

UNIVERSITY OF MINNESOTA
MEDICAL SCHOOL
INSTITUTE FOR HEALTH INFORMATICS

7.12 STATEMENT

Statements Required By Section 7.12 of the Board of Regents Policy: *Faculty Tenure*

PART 1. MEDICAL SCHOOL PREAMBLE

I. INTRODUCTORY STATEMENT

This document describes the specific criteria and standards which will be used to evaluate whether candidates from the Medical School meet the general criteria for tenure in Section 7.11 and for promotion to professor in Section 9.2 of the Board of Regents Policy: *Faculty Tenure*. All candidates for promotion and/or tenure in the Medical School are evaluated with the criteria and standards in this preamble. In addition, each department in the Medical School has its own 7.12 Statement (Part II of this document) that further delineates the criteria for promotion and/or tenure within that individual unit. For a complete perspective, the reader is advised to review Sections 7 and 9 in their entirety. Section 7.11 is printed in IV: Criteria for Tenure (see below); Section 9.2 is printed in V.C Promotion to Professor. This preamble contains Criteria and Standards pertaining to:

- A. Appointment
- B. Awarding of indefinite tenure
- C. Promotion from Assistant Professor to Associate Professor and from Associate Professor to Professor
- D. The process for the annual appraisal of probationary and tenured faculty

The criteria, standards, and procedures are applied without regard to race, religion, color, sex, national origin, handicap, age, veteran status or sexual orientation.

The Medical School issues annually to each department, for distribution and information to faculty members, a set of instructions, memoranda, and other documents, giving detailed information on the procedures to be followed in the preparation and consideration of each proposal for tenure and/or promotion in rank. The pertinent documents are identified as exhibits enclosed with a cover memorandum from the Dean.

The Medical School 7.12 and Departmental 7.12 Statements are reviewed and approved by the dean of the Medical School and the executive vice president and provost.

The relevant University documents regarding criteria for tenure and/or promotion and the procedures for implementing these criteria are:

- University of Minnesota Board of Regents Policy: *Faculty Tenure*
- *Procedures for Reviewing Candidates for Tenure and/or Promotion: Tenure Track and Tenured Faculty*

II. MISSION STATEMENT

Committed to innovation and diversity, the Medical School educates physicians, scientists, and health professionals; generates knowledge and treatments; and cares for patients and communities with compassion and respect.

The Medical School strongly encourages and values interdisciplinary work, including scholarship, public engagement, and teaching, as well as interprofessional collaboration in clinical sciences. Concordant with the position of the National Institutes of Health, the Medical School values Co-Principal Investigators and interdisciplinary collaboration on major funding proposals as well.

III. APPOINTMENT AND ANNUAL APPRAISALS OF PROBATIONARY FACULTY

A. APPOINTMENT

1. Assistant Professor

In the Medical School the entry level rank for faculty is at the Assistant Professor level. The minimal, general criteria for initial appointment at this rank include:

- a. Possession of a terminal degree (MD or equivalent, or Ph.D.)
- b. Board eligibility or certification (if applicable - clinical specialties)
- c. Demonstrated ability in teaching
- d. Demonstrated involvement in high-quality research which has been accepted for publication or is published in peer-reviewed national or international journals
- e. Documentation of competence in the skills of communication, including effective communication in teaching students and in oral and written presentations of research

Each department may add specialty-specific criteria for appointment, in their Departmental 7.12 Statement.

2. Associate Professor and Professor

- a. The criteria and standards for appointment at the rank of Associate Professor are those stated for awarding of tenure.
- b. The criteria and standards for appointment at the rank of Professor are those stated for promotion to this rank.

In addition, for clinically active faculty, it is expected that for appointment at the rank of Associate Professor or Professor they will have achieved appropriate Board Certification in the specific field where they are practicing.

3. Secondary Appointments

The appointment home for a faculty member is always in the primary department (the tenure home is the University of Minnesota). Joint and/or secondary appointment requests will be made by the secondary department with the support of the primary department in the form of a request letter(s) signed by both department heads, addressed to the Associate Dean for Faculty Affairs in the Medical School. In the case that the appointment being requested is at the Associate Professor or Professor level, the secondary department may conduct a faculty vote by written ballot, based on the proposed collaborative activity in the secondary department for the faculty member. The results of the vote should be reported at the time of the request for appointment.

B. ANNUAL APPRAISALS OF PROBATIONARY FACULTY

In fulfillment of Sections 7.11 and 7.12 and in accord with Section 7.2 of the Board of Regents Policy: *Faculty Tenure*; “the tenured faculty of each academic unit annually reviews the progress of each probationary faculty member toward satisfaction of the criteria for receiving tenure. The head of the unit prepares a written summary of that review and discusses the candidate’s progress with the candidate, giving a copy of the report to the candidate.”

All tenure-track faculty will undergo an annual review each academic year. An academic year is defined in Section 5.3 in the Board of Regents Policy: *Faculty Tenure*. Annual appraisals in the Medical School and its departments comply with the procedures described in *Procedures for Reviewing Candidates for Tenure and/or Promotion: Tenure-Track and Tenured Faculty*. Each department will outline the specific process and criteria for annual appraisals, but at the very least will include a review by the tenured faculty of the department and an annual conference with the Department Head. These procedures are provided for by Sections 16.3, 7.4, and 7.61 of the Board of Regents Policy: *Faculty Tenure*.

The annual review of probationary faculty will be recorded on the *University of Minnesota (UM) Form 12* and will reflect the faculty member’s performance relative to the 7.12 Statement. A record of the vote by the tenured faculty for continuation or recommendation for promotion and/or tenure will be included on the *UM Form 12*, if a vote was taken. (This vote on annual reviews is optional). Each department will determine, and so state in their departmental 7.12 Statement, whether or not such a vote will be taken. If such an annual vote is taken in any department, a 2/3 majority of eligible voting faculty is required for continuation of the probationary appointment. A motion for termination also requires a 2/3 majority of eligible voting faculty for action to be taken. A record of the vote, either for continuation or termination, must be included on the *UM Form 12*. If a faculty member has extended his or her

probationary period according to Section 5.5 of the Board of Regents Policy: *Faculty Tenure*, this must be noted on the *UM Form 12* during the annual review.

The department head will meet annually with each probationary faculty member to review his/her completed *UM Form 12*. The department head and faculty member will sign the completed *President's Form 12*. The *UM Form 12* is forwarded to the dean for review, comment, and signoff.

The *UM Form 12* is then forwarded to the executive vice president and provost (EVPP) for review, comment, and signoff. A copy is kept in the SVPP Office. The signed *UM Form 12* will be kept in the probationary faculty member's tenure file and will become a part of the dossier.

For faculty members with joint and/or secondary appointments in another Medical School or University Department, annual reviews will be carried out according to the *Procedures for Reviewing Candidates for Tenure and/or Promotion: Tenure-Track and Tenured Faculty*. For a candidate who has an appointment in more than one unit, the candidate's offer letter will specify how the candidate will be evaluated annually and at the time of the tenure and/or promotion decision, including which unit's 7.12 statement will be used as the basis for evaluation and which unit's votes of tenured faculty will be counted or reported for the second level of review in the Medical School. The primary unit will receive input from the secondary unit on performance of responsibilities specific to that unit prior to each annual review and decision on promotion and tenure.

IV. CRITERIA FOR TENURE

Section 7.11 of the Board of Regents Policy: *Faculty Tenure* states:

7.11 General Criteria. *What the University of Minnesota seeks above all in its faculty members is intellectual distinction and academic integrity. The basis for awarding indefinite tenure to the candidates possessing these qualities is the determination that each has established and is likely to continue to develop a distinguished record of academic achievement that is the foundation for a national or international reputation or both [FN 2]. This determination is reached through a qualitative evaluation of the candidate's record of scholarly research or other creative work, teaching, and service [FN 3]. The relative importance of these criteria may vary in different academic units, but each of the criteria must be considered in every decision [FN 4]. Demonstrated scholarly or other creative achievement and teaching effectiveness must be given primary emphasis; service alone cannot qualify the candidate for tenure. Interdisciplinary work, public engagement, international activities and initiatives, attention to questions of diversity, technology transfer, and other special kinds of professional activity by the candidate should be considered when applicable. The awarding of indefinite tenure presupposes that the candidate's record shows strong promise of his or her achieving promotion to professor.*

[FN 2] "Academic achievement" includes teaching as well as scholarly research and other creative work. The definition and relative weight of the factors may vary with the mission of the individual campus.

