Family Physicians' Disagreements with the US Preventive Services Task Force Recommendations

Stephen J. Zyzanski, PhD; Kurt C. Stange, MD, PhD; Robert Kelly, MD, MS; Susan Flocke, MA; J. Christopher Shank, MD; Jason Chao, MD, MS; Carlos R. Jaén, MD, PhD; and C. Kent Smith, MD

Cleveland, Ohio, and Buffalo, New York

Background. The 1989 recommendations of the US Preventive Services Task Force (USPSTF) represent an emerging consensus about which clinical preventive services should be delivered. However, practicing physicians disagree with a number of the recommendations in the Task Force prevention guidelines, and the reasons for disagreement have not been widely explored.

Methods. A survey questionnaire assessing physician agreement or disagreement with the USPSTF recommendations was sent to all 1784 active members of the Ohio Academy of Family Physicians in October 1990. A factor analysis was performed on the items with which at least 5% of physicians disagreed. Associations of physician demographics and attitudes with the factor scores were then examined.

Results. At least 5% of the 898 responding physicians disagreed with 67 of 150 USPSTF recommendations. Physicians disagreed with the USPSTF recommendations in three ways: (1) they believed that screening for some cancers is appropriate, even though not recommended by the USPSTF; (2) they believed that screening for other diseases in some populations is appropriate, even though not recommended by the USPSTF; and (3) they disagreed with some USPSTF recommendations for screening that is considered time-consuming or intrusive. Further analyses showed that practice setting and experience with the USPSTF guidelines were predictive of all three disagreement factors. Physician age, race, residency training, and reasons for disagreement were associated with two of the three factors.

Conclusions. Physician disagreement with the USPSTF recommendations was not random but clustered into three distinct factors. An opportunity exists to design educational interventions for targeted subgroups of physicians. The views of practicing physicians should be incorporated into future guidelines.

Key words. Preventive health services, practice guidelines; physicians, family.

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While there is fairly wide acceptance of the importance of prevention in primary care, there has been a lack of consensus on the importance of many specific preventive services.[1–8] Lack of agreement among recommending organizations about which services are appropriate has been recognized as a major barrier to the incorporation of prevention in primary care. [9] "The level of uncertainty leaves the practicing physician with no solid conceptual basis, and the consequent lack of coherence discourages a full commitment to health promotion activities."[10]

Multiple experts, groups, and organizations have established guidelines for preventive service delivery.[1,6–8,11] Paul Frame [6] was among the first to use explicit criteria for deciding which preventive items to include in the periodic health examination of asymptomatic adults. Various medical special interest groups, such as the Expert Panel of the National Cholesterol Education Program,[12] tend to recommend intensive preventive interventions for their dis-

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From the Departments of Family Medicine (S.J.Z., K.C.S., R.K., S.F., J.C.S., J.C., C.K.S.) and Epidemiology & Biostatistics (K.C.S.), Case Western Reserve University; MetroHealth Medical Center (R.K.), and Fairview General Hospital (J.C.S.), Cleveland, Ohio; and the State University of New York at Buffalo (C.R.J.). Requests for reprints should be addressed to Stephen J. Zyzanski, PhD, Department of Family Medicine, Case Western Reserve University, UCRC Research Building #2, Room 306, 11001 Cedar Ave, Cleveland, OH 44106.

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eases of interest. These specialized recommendations are not always supported by the evidence in a larger context,[13] and they are not always sensible in primary care practice. The recommendations of the American Cancer Society,[7] although frequently revised,[14,15] are among the most widely known guidelines for clinical prevention and have been shown to elicit moderately high levels of agreement among physicians.[16]

The Canadian Task Force on the Periodic Health Examination[8] developed a rigorous method for scientifically examining the effectiveness of preventive services. Using similarly rigorous methods, the report of the US Preventive Services Task Force (USPSTF)[1] is one of the most wide-ranging and authoritative works on clinical preventive services. Its recommendations represent an emerging consensus on a core of preventive services that should be delivered to primary care patients.[17]

Although the Task Force included experts in medical practice, public health, and health policy, and input from a wide range of constituencies, there has been little work that investigates practicing physicians' opinions about the recommendations. Our previously published survey[18] found a generally high level of agreement with the USPSTF guidelines. On average, physicians agreed with 88% of the recommendations. However, there was a relatively high level of disagreement with a number of recommendations, particularly those that differed from the recommendations of the American Cancer Society.

