Orientation Day 2013

Front Row (L-R)
Dr Hanley Ho, Dr Chua Ying Xian, Dr Joshua Wong, Dr Lim See Ming, Dr Tan Xin Quan, Dr Joseph Lim, Dr Raymond Lim, Dr Melvin Seng and Mr Kenny Chiw

Middle Row (L-R)
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Back Row (L-R)
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Welcome and Introduction

Welcome to the National University Health System Preventive Medicine Residency Program. This program is designed to equip you with the skills necessary to be a preventive medicine physician, and to contribute to the profession at the national and global levels. I hope that you will take this opportunity to learn from your patients, peers, and faculty members.

The Preventive Medicine Residency Program evolved from the public health and occupational medicine specialist training programs in 2010. To date, more than 25 residents have embarked on the program. The program is accredited by ACGME-I. In 2012, the program was reaccredited for 4 years, a testimony to the strength of the program.

This handbook is designed to give you an overview of the program and to guide you through the residency years. Please use this handbook as a frequent reference for the questions that will come up as you go through your training.

This edition of the handbook has been updated to reflect changes that have been made to the program over the past years. The program and its curriculum have been enhanced over the past years based on input from ACGME-I, the MOH Resident Advisory Committee, faculty members and residents.

Feel free to contact myself or any of the faculty members with any queries, and I wish you a fruitful training experience.

Associate Professor Wong Mee Lian
Program Director
Preventive Medicine Residency
June 2014
General Program Information

Preventive medicine focuses on the health of individuals and defined populations in order to protect, promote, and maintain health and well-being; and prevent disease, disability, and premature death.

The Preventive Medicine Residency Program in the National University Health System (NUHS) encompasses the previous public health and occupational medicine training programs in Singapore, and provides residents with the full suite of skills to be future leaders in the field. It is designed to create a foundation for excellence in preventive medicine care upon which lifelong learning may take place.

The NUHS is the only sponsoring institution for preventive medicine training in Singapore, and as such, is a national program. A diverse group of local institutions are part of the program as participating sites to provide training and employment opportunities for residents. The participating sites are:

- Agency for Integrated Care (AIC)
- Eastern Health Alliance (EHA)
- Health Promotion Board (HPB)
- Health Sciences Authority (HSA)
- Jurong Health Services (JHS)
- Ministry of Health (MOH)
- Ministry of Manpower (MOM)
- National Healthcare Group HQ (NHG)
- National Healthcare Group Polyclinics (NHGP)
- National University Hospital System (NUHS)
- Singapore Armed Forces (SAF)
- Singapore General Hospital (SGH)
- Tan Tock Seng Hospital (TTSH)

The Preventive Medicine Residency Program aims to equip residents with a sound and broad foundation in preventive medicine. During the training program, rotations are performed in NUHS and the participating sites, which offer a wide spectrum of training within a nurturing environment under the close supervision and mentorship of distinguished and experienced faculty.

Upon successful completion of the training program, the resident will be able to establish a fulfilling career in preventive medicine in the public sector, private sector, academia, NGOs or international health organizations.

Accreditation

The NUHS Preventive Medicine Residency Program is accredited by the Ministry of Health, Singapore and the Accreditation Council for Graduate Medical Education – International (ACGME-I).

NUHS holds the authority and responsibility for the oversight, administration and quality of the ACGME-I-accredited programs, even when education occurs at other sites. NUHS will assure compliance with ACGME-I Common, specialty/subspecialty-specific Program, and Institutional Requirements. NUHS has established and implemented policies and procedures regarding the quality of education and the work environment; in particular:
• Resident’s Contracts
• Grievance Procedures
• Disciplinary Procedures / Academic Probation

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Participating Sites

Agency for Integrated Care (AIC)

AIC offers residents a broad experience in national public health programs that spans the management of patient transitions, referrals and care coordination, to the development of new community care models in the intermediate and long term care, community mental health, primary care and social care sectors, to strengthening their capabilities and capacities, and the development of manpower, leadership and research in these sectors. A stint in AIC allows residents to gain a unique perspective into the development of the regional health systems in Singapore, and the newly developing field of Integrated Care.

Eastern Health Alliance (EHA)

The EHA is the regional health cluster for the eastern region of Singapore. It serves a population of 1.4 million. It comprises of 5 foundation institutional partners - Changi General Hospital (CGH), St Andrew Community Hospital (SACH), SingHealth Polyclinics, the Salvation Army Peacehaven Nursing Home and the Health Promotion Board. Residents will be involved in the planning, management, and evaluation of health services to improve the health of a population; formulating programs for a given health issue; conducting an evaluation based on process and outcome performance measure; and designing and using management information systems.

Health Promotion Board (HPB)

Residents will be involved in driving health promotion and disease prevention programs, to increase quality and years of healthy life and prevent illness, disability and premature death. Their work will encompass health education and promotion activities that reach out to various sectors of the population, including schoolchildren and working adults. A life-cycle approach (cradle to tomb) and multi-pronged evidence-based strategies to promote uptake and maintenance of healthy lifestyle behaviors will be utilized. Key health conditions and behaviors that are addressed include obesity, promotion of mental health. The work will also include primary preventive services.
Health Sciences Authority (HSA)

HSA is a multi-disciplinary agency in health sciences expertise to protect and advance public health and safety. Our core capabilities encompass administering the national regulatory frameworks for pharmaceuticals, complementary medicines, medical devices and other health products. Residents will be exposed to health products regulations, related healthcare policies, vigilance activities such as risk-benefit assessment and stakeholder communications, where residents will learn communication skills through public education as well as interactions with other healthcare professionals and other governmental agencies. Besides, HSA runs the country’s national blood bank and transfusion medicine services. Residents will understand how HSA secures the nation’s blood supply safety and sufficiency; carry out clinical preventive medicine to provides services in screening, transfusion epidemiology and health counselling in risks of transfusion transmitted infections. Lastly, HSA is the national provider of forensic medical consultancy, analytical sciences and investigative services. Residents will have the opportunities to understand briefly the various analytical scientific testing to ensure the safety of pharmaceuticals, cosmetics and cigarettes.

Jurong Health Services (JHS)

JHS is a new healthcare cluster that will be serving the western population of 675,000 over 12 urban planning areas. We manage Alexandra Hospital and Jurong Medical Center and are building the new Ng Teng Fong General Hospital (NTFGH) and Jurong Community Hospital (JCH) which will open in Dec 2014 and 2015 respectively.

Ministry of Health (MOH)

MOH provides many training opportunities for residents to acquire core competencies in preventive medicine, except clinical and occupational medicine. They will be involved in the surveillance, research and control of communicable and non-communicable diseases; formulation, development and evaluation of evidence-based national health strategies, policies and programs; and licensing and compliance of regulatory standards for all healthcare establishments. In addition, they will learn to collect and use information for healthcare policy research and performance management. Opportunities will also be provided for residents to work with various stakeholders to develop a seamless healthcare delivery system from primary to tertiary levels.

Ministry of Manpower (MOM)

MOM offers a practicum experience to Preventive Medicine Residents. There are many training opportunities for residents to acquire core competencies in occupational medicine and participate in the investigation and management of workers with suspected work-related ill health and diseases. They will acquire skills in managing health of workers seen at Occupational Health clinics; involvement in projects to build competency in project management and evaluation; performing workplace inspections and didactic teaching; disability management and assessment of fitness for work; workplace and worker surveillance; risk management; workplace health promotion for workers; and communicating recommendations to workers, management and fellow doctors. Residents will also have opportunities to carry out research, work with multidisciplinary team and various stakeholders and participate in the development and implementation of national policies and programmes in Occupational Health.
National Healthcare Group (NHG)
In NHG HQ, residents will learn the full range of health services research that spans from applied epidemiology, evidence synthesis and health technology assessments, programme evaluation, health economics, datamining and bioinformatics techniques to deal with large administrative databases and disease registries, surveys, operations and systems research. They will learn from the multidisciplinary team and various stakeholders and collaborators within and outside of NHG in providing the best evidence to health policy makers. Residents can also plan and implement health promotion activities for the population in the central region of Singapore.

