

Response to a Syphilis Outbreak

Electron micrograph of *Treponema pallidum* on
cultures of cotton-tail rabbit epithelium cells
Photo: CDC/PHIL(ID#1977)/Dr. David Cox

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Elements of the STD Outbreak Response Plan

- Pre-event planning
- Outbreak detection
- Outbreak investigation
- Outbreak response
- Outbreak response cessation

<http://azdhs.gov/phs/oids/std/pdf/ArizonaSTDOutbreakResponsePlan2008.pdf>

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Elements of the STD Outbreak Response Plan

Outbreak Detection

- Arizona [Administrative Code R9-6-206.F](#) requires that a local health agency shall immediately notify ADHS when the local health agency receives a report or reports indicating an outbreak or suspected outbreak. The notification shall include:
 - The location of the outbreak or suspect outbreak;
 - If known, the number of cases and suspect cases;
 - The date that the outbreak was reported or dates that suggest that cases suggestive of an outbreak were reported;
 - The setting of the outbreak or suspect outbreak;
 - The name of the disease suspected or known to be the subject of the outbreak or suspect outbreak; and
 - The name and telephone number of an individual at the local health agency who can serve as a point of contact regarding the outbreak or suspect outbreak.

Elements of the STD Outbreak Response Plan

Outbreak Detection

- ADHS STD Program Syphilis outbreak detection surveillance system deployed late 2008
 - Based on historical limits model using 3 years of data
 - Uses unadjusted, reported syphilis serologies
 - Calculates mean (expected) and 1 & 2 standard deviations
 - Select statewide sentinel sites
- Gonorrhea outbreak surveillance system deployed late 2010

Elements of the STD Outbreak Response Plan

Outbreak Investigation

- Brief investigation team members
- Establish the existence of an outbreak
- Verify the diagnosis
- Develop hypotheses
 - Identify the at-risk population, transmission source, the mode of transmission, the exposures and the risk factors that caused the outbreak
- Implement control and prevention measures

Elements of the STD Outbreak Response Plan

Outbreak Response

- Communicate with federal and local partners
- Communicate with stakeholders and the media
- Mobilize the community
- Investigate the outbreak
 - Interview cases
 - Conduct partner notification activities
 - Describe the data and evaluate and refine hypotheses
 - Conduct targeted screening and alternative case-finding activities

Elements of the STD Outbreak Response Plan

Outbreak Response Cessation

- Declare the outbreak over
 - “To some extent, the cessation of the outbreak response will be dictated by existing resources and program need. **Ideally, the maintenance of an outbreak response will continue until the number of cases identified has reverted to the previously expected level before the outbreak.**”
- Evaluate the response
- Communicate findings

