Assessment of a Patient-Held Minirecord for Adult Health Maintenance

Larry L. Dickey, MD, MPH, and Diana Petitti, MD, MPH
San Francisco, California

In the last 13 years several authorities and organizations have published recommendations for the periodic examination and immunization of healthy adults.[1-15] The implementation of recommendations, regardless of their source, has remained problematic. In most studies overall compliance rates with health maintenance recommendations have been found to be less than 50%, and often much less.[16-19]

Attempted interventions to improve compliance have largely been provider oriented, such as computerized physician reminder systems, chart flowsheets, and inservice training.[16,20,21] Patient-oriented interventions have not been as well investigated. Patients themselves may be an underutilized force for promoting preventive care. Several studies have found the level of patient interest in preventive service to be high,[22-24] and recently several authorities, including the US Preventive Services Task Force, have commented on the importance of enlisting greater patient involvement in this aspect of their own medical care.[15,24-26]

Reminder notices mailed to patients, literature distributed to patients, and patient-held records are examples of patient-oriented interventions. Mailed reminder notices have been found to be effective at promoting the performance of immunizations,[27] fecal occult blood testing,[28] and a comprehensive schedule of preventive services.[29] The combined mailing of reminder notices and literature to patients has been found to increase the performance of mammograms but has had no effect on that of clinical breast examinations.[30]

Patient-held records in the form of the familiar pediatric immunization card have been shown to increase immunization rates across a broad range of pediatric groups in the United States.[31] Dietrich and Duhamel[32] found that a mailed "patient-held checklist" improved performance rates for cancer screening of geriatric patients. Giglio and Papazian[33] found that patient-held records can be well received and retained by patients, particularly if small in size and easily portable. These researchers also found provider acceptance to be of importance for successful patient use of such records. In the present study, family physicians in California were surveyed to evaluate potential provider acceptance of a patient-held minirecord for adult health maintenance.

METHODS

The authors developed a patient-held minirecord, called the Health Diary, for use at the Family Health Center in San Francisco. This instrument (Figures 1 and 2) is a two-sided, heavy paper card that folds into the size of a passport. Copies of the Health Diary with an accompanying questionnaire were mailed to a random sample of 250 active members (6.25%) of the American Academy of Family Physicians in California in January of 1989.

