

# Using Facebook in Communicable Disease Investigations

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WDPH CD Meeting

# Public Health Goal

- Prevention
- In sexually transmitted diseases (STD), via Disease Intervention
- Staff performing duties:  
Disease Intervention Specialist (DIS)

# STD Partner Referral Services

- Services provided to partners of infected patients including:
  - intervention, prevention, referral, and education
- Disease Intervention achieved through referral and treatment of at-risk
  - sexual partners, suspects, and associates

# DIS Training

- State staff and state-contracted (MHD) staff
- CDC STD Employee Module online training
  - Introduction to STD Interviewing
  - Syphilis visual case analysis training
- Face to Face training class
- Clinic and field training
  - In-house training while “shadowing” an experienced DIS including phlebotomy
  - Supervisor review of cases and observation in the field

# Wisconsin State Statutes

## 252.03 Duties of Local Health Officers

- (1) Every local health officer, upon the appearance of any communicable disease in his or her territory, **shall immediately investigate** all the circumstances and make a full report to the appropriate governing body
- (4) No person may interfere with the investigation under this chapter of any place or its occupants by local health officers **or their assistants**.

# Wisconsin State Statutes cont'd

## 252.05 Reports of cases.

- **(1)** Any health care provider ... who knows ... that a person ... has a communicable disease ... shall report [it] ... to the local health officer. ...
- The local health officer shall report this information to [state] department or shall direct the person reporting to report to the department.
- **(2)** Each laboratory shall report ... results that indicate ... a communicable disease, ... or that the department finds necessary for the surveillance, control, diagnosis, and prevention of communicable diseases.



# Methods of Partner Referral

- Provider Referral
  - Health Department
    - Assure treatment of original patient
    - Offer testing/treatment to sex partners, suspects, and associates
  - Other agencies assist health department
    - Family planning agency
    - Private MD office
    - Tribal health clinic
    - Military hospital/clinic