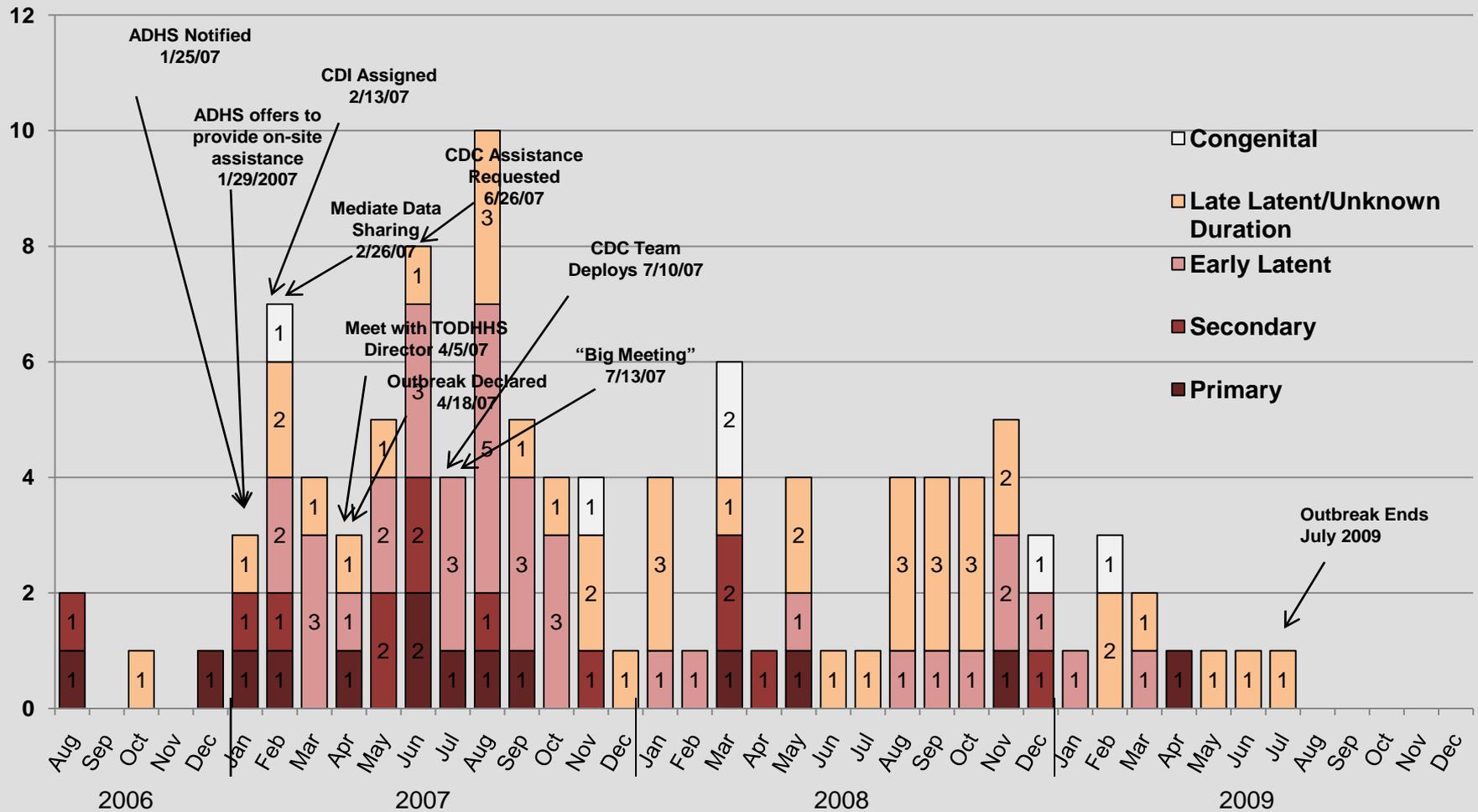
Syphilis Outbreak on the Tohono O'odham Nation

- October 2006 – Tohono O'odham Nation Department of Health and Human Services (TODHHS) Director becomes aware of 10 recent cases of STD among youth, including 2 syphilis cases – attempts to learn more information from IHS
- January 2007 – IHS Infection Control Nurse notifies ADHS STD Control Program (STDP) of problems with STD case investigations and advises of additional syphilis cases
- January 2007 – STDP contacts Pima County STD Program to discuss syphilis cases
- January 2007 – STDP starts investigation of potential outbreak incidence