Understanding family physician disagreement with the guidelines is particularly important in maximizing the impact of the revised USPSTF recommendations, which are scheduled for publication later in 1994. Using data from the previous study, the current study employs factor analysis to examine clustering of physician disagreement with the recommendations. Factor analysis enables identification of the underlying themes of a given set of data, thereby reducing the information needed to explain response variations. In addition, we hope to shed some light on the reasons for disagreement by describing the demographic and attitudinal profile of physicians who disagreed with the items in each of the factors. Increased understanding of the reasons for disagreement is expected to aid efforts to achieve consensus on future guidelines for preventive services, thereby increasing the number of USPSTF-recommended services delivered.

Methods

Sample and Measures

A survey questionnaire was mailed to all 1784 active members of the Ohio Academy of Family Physicians in the fourth quarter of 1990, approximately 1 year after the USPSTF report was published.[1] Two additional mailings were sent to nonresponding physicians. The survey instrument, which was an abridged version of the US Preventive Services Task Force report,[1] included 150 verbatim recommendations. After reading each recommendation, responding physicians were asked to indicate whether they agreed or disagreed. After reviewing all the recommendations, physicians were asked to indicate (1) their overall assessment of the practicality of the recommendations; (2) whether they generally favored more or less intervention in recommendations with which they disagreed; (3) their prior exposure to the Task Force recommendations; (4) whether they considered themselves to be more or less prevention-oriented than other family physicians; and (5) demographic descriptors including age, sex, race, completion of residency training, type of practice, and size of practice community. All items had categorical responses except for age and perceived practicality, which was measured on a seven-point Likert scale ranging from 1=very impractical to 7=very practical. The study's data collection methods have been described previously in detail.[18]

The possibility of selection bias was assessed by comparing demographic data for all members of the Ohio Academy of Family Physicians with the demographics of the 898 in the study sample. To assess bias further, a random sample of 120 physicians who had been sent the survey instrument was chosen for closer follow-up and comparison with the rest of the study sample.[18]

Factor Analysis

The purpose of factor analysis is to reduce the information contained in an original number of measures to a smaller set of new composite measures (factors) with a minimum loss of information. Factor analysis is used to identify and define the basic constructs assumed to underlie the original measures. The factors are derived by analyzing the pattern of correlations among the items. Factors are formed from groups of items that tend to correlate more strongly with each other than they do with other groups of items. Items that correlate highly are assumed to reflect the same construct. Principal axes factor analysis[19] is a specific type of factor analysis that explains the correlations among the original measures. Therefore, we chose to perform a principal axes factor analysis on all items with which at least 5% of physicians disagreed. This 5% cut-off allowed for the inclusion of as many items as possible while eliminating items that did not exhibit sufficient variability in level of physician disagreement.

The initial factor solution was followed by a rotation of the factors. In oblique rotational procedures, which are designed to produce clusters of items and to simplify the factor structure, factors are obliquely rotated and tested for the correlations among them. An oblique solution was sought because of the expectation that the emerging factors would be correlated. The results of an oblique factor solution is the generation of a matrix of factor loadings that indicate how strongly each item relates to each factor. The factor loadings are the correlations of each original item with each factor. It is hoped that each item will have a large loading on only one factor. Factor loadings ranging from 0.25 to 0.30 are often taken as the minimum level when considering whether an item loads on any factor. We used two criteria to determine how many factors were needed to describe the correlations. Factors were retained only if they were statistically significant, and if they could be reliably measured, as defined by a Cronbach internal consistency reliability coefficient of greater than 0.70. Cronbach's reliability examines the consistency of responses across the items defining a factor. Low Cronbach internal consistency coefficients often indicate that the measure has too few items or has items that have little in common. An internal consistency coefficient of 0.70 is generally accepted as the minimum level of reliability for research purposes.

