

Course Title: Public Health Surveillance

Course Number: EPID 0550J

Course Pre- and Co-requisite(s): PHCO 0504 Introduction to Biostatistics &
PHCO 0502 Introduction to Epidemiology

Course Location: Room 2A School of Public Health, Piscataway

Course Date & Time: Tuesday 6:00-8:00 pm

Course Instructor: William Halperin MD, MPH, DrPH; Professor of Epidemiology, Newark Campus, SPH, One Riverside Plaza; office phone 973-972-1862;
William.Halperin@Rutgers.edu

Office Hours: 2 hours prior to class and by appointment

Course Assistant: tbd

Course Website: tbd, canvas.rutgers.edu

Required Course Text: (1) Morbidity and Mortality Weekly Report; (2) Surveillance Summaries; both accessible at CDC.gov

Additional/Supplemental Readings/Resources: Public Health Surveillance; William Halperin, Edward Baker, Richard Monson; Van Nostrand Press; Published 1992; One copy will be loaned to each student team for the semester.; Recent bibliography of Surveillance:
<http://www.oxfordbibliographies.com/abstract/document/obo-9780199756797/obo-9780199756797-0149.xml?rskey=eB7exs&result=139>

Course Description: Public Health Surveillance is a core function, sometimes called the sensory or neurological system for public health practice. Surveillance is useful in the recognition of new diseases, injuries and hazards, tracking trends and estimating magnitude. A deep understanding of surveillance, both case based, and rate based, is valued by health departments and other employers. The evolution of public health surveillance from population based case series restricted to causes of death, to modern surveillance that incorporates hazardous exposures, social conditions, and other factors will be provided. The profound relationship between public health surveillance as conceived by Langmuir and “Continuous Quality Improvement” introduced by Demming and Shewart and widely used in industries of all types will be demonstrated. Current articles from CDC’s Morbidity and Mortality Weekly Report will be read, analyzed, and discussed in class in order to explore many issues involved in surveillance and its fundamental role in public health practice and also to introduce students to 30-40 diseases, injuries, and exposures of current public health importance. In the unlikely event that a major surveillance related issues is not covered in the 30-40 articles that will be read by students and discussed in class, the instructor will provide other modes such as articles published in prior years or decades or mini-lectures.

Selected Concentration Competencies Addressed: Each Concentration identifies competencies for each degree offered. The competencies addressed in this course for the MPH and PhD) in Epidemiology include:

- Critique epidemiologic literature, assess its strengths and weaknesses, and determine if conclusion(s) are supported
- Use epidemiologic techniques to quantitatively assess patterns and changes in disease occurrence
- Formulate a specific hypothesis and determine an appropriate study design and analysis plan
- Design, implement, and assess ordinary data collection systems for public health research
- Communicate and present study findings to professional audiences

Please visit the Concentration webpages on the School of Public Health's website at sph.rutgers.edu for additional competencies addressed by this course for other degrees and concentrations.

Course Objectives: By the completion of this course, students will be able to:

- Identify and or construct a comprehensive inventory of activities that constitute a cascade of interventions for the primary, secondary, or tertiary prevention of the disease or injury to be prevented.
- Construct the surveillance loops linking data collected, how it will be analyzed and how it will be used by a spectrum of organizations for modifying methods for the prevention of disease or injury.
- Identify the goals of surveillance and assess if a surveillance system is meeting those goals.
- Distinguish between public health surveillance and epidemiologic research and how these differences have consequences for the collection, analysis, and dissemination of information for prevention.