[FN 3] The persons responsible and the process for making this determination are described in subsections 7.3 through 7.6.

"Scholarly research" must include significant publications and, as appropriate, the development and dissemination by other means of new knowledge, technology, or scientific procedures resulting in innovative products, practices, and ideas of significance and value to society.

"Other creative work" refers to all forms of creative production across a wide range of disciplines, including, but not limited to, visual and performing arts, design, architecture of structures and environments, writing, media, and other modes of expression.

"Teaching" is not limited to classroom instruction. It includes extension and outreach education, and other forms of communicating knowledge to both registered University students and persons in the extended community, as well as supervising, mentoring, and advising students.

"Service" may be professional or institutional. Professional service, based on one's academic expertise, is that provided to the profession, to the University, or to the local, state, national, or international community. Institutional service may be administrative, committee, and related contributions to one's department or college, or

the University. All faculty members are expected to engage in service activities, but only modest institutional service should be expected of probationary faculty.

[FN 4] Indefinite tenure may be granted at any time the candidate has satisfied the requirements. A probationary appointment must be terminated when the appointee fails to satisfy the criteria in the last year of probationary service and may be terminated earlier if the appointee is not making satisfactory progress within that period toward meeting the criteria.

A recommendation for tenure is made when an eligible faculty member has fulfilled the General Criteria for tenure, as stated in Section 7.11, and the standards stated by the Medical School and the department. Candidates must be evaluated for tenure during their mandatory decision year at the latest. The mandatory decision year occurs during the sixth probationary year for tenure-track faculty in the basic science departments, and in the ninth year for tenure-track faculty in clinical departments.

When distinction in research has greater weight in the decision to award tenure, the candidate must also show, at a minimum, evidence of competence in teaching. When distinction in teaching has the greater weight in the decision to award tenure, the candidate must also show, at a minimum, evidence of competence in research. Distinction in research requires documented evidence of high-level, independent scholarly effort. Distinction in teaching requires documented evidence of innovation and effectiveness in teaching, which have attracted national recognition.

Probationary faculty can extend their maximum period of probationary service, by one year for each occurrence of circumstances as described in Section 5.5 of the Board of Regents Policy: *Faculty Tenure*. In the case of childbirth, adoption, or foster placement of a child, a probationary faculty member must notify the department head, the dean of the Medical School and the executive vice president and provost of this circumstance using University of Minnesota Form UM 1764 and the extension of the probationary period is automatic. In the case of caregiver responsibilities or personal illness or injury, the probationary faculty member must receive the approval of the executive vice president and provost using University of Minnesota Form UM 1765. No probationary period may be extended for more than three years. (See the *Procedures for Reviewing Candidates for Tenure and/or Promotion: Tenure-Track and Tenured Faculty* for more details.)

A. TEACHING

Distinction in teaching for the granting of tenure must include scholarly work in education. Evidence of the generation of new methods of pedagogy with national recognition by peers (AAMC, ACE) and impact on educational programs nationally is required. Activities may occur in a variety of educational settings and formats, including: didactic presentations, lectures, seminars, conferences, tutorials, laboratories, case discussions, grand rounds, hospital and clinic rounds, patient care, surgical and other procedures, and continuing education. Competence in teaching requires participation in appropriate courses with satisfactory learner evaluations.

Assessment of distinction in teaching and advising students is based upon:

1. Innovative contributions to the field of medical education which have been adopted for use by other institutions and are recognized by peers as scholarly contributions.
2. Review of course(s) taught, directed, or developed; a list of students and degree candidates for whom the faculty member has served as academic adviser.
3. Evidence of teaching excellence at the undergraduate, graduate, and/or post-doctoral levels, evaluated by the written statements and/or compiled ratings of students.
4. Written statements by the Head of the Department, academic peers, and others familiar with the candidate's performance in teaching and educational scholarship.
5. Accumulation of above forms of evidence on teaching competence and excellence over a sustained period of time.

Assessment of competence in teaching is based upon:

1. Learner and/or peer evaluations.

B. RESEARCH/SCHOLARSHIP

Assessment of distinction in research is based upon the following:

1. A review of the candidate's scientific publications, particularly those in national or international peer-reviewed journals. Evidence is sought that the work is scholarly, creative, and of high quality and significance, whether focused on laboratory endeavors, clinical investigations, or analysis or synthesis of clinical observations and experience.
2. Independence of research accomplishments or significant contribution to interdisciplinary or collaborative research. Evidence of independence or significant contribution to interdisciplinary or collaborative research may include:
 - a. Naming of the candidate as the first or senior author on multi-authored journal articles and/or documentation of major, substantial contributions by the candidate to the collaborative project and publication.
 - b. Statements of peer evaluators on the creativity and significance of the candidate's contributions to a collaborative research project and/or to multi-authored publications.
 - c. Identification of the candidate as the principal investigator or a major collaborator on peer-reviewed, funded research grants or contracts
 - d. Invitations/nominations to serve on study sections, national policy boards, editorial boards, etc.
3. External research funding from federal and other national granting agencies which sponsor programs in biomedical and other scientific research subject to peer review.
4. Significant original contributions based on clinical observations resulting in new therapies or techniques which impact the practice of medicine.

Assessment of competence in research is based upon:

1. Evidence of significant discipline-related publications, including reports of clinical investigations, identification through case reports of new syndromes or treatments, and descriptions of new techniques.
2. Participation in invited scientific and clinical symposia, meetings and lectures.
3. Letters from authorities in the candidate's clinical discipline assessing his/her contributions to the discipline.

Team Science

Clinical and translational scientific research in health and disease increasingly is being carried out by multidisciplinary teams of investigators. Faculty in the Medical School are expected to create and/or disseminate peer-reviewed, publicly available scholarly products. Promotion and tenure recognizes investigators who conduct independent research and serve as principal investigators. In addition, the Medical School recognizes important and unique individual investigative contributions of team members involved in team science beyond the principal and senior authors. Contributions to team science may include key ideas, direction, study design, patient recruitment, data analysis, methodological input, participation in writing committees, or development and/or implementation of technologies required for study initiation or completion. Specific discernable contributions should be considered in the promotion process and supported; examples include:

1. Co-authorship of publication with specific contributions delineated in the annotated bibliography.
2. Quantitative recruitment of significant numbers of patients into clinical trials.
3. Key roles in multi-center clinical trials (site P.I., etc).
4. Grant support with funded effort as co-investigator.

Validation of the importance and uniqueness of individual contributions to team science will occur through external evaluations and, if needed, internal letters from other members of the research team detailing the scope of individual contributions to team science projects. Accomplishments of team scientists, including biostatisticians and ethicists, will be compared with their peers promoted at other leading institutions.

C. CLINICAL SERVICE (if applicable)

Clinical Service expectations in decisions for tenure and promotion to Associate Professor include enjoying an excellent reputation inside and outside the Twin Cities area as an authority in a clinical specialty, as demonstrated by patient referrals from outside the area, invited visiting lectureships, and memberships in professional societies.

D. SERVICE

In the Medical School service contributions are an integral part of the academic unit. Such service can be used to demonstrate an additional area of strength for the recommendation of tenure. Examples of service contributions include:

1. Participation in discipline-specific regional and national organizations.
2. Service to the Department, School, or University on governance-related or policy making committees.
3. Service to the community, State, and public engagement.

V. CRITERIA AND STANDARDS FOR PROMOTION IN FACULTY RANKA. ASSISTANT PROFESSOR

In the Medical School, the entry level rank for faculty is at the Assistant Professor level. It is therefore anticipated that there will be no promotions to this rank.

B. TO ASSOCIATE PROFESSOR

The general criteria and standards for promotion to the rank of Associate Professor are those stated for consideration of tenure (see IV above).

In addition, for clinically active faculty, it is expected that they will have achieved appropriate Board Certification in the specific field where they are practicing.

A recommendation for promotion to Associate Professor is made when an eligible faculty member has fulfilled the general criteria applicable to tenure, as stated in Section 7.11, and the specific criteria and standards for promotion to Associate Professor as stated by the Medical School and the Department. It is also an expectation of the University and the Medical School that all faculty promoted to associate professor with tenure are on a trajectory that will result in them achieving the rank of full Professor.

