

Society of General Internal Medicine Policy Statement Guidelines for Promotion of Clinical-Investigators

I. SUMMARY

This preliminary policy statement was requested by Lee Goldman during his year as SGIM President and was drafted by an ad hoc committee of SGIM members (chaired by Mary Tinetti) who represent the spectrum of clinical research conducted by SGIM members (e.g. clinical strategies, ethics, and humanities, and health policy and economics). To date, these guidelines have gone through an iterative process involving solicitation of opinions and concerns of committee members, review of existing guidelines from several medical schools, presentation at an SGIM workshop, input from the SGIM Council, editing by Drs. Lee Goldman and Robert Fletcher, and further revisions.

We now seek input from the entire membership. The final policy statement and guidelines are expected to be completed by the end of the 1991-92 academic year. As discussed below, it must be emphasized that this statement contains general guidelines only. The statement has been left purposely flexible because of the differing requirements and priorities among departments of medicine and medical schools.

General guidelines for the promotion of clinical investigators can be used by junior faculty members, division chiefs, department chairmen, and promotion committees in reviewing the research contribution of junior faculty members being considered for promotion. In general, SGIM feels that the research contribution of all faculty members should be judged using the same criteria but that the operational definitions and measurements of these criteria should reflect the standards appropriate for different areas of investigation. The promotion review process should account for the spectrum of time devoted to research versus clinical, teaching, and administrative activities, all of which are essential to the mission of medical schools. Quality, rather than quantity, should be the primary emphasis in the promotion review process. The impact of a candidate's investigation on the field of investigation as well as on health care delivery and health care policy should be an integral part of assessing the quality of a candidate's research contribution. Persons familiar with a candidate's content area of investigation should formally be included in the promotion review process. Towards implementing these recommendations, it is suggested that: 1) promotion committees develop and use more explicit criteria for judging and comparing candidates; 2) promotion committee members evaluate and comment on specific bodies of work; and 3) the committee should develop and return to the candidate a summary statement including overall strengths and weaknesses of the candidate. To fully implement these recommendations, methods for measuring "soft" data, such as contribution of authors to specific manuscripts, impact of individual manuscripts as well as overall body of work and contribution of a candidate to research at his/her institution need to be developed. Given the training, skills, experience, and interests of SGIM members in reliably measuring "soft" data, SGIM may be particularly well qualified to develop these measures.

II. INTRODUCTION

Career development in academic general internal medicine has been designated a priority by the President and Council of the Society of General Internal Medicine. Promotion, obviously, is an integral component of career development in academic medicine. The Council decided, therefore, that one tangible way to facilitate promotion of academic general internists would be the development of an official policy statement on appropriate guidelines for use in evaluating the research contribution of clinical investigators. The Society may be a particularly appropriate body for developing these guidelines. Our members are leaders in clinical investigation and hence qualified to establish criteria for evaluation risk research. In addition, the research of many Society members involves reliably measuring "soft" subjective data because these data reflect the issues important to our patients. Similarly, the "soft" subjective issues of quality and impact of research are important to clinical investigators and are the characteristics by which members wish to be judged by their peers, departments, and medical schools. Society members, because of their skills, training, and experience are particularly well qualified to develop methods for use by promotion committees and medical schools in assessing the promotion potential of candidates.

This may be a particularly opportune time to review the promotion guidelines and criteria used by medical schools because of the changing face of clinical research. Promotion guidelines should reflect important changes in clinical investigation such as the increasing emphasis on collaborative and multidisciplinary investigation; the increasingly competing tasks of clinical, teaching, and administrative tasks, all of which are essential to the mission of medical schools; the scarcity and competitiveness for grant monies; and the mounting consensus that quality of publications should take precedence over mere quantity in assessing research contribution. Many, if not most, of these issues are relevant to subspecialists involved in clinical investigations as well as general internists, and indeed, are relevant to laboratory-based investigators as well.

This policy statement includes the following components: aims and purposes of the statement, acknowledgement of issues not addressed by the statement, presentation of relevant issues and principles guiding the development of the statement, suggestions concerning the promotion review process, and listing of factors that should be assessed in evaluating the promotion potential of investigators involved in clinical or human investigation.

III. AIM

The aim of this policy statement is to present general guidelines for use in evaluating the research contribution of investigators involved in applied clinical research being considered for promotion.

