

# **Some data-driven reflections on priorities in AIDS network research**

***Prioridades actuales para la investigación  
en SIDA a través de  
redes:***

***Reflexiones basadas en los datos obtenidos***

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# I would like to acknowledge

- **NIDA projects:**
  - **P30 DA11041 (Center for Drug Use and HIV Research)**
  - **R01 DA13128 (Networks, norms & HIV risk among youth)**
  - **R01 DA006723 Social Factors and HIV Risk**
  - **R01 DA DA019383-01A1 Staying Safe: Long-term IDUs who have avoided HIV & HCV**
  - **R01 DA03574 (Risk Factors for AIDS among Intravenous Drug Users)**
- **Elizabeth Lambert and other extraordinary project officers at NIDA**
- **Hundreds of participants in these studies**
- **Colleagues and participants who have died of HIV/AIDS and hepatitis C**
- **Many collaborators and co-authors**

# Outline of talk

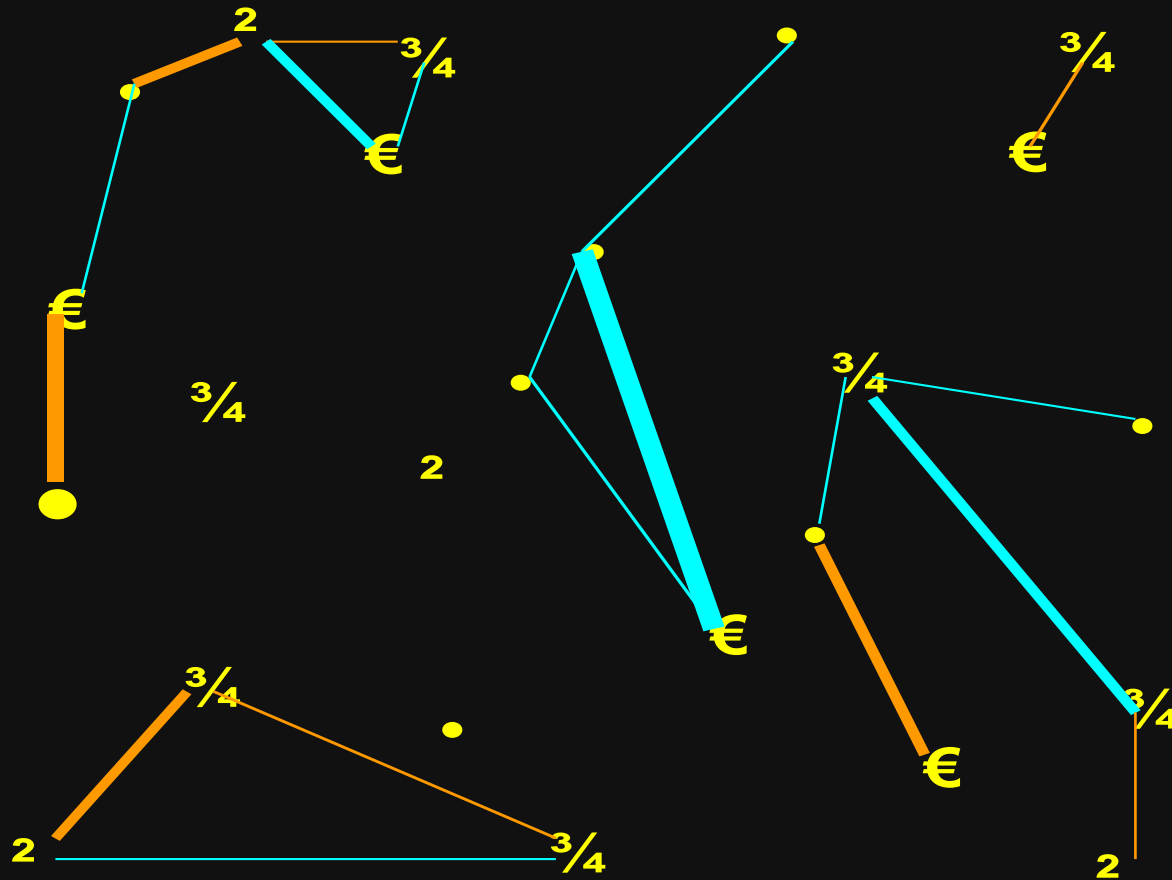
- 1. Social and risk networks**
- 2. How risk networks affect HIV, hepatitis B, hepatitis C and STI spread**
- 3. Social prevention and adherence issues:  
Drug users and other patients as allies in  
prevention and adherence**
- 4. Big events like internal war**

# **Social and risk networks**

# Most HIV epidemiology, prevention, and policy has focused on individual knowledge, attitudes, personality and behaviors:



