



MANIPAL  
UNIVERSITY

## Global and Public Health

### **PUBH 230: *Surveillance of Infectious Diseases***

Please refer to the [faculty page](#) for this semester's instructor.

#### **Course Description**

Surveillance is intended to detect early warning signals of impending outbreaks and help initiate an effective response in a timely manner in urban and rural areas. It will provide essential data to monitor progress of ongoing disease control programmes and help allocate health resources more efficiently.

The fundamental considerations in disease surveillance are: who gets the disease, how many people get the disease, where these people get the disease, why these people get the disease, and what needs to be done as a public health response.

#### **Learning Objectives**

Students will learn the components of surveillance activity, including:

1. Collection of data
2. Compilation of data
3. Analysis and interpretation
4. Follow up action
5. Feedback

Students will learn the different approaches to surveillance of different diseases and conditions.

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### **Course Schedule**

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Please note that students concentrating in public health will also be required to attend weekly academic field visits as part of their coursework.

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#### **Session 01/14 Introduction to Disease Transmission and Surveillance**

##### Readings:

Park, K. (2013). *Park's Textbook of Preventative and Social Medicine*. 22<sup>nd</sup> ed. New Delhi, India: Banardias Bhanot Publishers. Chapter: Disease transmission (pp. 90-96).

Kleczkowski, Roemer Van Der Werff (1984). *National health systems and their reorientation towards health for all*. World Health Organization.  
[http://whqlibdoc.who.int/php/WHO\\_PHP\\_77.pdf](http://whqlibdoc.who.int/php/WHO_PHP_77.pdf)

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**Session 02/14            Acute Flaccid Paralysis (AFP) Surveillance**

Readings:

Ministry of Health and Family Welfare. (2005). Field guide to the surveillance of acute flaccid paralysis, 3<sup>rd</sup> edition.  
[http://www.searo.who.int/india/topics/poliomyelitis/Field\\_guide\\_for\\_Surveillance\\_of\\_Acute\\_Flaccid\\_Paralysis\\_3rd\\_edition.pdf](http://www.searo.who.int/india/topics/poliomyelitis/Field_guide_for_Surveillance_of_Acute_Flaccid_Paralysis_3rd_edition.pdf)

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**Session 03/14            Integrated Disease Surveillance Project**

Readings:

Integrated Disease Surveillance Project (IDSP) State and District Surveillance Officer. (2008). Objectives, strategies, and implementations. Modules 1-3.  
[http://idsp.nic.in/idsp/IDSP\\_2WeekCourse\\_DSO\\_Sept08/Resources.htm](http://idsp.nic.in/idsp/IDSP_2WeekCourse_DSO_Sept08/Resources.htm)  
Park, K. (2013). *Park's Textbook of Preventative and Social Medicine*. 22<sup>nd</sup> ed. New Delhi, India: Banardias Bhanot Publishers. (pp. 426 - 428).

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**Session 04/14            Surveillance for non-communicable diseases**

Readings:

Integrated Disease Surveillance Project (IDSP) (2008). State and District Surveillance Officer. Objectives, strategies and implementation. Module 14.  
[http://idsp.nic.in/idsp/IDSP\\_2WeekCourse\\_DSO\\_Sept08/Resources.htm](http://idsp.nic.in/idsp/IDSP_2WeekCourse_DSO_Sept08/Resources.htm)

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**Session 05/14            HIV sentinel surveillance**

Readings:

National AIDS Control Organisation (2014). HIV Sentinel Surveillance 2012 – 2013: A Technical Brief. <http://www.naco.gov.in/upload/NACP%20-%20IV/HSS%20TECHNICAL%20BRIEF/HIV%20Sentinel%20Surveillance%20Technical%20Brief.pdf>

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**Session 06/14            Midterm examination**

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**Session 07/14            Indicators, monitoring and evaluation of malaria**

Readings:

National Vector Borne Disease Control Programme, Ministry of Health and Family Welfare (2011). Guidelines for diagnosis and treatment of malaria in India.  
<http://www.nvbdc.gov.in/Doc/Guidelines%20for%20Diagnosis2011.pdf>

National Vector Borne Disease Control Programme, Ministry of Health and Family Welfare (2012). Training module for multipurpose worker.