In this statement, a clinical investigator is defined as a faculty member whose research involves humans, either at an individual or societal level. The three broad domains of investigation encompassed by this policy statement are: 1) clinical epidemiology including methods and strategies of clinical care; 2) health services research, health policy, and health economics; and 3) medical humanities, education, and ethics.

IV. INTENDED USE OF GUIDELINES

These guidelines are of potential use at least to the following groups: 1) promotions committees at medical schools who may wish to use these guidelines in formulating their own specific criteria that meet the unique needs and priorities of their school; 2) department chairs and deans of medical schools in evaluating and comparing faculty members; 3) division chiefs and mentors who advise junior faculty; and 4) junior faculty members in structuring their careers and evaluating their own performances.

While these guidelines are directed toward academic general internists, the recommendations are equally appropriate for specialists and subspecialists involved in clinical investigation.

V. ISSUES NOT ADDRESSED IN THE STATEMENT

Several important issues, including tenure, the expected rate of progress (i.e. time course for promotion), or the number and composition of tracks except as they relate specifically to the promotion process, are not addressed in this statement either because the optimal resolution may differ among medical schools or because the issues are addressed in other policy statements by SGIM. There are pros and cons to different approaches to these issues and their discussion is beyond the scope of this statement. Certainly, the guidelines outlined in this statement could be used by departments of medicine that have a single track with multiple criteria for promotion as well as by departments with multiple tracks.

Guidelines for assessing educational, administrative, and clinical contributions to promotion are not addressed in this policy statement. A separate committee is developing guidelines for assessing these contributions. Many, if not most, faculty members engaged in human investigation also spend a large part of their time involved in clinical, teaching, and administrative activities. Therefore, promotion guidelines should reflect the value placed on these activities, all of which are essential to an academic medical center. Ideally, therefore, medical schools would incorporate guidelines for assessing research contribution with the complementary guidelines for assessing the clinical, teaching, and administrative contributions.

VI. PRINCIPLES GUIDING THE DEVELOPMENT OF POLICY STATEMENT

In developing this policy statement, committee members determined important principles and issues that needed to be reflected in the promotion guidelines. These principles and issues are summarized below.

- A. **Values and behaviors:** Perhaps most importantly, the criteria used in judging a candidate's potential for promotion should reflect the values and behaviors deemed important to the department, medical school, and university. Reliable measurements of these values and behaviors should be developed. The measurements should then become the assessment instrument for determining promotion potential.
- B. **Analogy to laboratory-based research:** In general, the same criteria used in evaluating the contribution of laboratory-based research are relevant in evaluating the contribution of applied clinical research. Indeed, in the optimal situation, the research contribution of all faculty members would be judged using the same criteria. As discussed below, the

operational definitions and measurements of these criteria may vary depending upon type of research.

- C. **Content-specific criteria:** Conversely, while as much standardization across fields as possible is desirable, the diversity among fields requires that promotion criteria reflect the standards appropriate for the candidate's field. These standards are perhaps best developed by investigators throughout the country involved in similar research.
- D. **Time lag for clinical studies:** Applied clinical investigation, especially prospective cohort studies and clinical trials, may take a long time to complete and result in fewer publications than laboratory-based investigation, at least during the early years of an investigator's career. Decisions concerning productivity, therefore, need to account for expected rate of publications.
- E. **Appreciation for other responsibilities:** Investigators involved in applied clinical research may be more heavily involved in educational and/or clinical activities than laboratory-based researchers. Furthermore, even within this group of investigators, the spectrum of research versus other activities is wide. Involvement in clinical and teaching activities is an essential source of research ideas and should be encouraged even though it may result in these investigators devoting less time to research than laboratory-based investigators. As teaching and clinical activities are relevant to the mission of most departments of medicine, a method needs to be developed for handling this diversity in an amount of time spent among teaching, clinical, and research activities.
- F. **Multidisciplinary nature of research:** Applied as well as laboratory-based, research is becoming increasingly multidisciplinary and collaborative. Promotion criteria, therefore, should measure the quality of the contribution to multidisciplinary and collaborative research as well as the quality and importance of "primary" or independent research.
- G. **Quality vs. Quantity:** Quality is more important than quantity of research produced. While more subjective and therefore more difficult to assess than quantity, quality is measurable and needs to be the primary emphasis in the promotion review process.
- H. **Impact:** In judging the quality of an investigator's research and publications, it is important to evaluate the impact on both the candidate's own field of investigation as well as on health care delivery and health care policy. An appropriate operational definition of "impact" is that other investigator in the field need to acknowledge, and account for, a candidate's body of work in order to proceed with their own research.
- I. **Expert input:** Persons familiar with the candidate's content area of investigation are among the best judges of the quality of the work and should be included formally in the promotion review process.
- J. **Local and national contributions:** While a candidate's own body of work should be the primary consideration in promotion decisions, the contributions to research at the institution and outside the institution should be considered as well.

