

Title: Evidence-based medicine and practice guidelines: Application to the field of
Speech-Language Pathology

Academy of Neurologic Communication Disorders and Sciences: Writing

Committee for Practice Guidelines in Dysarthria:

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Abstract

Medical speech-language pathology is turning to the tools of evidence-based medicine and practice guidelines as a means of assisting in decision making and improving the quality of services to individuals with neurologic communication disorders. Evidence-based practice is an approach to decision making in which the clinician uses the best evidence available to decide upon the option that best suits their patients. Practice guidelines are explicit statements that assist practitioners and patients to make decisions about appropriate health care for specific clinical conditions. Trends leading to a proliferation of guidelines along with a critical review of their development and application to the field of speech-language pathology are provided. Development of evidence based practice guidelines for the management of dysarthria is reviewed including descriptions of the writing committee and the panel of experts, development of the questions to be addressed, types of evidence included, and methods for rating the evidence.

Clinical practice in the field of medical speech/language pathology is filled with many decisions for every client. What type of treatment, if any, is appropriate? Is one type of treatment better than another? When should treatment or a combination of treatments be provided? Is the treatment plan effective or does it need to be altered? The list of clinical questions could go on. Clinical decision making involves taking the information at hand and developing a plan of action. The field of medicine is increasingly employing tools of evidence-based medicine (Sackett, Richardson, Rosenberg, & Haynes, 1997) and practice guidelines to assist in clinical decision making. Likewise, medical speech/language pathology is turning to these tools as a means of assisting in decision making and improving the quality of services to individuals with neurologic communication disorders.

In February 1997, the Academy of Neurologic Communication Disorders and Sciences (ANCDS) and American Speech Language Hearing Association – Special Interest Division 2 – Neurophysiology and Neurogenic Speech and Language Disorders (ASHA SID-2) co-sponsored a meeting in which visions for the future of these organizations were discussed. One of the directives coming from that conference was the goal of developing practice guidelines in the area of neurologic communication disorders. ANCDS subsequently established a committee, including the authors of this article, to develop practice guidelines in dysarthria. Other committees have been established in the areas of aphasia, apraxia of speech, dementia, and traumatic brain injury.

This article will provide an introduction to evidence-based practice guidelines including definitions, trends that lead to a proliferation of guidelines, and a critical review of their development and application in the field of medicine. The article will also provide an overview of how these clinical decision making tools can be applied to the field of medical speech/language pathology. Development of evidence based practice guidelines for the management of dysarthria is reviewed including descriptions of the writing committee and the panel of experts, development of the questions to be addressed, types of evidence included, and methods for rating the evidence. This introductory article will be followed in subsequent issues by a series of clinically focused reports designed to provide clinicians with the evidence to assist them in making appropriate management decisions.

WHAT ARE PRACTICE GUIDELINES: DEFINITIONS AND DIMENSIONS

Because evidence-based practice and practice guidelines share a common philosophy but encompass different parameters, the following section provides a description and definition of each.

Evidence-Based Practice

Evidence-based medicine has been defined as an approach to decision making in which the clinician uses the best evidence available, in consultation with the patient, to decide upon the option that suits that patient best (Muir Gray, 1997). The principles of evidence-based medicine originally conceived by academicians in Canada and the United Kingdom has also been widely recognized in the United State (Lohr, Eleazer, & Mauskopf, 1998). Appendix I contains a list of the topics from the series of tutorials on

evidence-based medicine recently published in *The Journal of the American Medical Association (JAMA)*. The term, evidence-based practice, has emerged in fields such as nursing, dentistry, and pharmacy which have joined the field of medicine in recognizing the importance of systematic evaluation and application of evidence.

Practice Guidelines

Practice guidelines are explicit statements that assist practitioners and patients to make decisions about appropriate health care for specific clinical conditions. Guidelines are based on the best available research and professional judgment (Department of Health and Human Services, 1994). Other terms have also been used to refer to guidelines. For example, appropriateness indicators have been used by the RAND Corporation to mean the service is worth performing based on whether the health benefits exceed the health risks by a sufficiently wide margin to warrant use. The American Medical Association (AMA) uses the term practice parameters (Lohr, 1995). ASHA has also defined practice guidelines as part of their preferred practice review (American Speech-Language-Hearing Association, 1998). The definitions in Table 1 suggest that practice guidelines are the most specific of these statements.

Guidelines are typically developed to address a specific issue in areas such as screening, diagnosis, selection of procedures, and selection protocol of care for a particular condition. Table 2 contains a list of topics for several types of guidelines (Hayes, 1994) and potential guidelines (in parentheses) from the field of neurologic communication disorders. Guidelines often contain algorithms or flowcharts that lead the user through an “if/then” structure. For example, the practice parameters for care of

patients with amyotrophic lateral sclerosis (ALS) present algorithms for the management of drooling, nutrition, and respiratory dysfunction (Miller et al., 1999).