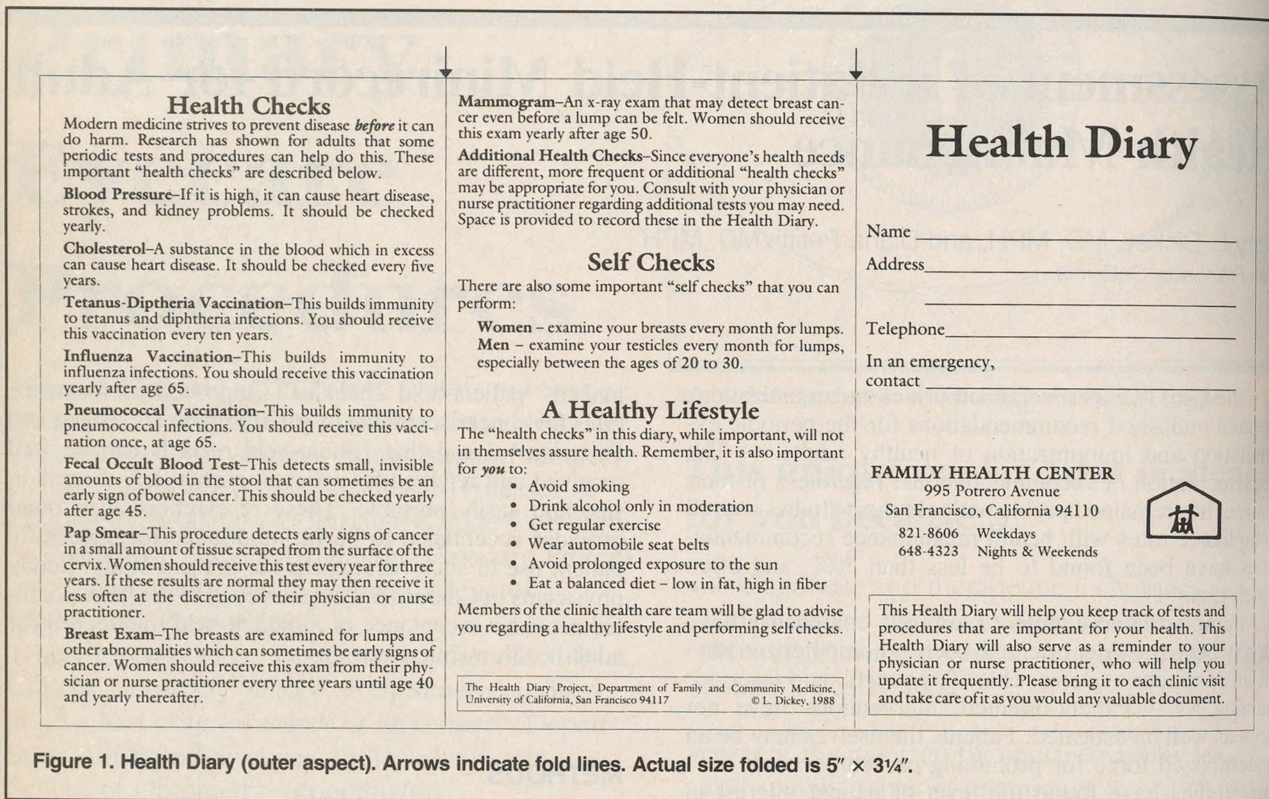
The 15-item questionnaire solicited information as to the degree of interest in using an instrument such as the Health Diary. Family physicians who expressed any interest in its use were asked to choose a preferred method of obtaining and distributing the minirecords to their patients. Information was also elicited as to the family physicians' assessment of the potential effects of the use of the Health Diary on several different aspects of patient care and practice management. Basic information about the family physicians' practice characteristics (type, setting, geographic location, and economic level of patients served) was also elicited.

Nonrespondents were remailed the same materials 1 month later. Those family physicians who had not responded after 2 months were remailed materials and requested by telephone (if their telephone number was available) to complete the questionnaire. Final tabulation

Submitted, revised, April 4, 1990.

From the Department of Family and Community Medicine, University of California, San Francisco. Requests for reprints should be addressed to Larry L. Dickey, MD, Office of Disease Prevention and Health Promotion, Switzer Building, Room 2132, 330 C Street SW, Washington, DC 20201.

© 1990 Appleton & Lange



Health Checks

Modern medicine strives to prevent disease *before* it can do harm. Research has shown for adults that some periodic tests and procedures can help do this. These important "health checks" are described below.

Blood Pressure–If it is high, it can cause heart disease, strokes, and kidney problems. It should be checked yearly.

Cholesterol–A substance in the blood which in excess can cause heart disease. It should be checked every five years.

Tetanus-Diptheria Vaccination–This builds immunity to tetanus and diphtheria infections. You should receive this vaccination every ten years.

Influenza Vaccination–This builds immunity to influenza infections. You should receive this vaccination yearly after age 65.

Pneumococcal Vaccination–This builds immunity to pneumococcal infections. You should receive this vaccination once, at age 65.

Fecal Occult Blood Test–This detects small, invisible amounts of blood in the stool that can sometimes be an early sign of bowel cancer. This should be checked yearly after age 45.

Pap Smear–This procedure detects early signs of cancer in a small amount of tissue scraped from the surface of the cervix. Women should receive this test every year for three years. If these results are normal they may then receive it less often at the discretion of their physician or nurse practitioner.

Breast Exam–The breasts are examined for lumps and other abnormalities which can sometimes be early signs of cancer. Women should receive this exam from their physician or nurse practitioner every three years until age 40 and yearly thereafter.

Mammogram–An x-ray exam that may detect breast cancer even before a lump can be felt. Women should receive this exam yearly after age 50.

Additional Health Checks–Since everyone's health needs are different, more frequent or additional "health checks" may be appropriate for you. Consult with your physician or nurse practitioner regarding additional tests you may need. Space is provided to record these in the Health Diary.

Self Checks

There are also some important "self checks" that you can perform:

Women – examine your breasts every month for lumps.
Men – examine your testicles every month for lumps, especially between the ages of 20 to 30.

