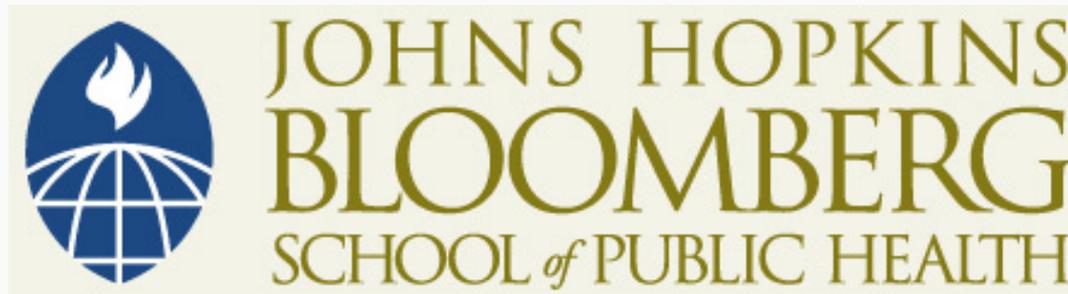


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JOHNS HOPKINS
BLOOMBERG
SCHOOL *of* PUBLIC HEALTH

STI Prevention: Housekeeping and How We Use Public Health

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Johns Hopkins University

Why this Course?

- To make public health practitioners aware of the scope of the STI problem worldwide
- To demonstrate the application of biology, epidemiology, and behavioral aspects of STIs in the development of policy and program

What Will You Learn to Do?

- Describe the etiology of common STIs
- Identify clinical presentations and sequelae of STIs
- Describe the epidemiology of selected STIs
- Explain theoretical and practical issues related to the design and implementation of STI intervention control policies and programs
- Describe social, policy, and political barriers to STI program implementation
- Develop a memo and a presentation illustrating the importance of STI epidemiology in policy and program development

The Lingo

- STI = STD = sexually transmitted infection or disease
- GC = gonorrhea
- CT = chlamydia
- HPV = human papillomavirus
- HSV-1 or HSV-2 = herpes type 1 or 2
- BV = bacterial vaginosis
- Trich = trichomoniasis
- PID = pelvic inflammatory disease

- Part 1
 - Introduce concepts of STI surveillance and control and epidemiologic information essential to policy and program development
- Part 2
 - In-depth information on specific STIs and policy and program issues unique to these STIs
- Part 3
 - Highlight ongoing STI policy and programming efforts from leading experts

What Are the Requirements for the Memo?

- Briefing memo on STI control policy or program of your choice
 - Annotated bibliography—annotated and presented as an attachment
 - Attachments—no more than three attachments (one is the bibliography) and additional attachments must include only supporting graphs or charts
- No more than one-and-a-half pages
- Much more information to come during lecture four

What Are the Requirements for the Presentation?

- Create a PowerPoint presentation (no more than five slides)
- Record a three minute audio presentation to accompany the slides
- Much more information to come during lecture four

Public Health and STI Policy and Programming: What Is Public Health?

- Public health authority stems from the “police powers” in the Constitution
- Public health has the force of law
- Public health is political
- Public health is primarily funded by tax dollars
- Public health requires balancing the health needs of the population with individual choice

What Makes Public Health Different from Clinical Care?