Ideally, practice guidelines should be systematic and logical; defensible; practical and feasible; and clear and understandable (Lohr et al., 1998). Table 3 lists and defines a set of desirable attributes of practice guidelines that were developed by the Institute of Medicine as that agency prepared the first set of practice guidelines in 1992.

Guidelines are considered as an indication or outline of policy or conduct. They are not a rigid set of rules. In medical practice, they are placed on a scale of certainty in a position intermediate to standards and options using the following definitions (Hadorn, Baker, Hodges, & Hicks, 1996):

Standards: Accepted principles of patient management that reflect a high degree of clinical certainty.

Guidelines: A particular strategy or range of management strategies that reflect a moderate clinical certainty.

Options: The remaining strategies for patient management for which there is unclear clinical certainty.

In a recent evidence-based review of cognitive rehabilitation (Cicerone et al., 2000), cognitive-linguistic therapy was a practice standard in that it was recommended during the acute and post acute rehabilitation for persons with language deficits secondary to left hemisphere stroke. Comprehensive-holistic neuropsychologic rehabilitation was a practice guideline and was recommended during post acute

rehabilitation for persons with stroke or TBI. However, the use of memory notebooks or other external aids was considered only a practice option for persons with moderate to severe memory impairments after TBI. The review suggested that use should directly apply to functional activities, rather than as an attempt to improve memory function per se.

In summary, ideal practice guidelines should be (1) rigorous and scientific, (2) allow for decision-making about health care that involves both clinician and patients, (3) cover the full range of clinical conditions and problems, and (4) be practical, explicit, working documents, not just a lengthy compilation of the literature (Lohr, 1994). Practice guidelines are intended for use in making clinical decisions about the management of specific populations. These guidelines are not fixed protocols or lists of rules that must be followed, but provide information for clinicians to consider in developing treatment plans.

THE PROLIFERATION OF GUIDELINES

Practice guidelines are becoming more and more common. In fact it has been referred to as an expanding “industry” of secondary research (West, 2000). Figure 1 illustrates the results of a PubMed search for the heading of “practice guidelines.” Over a 10-year period, the number of citations increased from 43 in 1990 to 2315 in 1999. The following section provides a brief history of practice guidelines, a discussion of why their use has become so widespread, and some words of caution regarding the use and misuse of guidelines.

The Brief History of Guidelines

Issues related to the treatment efficacy are not new to the field of Speech/Language Pathology (Baum, Logemann, & Liliensfeld, 1998; Gallagher, 1998; Kearns & Simmons, 1990; Olswang, 1993; Olswang, 1990; Whurr, Lorch, & Nye, 1992). Our field has a long history of asking whether or not a particular intervention works. Efficacy requires that a clinical procedure benefits individuals in defined populations (often narrowly defined) when it is applied under ideal or optimal circumstances (Lohr et al., 1998). Efficacy research provides evidence that treatment works by ruling out possible alternative explanations for client change (Olswang, 1998). In the mid 1990s, ASHA published a series of review articles on treatment efficacy. Topics included dysarthria, aphasia and cognitive communication disorder secondary to traumatic brain injury (Coelho, DeRuyter, & Stein, 1996; Holland, Fromm, DeRuyter, & Stein, 1996; Yorkston, 1996). The development of practice guidelines can be viewed as an outgrowth of early treatment efficacy research in that practice guidelines systematically review treatment efficacy research in a particular area. In other words, traditional treatment efficacy research can be viewed as primary research, i.e. investigating the efficacy of a particular intervention. Development of practice guidelines is secondary research, i.e. examining the results of primary research.

The systematic development of practice guidelines is relatively new. In 1993, the first Practice Guideline was commissioned and funded by the Agency for Health Care Policy and Research (AHCPR) (now called Agency for Healthcare Research and Quality - AHRQ). In conjunction with the American Association of Health Plans and the AMA, AHCPR developed the national Guidelines Clearinghouse website dedicated to

enhancing access to the guidelines in 1998. (See Appendix II for a listing of pertinent websites.)

Impetus for Their Use

Multiple factors have spurred the development and utilization of practice guidelines, namely, increased access to published research, the need for improved delivery and outcomes of clinical services, and changes in healthcare policy.

Technology of Research Synthesis

Although not solely responsible for the trend toward evidence-based practice, technology has contributed substantially to the ability to find and synthesize treatment efficacy research. Garrard's review of the history of research synthesis suggests that three important developments occurred in the 1970s (Garrard, 1999). The first was the launching in 1971 of MEDLINE, an electronic database of the scientific literature in medical and other health related journals. The second development came in the mid-1970s with introduction of reasonably priced personal computers that provided word processing software and efficient access to bibliographic databases. The final development was meta-analysis that provided a statistical means of summarizing results of multiple studies on the same topic (Glass, 1976). Taken together these trends allow the academician to find, interpret, and synthesize information from a growing number of research publications.

