CURRICULUM FOR SCHOLARLY ACTIVITY, RESEARCH, AND QUALITY IMPROVEMENT

INTERNAL MEDICINE RESIDENCY

Educational Purpose

To give the residents formal instruction and the opportunity to participate in scientific research, quality improvement, or other scholarly activities in order to develop critical appraisal skills and to acquire habits of intellectual curiosity and lifelong learning.

Principal Teaching Methods

The Research and Scholarly Activities program takes place longitudinally throughout all 3 years of Medicine residency. The program includes a didactic series to provide exposure to general research topics, e.g. Institutional Review Board (IRB), basic research design, critical review of journal articles, and literature review.

A two to four week rotation will be provided during each PGY year for research and scholarly activities as well as activities in Practice-Based Learning and Improvement.

All medicine residents shall complete the training certification course in protection of human study subjects, and are strongly encouraged to collaborate with faculty on research and quality improvement projects currently in progress in addition to the requirements listed here.

Requirements for the individual PGY levels are described below. Successful completion of these requirements will be considered in the decision for advancement to the next PGY level.

Objectives

A. Patient Care

To positively impact patient care at Continuity Clinic and on the Wards through: a) formulation of a clinical question b) performance of a literature search and critical appraisal of articles and c) dissemination of the information to colleagues and faculty with the goal of positively impacting patient care.

B. Medical Knowledge

Objective 1. Successfully complete the online tutorial on Good Clinical Practice and Human Subject Protection.

Objective 2. Access and critically evaluate the current medical literature to improve patient care on rounds and in continuity clinic.

Objective 3. Demonstrate an understanding of general research design principles e.g. study design, data acquisition and analysis, informed consent and patient protection through review of an Institutional Review Board application and informed consent document, and by attendance at an IRB meeting.

C. Practice-Based Learning and Improvement
Objective 1: Successfully complete the online modules on Quality Improvement and Patient safety offered by the Institute for Healthcare Improvement.

Objective 2: Demonstrate an understanding of general quality improvement principles, such as the PDSA cycle, and quality improvement tools, such as data collection sheets, cause and effect diagrams, and run charts.

Objective 3. Demonstrate facility and scientific literacy in the use of electronic databases, literature retrieval services and computer-based data.

Objective 4. Demonstrate insight of the relationship between clinical practice and evidenced-based medicine to continually improve patient care through presentation at journal club and by dissemination of

D. Interpersonal and Communication Skills

Objective 1. To effectively write a paper incorporating the proper style required in a scientific document.

Objective 2. To learn to work effectively with fellow residents, faculty, and other health care professionals on a quality improvement team.

E. Professionalism

Objective. To demonstrate the highest standards related to ethics in the research field.

F. System-Based Practice

Objective 1. Attend a meeting of the Institutional Review Board (IRB).

Objective 2. Understand how change in one area affects other areas of the system.

Methods

The curriculum will allow residents to choose a traditional research project or a project directed toward quality improvement and patient safety. The residents will be involved in one project per year for three years. Faculty will encourage and support residents in these scholarly activities.

The research curriculum will advance residents’ knowledge of the basic principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care.

The quality improvement and patient safety curriculum will allow the residents to actively participate in interdisciplinary clinical quality improvement teams, test ideas for improvement, and measure their success.

The expectation is for each resident team to publish at least one paper and one case report annually in a nationally distributed medical journal during the three years of training.

The book Clinical Trial Design by Hulley will be available to all resident teams as a resource to aid in the completion of their projects.

Project details:

1. Teams
a. Each team must consist of at least one PGY1, one PGY2, and one PGY3. MAXIMUM team size is 5.
b. Each team must have a faculty mentor.
c. Each team will meet with their faculty mentor once a month from September through April.
   i. This will occur the first Monday of each month at NOON Conference.
   ii. Attendance will be monitored.

2. Topics
   a. A list of possible topics and mentors will be provided.
   b. Your team can choose one of these topics or choose your own project.
   c. If you choose your own topic, you must identify a faculty mentor and the project MUST be reviewed and approved by that faculty mentor.
   d. In general, you can choose a quality improvement project or a more traditional research project.
   e. The projects can be inpatient, outpatient, or nursing home based.

3. Aim Statement
   a. Define what you want to accomplish
      i. list objectives
   b. Features of a good aim statement
      i. Focused
      ii. Measurable
      iii. Clear timelines
      iv. Succinct, clear
      v. Identifies the general strategy or approach

4. Statistical Support
   a. Meet with Dr. Tarwater
   b. Mentor must be involved

5. IRIS
   a. Sean Connery will be presenting a session outlining the process in August. Please make sure you receive a copy of the handout from this session.

6. Data collection
   a. Process for chart review
      i. Outpatient
         1. Go down to medical records and make a request. Records will be retrieved for the resident and placed in a cubicle for his/her convenience in medical records. "Bring a copy of IRB approval Letter"
      ii. Inpatient
         1. Put together a list of charts needed, name of your project, contact information for residents involved, describe when records are needed (must give at least 2 days notice). Then fax the request to 915-521-7688 or take to medical records. "Bring a copy of IRB approval Letter"

7. November presentation
   a. Each team presentation should include:
i. Goals of the project
ii. Team members
iii. Preliminary data
iv. Work plan for the project
v. Please do not include lengthy background material. The presentation should be short and to the point.

8. November written report
   a. Each team will complete a 2 page write-up of their project.
   b. Detailed instructions for the write-ups are attached.

9. May Presentation and poster
   a. Presentation
      1. Power point presentation should be approximately 15 minutes long with 5 minutes at the end for questions.
      2. All members of the team should be involved in some way in the presentation.
      3. Please send a copy of your presentation to Maureen Francis. Your presentations will be saved in a file so that future residents can continue your work or use it as an example. You can email your presentation to maureen.francis@ttuhsc.edu.
   b. Poster
      i. Posters will be displayed in the 1st floor hallway.
      ii. Each poster should include:
         1. Title page with the name of your project
         2. The members of your team (including a picture if possible)
         3. Your aim statement describing your goals for the project
         4. Your baseline data – please include any graphs or charts that you have. (A picture is worth a thousand words.)
         5. Describe your interventions for QI projects and your methods for research projects.
         6. Your assessment of the impact of your project – even if it didn’t work. Successful interventions and failures are both important to learn from.
         7. Any ideas you have for the future

2. Grand Rounds Presentation May/June
   a. The top 2 teams will present at Grand Rounds
   b. Please review presentation with your mentor prior to presentation

Research and Scholarly Activity Rotation
1. Each resident will have a 2 to 4 week rotation each PGY year focused on research and scholarly activity.
2. During this rotation, the resident is required to meet with their team’s project mentor once a week and to spend the majority of their time working on their team project. See attachment 1.
3. Other required activities (See attachment 2):
   a. Chart review
   b. Billing/coding
c. Faculty meeting  
d. Infection control meeting  
e. P&T Committee meeting  
f. Lab demonstration

Disciplinary Action  
1. Participation in the resident research/ QI curriculum is mandatory.  
   a. Lack of compliance with deadlines as indicated in the timeline will initiate the disciplinary action policy.  
   b. The entire team is held responsible for the completion of the project and disciplinary action for noncompliance will apply to all team members.