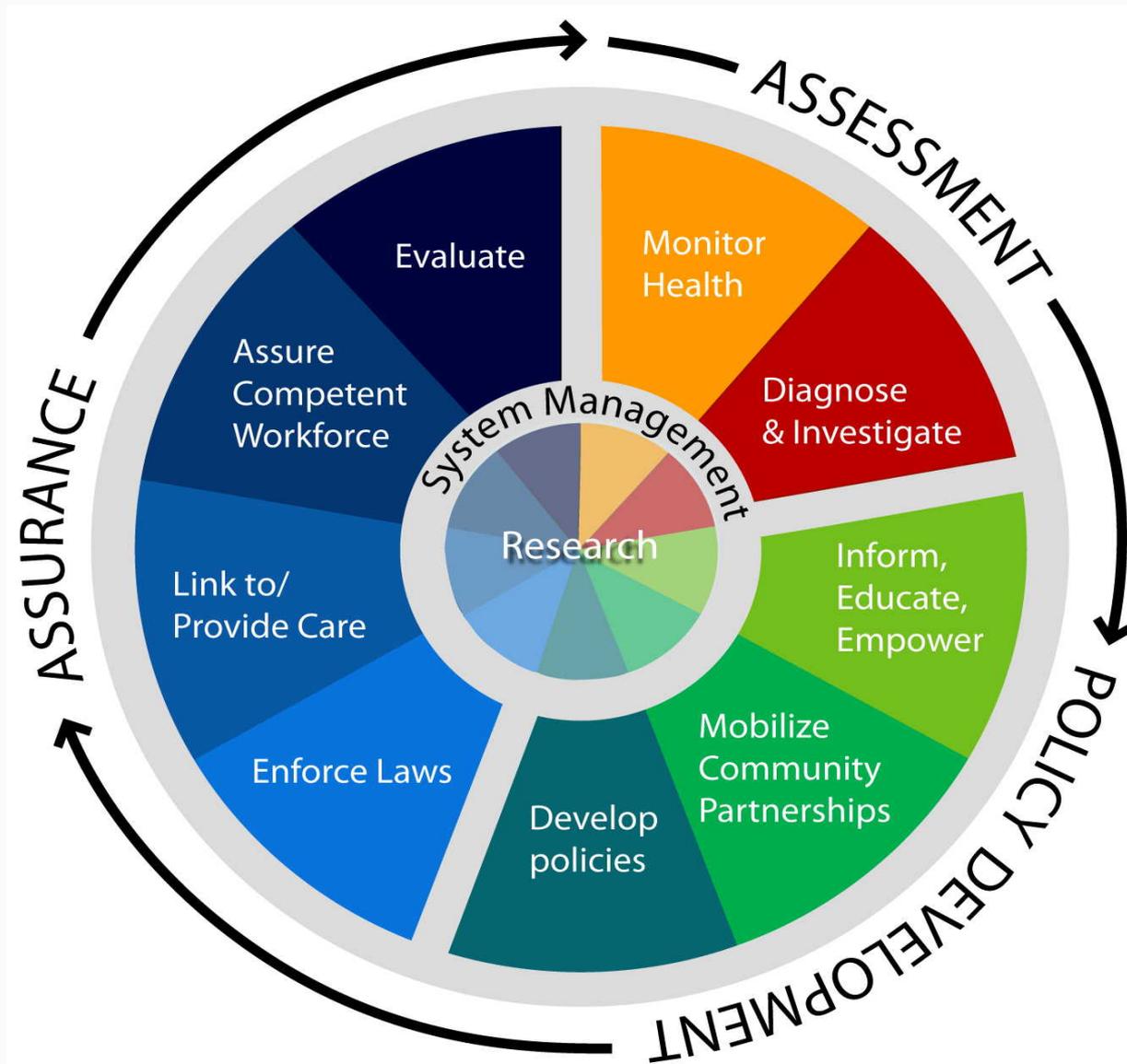
“The focus of public health is the community. The ‘patient’ is a whole population unit. The shift in professional orientation which occurs as the unit of attention moves from the individual to the group must be clearly recognized and explicitly stated because it has led to many misunderstandings in the past.”

—C.E. Taylor

What Are the Core Functions of Public Health?

- Assessment
 - Collect, analyze, and publish health status information in a systematic manner
- Policy development
 - Develop comprehensive policy and program based on scientifically sound information
- Assurance
 - Guarantee necessary communitywide health services
- Communication*

Public Health Model



What Has Changed in the Perception of the Role of Public Health?

- Increased awareness of infectious diseases and public health infrastructure
- Dichotomy between public attitudes and public policy
- STD and TB clinics provided front-line clinical services in 9/11 and bio-terror attacks
- HIV and STD prevention emphasis was reduced in the post-9/11 environment and emerging infections that threaten national security have become more prominent

STI Prevention POLICY Strategies: What Are Current STI Prevention Policy Strategies?

1. Ideologically driven strategies
2. Gray-science strategies
3. Sound-science strategies

1. Ideologically Driven Strategies

- Definition
 - Strategy not based on available scientific evidence or a distortion on available scientific evidence
- Example
 - Abstinence-only policies
 - ▶ Promotion of abstaining from sexual behavior
 - ▶ Rooted in religious beliefs/moral ideals

2. Gray-Science Strategies

- Definition
 - Strategy where available scientific evidence is contradictory or where liabilities may outweigh benefits
- Examples
 - Policies for population-based treatment for STIs to prevent HIV transmission
 - ▶ Rakai, Uganda findings
 - ▶ Mwanza, Tanzania findings
 - Partner-administered therapy policies
 - ▶ Balance of benefits and liabilities

3. Sound-Science Strategies

- Definition
 - Strategies where available
 - Scientific evidence mostly supports benefits and effectiveness
- Examples
 - Targeting core transmitters
 - ▶ Commercial sex workers
 - ▶ Injection drug users
 - ▶ MSM
 - Condom use promotion policies (100% condom in Thailand)
 - Vaccination for HPV, Hep B



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Section B

STI Prevention PROGRAMMING Strategies

What Are Current STI Prevention Program Strategies?

