PART VI

Research Findings and Nursing Practice
CHAPTER 17

Communication and Utilization of Nursing Research

OUTLINE

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Summary

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OBJECTIVES

On completion of this chapter, you will be prepared to:

1. Discuss the preparation of a research report
2. Describe two means of presenting research results at professional meetings
3. Explore the steps in publishing a journal article
4. Recognize the responsibility for preparing a research report for an agency that has provided funds for a study
5. Discuss theses and dissertations as means of presenting research results
6. Elaborate on the need for utilization of nursing research findings
7. Recognize the barriers to nursing research utilization
8. Discuss measures that have been taken to facilitate nursing research utilization
9. List the five stages in Rogers’s innovation-diffusion model
10. Recall the five phases of Stetler’s model for research utilization
11. Discuss a research utilization study conducted in the past 5 years

NEW TERMS DEFINED IN THIS CHAPTER
blind review  peer review
call for abstracts  query letters
galley proofs  refereed journal
nonrefereed journal  research report
open review process

Your research project is completed, and you have been asked to present your study results at a national research conference. Does this sound like delusions of grandeur? Maybe so, but it is hoped that some day you will present the results of a study you have conducted. Once a researcher has completed a study, plans should be made to communicate or disseminate the results. In fact, these plans should be made before the beginning of the project. A research project is really not completed unless the findings have been communicated to others.

Winslow (1996) made a plea for nurses to publish the findings of their studies. She wrote that failure to publish study findings, in her opinion, is a form of scientific misconduct. Those are strong words!

Patricia Grady, director of the National Institute of Nursing Research, referred to the old saying that “research not published is research not done” (Grady, 2000, p. 54). She reported that reviewers of research applications are looking more closely at the number and type of publications that have emerged from an applicant’s previous funding before considering awarding funds for another study by this same investigator.

Although the communication of research findings is frequently considered to be the last formal step in the research process, it is only the beginning of the most important phase of research—the utilization of research findings. Therefore, in this edition of the book, I have added utilization of research findings as the final step of the research process. If research findings are not used, the conduct of research becomes a wasted effort. Nurse researchers need to exert as much effort in implementing research findings as they do in conducting research in the first place. This chapter discusses various means of communicating nursing research findings and promoting their utilization.

COMMUNICATION OF NURSING RESEARCH FINDINGS
There are two major ways for researchers to communicate the results of their studies. They can talk about them or write about them.

A nurse researcher might begin by presenting study results to peers. Next, this researcher might attend a research conference at which study results are discussed in an oral presentation or in a poster session. As a next step, study results might be
published in a journal article. If funding has been received for a research project, the researcher probably will be required to submit a written report of the study to the funding agency. Finally, many researchers are pursuing advanced degrees and will present their research results in the form of theses and dissertations.

In an editorial in *Applied Nursing Research*, Joyce Fitzpatrick (2004) called for individual researchers to distribute copies of their own research articles to their colleagues, to nursing students, and to those public figures who make key decisions about health care delivery. Fitzpatrick voiced surprise at how eager legislators are for new solutions and new ways to address health care issues.

Although researchers have the prime responsibility of communicating the findings of their studies, other nurses and nursing organizations also bear the responsibility of seeing that research findings are distributed inside the nursing profession, to other health care professionals, and even to the general public.

**Preparing a Research Report**

A **research report** is a written or oral summary of a study. No research project is complete until the final report has been written. Even when a verbal presentation is planned, the research report should be written out in its entirety.

Writing is not easy. Hegyvary (2005) has contended that effective writing is not an innate skill. She said that this skill, like any skill, must be continually polished. Of course, that takes time. As Schilling (2005) asserted, writing is not our primary job. It is either something we as nurses are required to do if we work in an academic setting or something we do in addition to our clinical or administrative jobs.

Effective writing is the result of planning and organization before writing begins. Good writing should be clear, accurate, and concise. Technical or scientific writing is not meant to be humorous or entertaining, but it is also should not be dull. The results of a study should be presented in an interesting and informative manner.

The research report should be presented in the order of the research process, beginning with the problem of the study and ending with conclusions, implications, and recommendations for future studies. The major part of the research report is written in the past tense because the study has already occurred. Hypotheses and conclusions are written in the present tense, and the implications and recommendations are directed toward the future.

**Presenting Research Results at Professional Conferences**

Many nurse researchers give first consideration to nursing journals as a publication medium for their research results. However, the time delay for publication of a report in a journal may be 2 years or longer. Presentations of research findings at local, regional, and national conferences promote more rapid distribution of study results. Nurses should present their research results at nursing conferences as well as at interdisciplinary conferences.

The two ways to disseminate research results at professional conferences are oral presentations and poster presentations. Traditionally, oral presentations have been used most frequently, but in the last 15 to 20 years, poster presentations have increased in popularity.
Nurses have many opportunities to present their study results at research conferences and seminars. Nursing organizations such as the American Nurses Association and Sigma Theta Tau sponsor research seminars. Many nursing schools and regional nursing associations sponsor research conferences. Some organizations make special provisions for presentations by students.

Potential participants are contacted through a call for abstracts, a request for a summary of a study that the researcher wishes to present at a conference. These requests are published in professional journals and distributed to educational institutions, health care agencies, and potential participants whose names have been obtained through the mailing lists of professional organizations. Notices of research conferences are generally distributed 6 to 12 months before the event.

Each conference or seminar will provide special guidelines for presenters and deadlines for submission of abstracts. The required length of the abstract varies from 50 to 1,000 words, but many have a 200- to 300-word limit. Abstracts should contain the purpose, research question(s) or hypothesis(es), design, methodology, major findings, and conclusions. If the research is still in progress, the last two items are not required. Abstracts will be evaluated, and participants will be notified about the selection decisions.

Generally, those individuals selected to be presenters at conferences receive no pay and are required to cover their own travel expenses. Sometimes the conference registration fee is waived or reduced for participants. A commitment to nursing research is a prime motivator for participants. Of course, personal recognition is also a reward.

Presenting a Research Paper

The oral presentation of a research report is usually referred to as a paper presentation. The word paper is used because the report of the study has been written out on paper and is referred to or read by the investigator during the presentation. Guidelines for paper presentations are found in the literature. In an article in *Applied Nursing Research*, Miracle and King (1994) presented guidelines for both paper presentations and poster presentations.