# People also have social and behavioral ties of various types and strengths

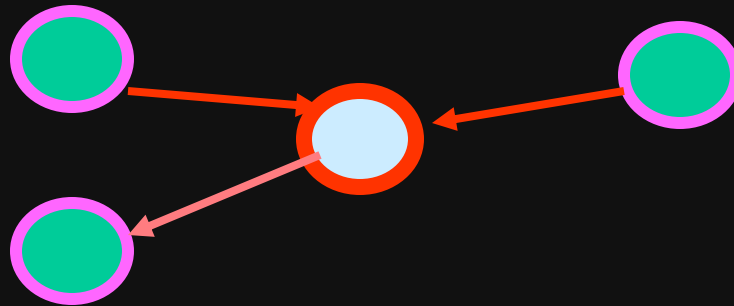


# Risk (sex, IDU) network ties can carry infections:

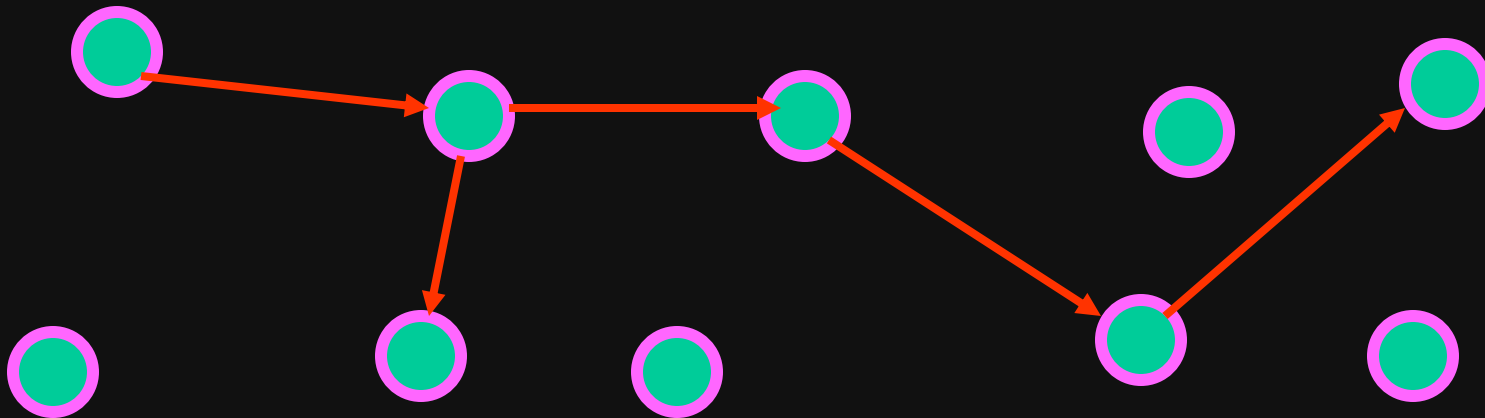
Within relationships



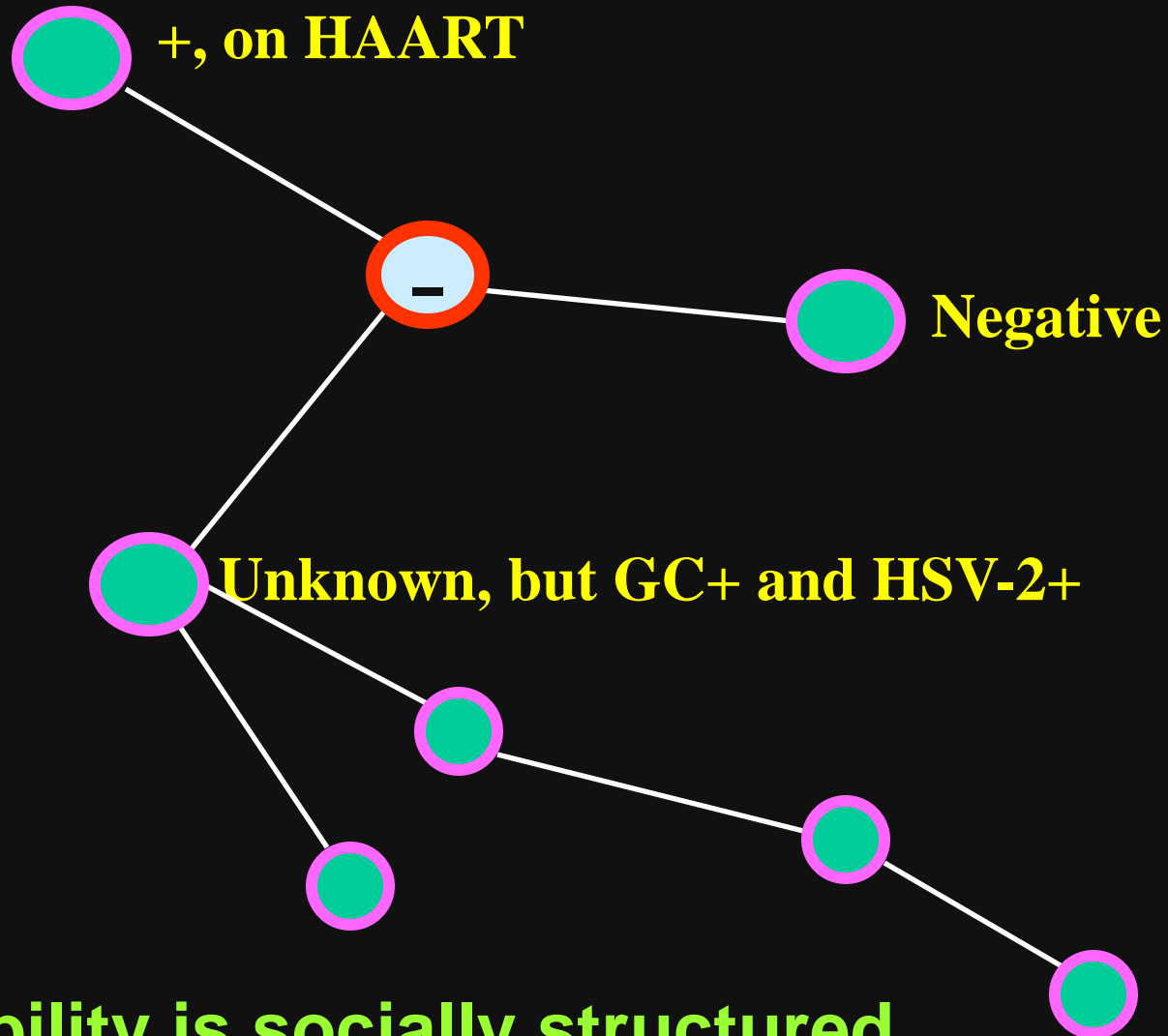
