

An Office System for Organizing Preventive Services

A Report by the American Cancer Society Advisory Group on Preventive Health Care Reminder Systems

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Despite increasing recognition of the importance of preventive services, such services are not provided in primary care practice as often as recommended. One of the most important reasons is the lack of a systematic, organized approach within practices. The American Cancer Society Ad Hoc Advisory Group on Preventive Health Care Reminder Systems reviewed evidence-based reports and expert opinion to summarize current knowledge about office systems for clinical preventive services. This article describes the process of developing an office system for preventive care, beginning with writing a practice policy, auditing charts for baseline performance, developing and implementing a plan for efficient delivery of preventive care, involving office staff, and monitoring progress. Strategies for dissemination of this approach to a wide range of primary care practices may involve professional medical organizations and managed care companies. *(Arch Fam Med. 1996;5:108-115)*

Editor's Note: Desire + Systems = Improved Prevention Performance. It is as simple as that! I agree that office systems and commitment are key. However, thus far, I have not heard of a good system that will ensure the full completion of all of the preventive medicine recommendations. The sheer complexity and number of preventive medicine recommendations are daunting (each summary sheet from the clinical preventive services, per age group, still lists 25 or more items, with additional ones for high-risk individuals). It is expensive to collect data through chart audits on each type of preventive medicine item. Computerized systems are more likely to help assess risk and help physicians comply with their own medicine. I also think that paying physicians more when there is high compliance would encourage implementation.

Marjorie A. Bowman, MD, MPA, Editor

The delivery of clinical preventive services is increasingly being recognized as a core component of primary care practice. The effectiveness of a number of screening, counseling, and immunization procedures to reduce the risk of morbidity and mortality from cancer, heart disease, and other chronic conditions, as well as infections, has been clearly established.¹ More than ever before, patients, providers, payers, and policymakers are interested in including preventive services in comprehensive health insurance benefits packages, emphasizing the importance these services hold for improving the health of the country. Achievement of preventive health goals is often used as a measure of quality by insurers and other monitoring groups. But performance rates for many screening procedures, counseling activities, and immunizations fall far below levels recommended by national groups.²⁻⁷ Primary care physicians have found the task of regularly providing clinical preventive services to be difficult to incorporate into their daily routines.

Many reasons account for this failure to provide preventive services adequately; these reasons include uncer-

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THE AMERICAN CANCER SOCIETY AD HOC ADVISORY GROUP ON OFFICE SYSTEMS FOR PREVENTIVE CARE

tainty about effectiveness, inadequate skills of providers, confusion about recommendations, and lack of financial incentives,^{8,9} but one of the most important reasons is the lack of a systematic, organized approach within the office. Primary care practices are, appropriately, organized around the care of acute and chronic medical problems. The provision of preventive services requires a somewhat different approach, in which a patient's risk for conditions that are not yet present must be considered and addressed. Well-intentioned physicians are subject to the inevitable time pressures of clinical practice and often forget to provide preventive services.¹⁰

A number of interventions, both manual and computer-based, such as flow sheets, reminder notices, and chart stickers (L.D., unpublished data, June 1992),¹¹ to prompt providers about patients' preventive care needs have been found to be effective in increasing rates of performance of preventive services. Many studies of these interventions were conducted in academic settings; these studies examined only single strategies that often involved computer systems available only in institutions or other unique settings. Dietrich et al,¹² in a randomized controlled trial called "The Cancer Prevention in Community Practice Project," tested a multi-component approach in community primary care practices in New Hampshire and Vermont. Each office used a manual office system, based on flow sheets and prompts and involvement of practice personnel. Rates of mammography increased from 59% to 77% during a 12-month period in intervention practices, compared with no change in control practices. Statistically significant improvements also occurred for clinical breast examinations, recommendations to do breast self-examinations, stool occult blood testing, recommendations to reduce fat intake in the diet, and counseling to quit smoking. Nonsignificant improvements were found in the performance of Papanicolaou tests, digital rectal examinations, advice to increase dietary fiber, and sigmoidoscopy recommendations.