1. Surveillance
2. Outreach and field investigation
3. Community education
4. Community partnership
5. Prevention advocacy
6. Policy compliance
7. STI program development
 - Clinic and laboratory services
 - Case management and partner services
 - Behavioral interventions
8. Professional education
9. Program evaluation
10. Research partnerships

1. Surveillance Strategies

- Surveillance
 - Sentinel—screen the populations at high risk of infection due to behavior or biology
 - Morbidity reports—require sentinel reproductive health events be reported to a centralized health authority
 - Surveys—conduct behavioral and screening surveys in the community(ies) at high risk
 - Case management—maintain case files of STIs for surveillance, research, and program monitoring

2. Outreach and Field Investigation Strategies

- Outreach investigation
 - Reports—collect demographic data to describe trends in the community
 - Field staff—identify and train workers to contact community members to educate, notify, and counsel
 - Screen—establish screening programs
 - Case investigation—develop protocols for case investigation, management, and follow-up

3. Community Education Strategies

- Information dissemination
 - Educate—send field staff to community venues to offer educational and informational sessions
 - Centralize—develop a central authority to house and analyze data
 - Market—develop marketing campaigns, e.g., social marketing for disease recognition

4. Community Partnership(s)

- Partnership development
 - Liaison—identify community leaders to act as liaison with program
 - Collaborate—establish advisory panels for policy and program development
 - Partner—work with advisory panels when producing marketing outreach
 - Disseminate—share information about morbidity, prevention programs, and results

5. Encourage Prevention Advocacy

- Policy activities
 - Coordinate—work with advisory panel(s) to bring attention to STIs in the community
 - Mobilize—assist advisory panel(s) to bring community concerns to policy makers
 - Educate—develop information packages for policy makers and program directors
 - Advise—maintain advisory role to community, policy makers, and program directors

6. Assure Policy Compliance

- Regulatory and law enforcement
 - Database—monitor required reporting of diseases by providers and laboratories
 - Disseminate—send information regarding laws and regulations to providers and laboratories at least annually
 - Advise—participate in the development and implementation of laws and regulations

7. Development Strategies

- Program development
 - Assessment—use morbidity reports, community screening information, etc., to inform policy and program priorities
 - Target—identify populations at great risk for infection
 - Medical management—assure compliance with established standards of care
 - Case management—apply proven and new techniques to STI case management

8. Supporting Professional Education

- Skilled workforce maintenance
 - Assessment—conduct staff needs assessments, chart review, and patient evaluation surveys
 - Resources—allocate resources for initial and ongoing staff training opportunities
 - Partner—develop partnerships with training programs and medical teaching institutions
 - Training—offer on-site training activities