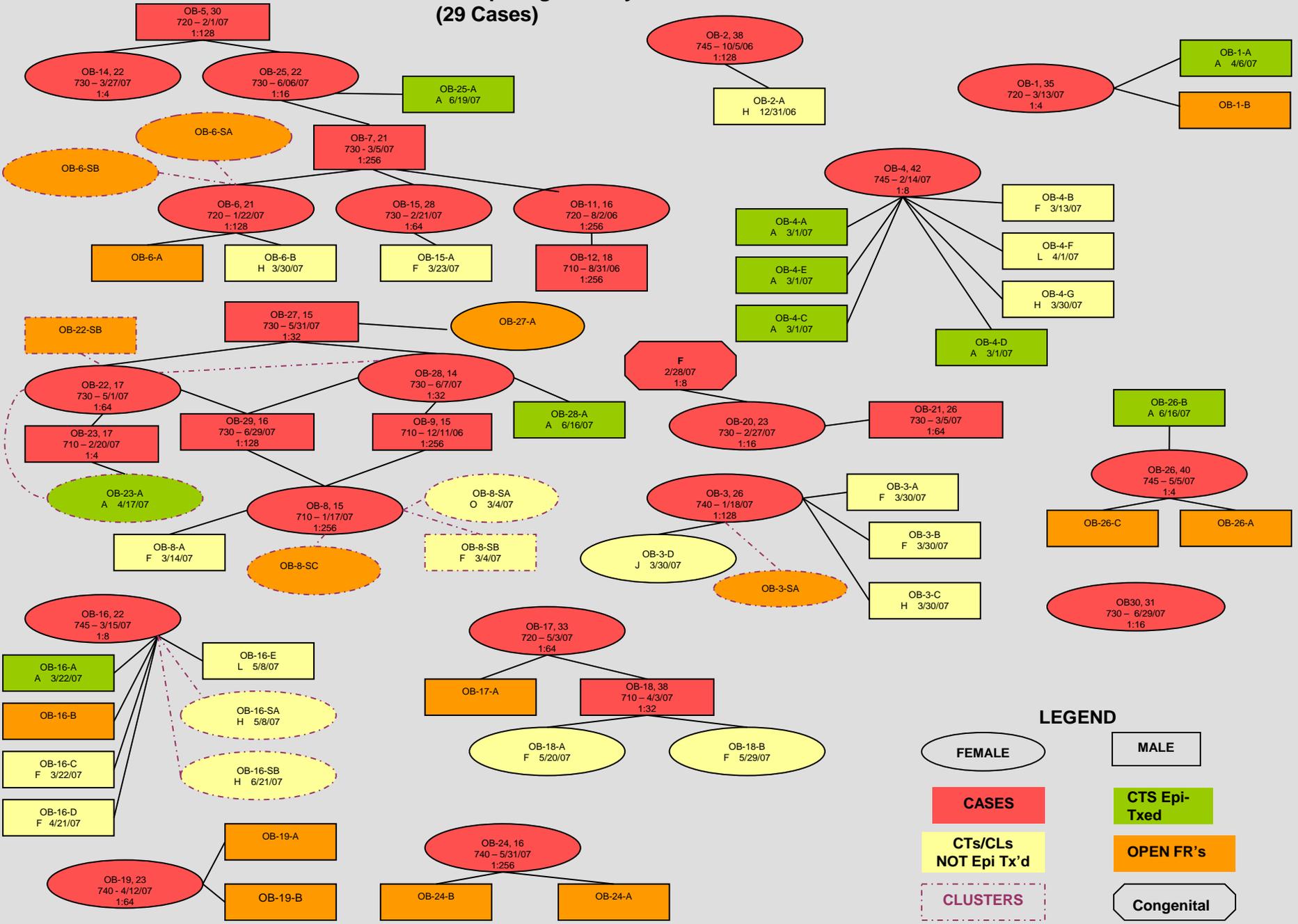
Challenges to Effective Response

- Jurisdictional issues (State, County, Sovereign Nation, International)
- Lack of effective communication between IHS Service Unit and the TODHHS and no protocol for data sharing
- Initial offer by ADHS to provide onsite investigation staff refused by TODHHS
- Lack of recognition of TODHHS as local health authority
- No communicable disease program (including STD) in IHS or TODHHS
- Vast geographical expanse
- Limited resources among all jurisdictions
- “Our blood is sacred”

Syphilis Outbreak Cases by Month Tested, August 2006 to December 2009



Outbreak Relationship Diagram July 2007 (29 Cases)



LEGEND

- FEMALE
- CASES
- CTS Epi-Txed
- CTs/CLs NOT Epi Tx'd
- OPEN FR's
- CLUSTERS
- MALE
- Congenital

Outbreak Response Partners

- Tohono O'odham Nation Legislative Council
- Tohono O'odham Department of Health & Human Services
- Tucson Area IHS and Sells Service Unit
- Pima County Health Department STD program
- Centers for Disease Control and Prevention (CDC)
- IHS National STD Program
- ADHS Bureau of Women's and Children's Health
- Intertribal Council of Arizona
- ADHS Office of Border Health

