Curriculum and Program Design for Hospital Medicine Fellowship for Family Medicine Graduates (PGY-3 Enhanced Skills Program)

Division of Hospital Medicine, Department of Family Medicine, Queen's University

Ammar Rashid, MBBS, MHPE, CCFP

What is Hospital Medicine?

Hospital Medicine is one of the most rapidly growing areas in modern medicine. A Hospitalist is a clinician whose primary professional focus is the general medical care of hospitalized patients. Hospitalists engage in clinical care, teaching, research and enhancing the performance of hospitals and healthcare systems (*Society of Hospital Medicine*).

Impact of Hospital Medicine

Hospital Medicine is playing an ever-growing role in our healthcare system. The majority of hospitals either have already or are considering developing hospitalist care models for inpatient medical patients, as well for co-management of speciality patients such as general surgery, neurology, cardiology, oncology and other specialties with inpatient services.

The expanded role of hospitalists is also well supported by the growing evidence on the difference hospitalists are making in improving healthcare. A systemic review showed that the majority of articles demonstrated that hospitalists are efficient providers of inpatient care on the basis **of reductions in their patients' average length of stay** (69%) and **total hospital costs** (70%) (*Heather L White and Richard H Glazier, 2011*). A Loyola University Health System study in 2009 found that surgical patients co-managed by hospitalists had a shorter duration of hospital stay of 3.8 days vs 5.5 days, most importantly reduction in length of stay did not have any impact on quality of care.

Why We Need A Hospital Medicine Enhanced Skills Program?

Historically, Canadian hospitalists are the family physicians who develop clinical skills to practice hospital medicine through experience. Two-year family medicine residency training does not adequately prepare family medicine graduates to practice Hospital Medicine after graduation. The Canadian healthcare system is changing rapidly, and the role of hospitalists continues to evolve and grow, hence the need for training programs for Hospital Medicine; recognizing that the Department of Family Medicine (DFM) at Queen's University would like to start a one year, full time, enhanced skills training program in Hospital Medicine.

The COVID-19 pandemic has shown a bright light at the importance of hospitalists in our healthcare systems. As an example, the DFM's Division of Hospital Medicine played a leading role in Providence Care Hospital's response to the pandemic, collaborating with our regional acute-care hospitals in enhancing the regional capacity. Our Hospitalists provided care for additional patients in unconventional spaces created to enhance our capacity. In addition, within our Complex Medical Management program we provided medical coverage to a newly created 10- bed long-term ventilation program

for post-ICU rehabilitation, which helped generate much-needed ICU capacity in our fight against the pandemic.

DFM's Division of Hospital Medicine at Queen's University

The Division of Hospital Medicine is a collaboration between Queen's Department of Family Medicine (DFM), the Southeastern Ontario Academic Medical Organization (SEAMO), and Providence Care. Providence Care is Southeastern Ontario's leading provider of specialized care in aging, mental health, and rehabilitation.

Established as Canada's first academic Division of Hospital Medicine in 2019, our primary goals are to enhance patient care, improve physician wellness, to train future hospitalists, and raise awareness about hospital medicine. The Division of Hospital Medicine is the largest care-providing Division at Providence Care Hospital, providing 24/7 coverage to 264 patients at Providence Care Hospital and Providence Transitional Care Centre.

The Division of Hospital Medicine established a clinical rotation for Family Medicine Residents, Residents from other specialties interested to learn Hospital Medicine and Medical Students in 2020. The success of this academic rotation is a great stepping-stone to expand it to a fellowship program.

Hospital Medicine Fellowship Goals and Program Design

Goals

1. Develop necessary skills to deliver high quality, patient-centered Hospital Medicine care anywhere in any healthcare setting in Canada including Indigenous communities.

2. Develop leadership and advocacy skills to improve and advance Hospital Medicine through research, teaching and quality improvement.

Program Structure:

Duration: One-Year Full Time

Hospital Medicine is continuously changing, and one type of training program is unlikely to continue to meet dynamic needs of our healthcare system. Recognizing this, we have developed two tracks in our training program:

1. **Rehabilitation Focused Track:**

All rehabilitation-based programs, such as Physical Medicine and Rehabilitation programs and Complex Continuing Care programs require Hospitalists to provide clinical care to their patients. Hospitalists practising Hospital Medicine in these settings should have a skill set and understanding of rehabilitation and unique aspect of managing patients in sub-acute care environment.

2. **Acute Care Focused Track:**

Hospitalists are responsible for taking care of patients admitted at community hospitals. In addition, most of the tertiary care teaching hospitals have a family medicine teaching service. Trainees choosing this stream would have additional rotations in acute care hospitals to develop necessary skills to manage patients in acute-care settings.

Regardless of the tracks, our program would enable fellows in any track to develop skills required to practice Hospital Medicine in any environment anywhere in Canada.