A Healthy Lifestyle

The "health checks" in this diary, while important, will not in themselves assure health. Remember, it is also important for *you* to:

- Avoid smoking
- Drink alcohol only in moderation
- Get regular exercise
- Wear automobile seat belts
- Avoid prolonged exposure to the sun
- Eat a balanced diet – low in fat, high in fiber

Members of the clinic health care team will be glad to advise you regarding a healthy lifestyle and performing self checks.

The Health Diary Project, Department of Family and Community Medicine, University of California, San Francisco 94117 © L. Dickey, 1988

Health Diary

Name __________
Address __________
____
Telephone __________
In an emergency, contact __________

FAMILY HEALTH CENTER
995 Potrero Avenue
San Francisco, California 94110
821-8606 Weekdays
648-4323 Nights & Weekends

This Health Diary will help you keep track of tests and procedures that are important for your health. This Health Diary will also serve as a reminder to your physician or nurse practitioner, who will help you update it frequently. Please bring it to each clinic visit and take care of it as you would any valuable document.

Figure 1. Health Diary (outer aspect). Arrows indicate fold lines. Actual size folded is 5″ × 3¼″.

of responses was completed at the end of 4 months (May of 1989).

RESULTS

Of the 250 family physicians in the study, 190 (76%) returned completed questionnaires. The majority of respondents described their practices as being primary care (86.7%), private (38.2% group, 33% solo), suburban (50.8%), and serving a middle-class population of patients (89%). Because of the relatively high response rate, no attempt was made to characterize the practices of nonresponding family physicians.

The respondents were positive in their degree of interest in using such an instrument as the Health Diary in their practices (Figure 3). The majority (52.8%) expressed greater than moderate interest in use, with 28.5% giving the most positive possible response—"strong." Only 5.9% expressed no interest in use. The responses of the family physicians were also positive regarding the potential effects of an instrument such as the Health Diary on most aspects of their practices covered in the survey (Table 1).

Those respondents who designated their principal practice type as primary care expressed significantly greater interest in using the Health Diary in their practices than those respondents who did not (means = 3.67 and 3.04, respectively, $P = .01$). Practice setting, practice location, and the economic level of patients served were not significantly related to level of interest.

The majority (52.4%) of respondents ($n = 174$) expressed a preference to obtain the minirecords by purchase. A small percentage (8.6%) of respondents expressed a preference to purchase the minirecords and then sell them to patients for a charge. A significant percentage (42%) would prefer to both obtain and distribute the minirecords free of charge.

DISCUSSION

The results of the survey indicate that a broad range of family physicians in California would be receptive to using a patient-held minirecord for adult health maintenance. This finding is consistent with the experience of the Dartmouth Cooperative Information Project in using the Health Diary in a clinical trial to promote cancer

Health Checks when your age is:	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Blood Pressure																															
date																															
Cholesterol																															
date																															
Tetanus-Diptheria Vaccination																															
date																															
Influenza Vaccination																															
date																															
Pneumococcal Vaccination																															
date																															
Fecal Occult Blood																															
date																															
Pap Smear/ Pelvic Exam																															
date																															
Breast Exam for women																															
date																															
Mammogram for women																															
date																															
date																															
date																															

Unshaded squares represent recommended ages at which "Health Checks" should be performed. A ✓ mark indicates normal results, a + mark indicates abnormal results.

Figure 2. Health Diary (inner aspect). A separate chart (not shown) is utilized for ages 18 to 49 years.

screening. In that study, 39 of 43 (91%) practices elected to utilize the Health Diary even though such utilization was optional for study purposes.

Some of the reasons for the family physicians' approval may be reflected in their responses about the potential practice effects of the Health Diary. Improved patient knowledge of health maintenance is clearly a desirable effect. Such knowledge may empower patients to improve the performance rates of their own health maintenance procedures by prompting their physicians. Continuity of care is becoming an increasingly important issue because of the frequency with which patients switch providers as a result of health plan changes. An instrument such as the Health Diary, being patient-held rather than provider-held, may help improve continuity of care by preventing the unnecessary duplication of preventive services while prompting those that are needed. Providers may find a patient-held minirecord, particularly if personalized to the practice, to be a useful tool for practice marketing and promotion. It may help attract new patients for health maintenance as well as bring established patients back more frequently for needed preventive services.