Outbreak Response Partners

- TON Department of Education
- TODHHS TB and HIV Programs
- TON Boys and Girls Club
- TON Police and Fire Departments
- TODHHS Recreation Department
- TON Utility Authority
- Adult and Juvenile Corrections
- KOHN –FM radio
- Tribal Youth Council

Outbreak Response

“Big Meeting”

- STDP presented outbreak epi data
- CDC Rapid Response Team presented initial findings of their assessment
- STDP/CDC presented recommendations for outbreak response
- Recommendations adopted
- “Core Group” established to direct response

“Matrix”

Recommendation	Agency Responsible	Contact	Timeline	Status
Obtain approval for communication materials	All			
Develop 1-page syphilis fact sheet	TON with input from IHS, CDC			
Print fact sheets and fliers	IHS/SSU & TODHS			
Send fact sheet out electronically to be widely disseminated via e-mail to exec dept., district managers, government workers, etc.	IHS/SSU & TODHS			
Talk to Basha's about putting fliers in to grocery bags	TON			
Talk to public utility about including fliers in billing	TON			
Talk to TON payroll about including fliers in pay stub mailing	TON			
Talk to post office about placing fliers in post office boxes	TON			
Post fliers at rec centers	TON			
Post fliers at Boys and Girl's Club	TON			
Post fliers at TO Community College	TON			
Post fliers at One-Stop	TON			
Post fliers at library	TON			
Post fliers at Tucson Indian Center	TON			

Outbreak Response Communications

- Frequent communication with IHS, TON, Pima County, ADHS, CDC
- Contact with border health officials and TON citizens in Mexico
- Health alerts to neighboring counties and tribes
- Press coverage: radio, newspaper
- STD information presentations to District Community and Recreation Centers

Outbreak Response

Case-Finding

- Universal syphilis screening of persons aged 12-55 years presenting for healthcare at IHS facilities
- Include comprehensive screen for GC, CT and HIV
- Triple screening of pregnant women
- Screening in adult and juvenile corrections facilities
- Outreach testing opportunities at popular community and sports events
- Door to door (targeted) screening and at house parties/dances
- School-based screening

Outbreak Response

Epi Case Management

- Rapid case investigation and partner follow-up
- Assign additional person to serve as First Line Supervisor over field operations
- Case management guidance/ review should be the responsibility of one designated individual.
- Provide office space at IHS for DIS activities and stock with appropriate case management documents
- File/house interview records at designated IHS office

Outbreak Response

Medical Management

- All referrals; contacts and clusters receive serology, exam and treatment
- Prophylactic treatment of syphilis contacts with penicillin
- Prophylactic treatment of clusters at time of exam
- Partner elicitation by medical providers
- Provider support of public health effort to notify partners
 - Alerting patients of DIS visit or call
 - Encouraging their cooperation with interview process
- Pursue untreated clusters for repeat serology and treatment

Outbreak Response Training and Capacity Building

- Train Community Health Representatives and Public Health Nurses on STD case investigation and partner services
- Assist TODHHS and IHS in developing STD Programs
- Assist TODHHS and IHS in developing STD surveillance systems
- Request peer counseling training for Youth Council
- Explore Other Training Opportunities In Community