If the principal investigator is unable to attend the conference, a co-investigator or another person familiar with the study presents the paper. A written report of the study will be necessary if the proceedings of the conference are to be published.

Presenting research results at a conference has advantages over publishing the findings in a journal article. First, the investigator has the opportunity to present findings that are recent. Because of the time lag in publishing, research presented in journals may be outdated when it is printed. Second, the researcher will have the opportunity to interact with those people who are interested in the study and will be able to locate other researchers who are studying the same or similar phenomena.

Although many presentations are read directly from the research paper, more interest is created when an outline is used and the presenter communicates with the audience informally. The use of audiovisual aids, such as slides and PowerPoint displays, greatly enhances a presentation. Audiences usually appreciate written handouts in the form of abstracts or summaries of the study.

A presenter is usually allotted 15 to 30 minutes. At some conferences, additional time is allocated for questions. At other conferences, the presenter may have to allow
time for questions if questions are desired. Even when no time remains for questions or certain members of the audience do not get a chance to ask their questions, presenters are usually willing to respond to questions during break times or after the conference.

The format of the oral presentation is similar to that of a journal article or other written presentation of the study, in that the steps of the research process are usually presented in chronological order. The main difference lies in the condensation of the material to fit the time constraints of the conference. Some presenters prefer to attract the attention of the audience by reporting the findings first, proceeding with the other parts of the study, and then returning to discuss the findings in more detail later in the presentation. The review of the literature is usually not discussed in detail, and only pertinent studies are mentioned.

Generally, conference organizers distribute evaluation sheets so the audience may rate each presenter. The presenter should try to read the evaluations with an open mind. Although 99 of 100 comments may be favorable, the presenter probably will react most strongly to that one unfavorable comment. One colleague was devastated when reading a comment given to her after a presentation. The comment read, “You forgot to take the price tag off your dress sleeve.” She was able to laugh about it later, but she was thoroughly embarrassed at the time.

**Presenting a Research Poster**

An increasingly popular way to present research results is through poster presentations. This visual method of presentation may be seen by a large number of people in a short time period.

At a poster session, the presenters usually remain with their posters and interact with the viewers. Posters appeal to those who want to get a general overall view of the many research studies being conducted by nurses. Because of time constraints, a research conference participant can only attend a few oral presentations in a 1- or 2-day research conference. However, it is possible to view a fairly large number of posters in just an hour or two.

Poster sessions generally are held during research conferences where oral presentations are also given. Usually, 1 or 2 hours of the conference are devoted to posters. Occasionally, educational institutions and clinical agencies hold research conferences in which the only method of presentation is through posters. If posters are placed in a hallway in a clinical setting, patients, their visitors, and the nursing staff can view the materials at their leisure.

Research poster sessions are an excellent way for beginning researchers to get their feet wet as it were. This type of presentation does not seem as scary as the idea of standing up in front of an audience and discussing a study orally.

The size of the posters varies according to different research conference requirements. Many conferences are held in hotels, and the size of the assigned rooms may dictate the number and size of the posters. A common poster size is 4 feet by 8 feet. If a poster is displayed on a table, some type of support is needed to make the poster stand erect. Commercial products may be purchased or a support can be built out of materials such as plastic foam blocks or wooden wall moldings. When posters must be transported long distances, such as by airplane, care should be taken that the poster does not get dirty or bent.
Careful consideration should be given to the construction of posters. Technical help may be sought from a graphic artist, or researchers may design and construct their own posters. The poster should not appear as if it had been thrown together at the last minute or constructed by a group of young cub scouts. The initial view of the poster is important. Attractive color combinations should be used. Some examples that have been found to be eye catching are black on tan, white on blue, and white on black. Size, thickness, and color of the poster board may be determined after visiting an art store.

Posters should contain the research problem statement, hypothesis(es) or research question(s), a description of the sample, the methods, the findings, and major conclusions. Diagrams, graphs, and tables are effective means of presenting certain aspects of the study, such as the findings.

It is better not to place too much material on a poster. A cluttered poster distracts the viewers or, worse yet, causes them to pass by the poster because they think it will take too long to decipher the meaning of all of the material. Berg (2005) has called for the material to be arranged and rearranged until the poster is appealing to the eye.

The major titles on the poster should be in large letters, at least 1 inch high. Viewers need to be able to see these letters from about 3 feet away. Typed material should be prepared with large letters. Many computer software programs have this capability. Letters also may be prepared freehand, with the use of a stencil or vinyl adhesive letters.

Many excellent sources in the literature discuss the process of constructing a poster (Berg, 2005; Fowles, 1992; Miracle & King, 1994; Moore, Augspurger, King, & Proffitt, 2001; Rempusheski, 1990; Ryan, 1989; Sexton, 1984; Taggart & Arslanian, 2000).

Make it a point to attend poster sessions. These sessions are an excellent source of research information, particularly for beginning researchers.

**Publishing a Journal Article**

The growth of the nursing profession depends on the ability of its members to build and share a body of knowledge. Nursing research is the method of building the knowledge, and publications are the major medium for sharing this knowledge. Research should always be conducted with the idea of publication in mind. Writing an article for a journal is emphasized here because this communication medium has the potential for reaching the largest percentage of nurses.

The preparation of an article for a journal is a service to the profession as well as a means of obtaining recognition for the author or authors. A few journals pay authors an honorarium or a per page fee. However, nurse authors usually do not receive any compensation. In Freda and Kearney’s (2005) survey of nurse editors, only 2 editors of the 78 “scholarly journals” reported monetary payment to authors. Some journals provide an author with several complimentary copies of the journal issue in which the article appears. Other journals send the author several complimentary reprints of the article. Additional reprints may usually be obtained at a reduced rate.

In an unusual incentive to potential authors, the *AORN* Journal, the journal of the Association of periOperative Registered Nurses, offered a free copy of a history
book about the organization to authors who submitted a manuscript to AORN between October 15, 2004 and April 1, 2005.

**Galley proofs** are sheets of paper showing how the article will appear in typeset form. When the author receives the galleys (about 2 months before the publication date), these sheets must be proofread for errors.

When an author receives an acceptance letter from a journal, an approximate date or month of publication is usually included. In an editorial in *Research in Nursing & Health*, Patricia Becker (2004) reported that the average time from first submission to notification of acceptance for publication is about 6.5 months. The time from acceptance of the manuscript to publication (called “lag time”) is approximately 60 to 110 days for that journal. The nurse editors in Freda and Kearney’s (2005) survey reported a mean lag time of 6 months for their 90 journals, with a range of 1 to 18 months.

