



College of Public Health & Health Professions
College of Medicine
Public Health Surveillance
PHC 6937
Room G112, HPNP
Spring 2016
3 credits

Instructor Information

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Course Overview

The purpose of this course is to prepare students to be able to design, evaluate, and operate public health surveillance systems, and to be able to read scientific reports based on surveillance data critically.

Prerequisites

Principles of Epidemiology (PHC 6001) or at least one semester of introductory graduate-level coursework in epidemiologic methods.

Note: this syllabus will likely be revised somewhat before the start of the course in January, 2016.

Course Objectives

Students who complete this course will be able to carry out the following functions at a journeyman level:

- Identify diseases or conditions appropriate to put under public health surveillance
- Identify purposes of such surveillance activities
- Design surveillance systems to meet those purposes
- Evaluate a surveillance system using the CDC Framework
- Choose the likely best source of data for surveillance of particular diseases or health conditions
- Identify target audiences for dissemination of surveillance data
- Analyze and display surveillance data for various audiences
- Develop and present policy recommendations based on analysis of surveillance data
- Develop questions for further examination using other methods, based on analysis of surveillance data
- Critique a scientific report based on surveillance data.

Course meeting time:

Wednesdays from 12:50 to 3:50 pm

Text/Readings

Case study materials will be handed out at the beginning of the class at which the case study will be used, and posted on the course web site as soon as the case study work in class has been completed.

Except as noted below, all required and recommended readings will be accessible at the course web site, either as web links or as downloadable files.

Several readings will be assigned from the following book:

Principles and Practice of Public Health Surveillance, Lee LM, Teutsch SM, Thacker SB, St Louis ME, Eds. 2010, Oxford University Press.

Resource materials are accessible through web links or on the site. All will be assigned for reading during the course. They include:

Centers for Disease Control and Prevention. Framework for evaluating public health surveillance systems for early detection of outbreaks; recommendations from the CDC Working Group. MMWR 2004;53 (No. RR-5): pages 1-16. Prepared by James W. Buehler, M.D., Richard S. Hopkins, M.D., J. Marc Overhage, M.D., Daniel M. Sosin, M.D., Van Tong, M.P.H.

Hopkins RS. Design and operation of local and state infectious disease surveillance systems. Journal of Public Health Management and Practice 2005; 11(3): 184-190.

Sosin DM, Hopkins RS. Public Health Surveillance for Preparedness and Emergency Response. In: Principles and Practice of Public Health Surveillance, Lee LM, Teutsch SM, Thacker SB, St Louis ME, Eds. 2010, Oxford University Press, pages 306-320.

Sosin DM, Hopkins RS. Monitoring disease and risk factors: surveillance. Chapter in Pencheon D, Guest C, Melzer D, Muir Gray JA: Oxford Handbook of Public Health Practice, second edition. Oxford, 2006, pp 112-118.

Blueprint for a National Public Health Surveillance System for the 21 st. Century. Rebecca A. Meriwether. Accessible at: <http://c.ymcdn.com/sites/www.cste.org/resource/resmgr/Injury/Blueprint.pdf>

CDC: Updated Guidelines for Evaluating Public Health Surveillance Systems, Recommendations from the Guidelines Working Group. Accessible at <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5013a1.htm>

CDC Chronic Disease Surveillance Indicators web site www.cdc.gov/nccdphp/CDI/overview.htm

Several pages on the Florida Department of Health, Bureau of Epidemiology, external web site:

Non-infectious: <http://www.floridahealth.gov/statistics-and-data/survey-data/index.html>

Infectious: <http://www.floridahealth.gov/diseases-and-conditions/disease-reporting-and-management/index.html>

Each week there will be one or more required readings that could include information from web-based documents, articles, or book chapters provided by the instructor, other students, or guest lecturers.

Guest Lecturers

Many weeks, one hour of class time will be devoted to a guest lecture on a relevant topic in public health surveillance. Some such guest lectures will occur by video teleconference. The content provided by guest lecturers is an integral part of the course.

Homework

See class project description. Almost every week one document that builds toward the final project will be required to be handed in, either on paper or as an electronic document. These documents will be graded and will contribute to the final project grade, while also helping the student and instructor assure that adequate progress is being made on the project. In many cases you will make a brief report in class on your progress, up through that assignment.

