Department of Health and Human Services

OFFICE OF INSPECTOR GENERAL

CLINICAL PRACTICE GUIDELINES SPONSORED BY THE AGENCY FOR HEALTH CARE POLICY AND RESEARCH

EARLY EXPERIENCES IN CLINICAL SETTINGS

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September 1995
OEI-01-94-00250

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EXECUTIVE SUMMARY

PURPOSE

This study describes the early experiences of healthcare organizations in using clinical practice guidelines sponsored by the Agency for Health Care Policy and Research.

BACKGROUND

Over 70 organizations, including Federal agencies, medical professional associations, health insurance associations, and health maintenance organizations, have sponsored approximately 1800 clinical practice guidelines. The Agency for Health Care Policy and Research (AHCPR) has released sixteen guidelines. Of the $154 million appropriated for AHCPR's fiscal year 1994 programs, $5 million was spent on developing and updating guidelines, and $10 million on dissemination and evaluation. Of this, approximately $4 million was spent on printing and disseminating guidelines.

The introduction of new technologies, including new clinical practice guidelines, can be a slow and difficult process. We prepared this report in response to AHCPR's interest in gaining a better understanding of the extent to which, and the manner in which, healthcare organizations have been using its guidelines.

We conducted a mail survey of 380 key U.S. healthcare organizations, including 150 nursing homes; 150 small, nonteaching hospitals; and 80 health maintenance organizations that have staff-model components. We focused on these organizations because they offer prime opportunities for use of the AHCPR guidelines. Sixty-four percent responded. Our survey focused on the first six AHCPR guidelines released between March 1992 and April 1993: pain management, urinary incontinence, pressure ulcer prevention, cataracts, depression, and sickle cell disease.

FINDINGS

Twenty percent of the survey respondents reported that they have used 1 or more of the 6 AHCPR guidelines about which we inquired; an additional 12 percent reported that they plan to do so.

- Impetus for using the guidelines has frequently come from the organizations' internal, quality-improvement programs. External factors--such as directives from supervising organizations and State law requirements--have also played an important role.

- The organizations' expectations of guideline use have focused on improved clinical care. Many organizations have also viewed the guidelines as a means of reducing costs and providing better protection from malpractice litigation.

- The reasons most often cited for not having used the guidelines were that the organizations were not familiar with them (40 percent of all survey respondents) and the organizations have their own guidelines (34 percent of all survey respondents). No organizations cited disagreement with the guidelines as a basis for not having used them.

Ninety-six percent of the survey respondents that have used 1 or more of the 6 AHCPR guidelines reported that their efforts to do so have focused on clinicians; 36 percent reported that they have directed guideline-implementation efforts towards patients.

Clinician-Directed Efforts

- Clinician-education efforts--ranging from the distribution of guideline materials to the conduct of educational programs--were the most frequently reported means of implementing the guidelines. Such efforts were reported by most guideline users.

- The development of an algorithm, policy and procedure, or other implementation tool to guide clinician practice was also reported by most guideline users.

- Economic incentives to encourage clinicians to provide guideline-recommended care were reported by very few organizations.

Patient-Directed Efforts

- The distribution of guideline materials to patients was the most frequently reported patient-directed effort.

- Educational sessions for patients were reported by some organizations.

At this early point in the implementation process, only 8 percent of the respondents that have used 1 or more of the 6 AHCPR guidelines reported that they have measured the effects of their guideline use.

- These measures have focused on patients' clinical outcomes and clinicians' performance. They have been based, primarily, on chart and record reviews.

Sixty-three percent of the respondents that reported having used 1 or more of the 6 AHCPR guidelines also reported having encountered obstacles to doing so.

- Uncertainty about how to implement the guidelines was the most frequently cited obstacle to use.

- Clinician resistance was the second most frequently cited obstacle. We learned that physicians have been concerned about what they have perceived to be cookbook medicine and that nurses have been concerned about what they have anticipated would result in increased administrative and patient care workloads.

RECOMMENDATIONS

The Public Health Service (PHS), through AHCPR, should determine more effective ways to promote familiarity with, and use of, the guidelines.

The AHCPR reports that its guidelines were distributed to every hospital and nursing home in our sample population. Of all those in leadership positions that we surveyed in small, nonteaching hospitals; nursing homes; and HMOs with staff-model components; 80 percent reported that their organizations had not used the AHCPR clinical practice guidelines and 40 percent were unfamiliar with the guidelines.

We recognize that introducing new clinical practice guidelines, like any effort to introduce systematic changes in the delivery of healthcare, poses challenges. A reconsideration of AHCPR's efforts to promote familiarity with, and use of, the guidelines could yield more effective approaches to meeting these challenges.

The PHS, through AHCPR, should make increased technical support available to guideline users.

Our findings demonstrate that most organizations that have used the AHCPR guidelines have encountered obstacles to doing so. Many organizations reported that uncertainty about how to use the guidelines has been an obstacle. Other frequently noted obstacles include resistance from physicians and nurses, an inability to measure compliance with the guidelines, and an inability to measure the effects of guideline use. To facilitate the use of the AHCPR guidelines, the PHS, through AHCPR, should strengthen its capacity to advise those organizations that are encountering obstacles. For example, the Agency could:

- identify and disseminate benchmarking practices of those organizations that have overcome obstacles and made effective use of guidelines; and/or

- build on its current programs and conduct training/technical assistance sessions in which representatives of healthcare organizations can learn more about the guidelines and how to use them effectively.

The PHS, through AHCPR, should develop and implement systematic mechanisms for obtaining objective feedback about guideline use. As part of this effort, AHCPR should sponsor regular surveys of healthcare organizations. These surveys should be designed to produce projectable indicators that allow AHCPR to gauge changes over time in the extent of guideline use.

Although AHCPR collects some information about the use of specific guidelines, it has not yet incorporated into its regularly scheduled activities efforts to gather information on the frequency with which AHCPR guidelines are used or user-feedback information from those organizations that have experience with the guidelines. To better support the Agency in its efforts to gauge the level of guideline use and to continuously improve the quality of its guidelines, the PHS, through AHCPR, should incorporate systematic efforts to gather objective information about guideline use into its ongoing responsibilities.

To complement this important research, AHCPR could conduct other types of ongoing efforts designed to provide information about users' experiences with the AHCPR guidelines and changes over time in the users' experiences. For example, the Agency could:

- conduct regular surveys of organizations that have requested the guidelines to obtain feedback about their experiences with, and assessments of, the guidelines;

- conduct regular telephone interviews with select "key users" to obtain more in-depth feedback; and/or

- attach user-feedback forms to all guidelines that are disseminated.

We hope that our report will provide information that is useful to AHCPR in the near term as it considers ways to facilitate the implementation of its guidelines. We also hope to provide useful information for organizations that are seeking ways to benefit from guideline use, and for Congress as it considers AHCPR's future efforts. A companion report, *Early Experiences with Clinical Practice Guidelines Sponsored by the Agency for Health Care Policy and Research: Case Descriptions* (OEI-01-94-00251), presents short case descriptions that illustrate the experiences of several organizations with the AHCPR guidelines.

COMMENTS ON THE DRAFT REPORT

We solicited and received comments on our draft report from the Public Health Service (PHS). The full text of these comments is included in appendix C.

The PHS offered technical comments on our draft report and these were considered as we developed the final report. Below we address the key elements of the PHS general comments on our findings, methodology, and recommendations.

Findings: The PHS characterized our first finding--that 32 percent of the survey respondents reported that they have used, or plan to use, 1 or more of the AHCPR guidelines about which we inquired--as extremely encouraging. We recognize that introducing new clinical practice guidelines is a challenging endeavor, but found no guidance in the scientific literature for determining what level of use constitutes

success. The AHCPR has not yet established benchmarks for guideline use or quantified expectations against which to measure its success.

Methodology: The PHS Stated that the types of organizations surveyed in our study are not representative of all healthcare institutions. We agree. We continue to believe, however, that these organizations are important components of this nation's healthcare delivery system and that clinical practice guidelines are relevant to the provision of care in all three settings. We are considering additional research to examine the use of clinical practice guidelines in other healthcare settings and encourage AHCPR to do the same in our third recommendation.

Recommendations: In its comments on our recommendations, PHS cited various of its current efforts that it regards as relevant to the recommendations. We recognize the relevance and importance of a number of the activities cited by PHS.

We are concerned, however, about our third recommendation, in which we urge PHS to develop and implement systematic mechanisms for obtaining objective feedback about guideline use. This recommendation proposes regular surveys as an important tool for continuous quality improvement. To clarify the recommendation, we have included in the recommendation statement information that was formerly presented in the text supporting it.

We continue to believe that systematically collected feedback, gathered at regular intervals, from current and potential guideline users, is a critical component of any continuous quality improvement effort. This feedback can be used as a valuable performance indicator addressing the degree of AHCPR's success in facilitating the use of, and familiarity with, its guidelines.

Our report finding--that 20 percent of survey respondents reported that they have used 1 or more of the 6 AHCPR guidelines about which we inquired--provides a baseline against which AHCPR can measure its progress in achieving greater familiarity with, and use of, its guidelines.

INTRODUCTION

PURPOSE

This study describes the early experiences of healthcare organizations in using clinical practice guidelines sponsored by the Agency for Health Care Policy and Research.

BACKGROUND

Variations in Medical Practice and Clinical Practice Guidelines

Variations in clinical practice among different physicians and hospitals, and in different geographic areas have long been observed.[1] With the growing awareness of these variations, concern has developed about adverse patient outcomes and financial costs associated with inappropriate medical care. Clinical practice guidelines have emerged as part of a larger effort to reduce unwarranted variations in care and the costs associated with them.

According to the Institute of Medicine, clinical practice guidelines are "systematically developed statements to assist practitioner and patient decisions about appropriate healthcare for specific clinical circumstances."[2] Such guidelines--and similar materials--have been sponsored by a multitude of organizations, including the Agency for Health Care Policy and Research (AHCPR), the Centers for Disease Control, and the National Institutes of Health, all within the Public Health Service (PHS) in the U.S. Department of Health and Human Services. The U.S. Preventive Services Task Force, the Rand Corporation, medical professional associations, health insurance associations, and health maintenance organizations have also developed guidelines.[3]

Guidelines address a broad range of topics and vary along several dimensions, including the breadth of the topic addressed, the level of detail of care dealt with, the extent to which the guideline is directive, the extent to which scientific evidence forms the basis for guideline recommendations, the format in which the guideline is presented, and the method by which the guideline is developed.

Guidelines have been used, or tested for use, in several different applications and to achieve several different goals. The Office of Technology Assessment has reported that clinical practice guidelines are being used in malpractice litigation and as a means of reducing defensive medicine.[4] Primary-care providers--such as hospitals, health maintenance organizations, and nursing homes--use guidelines in care provision and quality assurance reviews. At least one managed healthcare provider--with networks in 36 States--is testing the use of computer technology that allows physicians instant access to clinical practice guidelines, including those sponsored by AHCPR.[5] At least one health maintenance organization has developed a typology of guideline implementation methods.[6]

The Agency for Health Care Policy and Research

The Omnibus Budget Reconciliation Act of 1989 (P.L. 101-239) established AHCPR as the successor to the former National Center for Health Services Research and Health Care Technology Assessment. Congress assigned the new Agency the responsibility to enhance the quality, appropriateness, and effectiveness of healthcare services and access to such services, through the promotion of improvements in clinical practice and in the organization, financing, and delivery of healthcare services.[7]

As part of its activities to fulfill its mandate, the Agency arranges for the development and distribution of clinical practice guidelines.[8] To date, the Agency has released sixteen guidelines--and each is produced in several formats, including the full-length clinical practice guideline, a quick reference guide for clinicians, and patient guides.[9]

To develop the guidelines, the Agency convenes independent, multidisciplinary panels of private-sector clinicians and other experts that collaborate over an extended time period. The panels apply explicit, science-based methods to develop specific statements related to the diagnosis, treatment, and management of the clinical condition under consideration. In instances in which the scientific literature is incomplete or inconsistent, the professional judgment of the panel members and consultants is reflected in the guideline.[10]

The AHCPR employs a multi-pronged strategy to disseminate its guidelines. In addition to distributing all of its guidelines to the more than 10,000 organizations on its master mailing list, the Agency works with the medical, trade, and lay media to generate and place articles about guidelines.[11] It has established a toll-free, guideline-request telephone line through the AHCPR publications clearinghouse and has begun to make its guidelines electronically available through the National Library of Medicine and the Internet. It also works with professional societies and commercial organizations to reprint and further distribute guidelines.[12] Among its other dissemination activities, the Agency conducts conferences for those interested in learning more about guideline implementation and the experiences of those organizations that have used AHCPR's guidelines.[13]

Of the $154 million appropriated for AHCPR in 1994, $81 million was dedicated to the Agency's Medical Treatment Effectiveness Program. Approximately $5 million of this sum was spent on the development and updating of guidelines and approximately $10 million was spent on dissemination and evaluation efforts. Of this, approximately $4 million was spent on printing and disseminating guidelines.[14]

Concerns about Clinical Practice Guidelines

An increasing number of organizations--including healthcare providers, health insurers, State governments, and medical professional associations--have become involved in the development of clinical practice guidelines; and an increasing number of clinicians have become aware of them.