Studies such as these suggest that an organized system can increase preventive care that is delivered even in a busy primary care practice. A "system" refers to a series of "routines" that includes a set of "tools" (eg, flow sheets) and specific roles for office staff and physicians that consistently address each step in performing preventive care in an office. These systems, routines, and tools are tailored to specific practice needs. Most practices have systems for billing and caring for acute medical problems, but few have organized systems for prevention.

Creating an office system for preventive care requires more than simply implementing a specific tool (eg, a flow sheet or chart prompt); it involves a larger process that encompasses the entire office in its scope. The purpose of this article is to discuss the activities that are involved in planning and implementing a paper-based systematic approach for regularly providing appropriate clinical preventive services for eligible patients in primary care practices. With commitment and teamwork, such an approach can assist practices in attaining improved levels of performance.

In 1993, the American Cancer Society, Atlanta, Ga, convened an Ad Hoc Advisory Group on Preventive Health Care Reminder Systems (see page 110 for a list of members of this group). The purpose of this group was to review and summarize current knowledge about office systems for clinical preventive services and to consider strategies for the dissemination of these systems into primary care practice. The group did not limit its consideration to preventive care programs that endorsed a specific prevention protocol or to programs that were based solely on cancer prevention procedures.

The Advisory Group recognized the potential of computers in systems for preventive care, but it acknowledged that computers are not available for this function in many practices. Barriers to computer use, however, are diminishing as less expensive, more user-friendly computer systems have become available in ambulatory settings. This article will present the Advisory Group's recommendations for the process of developing an office system, including the content and maintenance of such a system, with emphasis on paper-based tools. Many of the issues that were considered apply equally well to computer-based systems. Features of computer-based health maintenance tracking systems, thought to be essential or optional, have been described by the Advisory Group in a separate article.¹³

A complete review of the literature relevant to office systems for promoting preventive care had previously been done by one of the members of the Advisory Group for the National Coordinating Committee on Clinical Preventive Services (L.D., unpublished data, June 1992). This review was supplemented by input from other members of the committee, many of whom had extensive research experience in the implementation of clinical preventive services.^{5,8,11-21}

From this information, we identified several key components of office systems and key strategies for implementation. Features of "Put Prevention in Practice," the office system program developed by the Office of Disease Prevention and Health Promotion in the Department of Health and Human Services, Washington, DC, were also reviewed.

DEVELOPING AN OFFICE SYSTEM FOR PREVENTIVE CARE

Although primary care medical offices are similar in their core activities (eg, scheduling appointments, seeing patients, keeping individual patient records, billing payers for services delivered), they vary in how these activities are carried out (eg, number and qualifications of staff, design of office facilities, method of record keeping). Similarly, office systems for preventive care have core activities; yet, they vary in how these may be implemented in a practice. A description of those activities that are believed to be key for developing a preventive care office system for the whole practice (whether paper or computer tools are used)

will be presented; these practice-level activities are as follows:

1. Develop a written practice policy for preventive care (screening, counseling, and immunizations) and set goals for desirable levels of performance.
2. Survey a sample of charts to establish baseline performance rates.
3. With office staff, develop a written plan for carrying out five steps for preventive care.
4. Choose a staff member to be the coordinator of the preventive care system.
5. Develop (or adapt) tools (eg, flow sheets, tickler files, patient education materials) for carrying out the steps.
6. Set a "start date" and put the plan in action on that date.
7. Meet frequently to assess how things are going and modify the plan and tools as necessary. Reward yourselves for progress!
8. Resurvey a sample of charts to measure the impact of the system on screening, counseling, and immunization rates; refine system as needed.

The first task in developing an office system for preventive care is that the practice should decide which screening, counseling, and immunization procedures it wishes to provide for all eligible patients on a routine basis and should write them down in the form of a "prevention policy" (or protocol). The policy should group these services by age, gender, and other risk factors, and it should be limited to a short list of high-priority effective procedures. Physicians and other providers and clinical staff should meet and consider together what their prevention policy will include. They may wish to refer to published evidence-based prevention guidelines, such as the *Guide to Clinical Preventive Services*¹ and those published by the American College of Physicians, Philadelphia, Pa,²² and the American Academy of Family Physicians, Kansas City, Mo,²³ or recommendations based on expert opinion, such as those put forth by the American Cancer Society.²⁴ To minimize potential disagreement among physicians in a group practice, the policy should list only those procedures that are deemed by members of the practice to be the most important and that all can agree on (a core policy). Individual providers can then add other preventive services to the general policy and to individual patients' reminder lists as they see fit.