To or from an individual



Throughout a community or small group



**Risk is a conditional probability: Risk behaviors with uninfected people do not lead to infection**



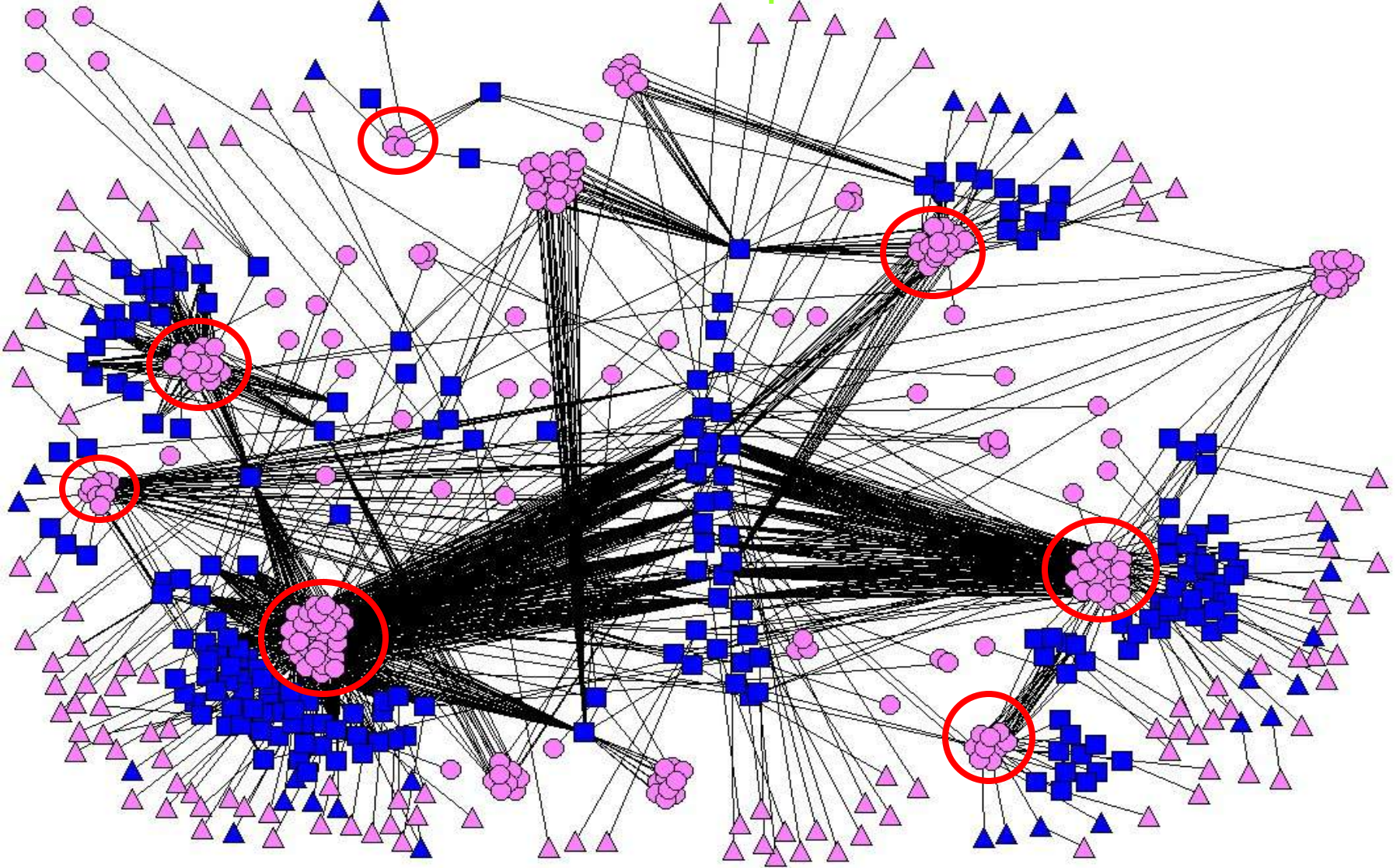
**The probability is socially structured**