The introduction of new technologies, however--including new clinical practice guidelines--can be a slow and difficult process.[15] In research supported by AHCPR and other organizations, and in conferences about clinical practice guidelines, barriers have been identified to the greater acceptance and more extensive use of guidelines.[16] Such barriers include confusion about how best to use guidelines; resistance from administrators, clinicians, and/or patients; administrative, bureaucratic, and/or technological problems in either preparing for or adhering to guidelines; the expense of guideline implementation; and limitations in organizations' ability to measure compliance with guidelines and the effects of guideline implementation.

THE OBJECTIVES OF THIS REPORT

The AHCPR already supports many projects to evaluate the development and dissemination of its clinical practice guidelines. In addition, the Agency sponsors research on broader questions related to guidelines and their use.[17] Many of these projects are multi-year, long-term efforts. We prepared this report in response to the agency's interest in gaining a better understanding of the extent to which, and the manner in which, healthcare organizations have been using its guidelines.

We hope that our study will yield information that is useful to AHCPR in the near term as it considers ways to facilitate the implementation of its guidelines. We also hope to provide useful information for organizations that are seeking ways to benefit from guideline use, and for Congress as it considers AHCPR's future efforts. Accordingly, this report describes how organizations have used AHCPR clinical practice guidelines and illustrates ways that other organizations might use them. We do not evaluate the effectiveness of guideline use, test differences among various types of organizations' guideline use, or distinguish the strengths and weaknesses of specific AHCPR guidelines. Furthermore, we do not evaluate AHCPR's dissemination efforts, its internal processes for developing or disseminating guidelines, or its processes for evaluating guideline use.

The report provides initial estimates of three dimensions of guideline use: (1) the extent to which healthcare organizations use the guidelines, (2) the ways in which organizations use the guidelines, and (3) the obstacles that organizations have encountered in their efforts to implement the guidelines. A companion report, *Early Experiences with Clinical Practice Guidelines Sponsored by the Agency for Health Care Policy and Research: Case Descriptions* (OEI-01-94-00251) presents a series of short case descriptions that illustrate the experiences of several organizations with the AHCPR guidelines.

METHODOLOGY

Our report is based on data from two primary sources. First, to develop initial estimates of guideline use, we conducted a mail survey of three types of healthcare provider organizations--150 randomly selected nursing homes, 150 randomly selected nonteaching hospitals with no more than 100 patient beds, and all 80 of the health maintenance organizations (HMOs) with staff-model components. The hospital and nursing home samples were drawn from the Health Care Financing Administration's On-line Survey Certification and Report (OSCAR) System. The HMO sample was

taken from the report of the most recent HMO survey conducted by the American Managed Care and Review Association (AMCRA) Foundation.

We included nonteaching hospitals in our sample because we anticipated that they would be more likely to use existing guidelines, such as those sponsored by AHCPR, than to develop their own.[18] We further defined our hospital sample to include only those nonteaching hospitals with no more than 100 beds because we anticipated methodological difficulties in obtaining mail-survey responses from the appropriate staff in large hospitals with many, large, specialized departments.

We included HMOs with staff-model components in our survey because HMOs represent a trend towards managed care. In addition, staff-model HMOs, because they employ physicians directly and exclusively, are probably better able than independent-practice/physician association HMOs, network-model HMOs, or group-model HMOs to influence the provision of care to their patients. Accordingly, we anticipate that staff-model HMOs, more than the other HMO models, might seek to use clinical practice guidelines.

Sixty-four percent of our sample completed and returned the survey. Our analysis of those organizations that did not respond to the survey indicates that, for those variables considered, our results are unbiased with respect to differences between respondents and nonrespondents (see appendix A for more information on the nonrespondent analysis). The survey instrument focused on the organizations' use of the first six AHCPR guidelines that were released between January 1, 1992 and January 1, 1994. These guidelines are listed below (see appendix B for a summary of the survey results).

GUIDELINE TITLE	DATE OF RELEASE
Acute Pain Management	3/92
Urinary Incontinence in Adults	3/92
Pressure Ulcers in Adults (prediction and prevention)	5/92
Cataract in Adults	2/93
Depression in Primary Care	4/93
Sickle Cell Disease	4/93

Second, to increase our understanding of the organizations' experiences with the AHCPR guidelines, we conducted telephone interviews with half of the survey respondents that reported guideline use.

We conducted our review in accordance with the *Quality Standards for Inspections* issued by the President's Council on Integrity and Efficiency.

FINDINGS

Twenty percent of the survey respondents reported that they have used 1 or more of the 6 AHCPR guidelines about which we inquired; an additional 12 percent reported that they plan to do so.

Of the 243 organizations that responded to our questionnaire, 49 (20 percent) reported that they had used at least 1 of the 6 clinical practice guidelines that AHCPR released between January 1, 1992 and January 1, 1994.[19] An additional 28 (12 percent) indicated that, although they have not yet used any of the 6 AHCPR guidelines, they intend to do so. Several of these organizations indicated that they are in the early phases of developing guideline implementation plans and programs.[20]

Thirty-seven (76 percent) of the 49 AHCPR guideline users reported having used more than 1 of the AHCPR guidelines. *Pressure Ulcers In Adults* (prevention), *Urinary Incontinence in Adults*, and *Acute Pain Management* were the guidelines most frequently used.[21] Thirty-two (65 percent) of the AHCPR guideline users reported that they had also used guidelines sponsored by other organizations to address AHCPR guidelines topics.

- ***Impetus for using the guidelines has frequently come from the organizations' internal, quality-improvement programs. External factors--such as directives from supervising organizations and State regulatory requirements--have also played an important role.***

Internal Factors: Quality-improvement initiatives were cited as having contributed to the decision to use AHCPR guidelines by 41 (84 percent) of the user organizations. Examples of the ways in which internal factors have contributed to the decision to use the AHCPR guidelines include the following:

▸ One hospital incorporated two of the guidelines into a program for evaluating physicians' clinical performance.

▸ Another hospital decided to use a guideline after the death of a patient who had been admitted with severe pressure ulcers.

▸ A nursing home adopted a guideline after a product sales representative provided three copies of the guideline and suggested that the home use it.

External Factors: An external factor was cited as having contributed to the decision to use the AHCPR guidelines by 22 (45 percent) of the user organizations. Examples of the ways in which external factors have contributed to the decision to use the AHCPR guidelines include the following:

▸ Eight nursing homes adopted one of the guidelines in response to deficiency citations from State nursing home surveyors or in response to the homes' concerns about meeting survey standards.

▸ An HMO began using a guideline because the Medicare Peer Review Organization (PRO) recommended adherence to the guideline as a means of resolving a patient complaint.

▸ Two nursing homes decided to use two guidelines because their parent companies encouraged them to do so.

- ***The organizations' expectations of guideline use have focused on improved clinical care. Many have also viewed the guidelines as a means of reducing costs and providing better protection from malpractice litigation.***

Improved Clinical Care: Forty-seven (96 percent) of the users reported that they have expected the AHCPR guidelines to help them achieve at least one goal related to improved clinical care. Such goals ranged from improved clinical outcomes for patients, to reduced uncertainty among clinicians about appropriate care for patients, reduced variation in clinical decision-making, and increased patient satisfaction.

Other Goals: Twenty-five (51 percent) of the user organizations reported having expected to reduce costs associated with clinical care. Twenty (41 percent) reported that they have expected to achieve better protection from malpractice litigation.

- ***The reasons most often cited for not having used the guidelines were that the organizations were not familiar with them and the organizations have their own guidelines. No organizations cited disagreement with the guidelines as a basis for not having used them.***

One-hundred and ninety-four (80 percent) of all respondents to our survey indicated that they have not used any of the six AHCPR guidelines. Although 16 (8 percent) of them indicated that these guidelines are not clinically relevant for their institutions, none of the organizations indicated disagreement with the care recommended in the AHCPR guidelines.

Lack of Familiarity: Ninety-seven respondents--50 percent of the nonusers (and 40 percent of all respondents)--reported that they were not familiar with the guidelines.[22] In their comments on the mail survey, 27 (14 percent) of the nonusers requested copies of the AHCPR guidelines and/or expressed an interest in learning more about them.

Other Guidelines: Eighty-two respondents--42 percent of the nonusers (and 34 percent of all respondents)--reported that they have their own guidelines. Thirty-four respondents--18 percent of the nonusers (and 14 percent of all respondents)--reported that they use guidelines developed by an organization other than AHCPR.

Ninety-six percent of the survey respondents that have used 1 or more of the 6 AHCPR guidelines reported that their efforts to do so have focused on clinicians; 36 percent reported that they have directed guideline-implementation efforts towards patients.

Clinician-Directed Efforts

- ***Clinician-education efforts--ranging from the distribution of guideline materials to the conduct of educational programs--were the most frequently reported means of implementing the guidelines. Such efforts were reported by most guideline users.***

Forty-two (86 percent) of the guideline users reported at least one educational effort directed at clinicians. Most frequently cited was the distribution of AHCPR guideline materials to clinicians, which was reported by 28 (57 percent) of the users.[23] Examples of the ways in which organizations have distributed AHCPR guideline materials include the following:

▸ One nursing home put up posters summarizing the guideline on each of its units.

▸ An HMO distributed to physicians its own summary of the AHCPR guideline.

▸ At another HMO, copies of the guideline materials were distributed at meetings of the medical and nursing staff.

▸ A hospital distributed copies of the guideline to each of its nurses, physicians, and physician assistants, placed additional copies at the nursing station and in the hospital library, and circulated a hospital-wide memorandum announcing the availability of all of the guidelines.

Educational programs have been offered by 24 (49 percent) of the users. Such programs have involved train-the-trainer efforts, in-service activities, and self-study video tapes. Examples of the ways in which organizations have used the guidelines in these efforts include the following:

▸ A nursing home sent nurses to off-site classes on a guideline. These nurses then provided training for other staff on the recommended diagnostic and care techniques.

▸ A hospital hosted a product-sales company's full-day training session for nurses and luncheon lectures for physicians on guideline-recommended care.

▸ Another hospital conducted a series of five, mandatory, in-service training sessions for its nurses.

▸ A nursing home hired a consultant to train small groups of nurses about the guideline recommendations.

▸ A hospital used a privately produced video series explaining the guideline to train its nurses and nursing assistants.

In addition, 14 (29 percent) of the users reported that they provided feedback to clinicians about the extent to which their care conforms to guideline recommendations. At most organizations, this feedback has been provided informally, either to individuals or to staff-meeting groups. A few organizations, however, have provided more formal feedback to their clinicians:

▸ A hospital has provided feedback to clinicians in reports that note variances between the guideline-recommended care and that provided by clinicians.

▸ A nursing home has displayed weekly charts for each of its units documenting success rates in managing the guideline condition; the home also has run a weekly contest (with prizes) among the units to encourage staff to better manage the condition.

- ***The development of an algorithm, policy and procedure, or other implementation tool to guide clinician practice was also reported by most guideline users.***

Thirty-six (73 percent) of the users reported having made at least one administrative effort to implement the guidelines. Most often, organizations adapted the guidelines for their own use by developing an implementation tool: 31 (63 percent) of the users reported such an effort.

▸ At one hospital, a multidisciplinary task force worked over the course of six months to incorporate the guideline recommendations into existing policy and procedures and to develop an algorithm for patient care corresponding to the guideline.

