The objectives of the class are to:

1) Introduce students to key concepts and frameworks in HIV prevention, care and treatment. Our working list of concepts, frameworks is:
   a. R=B*c*D and proximate determinants
   b. Biological pathways in transmission and treatment
   c. Surveillance strategies
   d. Public health questions approach to monitoring and evaluation
   e. Phases of an epidemic
   f. Combination prevention
   g. Key populations
   h. Sexual networks
   i. Behavior Change theories
   j. Structural interventions
   k. Stigma Index

2) Expose students to critical research in HIV prevention and treatment strategies and evaluation of interventions

3) Increase knowledge of current controversies and challenges, strengthen capacity to argue each side of the controversy, and summarize current position on the issue. Each controversy will be the subject of a debate and a homework assignment. Students will be in teams debating the topic and then write a short paper summarizing each side and where he or she stands currently. Our working list of controversial issues is:
   a. Partner reduction among MSM: Should partner reduction be a cornerstone of HIV prevention among MSM?
   b. Legalization of sex work: Would it help prevent HIV transmission?
   c. Pre-exposure prophylaxis: Who should get it?
   d. Role of home self-testing for HIV: What is its place in HIV prevention?

4) Increase student capacity to describe a local HIV epidemic, plan a strategic response to the epidemic, and evaluate the intervention.

Class requirements and Percent of Grade:
1. Class Attendance / Participation in Class Discussions / Show & Tell 20%
2. Homework 1 Country/Area Priority Indicators 3%
3. Homework 2 May/Anderson Problem Set 10%
3. Homework 3 Response to Letter 10%
4. Homework 4 Statcompiler Exercise 10%
Two Sessions Each Friday

Class is from 1:25-4:25 and we will break the class into 2 class sessions—from 1:30-2:45 and 3:00-4:15. Some of the sessions are lectures; some are discussions; some are group work. We will have guest speakers. As of January 13, not all have confirmed. The syllabus will be updated as needed. Pay attention to the sakai course website.

Show and Tell: The ARTS and HIV. Everyone will make one brief presentation on something related to the ARTs and HIV. More details in class.

<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Topics</th>
<th>Who</th>
<th>Readings / Homework</th>
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<tr>
<td>1a</td>
<td>Jan 13</td>
<td>Introduction to Course Group Work</td>
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<td>1b</td>
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<td>Overview of the Epidemic Framework: R=8cD</td>
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<td>2a</td>
<td>Jan 20</td>
<td>Frameworks</td>
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<td>Garnett: Intro to mathematical models, STI 2002[1]</td>
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<td>Proximate Determinants</td>
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<td>Anderson and May: Chapter 3 [2]</td>
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<td>Phase Specific Epidemics</td>
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<td>Boerma, Weir: Proximate Determinants, JID 2005[3]</td>
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<td>90-90-90 Targets</td>
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<td>Hargreaves: Prevention Cascade [6]</td>
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<td>3a</td>
<td>Jan 27</td>
<td>Combination Prevention &amp; WHO</td>
<td>TBD</td>
<td>Homework 1 Due: Group Work on Country Indicators</td>
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<td>Strategic Information Indictors</td>
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<td>Key Populations</td>
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<td>Homework 2 Due: Anderson and May TBD</td>
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<td>Feb 3</td>
<td>Cascades Part 2</td>
<td>Jess Edwards</td>
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<td>5a</td>
<td>Feb 10</td>
<td>HIV: The virus</td>
<td>Mike Cohen</td>
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<td>5b</td>
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<td>Discussion: Sexual Networks</td>
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<td>Helleringer: Lakoma Island, AIDS [9]</td>
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<td>6a</td>
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<td>PLACE Method</td>
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<td>6b</td>
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<td>Discussion: Sex Work: Places or People?</td>
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<td>Hightow-Weidman</td>
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<td>Mar 3</td>
<td>Health Behavior Theories and Intervention in the Dominican Republic</td>
<td>Barrington</td>
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<td>Respondent driven sampling</td>
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<td>9a</td>
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<td>Discussion: DHS Surveys</td>
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March 17: No Class. Spring Break.

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<th>Evaluation of Interventions</th>
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<td>Discussion: Evaluations</td>
<td>HIV testing in South Africa: Evaluation Results</td>
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<td>11b</td>
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<td>12b</td>
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<td>Debate 2</td>
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April 14: No Class. Holiday.