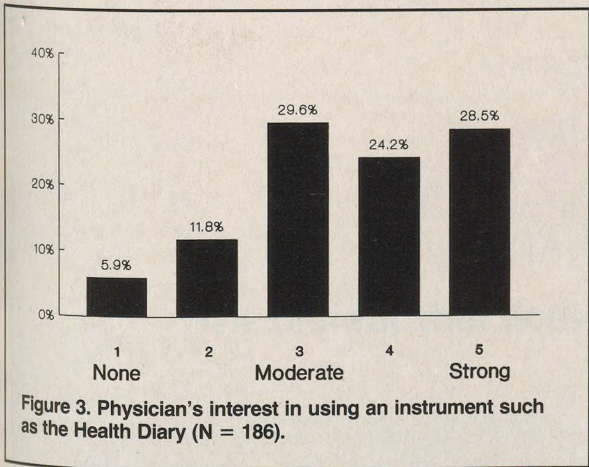


Figure 3. Physician's interest in using an instrument such as the Health Diary (N = 186).

Perhaps the biggest potential advantage of such a patient-held minirecord is its low cost. It can be produced in bulk for less than $0.10 each—probably well within the means of even the least affluent practices or clinics. The physicians surveyed did not believe that use of such a minirecord would affect the operating expenses of their practices, and most even expressed a preference to purchase it for their patients rather than receive it free of charge.

It must be emphasized that although the results of this

continued on page 437

continued from page 433

TABLE 1. FAMILY PHYSICIANS' ASSESSMENT OF THE POTENTIAL EFFECTS OF THE HEALTH DIARY ON THEIR PRACTICES

		Percentage Distribution of Respondents				
Effect	No. Responding	Very Detrimental	Detrimental	No Effect	Beneficial	Very Beneficial
Performance rates of health maintenance procedures	186	0.0	2.2	9.1	61.3	27.4
Patient knowledge of health maintenance	190	0.0	1.6	2.6	53.2	42.6
Continuity of care for health maintenance	188	0.0	1.6	12.8	50.0	35.7
Marketing and promotion of practice	187	0.0	0.5	39.0	48.7	11.8
Patient flow in practice	187	0.0	6.4	51.9	34.2	7.5
Operating expenses of practice	181	0.0	5.6	71.8	18.2	4.4

physician opinion survey are positive with regard to the hypothetical use of the Health Diary, they do not answer the questions of how well utilized or effective such an instrument would be in actual practice. These questions can be answered only by clinical trials. Currently such a trial is being conducted at the Family Health Center in San Francisco, which is a residency-affiliated public clinic. Clinical trials in a variety of settings, including the predominately private, middle-class practices studied in this survey, seem justified to evaluate fully the practical merits of a patient-held minirecord for adult health maintenance.

Acknowledgments

This study was supported in part by grants from the American Academy of Family Physicians and the California Health Manpower Commission.