As a second task, once a prevention policy has been established, the practice should determine how well it is meeting its stated policy. This usually involves an audit of practice records, reviewing the performance for selected procedures for a certain population of patients during a defined period. The parameters (which procedures, for which patients, during what period) may be set by the practice according to its interest or level of concern in a particular area of patient care. For example, if a practice is concerned that it may not be adequately screening eligible women with mammography or counseling smokers to quit, the practice may wish to review a sample of charts of patients of the appropriate gender or ages who have been seen in the previous 12 months. A large sample is not needed; about 10 to 20

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charts reviewed for each group for each procedure would be sufficient to give a reasonable estimate. These charts should be randomly chosen from "active" patients, as defined by the practice (eg, those patients who have been seen in the office at least once in the last 3 years). The audit should define clearly the criteria for deciding what counts as performance of a procedure (eg, completion of the procedure or documented recommendation for the procedure by office staff or physicians). Audits conducted by managed care organizations may be a useful source of this type of information for patients who are members of those organizations. To carry out high-quality chart audits in a way that minimizes bias and increases reliability, the audits should be performed, if possible, by individuals who do not have a specific stake in the outcome, and a few charts should be reviewed independently by two individuals.

After completing the chart audit and establishing baseline performance, the practice should then set goals for the level of performance of the audited procedures that it would like to attain in the future. These goals should be set high enough to encourage active participation and effort by all members of the practice, but they should also be realistic and attainable. If there is a difference between the current performance level and the level at which the goal has been set, then a "performance gap"²⁵ exists. The purpose of the office system is to close this gap, that is, to find ways to deliver more efficiently preventive services regularly to a higher proportion of eligible patients. An example of a practice prevention goal is to increase the proportion of women (age, ≥ 50 years) who have a mammogram every 1 to 2 years from 35% (at baseline) to 75%.

To achieve its goals, the practice must consider how it will carry out the following steps for providing preventive care to individual patients: (1) identifying

Procedure _____		
Step	How Step Is Done	Who Does Step
1. Identify Procedures (or Counseling) Due		
2. Recommending the Procedure to Patients		
3. Perform or Order the Procedure		
4. Notify Patients of Results and Arrange Follow-up if Necessary		
5. Recall Patients to Return for Next Routine Procedure		

Figure 1. Preventive care activities work plan.

the preventive services for which a patient is due, based on age, gender, and risk factor status, and prompting a provider about the need for those services; (2) recommending those services to the patient and providing education as needed; (3) performing or ordering the procedures; (4) recording the results of the procedures and arranging follow-up for further testing if necessary; and (5) recalling the patient to return at the next appropriate interval. Practices should consider, in a detailed way, how each step will be done and who will do it, taking into account existing protocols, routines, and job responsibilities that have already been established in the office (ie, the preventive care work plan as shown in **Figure 1**). The plan should be written, spelling out each person's responsibilities and how the tasks will be carried out. An office staff member should be selected as the coordinator, who is given authority to oversee the development and implementation of the preventive care plan. The coordinator's role will be to encourage teamwork among all members of the practice who are involved in the plan.

DIVIDING UP THE RESPONSIBILITIES

In many practices, the steps of providing preventive care are now being carried out by physicians alone; physicians by themselves determine the patients' preventive care needs, discuss those needs with the patients, and then order or provide the care as indicated. Physician-dominated systems are, however, limited in their ability to carry out efficiently routine procedures for every eligible patient. Physicians are usually focused on the treatment needs of the patient (and appropriately so) and often have difficulty thinking about other issues (eg, preventive care) that may not directly relate to the current problem. An organized, systematic plan encourages a team approach, with several members of the office staff playing important roles. For example, the nurse

might review a chart before the visit to determine what, if any, preventive care procedures a patient needs. After the nurse has updated the patient's record for procedures that have been done elsewhere, the physician could be prompted about any overdue procedures. Both the nurse and the physician could divide responsibilities for discussing recommended procedures with the patient. Examination procedures indicated for the patient could be performed by the provider at that time or scheduled for a future appointment. Other variations on ways to carry out these steps are possible.