National Healthcare Group Polyclinics (NHGP)
The NHGP is a group of 9 polyclinics located in the central and western parts of Singapore, serving half the population of Singapore. The health care provided by NHGP focuses on preventive health and the provision of comprehensive primary health care. Residents are involved in direct patient care. They will appreciate the full spectrum of preventive and primary care services, including (a) Chronic care, (b) Women health, (c) Care of children, (d) Health screening and (e) Traveler health and vaccination.

National University Healthcare System (NUHS)
NUHS is the primary training site where year 1 residents will undertake their clinical training. In years 2 and 3, didactic training in preventive medicine will occur through modular courses in the MPH program conducted by the Saw Swee Hock School of Public Health, National University of Singapore. In years 2 and 3, practicum experience in clinical preventive medicine, health promotion, epidemiology, health policy and administration, public health research and education, and the practice of occupational and environmental medicine (both hospital based practice and consultancy to industry) will be available.

Singapore Armed Forces (SAF)
There are various departments in the SAF Medical Corps where relevant training in preventive medicine can be performed. These include the biodefence center which performs preparedness, surveillance, and response to infectious diseases (epidemiology), health policy and administration in the medical clusters and military medicine institute, and occupational and environmental health in the various service medical headquarters.

Singapore General Hospital (SGH)
Training opportunities in core preventive medicine areas include - health policy and administration in a large hospital setting, health services research, disease control and epidemiology, and the practice of occupational and environmental medicine (including Hyperbaric and Diving Medicine, and Medical Toxicology). In addition, there will be experiential learning in Clinical Preventive Medicine Programs in Internal Medicine, Clinical Epidemiology of Infectious Diseases and in Chronic Disease Management, and exposure to Institutional Biosafety work, and the practice of Bioethics in Healthcare Administration.
Tan Tock Seng Hospital (TTSH)

The Communicable Disease Centre (CDC) and Department of Infectious Diseases under the Institute of Infectious Disease and Epidemiology (IIDE) at Tan Tock Seng Hospital (TTSH) provide residents the experience in the management of a wide variety of in-patient and out-patient conditions that have an infectious aetiology or complication, including community-acquired and nosocomial infections, HIV and opportunistic infections, febrile syndromes, infections related to travel, vector-borne illnesses, multi-drug-resistant organisms and infections with public health implications.

The Department of Clinical Epidemiology under IIDE offers residents the unique opportunity of receiving training in healthcare-associated epidemiology and preventive medicine programmes, as well as national-level community-based preventive medicine programmes, in the control of communicable diseases. Residents will have the opportunity to be involved in the conduct of epidemiologic surveillance and research on hospital-associated infections and infectious diseases of public health importance, outbreak investigations and management, infection prevention and control, as well as participate in epidemic and pandemic preparedness planning and exercises.

The Clinical Standards and Improvement Department (CSI), together with Medical Affairs (including Healthcare Performance Office), Occupational Health Service and Management Information Department under the Office of Clinical Governance, provide residents the opportunity to acquire competency across the broad range of preventive medicine, public health and occupational medicine competencies, in particular, core knowledge and skills in public health, occupational medicine, healthcare management and administration. Residents posted to CSI will also acquire experience in the planning and implementation of clinical quality improvement and patient safety programmes and training to ensure the provision of quality and safe care, enterprise risk management, and evaluation and management of feedback on the quality of care and service provision to manage the perception, expectation and clinical care experience of patients and their family.

Program Committees

There are 3 program committees appointed by the Program Director to facilitate the running of the program. The compositions of the committees are as follows:

Program Administration Committee

Asst Prof Eugene Shum (Chair)
Assoc Prof Vernon Lee
Dr Jason Yap
Asst Prof Raymond Chua
Dr Steven Ooi

Curriculum Committee

Asst Prof Matthias Toh (Chair)
Assoc Prof Angela Chow
Dr Judy Sng
Dr Ho Sweet Far
Dr Lim John Wah
Clinical Competency Committee (CCC)

Asst Prof Chew Ling (Chair)
Dr Fong Yuke Tien
Asst Prof Shyamala Thilagaratnam
Dr Yang Kok Soong

Program Evaluation Committee (PEC)
Prof Goh Kee Tai (Chair)
Asst Prof Eugene Shum
Assoc Prof Jeffery Cutter
Dr Tan Xin Quan

Residency Advisory Committee (RAC)

The RAC is appointed by MOH to oversee the training program. They replace the Specialist Training Committee (STC) since 15 Sep 2011. The RAC works with the Sponsoring Institution (SI), Designated Institution Official (DIO) and Program Director (PD) to ensure that the residency program is constantly aligned with requirements and standards set by ACGME-I, and the RAC, in consultation with SAB/MOH.

The members of the Preventive Medicine RAC are as follows:

- **Prof Chia Kee Seng (Chairman)**
- Assoc Prof Adeline Seow
- Assoc Prof Lee Hock Siang
- Assoc Prof Derrick Heng
- Dr Jason Cheah
- Assoc Prof Lee Chien Earn
- Dr Richard Tan
- Assoc Prof Chew Suok Kai
- Dr Kenneth Choy
Program Details

Overview

Appointment as Residents

Medical graduates can apply to enter Year 1 (R1) of the Preventive Medicine Residency program.

Residency Program

The Preventive Medicine Residency Program is a 5-year program comprising (a) 3-year Residency and (b) 2-year Senior Residency. The minimal duration of the training for exit certification as a specialist is therefore 5 years.

The objective of the Residency Program is to equip residents with a sound and broad foundation, directed towards the acquisition of a core set of preventive medicine competencies, skills, and knowledge, based on theory and practical experience. This is necessary for residents to function effectively as preventive medicine physicians, and to protect and promote the health of individuals and the population.

3-year Residency

The 3-year Residency includes:

- 12 months of general clinical experience (clinical year)
- 24 months of core preventive medicine rotations, which includes 9 months of preventive medicine clinical experience (basic practicum years)

Residents must, in addition to the above, successfully complete a Master of Public Health (MPH) or equivalent degree, before they are eligible to sit for the Preventive Medicine Intermediate Examination (PMIE). When they pass the PMIE, they may progress to the Senior Residency phase of training.
Accelerated Progression

Only exceptional residents with pre-existing training and/or intermediate qualifications will be considered for accelerated progression during the first year of residency training.

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Documentation to be submitted</th>
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| 1. Related pre-existing training                       | a) Log-book or documentation of public health and occupational medicine work experience during the posting(s) prior to residency  
                                                          | b) Certification of public health or occupational medicine training during the posting. The certification shall be by a public health or occupational medicine specialist |
| 2. Recognised clinical posting                          | a) At least 1 year of post housemanship clinical posting as a Medical Officer  
                                                          | b) Clinical posting should involve regular direct patient contact                        |
| 3. Minimally PGY3 at point of entry to R1               |                                                                                             |
| 4. Exceptional (“superior”) rating for all 8 competencies for ongoing R1 posting (using A1 form) | a) Submission of performance grade by supervisor  
                                                          | b) Progressive assessments made during the posting:  
                                                          |   a. OSCE at start of postings  
                                                          |   b. Presentations and participation at teaching sessions |

A R1 resident must meet all the above requirements to be considered for acceleration to R2. The C1 form assessment from prior postings will be considered.

Residents meeting the above criteria will be interviewed by a panel chaired by the Programme Director. The purpose of the interview is to ensure that the resident has met the R1 competencies for Preventive Medicine Residency Program.