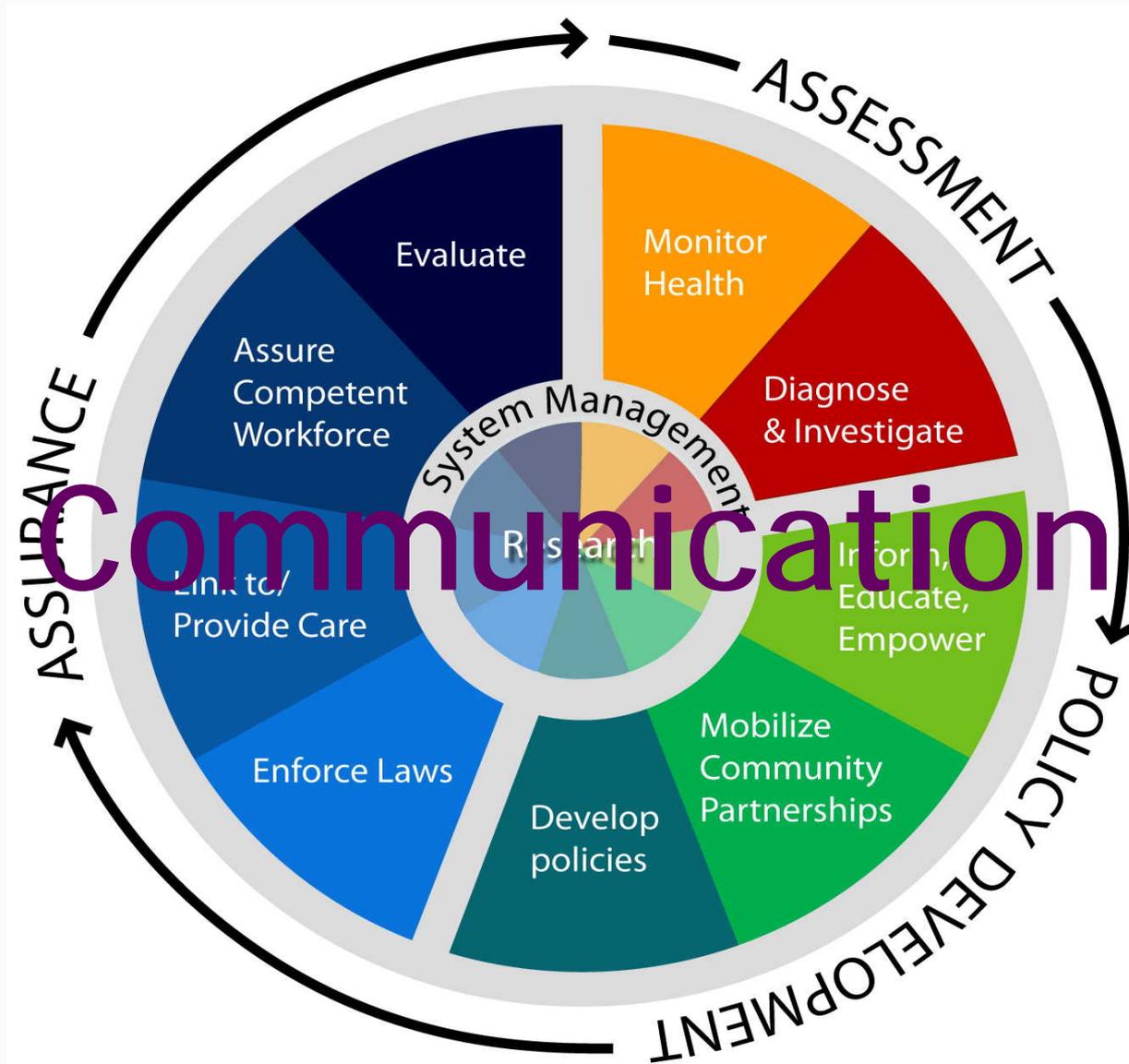
9. Assure Program Evaluation

- Evaluation activities
 - Assessment—conduct baseline measures of performance
 - Performance—set goals and objectives to measure program performance
 - Measurement—monitor performance activities and program objectives
 - Integration—incorporate changes as necessary

10. Establish and Maintain Research Partnership(s)

- Research integration
 - Liaison—identify research institutions and community(ies) as partners
 - Contract—establish contracts that clearly outline scope of research and roles of all parties
 - Disseminate—establish clear requirements for sharing information among all parties
 - Application—assure that research is appropriate and applicable to program goals and objectives

Public Health Model



Moving On

- Using epidemiology to inform STI policy and programming

How Do We Define Priorities in STI Policy and Programming?

- Collect data from morbidity reports, surveys, research, and outreach
 - Identify the areas of highest morbidity
 - Identify the age, gender, and ethnicity (race) of those bearing the greatest burden
 - Identify the risk behaviors
- Target resources
 - Screening, treatment, prevention outreach

What Do We Need to Inform STI Policy?

- Biology
- Demographics (epi)
- Geographic distribution (epi)
- Morbidity trends (epi)
- Behavioral issues (epi)
- Control and prevention (epi)
- Cost

What Do We Need to Improve the Effectiveness of an STI Program?

- Surveillance
- Laboratory services
- Clinical services
 - Skilled providers
 - Clinical guidelines and medical standards
 - Treatment
 - Case management

What Do We Need to Improve the Effectiveness of an STI Program?

- Behavioral interventions
 - Outreach programs
 - Counseling and case management
 - Community advertising campaigns
- Program evaluation
 - Clinic and laboratory quality assurance
 - Performance measures
 - ▶ Activities
 - ▶ Outcomes

What Can We Do to Make STI Policy and Program Efforts Effective?

