



香港社會醫學學院
HONG KONG COLLEGE OF COMMUNITY MEDICINE
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Guidance Notes

Higher Training in Administrative Medicine

(Revised October 2009)

Introduction

- 1 This document serves as guidance notes on Higher Training in Administrative Medicine, and covers the following: -
 - a) roles and responsibilities of trainers;
 - b) College requirements of Higher Training;
 - c) assessment of Higher Trainees;
 - d) guidelines for the Training Thesis of the Part II Examination; and
 - e) Part II oral examination with an illustrative case study.
- 2 The guidance notes are set according to the College Training and Examination Guidelines for the Subspecialty of Administrative Medicine (the "Guidelines"). Trainees should refer to the Guidelines for details of the requirements for training and regulations for the Fellowship Examination.

Trainers: Roles and Responsibilities

- 3 Trainers are appointed by the Administrative Medicine Subspecialty Board of the Hong Kong College of Community Medicine. They are College fellows experienced in the field of Administrative Medicine, and are responsible to the College for the proper supervision of trainees under their charge.
- 4 All trainers must fulfill the Continuous Medical Education (CME) requirements of the College. They must also agree to abide by the principles and protocols of training as defined by the College.
- 5 The Subspecialty Board in Administrative Medicine undertakes a review of the trainer's appointment at yearly interval, or when circumstances have changed.
- 6 A trainer should not be responsible for more than 3 trainees at any one time. For Higher Training, the trainee to trainer ratio should not exceed 2:1. For Basic Training, the trainee to trainer ratio should not exceed 3:1. The maximum number of trainees that a trainer can supervise at any one time is 3, with allowable combination as follows:-

Higher Trainees	Basic Trainees	Maximum Total
2	1	3
1	2	3
0	3	3

- 7 The trainer has the following responsibilities to the trainee :-
- a) to be readily accessible to the trainee and be able to assess his/ her training needs;
 - b) to ensure the trainee has an achievable learning plan taking account of his/ her learning needs;
 - c) to guide the trainee in the development of the core competencies in Administrative Medicine:
 - d) to liaise with the direct supervisor(s) of the trainee(s) assigned to him/ her regularly and be aware of their progress at work;
 - e) to provide advice, guidance and assistance to the trainee in his/ her preparation for the Training Thesis,
 - f) to ensure the accuracy of, sign and approve, the trainee's Log Book and the submission of "1000-word dissertation" at regular intervals; and
 - g) to conduct annual training review with the trainee.
- 8 The trainer has the following responsibilities to the College: -
- a) to acquaint with the Administrative Medicine curriculum and the training and examination requirements.
 - b) to report any change in the Training Institution which may affect the quality of training;
 - c) to liaise with the Program Director on any unmet need of the trainee(s) and issues related to the training program and organization.
 - d) to supervise training, ensuring that it conforms to the College's principles and protocols.
 - e) to assist and provide guidance to all trainees on his/ her own specialized subject areas

Higher Training: College Requirements

- 9 Higher Training requires a minimum of 3 years, which involves a structured rotational programme and must take place in a Training Institution recognised by the College for such purpose. The rotational training programme should include 1 year training in a position that involves policy formulation, 1 year training in a position with operational responsibilities, and 1 year training in an elective academic or specialized area or department of the Training Institution.
- 10 A Higher Trainee is one who: -
- a) is a medical practitioner registrable in Hong Kong;
 - b) has passed the Part I Fellowship Examination;
 - c) has satisfied the College that he/ she has completed all the requirements of Basic Training; and
 - d) is accepted by the College as a trainee for Higher Training and is so registered.

- 11 During the period of Higher Training, a trainee should acquire core competencies as defined in the College document entitled “Administrative Medicine Log Book and Training Portfolio of Core Competencies” (the Log Book). The trainee is also expected to prepare and sit for the Part II and Exit Examination for admission to the Fellowship of the College.