▸ At a nursing home, over the course of a month, the director and assistant director of nursing revised the home's existing policy and procedures to reflect the guideline; the medical director approved the new draft.

▸ A manager at another hospital developed a two-page summary of the guideline, which the hospital physicians and governing board then approved.

▸ Another hospital collaborated with an area-wide group of care providers over the course of a year to adapt the guideline for a uniform standard of community care.

Other administrative efforts to implement the guidelines have included the use of automated computer systems that reflect guideline recommendations,[24] changes to clinician-patient encounter forms, changes to lab- or test-order forms, and retrospective reminders for clinicians.[25] Twenty-five (51 percent) of the users reported having made at least one such effort. Examples include the following:

▸ A hospital has used its computerized patient-care system to suggest appropriate care for treatment of the guideline condition and to allow monthly reviews of clinician compliance with guideline recommendations.

▸ Another hospital implemented a five-point, self-reported pain-scale for adults and a five-point color scale, on which red represents the most severe pain and white represents the absence of pain. The color scale has been useful with children.

▸ Two hospitals developed new clinician-patient encounter forms to be used on a daily basis for assessment of the guideline condition.

▸ Another hospital developed a new culture-order form with expanded order options for the guideline condition.

▸ Three organizations instituted charting systems to help nurses remember to adhere to guideline recommendations.

- ***Economic incentives to encourage clinicians to provide guideline-recommended care were reported by very few organizations.***

Only three organizations (6 percent) reported that they have used economic incentives to encourage clinicians to provide guideline-recommended care. Two of these organizations implemented changes in reimbursement policy. In one HMO, clinicians who fail to provide the guideline recommended care risk losing their care provider contracts with the HMO.

Patient-Directed Efforts

- ***The distribution of guideline materials to patients was the most frequently reported patient-directed effort and was reported by 12 (24 percent) of the users. Educational sessions for patients were reported by 9 (18 percent) of the users.***

Most users reported that they have not directed efforts to implement the guidelines towards patients. Some users explained that their patients are unable to help implement the guidelines because of physical and/or mental limitations. A few organizations anticipated that they would attempt patient-directed efforts in the future. Examples of ways in which the AHCPR guidelines have been used with patients include the following:

▸ An HMO developed an article for its patients' newsletter about the organization's new policy for treatment of the guideline condition; the article invites patients to call for additional information.

▸ A hospital implemented a new emergency room form that explains its policy for treatment of the guideline condition.

▸ Another hospital has provided educational sessions on the guideline condition for its patients and for visitors to senior centers and health fairs.

▸ A nursing home has explained the guideline recommendations to those of its at-risk residents who are able to participate in their own care.

▸ A nursing home and a hospital have both distributed guidelines to patients and their families when the patients have been discharged for home care.

▸ A hospital and a nursing home have used the guideline in home-health classes to educate both patients and their families about prevention and care of the guideline condition.

At this early point in the implementation process, only 8 percent of the respondents that have used 1 or more of the 6 AHCPR guidelines reported that they have measured the effects of their guideline use.

The first AHCPR guideline was issued in March 1992; two others were issued in that year. The remaining three guidelines about which our survey inquired were issued in 1993. Although most of our survey respondents are in the early stages of implementing the guidelines, four reported that they have evaluated the effects of their guideline use. An additional four organizations that we interviewed reported that they have measured or plan to measure the effects of their guideline use.

- ***These measures have focused on patients' clinical outcomes and clinicians' performance. They have been based primarily on chart and record reviews.***

The organizations have assessed both clinicians' performance and patients' clinical outcomes. A few organizations have also measured patient satisfaction; a few have taken organization-wide measurements of the effects of their guideline implementation. Below are examples of the assessments that have been made.

▸ A hospital has used its computerized patient-record system to assess how care was provided and patient outcomes. In addition, the hospital has conducted post-discharge patient-satisfaction surveys. These reviews documented increased compliance with the guidelines and increased patient satisfaction.

▸ A nursing home has conducted weekly record reviews, which have demonstrated a decrease in the incidence and severity of pressure ulcers.

▸ An HMO is planning to conduct an audit of clinician compliance with the guideline in the care of all patients treated for cataracts. The HMO also plans to collaborate with its PRO to review claims data for a random selection of patient records.

▸ A coalition of hospitals and nursing homes took base-line measurements of the incidence of the guideline condition in several facilities. The coalition plans to take comparison measurements in these facilities six months after the implementation of the guideline and one year after that.

▸ A nursing home's quality assurance program has involved seven annual, in-depth surveys of care and patient status, and one annual, in-depth review by the parent company. Reports of all of the reviews, which address care for the guideline condition, are evaluated by the regional administrator and the corporate specialist on the guideline topic.

▸ Another home has conducted quarterly assessments of patient outcomes for the guideline condition. This home's parent company has also provided an annual peer review which addresses care provided for this condition.

▸ Another hospital has conducted quarterly studies to assess how care is provided and patients' clinical outcomes.

Sixty-three percent of the respondents that reported having used one or more of the six AHCPR guidelines also reported having encountered obstacles to doing so.

Although there are many examples of guideline implementation ((see *Early Experiences with Clinical Practice Guidelines Sponsored by the Agency for Health Care Policy and Research: Case Descriptions* (OEI-01-94-00251)), introducing new clinical practice guidelines, like any effort to introduce systematic changes in the delivery of healthcare, poses challenges.

- ***Uncertainty about how to implement the guidelines was the most frequently cited obstacle to use.***

Twenty-one (43 percent) of the guideline users reported that such uncertainty was an obstacle to their use of the guidelines. Many of the organizations that we interviewed struggled over the development of a plan to implement the guidelines. Examples of organizations' uncertainty about how to implement the guidelines are summarized below.

▸ A nursing home's staff has found it difficult to read and understand the entire guideline. The home has sought out seminars that address the guidelines to resolve this problem.

▸ Uncertainty about how to use a diagnostic tool recommended by the guideline hampered one hospital's implementation program. This hospital contacted AHCPR for further guidance.

▸ For another hospital, confusion about the extent to which it need comply with the guideline slowed the implementation process.

▸ Another hospital was initially confused about how to implement the guidelines and found that other hospitals were unable to provide assistance because they were unfamiliar with the guidelines.

▸ Another hospital reported that the guidelines are "very general." Adapting them for local use--by making them more specific--required a considerable investment of both time and money.

▸ Developing a strategy for ensuring staff compliance with the guideline recommendations was a time-consuming challenge for another hospital.

- ***Clinician resistance was the second most frequently cited obstacle.***

Clinician resistance was reported by 16 (33 percent) of the guideline users. Physicians' primary concern, according to those we interviewed, has been their perception that the guidelines are "cookbook medicine." Nurses have been concerned that the guidelines would result in increased administrative and patient care workloads. Examples of clinician resistance to the guidelines are summarized below.

▸ A nursing home and two hospitals reported that several of the physicians resented what they perceived to be government interference in their work.

▸ A nursing home's staff initially resisted the new policy and procedures because they anticipated that these would result in "too much work." Some nurses continued to refuse to comply, but, according to the Director of Nursing, most learned that the new rules ultimately result in less work.

▸ Three nursing homes and a hospital all noted that any change in prescribed practice is always difficult for clinicians and that staff training is a gradual and continuing project.

Other obstacles to guideline use that were noted by survey respondents include an inability to measure compliance with the guidelines, an inability to measure the effects of guideline use, and the expense of guideline implementation.

RECOMMENDATIONS

The Public Health Service (PHS), through AHCPR, should determine more effective ways to promote familiarity with, and use of, the guidelines.

The AHCPR reports that its guidelines were distributed to every hospital and nursing home in our sample population. Of all those in leadership positions that we surveyed in small, nonteaching hospitals; nursing homes; and HMOs with staff-model components; 80 percent reported that their organizations had not used the AHCPR clinical practice guidelines and 40 percent were unfamiliar with the guidelines.

We recognize that introducing new clinical practice guidelines, like any effort to introduce systematic changes in the delivery of healthcare, poses challenges. A reconsideration of AHCPR's efforts to promote familiarity with, and use of, the guidelines could yield more effective approaches to meeting these challenges. As AHCPR itself has noted, "the term 'effective dissemination' includes the concept of diffusion of knowledge and information as well as the acceptance, inculcation, and utilization of disseminated information... distribution of information alone is insufficient to ensure adoption or use."[26]

The PHS, through AHCPR, should make increased technical support available to guideline users.

Our findings demonstrate that most organizations that have used the AHCPR guidelines have encountered obstacles to doing so. Many organizations reported that uncertainty about how to use the guidelines has been an obstacle. Other frequently noted obstacles include resistance from physicians and nurses, an inability to measure compliance with the guidelines, and an inability to measure the effects of guideline use. To facilitate the use of the AHCPR guidelines, the PHS, through AHCPR, should strengthen its capacity to advise those organizations that are encountering obstacles. For example, the Agency could:

- identify and disseminate information on the benchmarking practices of those organizations that have overcome obstacles and made effective use of guidelines; and/or

- build on its current programs and conduct training/technical assistance sessions in which representatives of healthcare organizations can learn more about the guidelines and how to use them effectively.[27]

The PHS, through AHCPR, should develop and implement systematic mechanisms for obtaining objective feedback about guideline use. As part of this effort, AHCPR should sponsor regular surveys of healthcare organizations. These surveys should be designed to produce projectable indicators that allow AHCPR to gauge changes over time in the extent of guideline use.

Although AHCPR collects some information about the use of specific guidelines, it has not yet incorporated into its regularly scheduled activities efforts to gather information on the frequency with which AHCPR guidelines are used or user-feedback information from those organizations that have experience with the guidelines. To better support the Agency in its efforts to gauge the level of guideline use and to continuously improve the quality of its guidelines, the PHS, through AHCPR, should incorporate systematic efforts to gather objective information about guideline use into its ongoing responsibilities.

To complement this important research, AHCPR could conduct other types of ongoing efforts designed to provide information about users' experiences with the AHCPR guidelines and changes over time in the users' experiences. For example, the Agency could:

- conduct regular surveys of organizations that have requested the guidelines to obtain feedback concerning their experiences with and assessments of the guidelines;

- conduct regular telephone interviews with select "key users" to obtain more in-depth feedback; and/or

- attach user-feedback forms to all guidelines that are disseminated.

COMMENTS ON THE DRAFT REPORT

We solicited and received comments on our draft report from the Public Health Service (PHS). The full text of these comments is included in appendix C of this report. The PHS offered technical comments on our draft report, and these were considered in the development of our final report. Below, we respond to some of the key elements of the PHS general comments on our findings, methodology, and recommendations.

FINDINGS

The PHS characterized our first finding--that 20 percent of the survey respondents reported that they have used 1 or more of the AHCPR guidelines about which we inquired and that an additional 12 percent reported that they plan to do so--as extremely encouraging, given the context of traditional rates of diffusion of new information into health care practice.

We recognize that introducing new clinical practice guidelines is a challenging endeavor, but found no guidance in the scientific literature for determining what level of use constitutes success. The AHCPR has not yet established benchmarks for guideline use or quantified expectations against which to measure its success.

METHODOLOGY

The PHS stated that the types of organizations surveyed in our study are not representative of all healthcare institutions. The PHS suggested that, to obtain a complete picture, additional types of providers should be surveyed.

We continue to believe that small teaching hospitals, staff-model HMOs, and nursing homes are significant components of this nation's healthcare delivery system and that clinical practice guidelines are relevant to the provision of care in all three settings. We agree that guidelines are relevant to healthcare delivery in other organizations. In response to PHS's concern about obtaining a complete picture, we are considering additional research to examine the use of clinical practice guidelines in additional healthcare settings and encourage AHCPR to do the same in our third recommendation.

RECOMMENDATIONS

The PHS concurred with each of the three recommendations presented in our draft report. In each case, PHS cited various efforts that it has underway that it regards as relevant to the recommendations. We recognize the relevance and importance of a number of the activities cited by PHS.

We are concerned, however, about our third recommendation, in which we urge PHS to develop and implement systematic mechanisms for obtaining objective feedback about guideline use. This recommendation proposes regular surveys as an important tool for continuous quality improvement. To clarify that recommendation, we have included in our recommendation statement information that was formerly presented in the text supporting it.