Once the factors are identified, the information contained in the original items can be represented by the new measures (factors). Factor scores are composite measures representing the values of the factors for each subject. For each factor retained, factor scores were created by summing the individual items defining each factor. Each item was coded 1.0 for disagreement and 0.0 for agreement. Only items with factor loadings >0.27 (ie, significant at $P<.001$) were used to define each factor. High factor scores on each factor indicate disagreement with more of the factor's items.

Factor scores were next examined for all univariate associations with physician demographics and attitudes. Finally, all physician characteristics found to be associated with each factor were evaluated for redundancy by means of a backward stepwise regression analysis. This analysis initially considers all characteristics significantly associated with a particular factor's scores and then sequentially eliminates any characteristic that is redundant with respect to characteristics more descriptive of the factor scores. The result is a set of characteristics each of which independently contributes to the explanation of the factor scores. Thus, these analyses provide a descriptive profile of physicians exhibiting the strongest level of disagreement with Task Force recommendations.

Results

Overall, there was a high level of agreement with the Task Force recommendations. For 83 recommendations, more than 95% of physicians agreed. For the remaining 67 items, the percentage of disagreement varied from 5% to 73%, with an average disagreement of 23%. More than 40% of physicians disagreed with one fourth of the 67 items. No evidence of selection bias was found among the 898 responding physicians.[18]

When performed on the 67 items with which at least 5% of physicians disagreed, the principal axes factor analysis with oblique rotations resulted in three statistically significant and reliable factors. The authors (six practicing academic family physicians and two methodologists) individually reviewed the content of the items in each factor for meaning. Differences in interpretation were resolved by discussion, and the factors were named based on the items that loaded high on each factor and on our consensus about their meaning. There is no correct name for a factor. The name simply helps in understanding the underlying dimension suggested by the factor analysis. Tables 1 to 3 display the three factors and the major items defining them. Since each item was coded 1 for disagreement and 0 for agreement, individual factor scores may range from 0 to the number of items in the scale, with high scores indicating the highest level of disagreement.

The first factor is defined by 16 items with which at least 5% of the sample of physicians disagreed (Table 1). By examining the items with the highest correlations with the factors, ie, those with the highest factor loadings, and by focusing on the content of the items, it was determined that this factor primarily represented disagreement with USPSTF recommendations not to perform selected cancer screening (eg, "There is insufficient evidence for or against counseling patients to perform self-examination of the testicles"). The mean factor score (ie, the mean number of disagreements with this factor's items) was 8, with a range from 0 to 16, and a Cronbach's alpha reliability of 0.83.

The second factor also was defined by 16 items having loadings greater than 0.27 (Table 2). The consensus of the investigators was that this factor represented disagreement with recommendations not to screen routinely for a variety of other disorders, many of which pertain to special populations, such as pregnant women, or children and adolescents (eg, "The performance of routine screening tests for depression in asymptomatic persons is *not* recommended"). The mean number of disagreements with this factor's items was 3, with a range of 0 to 15, and a Cronbach's alpha of 0.79.