CREATING AND USING TOOLS

As a part of the plan for a system to provide preventive services for patients, practices should consider materials (ie, tools²⁶) to help them carry out these tasks (see examples in **Figure 2** and **Figure 3**). These tools may be used by physicians and office staff to collect and record information about preventive care, prompt providers, and educate patients. There are a variety of such tools: patient-completed questionnaires that ask about risk factors and date when certain preventive services were last received,²⁷ chart flow sheets (described below),^{28,29} removable adhesive notes placed on an encounter form by the nurse to prompt the clinician about a patient's preventive care needs,¹⁵ and stickers put on charts of patients to prompt providers about counseling and other preventive services.³⁰ Other tools might include patient education materials (including brochures from the practice about its prevention policy), patient-held cards for recording dates of preventive care services,^{31,32} wall posters and charts about prevention, and tickler files for tracking preventive services received and due. These materials can be designed by the practice and produced by local printers (flow sheets, practice-specific patient brochures about prevention policies, follow-up and reminder letters or postcards for patients, etc) or ordered from national organizations (eg, patient education brochures on specific prevention topics that are available from the American Academy of Family Physicians, American Academy of Pediatrics, Elk Grove Village, Ill, American Cancer Society, American Lung Association, New York, NY, and American Heart Association, Dallas, Tex).

The package of materials recently developed by the federal Office of Disease Prevention and Health Promotion, entitled "Put Prevention into Practice,"^{33,34} will aid practices in putting a prevention system in place in their offices. This set of tools has been designed for use in a system, including the components described above. Materials include preventive care flow sheets for children and adults, an immunization flow sheet, examination room wall posters for children and adults, prevention prescription pads, reminder postcards for parents of pediatric patients, removable adhesive notes for prompting providers at office visits, patient record alert stickers (eg, indicating current smokers), patient-held personal health guides for adults and children, and the *Clinician's Handbook of Preventive Services*,³⁵ which is a handbook for clinicians about preventive care proce-

Name _____ Birth Date _____

Smoking Status Current Former Never

Date/Age									
Mammogram Every 1-2 Years/>50 Years									
Breast Examination Every Year/>40 Years									
Pap Smear Every 1-3 Years Until 65 Years									
Cholesterol Every 5 Years									
Sigmoidoscopy Every 10 Years/>50 Years									
Tetanus Every 10 Years									
Pneumococcal Once at 65 Years									
Influenza Every Year After 65 Years									
Diet Counseling									
Activity Counseling									
Smoking Cessation Counseling									

Figure 2. Example of flow sheet. Pap indicates Papanicolaou.

dures that details the rationale for the recommendations, as well as the procedures for performing clinical preventive services; this handbook also describes resources for further information and for obtaining materials for patient education.

Practices should plan, in specific detail, how these tools will be used and then train all involved staff in their use. Merely having a flow sheet in a chart, for example, does not ensure that it will be completed. Issues such as who will enter information on the flow sheet (the nurse, the physician, or the file clerk?), when that information will be entered (before, during, or after the visit?), and what particular information will be entered (the date that a mammogram is ordered, the date that the report comes back, or both?) need to be carefully considered, to ensure that the tool is really serving its function of improving efficiency in the delivery of preventive services. Many practices already have some type of flow sheet or problem list in the patient record; often, however, this sheet does not have a section to record health maintenance procedures. Rather than developing an entirely new flow sheet, which could require entry of a large volume of information, an alternate pos-

Personal Health Maintenance Card
 Women 50 Years and Older

Women, Age 50 Years and Older

Activity	Date Performed
Clinical Breast Examination Every Year	
Mammogram Every Year	
Test/Blood in Stool Every Year	
Pap Smear Every 1-3 Years	
Flu Shot Every Year After 65 Years	
Pneumonia Shot Once at 65 Years	

**We Recommend the Following for Women
Age 50 Years and Older:**

1 Every Year	Clinical Breast Examination Flu Shot (Every Year After 65 Years) Pneumonia Shot (Once After 65 Years)
1-2 Every 1-2 Years	Mammogram
3 Every 3 Years	Pap Smear
5 Every 5 Years	Sigmoidoscopy
10 Every 10 Years	Tetanus Booster

Figure 3. Interior of patient education brochure and patient-held card. Pap indicates Papanicolaou.

sibility would be to create a flow sheet for preventive care on adhesive-backed paper that would fit on a small section of the existing sheet and could be added on as patients are seen for office visits. Procedures listed on the preventive care flow sheet should be those that the practice has included in its prevention policy, and these procedures should apply to all eligible patients, so as to standardize the form. Additional blank lines should be available for the provider to add procedures for certain patients who, because of specific risk factors or existing diseases, may warrant other preventive care procedures (eg, yearly eye examinations for diabetic patients).