We continue to believe that systematically collected feedback, gathered at regular intervals, from current and potential guideline users, is a critical component of any continuous quality improvement effort. This feedback can be used as a valuable performance indicator addressing the degree of AHCPR's success in facilitating the use of, and familiarity with, its guidelines.

Our report finding--that 20 percent of the survey respondents reported that they have used 1 or more of the 6 AHCPR guidelines about which we inquired--provides a baseline against which AHCPR can measure its progress in achieving greater familiarity with, and use of, its guidelines.

APPENDIX A

NONRESPONDENT ANALYSIS

An important consideration with research based on surveys of the type we have conducted is the bias that may be introduced into the results if the nonrespondents differ from survey respondents in systematic ways. To test for the presence of bias, we obtained information from AMCRA on the HMOs to which questionnaires were sent. In addition, we obtained information from the OSCAR file for all nursing homes and hospitals to which questionnaires were sent.

Because the samples for HMOs, hospitals, and nursing homes were selected from different sampling frames, a separate nonrespondent analysis was performed for each of these groups. The variables used in the analysis for HMOs were the number of lives covered and the percentage of the HMO practice that was staff model. For both hospitals and nursing homes, the variables used were size (number of patient beds) and type of ownership (profit vs. nonprofit).

For HMOs, the t-statistic was used to compare means for each of the two variables for respondents vs. nonrespondents. For hospitals and nursing homes, the t-statistic was used to compare the mean number of patient beds. The Chi-square statistic was used to test differences by type of ownership.

The results are presented in the tables below. Our analysis of those organizations in the sample who did not respond indicates that our results are unbiased with respect to the variables considered.

HMOs

T-TEST FOR SIZE OF HMO

	N	Mean	S.E. of Mean
Respondents	47	110,239	18,864
Nonrespondents	33	66,804	16,251

t= 1.649 prob > t= .103

T-TEST FOR PERCENT OF HMO PRACTICE THAT WAS STAFF MODEL

	N	Mean	S.E. of Mean
Respondents	47	61.80	4.747
Nonrespondents	33	70.39	5.834

t = 1.147 prob > t= .255

HOSPITALS

T-TEST FOR NUMBER OF PATIENT BEDS IN HOSPITAL

	N	Mean	S.E. of Mean
Respondents	101	51.62	2.595
Nonrespondents	49	51.41	3.557

t= 0.048 prob > t= .962

CHI-SQUARE FOR TYPE OF HOSPITAL OWNERSHIP

	Respondents	Nonrespondents	Total	% Respond
Non-Profit	49 (49%)	25 (51%)	74	66%
Proprietary	5 (5%)	3 (6%)	8	62%
Government	47 (47%)	21 (43%)	68	69%
Overall	101	49	150	67%

CHI-SQ.=.22 DF = 2

NURSING HOMES

T-TEST FOR NUMBER OF PATIENT BEDS IN NURSING HOME

	N	Mean	S.E. of Mean
Respondents	95	126.95	8.725
Nonrespondents	55	114.73	8.488

t= 1.004 Prob > t= .317

CHI-SQUARE FOR TYPE OF NURSING HOME OWNERSHIP

	Respondents	Nonrespondents	Total	% Respond
Profit	62 (65%)	43 (78%)	105	59%
Non-Profit	33 (35%)	12 (22%)	45	73%
Overall	95	55	150	63%

CHI-SQ= 2.768 DF=1

APPENDIX B

SUMMARY OF SURVEY RESPONSES

All data presented in this appendix are derived from an OIG mail survey that was conducted in December of 1994.

Table 1. AHCPR Mail Survey and Telephone Interviews: Surveys Distributed, Survey Respondents, Guideline Users, and Guideline Users that were Interviewed	Hospitals		Nursing Homes		HMOs		TOTAL	
	N		N		N		N	
Surveys Distributed	150		150		80		380	
	N	%	N	%	N	%	N	%
Survey Respondents	101	67	95	63	47	59	243	64
Respondents that Reported Use of the AHCPR Guidelines*	19	19	20	21	10	21	49	20
Guideline Users that we Interviewed	12	63	12	60	2	20	26	53

* We are 90 percent confident that the percentage of small, nonteaching hospitals that have used the guidelines is between 12 and 25; that the percentage of nursing homes that have used the guidelines is between 14 and 28; and that the percentage of HMOs with staff-model components is between 11 and 31. For all organizations represented in our sample, we are 90 percent confident that the percentage that have used the guidelines is between 16 and 24.

Table 2. The number and percentage of organizations that cited the following factors as having contributed to their decisions to use the AHCPR guidelines[1]	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
a. State law requirements	2	10	9	45	2	20	13	26
b. Insurance requirements	1	5	1	5	1	10	3	6
c. A directive from a supervising or overseeing organization	3	16	10	50	3	30	16	33
d. Your organization's internal, quality-improvement initiative	17	90	14	70	10	100	41	84
e. OTHER factors	3	16	2	10	2	20	7	14

Table 3. The number and percentage of organizations that identified the indicated number of factors as having contributed to their decisions to use AHCPR guidelines								
Number of Factors	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
0	0	0	2	10	0	0	2	4
1	13	68	5	25	5	50	23	47
2	5	26	9	45	3	30	17	35
3	1	5	3	15	1	10	5	10
4	0	0	1	5	1	10	2	4
TOTAL	19	99[2]	20	100	10	100	49	100

[1]In this and in following tables, as noted: because respondents checked as many items as were appropriate in response to the question, the columns total more than 100 percent.

[2]In this and in following tables, as noted: total percentages are sometimes more or less than 100 due to rounding.

Table 4. The number and percentage of organizations that reported having expected to achieve the following goals with use of the AHCPR guidelines[1]	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
a. Increased patient satisfaction	17	90	11	55	6	60	34	69
b. Improved clinical outcomes for patients	17	90	18	90	9	90	44	90
c. Reduced uncertainty among clinicians about appropriate care for patients	16	84	13	65	9	90	38	78
d. Reduced variation in clinical decision-making	16	84	11	55	10	100	37	76
e. Reduced costs associated with clinical care	10	53	9	45	6	60	25	51
f. Better protection from malpractice litigation brought against the organization or its providers	10	53	5	25	5	50	20	41
g. OTHER goals	1	5	0	0	1	10	2	4

Table 5. The number and percentage of organizations that identified the indicated number of goals they have expected to achieve with use of the AHCPR guidelines								
	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
Number of Goals	N	%	N	%	N	%	N	%
0	0	0	2	10	0	0	2	4
1	1	5	1	5	1	10	3	6
2	1	5	1	5	0	0	2	4
3	3	16	6	30	2	20	11	22
4	3	16	5	25	1	10	9	18
5	3	16	4	20	2	20	9	18
6	8	42	1	5	3	30	12	24
7	0	0	0	0	1	10	1	2
TOTAL	19	100	20	100	10	100	49	98[2]

Table 6. The number and percentage of organizations that reported having used the AHCPR guidelines, either in whole or in part, to support the delivery of clinical care[1, 3]

AHCPR Guideline Title	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
a. Acute Pain Management	17	89	8	40	2	20	27	55
b Urinary Incontinence in Adults	14	74	18	90	2	20	34	69
c. Pressure Ulcers in Adults	17	89	16	80	3	30	36	74
d. Cataract in Adults	6	32	0	0	4	40	10	20
e. Depression in Primary Care	4	21	7	35	4	40	15	31
f. Sickle Cell Disease	5	26	0	0	3	30	8	16

Table 7. The number and percentage of organizations that reported either full implementation or pilot project use of the indicated number of the AHCPR guidelines

Number of Guidelines	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
0	0	0	0	0	0	0	0	0
1	1	5	5	25	6	60	12	24
2	7	37	7	35	3	30	17	35
3	5	26	2	10	0	0	7	14
4	1	5	6	30	0	0	7	14
5	1	5	0	0	0	0	1	2
6	4	21	0	0	1	10	5	10
TOTAL	19	99[2]	20	100	10	100	49	99[2]

[3]This includes "full implementation" and "pilot project" use.

Table 8. The number and percentage of organizations that reported that, in addition to AHCPR guidelines, they have used guidelines developed by other organizations to address the clinical topics listed below[1]	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
a. Acute Pain Management	7	37	7	35	2	20	16	33
b. Urinary Incontinence in Adults	5	26	15	75	1	10	21	43
c. Pressure Ulcers in Adults	6	32	12	60	2	20	20	41
d. Cataract in Adults	2	10	1	5	2	20	5	10
e. Depression in Primary Care	0	0	7	35	4	40	11	22
f. Sickle Cell Disease	0	0	0	0	0	0	0	0

Table 9. The number and percentage of organizations that reported that, in addition to AHCPR guidelines, they have used guidelines sponsored by other organizations for the indicated number of topics addressed by the six AHCPR guidelines								
Number of clinical topics addressed	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
0	9	47	4	20	4	40	17	35
1	3	16	4	20	4	40	11	22
2	4	21	5	25	1	10	10	20
3	3	16	1	5	0	0	4	8
4	0	0	5	25	0	0	5	10
5	0	0	1	5	1	10	2	4
TOTAL	19	100	20	100	10	100	49	99[2]

Table 10. The number and percentage of organizations that reported having used AHCPR guideline(s) in the following efforts directed at patients[1]	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
a. **Mailing patients reminders** to seek guideline-recommended care--either as part of a newsletter or in a more directed mailing	1	5	1	5	1	10	3	6
b. **Distributing copies of the *Patient's Guide*** to patients	12	63	0	0	0	0	12	24
c. **Conducting educational sessions for patients** about the guideline-recommended care	6	32	3	15	0	0	9	18
d. **Conducting OTHER efforts** intended to encourage patients to seek guideline-recommended care	2	10	1	5	0	0	3	6

Table 11. The number and percentage of organizations that reported having used AHCPR guidelines in the indicated number of patient-directed efforts								
Number of Patient-Directed Efforts	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
0	5	26	17	85	9	90	31	63
1	8	42	1	5	1	10	10	20
2	5	26	2	10	0	0	7	14
3	1	5	0	0	0	0	1	2
TOTAL	19	99[2]	20	100	10	100	49	99[2]

Table 12. The number and percentage of organizations that reported having used AHCPR guideline(s) in the following educational efforts directed at clinicians[1]	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
a. **Distributing copies of the *Clinical Practice Guidelines*** to clinicians	12	63	8	40	2	20	22	45
b. **Distributing copies of the *Quick Reference Guide for Clinicians*** to clinicians	14	74	5	25	2	20	21	43
c. **Distributing copies of the *Patient's Guide*** to clinicians	15	79	5	25	2	20	22	45
d. **Providing formal continuing education** for clinicians on guideline-recommended care	7	37	11	55	0	0	18	37
e. **Conducting skills training** for clinicians on guideline-recommended care	9	47	11	55	0	0	20	41
f. **Conducting academic detailing** for clinicians about guideline-recommended care	3	16	2	10	0	0	5	10
g. **Providing feedback** to clinicians about the extent to which their care conforms to guideline recommendations	3	16	9	45	2	20	14	29
h. **Conducting OTHER efforts** intended to encourage clinicians to provide guideline-recommended care	2	10	4	20	4	40	10	20

Table 13. The number and percentage of organizations that reported having used AHCPR guidelines in the indicated number of educational efforts directed at clinicians

Number of Educational Efforts Directed at Clinicians	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
0	1	5	4	20	2	20	7	14
1	4	21	2	10	6	60	12	24
2	3	16	4	20	0	0	7	14
3	2	10	3	15	2	20	7	14
4	2	10	4	20	0	0	6	12
5	1	5	0	0	0	0	1	2
6	6	32	1	5	0	0	7	14
7	0	0	2	10	0	0	2	4
TOTAL	19	99[2]	20	100	10	100	49	98[2]

Table 14. The number and percentage of organizations that reported having used AHCPR guideline(s) in the following administrative and/or technological efforts directed at clinicians[1]	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
a. **Developing a clinical path, algorithm, or other guideline implementation tool based, at least in part, on AHCPR guidelines**	12	63	13	65	6	60	31	63
b. **Instituting automated computer systems that reflect guideline recommendations**[4]	2	10	3	15	0	0	5	10
c. **Instituting retrospective reminders for clinicians**[5]	1	5	2	10	1	10	4	8
d. **Making changes to clinician-patient encounter forms** that encourage clinicians to provide the guideline-recommended care	9	47	6	30	1	10	16	33
e. **Making changes to lab- or test-order forms** that encourage clinicians to provide the guideline-recommended care	2	10	4	20	0	0	6	12
f. **Mandating adherence to the guideline**	1	5	3	15	4	40	8	16
g. **Instituting OTHER administrative or technological changes** that encourage clinicians to provide the guideline-recommended care	1	5	3	15	1	10	5	10

[4]Examples of such automated computer systems include those that provide clinicians with on-line access to guidelines or guideline summaries; those for concurrent reminders that can be programmed to appear on the computerized charts of patients who have appointments; those for formularies; and those for prescription, lab- or test-orders.