Program Design

Rehabilitation Focused Track	Acute Care Focused Track
Internal Medicine *1 block*	Internal Medicine *2 blocks*
ICU *1 block*	ICU *1 block*
Hospital Medicine (community hospital) *2 blocks*	Hospital Medicine (community hospital) *4 blocks*
Hospital Medicine at Providence Care *4 blocks*	Hospital Medicine at Providence Care *1 block*
Infectious Disease *1 block*	Infectious Disease *1 block*
Hospital Medicine (Indigenous community) *1 block*	Hospital Medicine (Indigenous community) *1 block*
Palliative Care *1 block*	Palliative Care *1 block*
Electives *3 blocks*	Electives *3 blocks*

Key Features

Hospital Medicine in Indigenous Communities

The Division of Hospital Medicine recognizes the need and importance of ensuring that our trainees are aware of unique healthcare challenges faced by indigenous communities and are able to incorporate cultural safety in their practice. Hence, a mandatory block in a hospital in an indigenous community is embedded in the curriculum.

Mandatory Courses

- ACLS - Trainees are required to complete it prior to training
- POCUS - would be provided to the fellows during the training
- AIME Course

Integrated Family Medicine

Queen's Department of Family Medicine is committed to train family physicians able to perform multiple roles simultaneously to mirror expectation from family physicians in practical world. Fellows would have one half day per week of clinic supervising family medicine residents at Queen's Family Health Team (except during out of Kingston and ICU rotations).

Mandatory Academic Time

One half day per week (except during ICU and Northern area rotations).

Research and Education

- Trainees are required to participate in ongoing quality improvement projects with the Division of Hospital Medicine during the fellowship period.

- Trainees are required to attend "Essentials of Successful Teaching" course at Queen's University during the Fellowship.

- Trainees would regularly supervise Residents and Medical Students during rotations and half day clinics at Queen's Family Health Team.

- Hospital Medicine Monthly Journal Club: Trainees are expected to attend quarterly Hospital Medicine Journal Club which would be organized by the Division of Hospital Medicine. Fellows are required to present at a minimum of 2 of these sessions during the Fellowship year.

Assessment & Evaluation Plan

- Trainees would be evaluated with interim assessments at the mid-point of a block and final evaluation at the end of each rotation.

- Bimonthly meetings with the Hospital Medicine Fellowship Director (Virtual / Onsite).

In-Training Exam

Trainees would be required to take an in-house MCQ-based exam conducted at the beginning and end of training program. This would serve as a form of evaluation of Fellows, as well as an opportunity to assess the quality of our training program.

Vacation Time

Trainees are entitled to vacation time as per PARO rules.

Curriculum Objectives and Competencies

Queen's Hospital Medicine Fellowship objectives are developed using the CanMEDS-FM framework.

Residents are required to gain sufficient knowledge and skills through core rotations to achieve all the competencies; however this can be supplemented through electives.

1. Medical Expert

a. By the end of Fellowship, Residents have gained sufficient experience to expertly handle the following clinical conditions and situations in an in-patient setting:

- Acute Coronary Syndrome
- Acute Renal Failure
- Acute Pulmonary Embolism
- Alcohol and Drug Withdrawal
- Asthma Exacerbation
- Bowel Obstruction
- Cardiac Arrhythmia
- Cellulitis
- Chronic Obstructive Pulmonary Disease Exacerbation
- Community-Acquired Pneumonia
- Congestive Heart Failure Exacerbation
- Delirium

- Dementia
- Diabetes Mellitus; management of in-patient diabetes including DKA and HHS, transitioning to out-patient diabetic management prior to discharge
- Electrolyte imbalance
- Gastrointestinal Bleeding
- Goals of Care Discussion
- Hospital-Acquired Pneumonia
- Limb Ischemia (Acute and Chronic)
- Medical Emergencies (leading code blue, anaphylaxis, hypoglycemia, seizure, stroke)
- Nutrition in a hospitalized patient
- Osteomyelitis
- Pain Management
- Palliative care in a hospitalized patient
- Perioperative Medicine
- Sepsis Management
- Sub and Supra-Therapeutic INR
- Urinary Tract Infections
- Ventilator Associated Pneumonia
- Venous Thromboembolism
- Wound Infections

Residents are required to keep a log book demonstrating expertise of handling the above mentioned list of clinical conditions / situations, signed off by a Supervisor upon demonstrating expertise.

b. By the end of Fellowship, Residents have gained sufficient experience to expertly perform the following procedures:

- Arthrocentesis Minimum 3
- Ability to use Bed Side Ultrasound in Hospital Medicine (to assess for presence of ascites / pleural effusion / pericardial effusion)
  Point of Care Ultrasound (POCUS) course would be provided as part of training
- Endotracheal intubation Minimum 5
  Airway intervention and management (AIME) course would be provided as part of training
- NG Tube Insertion Minimum 3
- Lumbar Puncture Minimum 3
- Paracentesis Minimum 3
- Thoracentesis Minimum 3
- Vascular Access (central line insertion) Minimum 5

Residents are required to keep a log book to demonstrate procedural competencies, signed off by the Supervisors using Procedural Competency Assessment Tool (PCAT).

c. By the end of Fellowship, Residents are experts in decision-making related to hospital admissions, inter-facility transfers and transitions in care:

- Expertly assess referrals for appropriateness of admissions to an inpatient setting (acute or sub-acute care hospital), facilitate transfer between acute care hospitals and sub-acute care hospital as per the patient goals.