Improving Quality of Healthcare Services

Perhaps the primary goal of practice guidelines is to improve the quality of service. Proponents suggest that practice guidelines serve to: insure equality of service and decrease variations in practice, improve the quality of services, identify the most cost-effective intervention, prevent unfounded practices, and stimulate needed research (Johnston, Maney, & Wilkerson, 1998). Generally, services are judged along two dimensions, the strength of direct evidence in support of the service or management strategy and the degree of expert consensus on the benefits of the intervention. Somewhat surprisingly, most medical services are not supported by strong evidence or consensus. The Institute of Medicine (IOM) guidelines committee found that for perhaps 4% of all health services, the scientific evidence is strong; for perhaps 45% of patient care, the evidence is modest; and for another 51% the evidence is very weak or non-existent (Institute of Medicine (U.S.). Committee on Clinical Practice Guidelines, 1992).

Another driving force for practice guidelines is to prevent unfounded practices. The following example is taken from the Post-Stroke Rehabilitation Practice Guidelines developed by the Agency for Health Care Policy and Research (AHCPR) (Gresham et al., 1995). The following quotation refers to the issue of neuromuscular facilitation techniques, “neither research evidence nor expert consensus adequately supports the superiority of one type of exercise regimen or another” (Lohr, 1994, p. 20). Further, the guidelines offered this opinion, “There is no evidence supporting the superiority of neuromuscular facilitation over traditional physical therapy. Since the former is more labor intensive and more expensive, objective proof of greater effectiveness is needed to justify the greater costs” (Lohr, 1994, p. 20).

A further argument in favor of developing practice guidelines is that they would stimulate needed research (Stason, 1997). The ALS practice parameters list a series of research recommendations for the topics that they reviewed (Miller et al., 1999). For example, in the area of nutritional management, the list included measurement of the effect of percutaneous endoscopic gastrostomy (PEG) on survival and quality of life in ALS. Another recommendation included studying the decision-making process to understand which factors are important to the patient.

Changes in Healthcare Policy

The cost of and access to care have become key issues in health policy. Although evidence-based practice and practice guidelines are aimed chiefly at clinicians, they have also been of growing interest to policymakers, payers and purchasers, and patients. See Lohr, Eleazer and Mauskopf (1998) for an excellent review of health policy issues and clinical practice guidelines.

The implementation of practice guidelines is requisite to achieving equality of service. Variation in the practice of medicine suggests that patients in some areas are not receiving all needed services, while others are receiving unnecessary services (Hayes, 1994). This variability in service has been documented in stroke rehabilitation (Forbes, Duncan, & Zimmerman, 1997). Chart reviews suggest considerable variation on a number of criteria such as rehabilitation goals, treatment plans, secondary stroke prevention, and client/family education across nursing facilities, inpatient rehabilitation facilities, and home health settings.

Practice guidelines may also play a role in financial planning. Despite the rather weak evidence for most medical interventions, health plans are beginning to use practice guidelines. Disciplines such as neurology have concluded that they “cannot postpone defining appropriate care for patients even if existing treatment data are incomplete or ambiguous” (Ringel & Hughes, 1996). Although there are differences of opinion about whether or not cost-effectiveness should be a part of practice guidelines, there are strong arguments for NOT including them. For example, the IOM committee concluded that the “guidelines need not be based on formal judgments of cost-effectiveness and can stand on rigorous assessments of clinical evidence and carefully derived expert judgment. In view of the enormous gap in our understanding of the true costs of care and thus the cost-effectiveness of most of what we do today, this is probably the only sensible, practical stance that can be taken at this time” (Lohr, 1994).

The move toward evidence-based practice is affecting healthcare policy in areas pertinent to speech/language pathology. Beginning in January of 2001 Medicare lifted its national ban on the purchase of augmentative and alternative communication (AAC) technology for persons who are Medicare eligible. This action was taken by the Health Care Finance Authority (HCFA) in response to an evidence-based application. The application contained an extensive summary of the published evidence base regarding AAC intervention for persons with severe communication disorders and the documentation of the preparation of the speech-language pathology and the medical professions to implement the policy. The appendix to the Application contained copies of data-based articles and authoritative writing (chapters and articles) that supported the evidenced-based summary. There is a Regional Medical Review Policy that currently

guides Medicare's implementation of the new policy to purchase AAC devices for eligible beneficiaries. This policy reflects the ability of the field to demonstrate evidence-based practices in the area of ACC.

Words of Caution

Practice guidelines are important and worthwhile. However, the trend toward a critical review of the evidence is not without critics. Editorials are beginning to emerge that caution against taking critical appraisal to extremes. Woolf (2000) sums up the need for caution as follows,

The scrutiny of evidence should not be taken to extremes, to the point that studies are rejected for being imperfect when there is little likelihood that the findings are wrong. By making the perfect the enemy of the good, excesses in critical appraisal do injustice to the goal of helping patients and imply existence of a level of certainty that science cannot provide.