[5]An example of a retrospective reminder is a list of patients who have not yet received the guideline-recommended care.

Table 15. The number and percentage of organizations that reported having used AHCPR guidelines in the indicated number of administrative and/or technological efforts directed at clinicians

Number of admin. and/or tech. efforts	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
0	5	26	5	25	3	30	13	26
1	5	26	7	35	3	30	15	31
2	6	32	3	15	2	20	11	22
3	1	5	1	5	2	20	4	8
4	2	10	2	10	0	0	4	8
5	0	0	2	10	0	0	2	4
TOTAL	19	99[2]	20	100	10	100	49	99[2]

Table 16. The number and percentage of organizations that reported having used the following economic incentives to encourage clinician compliance with the AHCPR guidelines[1]	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
a. **Financial bonuses** for clinician provision of the guideline-recommended care	0	0	0	0	0	0	0	0
b. **Financial penalties** for clinician failure to provide the guideline-recommended care	0	0	0	0	0	0	0	0
c. **Changes in reimbursement policy** that discourage care other than that recommended in the guideline	0	0	0	0	2	20	2	4
d. **OTHER economic incentives** that encourage clinician provision of the guideline-recommended care	0	0	0	0	1	10	1	2

Table 17. The number and percentage of organizations that reported having used the indicated number of economic incentives to encourage clinician compliance with the AHCPR guidelines								
Number of economic incentives	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
0	19	100	20	100	7	70	46	94
1	0	0	0	0	3	30	3	6
TOTAL	19	100	20	100	10	100	49	100

Table 18. The number and percentage of organizations that reported having used AHCPR guidelines in the indicated number of clinician-directed efforts that involved education, administration, technology, and/or economic incentives

Number of Clinician-Directed Efforts	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
0	0	0	1	5	1	10	2	4
1	3	16	4	20	2	20	9	18
2	1	5	3	15	1	10	5	10
3	4	21	0	0	3	30	7	14
4	2	10	2	10	2	20	6	12
5	1	5	1	5	0	0	2	4
6	1	5	3	15	0	0	4	8
7	2	10	2	10	1	10	5	10
8	3	16	2	10	0	0	5	10
9	1	5	2	10	0	0	3	6
10	1	5	0	0	0	0	1	2
TOTAL	19	98[2]	20	100	10	100	49	98[1]

Table 19. The number and percentage of organizations that reported having conducted other types of efforts to encourage the provision of care recommended in the AHCPR guidelines[1]

Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
N	%	N	%	N	%	N	%
1	5	1	5	3	30	5	10

Table 20. The number and percentage of organizations that identified the following obstacles to their use of the AHCPR guidelines[1]	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
Resistance from:								
a. Physicians	7	37	5	25	2	20	14	29
b. Nurses	5	26	5	25	0	0	10	20
c. Other Staff	2	10	4	20	1	10	7	14
d. Patients	1	5	3	15	0	0	4	8
e. Lack of support from administration	1	5	0	0	0	0	1	2
f. Uncertainty about how to implement the guidelines	9	47	10	50	2	20	21	43
g. Operational difficulties[6]	2	10	3	15	2	20	7	14
h. Inability to measure compliance with the guidelines	7	37	4	20	1	10	12	24
i. Inability to measure the effects of the guideline use	7	37	4	20	1	10	12	24
j. Expense of implementation	5	26	2	10	1	10	8	16
k. OTHER factors	0	0	2	10	0	0	2	4

[6]Examples of operational difficulties include problems with computer systems, patient-encounter forms, and medical-records administration.

Table 21. The number and percentage of organizations that identified the indicated number of obstacles to use of the AHCPR guidelines

Number of Obstacles	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
0	6	32	6	30	6	60	18	37
1	3	16	4	20	1	10	8	16
2	1	5	3	15	2	20	6	12
3	3	16	2	10	0	0	5	10
4	2	10	1	5	0	0	3	6
5	2	10	2	10	1	10	5	10
6	1	5	2	10	0	0	3	6
7	0	0	0	0	0	0	0	0
8	1	5	0	0	0	0	1	2
TOTAL	19	99[2]	20	100	10	100	49	99[2]

Table 22. The number and percentage of organizations that reported having taken the following steps to address obstacles[1]	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
a. Distributing written materials explaining guidelines to clinicians and/or administrators	11	58	6	30	4	40	21	43
b. Conducting educational sessions for clinicians and/or administrators about the guidelines	9	47	8	40	2	20	19	39
c. Distributing written materials explaining guidelines to patients	8	42	3	15	2	20	13	26
d. Conducting educational sessions for patients about the guidelines	4	21	4	20	0	0	8	16
e. Using an existing quality assurance system to measure compliance with the guidelines	9	47	9	45	4	40	22	45
f. Developing new measurements to assess compliance with the guidelines	8	42	5	25	3	30	16	33
g. Seeking additional funding to cover the costs of guideline implementation	1	5	2	10	0	0	3	6
h. OTHER steps to address the obstacles	0	0	1	5	0	0	1	2

Table 23. The number and percentage of organizations that reported having taken the indicated number of steps to address obstacles								
Number of Steps	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
0	4	21	9	45	4	40	17	35
1	4	21	3	15	3	30	10	20
2	2	10	0	0	0	0	2	4
3	2	10	2	10	1	10	5	10
4	2	10	3	15	1	10	6	12
5	3	16	1	5	1	10	5	10
6	1	5	2	10	0	0	3	6
7	1	5	0	0	0	0	1	2
TOTAL	19	98[2]	20	100	10	100	49	99[2]

Table 24. The number and percentage of organizations that reported having measured the effects of their use of the AHCPR guidelines[1]	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
	1	5	3	15	0	0	4	8

Table 25. The number and percentage of organizations that reported having used the following methods to measure the effects of their use of the AHCPR guidelines[1]	Hospital N=19		Nursing Home N=20		HM0 N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
a. Measures of clinician performance	1	5	3	15	0	0	4	8
b. Measures of patient satisfaction	1	5	1	5	0	0	2	4
c. Measures of patients' clinical outcomes	1	5	5[7]	25[7]	0	0	6[7]	12[7]
d. Measures of cost	0	0	0	0	1[7]	10	1	2
e. Measures of organizational performance	0	0	1	5	1[7]	10	2	4
f. OTHER methods to measure the effects of the guidelines	0	0	0	0	1[7]	10	1	2

[7]While three nursing homes indicated that they have measured the effects of their use of the AHCPR guidelines, five nursing homes indicated that they have taken measures of patients' clinical outcomes to assess the effects of their use of the AHCPR guidelines.

Similarly, while no HMOs indicated that they have measured the effects of their use of the AHCPR guidelines, one HMO reported that it has taken a measure of cost to assess the effects of its use of the AHCPR guidelines; one HMO reported that it has taken a measure of organizational performance, and one HMO reported that it has used another method to assess the effects of the guidelines.

Table 26. The number and percentage of organizations that reported having used the indicated number of methods to measure the effects of their use of the AHCPR guidelines								
Number of Methods	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
0	18	95	15	75	8	80	41	84
1	0	0	2	10	1	10	3	6
2	0	0	2	10	1	10	3	6
3	1	5	0	0	0	0	1	2
4	0	0	1	5	0	0	1	2
TOTAL	19	100	20	100	10	100	49	100

Table 27. The number and percentage of organizations that reported that, based on the results of their assessments, they have made changes in the way they use AHCPR guidelines[1]	Hospital N=19		Nursing Home N=20		HMO N=10		TOTAL N=49	
	N	%	N	%	N	%	N	%
	2	10	2	10	0	0	4	8

Table 28. The number and percentage of organizations that reported that they have not used any of the six AHCPR clinical practice guidelines identified in this survey, but plan to do so[1]	Hospital N=82		Nursing Home N=75		HMO N=37		TOTAL N=194	
	N	%	N	%	N	%	N	%
	15	18	6	8	7	19	28	14

Table 29. The number and percentage of organizations that have not used any of the six AHCPR guidelines and identified the following reasons they may not do so[1]	Hospital N=82		Nursing Home N=75		HMO N=37		TOTAL N=194	
	N	%	N	%	N	%	N	%
a. Our organization has its own guidelines.	21	26	40	53	21	57	82	42
b. Our organization uses guidelines developed by an outside organization other than AHCPR.	10	12	12	16	12	32	34	18
c. We're not familiar with the AHCPR guidelines.	47	57	44	59	6	16	97	50
d. The AHCPR guidelines are not clinically relevant for us.	6	7	3	4	7	19	16	8
e. We disagree with the care recommended in the AHCPR guidelines.	0	0	0	0	0	0	0	0
f. Physicians don't want to use the AHCPR guidelines.	3	4	2	3	1	3	6	3
g. Nurses don't want to use the AHCPR guidelines.	0	0	0	0	1	3	1	0
h. Other staff don't want to use the AHCPR guidelines.	0	0	0	0	0	0	0	0
i. Patients are opposed to the use of the AHCPR guidelines.	0	0	0	0	0	0	0	0
j. The administration doesn't support the use of the AHCPR guidelines.	1	1	0	0	2	5	3	2
k. ACHPR's guidelines are too difficult and/or expensive to implement.	5	6	3	4	2	5	10	5
l. We lack the ability to measure compliance with the guidelines and/or the effects of the guideline use.	4	5	2	3	7	19	13	7
m. OTHER reasons	4	5	2	3	6	16	12	6

Table 30. The number and percentage of organizations that have not used any of the six AHCPR guidelines and identified the following number of reasons that they may not plan to do so

Number of Reasons	Hospital N=82		Nursing Home N=75		HMO N=37		TOTAL N=194	
	N	%	N	%	N	%	N	%
0	24	29	12	16	14	38	50	26
1	30	37	34	45	4	11	68	35
2	17	21	16	21	6	16	39	20
3	8	10	10	13	5	14	23	12
4	2	2	3	4	7	19	12	6
5	1	1	0	0	0	0	1	0
6	0	0	0	0	1	3	1	0
TOTAL	82	100	75	99[2]	37	101[2]	194	99[2]

APPENDIX C

COMPLETE COMMENTS ON THE DRAFT REPORT

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Memorandum

Date JUL 17 1995

From Assistant Secretary for Health

Subject Office of Inspector General (OIG) Draft Reports on the Utilization of Clinical Practice Guidelines Sponsored by the Agency for Health Care Policy and Research

To Inspector General, OS

Attached are the Public Health Service comments on the subject OIG reports. We concur with the recommendations and have taken, and will continue to take actions to implement them. In addition to our comments on the specific recommendations, we offer a series of technical comments for your consideration.

Philip R. Lee, M.D.

Attachment

IG	
SAIG	
PDIG	
DIG-AS	✓
DIG-EI	✓
DIG-OI	
DIG-MP	
AIG-CFAA	✓
OGC/IG	✓
EXSEC	✓
DATE SENT	7-19

COMMENTS OF THE PUBLIC HEALTH SERVICE ON THE OFFICE OF THE INSPECTOR GENERAL DRAFT REPORT "CLINICAL PRACTICE GUIDELINES SPONSORED BY THE AGENCY FOR HEALTH CARE POLICY AND RESEARCH: EARLY EXPERIENCES IN CLINICAL SETTINGS," OEI-01-94-00250

General Comments

The Office of the Inspector General (OIG) has surveyed a sample of three types of providers regarding their experience with clinical practice guidelines developed under the auspices of the Agency for Health Care Policy and Research (AHCPR). AHCPR worked with the OIG in developing the survey and PHS is pleased to now receive useful feedback from it. The survey queried respondents regarding six guidelines released between March 1992 and April 1993, and was conducted in December 1994. The findings indicate that in this very short time, almost one-third of the surveyed institutions were using or intended to use at least one of the guidelines to improve the effectiveness and quality of clinical practice within their individual settings. Viewed in the context of traditional rates of diffusion of new information into health care practice, these findings are extremely encouraging.