Outbreak Response

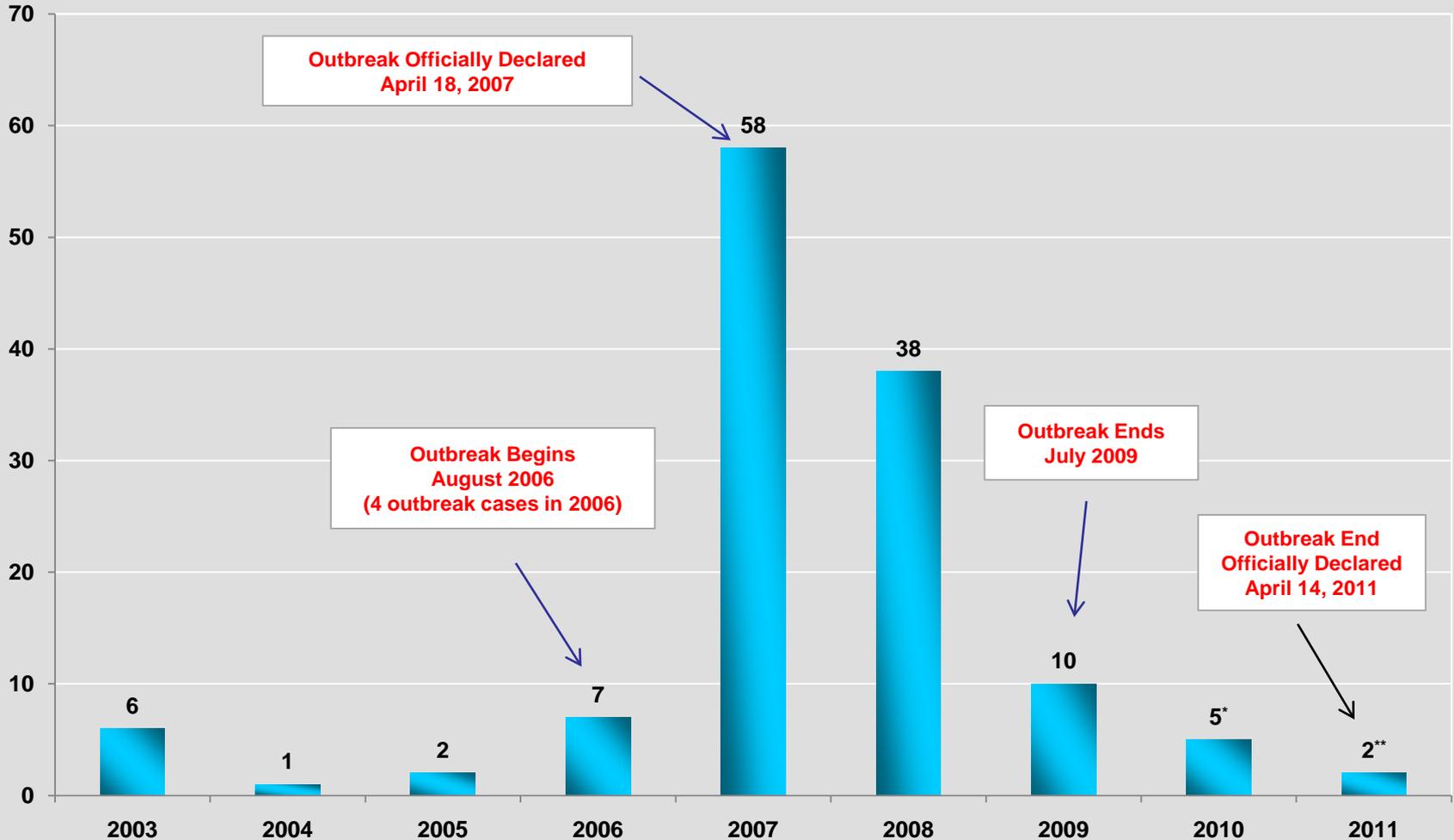
Health Promotions & Outreach

- Develop one page syphilis fact sheet for distribution
- Develop peer counseling through TON Youth Council
- Encourage continued/expansion STD Education/Training in schools
- Insure distribution of appropriate educational information and materials (e.g. stores, recreation centers, Waila dances)
- Billboard advertising

Outbreak Response Staffing

- Request commitment from TO Nation, IHS, PIMA Co./ ADHS to assign a minimum of two staff to serve as Disease Intervention Specialists for immediate training - committed through 12/07
- Request an additional CDC Public Health Advisor (PHA) and two additional PHA's for second 30 day rotation
- Utilize Community Health Representatives (CHRs) for education, client locating, transportation

