Practice Guidelines: Useful and “Participative” Method?

Survey of Italian Physicians by Professional Setting

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Background: Professional setting might be a key determinant of physicians’ attitudes toward practice guidelines, influencing the effect of their implementation. Because no previous surveys have specifically considered this aspect, we evaluated the perceived role and usefulness of guidelines, as well as barriers to and facilitators of their implementation, for hospital, primary care, and nonpracticing clinicians.

Methods: A 43-item self-administered questionnaire was sent to all National Health Service physicians in the province of Modena, Italy (593 primary care physicians, 1049 hospital physicians, and 149 nonpracticing clinicians), and 1199 (66.9%) responded. Opinions and attitudes were assessed using 5-point ordinal scales and an attitude measurement scale. Results were evaluated overall and by professional setting, sex, age, year of graduation, and academic background.

Results: Practice guidelines were generally perceived to be less useful than other sources of medical information (eg, personal experience, conferences, colleagues, articles, the Internet, and textbooks [pharmaceutical representatives were the exception]). Most physicians thought that guidelines are developed for cost-containment reasons and expressed concerns about their limited applicability to individual patients and local settings. Most respondents did not favor the involvement of health professionals other than physicians in guideline development and use and preferred nonmonetary incentives for their implementation. Answers to individual items and attitude scores varied significantly across professional settings. Primary care physicians showed, in general, the least favorable attitudes toward practice guidelines, toward nonphysicians participating in guideline development and use, and toward incentives for guideline users.

Conclusions: Physicians perceived practice guidelines as externally imposed and cost-containment tools rather than as decision-supporting tools. Regularly monitoring attitudes toward practice guidelines can be helpful to evaluate potential barriers to their adoption.

Arch Intern Med. 2001;161:2037-2042

Efforts to improve quality and appropriateness of care based on practice guidelines have been implemented in various countries and have produced inconsistent effects on physicians’ behavior, ranging from success to failure.1-3 Physicians’ attitudes toward guidelines4,5 and the way they are implemented3,6,7 can help explain these results more than their methodological quality,8 which is often poor, as has been suggested recently, especially for guidelines developed by scientific societies.9 A nationwide practice guidelines program has been launched recently in Italy with the goal of supporting the effectiveness, appropriateness, and equity of health care interventions.10 This program could play a central role in guideline development and in local actions for implementation.

Overall, results of available studies indicate that physicians still do not perceive guidelines as supporting tools for their work, suspecting that they could be used as cost-containment tools.12-14 Moreover, physicians seem to resist the idea that guideline development should be multidisciplinary,15 which is now the preferred method for developing valid and reproducible evidence-based guidelines. Whether this indicates a defensive reaction or the expected time lag for a complex cultural shift to take over, these attitudes represent important barriers to guideline implementation.7 Exploring and understanding these barriers might increase the acceptance and use of practice guidelines and the likelihood of producing the expected changes.

We surveyed 1791 National Health Service physicians working in the province of Modena in northern Italy (615000
PARTICIPANTS AND METHODS

METHODS

We designed a self-administered questionnaire centered around 6 questions (corresponding to 43 items) aimed at exploring physicians' opinions and attitudes about practice guidelines. Opinions (defined as cognitive judgments) about the following specific issues were investigated: relevance of guidelines compared with other sources of clinical information; use of incentives linked to guideline use; distribution of guidelines to groups other than health professionals; participation of different health professionals in guideline development; and usefulness of different guideline formats. Statements or items were answered using 3-point ordinal scales (eg, 1 indicates "strongly disagree" or "completely useless" and 3 indicates "strongly agree" or "very useful" depending on the specific question). General attitudes were investigated using factor analysis (by assessing physicians' evaluation of certain attributes pertaining to guidelines) according to the definition of attitudes given by Fishbein and Ajzen (which highlights the emotional component of attitudes vs the purely cognitive structure of opinions). Information about demographic and professional characteristics of responders (age, sex, year of graduation, and specialty) was also sought.