The AHCPR-supported guidelines have been more rapidly and widely adopted than many other guidelines, practice recommendations, or alerts issued by public agencies or professional organizations.[1] Further, the findings from the survey may understate the impact of the guidelines if, as is noted in the draft report, additional organizations may be indirectly relying on AHCPR-sponsored guidelines. Many providers may draft or revise "internal" guidelines based on guidelines developed by other organizations, including AHCPR. Organizations may also incorporate into their protocols recommendations that did not come directly from AHCPR-printed documents, but rather from reports or journal articles summarizing the guideline recommendations. If true, the survey responses obtained by the OIG may substantially under-report the full impact of the guidelines.

It is important to note that the three types of organizations sampled by the OIG are not representative of all health care institutions. To obtain a complete picture of the incentives and obstacles to guideline use experienced across settings we will need to survey additional types of providers (e.g., IPA model HMOs, large hospitals, teaching hospitals, etc.). It is also important to note that different guidelines are more relevant to some types of providers than others. We therefore would expect, (and find in the survey results reported here), that the

[1] A number of studies documenting rates of diffusion of new technologies or information into health care practice are cited in the draft report. More recent information regarding the AMA's experience with disseminating guidelines is discussed in our technical comments below.

particular types of facilities surveyed would be more likely to implement some guidelines than others.

AHCPR has issued 16 clinical practice guidelines. Responding to heavy demand, the agency has distributed close to 16 million copies of these guidelines. We believe, as documented in the draft report, that the validity and credibility of the AHCPR-sponsored guidelines have been major factors in their growing use for quality improvement. No organization surveyed cited disagreement with the content of the guidelines as a reason for not implementing them. Other evaluations, including the companion OIG report presenting case descriptions of organizations that have implemented AHCPR-supported guidelines, confirm extensive adoption of AHCPR-sponsored guidelines. There is also substantial evidence that implementation of the guidelines by health care organizations is resulting in significant improvements in patient outcomes as well as reductions in health care costs.

The OIG report identifies barriers to guideline use experienced by survey respondents. Acknowledging that the AHCPR guideline program is very new, the report notes that introducing clinical practice guidelines, as with other recommended changes in medical practice, poses significant challenges. Research on the implementation of clinical guidelines and, more generally, on the assimilation into medical practice of new methods, technologies, or other behavior changes, has consistently shown that change is generally slow and requires sustained, carefully-targeted efforts that directly involve practitioners and patients.

To achieve the full potential related to implementation of practice guidelines we need to find more effective ways to promote adoption, adaptation, and implementation of the guidelines. The OIG's study was not designed to evaluate AHCPR's internal processes for developing or disseminating guidelines, nor AHCPR's program for evaluating guideline dissemination and implementation strategies. We believe that these evaluative efforts are crucial if we are to promote greater use of clinical practice guidelines. As described in our responses to individual recommendations below, AHCPR will continue to focus and refine its efforts to identify the most effective methods for promoting guideline implementation. AHCPR is also embarked on a strategy to improve the efficiency of the guideline development process and to better tailor guidelines to the needs of local users. These changes should lead to development of guidelines and guideline-related products and implementation tools that are more easily assimilated into practice by local institutions, and to more effective dissemination of the guidelines.

OIG Recommendation

The Public Health Service (PHS), through AHCPR, should determine more effective ways to promote familiarity with, and use of, the guidelines.

PHS Comment

PHS concurs with this recommendation. As part of its ongoing efforts to evaluate and improve the guideline development and dissemination process, AHCPR sponsors a broad-based portfolio of research and evaluation projects that the OIG did not examine as part of the current study. These efforts include a variety of projects to assess the effectiveness of alternative strategies to encourage implementation of guidelines in different settings.

For example, AHCPR has a contract with the American Medical Review Research Center (AMRRC) that is comparing the effectiveness of alternative educational outreach programs employed by peer review organizations to promote adoption of the AHCPR-sponsored guideline on benign prostatic hyperplasia. A cooperative agreement with the Department of Veterans Affairs (VA) will compare the effectiveness of two educational strategies for implementing the AHCPR-sponsored pressure ulcer prevention guideline in VA facilities across the United States. Another cooperative agreement with the Centers for Disease Control and Prevention will assess the effectiveness of targeted media campaign strategies in Oklahoma and Massachusetts to disseminate the AHCPR-sponsored urinary incontinence guideline.

AHCPR has issued research solicitations to encourage studies of how guidelines can most effectively be implemented in large group practices and in primary care settings. Several research projects have been funded in response to these solicitations and are ongoing. AHCPR also has a contract through an interagency agreement with the Office of Personnel Management to conduct focus groups to elicit feedback about guidelines from potential users, including primary care physicians, physicians in academic settings, and nurses.

Based on the findings of these and other investigations, and subject to the availability of resources, AHCPR continues to explore alternative strategies for increasing the familiarity of potential users with practice guidelines. At the same time, as part of its plans to refine and improve the guideline development process, AHCPR is placing greater emphasis on efforts to facilitate guideline implementation, including development of new types of products (e.g., posters, laminated cards) and greater use of effective modes of distribution such as electronic dissemination. AHCPR also plans to expand partnerships to develop guidelines in collaboration with other Federal and State agencies and with private organizations. These continuing efforts should help to increase awareness, acceptance, and use of the guidelines.

OIG Recommendation

The PHS, through AHCPR, should make increased technical support available to guidelines users.

PHS Comment

PHS concurs with this recommendation. Although not the focus of this OIG study, AHCPR sponsors a number of projects to provide technical support to prospective users of practice guidelines. We will continue to do so.

For example, AHCPR is sponsoring a series of reports on using clinical practice guidelines. The first report, entitled Using Clinical Practice Guidelines to Evaluate Quality of Care, was issued in March 1995. It discusses issues associated with implementing and measuring conformance to practice guidelines and targeting opportunities for clinical quality improvement. More importantly, it is a practical handbook that lays out step by step instructions for developing guideline-related quality evaluation tools (medical review criteria, performance measures, and standards of quality). This report has been widely disseminated to a range of health care organizations, including hospitals and medical review organizations. There is considerable demand for the report from across the nation. For example, the Group Health Association of America has requested copies to send to all its member plans.

Other reports to be issued in the near future will provide detailed descriptions of projects in which AHCPR-supported guidelines, review criteria, and performance measures have been used in quality improvement programs. A forthcoming report focuses on a project in which Peer Review Organizations applied medical review criteria derived from AHCPR-sponsored guidelines on acute pain, urinary incontinence, and benign prostatic hyperplasia in Medicare quality of care reviews. Another will describe the results of efforts by the VA to disseminate and implement the pressure ulcer prevention guideline.

AHCPR has supported the development of review criteria in association with three of the most recent AHCPR-sponsored guidelines: heart failure, unstable angina, and otitis media. Review criteria are also currently being developed for a guideline on cardiac rehabilitation. These review criteria should serve as practical tools for organizations interested in implementing these guidelines.

AHCPR is sponsoring a series of efforts to collect, evaluate, and classify performance measures to assist providers and other health care organizations in their quality improvement efforts. Part of this project involves linking performance measures to AHCPR-sponsored practice guidelines. This should assist institutions interested in implementing practice guidelines to improve quality of care.

AHCPR also provides information and technical assistance to state and local health officials and policy makers through our User Liaison Program. For example, a workshop on medical effectiveness and outcomes research, offered semi-annually, has included sessions on clinical practice guidelines, review criteria, and performance measurement. The sessions focused in particular on applications in managed care, utilization and quality review, medical malpractice, and workers compensation.

Subject to the availability of resources, AHCPR continues to explore options for providing effective technical assistance to providers and other institutions interested in implementing clinical practice guidelines. Opportunities for technical assistance should be expanded by the new collaborative partnerships described in response to the previous recommendation.

OIG Recommendation

The PHS, through AHCPR, should develop and implement systematic mechanisms for obtaining objective feedback about guideline use.

PHS Comment

PHS concurs with this recommendation. Surveys can be an effective technique to assess the extent to which practitioners or patients generally are aware of, have accepted, and are using practice guidelines. AHCPR supports developmental work to design valid instruments to be used in surveys of guideline awareness and utilization. In an effort to leverage resources, AHCPR also collaborates with a number of outside organizations both in developmental efforts as well as in encouraging these organizations to include questions related to AHCPR-sponsored guidelines in their own routine surveys.

In addition to cross-sectional or periodic surveys, we believe that it is also important to conduct more targeted evaluation efforts, including:

- experimental or quasi-experimental studies of specific dissemination and implementation strategies;
- case studies of the logistics of guideline implementation in specific organizational settings; and
- focus or discussion groups of potential users to obtain feedback on the effectiveness of specific guideline-related products and suggestions for overcoming barriers to implementation.

Based on developmental work, AHCPR is sponsoring a survey of patient and practitioner attitudes regarding the AHCPR-sponsored guideline on benign prostatic hyperplasia. Results of the survey

(conducted prior to the implementation of educational programs designed to encourage adoption of guideline recommendations), along with results of a post-intervention survey will be published later this year.

In response to a question included after consultation with AHCPR staff, the Group Health Association of America's 1994 Annual HMO Performance Survey found that of those HMOs encouraging guideline use (82% of all HMOs surveyed), half (or 41%) had adopted or adapted AHCPR-sponsored guidelines. Based on a survey instrument developed in collaboration with the AHCPR-sponsored guideline panel and with AHCPR staff, the National Pressure Ulcer Advisory Panel surveyed nurses and other specialists in acute care settings across the country regarding the AHCPR-sponsored pressure ulcer prevention guideline. The New Hampshire Medicare Peer Review Organization and the New Hampshire Foundation for Medical Care have also surveyed hospitals and skilled nursing facilities in New Hampshire and Vermont regarding the pressure ulcer guideline.

AHCPR continues to assess the feasibility, costs, and methodological soundness of various options for obtaining systematic feedback on a broad scale regarding the awareness and use of AHCPR-sponsored practice guidelines. Subject to resource availability, AHCPR also continues to explore options for gathering additional information related to the most effective methods to disseminate and implement practice guidelines.

Technical comments

Executive summary

Page	Para	Line:	Comment
i	2	4	As of this date AHCPR has released 16 clinical practice guidelines.
i	2	6	The paragraph states that in FY 1994, 10 million was spent on dissemination and evaluation of guidelines, of which $4 million was spent on printing and dissemination. During FY 1994, approximately $6 million was spent on grants and contracts which focused on the evaluation of guidelines. It should be noted that FY 1994 was an atypical year for spending on evaluations. During this year, four large scale, multi-year evaluation projects were initiated, so that spending reflected projects covering more than one fiscal year.
i	3	1	"The introduction of new technologies, including new clinical practice guidelines, can be a slow and difficult process." AHCPR-sponsored research shows that the introduction and adoption of new technologies and medical knowledge is in fact complex, influenced by factors such as consistency with current opinions and practices, skills and resources necessary to implement new knowledge, financial reimbursement incentives, perceived implications for litigation, and patient preference. Patient factors play a large role in the diffusion as well as the effectiveness of health and clinical information, particularly in areas such as compliance with treatment and medication recommendations and adoption of prevention behaviors. In addition to publications cited in footnote 14 of the report, AHCPR has sponsored the following work related to the effective dissemination of health and clinical information: Agency for Health Care Policy and Research. Effective Dissemination of Clinical and Health Information: Conference Summary. Secrest L., Baker TE, Rogers EM, Campbell TF, and Grady ML, editors. AHCPR Pub. No. 95-0015. Rockville, MD: Agency for Health Care Policy and Research, Public

Health Service, U.S. Department of Health and Human Services. December 1994.

Agency for Health Care Policy and Research. Effective Dissemination of Health and Clinical Information to Consumers: Annotated Bibliography. AHCPR Pub. No. 95-0055. Rockville, MD: Agency for Health Care Policy and Research, Public Health Service, U.S. Department of Health and Human Services. May 1995.

i	4	1	"We conducted a mail survey of 380 key U.S. health care...."