The acceptance rate for manuscripts is quite varied. However, it seems to be increasing. Swanson, McCloskey, and Bodensteiner (1991) reported that the average acceptance rate of manuscripts was 41%. Seven of the journals included in McConnell’s (2000) survey of non-U.S. nursing journals reported acceptance rates of less than 25%. Kline (2005), editor in chief of the *Journal of Pediatric Oncology Nursing*, however, reported that 52% of the manuscripts received in 2004 were accepted and published. The nurse editors of 90 journals in Freda and Kearney’s (2005) survey reported the average acceptance rate for their journals to be 77%. Authors may want to become familiar with the acceptance rates of the journals of interest before they submit their manuscripts.

The number of nursing journals continues to grow. The exact number of these journals in existence at the present time could not be determined through a published source. However, the Web page of the ONLINE Nursing Editors (accessed October 20, 2005, at http://www.nurseauthor.com) provides direct links to over 200 editors of nursing journals. In addition to journals published in the United States, this Web site contains links to journals in countries such as Australia, Brazil, Canada, England, New Zealand, Scotland, and South Africa. Of course the number of journals published in foreign countries is very small compared to the number of journals available in the United States.

Seven surveys concerning nursing journals have been published since 1977. The sources for these studies are listed here in chronological order:


The first three surveys concerned journals published in both the United States and in other countries. The fourth survey, conducted in 1991, only examined U.S. journals. The authors of the first four surveys stated that the number of nursing journals in the surveys was probably 80% to 90% of the actual number of U.S. nursing journals in existence at the time of each survey. The next two surveys focused on English-language journals that were published outside the United States. Finally, the last survey examined the roles and practices of nurse editors of 71 journals published in the United States and 19 journals published elsewhere. These included journals published in England, Australia, Canada, and South Africa.

**Preparing the Article**

Because of space constraints, journal articles provide somewhat brief coverage of research reports. The length of journal articles varies a great deal, but most editors prefer manuscripts of 10 to 15 typed pages. The sections of the article and the format vary according to the journal. Most articles contain these parts: introduction, review of literature, methods, findings, and discussion. It is important for the researcher to examine the target journal carefully for style and format.

**Selecting a Journal**

Selecting an appropriate journal for an article is an important decision. With each passing year, more nursing and allied health journals are coming into existence. Before 1978, *Nursing Research* was the only journal devoted to the publication of nursing research studies. Since that time, the journals *Applied Nursing Research, Biological Research for Nursing, Clinical Nursing Research, Research and Theory for Nursing Practice, Research in Nursing and Health, Western Journal of Nursing Research, and Worldviews on Evidence-Based Nursing* have been initiated. Additionally, journals such as *Advances in Nursing Science* devote a large percentage of space to coverage of research studies. Many other journals contain research reports.

The *Journal of Undergraduate Nursing Scholarship* (http://juns.nursing.arizona.edu) is an online publication sponsored by the University of Arizona. This journal provides an opportunity for students in baccalaureate nursing programs to submit reports of original research investigations and papers on current issues in health care or the nursing profession.

McConnell (1995) surveyed 109 English-language nursing journals published outside the United States during 1992 and 1993. Of the 42 replies from publishers, nearly all of them indicated that their journals published research reports; two of the journals, *The Canadian Journal of Nursing Research* and *Curationis*, were strictly research publications. The number of research journals had increased from two to eight when McConnell (2000) reported the results of her replication study that was conducted in 1996–1997. Approximately 91% of the 82 responding journal editors indicated that research reports were published in their journals.

The choice of a journal may be made before or after a manuscript is prepared. If the manuscript is written first, the author then seeks a journal that is appropriate for
the proposed article as written. Another option is to determine the journal most
appropriate for the content of the article and then prepare the manuscript according
to the guidelines of that particular journal and the needs of that journal’s readers.
A manuscript that does not meet the needs of the journal’s audience will not be
accepted for publication in that particular journal.

An important source in past years for nurses wishing to publish an article in a
journal has been the Writer’s Guide to Nursing & Allied Health Journals (Bradigan,
Powell, & Van Brimmer, 1998). This book discusses almost 600 nursing and allied
health journals. Information is provided about the focus of each journal, desired
writing style, readership, acceptance rate, and whether the manuscript should be
sent in hard copy form or on a floppy disk. Although this book has been revised
recently, it does still provide valuable information for nurse authors.

The nurse author should not forget magazines designed for the general public.
Although the format would need to be simple and the content presented in easily
understood terms, nurses will reach a wide section of health care consumers by pub-
lishing study results in appropriate lay magazines.

Choosing Between Refereed and Nonrefereed Journals

The author must make the choice to publish in a refereed or nonrefereed journal. Gen-
erally speaking, a refereed journal is one in which subject experts, chosen by the jour-
nal’s editorial staff, evaluate manuscripts. A nonrefereed journal uses editorial staff
members or consultants to review manuscripts. The issue of publication in refereed
versus nonrefereed journals seems to be almost moot. Swanson et al.’s (1991) survey
revealed that 94% of the journals examined were refereed publications. In Freda and
Kearney’s 2005 report of the policies of 90 journals, all of the nurse editors indicated
that peer review was in place at their journals. In both refereed and nonrefereed jour-
nals, the journal editor makes the final decision about the publication of an article.

Panels of expert colleagues evaluate each manuscript submitted to refereed
journals. In Freda and Kearney’s (2005) survey of nurse editors, the median size of
the review panels for their journals was 40, with a range of 7 to 1,500. These nurse
editors indicated several ways of providing recognition for their reviewers. Nurse
editors of most journals (91%) reported that reviewers’ names were listed each year.
Some journals provided free journal subscriptions (25%); only six (7%) of the journals
provided an honorarium to reviewers. In its March/April 2005 issue, Nursing
Research thanked its 240 reviewers for the previous year. The reviewers’ names were
all listed individually.

The review of manuscripts by professional colleagues who are content or
methodological experts is called peer review. According to Smeltzer (2005), peer
review is the gold standard of scientific publishing. This process allows journal editors
to obtain objective opinions about a manuscript from experts in the field. In a blind
review, the reviewers are not aware of the author’s identity before the manuscript is
evaluated. This process is very important to a writer with a limited publication record.
An unknown writer would have an equal chance with a well-known author. Blinded
peer review was reported by 98% of the journals in Freda and Kearney’s (2005) survey
of nurse editors.