**Preventive Medicine Intermediate Exam (PMIE)**

The competencies examined are:
(a) Public Health knowledge and skills  
(b) Communication  
(c) Professionalism

The PMIE consists of 4 Objective Structured Clinical Examination (OSCE) stations:  
(a) Multiple Choice Questions (10 questions, 30 min)  
(b) Writing a policy brief (30 min)  
(c) Data analysis (preparation, 30 min) and presentation (30 min)  
(d) Role-play / Communications (30 min)

Candidate may be called for viva voce based on any of the above stations.
The candidate must pass all OSCE stations. If the candidate does not pass the exam, he will have to retake all sections at the next attempt. The exam is conducted twice yearly and a candidate is allowed a maximum of 3 attempts.

**Master of Public Health (MPH)**

To provide residents with the adequate knowledge to accompany their R2 and R3 basic practicum years, as a baseline, residents will be required to participate in and complete the core modules of the part-time MPH program at the Saw Swee Hock School of Public Health, National University of Singapore. These core modules are spread across the R2 and R3 years. There are some exceptions listed below if the resident is able to show prior completion of a recognized MPH program.

To meet the requirement of obtaining a MPH degree, a resident may elect to:

(a) read the part-time MPH program at the Saw Swee Hock School of Public Health (SSHSPH), National University of Singapore. Residents who are PGY2 and above can enroll in the MPH. The resident would complete the core-modules as part of the R2 and R3 baseline requirements, and take additional MPH modules to meet the requisite number of credits to graduate); or

(b) complete a RAC-approved MPH prior to starting the residency program. Residents who have already obtained a MPH would not be required to take the core modules of the above mentioned part-time MPH program during R2 and R3.

(c) take a year out of the residency program (anytime after completing R1) to pursue a full-time MPH overseas.

   a. If the resident completes the MPH before starting R2, the resident will not be required to complete the above mentioned part-time MPH program during R2 and R3.

   b. If the resident starts the MPH after completing R2, the resident will still be required to complete the relevant core modules of the part-time MPH program that are paired with the R2 basic practicum year, before leaving for the full-time MPH. The resident only be exempted from the remaining core modules after obtaining the MPH.

   c. If the resident starts the MPH after completing R3, the resident will have completed all of the core modules of the part-time MPH program. There is no waiver of this requirement.

**Senior Residency**

After completing the 3-year residency program, resident will be able to progress to the 2-year senior residency. This will enable them to apply and build on the skills obtained in the residency program to in-depth activities as part of their senior residency postings.

Residents will have to be posted to at least 2 different sites for a minimum of 6-months each to complete their senior residency. The postings and senior residency program for each individual will be discussed and approved by the mentors and the Preventive Medicine Residency Program.

At the end of the senior residency, they will have to pass an **Exit Examination** to qualify as a Public Health or Occupational Medicine Specialist.
A Resident’s Journey

Residency Year 1 (R1)  
For PGY1:  
Rotations must include:  
(a) Internal Medicine (at least 3 months)  
(b) General Surgery or Orthopaedic Surgery (at least 3 months)  
[Ref: SMC Guidelines on PGY1 training and posting – SMC 15.4, 15 Jan 2014]

Residency Year 2 (R2)  
Basic practicum - Rotations must include:  
(a) 6 months direct patient care in a primary care facility  
(b) 3 months in communicable disease control  
(c) 3 months attachment in public health administration

Residency Year 3 (R3)  
A resident must complete R1-R3 and the Master of Public Health to be eligible for the Preventive Medicine Intermediate Examination (PMIE)

Upon completion of the PMIE, a resident may progress to the Senior Residency

Senior Residency Year 1  
Postings are planned according to areas of specialisation and interest.

Senior Residency Year 2  
The Advanced Practicum must include at least 6 months of training experience outside the main training site.

Upon successful completion of the Preventive Medicine Exit examination, the Resident can apply to SAB as Specialist in Public Health or Occupational Medicine.

Residency Rotations

Residency Year 1 (R1)  
For residents entering the program in post-graduation year 1 (PGY1), a typical resident’s rotation will include 3-4 months in Internal/General Medicine, 3-4 months in General Surgery or Orthopedic Surgery, and the remaining months in an elective clinical rotation such as Paediatrics or Obstetrics and Gynaecology (O&G).

For residents entering the program after PGY1, the Residency Year 1 would comprise of two 6-month rotations.

Residency Years 2 and 3 (R2 / R3)  
During Residency Years 2 and 3, residents will be exposed to a wide range of basic practicum experiences within the participating institutions. They will receive a gradation in responsibility and competency as they progress from one residency year to the next. Required rotations during the practicum years are as follows:

a. At least six months in direct patient care for the general population in a primary care or intermediate/long-term care setting.  
   i. Exposure to broad spectrum of communicable and non-communicable diseases
ii. Understand spectrum of healthcare from primary to tertiary prevention
iii. Undertake health promotion activities

b. At least three months in public health administration a government public health agency. The training experience should include:
   i. Public health policies and practice
   ii. Programme implementation and evaluation
   iii. Healthcare systems

c. At least three months in communicable disease control (this requirement may be fulfilled on a sessional basis over the practicum phase).
   i. Introduction to principles and practice of epidemiological surveillance
   ii. Practical, hands-on experience in the investigation and control of a communicable disease outbreak

As the training requirements for each resident is unique, the rotations will be tailored for every resident in consultation with the Program Director and the Associate Program Directors.

In-training examination (ITE)

The ITE will be conducted annually for Residents in the basic practicum years. The format of the examinations will be Multiple Choice Questions (MCQ), Written Questions OSCE stations and scientific paper critique. R2 residents are required to take the ITE to be eligible for progression to R3.

Lectures and Seminars

During the course of the program, training sessions consisting of Preventive Medicine Grand Round, seminars and tutorials will be organized for residents. These training sessions will cover the competencies required of the resident in the various stages of the program. Residents are required to attend these training sessions as stipulated.

Mentorship

Every resident will be assigned a mentor at the beginning of the program. The mentor and resident are encouraged to meet regularly. The mentor will guide and coach the resident throughout his residency, particularly in the areas of personal and career development. The program mentor is assigned based on the resident’s area of interest and may be reviewed at any time when requested by either parties.

The mentor is in addition to the site supervisor that, residents will have for every rotation. The site supervisor oversees the educational goal for the particular rotation.

Senior Residency (R4 / R5)

The Senior Residency focuses on developing skills in a specific specialty area of preventive medicine. The advanced practicum must include at least 6 months of training experience outside the main training site. This may be in the form of attachments locally or overseas and may include additional didactic courses or modules.
The competences expected of a Senior Residents are to consistently:
(a) Demonstrate integration and application of concept and skills gained from the MPH;
(b) Demonstrate or role model effective team and leadership skills;
(c) Demonstrate depth and breadth of knowledge, evaluate and critically apply current knowledge gleaned from wide range of sources, including current literature, able to identify research questions that would answer specifics of public health problem or issue at hand; and
(d) Effective self-directed improvement activities that seek out and incorporate feedback and improvement data into daily practice.

Completion of the Senior Residency and passing the final exit examination will qualify the individual as a Specialist by the Specialist Accreditation Board, Ministry of Health, and registration as a Specialist by the Singapore Medical Council.

Exit Examination

Eligibility
- Within 3 months of successful completion of postings in R5
- Fulfilled teaching duties (nurses, undergraduates, medical officers)
- Updated log book including supervisor’s assessment reports
- Either
  o Relevant first author paper in a refereed journal; or
  o A portfolio consisting of 3 technical reports (2,000 words each) and 3 process reports demonstrating learning experience and evidence of depth and rigor in preparation of the technical report.

Exit examination format
- Discussion of projects and assignments undertaken during training, with a submitted write-up and oral presentation.
- Critique and discussion of one or two published papers, which will be given one week in advance.
- General review of knowledge to demonstrate:
  o Expertise within a wide range of subjects including those covered in R1-3.
  o Ability to apply knowledge and skills to various situations beyond the area of focus in R4-5.
  o Knowledge of recent scientific developments in the field
- Exam duration: 1-2 hours
  o Repeat attempts: maximum 3 (including first exam)
- Advice: meet with one of the exit exams board member while you are preparing for the exit exam.
Competencies

Preventive Medicine Competencies

The competencies for preventive medicine (in accordance with AGCME-I guidelines) are as follows:

(A) Patient (population) care

Residents must be able to provide population (patient) care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

(B) Medical knowledge

Residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care.