Assessment of Higher Trainees

- 12 To maintain the quality of training, the Administrative Medicine Subspecialty Board will organise, on an annual basis, a training review with individual trainee and his/ her trainer. Progress of the trainee will be assessed and training milestones agreed during the review.
- 13 During the period of Higher Training, the trainee is expected to achieve all the assessment components described in the Administrative Medicine Log Book and Training Portfolio of Core Competencies, which includes the following: -
- a) demonstrate achievement of all core competencies;
 - b) accumulate a minimum of 200 credit points over a three year period, with an annual target of at least 60 credit points. Half of the credit points (110 points) will be granted on participation in academic and training activities organised or recognised by the College. Another half of the credit points (100 points) will be granted based on evidence of presentations or documentations of actual work produced by the trainee;
 - c) participate in a minimum of 4 review meetings per year, and
 - d) make a minimum of 2 substantive presentations in the review meetings for each year of supervised training. A substantive presentation entails a full powerpoint presentation of a case study, a full powerpoint presentation of a journal article appraisal or two brief powerpoint presentations as a discussant to a case study. At least one of the 2 substantive presentations per year should either be a full case study presentation or a journal article appraisal presentation.
- 14 It is the trainee’s responsibility to keep his/ her Log Book entry constantly up-to-date.
- 15 Prior to completing Higher Training, trainees will be required to sit for the Part II Examination. This is designed to test the candidate’s ability to apply relevant knowledge, skills and attitudes to the practice of Administrative Medicine. It is a two-stage examination consisting of (a) Training Thesis submission, and (b) an oral examination.
- 16 The College conducts Part II Examination in Administrative Medicine once a year. The date of the examination will be announced at least 6 months in advance.

Part II Training Thesis Guidelines

- 17 Each trainee is required to submit between one Training Thesis for the Part II Examination. The Thesis should be based on original work conducted in the subspecialty of Administrative Medicine. In this context, the materials used to prepare the Thesis should normally be derived from the trainee's mainstream duties.
- 18 The Thesis should not exceed 7,500 words in length exclusive of abstract, references and appendices.
- 19 The aims of the Thesis are to allow the candidates to demonstrate their skills in: -
- a) identifying and describing important Administrative Medicine issues;
 - b) assessing and researching the issues in a critical and objective manner;
 - c) relating the issues appropriately to theory, knowledge and best practice;
 - d) initiating a range of management actions;
 - e) documenting case studies in a clear and professional manner, and
 - f) practicing Evidence-based decision making.
- 20 In principle, any topic that falls within the scope of Administrative Medicine practice is acceptable for use as training Thesis. However, candidates should ensure that the work presented in the Training Thesis and "1000-word dissertation" taken together is of sufficient scope to enable the candidate to demonstrate broad competence in the skills of Administrative Medicine.
- 21 Candidates are required to address a minimum of 4 mandatory core competencies in their Training Theses, as follows: -

Mandatory	Optional
<ul style="list-style-type: none"> • Analysis & decision making • Strategic thinking, policy development and implementation • Managing change and influencing others • Leadership • Managing resources • Quality improvement and risk management 	<ul style="list-style-type: none"> • Self actualisation and communication • Research and development • Health promotion, disease prevention and control • Health service planning and development

All candidates must meet the College's minimum requirement of demonstrating adequately the 4 mandatory core competencies before a 'pass' in their training theses can be graded. Candidates who achieve significantly more than the minimum requirement, to the satisfaction of the College, will be able to secure better grades. Details of the core competency components are shown in the Appendix.

22 Candidates may consider adopting the following structure to present the work of their training theses. The headings form the marking framework of the Thesis, as follows: -

a) Abstract/ key words

The abstract should not exceed 200 words and must contain up to six keywords. It should include a brief statement of the purposes of the study/ project, the methods used, salient facts which emerged and a summary of the conclusions. General statements, such as “the relevance of the findings to Administrative Medicine are discussed”, are inadequate.

