Systems to Improve Clinical Prevention

FAMILY PHYSICIANS have always been interested in better, more efficient, and cost-effective ways to improve the provision of clinical preventive services. While many physicians have concentrated on improving their provision of screening examinations, especially for a variety of cancers and cardiovascular diseases, many also attempt to better address other preventive issues, such as providing immunizations and counseling their patients toward more healthy lifestyle behaviors. Two articles and a commentary in this issue of the ARCHIVES address these latter two categories of clinical prevention.

Harper and Murray[1] describe their results of an organizational strategy to systematically identify and provide measles-mumps-rubella (MMR) vaccinations to adolescents in an urban setting. Since the vaccines were free to this relatively low socioeconomic population, other barriers to immunization must operate to explain the relatively low immunization and "up-to-date" rates among their adolescents. Wishing to "reduce missed opportunities," a somewhat intensive intervention was developed that required office receptionists to identify age-eligible individuals. The medical records of these adolescents were further screened by a nurse who then initiated a process of obtaining from a parent the consent for vaccination; the nurse also advised the physician to order the vaccine at the conclusion of the visits.

This relatively simple method produced impressive results, with a doubling of the percentage of eligible visits at which MMR vaccinations were given and the percentage of visits from adolescents at which MMR vaccination status was up to date. Although significant improvements were made by the intervention, the overall up-to-date rate was still low, with fewer than 40% of adolescents having had the recommended MMR immunizations.

A variety of strategies that are likely to improve the immunization status of our patients are reviewed briefly in this issue by Zimmerman and Petry.[2] The majority of their suggestions are focused on physicians and their office systems, especially where strategies are proposed to flag individuals at risk and to convey this risk status to someone who will provide or implement a process that will lead to the provision of the needed preventive service. While office system strategies are likely to make the largest contribution to addressing this preventive issue from the physician's perspective, legislative carrots and sticks requiring up-to-date immunization status for entrance into primary, secondary,[3] and even advanced educational programs are even more effective[4] than public education campaigns and the usual practices of most physicians.

The report of the US Preventive Services Task Force[5] reached several conclusions about the provision of preventive services. Repeating several of their points is germane here. First, the risk status of each patient needs to be ascertained and frequently reassessed to determine precisely what clinical preventive services should be offered. Most of our patients do not fit into simple grids that plot age vs what preventive maneuvers to offer. Greater selectivity should guide the clinician in proposing screening tests, and these decisions must be made on a multitude of individual risks, rather than simply on age and gender. Second, preventive services need not be provided exclusively at visits scheduled solely for prevention. Harper and Murray's strategy for improving immunization status was successful because they systematically sought to evaluate the risk of each patient, regardless of the reason for being seen.

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The US Preventive Services Task Force report also concludes that counseling and patient education are among the most powerful interventions a physician can make, and they are of more value than conventional clinical activities, such as diagnostic testing. This report heralded what is becoming more and more obvious, ie, that the role of responsibility for preventing illness continues and, appropriately, has shifted more and more from physician to patient. While these observations have guided a reformation of the provision of clinical preventive services during the last 5 years, realizing that systems approaches are critical for physicians and their offices to provide better services is now being more widely considered. Both Harper and Murray[1] and Zimmerman and Petry[2] advocate systems approaches.

Many systems under development contemplate using the now ubiquitous preprinted sticky notes as part of the communications system link Our office has also become infatuated with this idea.However, this little piece of technology raises many thorny questions. How do you decide how many different "stickies" you develop or require your reception and nursing staff to deal with to achieve improvement in clinical services? How do you set office and personal priorities when there are so many areas that often need addressing in daily practice? Do you attempt to develop and use different systems for different problems or do you combine systems on one note for such disparate subjects as hypertension, smoking cessation, nutrition and exercise counseling, Papanicolaou's smears, mammograms, and immunizations? If not, do you use several notes and color code them?

Can these little pieces of paper address the barriers to proposing and accepting needed behavior changes? What happens when a sticky note with no identification gets misplaced? How do you incorporate the cost for the system when standard preprinted notes can cost 10¢ to 20¢ a sheet? How do you project costs associated with additional office personnel, time, training, and quality assurance now attendant to the new activities of the system?