The questionnaire was mailed in June 1999 to 1791 National Health Service physicians in Modena; 2 follow-up mailings were sent to nonresponders in July and September 1999. The study population was comparable to the population of Italian physicians working within the National Health System, the distribution of these physicians being homogeneous across the various Italian provinces. The general characteristics of survey responders and response rates are described in Table 1.

RESULTS

The overall response rate was 66.9% (37.1%, 20.0%, and 9.8% after the first, second, and last mailings, respectively). Professional setting was the main factor that consistently and significantly explained differences concerning attitude scores and all but 2 individual items. On the contrary, attitude scores and answers to items did not differ by sex, age, year of graduation, and time to answer. Marginally significant differences were found by academic background, with physicians specialized in subjects pertaining to diagnosis (ie, radiology, radiodiagnosis, laboratory medicine, microbiology, nuclear medicine, clinical pathology, and medical genetics) having higher attitude scores than those specialized in subjects pertaining to surgery or internal medicine (P = .06).

DATA ANALYSIS

Responders were divided into subgroups according to sex, age (5 subgroups), year of graduation (5 subgroups), professional setting (primary care [ie, office practice], hospital, or nonclinical [preventive services or administration]), academic background (medical, surgical, laboratory, or other), and timing of response (first, second, or third mailing).

Factor analysis was performed using the 17 items designed to investigate physicians' general attitudes about guidelines (evaluation of their usefulness, reliability, and applicability); this analysis revealed 1 prevalent factor, as expected (eigenvalue, 4.1). Items with more than 50% positive or negative correlation with this factor (n = 9) were used to develop an attitude measurement scale by summing ordinal scale ratings (items negatively correlated with the factor were reversed); 2 items were left out because most responders agreed with the corresponding statement (little discriminating power) and 7 items were used (Table 2). The internal consistency coefficient (Chronbach α) for this scale was .82. The distribution of the attitude score was skewed; differences among specific subgroups (sex, age, year of graduation, professional setting, and academic background) were investigated using analysis of variance with Bonferroni correction, verifying equality of variances with the Bartlett test. Stepwise linear regression models were then used to investigate whether answers to each of the 43 items depended on physicians' general attitudes, perceived utility, sex, age, year of graduation, professional setting, and academic background. Analysis of variance with Bonferroni correction and the Bartlett test were also performed to explore differences among subgroups. The 3-point Likert scales were eventually collapsed into 3 categories.

GENERAL ATTITUDES AND PERCEIVED USEFULNESS OF GUIDELINES

The mean attitude score was 23.4 (theoretical range, 7-35; midpoint, 21), indicating that physicians generally had positive attitudes toward practice guidelines. Nonpracticing clinicians had the highest score (mean, 26.7) and primary care physicians had the lowest score (mean, 21.3); the score for hospital physicians (mean, 24.3) was close to the overall mean value. The mean attitude score of nonpracticing clinicians was significantly higher than that of primary care and hospital physicians (P < .001 and P = .002, respectively); the hospital physicians' score was significantly higher than that of their primary care colleagues (P < .001).

Practice guidelines were perceived as "useful in daily practice" by 85.7% of responders and were thought to represent a "reliable synthesis of the available evidence" by 81.7% of responders. However, concerns were expressed about their usefulness for individual patient care (60.7% of responders thought that guidelines are generally too rigid to be applied to individual patients) and their flexibility to local situations (58.7% thought that guidelines generally do not consider local situations) (Table 2), somehow contradicting...
the previous results. Other sources of information (personal experience, conferences, colleagues, articles, the Internet, and textbooks), except pharmaceutical representatives, were thought to be more useful than guidelines (Table 3).