## What do real risk networks look like?

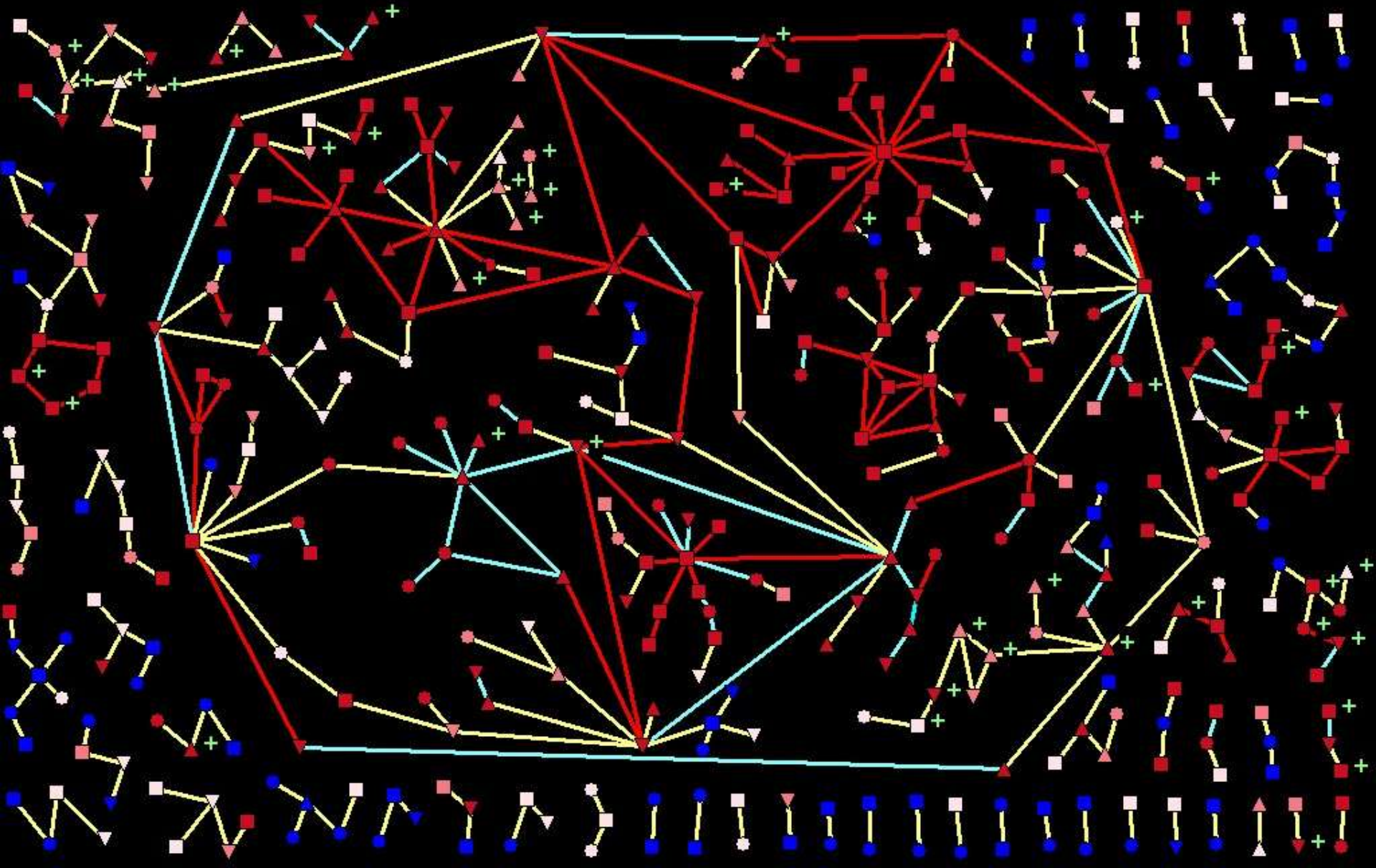
- **Since no studies have been done in Colombia that I know of, I will show you one from British Columbia (Canada) and then spend some time discussing a New York City network**

**Canada: sex workers are pink circles, clusters of pink circles are brothels (massage parlours), blue squares are commercial clients, blue triangles are boyfriends or husbands, and pink triangles are wives/girlfriends. The 7 circles clusters represent massage parlours where recruitment took place, from 4 cities in the Vancouver area. Source: Valencia Remple.**