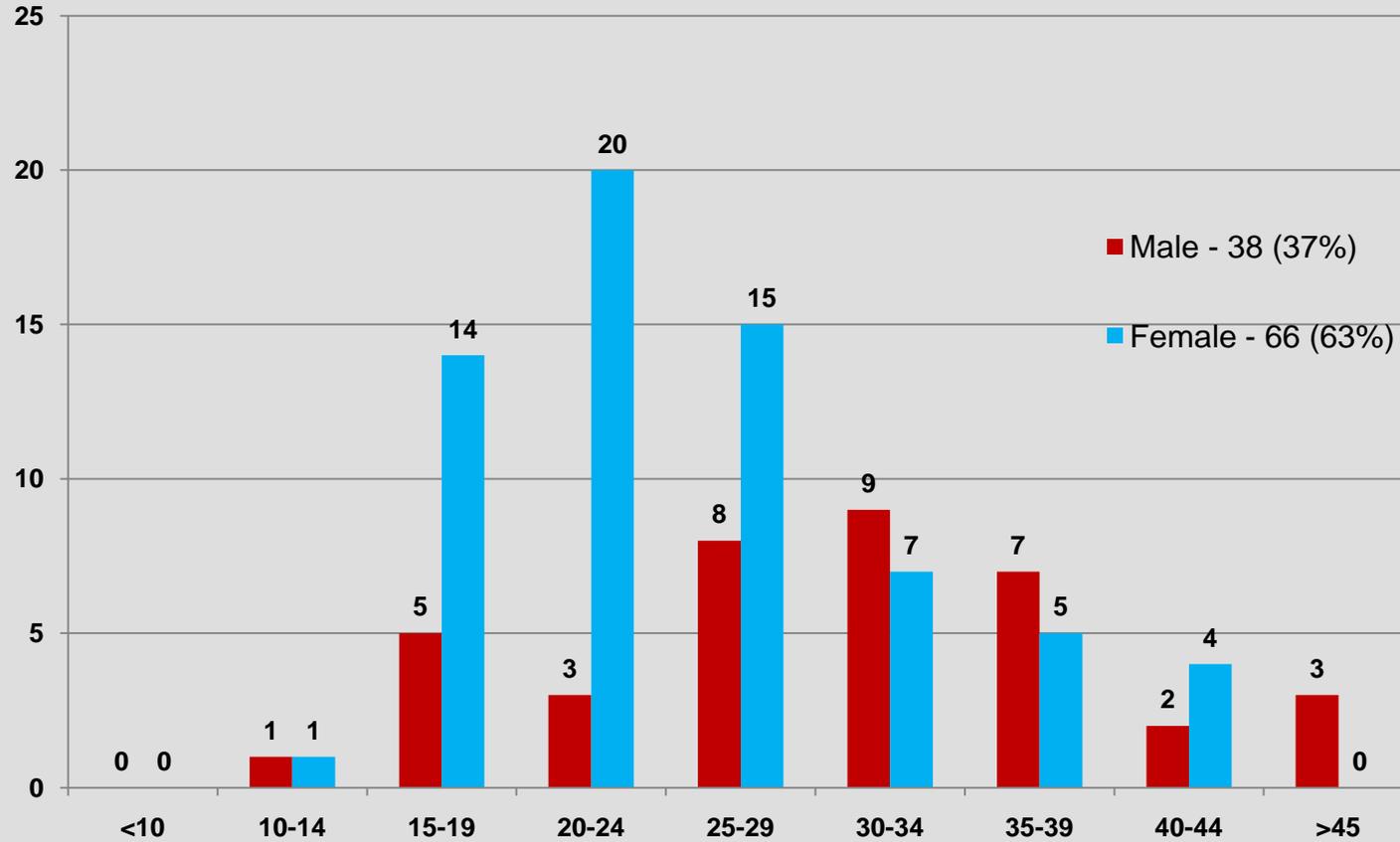
Tohono O'odham Outbreak Syphilis Cases by Year, 2003 to 2011



* Epidemiologic evidence from syphilis case investigations indicates that three (3) of the 2010 cases identified are related to the outbreak period August 2006 – July 2009.

** Epidemiologic evidence from syphilis case investigations indicates that one (1) of the 2011 cases identified is related to the outbreak period August 2006 – July 2009.