# Methods of Partner Referral

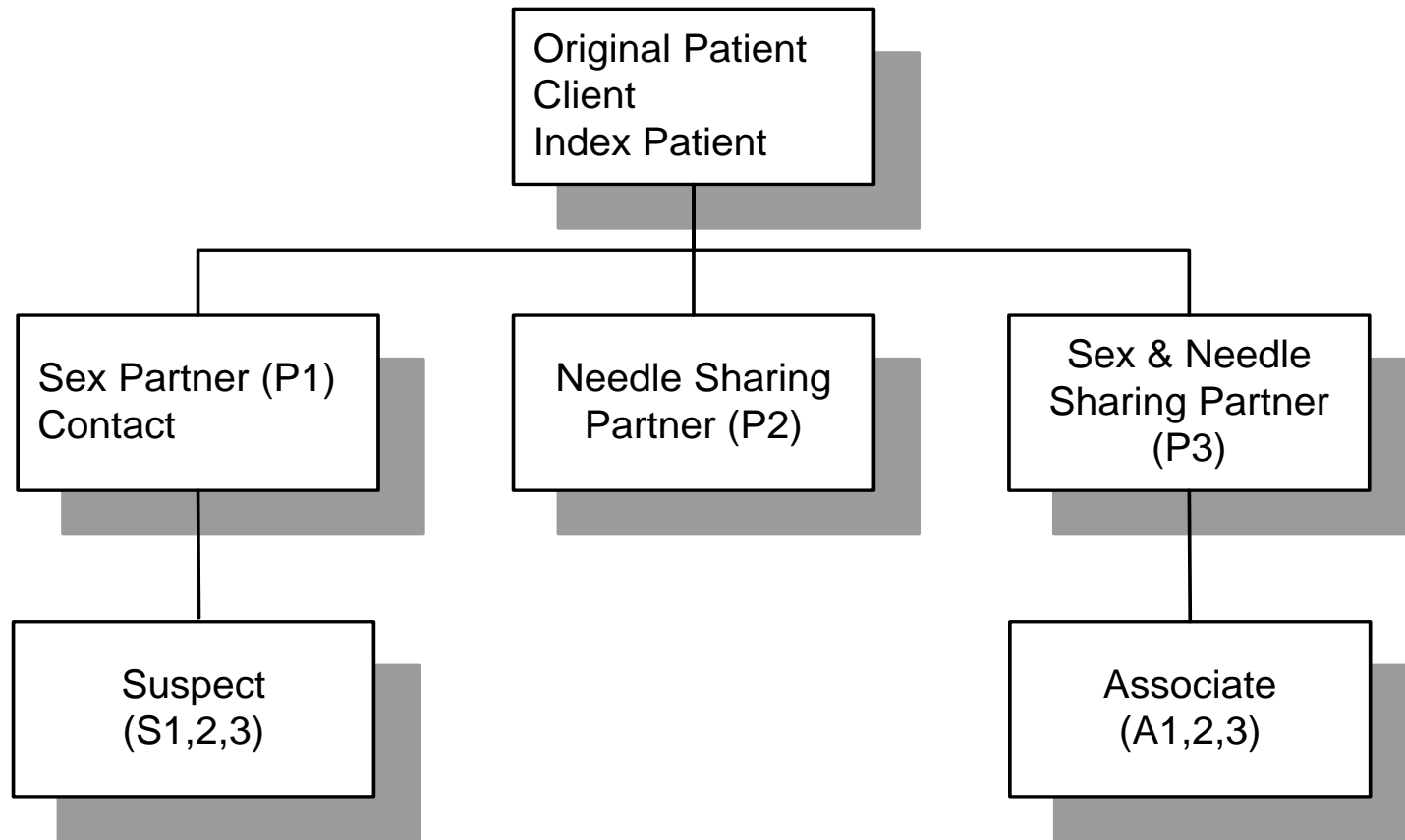
- Patient (Self) Referral
  - Patient wants to take responsibility
    - to notify partners of exposure
    - refer their partners for testing/treatment
  - Assess patient's ability to perform referral
  - Referral cards may be provided to patient
  - Patients may use inSPOT ([www.inspot.org](http://www.inspot.org))
  - Patients may receive EPT (expedited partner therapy) Rx or meds for their sex partners



# Disease Intervention in Wisconsin

- State and state-contracted staff (MHD SER)
  - Syphilis case management
    - Clinic and field interviewing and investigation
    - Co-infected cases: Syphilis and other STDs including HIV
- MHD
  - GC and CT\* case interviewing and/or investigation (partner referral) for pts  $\leq 16$  yrs or pregnant
- Local Health Department Staff
  - GC and CT case interviewing and investigation

# Terminology in Contact Elicitation/Partner Referral



# Facebook-Augmented Partner Notification in a Cluster of Syphilis Cases in Milwaukee.

- **Hunter P**, Oyervides O, Grande KM, Prater D, Vann V, Reitl I, Biedrzycki PA.
- *Public Health Reports*
- 2014;129 Suppl 1: 43-49.
- <http://www.publichealthreports.org/issueopen.cfm?articleID=3109>