References

1. Frame PS, Carlson SJ: A critical review of periodic health screening using specific screening criteria: Part 1. Selected diseases of respiratory, cardiovascular, and central nervous systems. J Fam Pract 1975; 2:29–36
2. Frame PS, Carlson SJ: A critical review of periodic health screening using specific screening criteria: Part 2. Selected endocrine, metabolic, and gastrointestinal diseases. J Fam Pract 1975; 2:123–129
3. Frame PS, Carlson SJ: A critical review of periodic health screening using specific screening criteria: Part 3. Selected diseases of the genitourinary system. J Fam Pract 1975; 2:189–194
4. Frame PS, Carlson SJ: A critical review of periodic health screening using specific screening criteria: Part 4. Selected miscellaneous diseases. J Fam Pract 1975; 2:283–289
5. Breslow L, Somers AR: The lifetime health monitoring program: A practical approach to preventive medicine. N Engl J Med 1977; 296:601–608
6. Canadian Task Force on the Periodic Health Examination: The periodic health examination. Can Med Assoc J 1979; 121:1193–1254
7. American Cancer Society: ACS report on the cancer related checkup. CA 1980; 30:194–232
8. Medical Practice Committee, American College of Physicians: Periodic health examination: A guide for designing individualized preventive health care in the asymptomatic patient. Ann Intern Med 1981; 95:729–732
9. American Medical Association, Council on Scientific Affairs: Medical evaluation of healthy persons. JAMA 1983; 249:1626–1633
10. Frame PS: A critical review of adult health maintenance: Part 1. Prevention of atherosclerotic diseases. J Fam Pract 1986; 22:341–346
11. Frame PS: A critical review of adult health maintenance: Part 2. Prevention of infectious diseases. J Fam Pract 1986; 22:417–422
12. Frame PS: A critical review of adult health maintenance: Part 3. Prevention of cancer. J Fam Pract 1986; 22:511–520
13. Frame PS: A critical review of adult health maintenance: Part 4: Prevention of metabolic, behavioral, and miscellaneous conditions. J Fam Pract 1986; 23:29–39
14. Oboler SK, LaForce FM: The periodic physical examination of asymptomatic adults. Ann Intern Med 1989; 110:214–226
15. US Preventive Services Task Force: Guide to Clinical Preventive Services, Baltimore, Williams & Wilkins, 1989
16. Frame PS: Periodic health screening in a rural private practice. J Fam Pract 1979; 9:57–64
17. Mandel IG, Franks P, Dickinson JC: Screening guidelines in a family medicine program: A five-year experience. J Fam Pract 1982; 14: 901–907
18. Dietrich AJ, Goldberg H: Preventive content of adult primary care: Do generalists and subspecialists differ? Am J Public Health 1984; 74:223–227
19. Morris PD, Morris ER: Family practice residents' compliance with preventive medicine recommendations. Am J Prev Med 1988; 4(3): 161–165
20. Cohen DI, Littenberg B, Wetzel C, Neuhauser D: Improving physician compliance with preventive medicine guidelines. Med Care 1982; 20:1040–1045
21. McDonald CJ, Hui S, Smith D, et al: Reminders to physicians from an introspective computer medical record: A two-year randomized trial. Ann Intern Med 1984; 100:130–138
22. Woo B, Woo B, Cook F, et al: Screening procedures in the asymptomatic adult: Comparison of physicians' recommendations, patients' desires, published guidelines, and actual practice. JAMA 1985; 254:1480–1484
23. Romm FJ: Patients' expectations of periodic health examinations. J Fam Pract 1984; 19:191–195
24. Williamson PS, Driscoll CE, Dvorak LD, et al: Health screening examinations: The patient's perspective. J Fam Pract 1988; 27:187–192
25. McDowell I, Newell C, Rosser W: Computerized reminders to encourage cervical screening in family practice. J Fam Pract 1989; 28:420–424
26. Belcher DW, Berg AO, Inui TS: Practical approaches to providing better preventive care: Are physicians a problem or a solution? In

Battista RN, Lawrence RS (eds): Implementing Preventive Services. New York, Oxford University Press, 1988
27. Larsen EB, Bergman J, Heidrich F, et al: Do postcard reminders improve influenza vaccination compliance? A prospective trial of different postcard cues. Med Care 1982; 20:639–648
28. Thompson RS, Michnich ME, Gray J, et al: Maximizing compliance with Hemoccult screening for colon cancer in clinical practice. Med Care 1986; 24:904–914
29. Becker DM, Gomez EB, Kaiser DL, et al: Improving preventive care at a medical clinic: How can the patient help? Am J Prev Med 1989; 5(6):353–360
30. McPhee SJ, Bird JA, Jenkins CNH, et al: Promoting cancer screening: A randomized trial of three interventions. Arch Intern Med 1989; 149:1866–1872
31. McCormick MC, Shapiro S, Starfield BH: The association of patient-held records and completion of immunizations. Clin Pediatr 1981; 20:270–274
32. Dietrich AJ, Duhamel M: Improving geriatric preventive care through a patient-held checklist. Fam Med 1989; 21:195–198
33. Giglio R, Papazian B: Acceptance and use of patient-carried health records. Med Care 1986; 24:1084–1092