Some journals are beginning to introduce an open review process. In an edito-
rial in Nursing Research, Molly Dougherty (2005), the editor, reported that the journal
has taken a first step toward open peer review. In an **open review process**, the reviewer signs his or her reviews. Some of these reviews are posted at http://sonweb.unc.edu/nursing-research-editor (accessed October 21, 2005). These posted reviews allow the reader to examine the original manuscript and see the reviewers’ comments. If readers provide favorable comments about open review, the journal has plans to expand this feature of the journal.

*Applied Nursing Research* uses a unique approach to manuscript review. Each manuscript submitted to this journal is sent to two teams of reviewers. Each team consists of a clinician and a researcher (who is generally in an academic setting). These individuals have expertise in the content area or in the research methods presented in the manuscript. Each team member individually writes a review of the manuscript, and then the two reviewers write a joint review of the manuscript.

**Sending Query Letters**

Before submitting an article to a journal, it may be wise for the author to first determine the journal’s interest in the manuscript. This is done through a letter of inquiry called a query letter. A **query letter** contains an outline of a manuscript and important information about the manuscript that an author sends to an editor to determine the editor’s interest in publishing the material. The letter should be addressed to the editor by name. It is never wise to address a query letter to “The Editor of . . .” or to “Dear Sir or Madam.” The time should be taken to review a copy of the latest issue of that journal to obtain the name of the editor. Many journals allow query letters to be submitted via e-mail.

Approximately 60% of the editors of the nursing journals surveyed by Swanson et al. (1991) preferred a query letter before the submission of a manuscript. This preference for query letters has risen as the number of submitted manuscripts has increased. Editors may save a great deal of editorial review time by discouraging manuscripts that do not fit the needs of the journal. In response to query letters, editors usually provide helpful hints to authors about possible revisions of manuscripts that have not yet been submitted. Many journals now allow query letters to be transmitted electronically.

Query letters may be sent to several journals at the same time. Responses fall into three categories: (a) request for submission of the manuscript as outlined in the query letter, (b) suggestions for revisions in the manuscript and then submission, and (c) discouragement of submission of the manuscript. If the author receives positive responses from more than one journal, a decision must then be made as to which journal to choose for the submission of the manuscript. A manuscript should be sent to only one journal at a time. Many journals require a signed statement that the manuscript is not being considered by any other journal.

**Reasons for Manuscript Rejection**

Swanson et al.’s (1991) survey revealed that the highest ranked reason for rejection of manuscripts by editors of nursing journals was that the manuscript was poorly written. A poorly written manuscript continued to be the highest ranked reason for rejection reported in McConnell’s (2000) survey of English-language journals published outside the United States. According to Valente (2005), a manuscript may also be rejected by a journal because the content is not comprehensive or there are inaccuracies
in the content. Additionally, the manuscript may be rejected because it is not appropriate for that particular journal or the journal has recently published a similar article.

Other reasons for rejection determined by Swanson et al. (1991) in descending rank order were poorly developed idea, term paper style, methodology problems, content undocumented, content not important, clinically not applicable, statistical problems, data interpretation problems, and too technical.

When the editor sends a letter to the author concerning the evaluation of a manuscript, suggestions for revision may be made and the author asked to resubmit a revised manuscript. If a letter is received asking for revisions, the changes should be made and the manuscript resubmitted to the journal. If an article is rejected outright, the reasons for the rejection will be indicated. Rejection of an article does not necessarily mean that it is not a good article. There is a lot of competition for the limited space in the nursing and allied health journals. Editors do not want to discourage authors. In fact, the editor of the journal that rejects a manuscript may make specific suggestions for submission to another journal.

When a rejection letter is received, the manuscript may or may not be returned, according to the policy of the journal. In either case, the author should consider submitting a copy of the manuscript to another journal.

Preparing Research Reports for Funding Agencies

Research projects cost money, and researchers frequently seek funding sources. Many organizations provide funds for nursing research. Some public organizations that might be approached for support are the National Institute of Nursing Research, National Institute of Mental Health, Veterans Administration, and the U.S. Public Health Service. Although public sources have provided most of the funding for nursing research, nurses are increasingly seeking funds from private foundations. Some of these private foundations are Robert Wood Johnson, Kellogg, Alcoa, and Lilly. Voluntary health organizations such as the American Cancer Society and the American Heart Association have supported nursing research. Businesses and corporations such as Apple Computer Corporation and Del Monte Foods have provided funds for nurse researchers. Charitable organizations, including churches and sororities, as well as individual philanthropists, may be approached for funding. Intramural funding is available in many universities and health care agencies. Finally, various groups within the nursing profession, such as Sigma Theta Tau and the American Nurses Foundation (ANF), make funds available for research. The ANF provided over $3 million dollars from 1955 to 2005 to more than 900 beginning and experiences nurse researchers (American Nurses Foundation Board of Trustees, 2005).

If funding is received for a study, the researcher is nearly always expected to provide a final report at the completion of the project. This report may be a brief summary or a lengthy report. As with other research reports, the steps in the research process are followed in the report.

Preparing Theses and Dissertations

Theses and dissertations are an important means of communication for research studies conducted to fulfill educational requirements. Because these documents serve a dual purpose of communicating research findings and providing educators
with evidence of the students’ ability to perform scholarly work, theses and dissertations are usually lengthy documents that may contain 100 pages or more, divided into several chapters. Dissertations contain more in-depth investigations than theses and provide new knowledge for the profession. Theses are usually concerned with testing existing theory, whereas dissertations focus on refining existing theories or generating new theories.

**UTILIZATION OF NURSING RESEARCH FINDINGS**

How often do you use research findings in your nursing practice? You probably use research more often than you think. Do you irrigate Foley catheters every 8 hours? Did I hear you answer “No”? Well, I did when I was a nursing student and when I was a young nurse. You ask, “Why”? We thought we were preventing urinary tract infections. Research has shown just the opposite to be true. So, as previously mentioned, you probably use research findings more often than you think.

Now that you are near the end of this text, recall the first goal for conducting nursing research listed in Chapter 1: to promote evidence-based nursing practice. Therefore, for nursing research to be useful to the profession, study findings must be implemented in nursing practice.

