Competency Based LOGBOOK for

COMMUNITY MEDICINE

for First, Second and Third Professional MBBS

As per the Competency Based Medical Education Curriculum (NMC)

2nd Edition

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JAYPEE

Contents

Section

4

Pandemic Management

Phase II—MBBS

Module PM 2.2: Emergence and Re-emergence of Microbes

Background

The serendipitous discovery of Penicillin by Alexander Fleming in 1928 made man dream about victory over microbes, but emerging and re-emerging infectious diseases have proven the futility of that dream and power of the microbes over man.

Emerging infectious disease (EID) are diseases that have been newly detected or were found only in restricted geographical locations with few cases. In contrast to this, re-emerging infectious diseases (REID) are diseases that were once major health problems and then their incidence declined to a great extent, but are again becoming health problems for a significant proportion of the population either globally or in a specific geographical location.

Incidence of these emerging and re-emerging infectious diseases is increasing and there are a large number of factors that contribute to the origin or spread of these diseases which can increase the risk of outbreaks or pandemics dramatically. These factors can be related to the microbial properties, environmental, socio-economic, and demographic factors. Majority of the EID and REID are Zoonotic in origin and signifies the role of cohabitation in evolution of these organisms.

Keeping in mind the significance of understanding the factors that result in evolution of these infectious diseases and understanding mechanisms that can be adopted for prevention and control of these diseases a sound knowledge, skills and attitudes about emergence and re-emergence of microbes need to be developed in undergraduate medical students.

Competencies Addressed

The student should be able to:	Level	Major department to coordinate
1. Define emerging and re-emerging infections. Explain reasons or Identify factors responsible for emergence and re-emergence of these infectious diseases	K	Community medicine
2. Discuss strategies for early identification, prevention and control of emerging and re-emerging infectious diseases	K	
3. Discuss the challenges faced in control/prevention of these infections	KH	

Learning Experience

- **Year of study:** Professional year 2
- **Hours:** 6 hours.
  - Exploratory and interactive theory session—1 hour
  - Self study/individual/small group assignment about any one emerging or re-emerging infectious disease—2 hours
  - Discussion in small groups about reasons/factors responsible for emerging or re-emerging infectious disease identified through case studies—1 hour
  - Plenary of findings in the case studies and closure—2 hours

Assessment

- **Formative:** Required, SAQ, MCQ, Viva Voce.
- **Summative:** Required.

Resources

1. Zumla A, Hui DS (Eds). Emerging and Re-emerging Infectious Diseases, An Issue of Infectious Disease Clinics of North America E-Book. Elsevier Health Sciences; 2019 Nov 2.
2. Lessler J, Orenstein WA. The Many Faces of Emerging and Re-emerging Infectious Disease. Epidemiologic Reviews. 2019 Nov 4.

Reflection on Module PM 2.2: Emergence and Re-emergence of Microbes

What happened:

So what:

What next:

Date:

Signature of Teacher-in-Charge

Reflection on Module PM 2.2: Emergence and Re-emergence of Microbes

What happened:

So what:

What next:

Date:

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Reflection on Module PM 2.2: Emergence and Re-emergence of Microbes

What happened:

So what:

What next:

Date:

Signature of Teacher-in-Charge

Module PM 2.4: Vaccination Strategies including Vaccine Development and Implementation

Background

Virulent agent, susceptible host and favorable environment forms the epidemiological triad for all infectious diseases in all settings. The disease can be controlled by addressing any of these components. If available, an effective vaccine can be very useful in breaking the chain of transmission quickly as host will no longer remain susceptible. Given the ease of logistics and quickness of action, vaccine has been looked upon as a potential savior in situations of epidemics and pandemics especially in diseases caused by viruses. In fact, world owes it to vaccines, for the eradication of Smallpox and control of Polio and Measles. However, the development of vaccines is a long and tedious process, which takes several months to years. Also, equally important is to develop a rational strategy for use of vaccine for any illness. Usually there is undue pressure from communities and administrators for use of vaccines as ad-hoc measure. As a trained medical personnel, the Medical Officer should be able to guide them on this issue sensibly. Also, the Medical Officer should be vigilant to the generalized complacency that follows in the diseases known to have vaccine available. This module will focus on empowering the students to develop sound and rational knowledge about vaccines, vaccine development process and their role in small and large disease outbreaks.