VII. FACTORS TO BE EVALUATED IN THE PROMOTION PROCESS

In assessing the research contribution of faculty members, the following factors should be evaluated: 1) individual's own research; 2) contribution to clinical investigation at the institution; and 3) contribution to clinical investigation outside the institution

Several of these factors are already being considered in the promotion process at many, if not most, medical schools. In many instances, then, the purpose of this statement is to suggest methods for collecting and interpreting data in a more standard fashion than presently is done.

A. Candidate's own research: A review of the projects on which the faculty member has been, and is, the principal investigator is the primary criterion in assessing promotion potential. The faculty member's skill as an investigator can be assessed both quantitatively and qualitatively. The assessment should include both an overall assessment of the candidate's work as well as an assessment of individual pieces of work.

OVERALL ASSESSMENT OF CANDIDATE

In addition to assessing individual manuscripts or research studies, the promotion review process should involve an overall assessment of the quality of a candidate's contribution to the research field. The total body of a candidate's work may be either greater than or less than the sum of individual projects. Investigators in the candidate's field should take an active role in this part of the review process. The possible methods for accomplishing the overall assessment include:

a. Comparison List

One commonly used, and effective, method for assessing a candidate's work is asking reviewers in the candidate's field to list the other researchers in the field who are at the level for which the candidate is being considered. Comparison of the candidate to the members on the list is evidence of the quality of the candidate's work and relative stature.

b. Substantiveness of Contribution

The reviewers should also assess the substantiveness or impact of candidate's body of work. This refers to the degree to which the work has advanced the field, how dependent other investigators are on the result of the candidate's work, or how clinical care or health policy have been altered as a result of the candidate's work.

In addition, assessment of the relevant characteristics mentioned earlier such as rigor and clarity of work, and productivity of the candidate should be part of the overall assessment.

1. SPECIFIC FACTORS

a. Publications

Publications remain the primary individual criterion for judging a candidate's research. However, the emphasis should shift away from judging the total number of publications toward a more critical assessment of quality and impact.

i. Qualitative Evaluation

1. Overall Assessment of Publication: The promotion review committee should assess the relevance, importance and impact of the candidate's publications. Members of the committee

familiar with the candidate's area would be in particularly good position to assess the worth of the work compared to others in the same area.

The review of publications should be sufficiently standardized to ensure that reviewers explicitly comment on strengths, weaknesses, and importance, similar to the grant review process. To ensure that promotion committee members read the publications and are familiar with candidate's work first hand, as mentioned in section VII.B.3, members should be assigned specific publications review and present to the committee.

2. Contribution to Manuscripts: When the candidate is neither the first nor senior author, a description of his/her specific contribution to a manuscript by the senior author would be helpful in assessing the contribution the candidate made. A classification of contributions could be developed. Development and use of such a classification system would be an important step toward assessing quality rather than merely quantity of publications.

ii. Semi-Quantitative Assessment

Ideally, there should be a direct assessment of the impact of a candidate's publications on the research field as well as on health care policy and delivery. While promotion committee members familiar with the candidate's field can, and should, provide their estimate of this impact, more direct assessment may not be feasible. However, the journals in which the manuscripts appear and the number of citations are two indirect measures of impact.

While the specific journals in which a candidate's work appear should carry some weight, there are at least two caveats to this weighting. First, important manuscripts with great subsequent impact have been published in relatively obscure journals. Second, the choice among journals becomes more complicated as the needs of multiple disciplines must be considered.

iii. Quantitative Evaluation

Each institution should determine whether the number of publications should be considered in the promotion decision. The specific area of investigation should be considered in this decision as a few high quality publications are the standard in some fields. If the number of publications is considered, standards should be developed for assessing the quantity of publications. Priorities (or weights if desired) should be assigned to articles from highest to lowest in the order listed below.

For all areas of investigation, the number of citations by other authors, available from the Science Citation Index, is one potential aid to the objective assessment of impact. Because the expected number of citations will vary by area, each area of investigation should determine the standards by which to judge and compare candidates.