C. TO PROFESSOR

A recommendation for promotion to Professor is based on criteria set by the Medical School and the Department in accord with Section 9.2 of the Board of Regents Policy: *Faculty Tenure*

9.2 Criteria for Promotion to Professor. *The basis for promotion to the rank of professor is the determination that each candidate has (1) demonstrated the intellectual distinction and academic integrity expected of all faculty members, (2) added substantially to an already distinguished record of academic achievement, and (3) established the national or international reputation (or both) ordinarily resulting from such distinction and achievement [FN 7]. This determination is reached through a qualitative evaluation of the candidate's record of scholarly research or other creative work, teaching, and service [FN 8]. The relative importance of these criteria may vary in different academic units, but each of the criteria must be considered in every decision. Interdisciplinary work, public engagement, international activities and initiatives, attention to questions of diversity, technology transfer, and other special kinds of professional activity by the candidate should be considered when applicable. But the primary emphasis must be on demonstrated scholarly or other creative achievement and on teaching effectiveness, and service alone cannot qualify the candidate for promotion.*

[FN 7] "Academic achievement" includes teaching as well as scholarly research and other creative work. The definition and relative weight of the factors may vary with the mission of the individual campus. Not being promoted to the rank of professor will not in itself result in special post-tenure review of a tenured associate professor.

[FN 8] The persons responsible for this determination are the full professors in the unit who are eligible to vote. The outcome of the vote is either promotion to the rank of professor or continuation in rank as an associate professor. The procedures for voting are identical to those outlined in Section 7.4 for the granting of indefinite tenure, the nondisclosure of grounds for the decision (Section 7.5), and the review of recommendations (Section 7.6). In addition, a petition to the Judicial Committee for review of a recommendation of continuation in rank as an associate professor follows the procedures specified in Section 7.7 for decisions about promotion to associate professor and conferral of indefinite tenure.

Promotion to Professor is not based on time in rank, but on an increasing record of accomplishments. During the period as an Associate Professor, the candidate will have continued to develop his or her already distinguished record in teaching, research, and service and added substantially to the record that was the basis for the promotion to the rank of Associate Professor. The candidate must have achieved a national and international reputation in her or his area of expertise and be recognized as a leader and a mentor.

The proposal of a candidate for Professor will present evidence of additional significant academic, scientific, scholarly, and professional achievements such as:

1. The establishment of a training program for pre- and/or post-doctoral fellows in a specific discipline.
2. Election to prestigious scientific and/or professional organizations which recognize excellence and significant academic contributions.
3. Letters from authorities attesting to the candidate's acknowledged national or international reputation and recognition of leadership in his/her field; letters from prominent senior faculty members at other universities assessing the candidate's qualifications for promotion to the rank of Professor.
4. Nationally recognized leadership roles in the profession or the institution.
5. Evidence of effective mentoring of junior faculty, fellows, and M.D. and Ph.D. trainees.
6. Creating and sustaining a culture that fosters diversity.
7. Ongoing record of peer-reviewed publications.
8. Ongoing record of funding for research or scholarship (if applicable).
9. Ongoing excellence in clinical activity (if applicable).

VI. ANNUAL REVIEW OF TENURED FACULTY

In accordance with Section 7a of the Board of Regents Policy: *Faculty Tenure* and the *Procedures for Reviewing Candidates for Tenure and/or Promotion: Tenure-Track and Tenured Faculty*, each Medical School department will annually conduct a review of each tenured faculty member. The specific Departmental process for annual review and review criteria (i.e. the goals and expectations for continued performance by tenured faculty) will be described in the Departmental 7.12 Statement Part 2.

The Medical School procedures for annual review of tenured faculty are provided in Part 3 of the document (Annual Review of Tenured Faculty).

VII. VOTING PROCEDURES

- A. Promotion and tenure decisions in the Medical School require a positive vote by two-thirds of all eligible voting faculty members on the question to recommend affirmatively for promotion and/or tenure.
- B. Decisions to terminate the contract of a probationary faculty member also require a vote by two-thirds of all eligible voting faculty members in support of the motion to terminate the appointment.
- C. Tenured faculty are eligible to vote on the awarding of tenure to probationary faculty. Tenured faculty holding appropriate rank are eligible to vote on recommendations for promotion of candidates.

VIII. PROCESS FOR UPDATING THIS 7.12 STATEMENT

The Medical School will review its 7.12 Statement Preamble at least every five years, or more frequently as needed. Revisions will be made by the Associate Dean for Faculty Affairs. The revisions will be presented to the Faculty Advisory Council. All Medical School tenured and tenure-track faculty will be invited to review and give input on the statement, and approval will be obtained through a majority vote of the tenured and tenure-track faculty, in conjunction with approval of their departmental criteria, with the approval date noted on the document.

History of Revisions (approved by vote of the Faculty):

Original Document: Date unknown

Revision: April 15, 1993

Revision: July 2, 2009

Revision Approved by Medical School Faculty: June 21, 2012

Approved by Senior Vice President for Academic Affairs and Provost: June 22, 2012

Revised by Office of Faculty Affairs: June 25, 2018

(Technical revisions; addition of statement on team science.)

Approved by the Executive Vice President and Provost: July 10, 2018

PART 2. INSTITUTE FOR HEALTH INFORMATICS ADDENDUM

I. INTRODUCTORY STATEMENT

This document describes the specific criteria and standards which will be used to evaluate whether faculty in the Institute for Health Informatics (IHI) meet the general criteria in Section 7.11 of the Board of Regents Policy: *Faculty Tenure*, as defined for IHI. It also provides the specific criteria and standards that will be used to evaluate Associate Professors for Promotion to Professor according to Section 9.2 of the *Faculty Tenure* policy.

This document contains the Institute's Criteria and Standards pertaining to:

- A. Award of indefinite tenure.
- B. Promotion from Assistant Professor to Associate Professor and from Associate Professor to Professor.
- C. The process for the annual appraisal of probationary and tenured faculty.
- D. Annual review of tenured faculty.

II. MISSION STATEMENT

Health Informatics (also commonly referred to as Biomedical Informatics) is a highly interdisciplinary field that combines health sciences with computing and sister disciplines (Data Science, Artificial Intelligence, Information Science). The vision of the field (which was founded in the 1960s) is that the unique combination of disciplines and the resulting generalizable science of Informatics has the potential to make important contributions to the understanding, prevention, cure of disease and to the wellness of individuals and populations. Health Informatics has both theoretical and applied dimensions and is highly collaborative in nature.

Accordingly, the mission of the Institute for Health Informatics is to create an academic environment that:

- A. Conducts outstanding research in Health Informatics; cultivates a culture of research excellence, with collegial and team-oriented values.
- B. Educates the informatics experts of tomorrow; educates the broader UMN research community about informatics methods and tools and provides a University-wide resource for Health Informatics education.
- C. Facilitates, enables, enhances, and accelerates modern, complex science across the schools of the Academic Health Center and the University, through novel informatics methods, scientific software devices/systems, and collaboration.
- D. Provides necessary technical and scientific methods, expertise and tools in support of academic administration and general education.
- E. Provides necessary technical and scientific methods, expertise and tools in support of healthcare at the UMN-affiliated hospitals/care facilities and beyond.
- F. Engages with academic, community, governmental, and industry partners in the state, nationally, and internationally, in support of the vision of the field.
- G. Internally promotes the professional development of faculty so that they develop identifiable areas of national and international prominence, and achieve long-lasting scientific contributions. Externally engages the field and contributes to shaping the future of the profession.

An important prerequisite for maximum success of the mission of IHI is to develop strong relationships with all stakeholders within the institution. The IHI is well positioned to be of broad value to Health Sciences across school boundaries.

III. APPOINTMENT AND ANNUAL APPRAISALS OF PROBATIONARY FACULTY

A. APPOINTMENT OF PROBATIONARY FACULTY

Tenured and tenure-track appointments require pre-approval by the Dean of the Medical School to initiate a search. Faculty members hired with tenure are subject to approval by the Executive Vice President and Provost of the University of Minnesota.