The use of research findings in nursing practice is called research utilization. It means going beyond the somewhat artificial research setting to the real world of nursing. In the past, many actions of nurses have been based on tradition or authority. This is no longer acceptable in this day of evidence-based practice. Nurses should be able to justify the decisions they make and the care they give.

Many nursing leaders have indicated the high priority that should be placed on the utilization of research findings in nursing practice. However, they have pointed out the continued gap between nursing research and nursing practice (Dufault & Sullivan, 2000; Fink, Thompson, & Bonnes, 2005; Hutchinson & Johnston, 2004; Lewis, Prowant, Cooper & Bonner, 1998; Mc Cleary & Brown, 2003; Paramonczyk, 2005; Winch, Henderson, & Creedy, 2005).

Barriers to the utilization of nursing research have been identified in many studies. Various means to bridge the gap between research and practice have also been identified.

**Barriers to Nursing Research Utilization**

Many articles have been published that list barriers to the utilization of research findings by nurses in the United States and around the world (e.g., Carroll et al., 1997; Funk, Champagne, Tornquist, & Wiese, 1995; Funk, Champagne, Wiese, and Tornquist, 1991a, 1991b; Hutchinson & Johnston, 2004; Kajermo, Nordström, Krusebrant, & Björvell, 1998; Lewis et al. (1998); Mc Cleary & Brown, 2003; Paramonczyk (2005), Pravikoff, Tanner, & Pierce, 2005; and Retsas, 2000).

There are many barriers to the utilization of nursing research findings in nursing practice. Five of the most common barriers are discussed here: (a) nurses’ lack of knowledge of nursing research, (b) nurses’ negative attitudes toward research, (c) inadequate means of disseminating nursing research findings, (d) lack of institutional support for research, and (e) study findings that are not ready for use in nursing practice.
Nurses’ Lack of Knowledge of Research Findings
A great deal of evidence indicates that nurses are unaware of many research findings. Funk et al. (1991b) sent a survey concerning barriers to research utilization to 5,000 nurses selected from the ANA membership roster. Returns were received from 1,989 individuals (40%). The third most important barrier listed was that the nurse is unaware of research findings. Of the 600 respondents who provided suggestions for facilitating research utilization, the second highest ranked suggestion concerned improving availability and accessibility of research reports, and the third ranked suggestion proposed advanced education and increasing the research knowledge base. In 1995 these same authors published the findings from the sample of nurse administrators who responded to their 1991 survey. Nurses’ lack of awareness of research was listed by 77.2% of the administrator respondents as the greatest barrier to research utilization. An almost identical percentage (76.5%) of the 1,100 respondents in Carroll et al.’s (1997) study identified lack of awareness of research findings as a barrier to research utilization. In a study by Lewis et al. (1998) of nephrology nurses, lack of awareness of research findings was the third highest ranked barrier to the use of research in practice. Among Australian nurses in a study by Hutchinson and Johnston (2004), 66.2% of them listed lack of awareness of research as a barrier. In Paramonczyk’s (2005) study of Canadian nurses, lack of awareness of research findings was listed as the second highest barrier. So even today, nurses indicate that their lack of knowledge of research findings is a serious barrier to research utilization.

Some research indicates that nurses may have knowledge about research but are reluctant to change their traditional practices. The American Academy of Pediatrics (AAP) has recommended exclusive use of the supine sleep position for young infants. Research has consistently shown that this position is most likely to prevent sudden infant death syndrome (SIDS). In a study of nursery staff (Stastny, Ichinose, Thayer, Olson, & Keens, 2004), 72% of the nurses indicated awareness of the recommendations of the AAP, but only 30% reported most often placing infants to sleep in the supine position. Additionally, 65.3% of the sample reported that they had not advised new mothers to use only the supine sleep position for their infants. Most of the nurses in the sample (89%) had at least a baccalaureate degree. Many of these nurses voiced concerns about aspiration when infants are placed in the supine position. However, research has demonstrated that infants are not likely to aspirate when placed on their backs.

Nurses’ Negative Attitudes Toward Research
Champion and Leach (1989) found that nurses’ attitudes toward research were positively related to research utilization ($r = .55$). Nurses with positive attitudes were more likely to use research findings. Attitude was more strongly correlated with research utilization than the other two variables that were considered: institutional support and availability of research findings. The authors suggested strategies to help nurses develop positive attitudes toward research. These strategies included role models in the clinical area who value research, research courses at the undergraduate level that help the student develop enthusiasm for research, and faculty with positive attitudes who help students develop positive attitudes toward research early in their careers. Champion and Leach called for more emphasis on research and statistics in baccalaureate nursing programs.
In Funk et al.’s (1991b) study, approximately 35% of the respondents did not see the value of research for practice. A similar percentage (34.1%) of nephrology nurses in Lewis et al.’s (1998) study did not value the use of research in practice. Approximately 31% of Australian nurses in a study by Retsas (2000) did not recognize the value of research findings.

There is some hopeful news about nurses’ attitudes toward research. Fink et al. (2005) received survey responses from 215 nurses who worked in a large university-affiliated magnet hospital. Their attitudes toward research were much more positive than nurses in previous studies. Of course, you must take into consideration that these nurses worked in a magnet hospital where the research climate was more supportive than would be found in many other hospitals.

Joyce Fitzpatrick, the editor of *Applied Nursing Research*, voiced her dismay about the gap between the publication of research and the application of research in professional practice (Fitzpatrick, 2006). She cited Pravikoff et al.’s (2005) study published in the *American Journal of Nursing* that revealed nurses’ lack of value for the implementation of research in their practice. Fitzpatrick called for collaboration among individual nurses, nurse administrators, and nurse educators to help solve this problem.

**Inadequate Dissemination of Research Findings**

Inadequate dissemination of nursing research findings involves two areas. First, most nursing research studies are never published or presented at research meetings or workshops. Second, published or presented studies are often not written or verbally presented at a level at which the practicing nurse can understand the findings.

Many references are found in the literature that attest to practicing nurses’ unhappiness with the dissemination of nursing research findings (Bock, 1990; Carroll et al., 1997; Funk et al., 1991b; Gennaro, 1996; Hutchinson & Johnston, 2004; Kajermo et al., 1998; Retsas, 2000). Swedish nurses in Kajermo et al.’s (1998) study ranked the lack of availability of research findings as the greatest barrier to the use of these findings. Fifty-one percent of the Australian nurses in Hutchinson and Johnston’s (2004) study reported that research reports/articles are not readily available.

