Course Title: Using Public Health Surveillance to Assess Public Health Needs
Course Number: EPID 0721
Course Pre- and Co-requisite(s): None
Course Location: Online / Zoom
Course Date & Time: Tuesdays 6:30pm to 8:30pm September 7 to December 20
Course Instructor: Lori A. Hoepner, DrPH, MPH Adjunct Instructor, Department of Biostatistics and Epidemiology, Rutgers School of Public Health LAH302@sph.rutgers.edu
Office Hours: By Appointment
Course Website: canvas.rutgers.edu

Required Course Text:


Course Description: Public Health Surveillance is a core function of public health practice. Surveillance is performed to recognize new diseases, injuries and hazards, and to monitor existing public health issues by tracking trends and estimating the scope of these issues. This course will discuss the evolution of public health surveillance efforts, the types of surveillance efforts currently in use, and the legal and ethical issues at play when surveilling populations. Students will learn how to evaluate surveillance efforts, analyze surveillance data, and communicate findings to a broad audience. Articles from CDC’s Morbidity and Mortality Weekly Report will be discussed to familiarize students with a variety of public health issues and surveillance data. Assignments will ask students to research and present information on public health issues they care about to help students develop and further their interests.

Selected Concentration Competencies Addressed: Each Concentration identifies competencies for each degree offered. The competencies addressed in this course for the DrPH in Leadership, Practice and Research are:
3) Explain the use and limitations of surveillance systems and national surveys in assessing, monitoring and evaluating policies and programs and to address a population’s health.

5) Communicate public health science to diverse stakeholders, including individuals at all levels of health literacy, for purposes of influencing behavior and policies.

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:

1) Describe different types of surveillance efforts in the United States.
2) Identify the strengths and weaknesses of current public health surveillance efforts
3) Design a surveillance program to monitor a public health issue.
4) Present the findings from surveillance data to a broad audience.
5) Provide constructive feedback to peers and incorporate feedback from others as a part of the creative process.

**Course Requirements and Grading:** Additional details will be made available during the semester regarding the specific expectations for each assignment

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<thead>
<tr>
<th>Assignment</th>
<th>Competencies Assessed</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>Class Participation</td>
<td>Multiple</td>
<td>10</td>
</tr>
<tr>
<td>Posts to Group Forum</td>
<td>Multiple</td>
<td>15</td>
</tr>
<tr>
<td>Surveillance Summaries</td>
<td>3</td>
<td>14</td>
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<tr>
<td>Press Release Communicating Surveillance Data Findings</td>
<td>5</td>
<td>15</td>
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<tr>
<td>Mid-term Case Study</td>
<td>3, 5</td>
<td>20</td>
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<tr>
<td>Final: Group Project</td>
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<tr>
<td>Narrated Presentation (Powerpoint)</td>
<td>3, 5</td>
<td>15</td>
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<tr>
<td>Feedback provided to classmates</td>
<td>3, 5</td>
<td>5</td>
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<tr>
<td>3-5 page paper describing revisions to project</td>
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<td>6</td>
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**Online 30:** In addition to class meetings and assigned readings, you will be expected to complete activities outside of the classroom. These activities will include listening to podcasts, working with your classmates to prepare presentations for class, reviewing case reports from the CDC, and posting your thoughts to the group forum. More information will be provided

**Class Participation:** Class is most meaningful when you interact with the content and learn from one another. This requires active participation on everyone’s part. You will be expected to have read and thought about all class assignments prior to class and to come to class ready to discuss the material. It is my hope that we, as a class, can develop an environment in which everyone feels safe to share ideas and opinions. In recognition of the fact that people have different levels of comfort speaking in front of groups, I will try to create opportunities for individuals to share their ideas in multiple ways, including through online posts, written feedback to classmates, group assignments, individual and group presentations, and class discussion. Participation will be graded according to the following rubric:

0-3: No participation in any class or group discussion and was not prepared for class
4-5: Participation in class discussion was minimal and/or did not demonstrate an understanding of course materials

6-7 Student was not a frequent participant in class discussion but contributions were insightful, demonstrated a good understanding of the course readings, and/or offered a novel perspective on the topic.

8-9: Student was usually prepared for class and demonstrated a good understanding of the course readings. They participated in many class/group discussions, asking valuable questions, providing insight into discussion, and driving further the class’ understanding of the material.

10: Student was an active participant in all class/group discussions and demonstrated a good understanding of the course readings. They asked valuable questions, providing insight into discussion and improving the class’ understanding of the material.