# Challenges of investigating clusters of communicable diseases

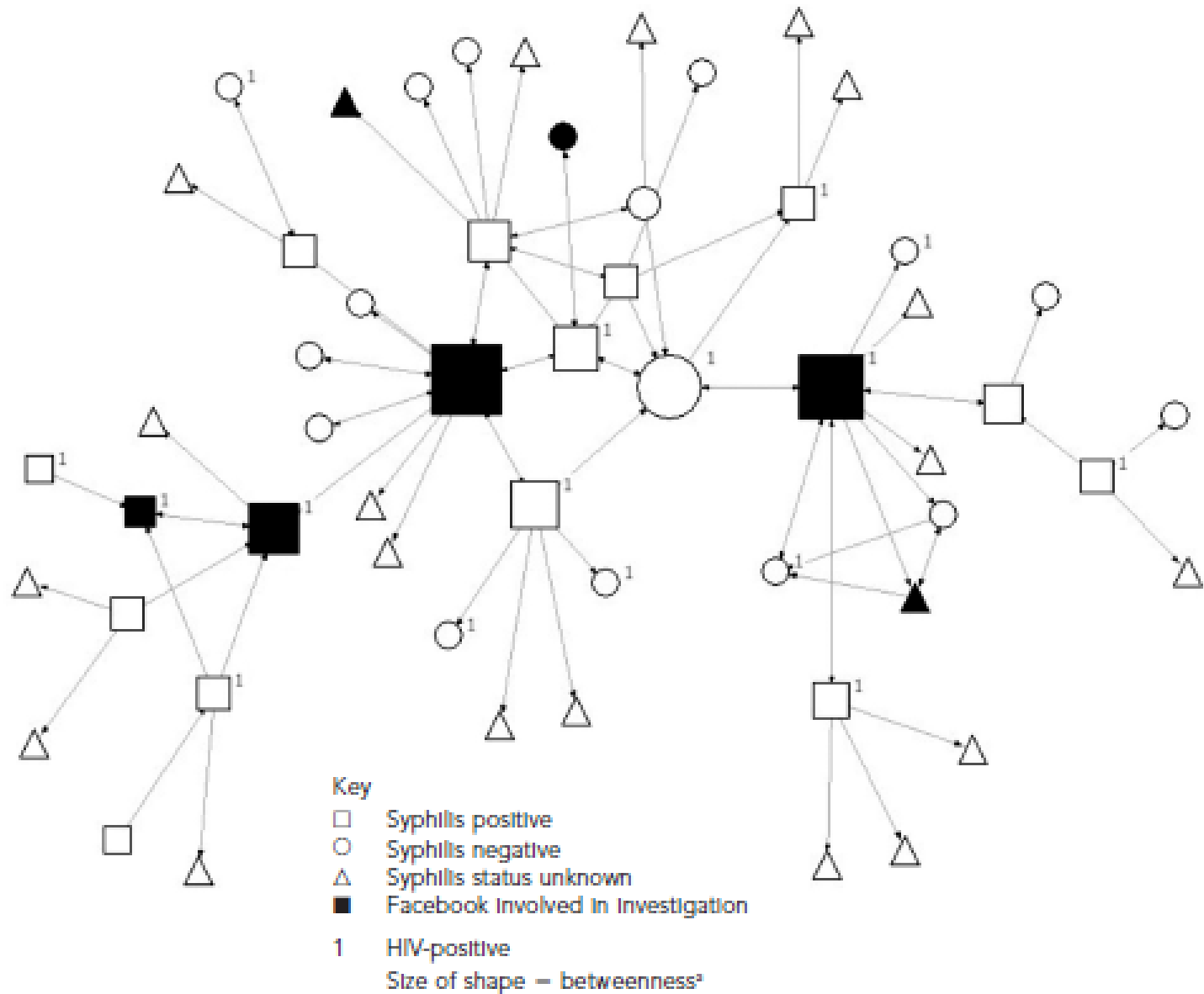
- Case identification and
- Partner notification for STDs
- Populations using social media rather than phone, postal mail, or stable residence to communicate
- Solution? Identify, link, & notify individuals via
  - Facebook and
  - Social network diagram illustration

# Cluster definition

Individuals included in cluster

- if linked to index case as
  - Sexual **partner** named by case
  - **Suspect**, per report of an index case:
    - Symptomatic
    - Partner of case outside cluster
    - Pregnant females and roommates of case
  - **Associate**: like suspect, reported by non-infected person
- and if enough info to initiate an investigation
  - name, phone number, address, Facebook name

# Social network of cases and contacts



# Syphilis cluster with 17 cases

- Milwaukee, 2011–2012
- 55 individuals in cluster
- 51 known ages (17 cases)
  - 15–19 years 20 (6)
  - 20–24 years 25 (8)
  - 25–48 years 6 (3)
  - Median age 20 years
- 55 African American
- 51 Men who have sex with men (MSM)
  - 4 Women were not sexual partners of men
- HIV-positive
  - 10 of 17 index cases
    - 1 refused testing
  - 5 others in cluster