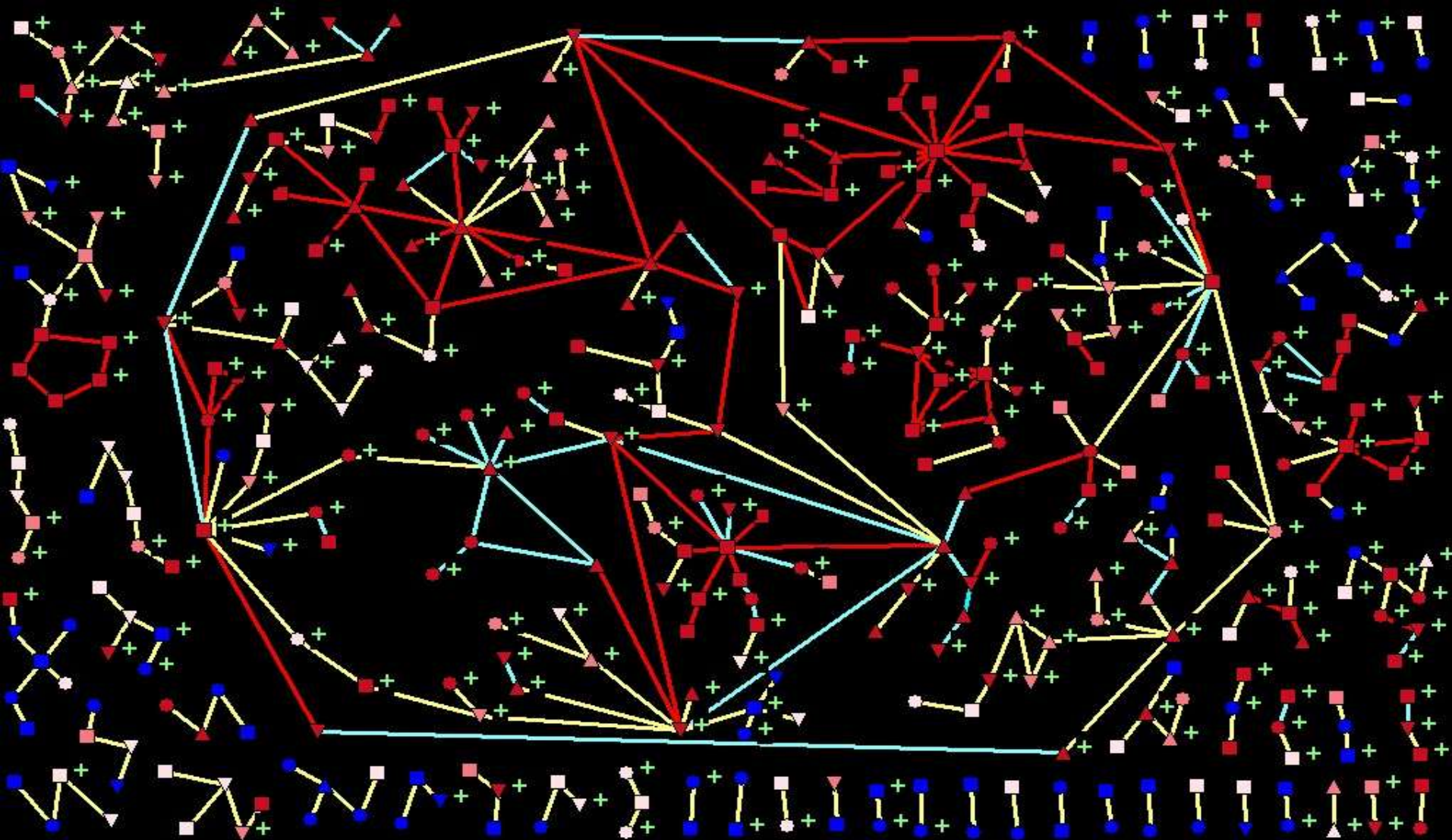


**HIV Positive by Gender/Sexuality (MSM=up triangle, WSW=down triangle, other female=circle, other male=square) by Hardest Drug Use Ever (from dark red to light pink: UDI, Crack, Non-injected Heroin or Cocaine; blue=other) by Link Type (sex=yellow line, IDU=red, sex and IDU=blue) (New York)**





**HSV2 Positive by Gender/Sexuality (MSM=up triangle, WSW=down triangle, other female=circle, other male=square) by Hardest Drug Use Ever (from dark red to light pink: IDU, Crack, NI Heroin or Cocaine; blue=other) by Link Type (sex=yellow line, IDU=red, sex and IDU=blue)**



**HIV discordant couples are where much HIV transmission takes place: Which STIs are likely to be important in facilitating HIV spread?**