(C) Practice-based learning and improvement

Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning.

(D) Interpersonal and communication skills

Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.

(E) Professionalism

Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

(F) Systems-based practice

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.

Educational and Clinical Experience

The educational and clinical experience has been structured to provide the preventive medicine competencies. It will be met through the various preventive medicine postings throughout residency training. The competencies that will be achieved are broadly grouped into:

(A) Core preventive medicine
(B) Occupational medicine
(C) Public health and general preventive medicine

Through each posting, residents will be exposed to a range of experiences and will meet the requirements of several competencies. Residents are expected to keep track of the competencies that they have met, as this will be reviewed during the assessment process for
graduation from residency. Residents are, in addition, encouraged to explore other areas of preventive medicine that are not included in the list of competencies to further their training and experience.

(A) Core Preventive Medicine Competencies

<table>
<thead>
<tr>
<th>1. Communication, program, and needs assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds</td>
</tr>
<tr>
<td>b. Communicate effectively with physicians, other health professionals, and health-related agencies</td>
</tr>
<tr>
<td>c. Work effectively as a member or leader of a health care team or other professional group</td>
</tr>
<tr>
<td>d. Act in a consultative role to other physicians and health professionals</td>
</tr>
<tr>
<td>e. Maintain comprehensive, timely, and legible medical records, if applicable</td>
</tr>
<tr>
<td>f. Conduct program and needs assessments and prioritize activities using objective, measurable criteria such as epidemiologic impact and cost-effectiveness</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Computer applications relevant to preventive medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Use computers for word processing, reference retrieval, statistical analysis, graphic display, database management, and communication</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Interpretation of relevant laws and regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Identify and review relevant laws and regulations germane to the resident’s specialty area and assignments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Identification of ethical, social, and cultural issues relating to public health and preventive medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Recognize ethical, cultural, and social issues related to a particular issue and develop interventions and programs that acknowledge and appropriately address the issues</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. Identification of organizational and decision-making processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Identify organizational decision-making structures, stakeholders, style, and processes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. Identification and coordination of resources to improve the community’s health</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Assess program and community resources, develop a plan for appropriate resources, and integrate resources for program implementation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7. Epidemiology and Biostatistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Characterize the health of a community</td>
</tr>
<tr>
<td>b. Design and conduct an epidemiologic study</td>
</tr>
<tr>
<td>c. Design and operate a surveillance system</td>
</tr>
<tr>
<td>d. Select and conduct appropriate statistical analyses</td>
</tr>
<tr>
<td>e. Design and conduct an outbreak or cluster investigation</td>
</tr>
<tr>
<td>f. Translate epidemiological findings into a recommendation for a specific intervention</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8. Management and Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Assess data and formulate policy for a given health issue</td>
</tr>
<tr>
<td>b. Develop and implement a plan to address a specific health problem</td>
</tr>
<tr>
<td>c. Conduct an evaluation or quality assessment based on process and outcome performance measures</td>
</tr>
<tr>
<td>d. Manage the human and financial resources for the operation of a program or project</td>
</tr>
</tbody>
</table>
9. Clinical Preventive Medicine  
   a. Develop, deliver, and implement, under supervision, appropriate clinical services for both individuals and populations  
   b. Evaluate the effectiveness of clinical services for both individuals and populations

10. Occupational and Environmental Health  
   a. Assess and respond to individual and population risks for occupational and environmental disorders

(B) Occupational Medicine Competencies  
   a. Manage the health status of individuals who work in diverse settings  
   b. Monitor/survey workforces and interpret monitoring/surveillance data for prevention of disease in workplaces and to enhance the health and productivity of workers  
   c. Manage worker insurance documentation and paperwork, for work-related injuries that may arise in numerous work settings  
   d. Recognize outbreak events of public health significance, as they appear in clinical or consultation settings  
   e. Report outcome findings of clinical and surveillance evaluations to affected workers as ethically required; advise management concerning summary (rather than individual) results or trends of public health significance

(C) Public Health and General Preventive Medicine Competencies  

1. Public Health Practice  
   a. Monitor health status to identify community health problems  
   b. Diagnose and investigate health problems and health hazards in the community  
   c. Inform and educate populations about health issues  
   d. Mobilize community partnerships to identify and solve health problems  
   e. Develop policies and plans to support individual and community health efforts  
   f. Enforce laws and regulations that protect health and ensure safety  
   g. Link people to needed personal health services and ensure provisions of health care when otherwise unavailable  
   h. Ensure a competent public health and personal health care workforce  
   i. Evaluate the effectiveness, accessibility, and quality of personal and population-based health services  
   j. Conduct research for innovative solutions to health problems

2. Clinical Preventive Medicine  
   a. Acquire an understanding of primary, secondary, and tertiary preventive approaches to individual and population-based disease prevention and health promotion  
   b. Able to develop, implement, and evaluate the effectiveness of appropriate clinical preventive services for both individuals and populations  
   c. Design and conduct health and clinical outcomes epidemiologic studies

3. Health Administration  
   a. Design and use management information systems  
   b. Plan, manage, and evaluate health services to improve the health of a defined population using quality improvement and assurance systems
Progression of Competencies

Residents will be required to demonstrate progression of competencies from R1 to R3. The competency-based goals and objectives for each year of training are listed below.

<table>
<thead>
<tr>
<th>Year of training</th>
<th>Competency based goals and objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>R1</strong></td>
<td><strong>Patients (Population) Care</strong></td>
</tr>
<tr>
<td></td>
<td>1. Conduct program and needs assessments and prioritize activities using objective, measurable criteria such as epidemiological impact and cost-effectiveness</td>
</tr>
<tr>
<td></td>
<td>2. Use computers for word processing, reference retrieval</td>
</tr>
<tr>
<td></td>
<td>3. Identify and review relevant laws and regulations pertinent to the resident’s specialty area and assignments</td>
</tr>
<tr>
<td></td>
<td>4. Use epidemiology and biostatistics, including the ability to characterize the health of a community and design and conduct an epidemiological study</td>
</tr>
<tr>
<td></td>
<td>5. Practice occupational and environmental health, including being able to assess and respond to individual and population risks for occupational and environmental disorders</td>
</tr>
<tr>
<td></td>
<td>6. Manage the health status of individuals who work in diverse work settings</td>
</tr>
<tr>
<td></td>
<td>7. Mitigate and manage medical problems of workers</td>
</tr>
<tr>
<td></td>
<td>8. Recognize outbreak events of public health significance, as they appear in clinical or consultation settings</td>
</tr>
<tr>
<td></td>
<td>9. Recognize and evaluate potentially hazardous workplace and environmental conditions</td>
</tr>
<tr>
<td></td>
<td>10. Understand primary, secondary, and tertiary preventive approaches to individual and population-based disease prevention and health promotion</td>
</tr>
<tr>
<td></td>
<td>11. Develop and implement effective and appropriate clinical preventive services for individuals and populations</td>
</tr>
</tbody>
</table>

**Practice-Based Learning and Improvement**

1. Identify strengths, deficiencies, and limits in one’s knowledge and expertise
2. Set learning and improvement goals
3. Identify and perform appropriate learning activities
4. Incorporate formative evaluation feedback into daily practice
5. Locate, appraise, and assimilate evidence from scientific studies related to their patients’ health problems
6. Use information technology to optimize learning
7. Participate in the education of patients, families, students, residents and other health professionals

8. Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds

**Interpersonal and Communication Skills**

1. Communicate effectively with physicians, other health professionals, and health related agencies

2. Maintain comprehensive, timely, and legible medical records

**Professionalism**

1. Compassion, integrity, and respect for others

2. Responsiveness to patient needs that supersedes self-interest

3. Respect for patient privacy and autonomy

4. Accountability to patients, society and the profession

**Systems-based Practice**

1. Work effectively in various health care delivery settings and systems relevant to their clinical specialty

2. Coordinate patient care within the health care system relevant to their clinical specialty

3. Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate

4. Advocate for quality patient care and optimal patient care systems

5. Work in inter-professional teams to enhance patient safety

6. Participate in identifying system errors

**R2 Patient (Population) Care**

1. Use computers for statistical analysis, graphic display, database management, and communication

2. Recognize ethical, cultural, and social issues related to a particular issue and developing interventions and programs that acknowledge and appropriately address the issues

3. Identify organizational decision-making structures, stakeholders, style, and processes
Year of training Competency based goals and objectives

4. Use epidemiology and biostatistics, including the ability to design and operate a surveillance system; select and conduct appropriate statistical analyses; and design and conduct an outbreak or cluster investigation

5. Manage and administer, including the ability to assess data and formulate policy for a given health issue and develop and implement a plan to address a specific health problem

6. Provide clinical preventive medicine, including the ability develop, deliver, and implement, under supervision, appropriate clinical services for both individuals and populations, and evaluate the effectiveness of clinical services for both individuals and populations

7. Practice occupational and environmental health, including being able to assess and respond to individual and population risks for occupational and environmental disorders

8. Assess safe and unsafe work practices and safeguard employees and others, based on clinic and worksite experience

9. Recommend controls or programs to reduce exposures, and to enhance the health and productivity of workers

10. Report outcome findings of clinical and surveillance evaluations to affected workers as ethically required; advise management concerning summary (rather than individual) results or trends of public health significance

Practice-based Learning and Improvement

1. Systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement

Interpersonal and Communication Skills

1. Work effectively as a member or leader of a health care team or other professional group

Professionalism

1. Sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation

Systems-based Practice

1. Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate

2. Advocate for quality patient care and optimal patient care systems

3. Improve patient care quality

4. Implement potential systems solutions
<table>
<thead>
<tr>
<th>Year of training</th>
<th>Competency based goals and objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>R3</strong></td>
<td><strong>Patient (Population) Care</strong></td>
</tr>
<tr>
<td></td>
<td>1. Use epidemiology and biostatistics, including the ability to translate epidemiological findings into a recommendation for a specific intervention</td>
</tr>
<tr>
<td></td>
<td>2. Manage and administer, including the ability to conduct an evaluation or quality assessment based on process and outcome performance measures; and manage the human and financial resources for the operation of a program or project</td>
</tr>
<tr>
<td></td>
<td>3. Provide clinical preventive medicine, including the ability to evaluate the effectiveness of clinical services for both individuals and populations</td>
</tr>
<tr>
<td></td>
<td>4. Monitor/survey workforces and interpret/monitor surveillance data for prevention of disease in workplaces and enhancing the health and productivity of workers</td>
</tr>
<tr>
<td></td>
<td>5. Manage worker insurance documentation and paperwork, for work-related injuries that may arise in numerous work settings</td>
</tr>
<tr>
<td></td>
<td>6. Recommend controls or programs to reduce exposures, and to enhance the health and productivity of workers</td>
</tr>
<tr>
<td></td>
<td>7. Evaluate the effectiveness of appropriate clinical preventive services for both individuals and populations</td>
</tr>
<tr>
<td></td>
<td>8. Design and conduct health and clinical outcomes studies</td>
</tr>
<tr>
<td></td>
<td><strong>Practice-based Learning and Improvement</strong></td>
</tr>
<tr>
<td></td>
<td>1. Systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement</td>
</tr>
<tr>
<td></td>
<td><strong>Interpersonal and Communication Skill</strong></td>
</tr>
<tr>
<td></td>
<td>1. Work effectively as a member or leader of a health care team or other professional group</td>
</tr>
<tr>
<td></td>
<td>2. Act in a consultative role to other physicians and health professionals</td>
</tr>
<tr>
<td></td>
<td><strong>Systems-based Practice</strong></td>
</tr>
<tr>
<td></td>
<td>1. Show sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation</td>
</tr>
<tr>
<td></td>
<td>2. Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate</td>
</tr>
<tr>
<td></td>
<td>3. Advocate for quality patient care and optimal patient care systems</td>
</tr>
</tbody>
</table>
Residency Years

PGY1 - Clinical Rotations

The first residency year is a clinical year for PGY1. It encompasses 12 months of general clinical experience. For residents entering the program in PGY1, the rotations must include 3-4 months of General / Internal Medicine and 3-4 months of General Surgery or Orthopaedic Surgery, and one or more hospital elective postings (e.g. Paediatrics, O&G) required by SMC registration.

Clinical
During the inpatient rotations, residents will be involved in the clinical care of medical and surgical inpatients. They are involved with the diagnostic and therapeutic management of these patients, from admission to discharge from hospital. Residents will be assigned to clinical teams supervised by specialists. The specialist assigned to the team interacts daily with the residents during daily rounds, morning reports and supervises and evaluates the resident. Evaluations are completed every month and at the end of each rotation.

Residents will be required to perform the following procedures

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Assessment of competence</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Advanced Cardiac Life Support</td>
<td>Certification</td>
</tr>
<tr>
<td>b. Drawing Venous Blood</td>
<td>Direct observation</td>
</tr>
<tr>
<td>c. Drawing Arterial Blood</td>
<td>Direct observation</td>
</tr>
<tr>
<td>d. Electrocardiogram</td>
<td>Direct observation</td>
</tr>
<tr>
<td>e. Lumbar Puncture</td>
<td>Direct observation</td>
</tr>
<tr>
<td>f. Nasogastric Intubation</td>
<td>Direct observation</td>
</tr>
<tr>
<td>g. Placing a Peripheral Venous Line</td>
<td>Direct observation</td>
</tr>
</tbody>
</table>

Practicum Rotations

During the practicum rotations, residents will be given the opportunity to learn the scope of preventive medicine through broad-based experience. Residents will be rotated to affiliated institutions to gain experience in core areas such as health policy and administration, disease control and epidemiology, health promotion, occupational and environmental health and clinical preventive medicine.

The recommended duration of each posting is 6 months and should cover different components of the competencies listed above. The actual duration, requirements, and learning experience for each posting will be determined by the resident, his supervisor, the respective associate program directors for the posting and the program director.

Residents must perform at least 6 months of preventive medicine clinical work involving direct patient care during their residency years. This experience is to allow residents to understand issues surrounding clinical preventive medicine, and to apply knowledge and skills learnt during the residency program into clinical practice.

Lectures and seminars

Preventive Medicine Grand Rounds
a. Thematic review of public health and occupational health issues
b. Clinical case presentations by residents
c. Monthly, 9 sessions a year
d. Compulsory for PGY2 and above
Seminars and Tutorials
a. Weekly sessions will be conducted during the Practicum years, incorporating practice-based learning, small group discussions and seminars on core preventive medicine topics.
b. Compulsory for PGY2 and above

Scholarly Presentation at local or overseas conference
a. Optional for R2; Compulsory for R3
b. Annual local conference (Singapore Public Health and Occupational Medicine Conference)
c. Oral presentation of a completed research project to faculty and national scientific audience
d. Annually, 1 session (either Occupational Medicine or Public Health)

NUS MPH Core Modules

All residents will undertake the core modules (CO5102, CO5103, CO5104, CO5202, CO5203) of the Master of Public Health (MPH) program offered by the Saw Swee Hock School of Public Health at the National University of Singapore.

The core modules are offered during Semester 1 from August to December. It is recommended to complete CO5102 and CO5103 in the first year and the other core modules (CO5104, CO5202, CO5203) in the second year. Format includes lectures, case studies, workshops, discussions, and resident presentations. All core modules will have to be completed by end of Year-3.