Class Participation

This class is generally highly interactive, with several case-studies involving small-group work and reporting back to the whole class. Participation in the case studies and class discussions is an important learning modality for the course material. Absence from class, inadequate preparation for class, or inadequate participation during class, will result in the student learning the material less well -- a waste of time for both students and instructor. Class attendance and participation will count toward the course grade. Use of internet-connected devices or telephones during class will not be permitted, unless required for one of the case-studies. Computers may be used for note-taking during class.

Presentations

Many of the intermediate products of your project work will be presented to the class, usually informally in less than 5 minutes. These presentations provide an opportunity for you to organize your thinking, and the discussion following each presentation will enable you to learn from other students' experiences and their solutions to common problems. At the end of the course, you will make a formal 15-minute presentation on your completed project for the rest of the students and the instructor.

Course project.

Each student will carry out a course project. Work on the project will begin after the first class session, and proceed in well-defined stages throughout the term. Each week there will be material to be handed in that reflects your progress on your project. Each week, the instructor will read these materials and give you written guidance on your project by e-mail before the next class session. Some weeks, you will also make a brief class presentation.

- Brief class presentations will include aspects of
 - Choice of conditions to be put under public health surveillance
 - Case or indicator definition(s)
 - Design of a surveillance system
 - Data source(s) for the surveillance system
 - Evaluation of the chosen surveillance system
 - How data from the surveillance system will be presented for various audiences
 - Likely utility of surveillance system in support of public health and preventive interventions
- As a group we will pick an additional condition to work on collectively in the same way as your individual projects
- Term paper: a more in-depth assessment of surveillance options for a student-chosen disease or health condition, building on class presentations, addressing surveillance goals and the criteria in the CDC Framework for surveillance system evaluation. For some conditions, students will propose a surveillance system from scratch and do a formative evaluation; for others, students will review available literature and other information on existing systems and propose modifications.

Course Outline

Date	Topic	Lecturer	
Week 1	<p>Introduction of course, course process and course requirements</p> <p>What is public health surveillance? – lecture</p> <ul style="list-style-type: none"> ○ Purposes of surveillance at national, state and local levels ○ When is surveillance research? ○ When does HIPAA Privacy Rule apply? ○ Relationship to public health program evaluation 	Hopkins	<p>Required reading: Blueprint for a National Public Health Surveillance System for the 21 st. Century. Rebecca A. Meriwether. Accessible at: http://c.ymcdn.com/sites/www.cste.org/resource/resmgr/Injury/Blueprint.pdf</p> <p>Class activity: case study on reasons to put a condition under public health surveillance. Assign project on design and evaluation of a surveillance system</p>
Week 2	<p>How do public health programs work?</p> <ul style="list-style-type: none"> ○ Goals ○ Methods ○ Evaluation <p>Types of public health interventions</p>	Hopkins	<p>Project: Turn in choice of condition for surveillance project</p> <p>Class activity: case study on design of public health programs</p> <p>Readings:</p> <p>Leonard Syme: The prevention of disease and promotion of health: the need for a new approach. http://eurpub.oxfordjournals.org/content/17/4/329</p> <p>Ten Great Public Health Achievements, United States, 2001-2010. MMWR May 19, 2011 http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6019a5.htm?s_cid=mm6019a5_w</p> <p>Ten Great Public Health Achievements, Worldwide, 2001-2010. MMWR June 24, 2011.</p>