General requirements for appointment to Assistant Professor in the tenure-track:

1. Education (Professional Preparation):

- a. PhD in Biomedical Informatics, or
- b. Doctoral degree in a related science (e.g., Computer Science, Biomathematics, Biomedical Engineering) plus a minimum of two years of postdoctoral study and research or MS in Biomedical Informatics, or
- c. Doctoral degree in a Health Science/Professional discipline (e.g., MD, PharmD, DDS, or equivalent terminal degrees) plus a minimum of two years of postdoctoral study and research or MS in Biomedical Informatics.

2. Research:

- a. Experience conducting research and publishing peer-reviewed journal papers, as first or senior author.
- b. Funding: Description of fundable areas and corresponding mechanisms aligned with training and career interests of candidate, or prior or current research (typically K or R) grant award to candidate.

3. Collaborative Science:

- a. Evidence of prior collaborative and interdisciplinary work.

4. Education/Training:

- a. Prepared to teach at least one class as primary instructor and participate as lecturer in other classes. Submittal of teaching goals and philosophy document.
- b. Prior experience as instructor, co-instructor or teaching assistant at the graduate level.

5. Strong communication and interpersonal skills as evidenced by letters of reference, interviews, prior educational or other activities.

Faculty may be appointed jointly in IHI and other departments/schools.

Faculty may also be hired at advanced ranks with tenure, if they meet or exceed the requirements of the Institute and University's tenure and rank review, and subject to approval by the Executive Vice President and Provost of the University of Minnesota.

Appointments in higher ranks than Assistant Professor in the tenure-track but not immediately tenured, will also be considered for qualified candidates who far exceed the qualifications of the rank of Assistant Professor (e.g. who would be qualified for promotion to the rank of Associate or Full Professor without tenure), and who are good candidates for meeting the requirements for permanent tenure in the future.

B. ANNUAL APPRAISAL OF PROBATIONARY FACULTY

1. Process

The overall process for Annual Review of Probationary Faculty in the Institute for Health Informatics is in compliance with Section 7.2 of the Board of Regents Policy: *Faculty Tenure*. Development of Assistant Professors in research and teaching will be fostered through mentorship by senior faculty. No less than two mentors will be

assigned to each probationary faculty member. Two members will be tenured or otherwise senior faculty in IHI (the chair of mentoring committee must be tenured) while a third mentor may be appointed in partner disciplines such as Data Science, Computer Science, Engineering or in case of faculty with joint appointments may come from the department granting the joint appointment. The mentoring committee will be designated within the first six months of appointment of the new faculty member.

The roles of the mentoring committee encompass: to monitor progress and help remove obstacles; to provide guidance in developing a targeted area of national prominence; to provide guidance about designing a sustainable research program with promise for substantial and long-lasting scientific contributions; to advise on grant writing, manuscript submission, laboratory management and informatics culture; to provide connectivity and research collaborative opportunities for the mentored faculty within the University and nationally; and to provide guidance in teaching activities and skills.

The mentors also help the probationary faculty respond to issues raised in the annual review by senior faculty.

Tenure-track faculty members will be reviewed annually by tenured faculty members based upon a cumulative summary of the candidate's Faculty Activity Reports since appointment to the faculty. Probationary faculty members' performance will be reviewed relative to criteria established in this 7.12 Statement. The Director of IHI will begin the discussion of the probationary faculty member with a summary of the information in the Faculty Activity Report. The mentors will then add relevant comments regarding teaching and research. The report of the discussion will articulate strengths and weaknesses of the candidate, as well as recommendations for improvement when appropriate.

The IHI Director is responsible for preparing a University of Minnesota (UM) Form 12 (*Appraisal of Probationary Faculty*), which summarizes the discussion and will reflect the faculty member's performance relative to the 7.12 Statement. The IHI Director will then meet with each probationary faculty member, individually, to discuss the content of the review, and each will sign the UM Form 12. Typically, it is expected that there will be a gradual increase in teaching and service responsibilities following the initial appointment of a probationary faculty member.

2. Criteria

The criteria for satisfactory performance to be used for the annual probationary review in the Institute for Health Informatics are the same as the appropriate criteria for rank, as defined in this 7.12 Statement.

IV. CRITERIA FOR TENURE

Criteria for Tenure - Institute for Health Informatics

Indefinite tenure may be granted when the candidate has satisfied the requirements. A probationary appointment must be terminated when the appointee fails to satisfy the criteria in the last year of the probationary period of 6 years and may be terminated earlier if there is strong evidence that the appointee is not making satisfactory progress and will very likely fail to meet the criteria within that period.

The Institute for Health Informatics adheres to the statement of Criteria for Tenure of faculty in the *Faculty Tenure* policy (Subsection 7.11). To be recommended for indefinite tenure, a probationary faculty member should demonstrate strong performance in research, teaching, collaborative science, and service. Service to professional organizations and federal agencies will be taken as evidence of nationally recognized stature, but without the accompanying research and teaching contributions, cannot be the basis for awarding tenure.

The following standards are specific to the Institute for Health Informatics:

A. RESEARCH / SCHOLARSHIP

Health Informatics is a predominantly research-oriented discipline. The recommendation for tenure is based on scholarly activity that includes evidence of the ability to establish and maintain a high-impact research program. Due to the interdisciplinary and collaborative nature of the field, collaborative (team) science is evaluated on an equal basis as individual research. This is meant in the following sense: if a faculty member is an excellent collaborative scientist making substantial intellectual and scholarly contributions in collaborative (team science) settings, then IHI will support the tenure. Similarly, if a faculty member is an excellent scientist focusing on her personal research, then IHI will support tenure for that faculty as well. In general, IHI will seek to develop a blend of both skills in all faculty and all faculty members will be expected to have both individual research and collaborative research activities. The precise blend of individual and collaborative (team) science activities for each faculty will vary, however, according to the faculty's interests and area of expertise/focus.

Criteria for documenting level and quality of involvement in team science

Criteria for documenting team science involvement include:

1. Participation in extramurally funded projects as PI, MPI, Co-PI, director of Informatics Core, Co-Investigator or University site PI of subcontracts housed in other institutions.
2. Co-authorship in peer-reviewed manuscripts authored with larger interdisciplinary and collaborative science teams.
3. Active research participation in scientific consortia and ensuing scholarly publications.
4. Research participation in intramural grants supporting interdisciplinary efforts.
5. High-level research advisory roles in entities such as federally-funded centers or government agencies, and extramurally-funded projects.
6. Educational productivity serving translational and interdisciplinary science in the form of lectures, courses, tutorials, manuscripts and books.

Categories:

1. Publication in rigorously peer reviewed journals and other forums

The primary medium for scientific dissemination to be used for evaluation of merit of promotion to tenure is scientific articles reporting high quality research published in rigorously peer-reviewed journals appropriate to the discipline of Informatics. Such journals include dedicated Informatics Journals but also journals in Computer Science, Engineering, Data Science, Machine Learning, Artificial Intelligence as appropriate for the faculty's research foci.

In addition, all types of Biomedical journals are appropriate for collaborative science work. In collaborative science publications, informatics faculty must have intellectual contribution in the study design, execution and interpretation of results. In collaborative science publications, the informatics faculty can be the middle author, whereas in informatics-specific methodological publications, informatics faculty must have first or senior authorship in a significant proportion of corresponding papers. Senior authorship is typically signified by first or last author positions. In some cases, senior authorship may not be signaled by this convention (e.g., in certain sub-fields, publication in alphabetic order is expected). In such cases it is the faculty member's duty to specify to the mentoring and promotion review committees about their senior authorship status along with any supporting evidence or related information the committees may require. See Appendix I for guidance on such specification.

In the field of Informatics, (and also in Computer Science and Engineering among other fields), *full-length peer-reviewed* articles in highly selective national and international conference proceedings are often considered of equal significance with journal papers. Minor or non-selective conferences do not substitute for journal papers, however. For academic soundness and appropriateness of this practice please refer to:

- a. *Bernstam, E.V., Hersh, W.R., Johnson, S.B., Chute, C.G., Nguyen, H., Sim, I., Nahm, M.M., Weiner, M., Miller, P., DiLaura, R.P. and Overcash, M.M., 2009. Synergies and distinctions between computational*

disciplines in biomedical research: perspective from the Clinical and Translational Science Award programs. Academic medicine: journal of the Association of American Medical Colleges, 84(7), p.964.

b. *Patterson, D., Snyder, L., Ullman, J., 1999. Best Practices Memo Evaluating Computer Scientists and Engineers For Promotion and Tenure. Computing.*

The IHI will maintain a list of full-length peer-reviewed highly selective national and international conference proceedings that will be considered of equal significance with journal papers. This list will be reviewed and updated at least bi-annually by action of the tenured IHI faculty and in accordance with national best practices.