# Partners, suspects, and associates

- 38 Partners named with enough information to initiate an investigation
- 11 Suspects and associates named
- 27 Partners, suspects, and associates treated
- 37 partners, suspects, and associates completed epidemiologic follow-up.
  - 17 positive for syphilis
  - 20 negative
- 18 lost to follow up
  - could not be located
  - refused clinical evaluation
  - out of jurisdiction
  - unverifiable or false information provided by cases





# Performance measures (MHD goal)

- Contact rate = 67%
  - 17 infected individuals
  - + 20 tested negative
  - divided by 55
- Contact index = 2.2 (2.0)
  - 38 partners
  - divided by 17 cases
- Cluster index = 0.6 (0.5)
  - 10 suspects & associates
  - divided by 17 infected
- Treatment index = 1.6 (1.3)
  - 27 partners, suspects, and associates treated
  - divided by 17 cases

A few young MSM were very cooperative in naming partners, compared with older individuals in previous investigations.

# Methods

- Early in cluster investigation, DIS staff found men used social networking sites for general communication and finding sexual partners.
- E-mail protocol (via inSPOT) passes messages thru third party: slow and less confidential
- MHD does not use text messaging for reporting test results or investigating contacts

# Methods

- DIS set up Facebook account
  - Common male name in America
  - Moniker and links emphasized health promotion, not STDs or MSM community, not linked to health department.
  - Settings shielded account from internet searches

# Methods

- Administrative oversight and approval obtained for
  - Sending Facebook messages to clients
  - “Call about an important issue regarding health.”
- Usually did not require a social network connection
- In a few cases, privacy settings blocked messages
  - DIS “friended” individuals in cluster to send message via inbox (not public wall posting)
  - “De-friended” after
    - Phone call from individual or
    - No reply to multiple messages.
- Some Facebook policy changes since 2012 make “friending” necessary

# Methods

- “Friended” one individual at a time,
- Preventing social contacts (i.e., friends) of account from viewing a list of other friends of the account.
- Turned down all unsolicited friend requests

# Role of Facebook in Investigation

- 2 of 17 cases identified solely because they were Facebook friends to another case
- 5 others of 55 in cluster: Facebook augmented traditional investigation methods
  - Named as Facebook contact 2
  - Located via Facebook 2
  - Notified via Facebook 1