When used as designed, preventive care flow sheets serve several useful purposes: (1) they serve as a convenient and consistent site for recording information about the preventive care that a patient has had, (2) they help to remind providers about what preventive care is due for the patient, (3) they make explicit and remind providers about the components of their prevention policy (which procedures at which intervals), and (4) they may be an easy-to-access source of information about preventive care for a group of patients, if the practice decides to audit its preventive care performance.

Counseling, as well as screening and immunizations, should be included on the health maintenance flow sheet. It is especially important to have a routine place in the chart to document smoking status (current, former, or never) and to record briefly counseling that is given about quitting—something that is often neglected in visit notes. Smoking status may be easily noted by the nurse when blood pressure and weight are recorded. Fiore,³⁶ in a recent statement, recommended that smoking status be made a “new vital sign.” Office staff can play a valuable role in delivering counseling messages, in addition to counseling given by physicians³⁷; guides that detail how to include staff members in counseling activities are available.³⁸ There should be a place on the flow sheet to record if patients are given a brochure that states the practice’s prevention policy. This serves to document that patients have been encouraged to receive certain prevention services. The patient brochures should be given directly to each appropriate patient by the physician or nurse, not merely left in the waiting or examination room, so that the message about preventive care can be tailored to the individual patient. This direct approach is likely to be the most effective way for impressing on the patient the importance of preventive care.

Computerization of flow sheets, chart prompts, and recall letters to patients will ease the burden of maintaining paper files. Programs for such tracking and recall functions are increasingly being developed and becoming available.³⁹⁻⁴¹ Thus, as a practice upgrades its computer capabilities, a hybrid system for preventive care, utilizing both paper and computer components, may evolve. The core routines of a prevention system remain the same; only the tools may vary.

DEVELOPING THE SYSTEM FURTHER

To improve the efficiency of ordering or performing a preventive service, a practice should consider “standing orders” for certain procedures. These have been shown to be useful for influenza immunizations⁴² and could also be used for other immunizations and certain other preventive services (eg, mammography and smoking cessation and prevention counseling). Thus, if the nurse determines an eligible patient is due for a mammogram, based on the practice’s policy, she or he could discuss it with the patient and, if the patient agrees, could start the process of scheduling the procedure. Then, if the physician decides, with the patient, that the test is not necessary, it could be canceled. Thus, the default is to schedule the test, and a counterorder is needed to stop the process. Likewise, the nurse could begin talking to a smoker about quitting and provide self-help materials or information about classes, if the smoker was interested. The counseling would be continued by the physician during the visit.

Once designed, the practice should consider how it will enroll patients into the prevention system. Enrollment is often less burdensome if accomplished one patient at a time, as she or he comes into the office for a visit, rather than all patients at once. A flexible enrollment system should enable practice members to use

discretion in terms of whom they enroll, with the option not to enroll certain types of patients (eg, onetime visitors, those inappropriate for screening owing to existing medical conditions or advanced age, or those seen only for consultation). Some practices may wish to enroll all patients automatically.

a practice should consider “standing orders” for certain procedures

After the planning phase is completed and the prevention system is ready for implementation, a start date should set the program into action. Supplies of tools should be on hand, and everyone in the practice should be oriented to the system. An initial phase-in period, with time for “debugging,” is advisable. Once the system is operating, the system coordinator should meet with office staff members periodically to see how the system is working and to make further modifications to the plan. New staff members will need to be oriented to the system as they join the practice. Given that changes in routines are often difficult to initiate and maintain, practice staff members should be rewarded periodically for their efforts and informed of improvements made in the provision of preventive services for their patients.