For tenure in IHI, at least 50% of published papers submitted to support promotion in journals. The IHI faculty review process will be responsible for making sure that conference papers listed in the promotions dossier and vitae are acceptable and denoted as such in the faculty member's promotions dossier.

The promotion committee will pay special attention to publications in top-tier journals specific to the focus area of each candidate for promotion. The IHI will build over time and maintain a set of lists of top-tier journals for various foci of Biomedical Informatics. The absolute value of impact factor without consideration of topic is not a preferred criterion for establishing such lists since impact factor is very sensitive to topic and varies widely according to topic. Instead, broad credibility and reputation in the field will be used to establish such top-tier journal lists for a number of common foci topics.

In addition, the promotion committee will pay special attention to the number of citations received by individual papers. If a paper has received a considerable number of citations then this will count very positively even if the publishing journal is not a top-tier journal.

Specific to the field of informatics, other important forums for dissemination of research results and related criteria for documenting impact are:

- authorship of software that is used by researchers outside of the faculty member's lab; widely-used methodologically innovative software that is of primary value to the field of informatics and highly-adopted software has equal weight as highly cited papers;
- patents (granted and active pending or provisional ones) will be considered on par with peer-reviewed journal papers (subject to the requirement that the majority of dissemination activities used to evaluate a faculty member's tenure will be peer-reviewed journals);
- editorships in multi-author volumes;
- editorship in journal special topics, national and international peer-reviewed tutorials; and
- monographs.

2. External research funding

The candidate must have an active and successful research program and must exhibit financial sustainability and external validation of research quality by acquiring at least one external grant as a principal investigator, and multiple grants as a co-investigator or co-PI during the probationary period.

In addition, the candidate should ideally meet the total annual funding benchmark of IHI (revised periodically; currently 50% base salary support from extramural funding) after the initial period of employment (currently first 3 years). However this is not an absolute requirement. It is conceivable for outstanding scientists who do not meet this criterion, but have very significant accomplishments and ongoing contributions to the field and the University, for IHI to recommend their indefinite tenure.

In recognition of the collaborative nature of the field and of the small number of individual investigator grants awarded by the NIH for informatics, any combination of collaborative and faculty-initiated research funding is acceptable toward meeting the annual funding benchmark. Additionally, subcontract PI roles, directorship of large scientific cores in important institutional grants, and co-equal Co-PI roles will be counted as satisfying the PI requirement, provided that the faculty member's intellectual contribution is very significant.

The grants considered above must be peer-reviewed and be awarded by federal agencies, international agencies or by nationally competitive private agencies appropriate to the discipline. The high likelihood of maintaining such funding into the future is deemed to be of prime importance to sustainability and will be used by IHI when considering faculty for promotion.

3. Significant scholarly contributions

Evaluations will be sought from national and international leaders in the faculty member's field of research establishing that the faculty member's contributions are scholarly, creative, and of high quality and significance. The assessments will also provide clear evidence of whether or not the faculty member has a national (for Associate Professors) or international (for Full Professors) reputation in the discipline of Health Informatics.

In addition to evaluations provided by referees, the following three criteria are of high importance for establishing the impact of the faculty member's work:

- a. Citations received,
- b. Impact metrics of methodologically important work produced by the faculty member. For example, number of downloads or registered users of software disseminated by the faculty member or, more generally, embodying the faculty member's methodological discoveries.
- c. Technology transfer that translates the faculty member's scientific achievements into diagnostics, therapeutics, or other health care and health sciences enabling advances.

In evaluating impact, all appropriate resources (e.g., PubMed, WoK and Google Scholar) will be considered since not all resources appropriate for typical Health Sciences (eg WoK, Pubmed) contain publications in Informatics, Computer Science, Machine Learning, Pattern recognition, Information Retrieval, Mathematical and Data Science technical papers.

The relative importance of a journal in the field and the actual citations received will count more than the Impact Factor of the journal as explained earlier in IV. CRITERIA FOR TENURE - Research/Scholarship Criteria - Category I.

4. Invited seminars at symposia, universities and companies and participation in national meetings

Faculty members are expected to present their work at national meetings on a regular basis. Faculty members should be also invited by national or international scientific organizations to participate in symposia, meetings and conferences and should be invited to give seminars before peers in other institutions nationally or internationally. However, this cannot be used as sole criterion for tenure.

5. Additional evidence/criteria of exceptional performance in research

1. Election in honorary, highly selective, colleges and other societies demarcating seniority in the field and high distinction among peers.
2. Obtaining a prestigious career development award.
3. Obtaining a prestigious research award.
4. Significant contributions toward the creation of informatics modalities (high impact software, risk models, decision support tools, precision medicine tests) that can help researchers or reach patients and improve discovery, prevention, diagnosis, prognosis or treatment.
5. Objective evidence that one or more major informatics problem(s) deemed independently to be hard and important, is now solved because of the new methods work of the faculty, or that major inroads toward its solution have been made by the faculty. This category is particularly suited for algorithmic or other rigorously defined problems and solutions.

6. Objective evidence that the faculty member's scientific findings, methods, novel software or other products, are used or having impact in the industry.
7. Objective evidence that the faculty member's scientific findings transcend the narrow confines of their field and are recognized by other fields as well.

Evaluation

Based on evaluation of the Tenure Dossier, and presentations to the faculty by the probationary faculty mentoring committee, discussion and review by the tenured faculty will be done at a summer faculty meeting and at the beginning of the candidate's decision year (typically the sixth probationary year), typically not before the end of the fifth year and not after the end of the seventh year. For faculty with prior experience in the tenure-track of comparable institutions to the University, said experience and accomplishments will count in determining the time of evaluation. The tenured IHI faculty will judge each candidate based on the criteria listed above, as evidence of scholarly achievement deserving promotion with tenure. A candidate worthy of indefinite tenure should possess qualifications that indicate the candidate has established and is likely to continue to develop a distinguished record of academic achievement that is the foundation for international recognition. The tenured faculty members will expect candidates for tenure to have published high-impact work, to have procured external, competitive, peer-reviewed funding, and to be identified by internal and external reviews as important contributors to their field of study with national visibility. The voting faculty will also consider the trajectory of the candidate's record of accomplishments, including the likelihood of a sustained impact on their field, producing high-quality publications, and achieving long-term financial sustainability of their research. Collaborative and interdisciplinary efforts where the candidate has made important intellectual contributions are a significant indicator of merit. Other forms of productivity will be recognized, including software dissemination, patents, public-engaging research, technology transfer, or other products, as indicators of important contributions or achievements resulting from research activities.

Outstanding accomplishments in collaborative science

In recognition of the multidisciplinary and collaborative nature of the field, involvement, intellectual contribution, and impact of the candidate to the Collaborative Science and Expert Consulting Cores administered by the IHI and the corresponding measurable output in terms of discoveries, papers and grants resulting from such activity, is an important criterion in granting tenure.

Whereas most faculty will be judged on a combination of individual and collaborative research and educational activities, IHI faculty with exceptional collaborative science scholarship and research portfolios who participate in multiple grants and make critical intellectual contributions to the science of informatics and to informatics-dependent scientific areas, will be strong candidates for indefinite tenure.

B. SERVICE

Service to professional organizations, learned societies, state and federal agencies, and to the community, when appropriate to the candidate's academic expertise and the mission of the IHI, will be considered during tenure deliberations. Similarly, service to the Health Sciences and the University will also be evaluated. Service outside the University (i.e. grant review committees, editorial boards, symposia development) is viewed as an important example of professional accomplishment and peer recognition. Evidence of the ability to contribute satisfactorily to the service needs of the profession will be required of all successful candidates.

Evaluation

The tenured faculty will review all service contributions of the candidate, with the expectation that such service reflects professional development, recognition, and advancement of the institution.

C. TEACHING

Strong teaching skills need to be demonstrated in the classroom, as well as in mentoring students in the laboratory and serving as advisor and critical evaluator on graduate thesis committees.