(Woolf, 2000) (page 12)

Words of caution are especially important if one is adapting guideline development from the field of medicine to a field such as ours where much of intervention is behavioral. The following section will summarize some of the caveats that are pertinent to the development and implementation of evidence-based practice guidelines to the field of medical speech/language pathology.

Reliance on a Single Indicator of Study Quality

Many of the practice guidelines in the field of medicine place a marked emphasis on one type of research, randomized controlled trials. For example, some sources such as The Cochrane Collaboration, an electronic library of clinical literature, reviews only RCTs. The aim of this center is to register all completed and continuing RCTs, to combine the results of trials, and to produce regularly updated systematic review (Byng, van der Gaag, & Parr, 1998). RCTs are considered to be the “gold standard” of research by the Cochrane Collaboration and are referred to as Experimental or Class I evidence. Case-control studies, cohort studies, or program evaluations are examples of quasi-experimental or Class II evidence given the non-random assignment to intervention or control groups. In Non-experimental or Class III studies, there is not clear comparison group. Examples include case studies, registries and data bases (Frattali, 1998).

The following statement appears in a recent Cochrane review of therapy for aphasia: “The main conclusion of this review is that speech and language therapy treatment for people with aphasia after a stroke has not been shown either to be clearly effective or clearly ineffective with a RCT” (Greener, Enderby, & Whurr, 2000). Statements such as this should be taken literally to mean that RCT studies are not available. They should not be taken to mean that there is no evidence or consensus for the benefits of a particular intervention.

Reliance on a single indicator of study quality is coming under scrutiny at least in part because such a system may not be appropriate for all fields, especially fields that are less oriented toward RCTs than medicine has traditionally been. For example, Lohr

and colleague state, “Increasingly, experts recognize that study design alone is an insufficient guarantor of high quality data, and grading schemes based solely on study design are likely to become less acceptable over time.” (Lohr et al., 1998) (p. 11). Many grading systems are now being developed. For example, the American Psychological Association (APA) has suggested a rating scheme that evaluates the strength of evidence for behavior studies by asking a series of questions. How well are the subjects described? How well is the treatment described? What measures of control are imposed in the study? Are the consequences of the intervention well described?

Dealing with Heterogeneous Populations

Individuals with neurologic communications disorders are strikingly heterogeneous, despite commonly used labels of convenience such as ataxic dysarthria and Broca’s aphasia. The variability inherent to our clients, and to the treatment approaches required to address the specific constellation of deficits, argues for experimental research designs that will reflect this heterogeneity, rather than mask it. RCTs would require group comparisons of two treatments (or a treatment versus informal support, for example). The use of group treatments studies, and particularly RCTs, to demonstrate the efficacy of behavioral therapy is problematic for several reasons:

- (1) RCTs require a larger number of patients than is typically feasible in most clinical/research settings.
- (2) RCTs bury individual variation (Cook, 1996; Solodky, Chen, Jones, Katcher, & Neuhauser, 1998; Streiner, 1998).
- (3) Generalization of positive treatment results from a group study to an individual client is predictably tenuous (Aeschleman, 1991; Carney et al., 1999) [(Solodky et al., 1998; Streiner, 1998).

- (4) The application of a standard clinical treatment protocol may eliminate the best approach available for clients, that is, individualized, strategic modification of treatment (Carney et al., 1999; Streiner, 1998).

Alternatively, experimental methodologies appropriate for behavioral therapy, such as single-subject or multiple-baseline research designs, have demonstrated utility in the field of speech/language pathology (Robey, McCallum, & Francois, 1999), as well as areas such as rehabilitation psychology (Aeschleman, 1991) and psychiatry (Streiner, 1998). Single-subject research designs establish a defense against threats to internal validity and possess greater external validity than is logistically possible based on analysis of group differences (Aeschleman, 1991). Statistical analysis of treatment effects is possible through tests of significance such as ITSACORR (Interrupted Time-Series Analysis) (Crosbie, 1993) and provides an essential complement to the traditional visual inspection of data.

Incomplete Base of Evidence

No field of medicine has a research literature that is sufficiently current and complete to answer all questions about clinical practice. Even those fields that traditionally rely on the highest standards of evidence, randomized controlled trials, have important gaps in evidence. RCTs may overlook important patient populations such as women, older individuals and so on. Not all sources of information are readily accessible through electronic searches. These sources are called the “gray literature” (Lohr et al., 1998) and include references listed in primary sources, studies that are in progress, internal reports, and non-peer reviewed journals. Expert opinion is often needed to evaluate the quality of this type of literature.

