HIV IMPLEMENTATION SCIENCE

Course: PSY 598  
Sec No. 92107  
Room No.: PSYN 120 (8/24 only: PSY254)  
Session A: 8/20-10/9  
Tuesdays 2:00-5:00 PM  
Credits (2)

Instructor: Mary Jane Rotheram-Borus, Ph.D.  
Email: Rotheram@ucla.edu  
Office: PSY-N 244  
Phone: (310) 308-3025

DESCRIPTION

“Introduction to HIV Identification, Prevention and Treatment Services” offers pre-doctoral students and postdoctoral fellows an overview of HIV implementation science theory, methods, and application. More fundamentally, it introduces students to: (a) broad theoretical models guiding HIV research, (b) specific frameworks guiding the implementation of “evidence-based” programs in real world settings, and (c) nuts and bolts of doing implementation work (measurement, fidelity, cost). Beyond didactic learning, this course also is a forum for the application of knowledge gained and provides opportunities to analyze HIV data or gain experiential knowledge.

LEARNING OBJECTIVES:

At the end of this introductory course, pre-doctoral and post-doctoral students understand:

1. The global epidemiology of HIV/AIDS, particularly the intersection of HIV, drug abuse, and mental health risk;
2. The distribution and variations of the various risk groups for HIV infection, including MSM, drug use, and mentally ill;
3. The natural history of HIV/AIDS infection and disease progression;
4. The social impact of HIV/AIDS on global societies;
5. Ethical issues in the testing and study of HIV and the treatment cascade;
6. Specific intervention strategies for HIV/AIDS targeting individual risk groups;
7. The major treatment and prevention theories and intervention modalities, particularly evidence-based interventions;
8. The issues among Men-Who-have-Sex-with-Men (MSM) community in the United States and their efforts to control the epidemic in their community;
9. The major issues and politics of HIV/AIDS that promote and hinder control of the epidemic

LEARNING OUTCOMES:

1. About 80% of the students in the course will be able to: (a) design an HIV research study or (b) apply implementation principles in the application of HIV intervention technologies in at least one setting, context, or with sampled population at a very well or well level (5 or 4, on 0 to 5 scale).

---

1 Fellows participate in the course as auditors and are not subject to the written assignments or grading, although still expected to read, discuss and use the class to launch an implementation science product.
2. About 80% of the students in the course will be able to: (a) critique published or planned HIV research and recommend theory-based strategies for improvements, or (b) appraise the strengths and weaknesses of ongoing HIV research and recommend theory-based and methodologically-sound strategies for improvements at a very well or well level (5 or 4, on 0 to 5 scale).

ASSIGNMENTS:

Critical Analysis of Research Articles. Students will select two to three articles a week to become familiar with and be prepared to briefly summarize the issues that the article addresses. A discussion of the article in the context of other assigned readings for each week. There are three podcasts which will be required for each student to view, listed on the syllabus.

Structured Research Proposal or Experiential Lab. Each student is asked to draft a 5 page research proposal for full credit in the course which will include a paragraph summarizing the Aims, a Significance Section of 1.5-2 pages; an Approach section that includes the methods of the proposed study; and an Analyses section.

GRADING SCHEMA:

A (90 – 100%)  B (80 – 89%)
C (70 – 80%)   D (60 – 70%)  E (0 – 60%)

For issues relevant to Academic Integrity and Student Disability, please refer to the office of the provost: http://provost.asu.edu/academicintegrity and the graduate students’ office: http://graduate.asu.edu/student_community/student-support-services, respectively.

WEEKLY COURSE SCHEDULE:

Readings shown are subject to change with the publication of new science and knowledge. The instructor is not responsible for the cost of your reading packages and copyright issues are handled by the copy center.

