them to judge the comparative effectiveness of an influenza vaccination program versus an onsite obesity management program for reducing missed workdays among different types of workers? Spanning infrastructures for clinic–community integration must include support for the generation of usable information from prevention research that is not only patient-centered but also stakeholder-centered.

A last important theme of spanning infrastructure warranting more discussion is follow-up. Krist et al.¹⁶ propose that follow-up should include (1) immediate actions (documentation of the service and appropriate follow-up of abnormal findings); (2) long-term support to enact and maintain behavior changes needed to manage health risks; and (3) continued reassessment for relapse or the need for repeat testing. One implicit but understated theme in this follow-up sequence is the need for a seamless flow of results between clinical and community sectors to maximize follow-up and avoid

unnecessary duplication of services. For example, there is already considerable uptake of aspirin chemoprophylaxis, influenza vaccination, and the administration of other vaccines occurring in community settings that remains undocumented and under-recognized during clinical follow-up.

If the delivery of services in community settings is expanded to include blood-based screening for type 2 diabetes or high cholesterol, or perhaps fecal immunochemical tests for colorectal cancer screening, it is essential that the results of these tests be appropriately accessible across systems to prevent unnecessary duplication. Even if these tests are expedited to a local clinical laboratory for analysis, this lab must interface appropriately with the patient's own medical home provider and all community partner organizations at which he or she might receive the service again in the near future. If spanning infrastructures are insufficient in documenting and exchanging information about preventive services, it is possible that many individuals may receive tests more often than is indicated, increasing costs as well as the threat of harm from false-positive repeat tests.

To take this one step further, spanning infrastructures also need to include decision support to community partners about when it is appropriate to stop preventive services. For example, consider a 60-year-old patient who is found to have a positive screening test for colorectal cancer after completing a mail-back, annual fecal immunochemical test (FIT) obtained from her local pharmacy. If she subsequently has a normal diagnostic colonoscopy examination ordered by her primary care physician, how will the pharmacy know not to recommend an annual FIT to this woman again each year for the next 10 years? This type of over-utilization is already a problem within the clinical sector, so careful forethought is needed to avoid compounding the problem during the spread of preventive services into community settings. Fortunately, these problems are solvable through robust health information exchanges or the concept of a portable electronic medical record that follows each patient rather than remaining siloed in separate care delivery systems.¹⁹ However, as initiatives are already underway to promote the inter-operability and meaningful use of electronic health records, these efforts must begin to integrate electronic data from nonclinical partners in order to advance the development of spanning infrastructures for clinical–community integration.

The promise of clinical–community integration for health promotion and disease prevention is an exciting frontier that can expand uptake of clinical preventive services and, more importantly, improve the quality and length of human life.²⁰ Spanning infrastructures are critical for the success of this integration but will require

considerable forethought and support from all partnering organizations. The need for such infrastructure places immediate demands on the design, interpretation, and dissemination of ongoing research about preventive services to nonclinical stakeholders; the focusing of ongoing incentives for the development of health information exchanges to incorporate nonclinical data contributors; and the imminent expansion of new financing and payment structures to appropriately support the sharing of risks and benefits with nonclinical partners. As we now have a strong toehold in the *why* of clinical–community integration, we must strive further to advance the *how*.

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