Not All Guidelines Are Well Done

Caution should be exercised in adhering to practice guidelines because not all guidelines (especially the older ones) are clearly written (Lohr et al., 1998). If they are too vague they are not useful and if they are too specific they may not apply to individuals patients who may differ from the norm. Recently, researchers have turned to studying collections of practice guidelines. For example, Grilli and colleagues completed a ten year survey (1988-1998) of published practice guidelines and looked for (1) a description of stakeholders (67% did not report), (2) information on searches (88% did not report), explicit grading of strength of recommendation (82% did not provide) (Grilli, Magrini, Penna, Mura, & Liberati, 2000). Guidelines published in the peer-reviewed medical literature during the past decade do not adhere well to established methodological standards. While all areas of guideline development need improvement, greatest improvement is needed in the identification, evaluation, and synthesis of the scientific evidence (Shaneyfelt, Mayo-Smith, & Rothwangl, 1999)

EVIDENCE-BASED PRACTICE GUIDELINES IN SPEECH/LANGUAGE PATHOLOGY

While a systematic review of evidence can only strengthen our field and help to identify areas of future research, the ANCDs writing committee practice guidelines in dysarthria is aware of the hazard of this project. With both the benefits and pitfalls in mind, we are embarking on a process of development of a series of evidence-based practice guidelines. The first of these guidelines will appear in the following issues of

this journal. This section outlines the process and procedures undertaken for development of each guideline.

Phases of Development

The way guidelines are developed can strongly affect their potential for effective use. Development can be viewed as a process of translating evidence into recommendations. The procedures for developing guidelines typically follow a sequence such the one used in rehabilitation of stroke (Trombly, 1995).

The Writing Committee

ANCDS appointed a writing committee including authors of this paper. In the area of dysarthria, the composition of the committee represented a broad range of experience in the diagnosis and treatment of children and adults with dysarthria. Individuals represented clinical practice sites in departments of neurology and rehabilitation medicine and academic programs. Clinical experience reflects a wide range of health care sites including a range from acute medicine services to outcome services. Members were selected because of their expertise in third party funding, administration of rehabilitation and health policy.

Developing the Questions

The writing committee was convened to develop a list of clinical questions that would be appropriate for the development of practice guidelines. Topics were selected for a number of reasons including variations in practice, the prevalence and severity of the problems, and the existence an adequate body of scientific evidence on which to base

the recommendations. The initial topic selected was the management of the velopharyngeal system, given the disparity of treatment approaches, especially related to the fitting of palatal prostheses. Additionally, velopharyngeal dysfunction is common in dysarthria and complicates all aspects of speech production. Finally, the literature reflected a continuous stream of research that dated back to the 1960s.

Searching the Literature

A number of electronic databases were searched including PsycINFO (covering 1300 journals), MEDLINE (covering 3900 journals), and CINAHL (covering 600 journals in nursing and allied health professions). In addition to these electronic searches, hand searches of relevant edited books in the field of dysarthria and ancestral searches of extant references (e.g., studies cited within an article or chapter) were conducted. The decision to search for and include data published in the “gray literature” was based on the conviction that our panel of experts would develop and employ a rigorous procedure for rating the evidence. Thus, we did not wish to restrict the searches to a particular form of study or type of literature, rather, the goal was to evaluate a broad range of literature. Criteria for inclusion and exclusion of various studies will be explicitly stated in each of the practice guidelines.

Rating of Evidence

The development of practice guidelines is based on evidence of treatment effectiveness. Rating of the quality of evidence is a difficult task. “It is still far from clear, however, exactly what counts as evidence and, even murkier, what weight to assign to different types of evidence (Hadorn et al., 1996).” In many areas of behavioral

intervention, including neurologic communication disorders, direct evidence in the form of prospective, randomized controlled trials, is simply not available. When this is the case, an approach that allows appropriate structuring of the relationship between the intervention and outcome will identify indirect evidence that must be synthesized to estimate the effect of an intervention on a health outcome. Decision models have been suggested in order to provide a mechanism for linking interventions to outcomes when direct evidence is not available (Owens & Nease, 1993).

The strength of evidence in each article was rated according to a scheme adapted from one developed by the American Psychological Association (Chambless & Hollon, 1998). This scheme rates the strength of evidence for behavioral intervention studies by asking a series of questions such as the following:

How well are the subjects described? We answered this question by noting the presence or absence of 18 subject characteristics similar to those described elsewhere (Strand & Yorkston, 1994). We also noted the candidacy requirements explicitly stated in the article.

How well is the treatment described? We answered this question by identifying the rationale for the intervention and rating the replicability of the intervention. An intervention technique was considered replicable if a knowledgeable person could duplicate the treatment. To meet this criterion, one of the following **must** have been provided in the article: (1) information regarding a procedural manual, (2) an available reference for the treatment procedure, or (3) a sufficiently detailed description of the methods, including specifics about the intensity and frequency of treatment. Articles that

did not meet the criteria for replicability were rated as either generally or incompletely replicable.

