Appendix A - Performance Guidelines for Scholarly Activity and/or Scholarship (Research)

A. Definition of Scholarly Activity and Scholarship

Scholarly activity: Scholarly activity requires high levels of discipline-related expertise, self-directed improvement, inquiry and innovation. The results of scholarly activity may require publication for their application, dissemination, and translation into new practices. This communication of scholarly work is the foundation of scholarship.

Scholarship: Scholarship is the generation, integration, application, publication and dissemination for advancement of knowledge in any field including biomedical research, education, leadership in academic medicine, or professional service. Scholarship can be identified in four areas to include:

1. The scholarship of discovery (generating new knowledge through investigations),
2. The scholarship of teaching (application of shared knowledge, development of innovative teaching and evaluation methods reported through external publication and presentation),
3. The scholarship of integration (giving meaning to isolated facts, providing perspective, connecting within and across disciplines, such as with multi-disciplinary or inter-professional approaches), and
4. The scholarship of application and translation (the use of knowledge to problems of consequence; interaction of theory and practice through discourse on clinical issues, policy papers, program development)

Scholarly activity is required for faculty with the academic rank of lecturer. For all higher academic ranks scholarship is required as an expectation of performance.

B. Activities Include:

1. Publications resulting from research, including peer-reviewed original articles, reviews, case reports, book chapters, technical reports, published abstracts, etc.
2. Research grants and contracts from international, national and regional granting bodies, and industrial sources.
3. Peer-reviewed salary awards including national or provincial scholarship and scientist awards.
4. Patents and copyrights.
5. Participation in clinical trials supported by public granting agencies or industry.
6. Awards and recognition from international, national and local organizations.
7. Scientific presentations and invited abstracts.
8. Invitations onto research evaluation committees including grant review committees and editorial boards.
9. Supervision of graduate students and research trainees.
10. Knowledge synthesis leading to formal practice guidelines and/or health policy.
11. The design, implementation and evaluation of an educational innovation

1. Publications: A summary of publications is required to be provided annually to the Department Head. This includes publications resulting from research, including peer-reviewed original articles, reviews, case reports, book chapters, technical reports, published abstracts, practice guidelines, health policy, etc.
Primary consideration should be given to the quality and impact of publications. For example, the publication’s number of non-self-citations or the paper’s citation factor, which can be measured as average relative citation factor (ARC). A global assessment of the publication record of the individual can be measured in part by the h-index and the m-score. However, the field (or discipline) of the researcher’s work needs to be kept in mind as citation rates differ significantly by discipline. Department Heads should recognize that the quality of a publication in a specific field is not reflected in a journal’s impact factor.

Recognizing that order of authorship is somewhat arbitrary, it is important that each researcher describe their actual contribution to the research and its publication; merit will be based on this.

Papers that make an unusually significant contribution within their field will be valued more highly than a larger number of publications that do not contribute significantly to advancement of knowledge in the field. In addition, Department Heads should recognize that the quality of publications in a specific field might not be reflected in the journal’s impact factor.

Peer-reviewed primary data papers and major reviews normally receive most recognition. Book chapters, non-peer reviewed papers, minor reviews, published meeting proceedings and published abstracts normally represent less significant achievements. The impact of practice guidelines and/or health policy will be assessed by their impact on patient care and global uptake.

2. Research grants and contracts: All grant support should be recorded as part of the annual review. In cases where there is more than one applicant, the proportion of funding allocated to the individual should be clearly indicated. Significant recognition in terms of scholarship and scholarly activity will be given to holders of peer-reviewed grants from international or national agencies. Industrial grants/contracts will be recognized according to size and relationship to the academic interest of the faculty member. Government and non-government organization (NGO) contracts for knowledge synthesis (e.g. clinical practice guidelines, policy development) or scholarship of teaching will be recognized.

3. Peer-reviewed salary awards: Initial or renewal awards of national or provincial scholarship or scientist awards will constitute strong recognition of the value of the faculty member's research.

4. Patents and licenses: Increasingly, industrial support, often matched by federal grant funds, is available to faculty members. The resulting research frequently yields patents and licenses, rather than immediate publications. This activity will also be recognized as an important research contribution. As for publications, the number of patents and licenses will give some indication of the quantity and novelty the research, and the Department Head should recognize patents of unusual importance.

5. Clinical trials: All clinical trials should be recorded for the annual review. If there is more than one applicant, the status of the individual should be specified (principal investigator). A more significant contribution to scholarship will be accorded to a principal investigator or a member of the steering committee who has played a significant role in designing the study, compared to a participant in a multi-centre trial. While industry funded clinical trials will be evaluated based on merit, industry-funded investigator initiated and led clinical trials will in general be valued more highly.

6. Awards and recognition: The stature of the award will be the primary means of assessing the significance of an award.
7. **Presentations and meetings**: Invitations to present lectures or chair sessions/workshops at major international meetings will be considered as strong peer recognition of the quality of the faculty member's research. International workshop and poster presentations, as well as all presentations at national or local meetings, also constitute significant recognition. Invitations to be a visiting professor at another academic institution are recognized as scholarly activity.

8. **Invitations onto research evaluation committees**: Although this overlaps into the area of service to the professional association, being asked to serve on important review bodies is recognition of past achievement in research. These committees include research grant committees including site visits, editorial boards, meeting program committees and advisory committees on research matters.

9. **Supervision of graduate students and research trainees**: Faculty members are expected to be involved in the successful supervision of undergraduate (BSc, B. Pharm, BSc Med, etc.), graduate or postgraduate trainees, or students in the Clinician Investigator Program (CIP). Significant awards to trainees also reflect on the quality of the supervisor's research program.

