Patients' Expectations of Periodic Health Examinations

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The periodic health examination is a major part of medical care in the United States, but has been infrequently studied. Adult family medicine center patients were surveyed to learn their expectations about the timing and content of preventive checkups. Over 90 percent desired such examinations, most often on an annual basis. At least 75 percent selected care items that added up to extensive physical examinations and use of laboratory and other procedures. Their choices usually exceeded those recommended by an expert group as most likely to detect or prevent disease. Other data showed that recorded practice by their physicians neither met their expectations nor was consistent with recommended care patterns. These findings suggest the need to align patients' and their physicians' expectations to allow more effective practice of preventive care.

The periodic health examination has been the subject of much discussion in recent years. Such attention is certainly appropriate; the National Ambulatory Medical Care Survey and a recent summary of the content of family practice both list the general medical examination as the most frequent reason for office visits to general and family physicians.[1] Articles have appeared on lifetime prescriptions for health promotion,[2] cancer detection and prevention,[3] summaries of consensus meetings on the most fruitful components of periodic examinations,[4] and detailed analyses of the best research data available on items that are likely to have an effect on reducing morbidity and mortality if performed at appropriate intervals.[5] Less is known about what practitioners who provide such services believe to be important in their

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own examinations and what they do in office practice. One such study in which this author participated suggests that a group of internists have different perceptions and performance patterns than those indicated by the expert groups.[6] A recent study from Quebec reported similar variation from recommended practice in cancer detection activities of primary care physicians.[7]

Because of the frequency of general checkups and the lack of agreement by providers with published recommendations, it seems appropriate that information should be obtained from patients about what they expect of their physicians in the performance of such examinations. The medical literature on prevention includes articles about health behavior models,[8] use of specific services,[9] and general attitudes toward preventive care,[10] but apparently there are no studies addressing patients' expectations of the content and frequency of their periodic checkups. Patients were surveyed in the Fayetteville Area Health Education Center Family Medicine Center (FMC) to learn whether they desire periodic health examinations and to assess what parts of the examination they believed to be important for their own health needs. Also examined were records of these patients to determine how their expectations were being met by measuring the recorded performance of these items during the year prior to the survey.

Methods

The patient population included all adults coming to the FMC for care during ten weeks at the end of 1982 and early 1983. The forms were to be distributed to all patients at the time they checked in for care. Questions were asked about age, race, sex, and payment for care; about the need for a general checkup ("Do you think that you should have your doctor examine you even if you are feeling well, to detect problems early or prevent disease?") and the frequency of such evaluations, if desired; and about the necessity for and frequency of specific items of history, physical examination, and laboratory tests and procedures ("How often should the item be part of *your* checkup?"). The 27 items (Table 1) were chosen to include most of those recommended by the Canadian Task Force on the Periodic Health Examination[5] (CTF) for adults, and others that were frequently noted to be performed by physicians as part of a general examination.[6] With appropriate consent, the records of these patients were reviewed to obtain additional information about the length of time that they had been coming to the FMC, the number of visits made in the last year, and the number of active medical problems as measures of the intensity of recent medical care usage. The records of 176 patients who desired the general examination and who had been patients at the FMC for at least one year were further examined for the presence of data about the 27 care items. The review included all visits that occurred in the 12 months prior to the survey date. Items that were undated or were performed elsewhere, but noted in the record, were accepted. All record reviews were performed by a specially trained research assistant under the supervision of the author.

Because of administrative problems, forms were not handed out to all eligible adult patients. The possibility of a response bias was assessed by comparing the patient respondents during a two-week period with a 50 percent random sample of adults seen during the same time who did not return the forms.

The chi-square statistic was used for comparisons of data between groups.

Results

During the final eight weeks of the survey, 815 adults received medical care of the FMC. Of 412 forms given out, 309 were returned and 279 were completely filled out. An additional 52 forms were collected during the first two weeks, but data on the number of patients seen and forms handed out were not available. Personnel turnover and some difficulties in integrating this research activity in the normal patient care flow were some of the reasons for poor distribution of forms. There was a tendency for older people and those with more medical problems not to fill out the survey form,

Table 1. Selection and Performance of Care Items in Periodic Checkups

Item	Selection as Part of Examination (n = 302) %	Recorded Performance (n = 176) %
History		
Alcohol use*	54	10
Tobacco use*	64	22
Emotional, family problems*	69	33
Sexual problems/contraception*	62	25
Accident prevention*	65	3
Examination		
Mouth, teeth**	80	10
Vision†	91	8
Hearing†	92	5
Blood pressure††	97	81
Heart	96	68
Lungs	97	68
Abdomen	95	56
Rectal	91	27
Breasts (female)‡	96	34
Pelvic (female)	95	47
Laboratory, Procedures		
Urinalysis	98	38
Hematocrit	97	37
Blood glucose	95	29
Cholesterol	91	13
Chest x-ray examination	92	18
Electrocardiogram	87	8
Stool blood‡‡	80	17
Tuberculosis skin test	86	5
Tetanus immunization§	83	1
Influenza immunization§§	75	3
Pap smear (female)¶	96	44
Mammogram (female)‡	88	1

Notes: Recommendation of Canadian Task Force on the Periodic Health Examination:
*Discretionary
**Annually, by physician or dentist
†During visits for other reasons
††At every visit
‡Annually for those aged 50 to 59 years
‡‡Annually after the age of 44 years
§Every 10 years
§§Annually after the age of 64 years
¶Every 3 years until the age of 34 years, then every 5 years

but none of the differences between the groups were statistically significant.