1. Original Investigation – Peer Reviewed Journal

a. Number of publications as first author or senior author

b. Number of publications other than as first or senior author or according to contribution to the manuscript as described above.

Given the wide variability in the manner of designating order of authorship, the latter approach is strongly encouraged.

2. Review Articles in Peer Reviewed Journals

- a. Number of publications as first author or senior author.
- b. Number of publications other than as first or senior author.

3. Books (as editor or sole author), Book Chapters, and Review Articles in Non-Peer Reviewed Journals

While a controversial area, non-peer reviewed journals may be a source of information for clinicians and thus have "impact" on health care delivery.

- a. Number of publications as first author
- b. Number of publications other than as first author.

The credit accorded an investigator for multiple review articles or book chapters on the same topic should be adjusted so that similar contributions are weighted less. However, updates, in which new material is included, should normally receive full credit.

4. Other Media

Videotapes, audiotapes, etc. are increasingly common formats for reviews and updates. These should be included in the quantification of output if they are peer-reviewed, and if they do not merely replicate reviews, articles, or book chapters.

iv. Tailoring Guidelines to Specific Fields

Examples of field-specific publication criteria include the fact that sounding boards and qualitative articles are considered research in ethics, but may not be in clinical strategies. Also, in some fields such as history, monographs that are not peer-reviewed are appropriate means for presenting original work.

b. Presentations

Competitive and invited national and international presentations should be included in the promotion review process because they are required by most medical schools, require some effort to prepare, are peer-reviewed (in the case of competitive presentations), or are a sign of national or international recognition (in the case of invited presentations), and are a means of disseminating research findings. However, presentations should carry considerably less weight than publications, because the rigor of the peer-review process, the effort required, and the impact on the field or on health care delivery are all usually less than for publications. Only presentations involving original investigation, as defined by the field, should be evaluated.

a. Peer-Reviewed Grants/Funding

The number of grants and total grant monies obtained is one measure of productivity that should be assessed in some areas of investigation, but grant support should not substitute for an assessment of the quality of publications or impact of research on the candidate's field. The role of grant procurement will vary by area of investigation. For example, research grants may not be necessary to conduct original work in some areas of ethics or the humanities. Also, the amount of money required to conduct original work may vary. Large clinical trials, for example, are more expensive to conduct than health policy investigation. Therefore, each area should determine whether grant support should be a criterion for promotion.

B. Faculty members' contribution to research at the institution: In assessing a clinical investigator for promotion, the overall contribution by the candidate to research at the institution is important to assess. The three general areas of contribution that should be assessed include: 1) intradisciplinary and interdisciplinary collaboration; 2) methodological consultation; 3) courses prepared for students, housestaff, fellows, or faculty; 4) supervision of junior faculty, fellows, residents, and students. A qualitative and quantitative evaluation of each of these three areas should be conducted.

1. QUALITATIVE EVALUATION

The candidate would submit a list of faculty members, fellows, residents, students, or others with whom he or she has worked, and what contribution has been made. These persons would be asked to evaluate the candidate's contribution to their own research or development. As for the promotion review committee, this evaluation should be standardized with trainees given specific questions to address and specific criteria by which to judge the candidate.

2. QUANTITATIVE EVALUATION

- a. Number of publications listed as other than first author. Alternatively, and preferably, the contribution classification system would be used to assess the "research contribution" made by the candidate.
- b. Number and outcome of grants listed as co-investigator or consultant.
 - a. Number and outcome of fellows' projects listed as advisor.
 - b. Number and outcome of resident or student projects listed as advisor.

C. Contribution to research outside the institution: Recognition outside the candidate's own institution is often viewed as an important criterion for promotion. The investigator's contribution may be in one or more of several areas including review of other investigator's work, collaborative research efforts, or advising on health or social policy. All of these areas are important and should be assessed in reviewing the candidate.

1. QUALITATIVE EVALUATION

As for the candidate's own investigation, the quality of the contribution to human investigation in general should be assessed by persons familiar with the candidate's research area. The "experts" who would use both the quantitative data outlined below as well as personal

knowledge of the candidate's work would address the relevance, quality, and contribution of the candidate to advancement of the field or impact on health policy.

2. SEMI-QUANTITATIVE EVALUATION

- a. Tenure on a study review sections (e.g. VAH, foundations, NIH, etc.).
- b. Number of ad hoc study or grant review sections
- c. Number of publications with investigators from other institutions or agencies. Again, a description of contribution is preferable to merely being listed as one of multiple authors.
- d. Number of editorial boards and manuscript reviews.
- e. Number of collaborative research projects.
- f. Number of research consultations at outside institutions.
- g. Amount of service to research and specialty organizations.
- h. Amount of service to policy-making organizations (e.g. state legislature, Institute of Medicine, HCFA).