- Demonstrate ability to modify care plan based on changes in clinical condition.

- Demonstrate understanding of limitations of each setting and ability to recognize when to involve specialties to facilitate ongoing care / procedure and/or potential transfer to more appropriate setting as needed including, but not limited to the ICU or Emergency Department.

- Demonstrate abilities to expertly manage patients at all the settings involving Hospital Medicine (ICU, acute hospital inpatient units, sub-acute care hospital units).

d. Data Interpretation

By the end of Fellowship:

- Residents are able to judiciously order laboratory and imaging tests applying principles of “choosing wisely”.

- Residents are able to interpret laboratory test and imaging results, and make appropriate evidence-based decision/adjustments in management plans based on the results.

e. By the end of Fellowship, Residents are experts in applying principles of drug safety and antimicrobial stewardship:

- Residents are able to use best practices while prescribing medications; they are able to evaluate the parameters (clinical efficacy, adverse effects, kinetics and cost) that can affect the choice of pharmacotherapy.

- Residents are able to make appropriate changes in home medications during inpatient stay and are able to accurately reconcile medications at discharge.

- Demonstrate understanding of antimicrobial stewardship and apply rationale use of antibiotics into clinical practice.

2. Communicator

By the end of Fellowship, the Resident will:

- Communicate effectively with patients, families, nursing staff, allied health, team members and physicians from other specialties.
- Exhibit effective written communication skills while dictating admission notes, consultation notes, daily progress notes and discharge summaries.
- Practice effective patient handoffs and transition of care.

3. Collaborator

By the end of Fellowship, the Resident will:

- Participate in inter-professional team meetings, and work collaboratively with team members to achieve patient care goals.
- Collaborate with other specialties to coordinate evidence based patient-centered care.

4. Manager/Leader

By the end of Fellowship, the Resident will:

- Demonstrate knowledge and skills of being an effective leader.
- Demonstrate leadership skills by serving in the mentor role to junior residents and medical students, as well as by effectively leading the multidisciplinary inpatient team meetings.
- Manage their time appropriately and maintain a positive work life balance.
- Access healthcare resources using principle of cost effectiveness, patient-centeredness and “choosing wisely”.
- Develop skills to effectively do billing for inpatient care.

Educational session on billing would be arranged at the beginning of Fellowship

5. Health Advocate

By the end of Fellowship, the Resident will:

- Develop an understanding and ability to advocate for dynamic patient healthcare needs.
- Advocate for unique aspects of healthcare needs of vulnerable populations including indigenous communities.
  Hospital Medicine in an indigenous community hospital is a core rotation to develop deeper understanding of healthcare needs of indigenous communities.
- Develop understanding of healthcare system and evolving role of Hospital Medicine.
- Identify the system gaps and effectively advocate for filling those gaps.

6. Scholar

By the end of Fellowship, the Resident will:

- Able to critically appraise research articles ***(present at Journal Club twice during the Fellowship year)*** and demonstrate ability to judiciously apply latest research into clinical practice.
- Continue to be up to date with the latest guidelines and recommendations.
  (Participate in DFM Guideline review day)
- Demonstrate practice-based learning and improvement.
- Facilitate education sessions for residents and medical students and members of allied health team.
- Educate patients, families and communities.

7. Professional

By the end of Fellowship, the Resident will

- Demonstrate trustworthiness, integrity and honesty.
- Demonstrate compassion and respect for patients and their families.
- Demonstrate respect for all team members.
- Demonstrate professional conduct and accountability, identifying performance metrics and implementing goals for improved outcomes, problem-solving and conflict resolution.
- Practice cultural safety and demonstrate understanding of growing importance of embedding equity, inclusion and anti-racism into education, research and patient care.

Acknowledgement

Following sources were used in developing the objectives and competencies:

- CanMEDS– Family Medicine 2017. A Competency Framework for Family Physicians Across the Continuum.
- Society of Hospital Medicine.
- Hospital Medicine Curricular Guidelines or Track Recommendations for Family Medicine Residencies Prepared by: The SHM/STFM Joint Task Force for Hospital Medicine Training of Family Medicine Residents.

References

Loyola University Health System. (2009, October 6). How To Reduce Hospital Stays And Increase Patient Satisfaction. *ScienceDaily*. Retrieved January 25, 2022 from www.sciencedaily.com/releases/2009/10/091006093439.htm

Society of Hospital Medicine: https://www.hospitalmedicine.org/

White, H. L., & Glazier, R. H. (2011). Do Hospitalist Physicians Improve the Quality of Inpatient Care Delivery? A Systematic Review of Process, Efficiency and Outcome Measures. *BMC Medicine*, *9*, 58. https://doi.org/10.1186/1741-7015-9-58