ATTITUDES TOWARD A MULTIDISCIPLINARY APPROACH

Our study population did not seem to favor multidisciplinary participation in guideline development and implementation. Less than half of the responders had positive opinions about guidelines being distributed to health administrators (only 47.2% agreed), patient groups (43.9%), and insurance companies (33.1%) (Table 4). Moreover, administrators and patient representatives were not particularly welcome as members of multidisciplinary panels in guideline development (62.6% and 53.6% of responders did not think the former and the latter, respectively, should be included on the panel), and neither were nurses, communication experts, and even nonspecialist physicians (Table 5). On the other hand, in addition to practicing physicians (specialists and primary care physicians), the presence of medicolegal experts was seen as favorable (81.1% agreed that they should be on the panels), confirming that physicians have concerns about legal risks; the importance of epidemiologists-methodologists was acknowledged too (Table 5).

A sharp difference emerged among professional subgroups: nonpracticing clinicians were more and primary care physicians were less “multidisciplinary oriented” than average (Tables 4 and 5). After adjusting for professional setting, general attitudes were still positively associated with a multidisciplinary inclination; this confirms that a positive attitude can be a crucial prerequisite for guideline implementation.

ATTITUDES TOWARD INCENTIVES

Direct economic incentives were not thought to be appropriate (only 36.9% of responders thought they are). On the contrary, nonmonetary incentives (ie, journal subscriptions and participation in medical congresses) and structural incentives for health services (eg, new equipment) were considered appropriate (by 83.5% and 69.4% of responders, respectively) (Table 6). Nonpracticing clinicians were the most and primary care physicians were the least “incentives oriented.”

PREFERRED FORMATS

Physicians regarded detailed (75.2%) and referenced (59.6%) formats as more useful than short pamphlets with flowcharts only; 69.1% considered electronic versions to be a good way of presenting guidelines. These results might suggest that even if appreciating synthetic and “user friendly” versions, physicians prefer to have access to the evidence base of guidelines (ie, reference lists, systematic reviews, evidence tables, critical comments, etc).

COMMENT

The debate about the potential and the limitations of practice guidelines has often been confounded by the suspi-

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tion that they could be used as cost-containment tools. Progressively, however, guidelines have evolved into tools aimed at supporting the effectiveness, appropriateness, and equity of health care interventions. The methodology of guidelines has indeed contributed to highlighting 2 important principles: (1) evidence-based decision making—scientific evidence systematically gathered and critically appraised should be highly relevant when making health care decisions, at the patient and policy level, and (2) participation and balanced judgment—various stakeholders, ie, patients, physicians, and administrators and other health professionals, can and should add a valuable contribution to finalize these decisions.18 In the words of Lomas,19 practice guidelines should become “the embodiment of the best available solutions” and probably also “a step toward the increased democratization of medicine.” However, attitudes expressed in our survey did not seem to agree with these points.

**USEFUL METHOD?**

Physicians in our survey did not seem to regard guidelines as the “embodiment of the best available solutions.” Although there was general agreement on the use-

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**Table 3. Responders’ Opinions About the Usefulness of Guidelines Compared With Other Sources of Medical Information, Overall and by Professional Setting**