The keywords, which are used to help identify the underlying topics of the thesis, should reflect special features of the work rather than general terms such as management or finance.

b) Problem identification and definition of task

There must be a clear statement of the problem(s) or issue(s), leading to the definition of the task(s). The relevance of the task(s) to Administrative Medicine must be demonstrated.

c) Background

This section should provide the general background to the task(s), including a description of the demographic, social, cultural, economical, political and environmental factors. It should also contain the specific background to the problem(s) under consideration, and a critical review of relevant literature and publications.

d) Action Plan

The specific aims and objectives of the study/ project should be clearly stated. The section should describe in depth how the task(s) are undertaken in light of information reviewed in background to address the problem(s) identified. The project methodology, including the methods of data collection and analysis, as well as the rationale for choice of methods and their strengths and weaknesses, is clearly described and explained.

e) Results

There should be clear presentation of data or other information collected with appropriate analyses. A critical account of reliability and validity of the data or information, possible sources of bias, problems encountered in obtaining the data and how they were overcome is expected.

f) Discussion, interpretation and conclusions.

This section includes comparison with results of other relevant work, the merits of alternative explanations of observations, justification for conclusions drawn, and the relevance of conclusions to the objectives.

It should include an analysis on the application to the practice of Administrative Medicine and a clear statement of the implications of the findings for the practice of Administrative Medicine in Hong Kong. These should be based on sound principles and reflect any constraints identified in the study. They should also show a reasonable balance between idealism and pragmatism.

Plans for implementation and evaluation of any recommendations, including reference to those consulted in the process and the person(s) or groups(s) who would be expected to implement proposals should also be described.

g) Outcomes and lessons learnt

If the outcomes are known, these should be described, with exploration of factors leading to success or failure to achieve recommended changes.

Lessons learnt by the candidate, as well as recommendations for future study/ project, should also be described to provide advice to those who may face with a similar problem in future.

Choice of topic

- Commissioning mental health service in the New Territories East region in Hong Kong.

Principal competencies to be demonstrated

- Analysis & decision making.
- Strategic thinking, policy development and implementation.
- Leadership.

Problem identification and definition of task

- The problems centre on a lack of mental health service provision in the region in the face of a rapidly growing population and a rising trend of mental health disorders. The problems can be further illustrated using quantitative data & graphic display.
- The task is to address the service shortfall by commissioning an appropriate level of mental health services using updated model of service delivery to meet mental health care needs of the population.

Background

- This section will describe in general the population and service profiles of the region in the context of the Hospital Authority system.
- Specifically, mental health services in terms of population needs, models of service delivery and resources requirement (finance, staff, infrastructure etc) will be described. Relevant documents prepared by World Health Organisation etc will be mentioned.
- This section will also examine critically the literature on prevalence of mental health disorders, updated models of service delivery such as community care trend vs hospital care etc.

Action Plan

- This will describe the following –
 - formation of a multidisciplinary task group, with a clear statement of the candidate's involvement.
 - description of the objectives to be achieved.
 - detailed description of the tasks and the methodologies to perform the tasks, as follows: -
 - : establish the mental health needs of the people in the Region, using literature prevalence and local survey data.
 - : establish the most appropriate model of mental health care delivery, striking a balance between the needs of the Region and Hospital Authority as a whole.
 - : identify issues of resourcing.
 - : formulate strategy of commissioning the service.
 - : put in place a framework to evaluate the service.

Results

- This section will present the results of the above tasks, including matching the population needs with service provision. Results of the evaluation (if available) will also be included.

Presentation, interpretation & conclusion

- This section will include a description of the limitations of the methodologies & results. How this piece of work compares with international trend will also be stated. Conclusions are made based on the results and objectives of this piece of work.

Outcomes & lessons learnt

- The outcomes of this commissioning task will be described. Factors contributing to the success or failure will be analysed, & lessons learnt will be shared.
- Relevance of this task to the practice of Administrative Medicine will be highlighted in terms of improving population health through the provision of cost effective health care delivery model.
- How this project contributes to achievement of Administrative Medicine Core Competencies should also be described.

Preparation for Part II Oral Examination

24 Two categories of candidates will be invited to participate in the oral examination: -

- a) Those who score a pass in the Training Thesis assessment, and
- b) Those who marginally fail the Training Thesis assessment.