Duration : Up to 3 evenings per week during each semester (17 weeks)

Description of the MPH Core Modules

CO5102 – Principles of Epidemiology
This module covers measurement of health and its determinants in populations, from both routine statistics, surveys, cohort studies, case-control studies and clinical trials. Topics include the design and conduct of epidemiologic studies, and mortality and morbidity indices. Illustrates and reinforces the principles taught through interactive sessions on selected topics.

CO5103 – Quantitative Epidemiologic Methods
This module will be integrated with various epidemiological study designs. It will cover descriptive and inferential statistics; and introduce the concepts of multivariate analyses.

CO5104 – Health Policy and Systems
How do healthcare systems around the world compare? How can their performance be improved? This module examines the goals and processes for healthcare reform, and the relationship between health policy and health systems performance. It explores the roles of government and the private sector in healthcare financing and provision, and familiarizes participants with the approaches and options for ensuring optimal health systems performance - including the judicious use of regulation, provider payment mechanisms, and other financial incentives. Through role play and stakeholder analysis, participants will appreciate the complex political processes involved in healthcare reform.

CO5202 – Environmental and Occupational Health
This module will provide a basic understanding of the relationship between the environment and health. Management of health issues in the general environment and the workplace will be discussed.
CO5203 – Lifestyle and Behaviour in Health and Disease
This module introduces the principles of health education, health promotion and behavioural change. It provides students with the principles and skills to address the social, psychological and environmental factors influencing behaviour and behaviour change. Upon completion of this module, students will be able to apply commonly used theories and models of behavioural change to change behaviour at the individual, group and community level.

Additional Learning Opportunities

Beyond the formal residency training program, there are many other opportunities for learning. These include but are not limited to conferences, meetings, seminars, and training courses. Residents are encouraged to seek out these opportunities to broaden their horizons and experiences. Where possible, the program will inform residents when such opportunities arise.

Conferences and training courses

Residents are encouraged to attend local and overseas scientific conferences and training courses that add to their knowledge and stature as a preventive medicine physician. Residents are also encouraged to present their work at such conferences where the opportunity arises. This provides an invaluable opportunity for residents to network with experts and contributes to their training program.

Specifically, residents are strongly encouraged to attend the annual Singapore Public Health and Occupational Medicine conference, which brings together a wide range of public health and occupational medicine practitioners.

Research

Residents are encouraged to participate and lead research activities during the course of their training. Research is important to enable residents to have a better understanding of the subject areas, to brainstorm problems and solution, and to improve preventive medicine through evidence-based science. Faculty members will guide residents in exploring areas of research that are relevant to their training experience.

Teaching

Residents are also encouraged to teach and guide their juniors through the program. Additional teaching opportunities may arise including giving talks, lectures, seminars to fellow residents and to external parties. Residents should take this opportunity to share their experiences, and build their knowledge and confidence.
Evaluation

Monitoring and evaluation is one of the most critical aspects of any training program. Evaluation provides residents with adequate feedback on their progress within their residency program, and their strengths, weaknesses, and areas for improvement. This is important to ensure that residents develop within the training framework, and problems and issues can be identified early and addressed accordingly. The evaluation process is interactive and requires the full participation of the resident and evaluators; it is not meant to be a one-way examination of the resident.

Residents will be assessed using objective methods and multiple evaluators on the following 6 ACGME-I general competency areas. These general competency areas will be assessed together with the preventive medicine competencies listed above which residents will have to meet.

1. Interpersonal and communication skills
2. Medical knowledge
3. Patient care
4. Practice-based learning and improvement
5. Professionalism
6. Systems based practice

The resident’s progression in performance appropriate to educational level (residency year of training) will be monitored by the resident and the evaluators. The “Progression of competencies from R1 to R3” lists the requirements within each general competency for each residency year that will be evaluated.

Evaluators and Assessment Methods

Residents will be evaluated by a variety of individuals who come into contact with them during the training process. This will ensure that the evaluation is complete, fair, and provides ample feedback to residents to gauge their progress and to identify areas of improvement.

Evaluators include the Program Director, faculty supervisor, faculty members, peers, the Clinical Competency Committee, and other individuals that the resident comes into contact with such as clinical tutors, allied health professionals, clerical staff, junior residents, and administrators.

The following table provides a summary of the assessment methods and evaluators for each general competency. Details of the different assessment forms are found in the Annexes.

<table>
<thead>
<tr>
<th>Competency</th>
<th>Assessment Method</th>
<th>Evaluator(s)</th>
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</thead>
<tbody>
<tr>
<td>Interpersonal and Communication Skill</td>
<td>Direct observation</td>
<td>Program Director</td>
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<tr>
<td></td>
<td></td>
<td>Faculty Member</td>
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<td></td>
<td></td>
<td>Faculty Supervisor</td>
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<tr>
<td>Multisource Assessment</td>
<td>Direct observation</td>
<td>Allied health Professional</td>
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<td></td>
<td>Clerical Staff</td>
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<td></td>
<td>Faculty Supervisor</td>
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<td></td>
<td>Junior Resident</td>
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<td>Peers</td>
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<td></td>
<td></td>
<td>Others</td>
</tr>
<tr>
<td>Objective structured clinical examination</td>
<td>Direct observation</td>
<td>Clinical Competency Committee</td>
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<tr>
<td></td>
<td></td>
<td>Faculty Supervisor</td>
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<tr>
<td></td>
<td></td>
<td>Program Director</td>
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<tr>
<td>Category</td>
<td>Assessment Type</td>
<td>Evaluators</td>
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<td>------------------------------------------------------</td>
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<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Medical Knowledge</td>
<td>In-house written examination</td>
<td>Faculty Member, Faculty Supervisor</td>
</tr>
<tr>
<td></td>
<td>Project assessment</td>
<td>Clinical Competency Committee, Faculty Supervisor, Program Director, Self</td>
</tr>
<tr>
<td>Patient Care</td>
<td>Objective structured clinical examination</td>
<td>Consultants, Clinical Competency Committee, Faculty Member, Faculty Supervisor</td>
</tr>
<tr>
<td></td>
<td>Standardized patient examination</td>
<td>Consultants, Clinical Competency Committee, Faculty Member, Faculty Supervisor</td>
</tr>
<tr>
<td>Practice-based Learning and Improvement</td>
<td>In-house written examination</td>
<td>Faculty Supervisor</td>
</tr>
<tr>
<td></td>
<td>Oral exam</td>
<td>Clinical Competency Committee, Program Director</td>
</tr>
<tr>
<td></td>
<td>Project assessment</td>
<td>Clinical Competency Committee, Faculty Supervisor, Program Director, Self</td>
</tr>
<tr>
<td>Professionalism</td>
<td>Multisource Assessment</td>
<td>Allied health Professional, Faculty Supervisor, Junior Resident, Peers, Other</td>
</tr>
<tr>
<td>Systems-based Practice</td>
<td>Global assessment</td>
<td>Faculty Supervisor, Self</td>
</tr>
<tr>
<td></td>
<td>Project assessment</td>
<td>Clinical Competency Committee, Faculty Supervisor, Program Director, Self</td>
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<tr>
<td></td>
<td>Structured case discussions</td>
<td>Faculty Member, Faculty Supervisor</td>
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<td></td>
<td>Portfolios</td>
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</tbody>
</table>
Evaluation schedule and documentation

The Program Director and the Clinical Competency Committee (CCC) will review each resident's performance and progress on a semi-annual basis. They will review the resident's transcripts from written examinations, self-reflection forms and self-assessed competency checklists from his portfolio, evaluation forms completed by faculty, and professionalism assessments completed by multiple evaluators.

The Program Director and the CCC will meet the residents individually, and corrections and explanations made as required. For residents who do not perform satisfactorily, remedial plans and advancement criteria from one year of training to the next will be put in place and conveyed to the resident. The resident has the opportunity to indicate disagreement with the evaluation on the evaluation form, and to prepare a written addendum which is attached to the evaluation.