Practicing nurses complain about their inability to understand articles in the research journals. The language is technical and the articles are often lengthy. Research reports are frequently written for researchers rather than for clinicians. In Funk et al.’s (1991b) study, respondents suggested that research be reported in the journals that are read most frequently by clinicians and that these reports be more readable and contain clinical implications. Nurse researchers tend to present their research findings in very formal research meetings and in research publications. Researchers in academic settings are sometimes rewarded more for publications in prestigious research journals than for publications in practice journals (e.g., promotions, salary raises, tenure).

Nurses need to make an effort to publish in the popular clinical journals. This does not mean that nurse researchers should not prepare publications for the scholarly journals, but they also have an obligation to disseminate the findings in a manner understandable to the nurse in practice; this usually means publishing findings in practice journals. Brooten et al. (1999) asserted, “The lay public in general is woefully uninformed of the research conducted by nurses” (p. 133). It appears that we have made very little progress in communicating the results of nursing research to nurses, much less to the general public! Kennedy (2004) and Ulrich (2005) have asserted that...
nurse researchers must let other nurses and the general public know about their research results. As Ulrich said, nurses must get better about “tooting our own horns.”

Lack of Institutional Support for Research

Nurses frequently perceive that there is little institutional support for nursing research. Lack of institutional support has been identified as a barrier to research utilization in all of the published studies.

In Funk et al.’s (1991b) study of approximately 2,000 nurses in the United States, the two greatest barriers to research utilization were the nurses’ report that they did not have “enough authority to change patient care procedures” and “insufficient time on the job to implement new ideas.” The authors considered both barriers to be related to the setting (institution). Nurse administrators in this same survey ranked “insufficient time on the job to implement new ideas” as the second highest barrier to research (Funk et al., 1995). Over 600 of the staff nurse respondents gave suggestions for facilitating research findings (Funk et al., 1991b). One of the most frequent suggestions concerned increasing administrative support and encouragement. Funk et al. proposed that nursing staff must believe the environment is conducive for the use of research findings before they will believe that they have the authority to change their practice based on research results.

Tsai (2000) surveyed 382 staff nurses and nurse managers in the Republic of China. The main barriers to research utilization identified by these nurses were lack of time and lack of staff. The respondents called for role models, consultation, and guidance in locating useful research.

McCleary and Brown (2003) surveyed 176 pediatric nurses in two teaching hospitals in Ontario, Canada. They also listed lack of time to read research as the most frequent barrier to research utilization.

Nurses in Fink et al.’s (2005) study of RNs employed at a large university-affiliated magnet hospital in the United States indicated “difficulty in changing practice” as their most problematic barrier. Many respondents indicated that they felt powerless to change practice based on research. They listed lack of support and lack of mentoring as top barriers to the use of research in practice.

The Canadian nurses in a study by Paramonczyk (2005) listed insufficient time on the job to implement new ideas as the greatest barrier to research utilization. These nurses listed lack of awareness as the second greatest barrier to research utilization. Paramonczyk raised the question as to whether nurses are meeting their responsibility for keeping current in their practice. She also called for administrators in health care organizations to include in their mission statement the principle of encouraging and facilitating nurses’ participation in research-related activities.

Pravikoff et al. (2005) surveyed 760 nurses who worked in clinical settings across the United States. Fifty-seven percent of the respondents reported that their facility did not have a medical or health sciences library. Three percent of the nurses said that their facility’s library was available only to physicians.

Findings Are Not Ready for Use in Practice

In an editorial in *Nursing Research*, Downs (1981) asserted, “Research is not something that can be brewed overnight and ingested the next morning” (p. 322). She warned against the “premature consumption” of research findings. She stated that
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this practice might be “hazardous to someone’s health” (p. 322). In a more recent editorial, Downs (1996) continued to call for caution in regard to research findings. She contended that much of the material published in *Nursing Research* is not ready for immediate use.

Blegen (2005), in an editorial in *Nursing Research*, asserted that no research exists on which to develop protocols for many nursing practice problems. She further asserted that for some nursing practice problems there are a few studies on the topic, but some of these studies contain serious threats to validity, which makes the use of the study findings questionable. Duffy (2004), in contrast, contended that since the mid-1980s, qualified nurse researchers have completed, presented, and published many studies. She asserted that an available knowledge base is waiting to be used in the development of evidence-based practice.

No study findings should be implemented if the study has not been replicated in several clinical settings, with similar results being found. Often research is carried out with healthy subjects rather than with hospitalized patients. The findings may be quite different between the two types of subjects.

Martin (1995) wrote that a single study is seldom a sufficient foundation for making decisions about practice or about policies. Polit (1996) agreed that replication studies are needed because nurse researchers use nonrandom samples so frequently. Deets (1998) called for replication studies to be conducted by master’s-level students. In turn, Deets asserted that journals would have to be willing to publish the results of these replication studies. Fahs, Morgan, and Kalman (2003) published an entire article in the *Journal of Nursing Scholarship* that called for replication studies. These authors asserted that replication of research is essential to the “building and continued development of the scientific basis of any discipline” (p. 67).

For research to be ready for use in practice, the findings must have been replicated and demonstrated to be true with real patients as well as with healthy subjects. When trying to help students decide if research results are ready for use in practice, I use two initials: NR. I tell students if it is Not Replicated, it is Not Ready for practice.

**Bridging the Gap Between Research and Practice**

In the past few years, the nursing literature has shifted some of the emphasis from research utilization (RU) to evidence-based practice (EBP). Although these terms sometimes are used interchangeably, distinctions can be made between these two concepts.

Burns and Grove (2005) have described RU as “the process of synthesizing, disseminating, and using research-generated knowledge to make an impact on or a change in the existing practices in society” (p. 634). EBP is viewed as broader in scope than RU. Burns and Grove wrote that “EBP ensures the implementation of quality, cost-effective care to promote positive outcomes for patients, providers, and health care agencies” (p. 635). EBU compasses not only evidence based on scientific findings but also evidence based on expert clinical opinion and patient and family preferences. EBU is discussed in Chapter 18.