1: Basic HIV immunology, transmission dynamics, and course of disease – Early beliefs and consequences; Shifts in the intersection of sexual and drug use with the onset of antiretroviral therapies


Symposium: Advancing HIV Prevention: Lessons from Biology, Medicine, and Public Health Law
The Biology of HIV Transmission: What We Think We Know and How We Know It
Julie M. Overbaugh
*Fred Hutchinson Cancer Research Center, Seattle, WA, United States*
http://www.croiwebcasts.org/console/player/25774?mediaType=slideVideo&

Symposium: Advancing HIV Prevention: Lessons from Biology, Medicine, and Public Health Law
HIV Phylogenetics: Lessons for HIV Prevention
Christophe Fraser
*Imperial College London, London, United Kingdom*
http://www.croiwebcasts.org/console/player/25775?mediaType=slideVideo&

Symposium: Toward a Cure: A Challenging Game of Hide and Seek
T Memory Stem Cells: The Stem Cell Reservoir for HIV?
Mathias Lichterfeld
*Massachusetts General Hospital, Boston, MA, United States*
http://www.croiwebcasts.org/console/player/22119?mediaType=audio&

2: Epidemiology of HIV – domestic and globally; interaction of HIV sexual and drug abuse epidemics; interaction with mental health disorders – Patterns in high income countries: AU, EU, USA, Canada; the BRICS (Brazil, Russia, India, China, South Africa); Patterns in low and middle income countries over time: Southern Africa, Southeast Asia, Central and South America


AIDSVu: [http://aidsvu.org/](http://aidsvu.org/)

3: Antiretroviral therapies-Treatment as Prevention, Pre-Exposure and Post-Exposure Prophylaxis, especially among drug users


**Dr. Raphael J. Landovitz – PrEP for HIV Prevention: What We Know and What We Still Need to Know for Implementation**

**Dr. Yvonne Bryson MD – Progress and Strategies for HIV remission and Cure**
http://chipts.ucla.edu/2015/06/26/dr-yvonne-bryson-md-progress-strategies-hiv-remission-cure/

---

**4: HIV Treatment Cascade, including male circumcision and PrEP among drug users**


**5: Levels of intervention: nations, health systems, communities, families, and individuals**


Holtgrave DR. Achieving and advancing the goals of the national HIV/AIDS strategy for the United States. AIDS Behav. 2014. Epub ahead of print: http://download.springer.com/static/pdf/551/art%253A10.1007%252Fs10461-014-0903-z.pdf?auth66=1417559297_49e9a57c02009bb12ef0d9abcc8fd8d0&ext=.pdf


6: Horizontal vs vertically integrated delivery systems; the intervention implications


7: Successful intervention models for each risk profile: men-who-have-sex-with-men, sex workers, injecting drug users, young women, heterosexual men, infants


Center for Disease Control and Prevention: Diffusion of Effective Behavioral Interventions (DEBI): [https://www.effectiveinterventions.org/](https://www.effectiveinterventions.org/)

8: Global donors models for diffusing evidence-based interventions: Centers for Disease Control and Prevention, United Nations, World Health Organization, World Bank, Gates Foundation, Presidents’ Emergency Program For AIDS Relief


9: Theoretical models of implementation science: application to Southern Africa


10: Application of theoretical models of implementation science to the HIV epidemic in Phoenix, Arizona

Bierly A. Community Involvement Raises HIV Testing Rates. [Link](http://www.nih.gov/researchmatters/may2011/05162011community.htm)


CH Brown, DC Mohr, CG Gallo, C Mader (2013). A computational future for preventing HIV in minority communities: How advanced technology can improve implementation of effective programs. *JAIDS.*

11: Role of new technologies (rapid diagnostic tests, mobile phone interventions, monitoring virus with Google Glass, embedded sensing) on implementation science of HIV


12: Shifting role of primary health care when HIV care is carved out; HIV care and pharmaceutical products in high income countries

Ryan White HIV/AIDS Program: [Link](http://hab.hrsa.gov/abouthab/aboutprogram.html)


13: Health strengthening in low income vs high income countries: the role of community health workers; pharmaceutical dispensaries to stop medication outages; religious leaders’ and shamans’ roles in advancing care


14: Design features of all implementation programs


15: Routine monitoring of implementation, process, and outcomes to iteratively improve systems of care

AIDSVu: http://aidsvu.org/