*Posts to Group Forum:* Prior to classes 2, 3, 6, 8, and 9, you will be provided with a (set of) response questions that the readings will address to help prepare you for discussion of the class readings. You will be expected to choose 1 of the questions and provide a short response (1-3 paragraph). Your responses should demonstrate your understanding of the reading as well as your own thoughts on and/or questions about the material. Grading of these posts will favor thoughtfulness (quality) over length. An example will be provided at the first class to help introduce students to my expectations. Responses to questions will be assessed using the following rubric:

0: Student did not post response or the response was wholly off-topic

1: Response was on topic but did not incorporate ideas from the reading and/or was not particularly thoughtful.

2: Response raised a good point or asked a substantive question. Ideas discussed in the reading were incorporated into the response in a thoughtful/meaningful manner.

Each week that a response is required, students will also be required to comment on 1 of their classmates’ responses. Students should elaborate on the original post by providing well-argued criticism of the original points, incorporating additional points into an argument, or suggesting an alternate strategy. These comments are expected to move discussion forward and therefore need to incorporate more thought than “I disagree/agree” and “I like/dislike this.” Comments will be assessed according to the following rubric:

0: Student did not post a comment

0.5: Student’s response was not detailed or was too general to move the discussion forward.

1: Response elaborated on the original post by asking a thoughtful question, providing additional support for an argument, and/or adding an alternate viewpoint.

*Surveillance Summaries:* Throughout the semester, you must read 2 of the CDC’s MMWR Surveillance Summaries ([https://www.cdc.gov/mmwr/indss_2019.html](https://www.cdc.gov/mmwr/indss_2019.html)) or listen to 2 podcasts at [https://tools.cdc.gov/medialibrary/index.aspx#/podcastseries/id/302084](https://tools.cdc.gov/medialibrary/index.aspx#/podcastseries/id/302084) (in addition to those already assigned) and summarize the findings for the class. At the beginning of the semester, we will discuss these sources and you will be able to identify the summaries you would like to
review (this will allow the class to cover the widest swath of material without duplicating effort). Please provide information that summarizes the problem, outlines the type of surveillance being performed, identifies the primary findings, and discusses interventions of public health actions that can be taken. Responses should be 1-2 pages in length and should be made available to classmates.

**Press Release Communicating Surveillance Findings:** You will be given a brief that discusses a surveillance effort monitoring a public health issue and a set of tables with data on a number of outcomes measured by this effort. In a 2 page ‘executive summary’ style paper, summarize the findings of surveillance data and discuss the ‘take-away’ points; please focus on interpreting the data for a general audience that includes government officials, medical and public health professionals, researchers, as well as a lay audience. You may want to produce graphics that provide visual interest and are easily understood by the reader.

**Mid-term case study:** Write a 3-5 page case study that highlights a public health issue and discusses current surveillance activities. Choose any public health issue from the CDC’s Surveillance Summaries and describe the scope of the issue, current surveillance program(s)/data that monitor this issue, and evaluate the strengths and weaknesses of surveillance efforts. You should include at least 3 separate surveillance efforts; they should reflect different levels of government (federal, state, local), types of surveillance (active/passive), methods or reporting (quantitative/ qualitative), etc. Your paper should include:

- **Scope:** consider percentage of population covered by surveillance, ability to generalize knowledge gained from surveillance, resources allocated to surveillance programs, relative significance of problem
- **Knowledge:** consider what information we currently have about this issue and what information we still need, the ability of surveillance programs to provide information critical to creating interventions/ reduce incidence/prevalence of the issue, what types of surveillance are required to provide necessary data (and are these currently being performed)
- **Resources:** are existing surveillance efforts adequate to monitor this issue, should existing surveillance activities/ data be expanded or retooled to provide information on this topic

**Group Project:** Working in a group of 2-3 people, identify a public health issue that you are passionate about. Summarize available surveillance efforts and assess the quality of these efforts. Analyze surveillance data that are currently available and interpret these findings. Based on these data, design an intervention to reduce the incidence, prevalence, and/or severity of the issue. Your project should address the following concepts:

- **Scope:** percentage of population covered by surveillance, ability to generalize knowledge gained from surveillance, relative significance of problem
- **Population:** who is at risk, what increases risk within the population, are there groups that are easier/ harder to serve, does surveillance and intervention need to be tailored for specific groups
Knowledge: what information we currently have about this issue and what information we still need, the ability of surveillance programs to provide information critical to creating interventions/ reduce incidence/prevalence of the issue, what types of surveillance are required to provide necessary data

Processes: what factors mitigate the incidence/ prevalence/ severity of the issue, how should the intervention be delivered (at school, through community-based organizations, through policies mandating participation, etc)

Outcomes: what should the intervention accomplish (what would constitute success), what metrics need to be tracked and how often

The project will consist of 3 components:

1. A 15-20 minute Powerpoint presentation (presented at the last class).
2. Written feedback provided to 3 different groups on their presentations (within 3 days of presentation). Feedback should be constructive in nature.
3. A 3-5 page paper describing revisions to your project based on the feedback you received.