25 The oral examination consists of 2 parts, as follows: -

- a) Defence of the Training Thesis

This aims to test the candidate's ability to present and discuss his/ her written work in an informed, intelligent and logical manner. The examiners may seek to: -

- clarify points of concern;
- explore controversial points;
- determine lessons learnt, and
- confirm role of candidates in the project.

- b) General viva on case studies

This aims to test the candidate's ability to discuss problems associated with the practice of Administrative Medicine. Case studies comprising topical issues will be presented, and the candidate's response will be examined.

26 An example of the case study suitable for use in the oral examination is illustrated below: -

Illustrative Example of a Case Study

As Medical Director of a teaching hospital, you receive an adverse incident report describing a grossly hyponatraemic (low serum sodium) patient, a labourer aged 50, who became tetraplegic after being given hypertonic saline in the Intensive Care Unit (ICU).

You proceed to interview the consultant anaesthetist in charge of the case and manage to establish the following facts:-

- a) The clinical diagnosis was accurate and hypertonic saline was indicated.
- b) The junior doctor prescribed the hypertonic saline, but unfortunately the flow rate was three times faster than the appropriate rate.
- c) The patient developed complication within 24 hours manifesting as irreversible tetraplegia.
- d) The consultant was only consulted over the phone; he had not seen the patient until after the complication has developed.
- e) The patient's family has so far been kept in the dark.
- f) The patient remains in ICU.

Describe the key issues, and discuss how you would manage the incident.

Key points Expected of the Candidate

Key issues include the following:

- a) Moral and ethical
 - patient's right to know vs being kept in the dark.
- b) Risk management
 - protecting the institution from financial & reputational risk.
 - root cause analysis to prevent similar incident from happening again.
 - cultivate "no blame" culture.
- c) Medico-legal
 - fair compensation to victim.
- d) Human resource management
 - supervision of junior staff.
 - continuous professional development / continuous medical education.
- e) Public relations
 - proactive media management.

Incident Management Plan

- a) Guiding Framework
 - Morally and ethically, the patient and his relatives must not be kept in the dark.
 - At the same time, there is a need to initiate actions to protect the teaching hospital from financial and reputational risk.
- b) Actions focusing on the patient
 - Convene a meeting with the teaching hospital's lawyer and insurance representative.
 - Determine early that this is a non-defensible case.
 - Decide on how best to compensate the family and avoid lengthy legal proceedings.
 - Ensure the patient receives good quality medical & rehabilitative care in the hospital.
 - Formulate a plan to discuss with family with a view to arrive at a negotiated settlement (with agreement from insurer).
- c) Actions focusing on the case
 - Initiate root cause analysis.
 - Implement lessons learnt (system improvement, educational initiatives etc).
 - Prompt reporting of the case worth highlighting.
- d) Actions focusing on staff management
 - Review hospital procedure of supervising junior doctors.
 - Review work hours issues.
 - Review CPD/CME issues.
 - Any disciplinary measures required.
- e) Actions focusing on potential media reporting
 - Consider line to take.
 - Identify one media person as the key spokesperson.

Part II Fellowship Examination: Outcome of Assessment

- 27 Trainees are required to pass the two components of Part II Examination, i.e. both the Training Thesis assessment and the oral examination before being deemed to be successful. This is a pre-requisite before trainees can proceed to take the Exit examination.
- 28 If only one component of the Part II Examination is given a pass, it is possible to bank the 'passed' component and the candidate will only need to be examined in the 'failed' component in the next sitting. The bankability of the 'passed' component is limited to 12 months. This is illustrated below: -

Pass	Fail	Actions
Thesis	Oral	<ul style="list-style-type: none">• Bank Thesis for 1 year• Retake oral in next sitting
Oral	Thesis	<ul style="list-style-type: none">• Bank oral for 1 year• Retake Thesis in next sitting