A summative evaluation of the residents will also be conducted on his completion of his resident training program.

The Program Director will maintain a file that documents the qualifications and progress of each resident. A written summary of meetings with program director, faculty, and supervisor will be entered into the resident's training file. The written final evaluation copy for each resident who completes the program is signed by the Program Director and the resident and placed in the resident’s file.

Final summative evaluation

A summative evaluation of residents, documenting performance during the final period of education and verifying that the resident has demonstrated sufficient competence will be carried out at the end of the program.

Residents' Feedback

Correspondingly, residents will be asked to provide annual confidential written evaluations of the teaching faculty. This will ensure that the conduct of the Preventive Medicine Residency Program is of the highest standard, and meets the needs of individual residents. It also provides feedback to teaching faculty on their strengths, weaknesses, and areas for improvement.

To ensure that resident feedback of the teaching faculty is delivered in the most appropriate and effective manner, residents will also be trained on how to give feedback. To protect the residents’ anonymity, their names will not be recorded in the feedback forms. Aggregate data rather than individual feedback of the rating of the different postings will be provided to the faculty members.

Clinical Competency Committee (CCC)

The CCC is in-charge of monitoring resident performance and making appropriate disciplinary decisions and recommendations to the Program Director. At all times, the procedures and policies of the CCC will comply with those of the NUHS Graduate Medical Education Committee (GMEC).
Program Evaluation Committee (PEC)

The role of the PEC is to:

a) plan, develop, implement and evaluate all significant activities of the residency program;
b) develop competency-based curriculum goals and objectives;
c) review annually the program;
d) assure that areas of non-compliance with ACGME-I standard are corrected.

There will be one resident representative in the PEC.

Annual Review of the Program
The PEC will undertake a formal, systematic evaluation of the curriculum at least once a year in the following areas:

a) resident performance;
b) faculty development;
c) graduate performance, including performance of program graduates taking the certification examination; and
d) program quality.
Resident’s Responsibilities

These set of guidelines are to assist residents in successfully completing their Preventive Medicine Residency Program, and to build a collegiate environment between faculty, residents, and other professionals during the course of the residents’ training.

Residents are required to:

1. Meet all the expectations and milestones of the Preventive Medicine Residency Program as stipulated by the NUHS, ACGME-I, MOH Residency Advisory Committee, and laid out in this handbook and elsewhere. Any clarifications about the program should be made in advance to the Program Administration, supervisors, respective Associate Program Directors, or the Program Director. Failure to meet the expectations or milestones may result in the resident being removed from the program.

2. Attend all prescribed lectures, practice-based learning, small group discussions, seminars and other compulsory professional activities organized by NUHS as part of the residency program. These activities will be placed on the program website and e-mailed to residents.
   a) It is the responsibility of the resident to keep up to date with scheduled activities and of any changes and updates.
   b) Residents are required to complete readings or prescribed assignments before these activities so as to be able to contribute effectively during these sessions.
   c) Attendance will be taken at these activities.
   d) Residents who are unable to attend these activities should inform the Program Administration ahead of time. Waivers of attendance will be given under special circumstances at the discretion of the Program Director.

3. Complete and pass any relevant assignments and examinations during the program. These include the compulsory core modules conducted by NUHS.

4. Maintain an updated logbook for the activities during the program. The logbook will be given to all residents at the start of the residency program, and should be reviewed periodically with the supervisor.

5. Maintain regular communication with the Program Administration, supervisors, respective Associate Program Directors, and the Program Director. Residents should meet their supervisors at least once a week on average to ensure that constant professional linkages are maintained, progress is closely monitored, and feedback is provided. This will ensure that any deviation from the program’s objectives is detected early and corrected, and residents will be able to achieve their educational objectives.

6. Attend professional networking activities with residents and faculty to build a collegiate environment which is critical for their future work in preventive medicine.

7. Show professional and personal respect to their fellow residents who are colleagues with a common interest, to faculty members who are giving their time and effort to provide the best training experience, and to patients and the general public.

8. Strive to achieve excellence in their work, and to maintain the integrity of the Preventive Medicine Residency Program.
ACGME-I Program Requirements

The ACGME-I general guidelines and Preventive Medicine Residency Program requirements can be found in [www.acgme-i.org](http://www.acgme-i.org).

It comprises of:

a) ACGME-International Specialty Program Requirements for Graduate Medical in Preventive Medicine

b) Preventive Medicine Singapore Addendum
   a. Annex 1 – Basic practicum phase requirements
   b. Annex 2 – Advanced practicum phase requirements
Policies

NUHS Policies

An Institution Requirement document will be provided to the residents, which includes the policies and practices of NUHS.

Participating Institution Policies

Residents working in the respective participating institutions are required to adhere to the local policies governing these institutions. Residents should inquire about these requirements through the respective participating institutions and Associate Program Directors.

Graduate Medical Education Committee (GMEC)

The NUHS GMEC, which is led by the Designated Institutional Official (DIO), forms an administrative system that oversees ACGME-accredited programs of the sponsoring institution. Voting membership on the committee includes the DIO, Associate DIO, Program Directors, residents, administrators, and others as deemed necessary by DIO appointment. The Chair of the GMEC may form subcommittees based on the need to address specific issues relating to graduate medical education. The composition of such subcommittees may include members of the GMEC and/or non-members with expertise in the area under consideration. The GMEC meets on a monthly basis, and minutes and detailed records are kept of each meeting and are available for inspection by accreditation personnel.

Duty Hours and Working Environment for Residents

Duty hours are defined as all clinical and academic activities related to the residency program, i.e., patient care (both inpatient and outpatient), administrative duties related to patient care, the provision for transfer of patient care, time spent in-house during call activities, and scheduled academic activities such as conferences. The duty hour guidelines are very much in tandem with patient safety protocol too. **Residents need to take personal responsibility of their own duty hour requirements and engage their supervisors accordingly should there be a breach.** Duty hours do not include reading and preparation time spent away from the duty site.

The following institutional policies apply to all NUHS programs and residents:

1) **Duty hours must be limited to 80 hours**, averaged over a 4-week period per rotation or a 4-week period within a rotation, inclusive of all in-house call activities, excluding vacation or approved leave. Any requests for exceptions to the weekly limit on duty hours must be presented by the Program Director to the GMEC for review and approval.

2) Residents must be provided with 1 day in 7 free from all educational and clinical responsibilities, averaged over a 4-week period, inclusive of call. 1 day is defined as one continuous 24-hour period free from all clinical, educational, and administrative activities.

3) Adequate time for rest and personal activities must be provided. This should consist of a 10-hour time period provided between all daily duty periods and after in-house call.
4) Continuous on-site duty, including in-house call, must not exceed 24 consecutive hours. Residents may remain on duty for up to 6 additional hours to participate in didactic activities, transfer care of patients, conduct outpatient clinics, and maintain continuity of medical and surgical care as defined in Specialty and Subspecialty Program Requirements.

5) No new patients, as defined in Specialty and Subspecialty Program Requirements, may be accepted after 24 hours of continuous duty.

6) Program Directors and Coordinators are responsible for monitoring and enforcing compliance with duty hours.

**Oversight and Monitoring of Duty Hours and the Work Environment**

For proper oversight, the Graduate Medical Education Committee (GMEC) has mandated that residents log and approve their duty hours on all rotations using the IT platform - New Innovations. The GME Office will generate a list of residents who are not logging the required information into New Innovations each month and provide a copy to the Program Director and Coordinator. If a resident does not comply with logging duty hours, the Program Director will begin proceedings to issue a written warning and the resident may be suspended from clinical activities.

The Program Director will have 5 working days to get the resident in compliance with the requirement before a written warning and possible suspension is activated. If the resident disagrees with the recommended action, the resident has access to the grievance process outlined in the grievance policy.