<table>
<thead>
<tr>
<th>Information Sources</th>
<th>Physicians, %</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Think Guidelines Are</td>
<td>More Useful Than Source</td>
<td>Mean</td>
<td>PC</td>
<td>H</td>
<td>NC</td>
<td>Mean</td>
<td>PC</td>
<td>H</td>
</tr>
<tr>
<td>Daily professional practice</td>
<td>12.3</td>
<td>6.2</td>
<td>14.0</td>
<td>24.6</td>
<td>31.8</td>
<td>31.2</td>
<td>30.4</td>
<td>38.6</td>
<td>55.9</td>
</tr>
<tr>
<td>Participation in workshops and conferences</td>
<td>12.6</td>
<td>11.1</td>
<td>11.3</td>
<td>24.6</td>
<td>34.4</td>
<td>36.3</td>
<td>33.0</td>
<td>39.5</td>
<td>53.0</td>
</tr>
<tr>
<td>Articles published in medical journals</td>
<td>13.9</td>
<td>19.5</td>
<td>9.7</td>
<td>17.4</td>
<td>36.4</td>
<td>38.3</td>
<td>33.5</td>
<td>47.8</td>
<td>49.7</td>
</tr>
<tr>
<td>Advice from a specialist colleague</td>
<td>14.5</td>
<td>11.3</td>
<td>13.7</td>
<td>30.4</td>
<td>33.4</td>
<td>33.9</td>
<td>32.2</td>
<td>40.2</td>
<td>52.1</td>
</tr>
<tr>
<td>Internet</td>
<td>22.5</td>
<td>31.7</td>
<td>17.6</td>
<td>18.8</td>
<td>39.7</td>
<td>39.1</td>
<td>39.5</td>
<td>47.3</td>
<td>37.8</td>
</tr>
<tr>
<td>Textbooks</td>
<td>24.8</td>
<td>20.8</td>
<td>24.9</td>
<td>36.5</td>
<td>35.8</td>
<td>36.1</td>
<td>34.7</td>
<td>42.6</td>
<td>39.4</td>
</tr>
<tr>
<td>Visits by pharmaceutical representatives</td>
<td>73.7</td>
<td>72.2</td>
<td>73.9</td>
<td>80.2</td>
<td>15.8</td>
<td>17.1</td>
<td>15.1</td>
<td>14.4</td>
<td>10.5</td>
</tr>
</tbody>
</table>

*PC indicates primary care; H, hospital; and NC, nonclinical.

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**Table 4. Responders’ Opinions About the Advisability of Distributing Guidelines to Nonmedical Groups, Overall and by Professional Setting**

<table>
<thead>
<tr>
<th>Interest Groups</th>
<th>Physicians Agreeing, %</th>
<th>Physicians Neither Agreeing Nor Disagreeing, %</th>
<th>Physicians Disagreeing, %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean PC H NC</td>
<td>Mean PC H NC</td>
<td>Mean PC H NC</td>
</tr>
<tr>
<td>Health administrators</td>
<td>47.2 32.9 54.0 59.0</td>
<td>13.6 17.6 12.1 9.4</td>
<td>39.2 49.5 33.9 31.6</td>
</tr>
<tr>
<td>Patient groups</td>
<td>43.9 35.9 46.4 61.2</td>
<td>12.6 13.8 12.4 11.2</td>
<td>43.5 50.3 41.2 27.6</td>
</tr>
<tr>
<td>Insurance companies</td>
<td>33.1 25.8 36.7 40.0</td>
<td>19.4 20.7 18.7 20.0</td>
<td>47.5 53.5 44.8 40.0</td>
</tr>
</tbody>
</table>

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**Table 5. Responders’ Opinions About Which Health Professionals Should Participate in Guideline Development, Overall and by Professional Setting**