VII. THE PROMOTION REVIEW PROCESS

The role of the promotion review committee at most institutions is to review the factors described in the next section and combine them into an overall determination of promotion potential. At most institutions, greater attention to the concepts and issues outlined above might improve the promotion review process. Specific improvements that would be beneficial at most institutions include development of more explicit criteria for reviewing candidates, a more active assessment of quality and impact rather than quantity of work produced, and development of a method for comparing candidates who devote variable amounts of their time to research versus clinical, teaching, and administrative activities. A brief outline of the structure and function of a promotion review strategy that addresses these issues is presented below.

A. Composition of the promotion review committee: If possible, the Promotion Review Committee should include persons with varying expertise so that candidates are judged both by persons familiar with the content area and methodology as well as persons less familiar with the area. Specifically, there should be a conscious effort to ensure that the Promotion Review Committee is composed of investigators involved in all types of research engaged in at the institution. Persons familiar with a candidate's area of investigation should be included in the review process. If no internal members of the Promotion's Committee are familiar with the candidate's area of investigation, ad hoc reviewers, either from within the candidate's area of institution or from outside the institution if necessary, should be included, as voting members, in the review process. While this strategy may add "administrative costs" to the review process, these costs could be lessened if participation in the process were considered part of a faculty member's "responsibilities." Faculty members would understand that they are expected to review other candidates just as other faculty members will be expected to review them.

B. Review process: As departments of medicine become increasingly diverse and complex with respect to the type of research undertaken, the need for a more formal and rigorous approach to promotion review has increased. Without explicit criteria, the promotion process will seem

increasingly arbitrary to candidates. Three specific strategies for increasing the rigor of the review process include:

1. EXPLICIT CRITERIA

Promotion Review Committees should be encouraged to develop and use explicit

Criteria for comparing the quality and impact of research performed by candidates involved in diverse types of investigation. This task could be accomplished by first determining the characteristics and behavior deemed important at the institution and judging all candidates by the same characteristics. The operational definitions and measurements of these characteristics could be individualized by research area. For example, the relevant characteristics of a candidate and his/her body of work may include the importance and innovativeness of the questions addressed, the rigor and clarity of the scientific method, impact, and productivity. Standards for measuring these method and presentation characteristics may differ by field of investigation. Appropriate standards for measuring these characteristics could be developed by investigators throughout the country involved in a particular area of investigation.

2. ADJUSTMENT FOR PERCENT OF TIME SPENT IN RESEARCH

Teaching, administration, clinical activities, and research are all vital activities that vary among candidates. In reviewing the research contribution of a candidate, the Review Committee should adjust for the percent of time spent in investigation versus these other activities.

Ideally, the quality of the contribution in each of these areas should be assessed. The overall promotion potential for a candidate could then be assessed by determining the "quality" of contribution to research as well as education, administration, and clinical activities.

3. REVIEW OF THE CANDIDATE'S WORK

A full evaluation of a candidate's body of research could perhaps be best accomplished by assigning primary and secondary reviewers to selected manuscripts (and perhaps grant applications and "pink sheets"). Specific assignments that required a report to the committee would encourage closer scrutiny of a candidate's work.

C. Additional duties of the promotion committee: In addition to reviewing candidates and providing recommendations to the medical school and university, two other tasks of the Promotion Review Committee would be helpful:

1. DESSEMINATION OF REVIEW CRITERIA

If, as recommended above, promotion review committees had explicit criteria for assessing candidates, these criteria should be known, in advance, by candidates, as well

as their section chiefs and department chairs. Indeed, ongoing review of junior faculty using these criteria should be encouraged, in not required.

2. SUMMARY STATEMENT

The Promotion Review Committee should develop a summary statement that is returned to the candidate. The summary statement should include overall strengths and weaknesses identified in the candidate's application for promotion. This statement especially is important for junior faculty members, for whom time remains to strengthen any areas of weakness. This summary statement should respect the confidentiality of individual reviewer's comments or recommendations.

IX. IMPLICATIONS

This statement is designed to guide the promotion process for clinical investigators. If adopted formally by SGIM, it would be a resource for all of our members to share with leaders at their institutions.