Exit Examination

- 29 Only candidates who have passed the Part II Examination and fulfilled all the necessary requirements as defined by the College are eligible to participate in the Exit Examination. This is an oral assessment conducted by the Administrative Medicine Subspecialty Board. The assessment will be based on a review of the candidate's Log Book and the "1000-word dissertation" submitted during the period of Higher Training. Successful candidates will be recommended to the Council for Fellowship of the Hong Kong College of Community Medicine.
30. The "1000-word dissertation" are meant to reflect the trainees' accomplishment in the ten core competencies required in higher training in administrative medicine. A minimum of 6 "1000-word dissertation" is required. Each should contain about 1,000 words. These "1000-word dissertation" should focus on the reflection of the trainees on their learning from actual work experiences and growth in competency. The trainee shall arrange to submit such "1000-word dissertation" throughout their higher training so as to reflect his/her training exposure in a timely manner and before the Exit Examination.

***** Ends *****

**Appendix
Components of the Core Competencies
In Administrative Medicine**

Basic Trainee should be able to...		Higher Trainee should be able to...	
Analysis and Decision Making (1)			
(a)	<ul style="list-style-type: none"> Understand the collection, collation and analysis of data. Familiar with different sources of data. Familiar with basic concepts of statistics, epidemiology, health economics and qualitative methodology. 	(a)	<ul style="list-style-type: none"> Apply basic techniques in statistics, epidemiology and health economics. Interpret quantitative and qualitative findings. Report significant findings to inform decision.
(b)	<ul style="list-style-type: none"> Develop options and evaluate alternatives in policy formulation or programme planning. 	(b)	<ul style="list-style-type: none"> Select appropriate alternatives for policy formulation or programme planning, balancing practical consideration and research analysis.
(c)	<ul style="list-style-type: none"> Incorporate environmental scanning and assessment of social, economical and political factors in decision making. 	(c)	<ul style="list-style-type: none"> Perform appraisal of social, economic and political impacts of health policies, strategies or programmes. Involve key players to participate in decision making
(d)	<ul style="list-style-type: none"> Familiar with risk identification and risk analysis principles and methodologies. 	(d)	<ul style="list-style-type: none"> Apply knowledge and skills in risk management and control to making decisions under uncertainties.
Strategic Thinking, Policy Development and Implementation (2)			
(a)	<ul style="list-style-type: none"> Understand the determinants of health and risk factors of diseases. Familiar with methods of health impact assessment. 	(a)	<ul style="list-style-type: none"> Identify broad direction to decision makers to formulate policy / strategy or plan service programme. Contribute to policy, strategy or programme development based on health impact assessment and taking into consideration broad determinants of health.
(b)	<ul style="list-style-type: none"> Familiar with evidence-based policy making. Identify literature from 	(b)	<ul style="list-style-type: none"> Formulate policy or programme objectives based on evidence. Develop well argued case to

	established and grey sources.		influence decision makers.
(c)	<ul style="list-style-type: none"> Understand different methods and tools of analysis, e.g. analysis of strengths, weaknesses, opportunities and threats (SWOT). 	(c)	<ul style="list-style-type: none"> Define issues of strategic importance based on various tools, e.g. SWOT analysis, and prioritise these issues for further policy or programme development.
(d)	<ul style="list-style-type: none"> Identify stakeholders and understand methods of accessing stakeholders' information. 	(d)	<ul style="list-style-type: none"> Undertake survey, focus group meeting etc. to involve stakeholders in policy development or programme planning. Develop plan to put policy / strategy into operation or to implement programme.
Managing Change and Influencing Others (3)			
(a)	<ul style="list-style-type: none"> Anticipate need for change. Anticipate people's response. Appreciate the change scenarios. 	(a)	<ul style="list-style-type: none"> Initiate agenda for change. Develop mechanisms and processes to foster change.
(b)	<ul style="list-style-type: none"> Understand the culture, values and emotions in existing environment and organisation. Familiar with facilitating and impending factors for change. 	(b)	<ul style="list-style-type: none"> Map out ways to align values and achieve shared goals to facilitate attitude change and behaviour modification. Build consensus, achieve team building and motivation to facilitate change.
(c)	<ul style="list-style-type: none"> Understand sources and nature of power and authority, formal and informal, and their relationship with organisational structure. Understand causes of conflicts. Familiar with basic conflict management and negotiating skills. 	(c)	<ul style="list-style-type: none"> Exercise the art of delegation of authority, power, and responsibilities. Sensitive to organisational, human and power relationship in managing changes.
Leadership (4)			
(a)	<ul style="list-style-type: none"> Understand the ingredients to inspire and motivate people. Familiar with different leadership styles. Provide practical support to team 	(a)	<ul style="list-style-type: none"> Assist in developing mission statements in line with the vision of the team or organisation. Create cohesiveness amongst team members.