<table>
<thead>
<tr>
<th>Health Professionals</th>
<th>Physicians Agreeing, %</th>
<th>Physicians Agreeing, %</th>
<th>Physicians Agreeing, %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean PC H NC</td>
<td>Mean PC H NC</td>
<td>Mean PC H NC</td>
</tr>
<tr>
<td>Medical specialist in areas pertaining to each specific guideline</td>
<td>97.6 96.4 98.5 96.6</td>
<td>97.6 96.4 98.5 96.6</td>
<td>97.6 96.4 98.5 96.6</td>
</tr>
<tr>
<td>Primary care physician</td>
<td>81.7 92.0 74.5 86.2</td>
<td>81.7 92.0 74.5 86.2</td>
<td>81.7 92.0 74.5 86.2</td>
</tr>
<tr>
<td>Medicoegal expert</td>
<td>81.1 73.8 84.7 83.9</td>
<td>81.1 73.8 84.7 83.9</td>
<td>81.1 73.8 84.7 83.9</td>
</tr>
<tr>
<td>Clinical epidemiologist-methodologist</td>
<td>78.3 71.2 81.9 88.1</td>
<td>78.3 71.2 81.9 88.1</td>
<td>78.3 71.2 81.9 88.1</td>
</tr>
<tr>
<td>Health economist</td>
<td>52.9 41.8 58.3 59.5</td>
<td>52.9 41.8 58.3 59.5</td>
<td>52.9 41.8 58.3 59.5</td>
</tr>
<tr>
<td>Nurse</td>
<td>49.2 23.5 61.1 68.1</td>
<td>49.2 23.5 61.1 68.1</td>
<td>49.2 23.5 61.1 68.1</td>
</tr>
<tr>
<td>Health communication expert</td>
<td>43.0 34.1 45.8 57.8</td>
<td>43.0 34.1 45.8 57.8</td>
<td>43.0 34.1 45.8 57.8</td>
</tr>
<tr>
<td>Medical specialist in areas different than the contents of a specific guideline</td>
<td>40.4 29.1 45.9 50.9</td>
<td>40.4 29.1 45.9 50.9</td>
<td>40.4 29.1 45.9 50.9</td>
</tr>
<tr>
<td>Patient representative</td>
<td>32.6 26.1 33.2 49.1</td>
<td>32.6 26.1 33.2 49.1</td>
<td>32.6 26.1 33.2 49.1</td>
</tr>
<tr>
<td>Health administrator</td>
<td>26.9 17.8 31.9 30.2</td>
<td>26.9 17.8 31.9 30.2</td>
<td>26.9 17.8 31.9 30.2</td>
</tr>
</tbody>
</table>

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**Table 6. Responders’ Opinions About Incentives Linked to Guideline Use, Overall and by Professional Setting**

<table>
<thead>
<tr>
<th>Incentives</th>
<th>Physicians Agreeing, %</th>
<th>Physicians Agreeing, %</th>
<th>Physicians Agreeing, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonmonetary incentives (journal subscriptions, congresses)</td>
<td>83.5 78.2 86.3 86.2</td>
<td>83.5 78.2 86.3 86.2</td>
<td>83.5 78.2 86.3 86.2</td>
</tr>
<tr>
<td>Economic incentives to health services or hospitals</td>
<td>69.4 53.7 77.3 81.0</td>
<td>69.4 53.7 77.3 81.0</td>
<td>69.4 53.7 77.3 81.0</td>
</tr>
<tr>
<td>Economic incentives to individual physicians</td>
<td>36.9 30.6 40.6 38.3</td>
<td>36.9 30.6 40.6 38.3</td>
<td>36.9 30.6 40.6 38.3</td>
</tr>
</tbody>
</table>

*PC indicates primary care; H, hospital; NC, nonclinical.
fulness and reliability of practice guidelines, other traditional sources of information still enjoyed more popularity (except pharmaceutical representatives). The principles of evidence-based medicine still earned limited success, as personal experience and opinions of specialist colleagues were regarded as more useful and informative than guidelines. In general, the less time-consuming and the more easily available the information source is, the more relevant it was perceived, in keeping with what Smith conceptualized about physicians’ information needs. Concerns about transferability of guideline recommendations to individual patients and local situations, in line with what has already emerged from Canadian and British surveys, might also help explain those opinions. Moreover, a national guidelines program has been promoted in Italy later than in other countries, and thus guidelines might be perceived as rigid protocols and a “challenge to physicians’ autonomy” rather than as “systematically developed statements to assist practitioner and patient decisions for specific clinical circumstances.” In this respect, guidelines seemed to end up being considered administrative rather than educational and informative: most of our study population thought that guidelines are developed for cutting costs. This is also consistent with results of American, Canadian, and Australian surveys.

“PARTICIPATIVE” METHOD?

With the partial exception of nonpracticing clinicians, our study population did not seem eager to broaden their participation in guideline development and use. Generally, physicians were not comfortable with the idea of nonphysicians or specialists from different clinical areas participating in guideline development (only medicolegal experts and methodologists’ participation was considered important), and they did not agree with practice guidelines being distributed to nonmedical groups. A recent Italian survey, although suggesting that physician attitudes have evolved favorably during the past few years, came to similar conclusions. Physicians still seem to regard guidelines as “their own” reference tool, not as an opportunity for discussion among all the stakeholders involved in the health care process, to develop clinical policies and set priorities more in line with the available evidence and with societal values. Health care seems to be considered strictly a medical more than a societal problem, and only physicians are entitled to have a say in it.