Course Requirements and Grading: *In this section, Instructor should include*

- Students will self select into teams of 2 students. In rotation, 4 teams weekly will lead a discussion of the surveillance system related articles from the MMWR and CDC Surveillance Summaries that will be identified by the instructor in advance and assigned to teams. No disease, injury, exposure, etc, that is the subject for the articles will be covered more than one during the course.
- Early in the course each team will propose (during office hours) to the course faculty member a specific disease, injury or risk factor of local, state or national public health importance for their analysis. Each team will delineate the cascade of prevention and feedback loops currently utilized for surveillance and will propose a substantive modification of the cascade and/or surveillance feedback loops, or change in goals for the surveillance system. After one or more meetings with the instructor (during office hours) to critique their draft poster, the student team will present their proposed new surveillance system at a poster session, and in a written manuscript of publishable quality.
- Students will submit three substantive questions at the beginning of class for each article assigned. The questions posed will be graded.

- A list of activities, assignments, projects, exams, etc. that contribute to course grade, and the respective point/percentage value of each.

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| 1. Weekly questions based on assigned reading | 10 pts. |
| 2. Periodic class presentations | 30 pts. |
| 3. Poster | 30 pts. |
| 4. Essay | 30 pts. |
| Total: | 100 pts. |

ASSESSMENT OF COURSE COMPETENCIES

COURSE COMPETENCIES	METHODS OF EVALUATION OF STUDENT PERFORMANCE
critique epi literature, assess strengths, weaknesses and assess conclusions	Faculty evaluation of student presentations, term paper and poster
quantitatively assess patterns and changes in disease occurrence	Faculty evaluation of student presentations, term paper and poster
formulate hypotheses; design reliable and valid measurements	Faculty evaluation of student presentations, term paper and poster
communicate to professional audiences	Faculty evaluation of student presentations, term paper and poster
maintain high ethical standards	Faculty evaluation of student presentations, term paper and poster

Grading Policy:

94 – 100	A
90 – <94	A-
87 – <90	B+
84 – <87	B
80 – <84	B-
77 – <80	C+
70 – <77	C
<70	F

Course Schedule: A course schedule will be emailed to students periodically allowing for at least two week lead time prior to assigned class presentations.

WK	DATE	content	preparatory reading	EVENTS	ASSESSMENT OF COMPETENCIES AND OBJECTIVES	Outline 30
1		introductory lectures on surveillance and population health	none	organization into teams	YES	Read and critique 3-4 articles weekly; prepare poster and paper; prepare class presentation

2		goals of surveillance	MMWR 1,2		YES	As above
3		cascade of prevention	MMWR 3,4,5	identification of topics for posters/papers	YES	As above
4		secondary prevention: clarification	MMWR 6,7,8		YES	As above
5		feed back loops	MMWR 9,10,11		YES	As above
6		what information is fed back	MMWR 12,13,14		YES	As above
7		how is the information used	MMWR 15,16,17		YES	As above
8		regulatory mandate for data collection	MMWR 18,19,20		YES	As above
9		who can access surveillance data	MMWR 21,22,23	draft posters ready for team mtg with instructor	YES	As above
10		how does surveillance differ from modern epidemiologic research	MMWR 24,25,26		YES	As above
11		what are the acceptable bounds on surveillance: Overton Concept	MMWR 27,28,29		YES	As above
12		emerging issues and controversies	MMWR 30,31,32		YES	As Above
13		emerging issues and controversies	MMWR 33,33,34	papers due	YES	As above
14		emerging issues and controversies	MMWR 35,36,37	posters due for printing	YES	As above
15			POSTER SESSION	POSTER SESSION		

Learning Management System: Canvas will be used extensively throughout the semester for course syllabus, assignments, announcements, communication and/or other course-related activities. It is the student's responsibility to familiarize themselves with Canvas and check it regularly. If you have difficulties accessing Canvas, please inform the instructor and Canvas Support (help@canvas.rutgers.edu). Canvas is accessible at canvas.rutgers.edu.