<http://www.nvbdc.gov.in/Doc/MPW-training-module.pdf>

National Vector Borne Disease Control Programme, Ministry of Health and Family Welfare (2009). Guidelines for establishing sentinel surveillance hospitals and management of severe malaria cases.

[http://www.nvbdc.gov.in/Doc/SSH\\_Management\\_Malaria\\_update.pdf](http://www.nvbdc.gov.in/Doc/SSH_Management_Malaria_update.pdf)

National Vector Borne Disease Control Programme, Ministry of Health and Family Welfare (2012). Training module of district VBD consultants on malariology.

<http://www.nvbdc.gov.in/Doc/training-module-VBDConsultant.pdf>

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### **Session 08/14 Indicators, monitoring and evaluation of Tuberculosis**

#### Readings:

Ministry of Health and Family Welfare. (2014). Tuberculosis control program – India.

<http://www.tbcindia.nic.in/rntcp.html>

Ministry of Health and Family Welfare. (2010). Training module for medical practitioners. <http://tbcindia.nic.in/pdfs/Training%20Module%20for%20Medical%20Practitioners.pdf>

Ministry of Health and Family Welfare. (2006 - 2011). RNTCP Annual Reports.

<http://www.tbcindia.nic.in/documents.html>

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### **Session 09/14 Millennium development goals 1 - 3**

#### Readings:

United Nations. (2014). Millennium development goals.

<http://www.un.org/millenniumgoals/2014%20MDG%20report/MDG%202014%20English%20web.pdf>

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### **Session 10/14 Millennium development goals 4 - 6**

#### Readings:

United Nations. (2014). Millennium development goals.

<http://www.un.org/millenniumgoals/2014%20MDG%20report/MDG%202014%20English%20web.pdf>

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### **Session 11/14 National Health Mission**

#### Readings:

National Rural Health Mission, Ministry of Health and Family Welfare, Government of India. (2014) NHM components. <http://nrhm.gov.in/nrhm-components.html>

National Rural Health Mission, Ministry of Health and Family Welfare, Government of India. (2014) NHM: More Information.

[http://nrhm.gov.in/images/pdf/NHM/NHM\\_more\\_information.pdf](http://nrhm.gov.in/images/pdf/NHM/NHM_more_information.pdf)

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**Session 12/14                  Student presentations**

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**Session 13/14                  Student presentations**

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**Session 14/14                  Final exam**

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## **Course Textbook**

Park, K. (2013). *Park's Textbook of Preventative and Social Medicine*. 22<sup>nd</sup> edition. Jabalpur, India: Banarsidas Bhanot Publishers.

## **Supplemental Course Materials**

Government of India: Ministry of Health and Family Welfare. National Rural Health Mission (2014). <http://mohfw.nic.in/NRHM.htm>

Disease Surveillance for Malaria Elimination: Operational Manual. (2012). World Health Organization.

Field Guide: Surveillance of Acute Flaccid Paralysis. (2005). Child Health Division, Department of Family Welfare, Ministry of Health & Family Welfare.

[http://www.searo.who.int/india/topics/poliomyelitis/Field\\_guide\\_for\\_surveillance\\_of\\_acute\\_flaccid\\_paralysis\\_3rd\\_edition.pdf?ua=1](http://www.searo.who.int/india/topics/poliomyelitis/Field_guide_for_surveillance_of_acute_flaccid_paralysis_3rd_edition.pdf?ua=1)

Integrated Disease Surveillance Project: Training Manual for State & District Surveillance Officers.

[http://idsp.nic.in/WriteReadData/OldSite/2WkDSOSept08/Resources\\_files/DistrictSurvMan/Module2.pdf](http://idsp.nic.in/WriteReadData/OldSite/2WkDSOSept08/Resources_files/DistrictSurvMan/Module2.pdf)

National Aids Control Organisation, Government of India: <http://naco.gov.in/>

Central Tuberculosis Division, Government of India: <http://tbcindia.nic.in/>

## **Evaluation**

Midterm Exam	20%
Final Exam	30%
Presentation or other project	20%
Field Visits	15%
Attendance	10%
Participation	5%

## **Assessment Criteria**

### **Mid-term Exam**

Will cover material from the first 5 class sessions and field visits. Students will be graded on their answers to multiple choice, short answer, and essay questions. Students should demonstrate familiarity with material covered in class meetings and readings. Arguments supported with information from readings and supplemental course materials will receive higher marks than those supported with observation or general supposition.