- Recognize the controversial nature of STIs
- Verify the STI problem using objective measurements
- Define program and policy objectives clearly
- Work with the community, politicians, and professionals involved in health care delivery
- Be consistent and equitable when applying program measures

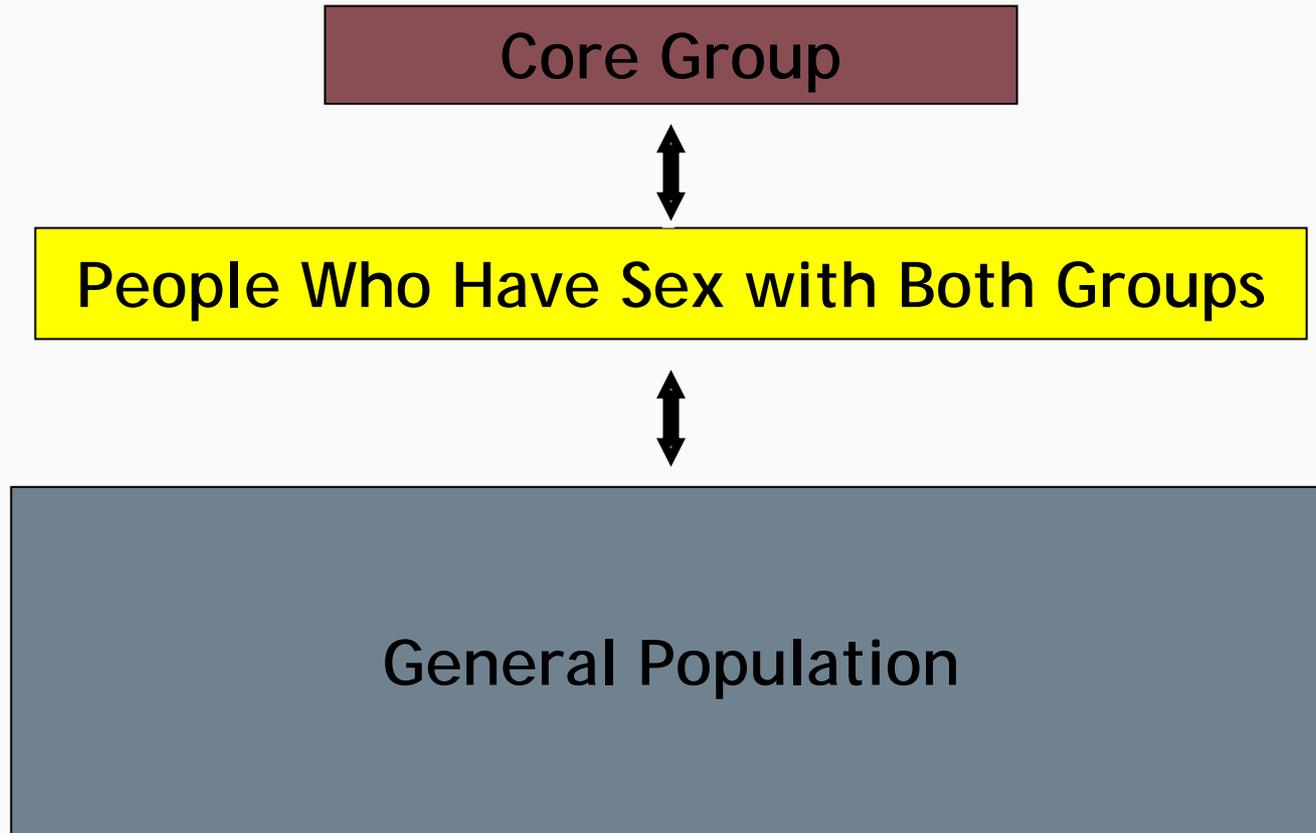
What Epidemiology Tools Can Be Used to Inform Policy and Program?