While the OIG survey addressed three important segments of the health care market, it is important to note that the particular types of institutions surveyed are not necessarily representative of all health care institutions.

For example, according to data from the American Hospital Association, less than half of all hospitals are small non-teaching hospitals. More important, these institutions account for less than 10% of all inpatient admissions in the U.S.

Furthermore, according to InterStudy, the majority of HMO enrollees are served by IPA or network models rather than staff model HMOs. Staff model HMOs account for the smallest proportion of enrollees of all model types.

i	5	6	(First bullet on the page): "Impetus for using guidelines has frequently come from organizations' internal quality improvement programs."

In fact the impetus is overwhelmingly from internal quality improvement interests. Table 2 (Page B-3) notes that 84% (41 of 49) of those using the guidelines cited this as their reason.

"External factors--such as directives from supervising organizations and State law requirements--have also played an important role." Table 2 on page B-3 shows that external factors play a much smaller role (26 or 33%), and among the reporting organizations, it is primarily nursing homes that report external factors as playing a role in guideline use.

ii	4	5	(Fourth bullet on the page): "Economic incentives to encourage clinicians were reported by few organizations."

In fact economic incentives were reported by only HMOs, and only two (or perhaps 3, depending on whether the question asked provided a multiple response option).

iii 1 1 (First bullet on the page): "Clinician resistance was the second most frequently cited obstacle."

Clinician resistance is closely followed by inability to measure guideline use and inability to measure guideline effect. In total 14 respondents reported physician resistance, while 12 reported these other two difficulties. When the full table on page B-14 is examined, the message that seems clear is that tools and technical assistance are needed to facilitate the implementation of guidelines, the measurement of guideline conformance, and examination of the effect of guideline conformance on outcomes.

iii 3 2 Sentences 2 and 3 in the paragraph: These two sentences, which are repeated in other sections of the report, are unclear.

One seems to state that 46% were unfamiliar with the guidelines, the other that 40% were unfamiliar.

In addition, sentence 3 should clarify that the focus of the study was only on small non-teaching hospitals and HMOs with staff model components. Without this distinction, the sentence appears to generalize to all hospitals, nursing homes and HMOs.

iii 3 3 Second paragraph under first recommendation: "a reconsideration" of AHCPR efforts to promote familiarity with the guidelines.

We agree that AHCPR should continue to sponsor research to identify the most effective strategies for dissemination, implementation, adoption and diffusion of innovation. However, based on the following reasons, we do not believe that the OIG study supports a conclusion that AHCPR's dissemination methods have been ineffective.

1) AHCPR's dissemination efforts do not stress Agency name recognition. The Agency name does not feature prominently on the cover of the guidelines, and they are frequently described in the media and published sources as "federally sponsored" guidelines (as opposed to "AHCPR guidelines"). They are produced by panels of

private individuals convened under the auspices of the Federal government. Consequently, failure to achieve name recognition should not be equated with inadequate dissemination.

2) The terms "familiarity with guidelines" and "guideline use" from the survey questionnaire may have different meanings to different individuals. Individuals may have seen a guideline, but not looked at it in detail, or not internalized its content. Conversely, an organization can have internalized the recommendations so thoroughly that they become standard practice, rather than a guideline produced by an external entity.

3) It should be noted that the rate of guideline penetration reported by organizations responding to the survey (20% use and 32% including those reporting behavioral intent to use the guidelines) is consistent with the diffusion of other medical effectiveness information and technologies. For example, after distributing its smoking cessation guideline to 200,000 physicians the American Medical Association found that only 20% recalled having received the guidelines. Only 25% of physicians surveyed by the AMA reported using the HIV guidelines issued by AMA.

Hearn, Wayne. "On the Road to Prevention". American Medical News. June 5, 1995. p. 9. (A copy of this article is provided with this report)

4) Dissemination of clinical information does not occur rapidly. Antman et. al. report that despite evidence from randomized controlled clinical trials of the effectiveness of therapies and interventions, it is often many years later that findings become standard recommendations in textbooks and clinical expert reviews appearing in published literature. For example, findings from multiple randomized controlled trials indicate that significant reductions in hospital mortality could be achieved by administration of thrombolytic drugs for patients with acute myocardial infarction. However, widespread recommendation of this therapy by clinical experts did not occur until 13 years after the appearance of data from these trials. Since 1985, when an approximate 20% reduction in the risk of death was established at the P<.001 level, 14 of the 43 review articles examined did not mention the treatment or felt it was still experimental.

Antman, Elliott M. et al. "A Comparison of Results of Meta-analyses of Randomized Control Trials and Recommendations of Clinical Experts." Journal of the American Medical Association 1992; Vol.268, No. 2. P. 240. (A copy of the article is provided.)

We believe that this contextual information is essential in interpreting the data and the recommendations presented in the Inspector General's report.

iv 1 1 Systematic mechanisms for obtaining feedback on guideline use.

The suggested strategies for accomplishing this recommendation all focus on surveys to examine familiarity with the guidelines. While we agree that some cross sectional survey work is desirable to assess penetration of guidelines, other possibilities should be considered, e.g.

- targeted evaluation efforts, in the form of quasi-experimental or experimental design, to look at implementation using specific dissemination and implementation strategies.
- case study examination of the logistics of guideline implementation in various organizational settings.
- user groups to discussion methods for implementing guidelines and effective methods resolving barriers to implementation.
- targeted examination of guideline products to assess what factors contribute to their usefulness.

Clearly a case study approach, such as that used by the OIG can augment survey data and provide additional valuable "feedback" on detailed aspects of the guideline.

One of the problems with cross sectional surveys is that instrumentation problems may bias results; without additional qualitative or quasi experimental research, it may not be possible to detect the biases. For example, the term "use" of guidelines may mean different things to different individuals and organizations. The information in footnote 18 of the OIG report specifically discusses the different interpretations of "guideline use", and how differences

in the wording of questions may result in different reported rates of guideline penetration.

- With respect to user feedback forms attached to each guideline, AHCPR has considered this method for obtaining feedback. Mailback cards or feedback forms may be used to offer qualitative suggestions to the agency via open ended questions. However, their reliability and validity for evaluating guideline penetration or attitudes about the guidelines is questionable because of sample based response bias. It is not possible to identify with any certainty the sample frame, the characteristics of the respondents versus nonrespondents, or whether the individuals respond more than once to a mailback card.

Introduction

Page	Para	Line	
2	1	2	AHCPR was the successor to (rather than the replacement for) the National Center for Health Services Research. Although AHCPR activities related to health services research are consistent with the mandate of NCHSR (including the conduct of the National Medical Expenditure Survey), AHCPR's mandate is substantially broader than that of NCHSR, encompassing: the conduct and sponsorship of research, demonstration projects, evaluations, training, guideline development and dissemination of . clinical practice guidelines, . medical effectiveness research (including Patient Outcomes Research Teams and other outcomes research projects), . dissemination research and a variety of other areas.
2	2	2	As of this date, AHCPR has released 16 clinical practice guidelines.
2	2	3	"The panels apply science based methods to develop specific statements on management for the clinical condition under consideration." It is more accurate to state that "The panels use an explicit approach and methodology for evaluating scientific evidence to develop recommendations related to the diagnosis

treatment, and management of the clinical condition under consideration. In instances...."

2 4 4 In addition to establishing a toll-free guideline request telephone line and availability of guidelines through the National Library of Medicine and the Internet, the Agency has issued the text of clinical practice guidelines, including quick reference guides and patient booklets, in CD-ROM format. This product is currently available for use by medical libraries and will be available to the public through the Government Printing Office in Fall 1995.

2 4 8 AHCPR both conducts and sponsors conferences on guideline implementation. In addition, the Agency sponsors targeted and investigator initiated research on guideline implementation and effective methods of disseminating health information.

2 5 5 During FY 1994, four large scale, multi-year evaluation projects were initiated, so that spending reflected projects covering more than one fiscal year.

2 7 1 This sentence suggests that the body of research supported by the Agency has resulted only in the identification of barriers to use of guidelines. The paragraph implies that the barriers listed in the third sentence were identified from AHCPR sponsored research, when they are items from the OIG survey.

While it is certainly true that barriers to guideline implementation exist, and that AHCPR sponsored research has identified some of these barriers, it is important to note that AHCPR's research portfolio focuses on a broad program of research on the effectiveness of clinical interventions as well as methods and tools for translating medical effectiveness information into clinical decision making.

Barriers to guideline implementation are identified in the context of research studies to evaluate guidelines, to determine effective clinical strategies, to identify salient quality improvement strategies, and to discover ways to improve the communication of clinical and health information.

The statement found in our comments above (i 3 1) more correctly characterizes the nature of the Agency's research.

4 1 1&3 This sentences is not entirely clear. At first it might appear to say non-teaching hospitals serve at the forefront of medical education. Perhaps it would be more direct to say:

"We sampled non-teaching hospitals because we anticipated that they would be more likely to use existing guidelines such as those supported by AHCPR than to develop their own. In contrast, we assumed that teaching hospitals, because they serve at the forefront of medical education, might be more likely to develop their own guidelines."

4 1&2 1 The sampling strategy employed by OIG may have resulted in an underestimation of guideline use.

We do not find evidence to support the assumptions underlying the sampling strategy. For example, the assumption is that small, non-teaching hospitals would be more likely to use nationally developed guidelines. One might assume the converse: because teaching hospitals are at the forefront of medical education, they would be more familiar with AHCPR-supported guidelines, and more likely to use them. Many guideline panel members are prominent researchers in academic medical centers throughout the U.S.; consequently, such centers may be more likely to use nationally developed guidelines such as those developed by AHCPR.

The second paragraph on this page states that HMOs with staff model components were selected because they show a trend toward managed care, and because staff model plans may be more able to influence providers. As indicated in a previous comment, staff model HMOs are the smallest segment of the managed care market; data from InterStudy show that IPA/network models are the fastest growing segment of the market place.

The Group Health Association of America study cited in footnote 18 notes that in surveying HMOs of all model types, approximately 33% used AHCPR-supported guidelines or adapted these guidelines for use. Consequently, the assumption that HMOs with staff model components would be more likely to use guidelines developed by AHCPR may not be correct.

5	3	2	Parenthetical for pressure ulcers guideline should be "(prediction and prevention of pressure ulcers)".
6	8	1	This figure does not include organizations that, in developing their own guidelines, used AHCPR (or other national guidelines) as a basis.
6	8	1	This finding should be qualified to reflect the wording of the OIG questionnaire. As noted in footnote 18, the term "use" of guidelines may mean different things to different individuals and organizations. The information in footnote 18 of the OIG report specifically discusses the different interpretations of "guideline use", and how different wording of questions may result in different reported rates of use of the guidelines. This information should be presented within the text of the report.
6	9	3	Footnote 20 should be associated with this sentence, rather than the first sentence in paragraph 8.
13	1	2	The information in footnote 24 provides a number of examples of AHCPR dissemination activities including a publications clearinghouse, electronic dissemination of the guideline, media outreach, and organizational outreach through direct mailings, public-private partnerships, and intermediaries (such as opinion leaders, medical professional associations, continuing education programs and consumer organizations). The report recommends a reconsideration of dissemination efforts, but does not adequately recognize ongoing dissemination activities.
13	1	2	As indicated in the executive summary, sentences 2 and 3 in the paragraph are unclear. One states that 46% were unfamiliar with the guidelines, the other that 40% were unfamiliar. Sentence 3 should clarify that the survey focused on small non-teaching hospitals and HMOs with staff model components. The sentence could be construed to apply to all hospitals, nursing homes and HMOs.

APPENDIX D

NOTES

1. One of the first reports on geographic variations in medical practice was published in 1938 and focussed on the variation in rates of tonsillectomy among school children in England (JA Glover, "The Incidence of Tonsillectomy in School Children," *Proceedings of the Royal Society of Medicine*, 1938; pp. 1219 -1236.)

In the past two decades, John Wennberg has published several articles that document great geographic variation in medical practice in the United States. In a 1988 article, he found that "A resident of New Haven, Connecticut is about twice as likely to undergo a coronary bypass operation as is a resident of Boston; for carotid endarterectomy, the risks are the other way around. The numbers of knee and hip replacements per capita are much more common among Bostonians, while New Havenites experience substantially higher risks for hysterectomy and back surgery." (John E. Wennberg, "Commentary: Improving the Medical Decision-Making Process," *Health Affairs*, Spring 1988; pp. 99 - 106.)