	members.		<ul style="list-style-type: none"> Exercise motivational skills.
(b)	<ul style="list-style-type: none"> Appreciate macro picture and the holistic view. Understand the principles of target setting. Familiar with management by objectives. 	(b)	<ul style="list-style-type: none"> Contribute to setting the direction (team or organisation) and establishment of milestones. Guide and steer to achieve goals.
(c)	<ul style="list-style-type: none"> Identify role models for learning. Familiar with good leadership practice. 	(c)	<ul style="list-style-type: none"> Lead by example (walk the talk).
(d)	<ul style="list-style-type: none"> Understand layers of accountability. Accept and discharge responsibility. 	(d)	<ul style="list-style-type: none"> Contribute to setting a framework of accountability to achieve audit trail and facilitate transparency. Define responsibility and roles for team members.
(e)	<ul style="list-style-type: none"> Understand principles of performance monitoring using qualitative and quantitative framework. Familiar with attributes of performance indicators. 	(e)	<ul style="list-style-type: none"> Contribute to setting up mechanism or system for performance evaluation. Apply evaluation findings to improve health system.
Managing Resources (5)			
(a)	<ul style="list-style-type: none"> Understand principles of staff development. Appreciate the importance of providing feedbacks. 	(a)	<ul style="list-style-type: none"> Map out staff development plan. Plan for staff complement and skill mix to implement service or programme.
(b)	<ul style="list-style-type: none"> Familiar with methods of facilitating staff to achieve goals and objectives. Understand staff's requirements for professional growth. 	(b)	<ul style="list-style-type: none"> Contribute to team building and facilitate ownership of common goals. Contribute to a learning environment conducive for continuous professional development.
(c)	<ul style="list-style-type: none"> Familiar with the principles of financial planning and programme budgeting. Understand costs/benefits assessment. 	(c)	<ul style="list-style-type: none"> Participate in formulating appropriate budget allocation formula. Negotiate and mobilize resources to meet current and future needs.
(d)	<ul style="list-style-type: none"> Familiar with the principles of 	(d)	<ul style="list-style-type: none"> Set up appropriate indicators to

	monitoring utilization of resources.		monitor and evaluate system.
(e)	<ul style="list-style-type: none"> Understand value for money principles. 	(e)	<ul style="list-style-type: none"> Incorporate features of value for money into project or service programme.
Self Actualisation and Communication (6)			
(a)	<ul style="list-style-type: none"> Familiar with different forms of learning theories. 	(a)	<ul style="list-style-type: none"> Apply different learning techniques for self improvement.
(b)	<ul style="list-style-type: none"> Understand principles of effective communication. Understand the needs of target audience. 	(b)	<ul style="list-style-type: none"> Demonstrate competence in public speaking and doing presentations. Write skilfully and effectively to convey key message points to intended audience.
(c)	<ul style="list-style-type: none"> Familiar with the principles in media handling. 	(c)	<ul style="list-style-type: none"> Handle media enquiries and participate in media interviews.
(d)	<ul style="list-style-type: none"> Appreciate the complex nature of interpersonal relationship. 	(d)	<ul style="list-style-type: none"> Work effectively with different players in the healthcare sector to advance objectives of the team, department or organization.
(e)	<ul style="list-style-type: none"> Familiar with methods of coping with pressure or stress. 	(e)	<ul style="list-style-type: none"> Demonstrate skills in confronting obstacles. Stand firm where justified even under difficult circumstances.
(f)	<ul style="list-style-type: none"> Understand and adhere to professional code of ethics. 	(f)	<ul style="list-style-type: none"> Apply ethical considerations in relevant areas of work or project.
Quality Improvement and Risk Management (7)			
(a)	<ul style="list-style-type: none"> Understand the different concepts of quality. Familiar with quality management tools and their applications. 	(a)	<ul style="list-style-type: none"> Apply the different quality concepts for service improvement. Utilise the appropriate tools to enhance service quality.
(b)	<ul style="list-style-type: none"> Understand the principles of service accreditation and evaluation. 	(b)	<ul style="list-style-type: none"> Contribute to service or programme accreditation by incorporating appropriate measures.