			<p>http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6024a4.htm?s_cid=mm6024a4_w</p> <p>Ten Great Public Health Achievements of the 20th Century – pick two to read http://www.cdc.gov/about/history/tengpha.htm</p> <p>The Community Guide to Preventive Health Services – pick two to read http://www.thecommunityguide.org/</p>
Week 3	<p>Some public health programs and their surveillance needs</p> <ul style="list-style-type: none"> ○ Tuberculosis control ○ Syphilis control ○ Family Planning ○ Cervical cancer prevention ○ Tobacco use prevention ○ General communicable disease control <p>Program logic models</p>	<p>Hopkins; a local health department perspective on reportable disease surveillance (Nadia Kovacevich, Alachua County epi lead)</p>	<p>Project: turn in initial case/indicator definition</p> <p>Readings:</p> <p>TB surveillance in the US – 2013 slide set: http://www.cdc.gov/tb/statistics/surv/surv2013/default.htm</p> <p>National TB Indicators Project http://www.cdc.gov/tb/publications/factsheets/statistics/NTIPFAQs.htm</p> <p>STD Surveillance 2013 CDC http://www.cdc.gov/std/stats13/surv2013-print.pdf</p> <p>National Survey of Family Growth: Current Contraceptive Status Among Women Aged 15–44: United States, 2011–2013 http://www.cdc.gov/nchs/data/databriefs/db173.htm</p> <p>Cervical cancer fact sheets – SEER Program NCI http://seer.cancer.gov/statfacts/html/cervix.html</p> <p>Florida Youth Tobacco Survey reports http://www.floridahealth.gov/statistics-and-data/survey-data/fl-youth-tobacco-survey/reports/2013-state/index.html</p> <p>State by state adult tobacco use data http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6325a3.htm</p> <p>General communicable disease</p> <p>CDC Annual Summary of Nationally Notifiable Diseases, 2012</p>

			http://www.cdc.gov/mmwr/mmwr_nd
Week 4	Data sources and system design	Hopkins Guest lecture (invited): a public health program manager's perspective on surveillance (Janet Hamilton, FL DOH)	Case study on data sources Case study on system design Project: turn in description of likely data sources Required reading: Sosin DM, Hopkins RS. Monitoring disease and risk factors: surveillance. Chapter in Pencheon D, Guest C, Melzer D, Muir Gray JA: Oxford Handbook of Public Health Practice, second edition. Oxford, 2006, pp 112-118. (will be distributed).
Week 5	Case-based surveillance Including vital statistics (birth and death records) National Notifiable Disease Surveillance System, role of CSTE	Guest lectures: Leah Eisenstein (reportable disease data management) and David Atrubin (syndromic surveillance)	Case study using case-based surveillance Project: Student presentations on system design considerations Required reading: Hopkins RS. Design and operation of local and state infectious disease surveillance systems. Journal of Public Health Management and Practice 2005; 11(3): 184-190. (will be distributed)
Week 7	Syndromic surveillance	Hopkins; Guest lecture on ESSENCE-FL (David Atrubin, FL)	Student presentations on purposes of their surveillance system Case study using syndromic surveillance Required reading: Centers for Disease Control and Prevention. Framework for evaluating public health surveillance systems for early detection of outbreaks; recommendations

		DOH)	<p>from the CDC Working Group. MMWR 2004;53(No. RR-5): pages 1-16. Prepared by James W. Buehler, M.D., Richard S. Hopkins, M.D., J. Marc Overhage, M.D., Daniel M. Sosin, M.D., Van Tong, M.P.H.</p> <p>Review Syndromic Surveillance 101 module 1 at http://thci.org/syndromic101/details.aspx?aid=63183f89-983f-423d-92df-c8199879e4ff Modules 2 through 4 are optional.</p>
Week 8	<p>Survey-based surveillance: Surveys in infectious disease outbreak context BRFSS PRAMS NHANES etc</p>	<p>Hopkins Guest lecture on Florida BRFSS, invited</p>	<p>Case study using survey-based surveillance Project: Student presentations on preferred system design</p> <p>Readings: Lee and Teutsch: chapters 12 and 13</p>
Week 9	Evaluating a surveillance system	Hopkins	<p>Case study on surveillance system formative evaluation Project: student presentations on evaluation criteria for their system Required reading for this class session: CDC: Updated Guidelines for Evaluating Public Health Surveillance Systems, Recommendations from the Guidelines Working Group. Accessible at http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5013a1.htm</p>
Week 10	<p>Laboratory support for infectious disease surveillance Data sources for infectious disease surveillance</p>	Hopkins	<p>Case study on surveillance data sources for infectious diseases</p> <p>Required reading: Sosin DM, Hopkins RS. Public Health Surveillance for Preparedness and Emergency Response. In: Principles and Practice of Public Health Surveillance, Lee LM, Teutsch SM, Thacker SB, St Louis ME, Eds. 2010, Oxford University Press, pages 306-320.</p>
Week 11	Surveillance in the outbreak context	Hopkins	<p>Project: Turn in first draft of surveillance evaluation document, using supplied template Case study on surveillance for infectious diseases</p>
Week 12	<p>Surveillance for cancer and other chronic diseases and risk factors – lecture Cancer surveillance</p>	<p>Hopkins Guest lecture from Florida Cancer Data System</p>	<p>Case study on chronic disease surveillance Project: Return drafts with comments and suggestions for further direction Required review: CDC Chronic Disease Surveillance indicators web site www.cdc.gov/nccdphp/CDI/overview.htm Lee and Teutsch: chapters 12 and 13</p>