- Core neighborhoods/groups and core transmitters
- Sexual mixing patterns
- Sexual networks
- Biological and behavioral risk patterns
- Formulas that inform priority activities
 - Anderson and May
 - Mathematical modeling—Garnett

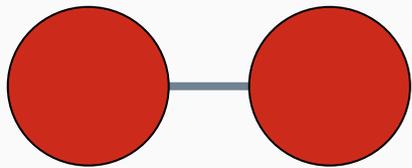
Epi Tools: 1. Core Neighborhoods/Groups and Core Transmitters

- Core neighborhoods
 - Geographic units with high prevalence of STIs
- Core transmitters
 - Individuals in core neighborhoods who engage in “risky” sexual and social behaviors and experience a large proportion of diagnosed STIs and/or individuals who engage in “risky” sexual and social behavior with individuals living in core neighborhoods

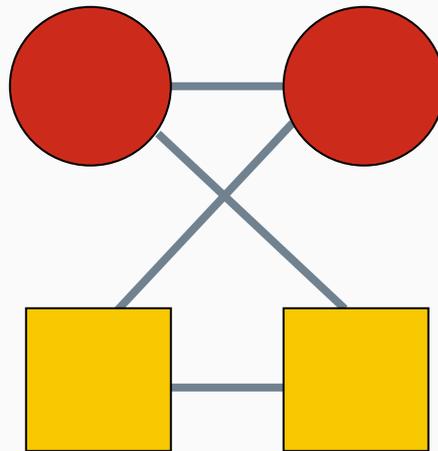
Epi Tools: 1. Core Neighborhoods/Groups and Core Transmitters



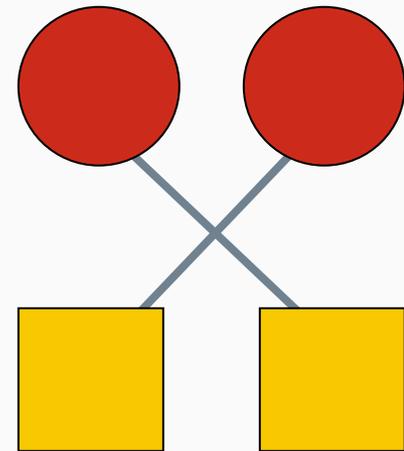
Epi Tools: 2. Sexual Mixing Patterns



Assortative



Random



Disassortative

Epi Tools: 3. Sexual Networks

- Relationships between social and sexual networks
- Structure of sexual networks
 - Concurrency
 - Serial sexual partners
 - Mixing patterns
- Role of core transmitters, core group and neighborhoods, and bridge group
- Frequency and type of substance use/abuse

Epi Tools: 4. Biological and Behavioral Risk Patterns

- Biological susceptibility to STIs
- Frequency and type of substance use/abuse
- Number of sexual partners in a lifetime

Epi Tools: 5. Formulas

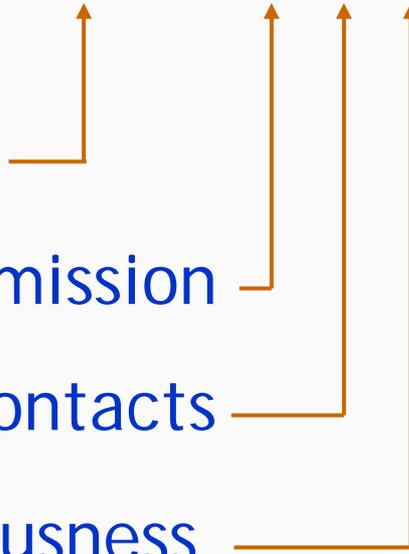
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Reproductive Rate

Probability of transmission

Number of sexual contacts

Duration of infectiousness



What Limits Traditional STI Control Policies and Programs?

- Dependence on . . .
 - Case finding—clinic and laboratory based
 - Specific disease focus
 - Categorical funding
 - Intensive intervention interviewing
 - Contact tracing
 - Poor or limited case management

What Are Some New Proposals for STI Control Policies and Programs?

- Targeting core transmitters for prevention and treatment services
- Identifying core neighborhoods (venues) and groups for screening activities
- Changing social norms
 - Safer sexual behaviors
 - Condom use
 - Substance use-abuse/sex equation

Conclusions

- STI policies and programs are rooted in the core functions of public health
- STI policy and programming strategies can be different
- Epidemiology and biology informs the unique aspects of STI program and policy
- There are many epi tools to utilize when informing policy and programming

National STI Priorities in the U.S.

- Infertility prevention
 - Improving screening and treatment of chlamydia (CT)
 - Improving prevention of gonorrhea (GC) in minorities
- Syphilis elimination
 - Reducing syphilis in heterosexuals and infants
 - Controlling syphilis in men who have sex with men (MSM)
- Viral STI prevention
 - Enhancing surveillance and educational outreach
- Vaccination
 - HPV
 - Hep B