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<th>13a</th>
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<th>Linkages Project</th>
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<td>13b</td>
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<td>Designing an Evaluation of Linkages</td>
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<td>14a</td>
<td>Apr 28</td>
<td>Epidemic Appraisal</td>
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<td>14b</td>
<td>Apr 28</td>
<td>Wrap Up and Final Paper Discussion</td>
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</table>

Readings and References

Overview of Epidemic

Piot overview [13]

Prevalence and Incidence

Mahy, Nigeria [14]
Hallett – Declines in prevalence do not always mean good news [15]
**Hallett, Boerma** Estimates of incidence from household prevalence surveys [16]

Surveillance

Garnett papers [17]
Accuracy of ACASI [18, 19]
Plausibility and uncertainty [20]
Epidemiologic context [21, 22]
Population dynamics from gene sequences[22]

Interventions

Overview of promising interventions by Auerbach [23]
Overview of what has worked by Manhart, King[24]
Peer education-method in search of a theory [25]
Brief motivational interviewing [26]
Need to focus on people most likely to transmit [27]
South African core group intervention [28]
PMTCT
[29] Ciarnello Early infant diagnosis29
[30] Comparing service delivery models30
[31] Tudor Car Integrating PMTCT31

Risk Factors

Alcohol and condom use [32]
Alcohol and sexual behavior [33]

Politics /Ethics

Do condoms work?[34]
Meier : Public health ethics [35]

Sex Work

Prostitutes and public health 1988 [36]
Nairobi risk factors [37]

Adolescents

- Idele: Epi of HIV in adolescents[38]
- Cluver: Social protection [40]
- Pettifor: Cash transfer [41]

Countries

Thailand
Science: Thailand [42]
Mastro: Condom use in Thailand[43]
Mastro: Young men in northern Thailand [44]

Readings


Debate Rules

Setting is Malawi

- Side Pro 7 minutes
- Con Side 7 minutes
- Huddle Time to prepare rebuttal.
- Pro Side answer 5 minutes
- Con Side answer 5 minutes
- Final Punch 1-2 minutes each side. Empassioned plea.

Possible Policies for Debate:

1) Partner reduction among MSM: Should partner reduction be a cornerstone of HIV prevention among MSM?
   a. PRO: HIV prevention messages for MSM should include partner reduction and condom/lube use equally.
   b. CON: Partner reduction is not as important as condom/lube use.
2) Legalization of sex work: Would it help prevent HIV transmission?
   a. PRO: Sex work should be legalized.
   b. CON: Should not be legalized.
3) Pre-exposure prophylaxis: Who should get it?
   a. PRO: Street-based sex workers should get PrEP
   b. CON: Street-based sex workers should not get PrEP
4) Role of home self-testing for HIV: What is its place in HIV prevention?
   a. Home-based testing should be promoted for key populations
   b. Home-based testing should not be promoted for key populations

Final Paper: An Epidemic Appraisal

The objectives of the paper are:

1. Describe your recommendations for what should be included as elements of a country HIV epidemic appraisal. Justify your recommendations with papers and presentations and discussions from class.
2. Describe the HIV epidemic in a country or sub-national area of your choice using your epidemic appraisal approach.
3. Based on your appraisal, describe and justify your recommendations regarding the most appropriate response for prevention of HIV transmission among adults.

Cover the following topics in your description of the epidemic:

- Incidence and prevalence. Describe any empiric estimates of incidence. Describe surveillance estimates for HIV prevalence. Describe the limitations of the incidence and prevalence estimates.
- Describe proxy estimates of incidence – Thai recruit example, ANC surveillance among young women.
- Insights into incidence based on cross-sectional surveys—remind us of the bias – are declines decline due to deaths? What are the prevalence trends?
- UNAIDS country reports are useful sources.
- Groups of interest: ANC patients, pediatric HIV trends, MSM, migrants, SW, injecting drug use, others particular to country
- Epidemic phases – I to IV
- Related epidemics – STD epidemic, TB (can disregard TB)
- Geographic distribution of HIV in the country, urban rural differences
- Modes of transmission model – any insights from MOTs?
- Sexual behavior and proximate determinants: DHS Reports, other
- Concurrent partnerships common?
- Male Circumcision common or not?
- What is the evidence re the prevalence of the proximate determinants of infection in the country?
- What are the most likely important underlying determinants?

The country cannot be the US, Canada, Australia or in western europe or scandanavia. If the country is China, Brazil, or India or some other country that is very populous and diverse, then select a part of the country. Sub-national papers are recommended.


Final Paper Grading. I am looking for:
1. Thoughtfulness of the epidemic appraisal components. It should be as brief as possible covering the most important areas and justified.
2. A concise description of the epidemic includes distribution in terms of age, sex, geographic and key populations
3. Critical analysis of data sources describing the epidemic (surveillance etc.)
4. Information about other STIs / relevance to HIV Epidemic
5. Linking biological & behavioral data
6. Attempt to bring in theory (proximate determinants, R=B*c*D, phase specific epidemic)
7. Well-presented paper (readable, well structured)
8. Literature review / Quality of references
9. Link results – response and argument for response