		(invited)	Florida Cancer Data System static web site http://fcds.med.miami.edu/inc/welcome.shtml And interactive data page https://fcds.med.miami.edu/scripts/fcdspubrates/production/doSelection.aspx?selection=map
Week 13	Surveillance for injuries, poisonings and occupational diseases	Hopkins Guest lecture on poisoning surveillance – Jay Schauben invited	Case study on injury surveillance Turn in first draft of final presentation for review and comment Review document for states on how to prepare injury surveillance indicator data http://thci.org/syndromic101/details.aspx?aid=63183f89-983f-423d-92df-c8199879e4ff SENSOR program http://www.cdc.gov/niosh/topics/pesticides/overview.html Occupational surveillance indicators http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5601a1.htm
Week 14	Surveillance for perinatal and childhood outcomes and conditions Birth defects registries PRAMS Birth and death certificates Program data	Hopkins Guest lecture on birth defects surveillance (Sharon Watkins invited)	Case study on MCH surveillance Review PRAMS web site http://www.cdc.gov/prams/ March of Dimes interactive web site http://www.marchofdimes.org/peristats/Peristats.aspx Perinatal Periods of Risk (PPOR) http://www.citymatch.org/projects/perinatal-periods-risk-ppor
Week 15	Surveillance for environmentally-induced diseases and conditions (both infectious and non-infectious disease issues)	Hopkins Guest lectures on Environmental Health Tracking Network (EHTN)	Case study on environmental health tracking Project: turn in second draft of final presentation for review and comment Florida EHTN portal http://www.floridatracking.com/HealthTrackFL/default.aspx

		(Melissa Jordan invited);	
Week 16	Summarizing and analyzing surveillance data, hypothesis generation	Hopkins	Case study on presentation of surveillance data Final student project presentations

Evaluation/Grading

This course will be graded following the policies described here <http://gradcatalog.ufl.edu/content.php?catoid=2&navoid=762#grades>.

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E	WF	I	NG	S-U
4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0	0	0	0	0

Non-Punitive Grades and Symbols:

Zero Grade Points Not Counted in GPA

W = Withdrew

U = Unsatisfactory

H = Deferred grade assigned only in approved sequential courses or correspondence study

N* = No grade reported

I* = Incomplete

Failing Grades:

Zero Grade Points Counted in GPA

E = Failure

WF = Withdrew failing

The following table shows the various course requirements and their contribution to the overall course grade.

Requirement	Due date	% of final grade (must sum to 100%)
Class participation	April 23	25%
Assignment # 1 for project	January 17	5%
Assignment # 2 for project	January 24	5%
Presentation on system design considerations	January 31	5%
Presentation on preferred system design	February 14	5%
Presentation on evaluation criteria for surveillance system	February 21	5%
First draft due of surveillance system evaluation	February 28	5%
Surveillance evaluation due	March 14	5%
Student presentation on visualization of surveillance data	March 21	5%
Presentation of design, evaluation, and uses of data from your surveillance system	April 16	10%
Paper due	April 23	25%