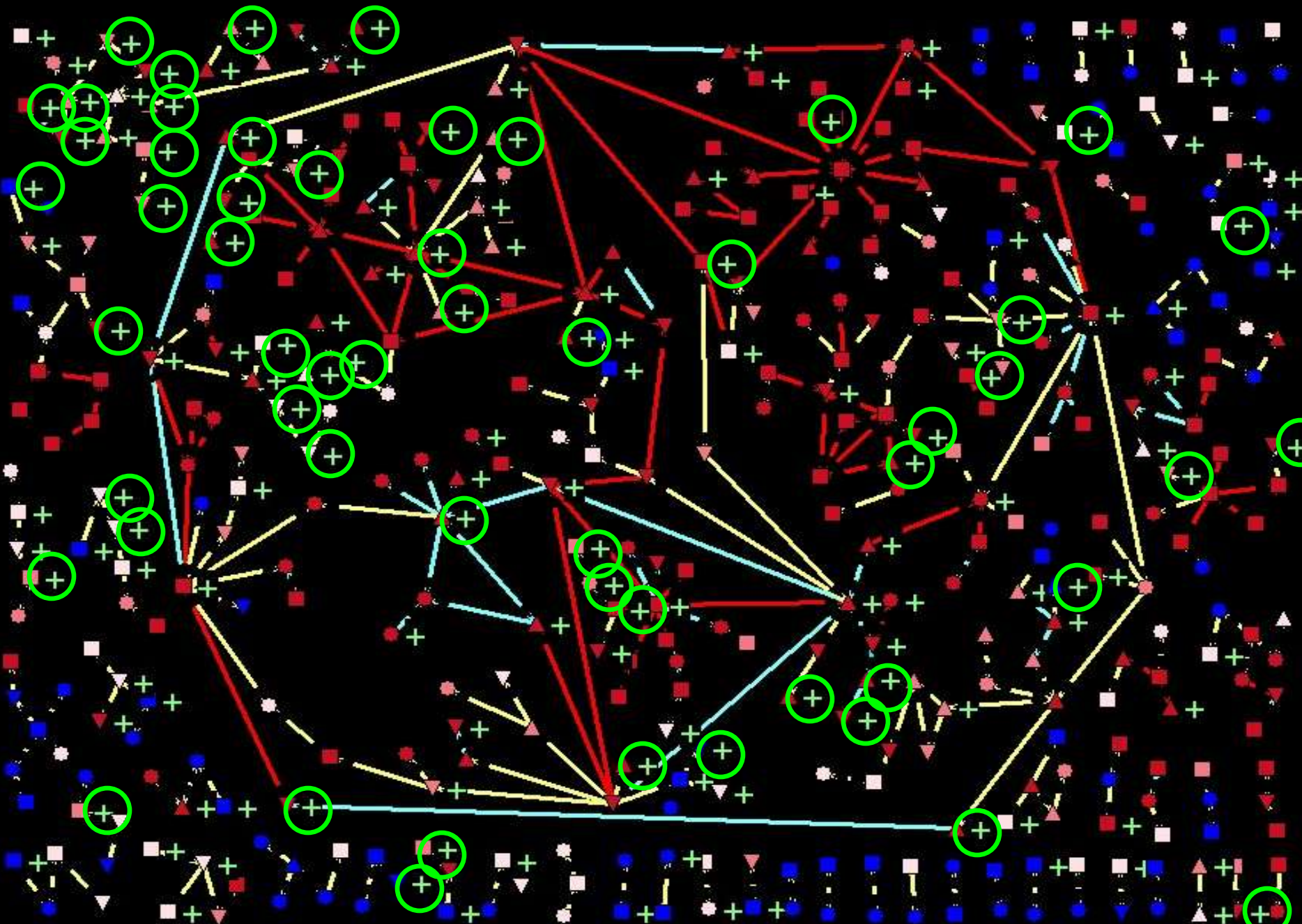
- **Of 30 HIV-discordant partnerships in the diagram for NYC:**
- **5 were same-sex male partnerships and 25 were opposite-sex partnerships.**
- **Conclusions: HSV-2 was present in 83% of the HIV-discordant couples; CT in 7%; and syphilis and gonorrhea in none.**
- **HSV-2 is probably more important for HIV transmission than bacterial STDs since it is more widespread in NYC—and some African studies.**
- **This may be because of effective syphilis and gonorrhea control in NYC at least.**
- **What about in Colombia?**

**Hidden risk: Although very little research has been done on this, group sex activities are likely to increase risks**

	<b>Attended group sex event</b>
<b>Use no drugs or only marijuana</b>	<b>25%</b>
<b>Use non-injected cocaine or heroin</b>	<b>47%</b>
<b>UDI</b>	<b>35%</b>
<b>Female</b>	<b>28%</b>
<b>Male</b>	<b>42%</b>
<b>Non-injecting drug users in rural North Carolina</b>	<b>46%</b>
<b>Lower East Side (New York) youth aged less than 25</b>	<b>34%</b>



**Attended Group Sex Party (Pluses) and Had Unsafe Sex at Group Sex Party (Circles) by Gender/Sexuality (MSM=up triangle, WSW=down triangle, other female=circle, other male=square) by Hardest Drug Use Ever (from dark red to light pink: IDU, Crack, NI Heroin or Cocaine; blue=other) by Link Type (sex=yellow line, IDU=red, sex and IDU=blue)**