(c)	<ul style="list-style-type: none"> Understand the components of risk analysis: risk identification, risk assessment and risk communication, and principles of risk management. 	(c)	<ul style="list-style-type: none"> Manage risk with appropriate system and measures. Participate in risk audit. Implement risk communication measures.
(d)	<ul style="list-style-type: none"> Understand the framework to prevent and control major incidents. 	(d)	<ul style="list-style-type: none"> Formulate plan to prepare for the unexpected. Participate in preventing and handling crises, disasters or critical events.
(e)	<ul style="list-style-type: none"> Familiar with medico-legal principles. Understand relevant ordinances and their implications. Understand complaint systems. 	(e)	<ul style="list-style-type: none"> Manage medico-legal cases and minimize through risk management. Address complaints fairly and with transparency.
Research and Development (8)			
(a)	<ul style="list-style-type: none"> Understand basic study designs, their strengths and weaknesses. Familiar with bio-ethical principles. 	(a)	<ul style="list-style-type: none"> Design, contribute to and conduct research including health services evaluation.
(b)	<ul style="list-style-type: none"> Define search strategy and perform literature search. Conduct literature reviews using electronic and other databases. 	(b)	<ul style="list-style-type: none"> Draw appropriate conclusions, set in context, and make recommendations from the results.
(c)	<ul style="list-style-type: none"> Turn a health problem into an answerable research question. Identify clear aims and objectives. 	(c)	<ul style="list-style-type: none"> Synthesise research findings into practical information that can be used to promote development of service programme.
(d)	<ul style="list-style-type: none"> Understand uses of health informatics. 	(d)	<ul style="list-style-type: none"> Apply health informatics to plan, monitor and evaluate services.
Health Promotion, Disease Prevention and Control (9)			
(a)	<ul style="list-style-type: none"> Understand concepts of health promotion. 	(a)	<ul style="list-style-type: none"> Incorporate health determinants and risk factors appropriately in programmes formulation to promote health and prevent and control diseases. Develop evidence-based intervention for health maintenance and improvement.

(b)	<ul style="list-style-type: none"> Familiar with different models of disease prevention and control. Understand the legal and regulatory framework. 	(b)	<ul style="list-style-type: none"> Adopt comprehensive approaches for disease prevention and control, including communication and non-communicable diseases. Monitor and evaluate effectiveness
(c)	<ul style="list-style-type: none"> Appreciate relevance and impact of community development on individual health and beliefs. 	(c)	<ul style="list-style-type: none"> Involve in community participation project.
Health Services Planning and Development (10)			
(a)	<ul style="list-style-type: none"> Identify needs as basis for service planning and development. Assess needs using different approaches. 	(a)	<ul style="list-style-type: none"> Convert needs into programmes or service provision. Set clear objectives and targets.
(b)	<ul style="list-style-type: none"> Familiar with approaches to priority setting. Understand ways to appraise societal values. 	(b)	<ul style="list-style-type: none"> Incorporate societal values in setting priority. Participate in priority setting exercise.
(c)	<ul style="list-style-type: none"> Understand functions of the health system. Familiar with the operational relationship within the organisation. 	(c)	<ul style="list-style-type: none"> Demonstrate competence in translating the functional requirements of team / department or health system into operational structures and process (functions decide forms).