The third factor, defined by the 19 items in Table 3, appears to represent disagreement with recommendations

Table 1. USPSTF Recommendations *Not* to Screen for Cancer with Which There Was a High Level of Physician Disagreement (ie, Many Physicians Reported Believing Cancer Screening Is Appropriate)

Survey Items (Abridged from USPSTF)	Factor Loading
There is no evidence for routine screening of asymptomatic men for testicular cancer.	67
There is no evidence for counseling patients to perform self-examination of the testicles.	67
There is no evidence for routine digital rectal examination screening for prostate cancer in asymptomatic men.	59
There is no evidence for fecal occult blood testing for colorectal cancer in asymptomatic persons.	58
There is no evidence for counseling patients to perform skin self-examination.	57
Routine screening of asymptomatic persons for oral cancer is *not* recommended.	49
There is no evidence for sigmoidoscopy screening in asymptomatic persons for colorectal cancer.	49
Screening of asymptomatic women for ovarian cancer is *not* recommended.	44
No change is recommended in current breast self-examination practices.	42
There is no evidence for hearing screening of asymptomatic children beyond age 3.	40
There is no evidence for routine tonometry as an effective screen for glaucoma.	34
Routine vision testing is *not* recommended for asymptomatic school children.	34
Electronic fetal monitoring should be reserved for pregnancies at risk for fetal distress.	32
Electronic fetal monitoring should *not* be done routinely on all women in labor.	31
Periodic urine testing of asymptomatic persons should only be for persons with diabetes mellitus and pregnant women.	30
There is no evidence for carotid bruits testing in asymptomatic persons for cardiovascular disease.	28

USPSTF denotes US Preventive Services Task Force.

for a variety of potentially time-consuming and intrusive preventive interventions (eg, "Clinicians should take a complete sexual and drug history on all adolescent and adult patients"). Concerns about practicality tie these items together. The mean number of disagreements with this factor's items was 2, with a range of 0 to 16, and a Cronbach's alpha of 0.71.

It should be noted that the scores for the cancer and

Table 2. USPSTF Recommendations *Not* to Screen for Other Disorders with Which There Was a High Level of Physician Disagreement (ie, Many Physicians Reported Believing Screening Is Appropriate)

Survey Items (Abridged from USPSTF)	Factor Loading
Routine screening for evidence of violent injuries is *not* recommended.	57
Routine screening for suicidal intent is *not* recommended.	53
Routine screening for depression in aymptomatic persons is *not* recommended.	52
Screening for hearing impairment is not recommended unless exposed routinely to excessive noise.	47
Screening asymptomatic persons for lung cancer by routine chest radiography is *not* recommended.	46
Screening for cognitive impairment among asymptomatic persons is *not* recommended.	46
Routine radiologic screening for low bone mineral content is *not* recommended.	45
Routine drug testing is *not* recommended as primary method of detecting drug abuse in asymptomatic patients.	44
Ultrasound examination is *not* recommended as routine screening test for congenital defects.	43
Vision screening of adolescents or adults is not recommended but may be appropriate for elderly.	42
Routine screening for diabetes mellitus in asymptomatic nonpregnant adult patients is not recommended.	40
Routine screening for thyroid disorders is not warrated in asymptomatic persons.	39
Screening asymptomatic persons for risk of low back injury is not recommended.	34
Secondary prevention of CAD by routine electrocardiographic screening of asymptomatic persons is *not* recommended.	31
Routine ECG screening before entering athletic programs is not recommended for asymptomatic young persons.	30
Routine prenatal screening for maternal PKV is not recommended.	29

USPSTF denotes US Preventive Services Task Force; CAD, coronary artery disease; ECG, electrocardiogram; PKV, killed poliomyelitis virus.

Table 3. USPSTF Recommendations to Screen That Were Not Accepted by Physicians Because Screening Is Considered Time-consuming or Intrusive