The age, sex, and race distributions of the 331 study respondents are similar to those observed among adults seeking care in the FMC in general. Over one half were currently employed outside the home, and 20 percent described themselves as housewives. Approximately equal numbers of the remaining patients were unemployed, disabled, or retired. Forty-eight percent of the patients said that they paid their bills with some form of private medical insurance, while 26 percent used Medicaid or Medicare. The primary care providers were family medicine residents for 62 percent of the patients and FMC faculty physicians for 38 percent. Twenty-nine patients indicated that they came for a routine checkup with no stated problem. The others were seen for new or acute problems or for follow-up of chronic conditions.

Three hundred two (91 percent) respondents indicated that they would want an examination to prevent or detect disease when they were feeling well. Of these, 250 (86 percent) indicated that such examinations should occur at intervals of six months or one year, and 19 (7 percent) felt that they should be seen every two to five years (the rest did not specify a frequency). A demographic comparison was made of the patients who did and did not desire periodic health checkups. Other characteristics, such as source of payment for care, number of active medical problems, and amount of time enrolled as FMC patients, were also examined. The only statistically significant difference between the two groups was the tendency for older patients to indicate no need for periodic examinations ($P < .01$).

Table 1 includes the frequency of selection of individual items to be part of periodic health checkups. All items were selected by at least one half of the patients who desired some examination. Items of history and counseling were chosen by less than 70 percent of the respondents, whereas most of the items of physical examination and laboratory and other procedures were selected by at least 90 percent. The relatively low frequency observed for the question about mouth and teeth may reflect misunderstanding about whether this was to be at the FMC or could include evaluation by a dentist. In data not presented, there were no substantial differences between blacks and whites or between men and women for those items that could apply equally to both sexes. There was a tendency for individuals aged over 60 years to include fewer expected items of care. The only procedure for which this trend was reversed was the influenza shot, which 86 percent of patients aged 60 years or older felt was appropriate compared with 72 percent of those aged less than 60 years.

Aside from the items of history or counseling, which were relatively infrequently selected by the patients but were considered only discretionary by the Canadian Task Force, it is interesting to note that several of the Canadian Task Force recommendations, such as stool blood, tetanus immunization, and influenza shots, received the fewest positive responses from the patients.

The final column in Table 1 presents the frequency with which the items were found in the records of patients who both indicated the need for a checkup and had been registered in the FMC for at least 12 months. Only blood pressure and examinations of the heart, lungs, and abdomen were found in as many as one half of the records. Most of the items recommended by the Canadian Task Force were present less than one third of the time.

Discussion

Several points may be inferred from these data. First, there is substantial (and in the FMC, nearly universal) interest in general health checkups, particularly in annual examinations. Second, the choice of items suggests that most patients expect a complete head-to-toe physical examination and an extensive (and expensive) list of laboratory tests and other procedures. Third, the items recommended by the Canadian Task Force as most likely to detect or prevent disease were all selected by a majority of the respondents, but generally at lower frequencies than more traditional care components (eg, heart and lung examination, urine and blood tests, and chest x-ray examinations). Fourth, there was no apparent relationship of age to most of these findings. For example, older women were as likely to want an annual Pap smear as those in their 20s and 30s. Conversely, the

youngest women expected mammograms to be part of their examination at least as frequently as did older women, although the efficacy of such evaluations below the age of 40 years has not been demonstrated. Fifth, there is an apparent discrepancy between what the patients expect and what they receive in the way of preventive and periodic care (although some of the items would not be expected to be performed every year).

There are some notes of caution to be made in interpreting and generalizing these findings. The data come from a single center that serves as a residency training program and thus are impossible to extrapolate to other groups of patients. The low response rate might, at first glance, cast doubt on the reliability of the data, but the nearly universal acceptance of the general checkup and of its components and the lack of major differences between survey respondents and nonrespondents suggest internal consistency of the findings. A study that includes a record review is limited by the known incompleteness of medical records[11]; however, in the FMC, laboratory data and x-ray examination reports are entered completely and independently of the physicians' dictated notes. The discrepancy between expectations and performance is clear for those components of the examinations, as shown in Table 1.

Given the uncertainties about extending these data beyond one center, there are potentially large implications for the practice of preventive health care. There may be a substantial desire, even demand, for preventive health services that is not being fulfilled but that is also unlikely to yield health benefits, at least according to the best information put together by the Canadian Task Force. The cost of these periodic evaluations would be enormous, including the follow-up of what are likely to be many false-positive findings. To better assess these implications, studies are planned to determine the strength of patients' preferences for periodic evaluations. For example, local charges for the examination and individual components will be added to the questionnaire. Reasons for requesting specific items, such as need to evaluate ongoing problems or detection of disease while still asymptomatic, can be assessed. The physicians' knowledge of and confidence in the recommendations of the Canadian Task Force and other expert groups can be studied as well as their inclination toward putting them into practice. Each of the above is an area for further research, with the goal of improving the concordance between patients' expectations and physicians' practices in a rational, effective program of preventive care.

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