Competencies Addressed

The student should be able to:	Level	Major department(s) to coordinate
1. Describe the process of vaccine development	KH	Community medicine, biochemistry
2. Describe the role of vaccines in disease control and eradication	KH	
3. Describe the steps to prepare a micro plan for vaccination activity at PHC level	KH	
4. Describe the importance of routine vaccination during pandemics	KH	
5. Describe the role of communities in vaccination programs	KH	
6. Describe the cold chain for vaccine storage and delivery	KH	

Learning Experience

- **Year of study:** Professional year 2
- **Hours:** 6 hours
  1. Exploratory and interactive theory session—30 minutes
  2. Small group discussion—3 hours
     Suggested topics for discussion: Vaccines in disease control, vaccine development process, routine vaccination during pandemic and pandemic influenza vaccines—WHO
  3. Visit to PHC/local hospital to show cold chain and sample micro-planning for supplementary polio vaccination (interaction with Medical Officer)—2 hours
  4. Discussion and closure—30 minutes

Assessment

- **Formative:** Required by assignment, MCQ, SAQ.
- **Summative:** Short answers, short notes.

Resources

1. Pandemic influenza vaccines: WHO. Available from: https://www.who.int/immunization/newsroom/vaccine_PI/en/
2. Vaccine Testing and the Approval Process. Centre for Disease Control, USA. Available from: https://www.cdc.gov/vaccines/basics/test-approve.html
3. Immunization Handbook for Medical Officers. National Health Mission. 2017. https://nhm.gov.in/New_Updates_2018/NHM_Components/Immunization/Guildelines_for_immunization/Immunization_Handbook_for_Medical_Officers%202017.pdf
4. Vaccination in Humanitarian Emergencies: Literature Review and Case Studies. Available from: https://www.who.int/immunization/sage/meetings/2012/april/2_SAGE_WGVHE_SG1__Lit_Review_CaseStudies.pdf

Reflection on Module PM 2.4: Vaccination Strategies including Vaccine Development and Implementation

What happened:

So what:

What next:

Date:

Signature of Teacher-in-Charge

Reflection on Module PM 2.4: Vaccination Strategies including Vaccine Development and Implementation

What happened:

So what:

What next:

Date:

Signature of Teacher-in-Charge

Reflection on Module PM 2.4: Vaccination Strategies including Vaccine Development and Implementation

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So what:

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This logbook is designed as per the latest guidelines of logbook module shared by National Medical Commission (NMC) for implementation of competency-based curriculum and recommended to be followed for the MBBS students from the academic year 2023–2024 onward. This logbook of Community Medicine is a verified record of the progression of the learner documenting the acquisition of the requisite knowledge, skills, attitude and competencies. It is a tool that guides medical students by highlighting important clinical objectives promoting self-reflection, providing an opportunity to obtain feedback from preceptors and the records can be used for formative and continuous assessment. Also, this logbook is an academic document that becomes both a snapshot of the progress of the learner and a prerequisite for progression to the next phase of learning or graduation from the course.

Salient Features

- Predefined competencies for recording the activities conducted in a simple tabulated format based on NMC logbook module
- Separate empty table provided for competencies needed by the department of community medicine
- Separate section provided for SDL, field visit, and simulation-based learning (Skill Lab) with ample space for reflective writing of the respective subjects
- Separate section of pandemic management module and infection control practices for 2nd and 3rd year MBBS students with module and reflective writing space
- Separate section of AETCOM for 3rd year Part I MBBS with modules and reflective writing space
- Recording of the details of assignment and assessment
- Separate sections are provided for attendance record of the students and attending extra classes for poor attendance

Aditya Pratap Singh MBBS MS (Anatomy) is Professor and Head, Department of Anatomy, United Institute of Medical Sciences, Prayagraj, Uttar Pradesh, India. He has undergone training in BCME and Advance Course in Medical Education (ACME). He is MEU Coordinator and member of various committees at his institute. He has published several research papers in national and international journals. He is passionate about teaching and research activities which helped him to compile this logbook.

Saumya Singh MBBS (Hons.) MD (Microbiology) is Professor and Head, Infection Control Member Secretary and Incharge Molecular Lab, Department of Microbiology, United Institute of Medical Sciences, Prayagraj, Uttar Pradesh, India. She has published a number of scientific research papers in national and international journals. She has undergone training in Medical Education (BCME), Advance Course in Medical Education (ACME), NABL internal auditors training course (Kolkata) and is an active member in MEU at her institute along with Curriculum Incharge for 2nd year MBBS. She is fascinated about innovative teaching and promotes research work helping her compile this logbook.

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