Survey Items (Abridged from USPSTF)	Factor Loading
Clinicians should obtain a complete sexual history from all adolescent and adult patients.	57
Clinicians should take a complete sexual and drug use history on all adolescent and adult patients.	54
Primary care clinicians should counsel patients regarding prevention of caries.	41
All patients should be offered testing in accordance with recommendations on screening for sexually transmitted diseases.	40
Routine testing for gonorrhea in aymptomatic persons is recommended for high-risk and pregnant women.	35
Serologic testing for rubella antibodies should be done at first encounter for all women of child-bearing age lacking evidence of immunity.	33
Vaccination against measles and mumps should be given to all adults lacking immunity.	33
Amniocenteses for karyotyping should be offered to pregnant women aged ≥ 35 years.	32
Oral glucose tolerance test for diabetes mellitus is recommended for all pregnant women of 24 to 28 weeks' gestation.	32
Serum alpha fetoprotein should be measured on all pregnant women at 16 to 18 weeks' gestation in locations with adequate counseling and follow-up services.	32
Routine testing for chlamydia is recommended for asymptomatic persons at high risk of infection.	32
All pregnant women should be tested for hepatitis B surface antigen at first prenatal visit.	31
The test may be repeated in 3rd trimester in women at risk of hepatitis B exposure in pregnancy.	31
Blood pressure should be measured regularly in all persons ≥ 3 years of age.	31
All screening efforts should be accompanied by comprehensive counseling treatment services.	29
It is clinically prudent to do urine testing of preschool children and persons ≥ 60 years of age.	29
Clinicians should counsel all patients to engage in physical activity tailored to health status and lifestyle.	29
Influenza vaccine should be given annually to all persons aged ≥ 65 years and to persons in selected high-risk groups.	28
All patients should receive periodic counseling on dietary intake of fat and cholesterol.	28

USPSTF denotes US Preventive Services Task Force.

routine screening factors exhibited some degree of correlation (r=.54), but neither the cancer nor routine screening factor scores correlated with the time-intensive and intrusive factor. Although the cancer and routine screening factors correlate, each addresses a different content area. The magnitude of the correlation indicates that 29% of the variance is shared between them. This is a moderate degree of overlap. Still, each separate factor contains much unique information and is related to different physician characteristics.

Table 4 displays the univariate results of the demographic and attitude items as they related to each factor. Sex, for example, was associated only with the time-intensive or intrusive factor. On the other hand, degree of experience with the USPSTF guidelines was associated with all three factors. Because of the number of statistical tests performed, associations with significance levels greater than P=.01 should be interpreted cautiously. As shown in Table 4, a subset common to all three factors as well as a subset of unique characteristics is associated with each factor. The next stage of analysis eliminated the redundant variables.

In a backward stepwise elimination regression analysis of all items that exhibited a significant association with the cancer-screening factor, the best unique descriptors of physician disagreement with recommendations *not* to perform selected cancer screening included the following, in order of importance: nonacademic practices (P=.001), no experience with the USPSTF guidelines (P=.001), non-Asian race (P=.001), and physicians aged 50 years and older (P=.05). This set of four variables accounted for 8% of the variance in the cancer-screening factor.

In regression analyses of the items relating to the routine screening factor, disagreement was related to a somewhat different profile of physician characteristics. Four variables overlapped with the descriptors of the cancer-screening factor, which is consistent with the correlation between the two factor scores. The overlapping items were: older age, solo practice, no experience with the USPSTF guidelines, and race (in this factor, Asian race

Table 4. Characteristics of the Physicians and Their Association with Factor Scores