Many nursing research utilization projects have been described in the literature, beginning in the 1970s. Two widely known projects that have fostered research utilization are the Western Council on Higher Education for Nursing (WCHEN) Regional Program for Nursing Research Development project conducted in the early 1970s and the Conduct and Utilization of Research in Nursing (CURN) project
conducted later that same decade. Both projects received funding from the Division of Nursing. Two models of research utilization are also discussed: Rogers’s innovation-diffusion model and Stetler’s model of research utilization.

**Wiche Project**
In the research utilization aspect of the WCHEN project, nurses from various settings attended 3-day workshops in which they were taught how to use the change process to bring about research utilization. The nurses came in pairs from the same geographic location but worked in different settings. For example, a school nurse and a community health nurse who came from a rural community developed together a plan to provide nursing interventions for elementary school students who had high rates of absenteeism (Elliott, 1977). Although the WCHEN project was considered successful, one major problem encountered was the lack of reliable nursing studies that were appropriate for implementation in nursing practice.

**CURN Project**
The most well-known nursing research utilization project is the CURN project, a 5-year project sponsored by the Michigan Nurses Association. The two major goals of this project were to stimulate the conduct of research in clinical settings and to increase the use of research findings in the daily practice of nurses. The steps to be carried out, according to Horsley, Crane, Crabtree, and Wood (1983), are as follows:

1. Identify specific clinical nursing practice problems.
2. Assess the existing knowledge base on the issue.
3. Design a nursing practice innovation based on a scientific research base.
4. Implement clinical trials and evaluation of the innovation.
5. Decide to adopt, revise, or reject the innovation.
6. Develop strategies to extend the innovation to other settings.
7. Determine means of continuing the innovation over time.

As a result of this project, nursing innovations (protocols) were developed for nine practice problems. These are the titles of the nine published volumes covering these areas:

- *Mutual Goal Setting in Patient Care*
- *Closed Urinary Drainage Systems*
- *Distress Reduction Through Sensory Preparation*
- *Pain*
- *Intravenous Cannula Change*
- *Preventing Decubitus Ulcers*
- *Preoperative Sensory Preparation to Promote Recovery*
- *Reducing Diarrhea in Tube-Fed Patients*
- *Structured Preoperative Teaching*

**Rogers’s Innovation-Diffusion Model**
The knowledge stage involves the nurse becoming aware of a research-based nursing intervention. This knowledge can be obtained through such sources as conferences, journal articles, and from talks with colleagues.

In the persuasion stage, the nurse forms a positive or negative attitude toward the intervention. This attitude can be based on the intervention’s advantage, compatibility, complexity, trialability, and observability.

After an attitude is formed, the decision stage is reached. In this stage, the nurse decides whether or not to adopt the new intervention. The decision should be based on the research evidence that has been gathered.

The implementation phase is reached when the nurse actually puts into practice the intervention or uses the knowledge indirectly, such as by discussing the findings with colleagues or citing the findings at a conference or in one of their own publications. An intervention may be introduced exactly as it was described in research studies or there might be some adaptation for the particular health care setting where the intervention is being introduced.

Finally, in the confirmation stage, the intervention is evaluated for its effectiveness and the decision is made whether or not to continue using the intervention.

**Stetler Model of Research Utilization**

The Stetler model of research utilization was first described in 1976. Stetler and Marram (1976) wrote a classic article about the steps to be taken before the nurse decides research findings are applicable for nursing practice. The authors contended that numerous guidelines have been proposed to help consumers critique the strength of the research design but that no systematic criteria have been established that help carry the consumer from the critiquing stage to the application stage. Stetler and Marram listed three phases of critical thinking: validation, comparative evaluation, and decision making. In Stetler’s (2001) revised model there are five phases of the model: preparation, validation, comparative evaluation and decision making, translation/application, and evaluation. The validation phase is called “research utilization critique” (Stetler, 1994, p. 20), and during this phase the decision is made to accept or reject a particular study. The latest revisions to the Stetler model are discussed in the November/December issue of *Nursing Outlook* (Stetler, 2001).

Validation concerns the overall examination of the strengths and weaknesses of a study. The consumer must question every step of the research process that was carried out. A traditional research critique is done. If a biased sample was used, operational definitions were not provided, or invalid statistical procedures were used, the findings would be questionable for application in practice. If the study design and procedures were determined to be valid, nurse consumers also should search for findings and conclusions that might be valid in their clinical settings. Stetler and Marram (1976) wrote that the consumer should search for “what was found, about whom or what, under what conditions, by whom, when, where, and how” (p. 560).

If the nurse determines that the study is valid, then a comparative evaluation should be done. What variables would affect the decision to change practice based on research findings? Would it be possible to implement the findings in the nurse’s practice? The nurse would want to know how similar the research setting was to her or his own setting and how similar the study sample was to patients/clients with whom the nurse works. Finally, in doing a comparative evaluation, the nurse must determine
the feasibility of implementing the findings based on the constraints of the particular practice setting. Are there any legal or ethical risks to the involved clients, nurses, or the institution? Would applying the findings involve a major organizational change? Are the resources available (time, money, equipment)?

Once the nurse has examined the feasibility, the decision about application is made. The nurse may decide against application or make a cognitive or a direct application of the findings. Cognitive application means that the nurse is not yet ready to apply the findings in practice but will use the information to enhance her or his knowledge base and may consider moving to a direct application in the future. Direct application of research findings means that the nurse chooses to test out the findings in practice. This does not mean that the nurse will not continue to check the validity of the findings, but it means that this validity check will now be done directly rather than cognitively.

Research Utilization Studies
Many research utilization studies and projects have been discussed in recent literature. Three of these are presented in the sidebar.

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**Three Research Utilization Studies**

Dufault and Sullivan (2000) conducted a study to evaluate a collaborative research utilization model for pain management. Multidisciplinary academic scientists were paired with clinicians and undergraduate and graduate nursing students. This group evaluated the existing research on pain management, generated a research-based standard for pain management, and evaluated the effectiveness of the standards on four patient outcome variables. Results showed that subjects whose caregivers used the new standards had less pain, less interference by pain with their quality of life, and greater satisfaction with the interventions used and the caregivers’ responses to their pain.