Categories for evaluation

1. Teaching of degree candidates in the IHI programs and the undergraduate, graduate and/or professional schools.
2. Advising of degree candidates in the IHI programs and the undergraduate, graduate and/or professional schools.
3. Service as a thesis advisor to candidates for advanced degrees (Master's and/or PhD) in the IHI programs or in other graduate programs.
4. Mentoring of post-doctoral researchers.
5. Informatics mentoring of early career faculty in other disciplines.
6. Creation and dissemination of high-quality teaching materials such as textbooks, tutorials, educational software, video lectures, or other products.

Documentation for performance & evaluation criteria

1. Review of courses and materials taught, directed or developed by the candidate at undergraduate, graduate and professional student levels.
2. A listing of the degree candidates advised in the graduate and professional schools, and undergraduate research students advised.
3. Written evaluations by undergraduate, graduate, and professional students.
4. Written statements by faculty mentors within the IHI and others familiar with the candidate's teaching performance.
5. If applicable, written documentation and evaluations of teaching efforts outside the IHI (e.g. continuing professional forums, corporate or public lectureships).
6. Grants awarded, adoption, or awards received for teaching activities, software, and other teaching modalities.
7. Participation in a leadership position in national organizations that have significant activities devoted to education and educational development.
8. Letters from leading educators in the field attesting to the candidate's national reputation, and assessing the candidate's contributions to development of advances in education in the field.
9. Career progress of mentored trainees.

Evaluation

The tenured faculty will evaluate the effectiveness of the candidate's teaching performance using the listed documentation and criteria.

Outstanding accomplishments in informatics education

Whereas most faculty will be judged on a combination of individual and collaborative research accomplishments and teaching, IHI faculty who are educational leaders with predominantly educational accomplishments for the institution and the field, may be evaluated for permanent tenure if the weight of their educational achievements demonstrably outweighs productivity in research. In such cases a strong expectation for educational scholarship will apply.

V. CRITERIA AND STANDARDS FOR PROMOTION IN FACULTY RANK

The Institute for Health Informatics promotion decisions require a positive vote by two-thirds of all faculty members eligible to vote on the question to affirmatively recommend for promotion. Eligible members include IHI tenured faculty at the proposed rank and above.

A. TO ASSISTANT PROFESSOR

Not applicable (Entry level rank is Assistant Professor)

B. TO ASSOCIATE PROFESSOR

The criteria and standards for promotion to the rank of Associate Professor in the Institute for Health Informatics are those stated for consideration of tenure (see IV above). A recommendation for promotion to Associate Professor is made when an eligible faculty member has fulfilled the general criteria applicable to tenure.

C. TO PROFESSOR

Tenured Associate Professors will be strongly expected and supported by IHI for continuing accomplishments and professional development that qualifies them for promotion to Professor. There is no expected timeline for promotion from Associate to Professor and promotion to Professor does not occur based solely on time in rank. Faculty may remain at the rank of Associate Professor indefinitely if they fail to make substantial progress past the accomplishments qualifying them for promotion to Associate Professor.

This promotion is to be based on continued academic and professional development, with substantial achievements that distinguish the candidate as described below.

Criteria

A candidate for promotion to Professor is judged according to the following criteria beyond what was accomplished in scale or scope that was necessary for promotion to Associate Professor. Not all criteria need be met; however, a significant proportion is expected:

1. A substantial enhancement in academic record as based on accomplishments in teaching and research.
2. Contributions of mentoring of early career faculty and a training program for pre- and/or post-doctoral trainees that has resulted in placing of trainees in academic positions, industrial positions, or positions in which their training is applied to their own career (e.g. law or policy positions).
3. A strong reputation, with international scope, of scientific advancement in the field of study, as demonstrated by some or all of the following: invitations to international symposia, election to prestigious scientific organizations, editorial boards, national review panels and holding offices in national and international societies.
4. Letters from authorities in the candidate's field, assessing the candidate's scientific contributions and demonstrating that she/he is among the leaders of his/her field. Some letters must come from scientists outside the United States and will be used to document the candidate's international reputation.
5. Creating and sustaining a culture that fosters diversity, integrity, research excellence, and team science values.
6. Election in honorary, high selective, colleges and other societies demarcating seniority in the field and high distinction among peers.
7. Obtaining a prestigious research award.
8. Significant contributions toward the creation of informatics modalities (high-impact research or clinical software, risk models, decision support tools, precision medicine tests, or other products) that can help researchers reach patients and improve prevention, diagnosis, prognosis or treatment.
9. Objective evidence that one or more major informatics problem(s) deemed independently to be hard and important, is now solved because of the new methods work of the faculty, or that major inroads toward its solution have been made by the faculty member. This category is particularly suited for algorithmic or other rigorously defined problems and solutions.
10. Objective evidence that the faculty member's scientific findings, methods, novel software or other products are used in the industry.
11. Objective evidence that the faculty member's scientific findings transcend the narrow confines of their field and are recognized by other fields as well.

Evaluation

The process for promotion to Professor is initiated when the Promotion and Tenure Review Committee believes the achievements warrant consideration by the IHI's Professors and the collegiate unit. The Procedures for Reviewing Candidates for Tenure and/or Promotion requires that the tenured Professors in IHI review and provide feedback to tenured Associate Professors every four years regarding their progress toward promotion to the rank of Professor. The candidate may request review and consideration by the Promotion and Tenure Committee. The Promotion Dossier will contain information as described for the tenure process (e.g. achievements as evidenced by grant support, publications, recognition in the field, professional service, and teaching).

The Professors in the IHI evaluate the Promotion Dossier and determine if the candidate has met the criteria. Some indicators of satisfying the criteria are:

1. Sustained, peer-reviewed, national funding as PI and/or collaborator.
2. Publications in highly regarded journals, including those that are considered specialty journals in the field of study.
3. Training activities that show sustained and successful mentoring of early career faculty, graduate students, postdoctoral fellows, undergraduates, and professional staff.
4. Subsequent placement of mentored personnel in academic or other scientific positions.
5. Participation in multi-investigator projects, grants, publications, demonstrating impact in scientific contributions to others.
6. Invited presentations at national and/or international meetings.
7. Organizational/leadership role in national/international meetings.
8. Service on editorial boards and grant study sections.
9. Election to positions in professional societies or foundations.
10. Other evidence of productive achievements, such as patents, licensing agreements, consulting arrangements, copyrights.
11. Evidence of significant contribution to teaching, and adaptability in teaching undergraduate, graduates, and professional students.
12. Service as a course director, or active participant in new course development.
13. Evidence of mentoring early career faculty.
14. Service on dissertation committees.
15. Production of instructional materials.
16. Service to the IHI, the Health Sciences, and the University.
17. Evidence of public service outside the University.
18. Creation and dissemination of high impact research or clinical software, risk models, decision support tools, precision medicine tests or other outputs that can help researchers reach patients and improve prevention, diagnosis, prognosis or treatment.
19. Objective evidence in the form of theoretical and/or empirical proof that one or more major informatics problem(s) deemed independently to be hard and important, is now solved because of the new methods work of the faculty, or that major inroads toward its solution have been made by the faculty.
20. Adoption of faculty member's scientific findings, methods, novel software or other products by industry.
21. Evidence that the faculty's scientific findings are noted and used by other fields as well.

The Promotion Dossier materials are collected, and completed by mid-summer to comply with the annual promotion consideration of the Medical School, and the University. The Professors in the IHI review the documents, discuss the qualifications in a faculty meeting, and vote on whether to recommend promotion. The IHI Director summarizes the highlights of the complete dossier as well as the discussion points and vote of the eligible faculty in a letter that is placed in the Dossier for evaluation by the Medical School Promotion and Tenure Committee.

VI. ANNUAL REVIEW OF TENURED FACULTY

After the granting of tenure, the faculty member's level and quality of productivity is expected to be maintained and ideally grow in scope and ambition; while the focus of scholarly activities may change, all tenured faculty members are expected to continue contributing to the intellectual environment of the Institute for Health Informatics as well as of the greater University community.

The faculty member will be reviewed on the basis of the quality of efforts and results in research, teaching, and service that comprise the triad of faculty functions. All faculty members are expected to contribute to each of these components. It is recognized that faculty members have different strengths; substantial contributions in one component may balance other elements of the triad. All tenured faculty members are expected to foster the development of faculty in lower ranks.