Variable	Cancer Screening				Routine Screening			Time Intensive/Intrusive		
	No.	Mean	F Test	*P* Value	Mean	F Test	*P* Value	Mean	F Test	*P* Value
Sex										
Male	730	8.42	0.25	.62	2.65	0.12	.73	2.67	22.81	.001
Female	166	8.25			2.57			1.65		
Race/ethnicity										
White	812	8.51			2.54			2.52		
Black/Hispanic	26	8.81	4.28	.01	3.38	6.25	.002	1.58	2.12	.12
Asian	52	6.85			3.87			2.19		
Age, y										
30-39	378	8.12			1.83			1.98		
40-49	206	8.19	3.79	.02	2.47	43.31	.001	2.42	17.95	.001
≥50	303	8.93			3.77			3.11		
FP residency										
Yes	547	8.18	4.34	.04	1.96	85.55	.001	2.12	31.46	.001
No	345	8.76			3.68			3.08		
Type of practice										
Solo	337	8.79			3.26			2.91		
Group/HMO/ER	447	8.60	21.85	.001	2.34	18.17	.001	2.60	7.25	.001
Teaching	75	5.56			1.40			2.13		
Experience with USPSTF guidelines										
Not read or heard	495	9.00	27.12	.001	3.04	25.95	.001	2.81	19.03	.001
Read sources/book	392	7.59			2.08			2.07		
Disagreed because										
More services to be done	467	8.76	4.23	.04	2.84	5.16	.02	1.67	132.29	.001
Fewer services to be done	297	8.15			2.35			3.65		
Compared with other physicians, I am										
More prevention-oriented	817	8.46	0.75	.39	2.63	0.02	.88	2.28	42.67	.001
Less prevention-oriented	81	8.05			2.58			4.15		
Practicality of services										
Practical	339	8.19			2.48			1.90		
No opinion	303	8.51	0.60	.55	2.62	1.44	.24	2.86	23.77	.001
Impractical	156	8.46			2.94			3.35		

FP denotes family practice; HMO, health maintenance organization; ER, emergency room; USPSTF, US Preventice Services Task Force.

was associated with disagreement). Nevertheless, several predictors unique to this factor were also noted. The following characteristics were the best unique descriptors of physician disagreement with recommendations *not* to screen routinely for a variety of disorders related to special populations: older physicians ($P=.001$), those in solo practice ($P=.002$), those who believed more services should be performed ($P=.001$), those with no experience with the guidelines ($P=.005$), Asian physicians ($P=.01$), and family physicians without residency training ($P=.06$). These six variables accounted for 14% of the variance in routine screening factor scores.

Finally, regression analyses were performed on the items that were found to be related to the time-consuming and intrusive preventive services factor. This factor had the largest number of independent descriptors (seven) and thus, among the three factors, accounted for the greatest percentage of variance. As with the two previous factors, four items overlapped as relevant descriptors: physicians in solo practice, those who believed *fewer* services should be performed, those with no experience with the guidelines, and family physicians without residency training. The unique descriptors indicated that disagreement with this factor came from a wide range of physician characteristics and settings. The seven independent descriptors of physician disagreement with recommendations to do a variety of potentially time-consuming and intrusive preventive interventions included the beliefs that *fewer* preventive services were warranted ($P=.001$) and that some items were impractical ($P=.001$); self-assessment of being less prevention-oriented than other family physicians ($P=.001$); being male ($P=.003$); less experience with the guidelines ($P=.01$); not being residency

trained ($P=.02$); and being in solo practice ($P=.04$). The seven independent descriptors accounted for 19% of the variance in this factor's scores.

Discussion

The study findings are based on a representative sample of Ohio family physicians practicing in both rural and urban sites and in a variety of practice settings. Family physician agreement with the USPSTF recommendations is particularly important in translating the guidelines into practice. Physicians in our sample generally supported the performance of more preventive services than were recommended by the Task Force. Much of this disagreement could represent a lack of exposure to or acceptance of the evidence-based rationale for the USPSTF guidelines.

One important potential limitation of the study concerns the 50% response rate and the possibility of selection bias. However, demographic comparisons of the respondents with the entire membership of the Ohio Academy of Family Physicians (OAFP), and with a carefully enumerated random sample of 120 physicians selected from the overall study sample, indicated that the study respondents were demographically comparable to the membership of the OAFP in age, sex, and residency training. Also, the more closely followed-up sample group of 120 did not differ significantly from the rest of the respondents. Thus, no evidence of selection bias was noted for the variables compared. Another potential limitation results from respondents being asked to respond to the recommendations without access to the details and rationale provided in the full Task Force report. Responses might have been different had this information been provided.