What measures of control are imposed in the study? We answered this question by noting whether information was provided regarding the reliability and stability of the measures of the outcome (e.g., inter- or intra-rater reliability, dispersion of judging scores, comparison of measures to a gold standard, and so on.). We also noted support for internal validity, for example, outcome measures obtained with and without the palatal lift intervention, or improved speech performance with intervention in the face of a progressive disorder. Presence of a comparison or control group was also noted.

Are the consequences of the intervention well described? We answered this question by identifying the measures of outcomes at the levels of impairment, activity limitation, and restriction in participation. We also noted the risks and complications of the interventions that were described.

The Panel of Experts

In addition to evidence from the scientific literature, practice guidelines also include evidence from expert opinion. This type of evidence can be classified according to its strength (Trombly, 1995). Strong consensus is defined as agreement among 90% or more of the panel members and expert reviewers; or simple consensus is defined as agreement among 75% to 90% of panel members and expert reviewers. In order to supplement the opinion of the writing committee, a draft of the technical report was distributed to members of ANCDS who volunteered to review the document and to a list of experts from outside the organization's membership. This expert panel was asked to

comment on the development process, the table of evidence and the clinical decision-making flowchart. The responses of these experts are including in the full of the technical report.

Future Work

Dissemination of Practice Guidelines

In order to effect a change in practice, guidelines must be distributed widely to various constituencies, in a variety of different formats. ANCDs, in association with ASHA and the VA, will prepare the following documents:

Technical Reports: A report will be prepared for each practice guideline that contains the process used in development of the guidelines, the literature reviewed, a detailed explanation of the rationale for the recommendations, a discussion of policy issues, and recommendations for a research agenda. These reports will be made available through the ANCDs and ASHA websites.

Clinical Focus Articles: A series of clinical practice guideline, which is a abbreviated version of the technical report and emphasizes guidance for practitioners in the form of decision making flowcharts, will be published in this journal.

A client and family member guide. At the completion of the series of practice guidelines for dysarthria, each topic will be summarized in a 1 – 2 page

information sheet appropriate for patients, family and primary care physicians.

Future Practice Guidelines in Dysarthria

A series of practice guidelines on topics related to dysarthria are currently under development. Other modules will follow including behavioral management of respiratory/phonatory impairment, surgical and pharmacological management of phonatory impairment, intervention focusing on speech function (including techniques to modify speaking rate and naturalness), and supplemented speech (including alphabet supplementation, gestures and so on).

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Table 1. Practice guidelines as part of the preferred practice review (American Speech-Language-Hearing Association, 1998).

Scope of Practice Statement: A list of professional activities that defines the range of services offered within the profession of speech-language pathology.

Preferred Practice Patterns: Statements that define universally applicable characteristics of activities directed toward individuals patient/clients and that address structural requisites of the practice, processes to be carried out, and expected outcomes.

Position Statements: Statements that specify ASHA's policy and stance on a matter that is important not only to the membership but also to other outside agencies or groups.

Practice Guidelines: A recommended set of procedures for a specific area of practice, based on research findings and current practice, that details the knowledge, skills and/or competencies needed to perform the procedures effectively.

Table 2. Examples of practice guidelines (Hayes, 1994).

Types of Practice Guidelines	Examples from Medicine	Potential guidelines for Medical Speech/Language Pathology
Screening and prevention	Screening for diminished visual acuity in children	Screening stroke patients on acute rehabilitation units for hearing loss
Diagnosis and pre-diagnosis management	Triage of injured patients	Procedure for differential diagnosis of patients in a Neurology Clinic
Indicators for use of surgical procedures	Indicators for carotid endarterectomy	Indicators for phonosurgery in cases of vocal fold paralysis
Appropriate use of specific technologies and test aspart of clinical care	Using autologous or donor blood for tranfusion	Palatal lift versus surgery for neurologic velopharyngeal dysfunction
Guidelines for care of clinical conditions	Deciding on treatment for low-back pain	Deciding on treatment for dysarthria

Table 3. A listing of the desirable attributes of clinical practice guidelines (Institute of Medicine (U.S.). Committee on Clinical Practice Guidelines, 1992).

Validity: Practice guidelines are valid if, when followed, they lead to the health and cost outcomes projected for them. A prospective assessment of validity will consider the substance and quality of the evidence cited, the means used to evaluate the evidence, and the relationship between the evidence and recommendations.

Strength of evidence: Practice guidelines should be accompanied by descriptions of the strength of the evidence and the expert judgment behind them.

Estimated outcomes: Practice guidelines should be accompanied by estimates of health and cost outcomes expected from the intervention in question, compared with alternative practices. Assessment of relevant health outcomes will consider patient perceptions and preferences.

Reliability/reproducibility: Practice guidelines are reproducible and reliable (1) if, given the same evidence and methods for guideline development, another set of experts produces essentially the same statements, and (2) if, given the same clinical circumstance, the guidelines are interpreted and applied consistently by practitioners.