- There will be total of 10 questions
- Total of 2 marks per question
- 5 minutes for each question
- Total duration 50 minutes

**Presentation or Other Project**

During the course of the semester group presentations will be assigned and presented during the final two class periods prior to the final examination. Topics will be determined in class and each student is expected to contribute to their group by doing research, assembling a cohesive power point, and presenting for the class. Presentations should be between 5 and 10 minutes and include an introduction and conclusion.

**Final Exam**

Will cover material from the 7<sup>th</sup> to 11<sup>th</sup> class sessions and field visits. Students will be graded on their answers to multiple choice, short answer, and essay questions. Students should demonstrate familiarity with material covered in class meetings and readings. Arguments supported with information from readings and supplemental course materials will receive higher marks than those supported with observation or general supposition.

- There will be total of 10 questions
- Total of 2 marks per question
- 5 minutes for each question
- Total duration 50 minutes

**Field Reports**

Field visits to local health departments and organizations occur every Friday from 9AM to 1 PM. Students are required to attend all field visits to earn credit from this class. Please see the Field Visits Schedule document for a full list of sites visited, the topic focus of each visit, and required readings.

A 500 word (minimum) field report is due to Aarthy Ramaswamy ([aarthu28@gmail.com](mailto:aarthu28@gmail.com)) the Wednesday following your field visit. Late submissions will result in grade deduction.

The report should include your name, the field visit locale and site in the heading, and should briefly address topics and/or questions identified in the field visit information sheet for the particular visit.

**Field Report Evaluation Structure: NOTE – a 2 point penalty is applied against all late field report submissions**

<b>Element</b>	<b>Marks</b>
Thoroughly addresses assigned questions	<b>8</b>

Includes specific references to field observation and/or lecture	4
Word count, grammar, spelling and citation	3
<b>Total</b>	<b>15</b>

A note on citation: Not all reports will contain referenced works, but citation is required whenever a work is referenced. Any citation style is acceptable, so long as referenced works are noted in either footnotes or a bibliography.

**Attendance**

A student is allowed 2 excused absences. An excused absence is an absence related to a medical or other emergency about which the student has communicated to the Resident Director and concerned faculty prior to class.

Any additional absence or ANY unexcused absence results in a two point loss to the overall attendance score. Please note attendance requirements through your program as well.

**Participation**

Faculty give full participation marks to students who are punctual, attentive and engaged in class. Students who are late or inattentive will have points removed from their participation score at the faculty’s discretion.

**Grading**

Alliance programs utilize the follow standard grading policy well accepted by most US institutions.

Excellent	A	93-100%	Good	B+	87-89%	Acceptable	C+	77-79%
	A-	90-92%		B	83-86%		C	73-76%
				B-	80-82%		C-	70-72%
						Unsatisfactory	D+	67-69%
							D	63-66%
							D-	60-62%
						Failing	F	<60%

**Course Policies**

**Exams and Assignments**

Students are required to take all regularly scheduled exams in courses for which they are

registered, and to submit all assignments on time. Any compelling academic, personal, or medical reason that might justify a rescheduled exam or assignment must be brought up to both the Resident Director and program faculty. Failure to take scheduled exams or submit the requisite assignments for a course will adversely affect your grade as per the stated grading criteria for each course.

### **Classroom Conduct**

Student punctuality is extremely important in China and India. Please do not be late for classes or other activities, as it is considered impolite to do so. It is improper to eat in class, to engage in other activities such as texting, or to slump or nap. Students are expected to be alert and engaged as a sign of respect for their professors.

### **Attendance**

Class attendance is mandatory. It is essential that the students participate fully in the coursework and all required academic activities. Authorized absences may only be approved by the Resident Director, and students are expected to make up any missed work. Unauthorized absences will adversely affect a student's grades.