Lecture 11: HIV
• Dr. Sanchez’s talk was about *unpublished* material, therefore no slides on the web
  – Stay tuned for more details

• TB-HIV may be one of the biggest problems we discuss this quarter
  – Exemplifies many major themes of the course

• Today, we will briefly talk about HIV and then re-examine the TB readings

• And a presentation on instedd.org
Scanning electron micrograph of HIV-1 budding from cultured lymphocyte. (CDC)
Multiple round bumps on cell surface represent sites of assembly and budding of virions.
• Rule #1: HIV does cause AIDS
  – Thank you Thabo Mbeki

• Rule #2: Chimps get SIV, not AIDS
  – (as far as we know…)

• Rule #3: sleeping with virgins is not a cure for AIDS
  – Thank you Kwazulu-Natal province
  – Thank you Thabo Mbeki, health minister of South Africa
AIDS as a modern plague

• AIDS is now second only to the Black Death as the largest epidemic in history.
• UNAIDS estimate 25 million people have been killed by it since its recognition in 1981.
• AIDS kills over 2 million people a year, or about one person every 15 seconds.
• This death toll surprisingly includes a lot of children, who are often infected with the HIV virus during pregnancy or through breast-feeding.

Joint United Nations Program on HIV/AIDS (UNAIDS), World Health Organization (WHO)
AIDS as a modern plague

• Slightly over 0.6% of the world is infected
• The toll is worst in Africa, where millions of parents have died, leaving children as orphans. Often teachers have died as well, leaving schools empty.
• Doctors and nurses have died, leaving hospitals and medical clinics with nothing.
• Farmers have died, leaving crops in the fields. Entire villages have been devastated.

Joint United Nations Program on HIV/AIDS (UNAIDS), World Health Organization (WHO)
A.I.D.S.: Bubonic Plague of the 21st Century

--- Why the CDC and the World Health Organization have whitewashed the extent and transmissibility of AIDS

--- How economic austerity policies in the third world have created “weak links” in the human immunological chain for the spread of AIDS and other pandemics

--- The need for comprehensive public-health measures to confine the spread of AIDS, and for a “Manhattan Project”-type crash program of basic research to confront AIDS and other frontiers of biological science

SPEAKER:
Dr. Debra Freeman

--- Public health advisor to economist and presidential candidate Lyndon B. LaRouche, Jr.
--- Member, Biological Holocaust Task Force, Executive Intelligence Review
--- Recently returned from Latin America, where she addressed governmental, public health and military leaders

Thursday, January 22 7:30 PM
Sheraton Century Center Hotel
I-85 at Clairmont Rd., Northeast Atlanta

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A.I.D.S.:
Bubonic Plague of the 21st Century
Atlanta, Georgia, c. 1992

“Why the CDC and WHO have whitewashed the extent and transmissibility of AIDS”

“How economic austerity policies in the third world have created “weak links” in the human immunological chain for the spread of AIDS and other pandemics”

Called for funding for science to figure it out.
2 types of HIV in humans

• **HIV-1** is thought to have originated in southern Cameroon after jumping from wild chimpanzees (*Pan troglodytes troglodytes*) to humans during the twentieth century.
  – It evolved from (SIV$_{cpz}$)

• **HIV-2** may have originated from the Sooty Mangabey (*Cercocebus atys*), an Old World monkey of Guinea-Bissau, Gabon and Cameroon

• Probably not as an STD

Pictures: pin.primate.wisc.edu
HIV in humans

- HIV-1 was the original HIV discovered, and is global and more transmissible than HIV-2, which is supposed to be restricted to West Africa.
- HIV-2 transmits from mother to child at a lower rate than HIV-1.
- Recent research suggests that circumcision of males may reduce transmissibility of HIV.
  - First study in 1995 on truckers in Kenya.
  - Next study more comprehensive, involved WHO data.

HIV in humans

• CDC factsheet summary: Men who had been circumcised had a
  – 76% (South Africa)
  – 60% (Kenya)
  – 55% (Uganda)

reduction in risk for HIV infection compared with those who were not circumcised.

Condoms are still the best bet, abstinence is nice, but that’s not exactly the point, is it?
"AIDS Causes Blindness."
AIDS Action Committee, [ca. 1986]

Well intentioned, but totally ridiculous
Don’t forget the chapter on AIDS.

AIDS is a fact of life. So make sure your children get all the facts. If you need information or assistance, call 1-800-235-2331.
I’ll save the rest until Monday
(*time for presentations*)
• 1983: Pasteur Institute in France
  – a new virus in a patient with signs and symptoms that often precede AIDS
  – named it lymphadenopathy-associated virus, or LAV