To evaluate how well the system is working to meet the prevention goals that have been set initially, follow-up chart reviews should be done. This can be done on a sample of charts of patients who are seen in the office in a recent period (eg, during the past 3 to 6 months). Periodic monitoring of the prevention system and its impact on screening, counseling, and immunization rates with feedback to practice staff members will help to maintain interest in and support for this important aspect of patient care.

DISSEMINATION INTO PRIMARY CARE PRACTICES

Increasing preventive care in primary care practices by using an office system for preventive care builds on a large body of research on a wide variety of methods. Most of the previous studies have evaluated single or dual interventions (eg, flow sheets and physician reminders with and without patient reminders). Dietrich et al¹² and Pommerenke and Dietrich¹⁵ advanced the state of the art by using a multicomponent, tailored approach in volunteer practices, allowing practices to choose those tools that best fit their offices. Many of the tools and strategies described herein were developed and tested in that project. Recently, the National Cancer Institute and the Agency for Health Care Policy and Research, both in Rockville, Md, funded a group of five projects, entitled “Prescribe for Health,” to apply office system approaches in a variety of settings and in a variety of ways. These grants were designed to test the effectiveness of providing assistance for implementing prevention office systems to practices through professional organizations to which physicians belong (medical societies, a preferred provider organization, a liability carrier, a network of community health centers, and

an academic health center network of practices). Several of the grants are working with randomly selected practices. Results of these trials will be available soon.

Given that most primary care practices are already working hard to meet the demand for patient care, it is difficult to find the time to plan and implement a prevention office system, even if it will save them time later on. The "Put Prevention Into Practice" materials, or similar tools, will be useful to practices as they begin to plan and develop their systems, as described in this article. To find better ways to help busy clinicians, the Office of Disease Prevention and Health Promotion has funded several professional organizations to study methods for disseminating "Put Prevention Into Practice" materials to their members.

Other potential strategies for reaching primary care practices with assistance and tools for prevention office systems include dissemination through voluntary health organizations (eg, the American Cancer Society). A program of training American Cancer Society volunteers to facilitate the process of organizing office systems for prevention in primary care practices is currently being tested in New Hampshire. This pilot activity has been expanded to four other American Cancer Society divisions. Another strategy is to place such a program in continuing medical education offices in academic medical centers and offer continuing medical education credit for such efforts.

Managed care plans might also serve an important role in providing assistance to practices for improving the quality of preventive care through systematic approaches. The process that we have described closely follows the principles of continuous quality improvement⁴³ and would fit in well with the continuous quality improvement approach that is frequently applied in managed care settings. Continuous quality improvement emphasizes a problem-solving strategy that involves all levels of employees in a team-work model. Teams use data to identify problems, set goals for improvement, define the tasks to be accomplished in a series of small steps, develop and implement a plan, and finally resurvey to measure progress toward the goals. Financial incentives for achieving performance targets may be increasingly offered by managed care plans that have found that preventive services are attractive to health care purchasers, as well as by liability carriers that have found that failure to diagnose cancer in a timely fashion is a leading cause of malpractice claims.

CONCLUSION

This article has presented recommendations about a practical approach for addressing the difficult problem of increasing the delivery of preventive care in busy primary care practices. These ideas have come from personal and research experience and will be further refined as studies that are presently under way are completed. Although other barriers to the improved use of effective preventive services remain, implementation of an office system approach has the potential to pro-

vide an important contribution to solving the problem and leading to healthier outcomes for patients.

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The views presented in this article represent solely those of the authors and are not necessarily the official position of the American Cancer Society.

For further information on "Put Prevention Into Practice" materials and an order form, contact the Office of Disease Prevention and Health Promotion, US Public Health Service, Switzer Bldg, Room 2132, 330 C St SW, Washington, DC 20201; (202) 205-8660, fax (202) 205-9478; materials may also be ordered from the American Academy of Family Physicians at (800) 944-0000.

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Clinical Pearl

Pituitary incidentalomas are unsuspected and endocrinologically silent (average follow-up, 6 years). Of those less than 10 mm, there was no change over several years. Of those larger than 10 mm, two of 16 experienced complications and one required surgery; four of 16 enlarged. Thus, small ones remain benign at least for several years. (*Arch Intern Med*. 1995;155:181-183.)