The factors that were identified have a number of implications. The first factor, "disagreement with recommendations to not do selected cancer screening," suggests that physicians might have been influenced by ACS guidelines that differ from those of the Task Force. Previous work[16] has shown a relatively high level of agreement with the ACS guidelines among family physicians. This may be because the ACS has publicized their guidelines to physicians and the public for a number of years, whereas the USPSTF guidelines are more recent. In our sample of busy practicing physicians, 39% had not even heard of the Task Force recommendations.[18] The high level of disagreement with recommendations discordant with those of the ACS is also likely to be partially related to the differing rationale and methods employed by the two expert bodies. The ACS recommendations include services that have theoretical or logical justifications, whereas the USPSTF recommends only preventive services for which there is strong scientific evidence of effectiveness.[1,20] The more conservative USPSTF approach found insufficient evidence to support a number of ACS commonly recommended preventive interventions.

The Task Force methods represent an excellent example of the emerging trend of basing clinical policy recommendations on scientific evidence using explicit evidence-based criteria in preference to expert opinion. The evidence-based practice of medicine empowers primary care physicians and their patients who are attempting to efficiently and effectively use resources to maximize the beneficial effects and minimize the negative consequences of preventive and curative interventions.[20] More education about the rationale for the USPSTF guidelines and education about the negative consequences and trade-off involved in performing screening not supported by scientific evidence might increase agreement with the items in the cancer-screening factor.

The second factor, "disagreement with recommendations to not screen routinely for a variety of disorders, some of which pertain to special populations," does not relate to cancer. For most of these items, the Task Force specifically states that screening is *not recommended*, as opposed to there being insufficient evidence to recommend for or against screening. In addition, most of these items relate to special populations, such as pregnant women, or children and adolescents. Physicians who disagree with these items apparently would take an aggressive stance toward screening for a variety of disorders. Since screening for these disorders has not been shown to affect morbidity or mortality, the implication is that educating physicians to spend less time on screening for these disorders would liberate time and other resources that could be directed toward preventive interventions with proven efficacy.

The third factor, "disagreement with recommendations to do a variety of potentially time-consuming and intrusive preventive interventions," represents a subset of items that are clearly different from the other two clusters. Items in this cluster are recommendations to *do* certain procedures. Many of these may be perceived as time-consuming, embarrassing, intrusive, or inappropriate for some practice populations (eg, older patients), and thus draw little support from physicians. This factor appears to represent practicing physicians' concerns about the practicality or feasibility of implementing these USPSTF recommendations. It also may represent disagreement with the recommendations of the USPSTF for an expanded role for physicians in health habit counseling, screening, and prophylaxis. The association between being male and disagreeing with the items in this factor but with neither of the other factors implies that female physicians may be more willing to counsel patients and perform other time-consuming services. Since 8 of the 19

items in this factor pertain to measures performed exclusively in women, our findings are congruent with recent work by other investigators[21] showing that female physicians perform a higher rate of Papanicolaou smears and mammograms than do male physicians.

The results of the factor and regression analyses indicate that physician disagreement with the USPSTF recommendations is not random but clusters into a relatively small number of factors. The characteristic profiles indicate that disagreement with one factor's subset of items did not necessarily indicate disagreement with another factor's subset of items. Generally, this means that those who disagreed with separate factors were different physicians. Thus, these findings could be used to identify and design educational interventions for targeted subgroups of physicians.

These data also can be useful in the efforts to foster consensus around which services should be delivered in primary care practices. These efforts should: (1) investigate the reasons for disagreement with existing guidelines; (2) encourage communication and consensus-building among the different expert groups making recommendations; (3) foster adoption of an approach to guideline development that is based on scientific evidence for the effectiveness of preventive services; (4) encourage acceptance of, and skill development among practicing physicians for, evidence-based medicine as an important basis for practice; (5) include practice-based evidence regarding practicality and feasibility in different settings; (6) include continued emphasis on following recommendations proven effective for special populations at high risk and avoiding unjustified measures for low-risk populations; and (7) focus education and dissemination efforts on physician subgroups who currently are not adequately exposed to the evolving rationale for effective preventive services delivery.

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