Policy Related to Class Attendance

Absences must be conveyed to the course instructor in advance whenever possible, or on the day of the absence for illness or emergency. Students are expected to attend and be prepared to participate in all class sessions. Personal issues with respect to class attendance or fulfillment of course requirements will be handled on an individual basis. According to the UF Graduate School Catalog (link below) “In general, acceptable reasons for absences from class include illness, serious family emergencies, special curricular requirements, military obligation, severe weather conditions, religious holidays, and participation in official University activities. Absences from class for court-imposed legal obligations (e.g., jury duty or subpoena) must be excused. Other reasons also may be approved.” For more information on UF’s attendance policy, visit <http://gradcatalog.ufl.edu/content.php?catoid=2&navoid=762#attendance>

Policy Related to Make-up Exams or Other Work

Make-up work will be allowed by the course instructor on an individual basis after an excused absence. Students should consult with the professor for new deadlines for assignments. For more information see <http://gradcatalog.ufl.edu/content.php?catoid=2&navoid=762>

Statement of University's Honesty Policy

University of Florida Academic Honesty Statements

Students and faculty will adhere to the following policies for academic honesty and honor.

“I understand that the University of Florida expects its students to be honest in all their academic work. I agree and adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University.”

“All faculty, staff and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.”

“We, the members of the University of Florida, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.”

For more information regarding UF's policy on Academic Honesty, please visit http://gradcatalog.ufl.edu/content.php?catoid=2&navoid=762#Academic_Honesty

For details on how suspected honor code violations will be handled, please refer to <http://regulations.ufl.edu/wp-content/uploads/2012/09/4042.pdf>

Citations and Plagiarism

The two key purposes of citation are to: 1) give appropriate credit to the authors of information, research findings, and/or ideas (and avoid plagiarism), and 2) facilitate access by your readers to the sources you use in your research.

Quotations: When directly quoting an outside source, the borrowed text, regardless of the amount, must be surrounded by quotation marks or block quoted. Quoted text over two lines in length should be single-spaced and indented beyond the normal margins. Every quote must include a source—the author, title, volume, page numbers, etc.—whether an internal reference, footnote, or endnote is used in conjunction with a bibliography page.

Paraphrasing or Citing an Idea: When summarizing an outside source in your own words or citing another person's ideas, quotation marks are not necessary, but the source must be included. This includes, but is not confined to, personal communications from other students, faculty

members, experts in the field, summarized ideas from published or unpublished resource, and primary methods derived from published or unpublished sources. Use the general concept of “when in doubt – cite.”

Plagiarism is a serious violation of the academic honesty policy of the College. If a student plagiarizes others’ material or ideas, UF Policies on Honesty and honor code violations, noted above, will be followed .

Generally speaking, the three keys of acceptable citation practice are: 1) thoroughness, 2) accuracy, and 3) consistency. In other words, be sure to fully cite all sources used (thoroughness), be accurate in the citation information provided, and be consistent in the citation style you adopt. All references should include the following elements: 1) last names along with first and middle initials; 2) full title of reference; 3) name of journal or book; 4) publication city, publisher, volume, and date; and 5) page numbers referenced. When citing information from the Internet, include the WWW address at the end, with the “access date” (i.e., when you obtained the information), just as you would list the document number and date for all public documents. When citing ideas or words from an individual that are not published, you can write “personal communication” along with the person’s name and date of communication.

Statement Related to Accommodations for Students with Disabilities

If you require classroom accommodation because of a disability, you must first register with the Dean of Students Office (<http://www.dso.ufl.edu/>). The Dean of Students Office will provide documentation to you, which you then give to the instructor when requesting accommodation. The College is committed to providing reasonable accommodations to assist students in their coursework.

Counseling and Student Health

Students may occasionally have personal issues that arise in the course of pursuing higher education or that may interfere with their academic performance. If you find yourself facing problems affecting your coursework, you are encouraged to talk with an instructor and to seek confidential assistance at the UF Counseling & Wellness Center, 352-392-1575. Visit their web site for more information: <http://www.counseling.ufl.edu/>.

The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services, including primary care, women's health care, immunizations, mental health care, and pharmacy services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-1161 or check out the web site at: www.health.ufl.edu/shcc.

Crisis intervention is always available 24/7 from: Alachua County Crisis Center: (352) 264-6789 or <http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx>

Do not wait until you reach a crisis to come in and talk to me or to these providers. Many students have been helped through stressful situations impacting their academic performance. You are not alone, so do not be afraid to ask for assistance.