Robert H. Brook and his associates from the Rand Corporation's Health Program have also published on this subject. In a 1986 article, they report that "Of 123 procedures studies, 67 showed at least threefold differences between sites with the highest and lowest rates of use." (Mark R. Chassin, Robert H. Brook, et al, "Variations in the Use of Medical and Surgical Services by the Medicare Population," *New England Journal of Medicine*; January 30, 1986; pp. 285 - 290.)

2. Institute of Medicine, Committee to Advise the Public Health Service on Clinical Practice Guidelines, Marilyn J. Field and Kathleen N. Lohr, editors, *Clinical Practice Guidelines: Directions for a New Program* (Washington DC: National Academy Press, 1990) p. 8.

Clinical practice guidelines are also known by other names, including "practice parameters," "clinical indicators," "medical necessity guidelines," "medical standards," and "practice policies." (David M. Eddy, "Clinical Decision Making: From Theory to Practice, Practice Policies--What Are They?" *Journal of the American Medical Association*; February 9, 1990; pp. 877 - 880.)

The American Medical Association definition of practice parameters refers to "strategies for patient management developed to assist physicians in clinical decision making." (*Directory of Practice Parameters: Titles, Sources, and Updates, 1994 Edition*, p. 189, Office of Quality Assurance and Medical Review, American Medical Association, Chicago, IL.)

3. The 1995 Edition of the American Medical Association's (AMA) *Directory of Practice Parameters* lists approximately 1800 practice parameters developed by more than 70 physician associations and other organizations.

4. U.S. Congress, Office of Technology Assessment, *Defensive Medicine and Medical Malpractice*, OTA-H-602, July 1994, pp. 140 - 148.

5. "CAPPCARE Developing Wireless Hardware for Instant Guidelines Access," *Report on Medical Guidelines & Outcomes Research*, 5 May 1994, pp. 4-5.

6. According to Dr. James Cooley of the Harvard Community Health Plan (a staff-model HMO based in Boston, MA), guidelines can be implemented through methods that are **patient directed** and include educational sessions (in which either individual patients or groups of patients are educated about the guideline) and reminder mailings (in either newsletters or focussed mailings on single topics); methods that are **directed at clinicians** and include guideline publication and distribution, continuing medical education (CME) sessions, CME take-home quizzes, skills-training programs, and academic detailing; **administrative** methods that include concurrent reminders (such as automatic reminders that can be programmed to appear on the computerized charts of those patients who have appointments), retrospective reminders (such as lists of patients who have not yet received the prescribed intervention), encounter-form changes that prompt physicians to ask certain questions or to provide certain services, order-form changes that either encourage or discourage the use of specific laboratory tests, the designation of personnel to manage and/or provide the specific care, and feedback to providers about the extent to which they are complying with the guideline; and methods that involve **economic incentives**, such as bonuses or penalties, and changes in reimbursement policies (Telephone conversations with Dr. James Cooley on September 14 and 21, 1994).

7. The Agency for Health Care Policy and Research Reauthorization Act of 1992 (P.L. 102-410) extended the authorization of AHCPR and amended some provisions for the development of clinical practice guidelines.

8. According to P.L. 102-410, the guidelines must be based on the best available research and professional judgement; presented in formats appropriate for use by physicians, other healthcare practitioners, medical educators, medical review organizations, and consumers; presented in treatment-specific or condition-specific forms appropriate for use in clinical practice, educational programs, and reviewing quality and appropriateness of medical care; include information on the risks and benefits of alternative strategies for prevention, diagnosis, treatment, and management of the particular health condition(s); and include information on the costs of alternative strategies for prevention, diagnosis, treatment, and management of the particular health condition(s) where cost information is available and reliable.

The AHCPR chooses its guideline topics on the basis of several factors: the adequacy of scientific-based evidence from which to develop guidelines; the number of people affected by a condition; the condition's amenability to prevention; expected potential

for reducing inappropriate variations in the prevention, diagnosis, management, or outcome of the condition or disease; specific needs of the Medicare and Medicaid populations; and the costs of the condition to all payers, including consumers (AHCPR, *Program Note: Clinical Guideline Development*, August 1990).

9. Guidelines released to date include *Acute Pain Management* (issued in 3/92), *Urinary Incontinence in Adults* (3/92), *Pressure Ulcers in Adults*--Prediction and Prevention (5/92), *Cataract in Adults* (2/93), *Depression in Primary Care* (4/93), and *Sickle Cell Disease* (4/93), *Early HIV Infection* (1/94), *Benign Prostatic Hyperplasia* (2/94), *Management of Cancer Pain* (3/94), *Unstable Angina* (3/94) *Heart Failure* (6/94), *Otitis Media with Effusion* (7/94), *Quality Determinants of Mammography* (10/94), *Acute Low Back Pain in Adults* (12/94), *Treatment of Pressure Ulcers* (12/94), and *Post-stroke Rehabilitation* (5/95).

10. See "Guideline Development and Use," included in each guideline published by the Agency.

11. Among the organizations on AHCPR's master mailing list are healthcare education and credentialing organizations, hospitals, insurance companies, and associations and societies for healthcare professionals.

According to the March 27, 1995 AHCPR Guideline Marketing Summary Reports, 7,288 articles have been published about the guidelines in newspapers, magazines, and trade publications. In addition, 107 guideline reprints, excerpts, or summaries have appeared in professional journals.

12. Among the companies that have issued reprints of the AHCPR guidelines are Abbott Laboratories, Aetna, Bristol-Myers Squibb, Burroughs Wellcome, Communicore, Dupont Pharmaceuticals, Eli Lilly, Forest Labs, Janssen, Key Pharmaceuticals, Knoll Pharmaceuticals, Mead Johnson, Medco, Merck, Pfizer, Purdue Frederick, Roche Laboratories, Roxane Pharmaceuticals, SmithKline Beecham, Syntex Laboratories, and Zeneca Pharmaceuticals.

13. As examples of its dissemination efforts, AHCPR reports that it conducts direct mailing of its guidelines to Health Resources and Services Administration grantees, including community, rural, and migrant health centers and Area Health Education Centers, and to Indian Health Service healthcare providers. In addition, the agency has collaborated with the National Cancer Institute (NCI) to distribute its guidelines on the management of cancer pain and mammography through the NCI clearing house. Similarly, it has collaborated with the Centers for Disease Control to distribute the HIV guideline through that agency's clearing house. The AHCPR has also worked with the Food and Drug Administration to distribute the mammography guideline to mammography facilities and with the Health Care Financing Administration to distribute the guidelines on acute pain management, urinary incontinence, and pressure ulcer prevention to hospitals and nursing homes.

The AHCPR research projects also affect dissemination. Among the dissemination-

related projects is one that involves the Medicare Peer Review Organizations in an effort to develop, implement, and evaluate quality and utilization review criteria for three guidelines. Another research project involves an interagency agreement with the Department of Veterans Affairs to test various dissemination strategies for introducing the pressure ulcer prevention guideline.

14. *Fiscal Year 1996 Budget*, p. 49, U.S. Department of Health and Human Services; and *Fiscal Year 1996 Budget Justification to OMB*, p. 25, U.S. Department of Health and Human Services. Additional budget information was provided by AHCPR to OIG in a memorandum from Jill Bernstein (OPD/AHCPR), dated April 25, 1995.

15. Please see the following articles:

Ann L. Greer, "The State of the Art Versus the State of the Science: The Diffusion of New Medical Technologies into Practice," *International Journal of Technology Assessment in Health Care*, v. 4, 1988, pp. 5 - 26.

Jonathan Lomas et al., "Opinion Leaders vs Audit and Feedback to Implement Practice Guidelines: Delivery After Previous Cesarean Section," *Journal of the American Medical Association*, May 1, 1991, pp. 2202 - 2207.

Peter J. Greco and John M. Eisenberg, "Changing Physicians' Practices," *New England Journal of Medicine*, October 21, 1993, pp. 1271 - 1274.

Roberto Grilli et al., "The Impact of Patient Management Guidelines on the Care of Breast, Colorectal, and Ovarian Cancer Patients in Italy," *Medical Care*, January 1991, pp. 50 - 63.

Jacqueline Kosecoff et al., "Effects of the National Institutes of Health Consensus Development Program on Physician Practice," *Journal of the American Medical Association*, November 20, 1987, pp. 2708 - 2013.

Margaret VanAmringe and Terry E. Shannon, "Awareness, Assimilation, and Adoption: The Challenge of Effective Dissemination and the First AHCPR-Sponsored Guidelines" *Quality Review Bulletin*, December 1992, pp. 397 - 404.

16. Institute of Medicine, Committee on Clinical Practice Guidelines, Marilyn J. Field and Kathleen N. Lohr, editors, *Guidelines for Clinical Practice: from Development to Use*, (Washington DC: National Academy Press, 1992). A discussion of the ways in which different factors affect guideline use can be found in chapter four, beginning on page 83.

17. Among the projects currently funded by AHCPR is one to assess whether aspects of the guideline-development process are associated with user perceptions of the validity, reliability, cost, and utility of the guidelines; another to model the cost impact of various guideline recommendations; and others that focus on the development of

medical review criteria based on guideline recommendations. Additional projects examine variables related to the acceptance and implementation of specific guidelines. Other projects seek to document changes in practice and patient outcomes stemming from guideline use in primary care.

18. In contrast, we anticipated that teaching hospitals, because they serve at the forefront of medical education, might be more likely to develop their own.

19. We are 90 percent confident that the percentage of organizations that have used the guidelines is between 16 and 24.

20. In *1994 HMO Performance Report,* the Group Health Association of America (GHAA) summarizes the results of its recent survey of a representative sample of 100 of its member HMOs (the Association achieved a 71 percent response rate to this survey). The GHAA found that 82 percent of its respondents (approximately 58 HMOs) encourage their providers to follow specific clinical practice guidelines and that 40.8 percent of this subset (approximately 24 HMOs) have adapted guidelines from those published by AHCPR. Thus, GHAA found that approximately 33 percent (.82 x .408) of its respondents have adapted guidelines from those published by AHCPR.

By contrast, our survey of all 80 HMOs with staff-model components found that 20 percent have used one or more of the AHCPR guidelines about which we inquired.

The difference between the findings may be accounted for by several factors:

1. The GHAA surveyed a sample of all of its member HMOs, while we surveyed only the 80 HMOs that have staff-model components.

2. The GHAA inquired about the use of AHCPR guidelines in general, while our survey focused on the use of six specific AHCPR guidelines.

3. The GHAA posed three broad questions about guideline use, while we asked twelve pages of detailed questions.

4. The GHAA's survey question asked whether or not the organizations had developed their own guidelines and, if so, whether or not these were based on the AHCPR guidelines; while we asked if organizations had "used" the AHCPR guidelines (respondents may have interpreted "used" as meaning direct application of the AHCPR materials and as excluding the adaptation of these materials for local use).

21. Certain guidelines may be of greater relevance than others to certain types of healthcare provider organizations. One would not expect that all guidelines would be used by all organizations. For example, one would not expect the guideline on sickle cell disease to be used by many nursing homes for the aged.

22. The AHCPR reports that its guidelines have been distributed to every hospital and nursing home in our survey sample. Substantial evidence demonstrates that the introduction of new technologies, including new clinical practice guidelines, is a slow and difficult process. See end note # 15 for a partial listing of relevant articles.

23. Such materials include the *Clinical Practice Guideline,* the *Patient's Guide*, and/or the *Quick Reference Guide for Clinicians*.

24. Examples of automated computer systems include those that provide clinicians with on-line access to guidelines or guideline summaries; those for concurrent reminders that can be programmed to appear on the computerized charts of patients who have appointments; those for formularies; and those for prescription, lab- or test-orders.

25. An example of a retrospective reminder is a list of patients who have not yet received the guideline-recommended care.

26. *Information Dissemination to Health Care Practitioners and Policymakers: Annotated Bibliography,* Agency for Health Care Policy and Research (AHCPR), Public Health Service, U.S. Department of Health and Human Services, April 1992, p.1.

27. The AHCPR's efforts in this domain include both its User Liaison Program meetings and a recently released guide for organizations entitled "Using Clinical Practice Guideline to Evaluate Quality of Care."