# **Social research insight 1:**

## **risk networks**

**carry infections via behaviors . . .**

**And this can help us understand both  
why HIV can spread quickly in some  
circumstances and help us develop  
prevention strategies**



# **Social research insight 2:**

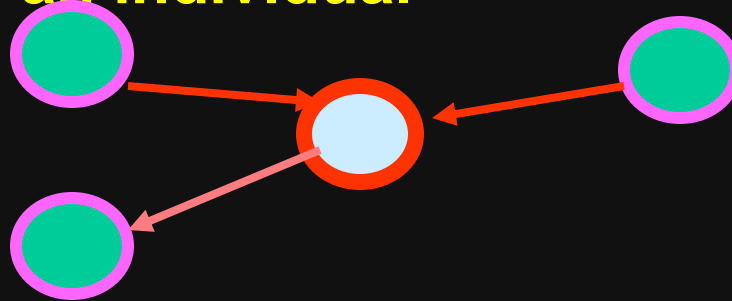
## **social influence networks**

**carry messages, norms, and other influence that can shape risk behaviors, the extent to which people seek medical treatment or counseling, and the extent to which people adhere to medications.**

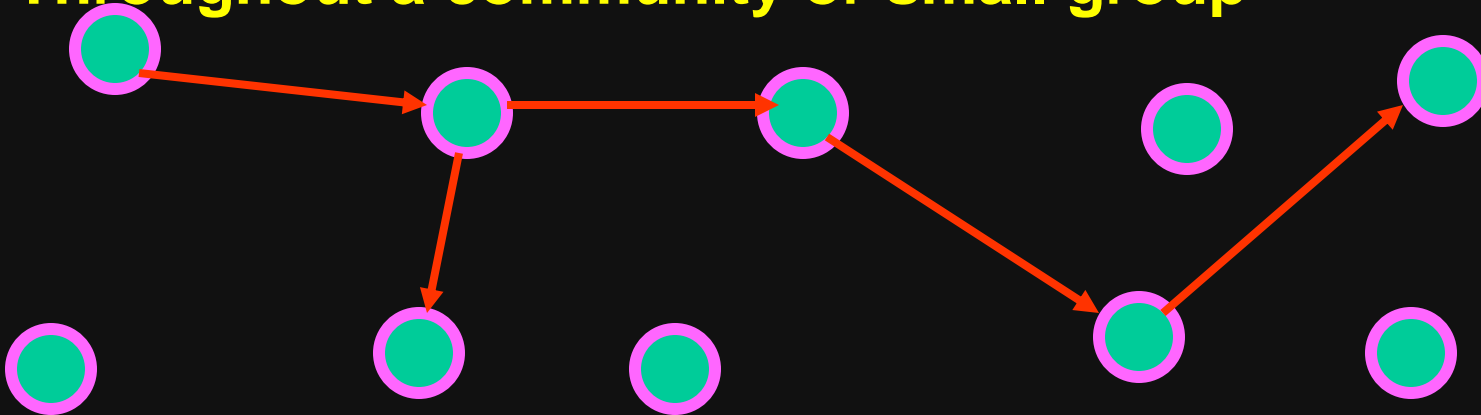
**This involves the activity of SOCIAL network ties, which can carry influence:**  
**Within relationships**



**To or from an individual**



**Throughout a community or small group**



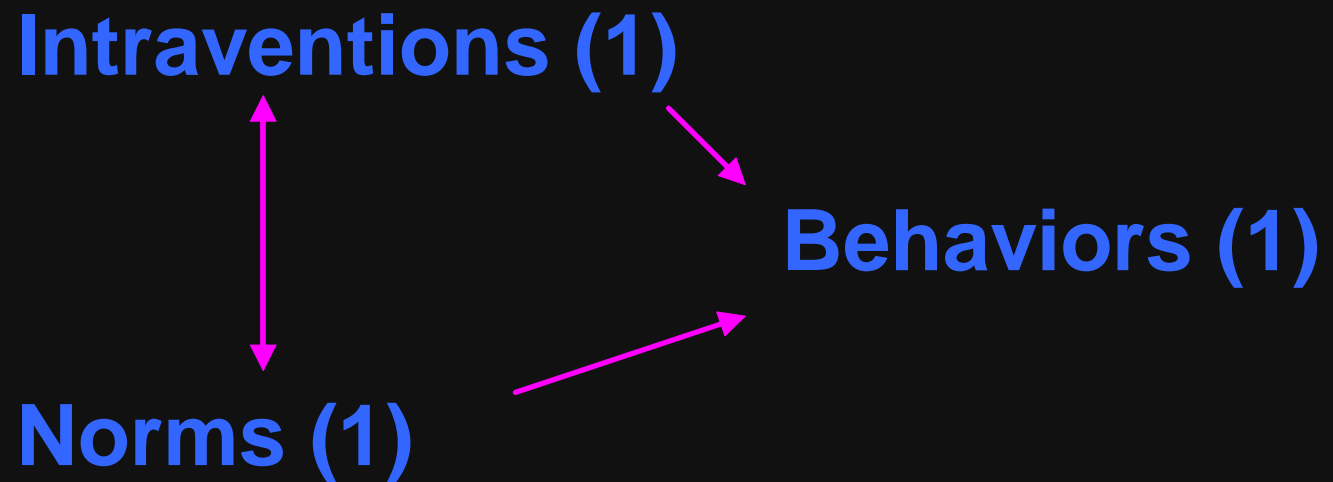
# **Drug users and others provide risk reduction and medical adherence education and persuasion to others**