10. **Knowledge synthesis**: Formal scholarly review of existing knowledge that leads to a major policy change, the development of clinical practice guidelines, or advancement in education scholarship that require an intensity of work and hours of commitment not reflected in the publication or grants categories.

11. **The design, implementation, and evaluation of an educational innovation**: For individuals with a substantial time allocation to teaching in their job description, scholarship may be represented not only by publication but also by activity enhancing pedagogical advances including implementation and evaluation of innovative teaching methods and the creation of tools or programs to further student and faculty development efforts. The activities will have been publicly shared, critiqued, and reviewed according to accepted standards. It may include the development of educational workshops, web-based courses, curricular enhancements or standards for application.

C. **Expected Levels of Performance**

Based on Degree of Scholarly Activity Protected Time

< 20% Protected Time

**Program of Scholarly Activity**
At this level of protected time for scholarly activity, faculty are expected to participate as a member of research teams, engage in clinical trials, engage in critical appraisal, quality improvement, curriculum design and innovation, clinical practice guidelines, or development of public health policy.

**Knowledge Generation/Communication**

1. **Publications** – The expectation is evidence of participation in dissemination of knowledge through any of the traditional or non-traditional communication methods.
2. **Presentations** – Faculty are expected to have invitations to present in an area of recognized expertise.

**Funding**
Grant funding is not expected at this level of protected time.

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Research Supervision
It is not expected for faculty at this level of protected time to be a primary supervisor for research training of students.

Based on Degree of Scholarship (Research) Protected Time

20 – 45% Protected Time

Research Program
While at this level of protected time faculty may lead their own program of research it is equally valid that faculty are a part of a research team with themselves playing a key role within the team.

Knowledge Generation/Communication
1. Publications – The expectation is a sustained level of productivity of new knowledge that is recognized by the external academic and/or healthcare community.
2. Presentations – It is expected that faculty will publically communicate their research findings to the (i) external academic, professional, or clinical community; (ii) health system administrators; and/or (iii) the public on a regular basis.

Funding
1. Operating – External funding for research activities from at least a local or regional funding agency. The expectation is a role as principal investigator, or co-investigator in at least one grant. It is expected that the individual will participate in applications to national competitive funding organizations such as CIHR or one of the NGO foundations, or industry-based funding programs either individually or as a member of a research team.
2. Student Funding – Faculty are expected to assist graduate students and students in the CIP apply for external funding for salary awards should they be involved in their supervision.

Research Supervision
Faculty is expected to be involved in the successful supervision of at least one of the following: undergraduate projects, Residents/Fellow projects, BSc (Med), graduate student, or a student in the CIP. Mentorship of graduate and CIP students should lead to students having first author publications.

50 – 70% Protected Time

Research Program
While at this level of protected time faculty members may be part of a research team with themselves playing a key role within the team, it is expected that the faculty member has developed their own program of research.

Knowledge Generation/Communication
1. Publications – At this level of protected time faculty are expected to have high quality publications in their field or discipline with clear recognition by the external academic community of the importance of the work (e.g. citations).
2. Presentations – It is expected that faculty will publically communicate their research findings to the (i) external academic, professional, or clinical community; (ii) health system administrators; and/or (iii) the public on a regular basis as outlined above in section B.7.
Funding
1. Operating – Faculty members at this level of protected time are expected to have a research program supported by national competitive funding organizations such as CIHR or one of the NGO foundations, and possibly other sources of funding such as provincial funding agencies. In the case of industry-funded research, it is expected that the research program is investigator initiated and led.
2. Student Funding – Faculty are expected to assist their graduate students and students in the CIP apply for external funding for salary awards.

Research Supervision
Faculty members are expected to be involved in the successful supervision of graduate or postgraduate trainees, or students in the CIP. Mentorship of graduate and CIP students should lead to students having first author publications.

75% + Protected Time

Research Program
While at this level of protected time faculty members may be part of a research team with themselves playing a key role within the team, it is expected that the faculty member has developed their own program of research.

Knowledge Generation/Communication
1. Publications – At this level of protected time faculty are expected to have some high quality publications in journals considered prestigious (i.e. Top 25%) in their field of endeavor with clear recognition by the external academic community of the importance of the work (e.g. citations).
2. Presentations – It is expected that faculty will publically communicate their research findings to the (i) external academic, professional, or clinical community; (ii) health system administrators; and/or (iii) the public on a regular basis.

Funding
1. Operating – Faculty at this level of protected time are expected to have a research program supported by national competitive funding organizations such as CIHR or one of the NGO foundations, and possibly other sources of funding such as provincial funding agencies. In the case of industry-funded research, it is expected that the research program is investigator initiated and led.
2. Salary – Individuals in this category are expected to compete successfully for external peer-reviewed salary awards and renewals at a level commensurate with academic rank (except under unusual circumstances such as an external salary, endowed chair or at start of academic career).
3. Student Funding – Faculty are expected to assist their graduate students and students in the CIP apply for external funding for salary awards.

Research Supervision
Faculty members are expected to be involved in the successful supervision of graduate or postgraduate trainees, or students in the CIP. Mentorship of graduate and CIP students should lead to students having first author publications.
D. Performance Assessment

Satisfactory Performance

Consistent satisfactory performance in all scholarship and scholarly activities that meet the expectations of the level of research protected time with evidence of:
- Continued publication productivity.
- Adequate funding to support the faculty member’s program of research.
- In accordance with rank, an established or emerging national/international reputation with invited presentations, or visiting professorships.
- Invitations to serve on national committees, grant review panels, or as a journal reviewer.

Below Expectations

Inconsistent performance in scholarship and scholarly activity that fall below the expectations of the level of research protected time with evidence of:
- Lack of quality publications relative to job description expectations.
- Lack of, or inadequate, research funding within 2 years.
- No research trainees relative to job description expectations within 2 years.