1. The Program Director must review the duty hours of all residents on all rotations within their program each month to ensure compliance with the duty hour rules.

When a program is not operating within the duty hour requirements, the Program Director, in conjunction with the residents and appropriate faculty, must develop and implement a plan for corrective action, for any rotation not in compliance with the duty hour rules, or otherwise identified as problematic.

If the issue cannot be resolved at the program level, it is escalated to the DIO for arbitration or if additional resources are required at the institution level. These issues will also be surfaced at the GMEC for review.

2. The GMEC will evaluate each program’s compliance with the duty hour rules on a monthly basis and during the internal review process. Programs with non-compliance will need to submit action plan to the DIO office.

3. The DIO will report the results of the duty hour reports at the Organized Medical Staff Meeting for the SI and its participating institutions.

4. Residents may report violations of the duty hour rules through procedures established by each program and/or by calling the DIO or GME Office.
Grievance and Disciplinary Procedures

All policies related to NUHS Residency Programs are available for reference at NUHS Residents Manual or click on http://www.nuhs.edu.sg/wbn/slot/u3325/Residency_Faculty%20&%20Resident/2014%20Resident%20Manual%20(20140424).pdf

NUHS believes that residents have a right to appeal against any decisions affecting their graduate medical education in NUHS. A resident who surfaces a grievance or appeal must be accorded access to the proper channels for his/her grievance or appeal to be heard and addressed.

A resident who surfaces a grievance or appeal and follows the proper Resident Grievance Procedure set out by NUHS shall be protected against any form of reprisal. NUHS ensures that residents are able to raise and resolve concerns in a confidential and protected manner without fear of intimidation or retaliation.

The Resident Grievance Procedure will minimize conflict of interest by adjudicating parties in addressing:
1) Academic or other disciplinary actions taken against residents that could result in dismissal, non-renewal of a resident’s agreement, non-promotion of a resident to the next level of training, or other actions that could significantly threaten a resident’s intended career development; and,
2) Adjudication of resident complaints and grievances related to the work environment or issues related to the program or faculty.

NUHS advocates the proper use of Resident Grievance Procedure to resolve residents’ grievances systematically, fairly and expeditiously, so that the open communication will augur well for resident-institution relations and promote a harmonious working environment within NUHS.

1. Matters, which affect the residents, should be brought to the attention of the Chief Resident of the appropriate service, either directly or indirectly via any program coordinator of the GME program. The Chief Resident will bring such matters to their regular department meeting with administrators for resolution.

2. If resolution of the grievance is not met then residents can attempt it through the PD or HOD as appropriate. The relevant personnel should give a reply within 10 working days.

3. Residents can also bring an issue to the resident welfare sub-committee, either directly through a sub-committee member, or indirectly via the GME Office. This group can then take ownership of the issue and work to resolve the concern raised, in a confidential and protected manner.

4. If all channels have been exhausted, residents can seek assistance from the Designated Institutional Official (DIO) of Graduate Medical Education (GME). Request for an appeal must be made in writing to the DIO using the NUHS Appeal Procedure Form (refer to Annex F). The resident should be given a reply within 10 working days.

5. If resolution is still not reached, the DIO, may convene a Review Committee comprising 3 PDs/faculty and 2 senior/chief residents of independent program.
DIO appoints one Chair from the Review Committee, and one administrator from DIO office (non-voting) to observe the hearing.
During the hearing, the resident may have the opportunity to appear before the Members of the Review Committee. This will be on a case to case basis if the resident has issues to present.
The Review Committee may also call other individuals who may have knowledge surrounding the events relating to the adverse decision. The hearing is not deemed to be an adversarial proceeding.

The resident may obtain legal counsel or other assistance in preparing for the hearing itself; however, the resident cannot be represented at or during the hearing by legal counsel. Also, the supervisor or PD will have no legal counsel present at the hearing. The findings and report enclosing the recommended course of action by the Review Committee will be sent to Vice-Chairman, Medical Board (Education) and Chairman, Medical Board for final endorsement and approval. The final decision is then communicated to the HOD and DIO.

Thereafter, a letter authorising the disciplinary action is sent to the resident by the program, hand delivered or by certified mail.
Flowchart for Remediation, Suspension and Dismissal from NUHS Residency Program

Step 1: Supervisor/PD counsels Resident, and summarizes in a letter to Resident:
  i) contents of counseling
  ii) follow-up action required
  iii) future steps if problem recurs
A copy of the letter is also filed by Program in the Resident’s Portfolio.

Step 2: If the situation does not improve, PD issues Written Warning (with specified warning period) through HOD, and
  i) PD proceeds to submit a summary of case through HOD to DIO
  ii) If the Resident is in TY (categorical), also copies summary of case to categorical PD
  iii) If the Resident is PGY1, Supervisor/PD will notify AD’s office

Show Improvement?

Yes

Warning ends

No

Step 3: PD shall conduct face-to-face review meeting with Resident together with
  supervisor, to discuss corrective action, using the Performance Improvement Plan.

Show Improvement?

Yes

PIP concludes

No

PD recommends to DIO: Suspension or Dismissal. Review and approval
  by HOD and DIO are required.

DIO forms 5-member Review Committee, comprising of 3
  PIs/faculty (one of whom is from the Remediation Sub-
  Committee) and 2 senior/chief residents from independent
  programs. DIO appoints one Chair for the Review
  Committee, and one administrator from DIO office (non-
  voting) to observe the hearing. A representative from
  MOHHR will also sit in as an observer.

Review Committee reviews case and submit findings and report
  enclosing recommended course of action to VCMB (EdU) and
  CMB. A copy of the report is also sent to DIO office.

VCMB (EdU) and
  CMB make the final
decision. The final
decision is
  communicated to
  HOD and DIO.

A letter authorizing the disciplinary action is sent to
  Resident by the Program, hand-delivered or by certified mail.

If the resident is dismissed
  from NUHS Residency
  Program, s/he returns to
  MOHHR.

During the hearing, the Resident may have the
  opportunity to appear before the Members of the
  Review Committee. This will be on a case to case basis,
  if the resident has issues to present. The Review
  Committee shall request the resident’s Program
  Director to present the information relative to the
  academic, educational and clinical performance issues
  that have been raised.

Legend

Case ends with notice copied to:
  • Resident
  • Program
  • DIO Office
  • MOHHR

DIO: Designated Institutional Official
PD: Program Director
HOD: Head of Department
AD: Associate Dean
CMB: Chairman, Medical Board
VCMB: Vice Chairman, Medical Board
ACGME-I Site Visit on 16 October 2012 (Re-Accreditation)
From Left: Mr Kenny Chiw, Dr Jason Yap, Dr Matthias Toh, Dr Ho Sweet Far, Dr Tina Foster (Site Visitor), A/Prof Shirley Ooi (DIO), Dr Judy Sng, Prof Lee Hin Peng (Program Director 2012-2013), Prof Goh Kee Tai, Dr Chew Ling, Dr Benjamin Ng, Dr Eugene Shum

Program study trip to Malaka Mahkota Hospital on 17 February 2012.
From Right-Back: Dr Jason Yap, Dr Benjamin Ng, Dr Eugene Shum, Dr Chew Ling, Dr Goh Jit Khong, Dr Ho Sweet Far, Dr Jeff Hwang, Dr Joshua Wong and Dr Matthias Toh
From Right-Front: Dr Fong Yuke Tien, Dr Olivia Teo, Dr Adelina Shuan Young, Dr Tan Xin Quan, Dr Todd On, Miss Young, Mr Kenny Chiw
Study-Trip to Taipei 22 to 26 July 2013

National Taiwan University Hospital (NTUH)

Department of Labor, Taiwan

Health Promotion Administration, Ministry of Health and Welfare
Study-Trip to Hong Kong 6 to 10 June 2012

Cathay Pacific Airways Training Hub

Chinese University of Hong Kong (CUHK),
The Jockey Club School of Public Health and Primary Care