- We invented the word “intravention” to describe people in a community acting to help others to take actions that will protect them or improve their health.**
- When they urge others to behave in safer ways, or to adhere to the rules on when to take their medicines, this is how norms are enacted and maintained.**

# Schematic diagram of intravention as a context for intervention efforts (1)

(NOTE: Behaviors here are INTERACTIVE behaviors)

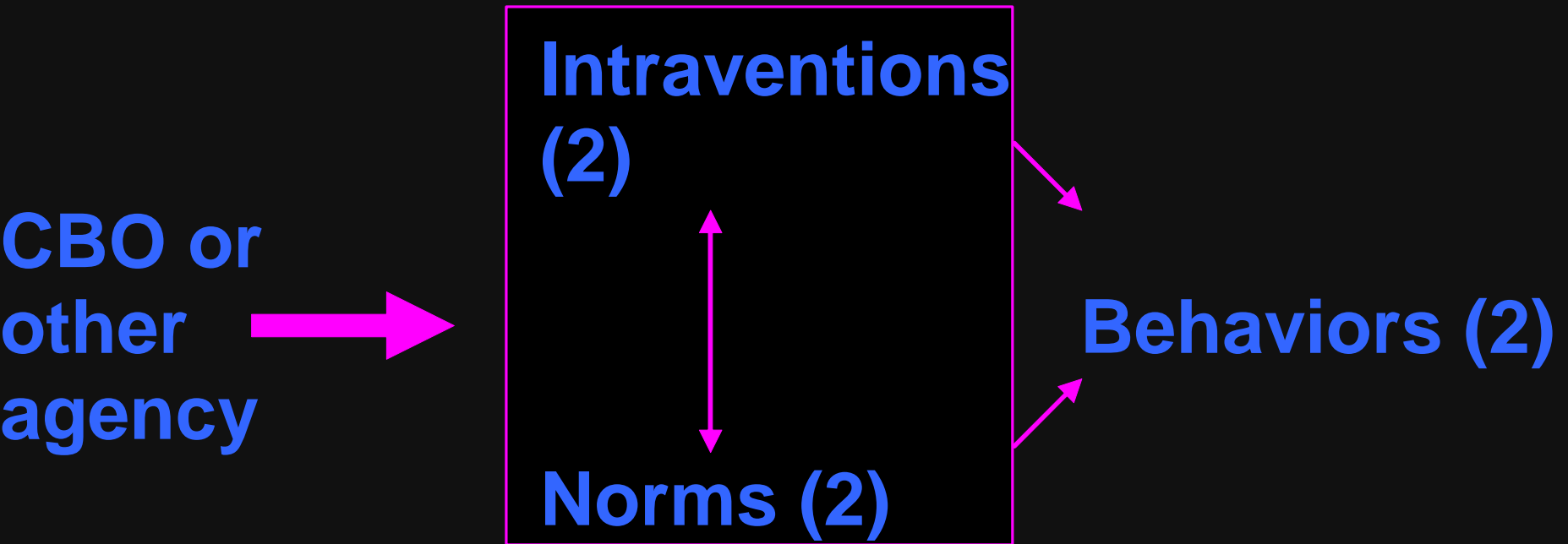
Time 1



# Schematic diagram of intravention as a context for intervention efforts that can diffuse through networks (2)

(Note: Behaviors here are INTERACTIVE behaviors)

Time 2



**Those who are at risk,  
whether sex workers, drug  
users, men who have sex  
with men, or other people,  
are those  
who REALLY do  
HIV prevention**

**They do this as individuals, small groups, and formal organizations**

**This has been shown, for example, in:**

- **Gay men in many cities**
- **New York IDUs knew of the new disease long before CDC—and began to reduce risk behaviors**
- **International Network of People Who Use Drugs**
- **Sex workers in Calcutta**
- **Youth groups in many parts of Africa**

## Big events like internal war

- Refugees face network and behavioral risk for drug use, STIs, HIV:
  - Trauma
  - Disrupted social networks and maybe families
  - Disrupted protective normative environments
  - Economic need
  - Disrupted sexual partnerships
- Soldiers also are at high risk
- What if insurgents win and do not understand HIV?
  - In South Africa, this led to HIV denial
  - How can insurgents here be trained about HIV?



# Summary

- **People are people, not just behaviors.**
- **Sexual and drug injection networks are key to HIV spread**
- **Social networks (including often sexual or drug relationships) are key to adherence and prevention.**
- **The people are the ones whose action spreads or stops epidemics. They are often ahead of public health agencies in this.**
- **Community, medical and counseling agencies must work with the people in this—or be of little help.**