Clinical applicability: Practice guidelines should be as inclusive of appropriately defined patient populations as evidence and expert judgment permit, and they should explicitly state the population(s) to which statements apply.

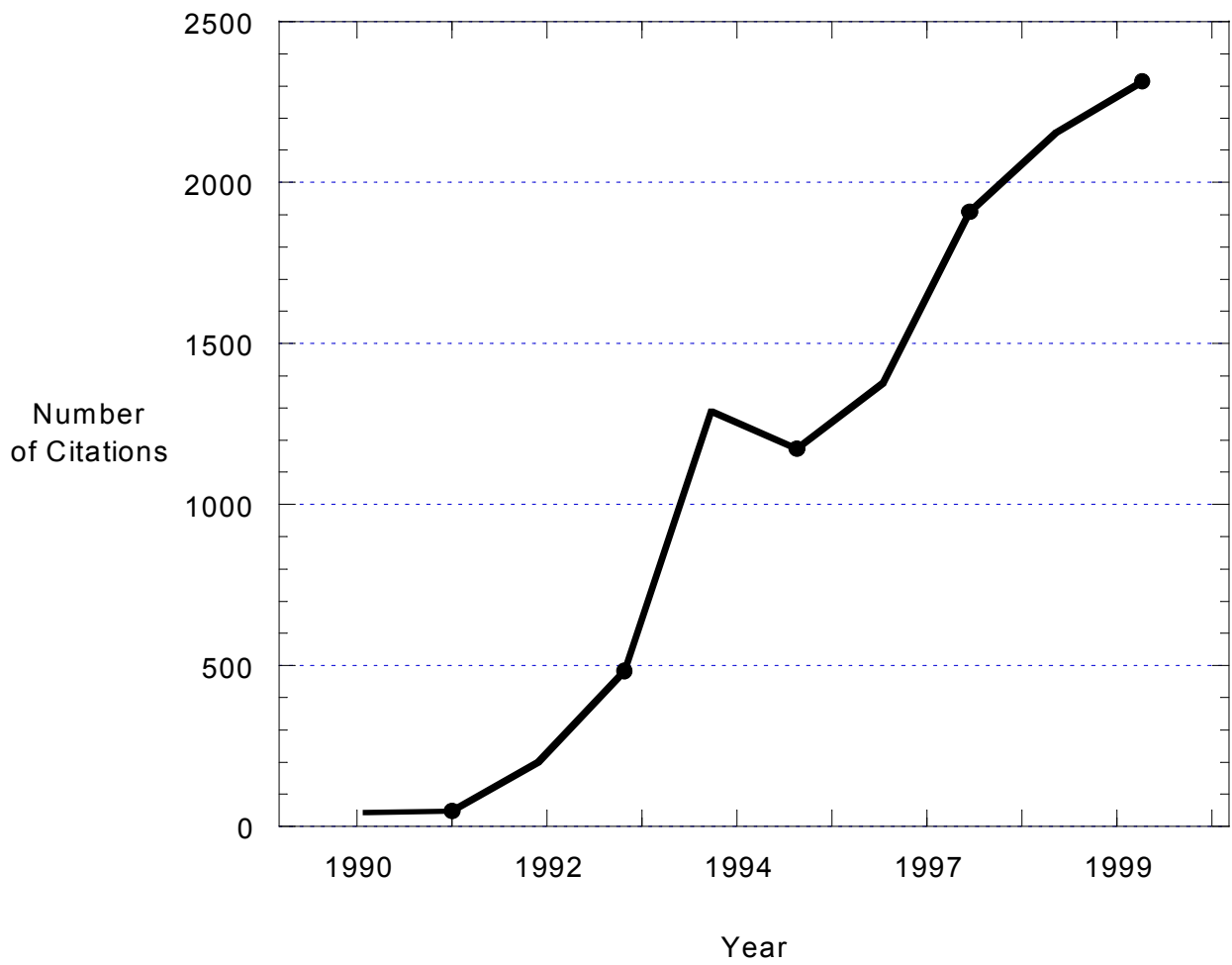
Clinical Flexibility: Practice guidelines should identify the specifically known or generally expected exceptions to their recommendations and discuss how patient preferences are to be identified and considered.

Multidisciplinary process: Practice guidelines must be developed by a process that includes participation by a representative of key affected groups. Participation may include serving on panels that develop guidelines, providing evidence and viewpoint to the panel, and reviewing draft guidelines.

Scheduled review: Practice guidelines must include statements about when they should be reviewed to determine whether revisions are warranted, given new clinical evidence or professional consensus (or lack of it).

Documentation: The procedures followed in developing guidelines, the participants involved, the evidence used, the assumptions and rationales accepted, and the analytic methods employed must be meticulously documented and described.

Figure 1. The number of citations in PubMed under the heading of Practice Guidelines from 1990 through 1999.



Appendix II. Websites pertinent to evidence-based practice and practice guidelines.