I applaud the efforts of these authors and all our colleagues striving to provide higher-quality and more preventive services. I am certain that one of the keys to making a quantum leap in improving the provision of clinical preventive services will be the development of systematic processes to identify practice-specific priorities and strategies to capitalize on what would have been missed opportunities. Mechanisms that encourage continuous quality improvement can be implemented for entire offices (staff and physicians) to periodically reassess the goals and preventive strategies of each provider and his or her office environment.

We will learn to use office systems approaches and organizational theory to make the provision of clinical preventive services more efficient. Many preventive-oriented office systems use flow sheets and algorithms.[6] In this issue of the ARCHIVES, Hughes[7] provides a useful approach to initiating the process of smoking cessation depending on what stage of contemplation the smoker is at when encountered by the physician.

A few years ago, I had the opportunity to write a commentary to a paper by Hahn and Berger.[8] Their paper clearly showed that excellent preventive services can be provided in a private practice setting when a systematic approach is taken, not to one issue but to a wide variety of activities related to clinical prevention: examinations, laboratory testing, screening, immunizations, and counseling. To make their findings generalizable to more family physicians, I suggested that what was needed was determination, a systematic approach, perhaps some assistance in communicating or documenting what was needed and what was done (eg, flow sheets, notes), and implementation of developed strategies in ways that would facilitate rather than impede office flow. This would make it likely that these new activities would "become routine for every single patient encounter."

Improving the provision of preventive services continues to be a vibrant area full of rich possibilities and likely major developments that will result in improving the health status of our patients and the nation as a whole. One of the most promising developments is the Put Prevention Into Practice campaign that is about to be launched by the US Public Health Service. Developed by the Office of Disease Prevention and Health Promotion, it offers kits of patient-centered, physician-centered, and office-centered strategic materials.

The American Academy of Family Physicians is already working on ways to bring these materials to the attention of our colleagues and to assist in their wide dissemination; these materials include "Personal Health Guides," patient-held minirecords[9] that summarize the need as well as document the occurrences of preventive services, attractive wall charts for each examining room to prompt both patient and provider about screening and preventive counseling, flow charts, preprinted prescription pads, and of course sticky notes. These materials will soon be widely available for us to review, use, and modify, in short, to incorporate into each of our evolving office systems.

The ARCHIVES looks forward to sharing with its readers what many of you will learn about the daily implementation of as yet undreamed strategies to increase immunization rates, assess risk, and track behavior change as well as algorithms, both hand-written and computerized, that might optimize preventive and curable interventions.

Joseph C. Konen, MD, MSPH
Bowman Gray School of Medicine
Winston-Salem, NC

REFERENCES

1. Harper PG, Murray DM. An organizational strategy to improve adolescent measles-mumps-rubella vaccination in a low socioeconomic population: a method to reduce missed opportunities. *Arch Fam Med.* 1994;3:257-262.
2. Zimmerman RK, Petry LJ. The role of family physicians in immunization. *Arch Fam Med.* 1994;3:225-227.
3. Robbins KB, Brandling-Bennett D, Hinman AR. Low measles incidence: association with enforcement of school immunization laws. *Am J Pub Health.* 1981;71:270-274.
4. Cook LG, Collins MJ, Williams WW, Rodgers D, Baughman AL. Prematriculation immunization requirements of American colleges and universities. *J Am Coll Health.* 1993;42:91-98.
5. US Preventive Services Task Force. *Guide to Clinical Preventive Services: An Assessment of the Effectiveness of 169 Interventions: Report of the US Preventive Services Task Force.* Baltimore, MD: Williams & Wilkins; 1989:xxi-xxiii.
6. Prislin MD, Vanderbark MS, Clarkson QD. The impact of a health screening flow sheet on the performance and documentation of health screening behaviors. *Fam Med.* 1986;18:290-292.
7. Hughes JR. An algorithm for smoking cessation. *Arch Fam Med.* 1994;3:280-285.
8. Hahn DL, Berger MG. Implementation of a systematic health maintenance protocol in private practice. *J Fam Pract.* 1990;31:492-504.
9. Dickey LL. Promoting preventive care with patient-held minirecords: a review. *Patient Educ Counsel.* 1993;20:37-47.