DIFFERENCES ACROSS PROFESSIONAL GROUPS

Attitudes toward guidelines and their attributes were variable in our study population. Nonpracticing clinicians, ie, those not directly involved at the bedside, showed the most favorable attitudes toward practice guidelines in general, toward their usefulness, and, more broadly, toward a multidisciplinary approach. Hospital clinicians and especially primary care physicians, on the other hand, seemed to have more reservations about guidelines, their usefulness, and the participation of nonphysicians in their development and use. Investigating reasons for this variation can shed light on important issues about guideline development and implementation. A first sensitive point is the physician-patient relationship: practicing physicians differ from their nonpracticing colleagues because they have to apply their decisions to individual patients. Hence, they often have to negotiate their relationship with patients, weighing the theoretical appropriateness of a decision with patients’ values and expectations and with risks of legal liability. As expected, practicing physicians were generally less optimistic about the applicability of guidelines to individual patients and about guidelines improving physician-patient relationships and providing protection from medicolegal risks (Table 2). Primary care physicians in particular seemed to be the least enthusiastic about guidelines. There might be economic reasons as well. Italian primary care physicians are paid on a per capita basis; hence, they are financially dependent on their patients and are probably more careful about not “disappointing” them. Moreover, Italian primary care physicians do not have fundholding status, a condition that has been shown to favor a more positive attitude toward guidelines. Finally, working environments and organizational arrangements might also play an important role: Grol suggests that physicians working solo have less information and seem to change their practices and habits less than practitioners who collaborate closely with each other; this theory has been confirmed by a US survey of family physicians. This rationale partially applies to our study population: Italian primary care physicians generally work independently, whereas nonpracticing clinicians generally work in teams and follow some “rules”; the latter also have previously been exposed to practice guidelines, and their attitudes might have had more time to evolve favorably. That primary care physicians are less familiar with guidelines is also suggested by their higher percentage of “no opinion” answers than other groups in our survey.

STUDY LIMITATIONS

Because we used a mail survey, we cannot rule out that some form of selection bias might have occurred. Although our response rate was fairly high (66.9%), we have not performed an additional inquiry regarding nonresponder characteristics to see whether they differed systematically in their attitude toward guidelines. Moreover, the medical center promoting this survey is known among responders as an institution committed to guideline promotion and implementation. Therefore, we cannot rule out some form of “social convenience” or Hawthorne effect bias in the answers. The relatively marked differences in the opinions expressed across professional settings, however, suggests that this bias, if present, did not substantially alter our results.

CONCLUSIONS

The results of our study suggest that despite the increasing popularity of practice guidelines, traditional views of health care and medical information are still deeply rooted in the medical profession. Physicians prefer other sources of information, especially their own and their colleagues’ experience, to practice guidelines. Moreover, par-
Evidence-based practice centers and opinion leaders (Thomson O'Brien MA, Oxman AD, Haynes RB, Davis DA, Freemantle N, Harvey EL. Local Opinion Leaders: Effects on Professional Practice and Health Care Outcomes (Cochrane Review on CD-ROM). Oxford, England: Cochrane Library, Update Software; 1999:issue 4.) can fulfill that approach while providing a “training gym.” Physicians now, their involvement in multidisciplinary groups in teaching materials. For those who are physicians now, their involvement in multidisciplinary groups can fulfill that approach while providing a “training gym.” Evidence-based practice centers and opinion leaders are crucial investments to favor an improvement of the cultural milieu, by involving health professionals and helping them agree on, adapt, and implement practice guidelines and evidence-based health policies. Within the implementation process, monitoring attitudes would also help to understand, and eventually overcome, potential barriers to the use of practice guidelines.

Accepted for publication December 5, 2000.

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