Academy of Neurologic Communication Disorders and Sciences (ANCDS): website:

<http://www.duq.edu/ancds/>

Agency for Healthcare Research and Quality (AHRQ) (Formerly: Agency for Health Care Policy and Research – AHCPR): Created by the U.S. Congress in 1989 to foster research in health care outcomes and to support the development of clinical practice guidelines. Website: <http://www.ahrq.gov/>

Cochrane Collaboration: The Cochrane Library is an electronic library of systematic reviews of the clinical literature created and maintained by the Cochrane Collaboration. In 1992, a nonprofit organization, the Cochrane Centre, was created in Oxford, England, in response to concerns expressed 20 years earlier by Archie Cochrane, a British epidemiologist. The Cochrane Collaboration is an international, voluntary, collaborative effort to provide systematic and critical reviews of randomized controlled trials in health care. Website:

<http://www.cochrane.co.uk/>

Evidence-based practice: The basic concepts of evidence based medicine were conceived by a group of academicians at McMaster University in Hamilton, Ontario, led by Professor G.H. Guyatt; web site: <http://hiru.mamaster.ca/>. A website that provides a wide array of resources for exploring evidence-based practice can be found at: <http://www.shef.ac.uk/~scharr/ir/netting/>

Institute of Medicine: Chartered in 1970 as part of the National Academy of Science, a private nonprofit society devoted to promoting science and technology and their use for the general welfare. Website: <http://www.iom.edu/>

National Guideline Clearinghouse. In 1998, Agency for Healthcare Research and Quality (AHRQ) along with the American Association of Health Plans and the AMA developed this website in order to enhance access to practice guidelines. Website: <http://www.guideline.gov/index.asp>

Appendix I.

JAMA: Users' Guide Series: Evidence-based Medicine Working Group

Year	Volume (Issues): Page #s	Topic
1955	273(16):1292-5	VII. How to use a clinical decision analysis. A. Are the results of the study valid?
1993	270(17):2096-7	Users' guides to the medical literature.
1993	270(21):598-601	II. How to use an article about therapy or prevention. A. Are the results of the study valid?
1994	271(1):59-63	II. How to use an article about therapy or prevention. B. What were the results and will they help me in caring for my patients?
1994	271(5):389-91	III. How to use an article about a diagnostic test. A. Are the results of the study valid?
1994	271(9):703-7	III. How to use an article about a diagnostic test. B. What are the results and will they help me in caring for my patients?
1994	271(20):1615-9	IV. How to use an article about harm.
1994	272(3):234-7	V. How to use an article about prognosis.
1994	272(17):1367-71	VI. How to use an overview.
1995	273(20):1610-3	VII. How to use a clinical decision analysis. B. What are the results and will they help me in caring for my patients?
1995	274(7):570-4	VIII. How to use clinical practice guidelines. A. Are the recommendations valid?
1995	274(20):1630-2	VIII. How to use clinical practice guidelines. B. what are the recommendations and will they help you in caring for your patients?
1995	274(22):1800-4	IX. A method for grading health care recommendations.
1996	275(7):554-8	X. How to use an article reporting variations in the outcomes of health services.
1996	275(18):1435-9	XI. How to use an article about a clinical utilization review.
1997	277(15):1232-7	XII. How to use articles about health-related quality of life?
1997	277(19):1552-7	XIII. How to use an article on economic analysis of clinical practice. A. Are the results of the study valid?
1997	277(22):1802-6	XIII. How to use an article on economic analysis of clinical practice. B. What are the results and will they help me in caring for my patients?
1998	279(7):545-9	XIV. How to decide on the applicability of clinical trial results to your patient.
1999	281(13):1214-9	XV. How to use an article about disease probability for differential diagnosis.
1999	281(19):1836-43	XVI. How to use a treatment recommendation.
1999	281(21):2029-34	XVII. How to use guidelines and recommendations about screening.
1999	282(1):67-74	XVIII. How to use an article evaluating the clinical impact of a computer-based clinical decision support system.

- 1999 282(8):771-8 XIX. Applying clinical trial results. A. How to use an article measuring the effect of an intervention on surrogate end points.
- 1999 282(14):1371-7 XIX. Applying clinical trial results B. Guidelines for determining whether a drug is exerting (more than) a class effect.
- 2000 283(14):1875-9 XXI. Using electronic health information resources in evidence-based practice.
- 2000 283(21):2829-36 XX. Integrating research evidence with the care of the individual patient.
- 2000 284(1):79-84 XXII. how to use articles about clinical decision rules.
- 2000 284(3):357-62 XXIII. Qualitative research in health care A. Are the results of the study valid?
- 2000 284(4):478-82 XXIII. Qualitative research in health care B. What are the results and how do they help me care for my patients?
- 2000 284(7):869-75 XXIV. How to use an article on the clinical manifestations of disease.
- 2000 284(10):1290-6 XXV. Evidence-based medicine: principles for applying the Users' Guides to patient care.

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