Grading Policy:

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<thead>
<tr>
<th>Grade</th>
<th>Points</th>
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<tr>
<td>A</td>
<td>94 – 100</td>
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<tr>
<td>A-</td>
<td>90 – &lt;94</td>
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<tr>
<td>B+</td>
<td>87 – &lt;90</td>
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<td>B</td>
<td>84 – &lt;87</td>
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<tr>
<td>B-</td>
<td>80 – &lt;84</td>
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<td>C+</td>
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<td>C</td>
<td>70 – &lt;77</td>
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<td>F</td>
<td>&lt;70</td>
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Course Schedule: Assignments are due in class on the day listed

9/7: Class 1. Introductions, Ice-breakers, and Expectations

9/14: Class 2. What is surveillance and why do we need it: History and Evolution

Reading:
2) Lee & Teutsch: Ch 1 (p.9-15);
6) (Optional) Unite for Sight Modules (8) on Public Health Surveillance: https://www.uniteforsight.org/surveillance/module1
Assignment: Prepare a 3-5 slide PowerPoint presentation (~5 minutes) that describes a public health issue that you are passionate about. What is the scope of this issue & why is it important to public health? These presentations will be used to introduce yourself and your interests to your classmates.

Assignment: Respond to reading prompt on group forum and comment on 2 classmates' posts.

9/21: Class 3a. Types of surveillance systems
Guest Lecture: Dr. Tracy Andrews
Reading:
1) Lee & Teutsch: Ch 3 & 4 (p.32-64);
2) Ch 53: Public Health Surveillance: A Tool for Targeting & Monitoring Interventions (in Disease Control Priorities in Developing Countries, 2nd ed.):
https://www.ncbi.nlm.nih.gov/books/NBK11770/;
3) MMWR / July 27, 2012 / Vol. 61, p. 15-29 (https://www.cdc.gov/mmwr/pdf/other/su6103.pdf);
4) Principles of Epidemiology in Public Health Practice, Chapter 5 5-1-5-22:

https://tools.cdc.gov/medialibrary/index.aspx#/media/id/393265

Assignment: Respond to reading prompt on group forum and comment on 2 classmates’ posts. Complete all exercises listed within chapter 5 of Principles of Epidemiology in Public Health Practice.

9/28: Class 3b. Types of surveillance systems continued

10/5: Class 4a. Available data sources and evaluating surveillance efforts
Guest Lecture: Dr. Elizabeth Marshall
Reading:
1) Lee & Teutsch: Ch 8 (p.166-197);
2) "Evaluating a national surveillance system"
https://apps.who.int/iris/bitstream/handle/10665/94321/9789241506465_eng.pdf;jsessionid=ED9A754820D4E0BCA68CAB2AC3034227?sequence=1;

10/12: Class 4b. Available data sources and evaluating surveillance efforts continued

10/19: Class 5. Analyzing and interpreting surveillance data
Reading:
1) Lee & Teutsch: Ch 6 (p.88-145)

10/22: Assignment: Mid-term Case Report Due
10/26: Class 6. Communicating findings from surveillance efforts
Reading: Nelson, Making Data Talk (entire book)
Assignment: Respond to reading prompt on group forum and comment on 2 classmates’ posts

11/2: Class 7. Global, state, and local surveillance
Readings:
1) Lee & Teutsch: Ch 17 & 18 (p.357-398)

11/5 Written Assignment: Press Release Paper Due

11/9: Class 8. Ethical and legal considerations in public health surveillance
Readings:
1) Public Health Surveillance Data: Legal, Policy, Ethical, Regulatory, and Practical Issues (https://www.cdc.gov/MMWR/preview/mmwrhtml/su6103a2.htm);
2) Lee & Teutsch: Ch 9 & 10 (p.198-235).
Assignment: Respond to reading prompt on group forum and comment on 2 classmates’ posts

11/16: Class 9. Challenges, changes, and current approaches
Readings:
1) Lee & Teutsch: Ch 20 (p. 418-430);


Assignment: What remaining or unmentioned challenges do you envision facing our national surveillance systems? Post response on group forum and comment on 2 classmates’ posts.

11/23: Class 12. Guest Lecture TBD
11/30: Class 13. Guest Lecture TBD

12/7 Class 14: Final Presentations
12/13: Assignment: Feedback due to Classmates
12/20: Assignment: Paper describing revisions due

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/academic-calendar.html