Lee (2004) used Rogers’s innovation-diffusion model to examine nurses’ adoption of a computerized nursing care plan system (CNCP). She focused on the nurses’ perceptions of the characteristics of the intervention (relative advantage, compatibility, complexity, trialability, and observability). In regard to the advantage of the CNCP, most participants thought the CNCP saved paper. In examining the issue of compatibility, most nurses did not believe that the CNCP helped any more with their daily care than the previous paper system did. In regard to complexity, nurses generally viewed the CNCP as “user friendly.” The fourth characteristic of the persuasion stage was trialability. Some nurses complained that the content of the CNCP did not cover everything that they thought should be charted. Finally, in regard to observability, some nurses considered the CNCP to be a symbol of professionalism. Others said they would not miss the system if it were taken away; others said they were already familiar with the system and did not want to go back to the paper system or any handwritten process.

Christie and Moore (2005) used the Stetler model of research utilization when examining the research literature in regard to the use of humor with cancer patients. In the preparation phase, literature was examined for evidence for the use of humor as a coping tool. The validation phase was used to determine the soundness of each article or study. The comparative evaluation and decision-making phase required that the authors decide whether to use, reject, or delay using the findings. In the translation and application phase, the authors focused on how to implement the findings. During the final phase, evaluation, the authors decided that humor as an intervention still is relatively unexplored and must be researched further. They also called for the development of appropriate and effective humor interventions.
SUMMARY

A research report is a written or spoken communication of the findings of a study. The report should be presented in the order of the research process. Research reports may be presented as oral presentations, poster presentations, journal articles, written reports for funding agencies, and in theses and dissertations.

Research conferences are sponsored by many nursing organizations. Participants are contacted through a call for abstracts, which is a request for summaries of research studies that researchers wish to present.

An oral presentation of a research report at a conference is referred to as a paper presentation. The researcher may also present research results in the form of a poster.

Research is generally published in journal articles. A refereed journal is one that uses subject experts to review manuscripts. Nonrefereed journals use editorial staff members or consultants to review manuscripts.

The peer review process involves the review of a manuscript by professional colleagues who have content and methodological expertise in the area of the study discussed in the manuscript. Journals frequently use a blind review process in which no authors’ names are included on the manuscripts. In an open review, reviewers sign their names to their reviews.

Before submitting an article, a letter of inquiry, called a query letter, should be sent to determine the editor’s interest in reviewing a certain manuscript. A manuscript, however, must never be sent to more than one journal at a time.

About 2 months before an article is published, the author will receive the galleys. Galley proofs are sheets of paper containing the article as it will appear in typeset form.

If funding is received for a study, the researcher is usually expected to provide a final report at the completion of the project. This report may be a brief summary or a lengthy report.

Theses and dissertations are a means of communicating results of research studies that are conducted in conjunction with educational requirements. These documents are generally quite long and divided into several chapters.

Five common barriers to utilization of nursing research findings are (a) nurses’ lack of knowledge of research findings, (b) nurses’ negative attitudes toward nursing research, (c) inadequate means of disseminating nursing research findings, (d) lack of institutional support, and (e) study findings that are not ready for use in nursing practice.

Two widely known nursing research utilization projects are the Western Council on Higher Education for Nursing (WCHEN) Regional Program for Nursing Research Development project conducted in the early 1970s and the Conduct and Utilization of Research in Nursing (CURN) project conducted in the late 1970s. Rogers’s innovation-diffusion model and the Stetler model for research utilization are two models that have been very influential on research utilization in nursing.

NURSING RESEARCH ON THE WEB

For additional online resources, research activities, and exercises, go to www.prenhall.com/nieswiadomy. Select Chapter 17 from the drop-down menu.
GET INVOLVED ACTIVITIES
1. Determine an area in which you might like to conduct research in the future. Choose a funding source that you might approach to gain support for your project.
2. Discuss with your colleagues various methods that might be used to ensure that nurses at each of the hospitals where you work or where you are receiving clinical experiences are aware of the importance of research findings (consider the principles of change theory when determining approaches to use).
3. Locate a nursing study that you believe has very important findings but needs to be replicated before the findings are implemented in nursing practice.
4. Identify a finding of a nursing study that you think is ready for implementation at your work or clinical site but for which you believe there would be resistance.
5. Identify two nursing practice actions that are based on research. Indicate how you are sure that these practice actions are based on research.

SELF-TEST
Circle the letter before the best answer.

1. What communication medium is most likely to reach the largest percentage of nurses?
   A. Dissertation
   B. Journal article
   C. Conference oral presentation
   D. Poster

2. The communication medium for research findings that is probably most appropriate for a beginning researcher is a
   A. journal article.
   B. oral presentation at a conference.
   C. research paper.
   D. poster presentation.

3. Which of the following is a reason for the rejection of a manuscript that has been submitted to a journal?
   A. Manuscript is poorly written.
   B. Content of manuscript is inaccurate.
   C. Content of manuscript is not appropriate for the journal’s readers.
   D. All of the above.
   E. None of the above.

4. Which of the following is true concerning journal articles?
   A. Revisions are generally not needed in manuscripts that are submitted to journals.
   B. Many journals prefer that a query letter be sent before a manuscript is submitted.
   C. There is a general agreement among nursing journals about the format for research articles.
   D. Journals do not accept manuscripts from beginning researchers.

5. Support for nursing research has been furnished primarily by
   A. public sources.
   B. private foundations.
   C. businesses.
   D. individual philanthropists.
PART VI Research Findings and Nursing Practice

6. A researcher will probably receive a monetary reward for which of the following methods of presenting research?
   A. Journal article
   B. Thesis
   C. Research paper
   D. Poster
   E. None of the above

7. Which of the following statements is true?
   A. Most nurses have adequate knowledge of nursing research findings.
   B. Many nursing research findings are never published.
   C. Inadequate research skills of nurses is the most frequently cited reason for lack of utilization of research findings.
   D. Most nursing research findings are ready for use in practice.

Write true (T) or false (F) beside the following statements:

   _____  8. If a study has been replicated at least once, there is no need for further research in that same area of study.
   _____  9. The Conduct and Utilization of Research in Nursing (CURN) is one of the most well-known nursing research utilization projects.
   _____ 10. Replication studies are the most common type of nursing research studies.
   _____ 11. Surveys of nurses have found that most nurses have positive attitudes toward the utilization of research findings.
   _____ 12. A gap still exists between research findings and the use of these findings in nursing practice.
   _____ 13. Most nursing research journals are refereed journals.
   _____ 14. Most nursing research journals pay authors an honorarium.

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