The purpose of the annual review is to ensure continuation of high caliber performance following granting of tenure. Thus, the aim of the review is proactive and positive – it seeks to improve faculty member's performance and to

identify potential obstacles. If obstacles are apparent, the goal is to constructively develop a plan in collaboration with the faculty member to remove obstacles, identify support needed, possible redistribution of efforts, and to enhance the faculty member's effectiveness towards the mission of the IHI and the institution.

The review will focus on whether the faculty member continues to meet the goals and expectations for tenured faculty members as outlined in this 7.12 Statement.

This process is in compliance with the *University Policy Procedures for Reviewing Candidates for Tenure and/or Promotion: Tenure-Track and Tenured Faculty*. During the spring of each academic year, the IHI Director will schedule an annual review conference with each tenured faculty member. This responsibility may occasionally be shared or delegated to appropriate senior faculty designees. All reviews must receive final approval from the IHI Director. Prior to this conference the individual faculty member will provide the requisite information, as well as an updated curriculum vitae, following the IHI's annual review reporting format.

The annual review must take into account the goals and expectations of IHI for the performance of tenured faculty in the areas of research, teaching, and service. The performance of tenured faculty is rated as "outstanding," "satisfactory" or "unsatisfactory" for each of the categories to which the tenured faculty dedicates professional efforts.

The annual review must include:

1. Accomplishments over the previous year in relation to goals set for that year.
2. Percentage of efforts in each domain, to be updated annually.
3. Agreed upon goals for the upcoming year.
4. Plans for subsequent years.
5. Specific recognition of outstanding accomplishments.
6. Specific steps that need to be taken by the IHI, if any, to achieve personal professional goals to support Institute and University mission.

GOALS AND EXPECTATIONS FOR TENURED FACULTY

The annual review documentation must include detailed accomplishments in each domain:

A. TEACHING

Consistent with its mission, a goal of the IHI is to provide excellent professional, graduate and post-graduate education. Parameters used to assess effectiveness in teaching may include evaluations of lectures and laboratory practices proctored, by student's evaluations of teaching by residents, fellows and exit evaluations by graduate students.

For satisfactory performance tenured faculty should report at least two accomplishments within one or more of the following areas:

1. Teaching courses as assigned by the IHI to meet internal and collegiate curricular needs.
2. Advise and mentor undergraduate and graduate students, medical students, residents and fellows, and postdoctoral fellows.
3. Instructional design that leads to new course products or update of instructional media to reflect evolving needs and advances in the field.
4. Evidence of active participation on graduate student committees.
5. Local or national recognition for teaching activities.

B. RESEARCH/SCHOLARSHIP

Consistent with its mission, a goal of the IHI is to maintain an active program of nationally and internationally recognized scholarly activity. Faculty should provide evidence that they are maintaining a consistent program of scholarly activity and conducting research of high quality.

For satisfactory performance tenured non-clinical research faculty must report accomplishments in the following areas:

1. Active program of research addressing challenging research problems.
2. Primary or senior author in peer-reviewed journals.
3. Sustained funding from external agencies and evidence of submission of proposals for funding.
4. Significant collaborative efforts with other researchers.
5. Organization or active participation in scholarly conferences at the national or international level.
6. Continued training of undergraduate and graduate students, medical students, residents and fellows, postdoctoral fellows, and subspecialty fellows.
7. Other dissemination and scholarly activities (i.e. books, book chapters, patents).

C. SERVICE

Institutional and professional service will also be considered along with teaching and scholarly activities. The relevance and importance of service (professional and institutional) activities to the mission of the IHI, the Health Sciences, and the University should be assessed. Evidence of the strength and quality of service activities should be provided by the individual faculty member as part of the annual review of activities.

For satisfactory performance tenured faculty must report at least two substantial accomplishments in this area. This can include but is not limited to:

1. Service on standing IHI or Health Sciences committees.
2. Serving as an officer, on the board of directors, or committees on national professional organizations.
3. Participating in national grant review councils.
4. Participation in administration and function of collaborative science and expert consulting cores and activities.

Unsatisfactory performance is defined as a failure to meet the satisfactory performance requirements within the criteria listed for each domain (Teaching, Research and Service) after a year following the establishing of a corresponding performance improvement plan.

Following the annual review conference, the IHI Director or designee will complete the Annual Review Form, summarizing the conference and stating the agreed-upon goals for the upcoming year. The Annual Review Form must be signed by the faculty member, the evaluator (if applicable), and the IHI Director.

For faculty members who have met the goals and expectations for tenured faculty for the IHI according to the 7.12 statement, the signed Annual Review Form is sent to the office of the Associate Dean for Faculty Affairs in the Medical School, who signs on behalf of the Dean. The review form will be handled confidentially by the Dean and the Associate Dean and will assist them in supporting recommendations for promotion, special recognition, or salary adjustment.

For faculty members whose performance is below expectations for the IHI, as specified in the 7.12 statement, the case is referred to a committee of elected, tenured faculty members in the IHI. If that committee concurs with the judgment of the IHI Director, then both the committee and the IHI Director will formulate a detailed written Faculty Improvement Plan for the faculty member. The letter from the IHI Director and the elected committee must identify the ending date for the period of performance improvement, which can be no less than one year from the date of the letter, and must request that the faculty member provide a report at that time describing his or her progress toward meeting the goals and expectations of the IHI.

The IHI Director and the committee should make reasonable efforts to meet with the faculty member to discuss the plan for meeting the goals and expectations of the unit. The faculty member may request modification of the plan from the IHI Director and the committee, but may not at this stage file a complaint with the Senate Judicial Committee.

At the end of the time period specified for performance improvement, the faculty member under review must provide a report describing his or her progress toward meeting the goals and expectations of the IHI. The IHI Director and elected committee of tenured faculty will then review the progress that the faculty member has made regarding the recommendations as specified in the report from the faculty member.

The process above may be repeated for a second year if the faculty member has failed to complete the initial plan.

VII. VOTING PROCEDURES

A. VOTE

1. A vote by all tenured IHI faculty will be taken for decisions to recommend a candidate for promotion and/or tenure. Such a vote will require a 2/3 majority for the motion to pass.
2. A vote by all tenured IHI faculty will be taken for all decisions to terminate the contract of a probationary faculty member. Such a vote will require a 2/3 majority for the motion to pass.

VIII. PROCESS FOR UPDATING 7.12 STATEMENT

The Institute for Health Informatics will review its 7.12 Statement every five years, or more frequently as needed. Revisions will be made by the Institute for Health Informatics Promotions and Tenure Committee. All tenured and tenure-track faculty will be invited to review and give input on the statement. Approval will be obtained through a majority vote by the Institute for Health Informatics faculty, with the approval date noted on the document.

APPENDIX I: Specification guidance for senior authorship status.

This specification can take the form of designating (marking) manuscripts in submitted CVs or progress reports as involving senior authorship status. In case of senior authorship where first or last author position convention is not observed (which is the default practice and does not require further elaboration), a brief explanation is warranted. An example is provided below for clarity. In this example Author 2 is the faculty whose cv is submitted for promotion or tenure consideration. “*J” signifies that this manuscript is a journal publication where Author 2 was senior author.

/START OF PUBLICATION INFORMATION EXAMPLE

*J Author name 1, **Author name 2**, Author name 3. Manuscript Title. Journal Name, Year, Volume, Pages.

WoK Impact Factor; WoK citations; Google Scholar citations.

Role in project: Author 2 led the project, created the algorithms used for analysis, co-interpreted results and co-wrote the manuscript. Author 2 was the senior author due to being the overall project leader, being PI in the grant supporting the research, which was conducted in her lab, and was primary advisor to Author 1 who is her doctoral student. The order of authorship does not obey the first/last convention for senior authorship because (specific objective reason provided here, e.g., different conventions in the field where the journal operates, different institutions or fields’ policies for designating senior authorship, or other).

/END OF PUBLICATION INFORMATION EXAMPLE

History of Revisions (approved by vote of the Faculty):

Original Document: February 20, 2023

Approved by Senior Vice President for Academic Affairs and Provost: March 2, 2023

PART 3. ANNUAL REVIEW OF TENURED FACULTY

I. ANNUAL REVIEW

All tenured faculty must undergo an annual review each year. This process is key in allowing the faculty member and the department to assess individual progress. It also helps to protect the faculty member, the department, and the School, in case of any misunderstanding or conflict that may arise. For any questions about this process, please call the Office of Faculty Affairs and/or the Vice Provost for Faculty and Academic Affairs.