# Advantages of Facebook

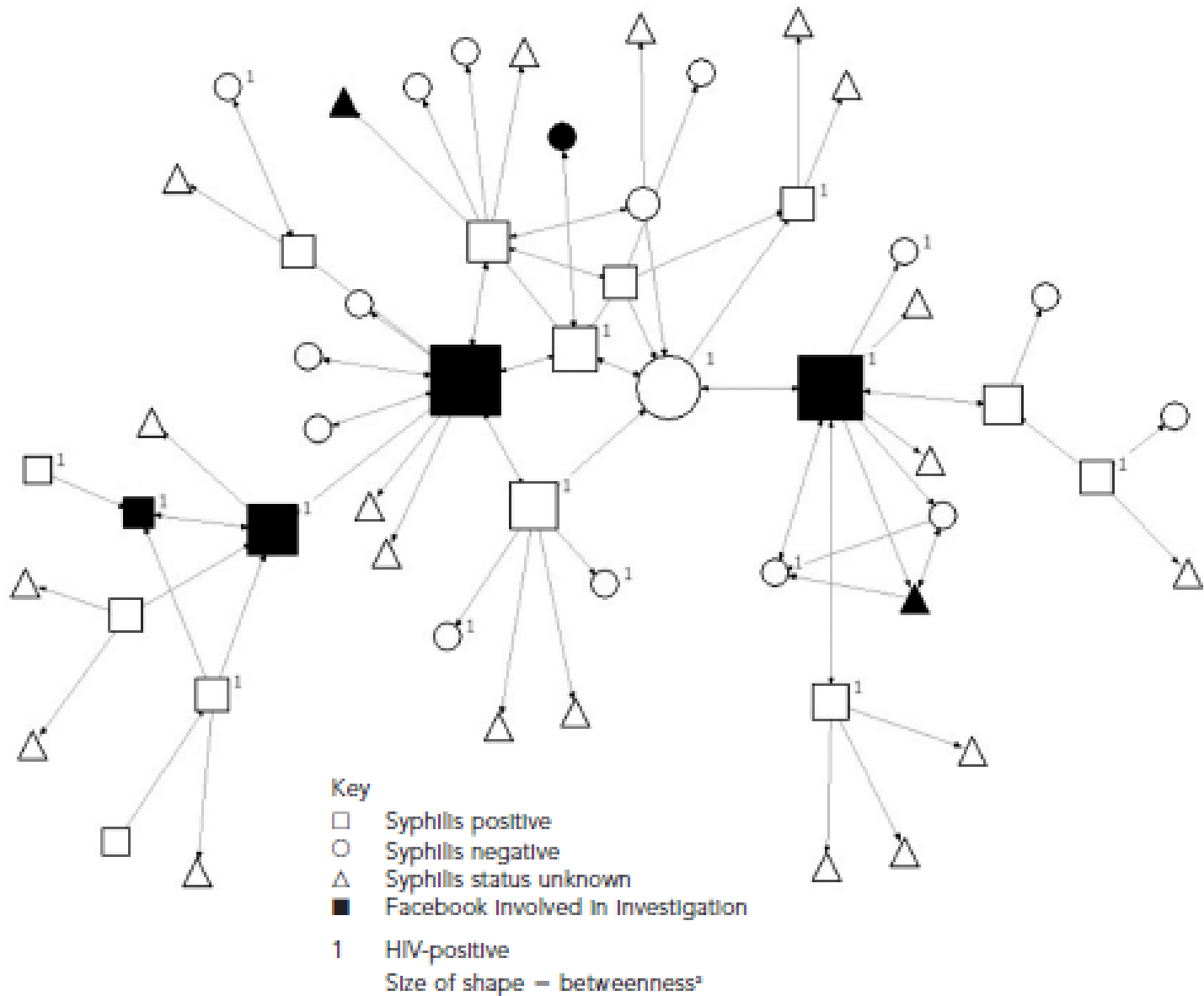
- Reached contacts more quickly than by phone
- Physical addresses and phone numbers changed more frequently, than Facebook accounts
- Identify individuals in person by viewing photos online
- Identify friends and family who could help contact individual in cluster.

# Limitations of Facebook

- Sporadic uses of Facebook account
- Lack of response to repeated messages
- Screen names obscure identity
- Privacy settings prevent finding contacts via online searches



# Social network of cases and contacts



# Facebook in the social network

- 3 cases (squares) central to the social network had Facebook involved (solid) in their investigation.
- However, 1 HIV-positive, syphilis negative (circle) partner did not involve Facebook (open) yet was a key connector between otherwise unconnected parts of the cluster

# Conclusions of cluster investigation

- Use of Facebook was crucial in identifying
  - 2 of 55 individuals with syphilis
- Cooperation of socially connected individuals with traditional methods
  - high number of contacts per case

# Role of social media in communicable disease investigations

- Does NOT replace traditional methods (TMs)
  - Phone calls, Clinic visits, Field visits
- Reaches some contacts that TMs do not
  - Younger, More socially connected
- Gives perspective on high-risk behaviors within social and sexual networks

# Epi-logue

- Ongoing interactions btwn DIS & cluster members
- More testing because
  - Increased comfort with MHD program staff
  - More regular clinic visits for screening
  - Symptom recognition due to education
- Increased awareness within MSM community
  - Community organizations and partner
- 3<sup>rd</sup>/4<sup>th</sup> generation HIV testing
  - Coming soon to an STD clinic near you