School of Public Health Honor Code: The School of Public Health Honor Code is found in the School Catalog (sph.rutgers.edu/academics/catalog.html). Each student bears a fundamental responsibility for maintaining academic integrity and intellectual honesty in his or her graduate work. For example, all students are expected to observe the generally accepted principles of scholarly work, to submit their own rather than another's work, to refrain from falsifying data, and to refrain from receiving and/or giving aid on examinations or other assigned work requiring independent effort. In submitting written material, the writer takes full responsibility for the work as a whole and implies that, except as properly noted by use of quotation marks, footnotes, etc., both the ideas and the works used are his or her own. In addition to maintaining personal academic integrity, each student is expected to contribute to the academic integrity of the School community by not facilitating inappropriate use of her/his own work by others and by reporting acts of academic dishonesty by others to an appropriate school authority. It should be clearly understood that plagiarism, cheating, or other forms of academic dishonesty will not be tolerated and can lead to sanctions up to and including separation from the Rutgers School of Public Health.

Students with Disabilities: Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student must Apply for Services by first completing a Registration Form with the Rutgers Office of Disability Services (ODS) at ods.rutgers.edu. The student will also be required to participate in an ODS intake interview and provide documentation. If reasonable accommodations are granted, ODS will provide you with a Letter of Accommodations which should be shared with your instructors as early in your courses as possible.

Commitment to Safe Learning Environment: The Rutgers School of Public Health is committed to helping create a safe learning environment for all students and for the School as a whole. Free expression in an academic community is essential to the mission of providing the highest caliber of education possible. The School encourages civil discourse, reasoned thought, sustained discussion, and constructive engagement. Provocative ideas respectfully presented are an expected result. An enlightened academic community, however, connects freedom with responsibility. The School encourages all students to disclose any situations where you may feel unsafe, discriminated against, or harassed. Harassment or discrimination of any kind will be not tolerated and violations may lead to disciplinary actions.

Reporting Discrimination or Harassment: If you experience any form of gender or sex-based discrimination or harassment, including sexual assault, sexual harassment, relationship violence, or stalking, know that help and support are available. You may report such incidents to the [RBHS Title IX Office](#) or to the School of Public Health's [Office of Student Affairs](#). Rutgers University has staff members trained to support survivors in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, and more. If you experience any other form of discrimination or harassment, including racial, ethnic, religious, political, or academic, please report any such incidents to the School's [Office of Student Affairs](#). The School strongly encourages all students to report any incidents of discrimination or harassment to the School. Please be aware that all Rutgers employees (other than those designated as confidential resources such as advocates, counselors, clergy and healthcare providers as listed in Appendix A to [Policy 10.3.12](#)) are required to report information about such discrimination and harassment to the School and potentially the University. For example, if you tell a faculty or staff member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty or staff member must share that information with the [RBHS Title IX Coordinator](#). If you wish to speak to a confidential employee who does not have this reporting responsibility, you can find a list of resources in Appendix A to University [Policy 10.3.12](#). For more information about your options at Rutgers, please visit [Rutgers Violence Prevention and Victim Assistance](#).

Graduate Student Computer Policy: Students are required to possess a personal laptop, no older than approximately two years, that must meet minimum requirements which may be found online at: sph.rutgers.edu/student-life/computer-support.html.

Policy Concerning Use of Recording Devices and Other Electronic Communications Systems: When personally owned communication/recording devices are used by students to record lectures and/or classroom lessons, such use must be authorized by the faculty member or instructor who must give either oral or written permission prior to the start of the semester and identify restrictions, if any, on the use of mobile communications or recording devices.

Policy Concerning Use of Turnitin: Students agree that by taking this course all required papers may be subject to submission for textual similarity review to Turnitin.com (directly or via learning management system, i.e. Canvas) for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Usage Policy posted on the Turnitin.com site. Students who do not agree should contact the course instructor immediately.

Withdrawal/Refund Schedule: Students who stop attending their course(s) without submitting a completed [Add/Drop Course](#) form will receive a failing grade. Furthermore, students dropping to zero credits for the semester are considered withdrawn and must submit a completed [Leave of Absence](#) form from the School of Public Health's Office of Student Affairs. The School of Public Health refunds tuition only. Administrative and technology fees are non-refundable. You may find the Withdrawal/Refund Schedule on the School of Public Health website at: sph.rutgers.edu/academics/school-calendar.html