- A. During the spring of each academic year, all department heads will schedule an annual review conference with each tenured faculty member. This responsibility may be delegated to Division Chiefs, Departmental Review Committee, Center Directors or other designee. All reviews must receive final approval and signature from the Department Head.
- B. Prior to this conference the individual faculty member will provide the requisite information, as well as an updated curriculum vitae, following the department's annual review reporting format.
- C. Annual reviews may be carried out in the format preferred by each department but must, at a minimum, be compliant with the rules detailed in the Board of Regents Policy: Faculty Tenure, Section 7a, and the Procedures for Reviewing Candidates for Tenure and/or Promotion: Tenure-Track and Tenured Faculty.
- D. The annual review documentation should include:
 1. Accomplishments of the previous year, particularly in relation to goals set for the year.
 2. Detailed accomplishments in each domain relevant to the faculty member (as applicable: teaching, research and/or scholarship, service, and clinical activity (if applicable)):
 - a. Evaluation of quality and quantity of teaching, attitude towards learners, knowledge of subject matter, and specific contributions to continuing education.
 - b. Evaluation of research and/or scholarly activity including current projects, grants applied for or funded, publications, and papers presented or submitted.
 - c. Evaluation of service.
 - d. Evaluation of clinical activity (when applicable), including volume of patients served, breadth of referrals, incorporation of patient care into teaching program, activity in local and national professional organizations.
 3. Percentage of effort in each domain, to be updated annually.
 4. Agreed upon goals for the upcoming year.
 5. Plans for subsequent years with specific recognition of outstanding accomplishments and plans to maintain high performance level.
- E. The Annual Review conference should emphasize frank discussion concerning the faculty member's past and present performance in given areas of responsibility, noting progress in achieving previously established goals and objectives. In particular, it is important to frame the evaluation in the context of the proposed distribution of responsibilities in the four domains of Teaching, Research/Scholarship, Service, and Clinical Activity (if applicable). If the faculty member is working towards promotion, the Department Head and the faculty member should ensure that year-by-year progress, consistent with the Departmental 7.12 Statement, has been appropriate to date and specific goals for the coming year should be agreed upon. Pursuant to the Procedures for Reviewing Candidates for Tenure and/or Promotion: Tenure Track and Tenured Faculty, each department's tenured faculty shall review their tenured associate professors at a minimum of every four years regarding their progress toward achieving the rank of professor. This review is based upon the criteria for promotion to professor in the department 7.12 statement. This four-year progress review can be part of the annual review process.
- F. Following the Annual Review conference, the Department Head or designee will complete the Medical School Annual Review Form, summarizing the conference and stating the agreed upon goals for the

upcoming year. The Medical School Annual Review Form must be signed by the faculty member, the evaluator (if applicable), and the Department Head.

- G. For faculty members who have met the goals and expectations for tenured faculty for the department, according to the department 7.12 statement, the signed Medical School Annual Review Form is sent to office of Associate Dean for Faculty Affairs who signs on behalf of the Dean. The review form will be handled confidentially by the Dean and the Associate Dean and will assist them in supporting recommendations for promotion, special recognition, or salary adjustments.
- H. If the department head or designee finds that the tenured faculty member's performance is below that of the goals and expectations of the department as specified in the 7.12 statement, then the case is referred to a committee of elected, tenured faculty members in the department. If that committee concurs with the judgment of the department head, then both the department head and the committee formulate a detailed written Faculty Improvement Plan for the faculty member. The letter from the department head and the elected committee must identify the ending date for the period of performance improvement and must request that the faculty member provide a report at that time describing his or her progress towards meeting the goals and expectations of the department. The department head and the committee chair should make reasonable efforts to meet with the faculty member to discuss the plan for meeting the goals and expectations of the unit. The faculty member may request modification of the plan from the department head and the committee but may not at this stage file a complaint with the Senate Judicial Committee. At the end of the time period specified for performance improvement, the faculty member under review must provide a report describing his or her progress toward meeting the goals and expectations of the department. The department head and the elected committee of tenured faculty will then review the progress that the faculty member has made regarding the recommendations as specified in the report from the faculty member. This process above may be repeated for a second year if the faculty member has failed to complete the initial plan.

II. SPECIAL PEER REVIEW

A. INITIATION

In compliance with Section 7a.3 of the Board of Regents Policy: Faculty Tenure, a Special Peer Review may be requested by the department head and the departmental review committee of elected, tenured faculty members following the unsuccessful completion of a Faculty Improvement Plan as described in Section A.8 above.

- B. The Medical School Dean will be notified and asked to initiate a Special Review. The Dean must first review the file independently to determine that the faculty member falls below the department's goals and expectations and has not successfully completed the Faculty Improvement Plan. S/he determines that special peer review is warranted.
- C. The Procedures for Reviewing Candidates for Tenure and/or Promotion: Tenure-Track and Tenured Faculty describe details of the process for the special peer review. Some of these are highlighted below but the reader is referred to the Procedures and the Faculty Tenure policy for a complete perspective. All of the steps in the Procedures and subsection 7a.3 of the Faculty Tenure policy must be followed even if they are not described in this document.

D. REVIEW PANEL

A Special Review Panel composed of tenured members at the same rank or above the rank of the faculty member under review:

1. Members are elected independently for each Special Review, by the tenured faculty of the department.
2. Members (5) include:
 1. 1 member appointed by the faculty member being reviewed.
 2. 4 members elected from a slate of candidates nominated by department head and the tenured faculty.

3. Members may be in the department or outside, if appropriate – case by case. If the faculty member has a secondary appointment in another department, that department should be represented on the committee.
4. Members should not be the same as any previous review committee for that faculty member

E. SPECIAL REVIEW MATERIALS INCLUDE:

1. Department head and previous Review Committee statement(s) requesting Special Review.
2. Annual review with goals and effort distribution (at least 5 years if available).
3. Previous recommendations for faculty development and outcomes (Performance Improvement Plans).
4. Personal statement by the faculty member.
5. Current annotated curriculum vitae.
6. Teaching evaluations.
7. Reprints.
8. Supporting documentation, including, but not limited to, letters of acceptance for articles in press, and acknowledgement by journal or funding agency of manuscript or proposal receipt.
9. Any other relevant documentation.

F. REVIEW CRITERIA AND METHODOLOGY

1. The main focuses of the Special Review are the area(s) of deficiency identified in previous review(s).
2. Due process procedures, as defined in University documents, will be applied to address disagreements at different levels of the review and to offer protection for academic freedom.
3. Faculty members undergoing review may examine any material in their file at any time in the review process
4. Faculty member's performance will be evaluated as either:
 - a. Satisfactory: meeting department and/or Medical School goals and expectations for tenured faculty members.
 - b. Unsatisfactory: not meeting department and/or Medical School goals and expectations for tenured faculty members.
5. The actions that the Panel may recommend, listed in section 7a.3 of the Board of Regents Policy: Faculty Tenure, include:
 - a. Terminate review if the Panel finds that the faculty member's performance meets the goals and expectations of the department.
 - b. Alter allocation of effort if the Panel determines that the faculty member's strengths are not being fully utilized: it might suggest that the allocation of effort between teaching, research, and service be altered so as to maximize the faculty member's contributions to the University.
 - c. Suggested improvements: if the faculty member's performance is likely to be improved by specific steps, and that process can adequately be monitored by further regular Annual Reviews, the Panel may suggest that those steps be taken and remit the case to the Annual Review process.
 - d. Salary reduction if the faculty member's performance has declined in such a way as no longer to warrant the base salary that is attached to the position, the Panel may recommend a reduction in base salary of up to 10% (see Board of Regents Policy: Tenure Faculty for complete details).
 - e. Dismissal: if the faculty member's performance has fallen below the standard of the Board of Regents Policy: Faculty Tenure Section 10.21(a), "sustained refusal or failure to perform reasonably assigned duties adequately," the Panel can recommend the commencement of proceedings for termination of appointment, or involuntary leave of absence (see details below).
 - f. The Panel may also recommend a combination of these measures.
6. The recommendations of the Panel will be implemented by the Department, the Dean's Office or other administrative body, as appropriate, depending on the specific recommendation.

History of Revisions (approved by vote of the Faculty):

Original Document: Date unknown

Approved by Medical School Faculty: June 21, 2012

Approved by Senior Vice President for Academic Affairs and Provost: June 22, 2012