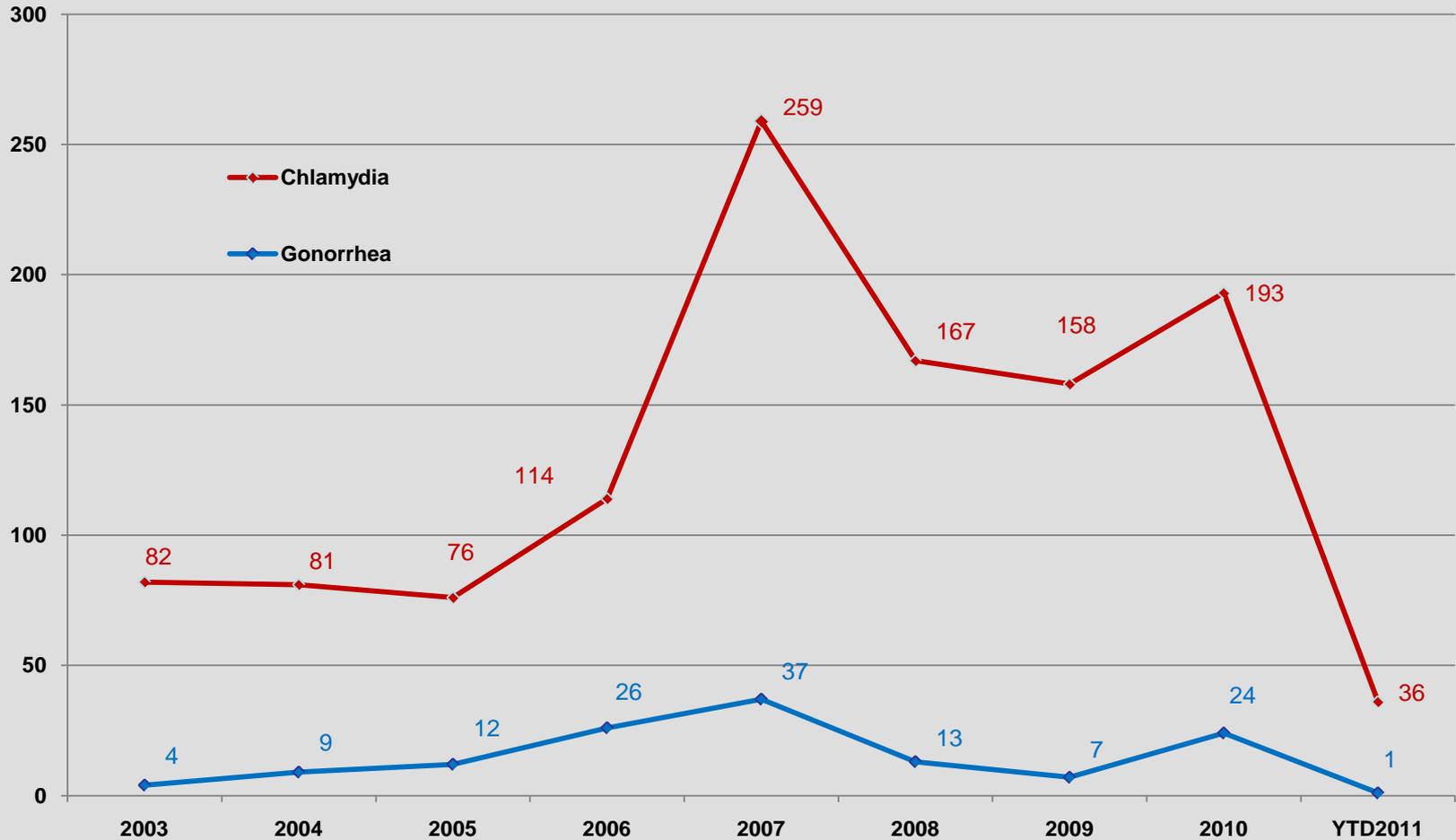
Syphilis Outbreak Cases by Age and Sex, Not Including Congenital Cases, August 2006 to July 2009



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Outbreak Related Chlamydia and Gonorrhea Cases by Year, 2003-2011



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Method of Case Detection (Adult Cases)

Screening		58 (56%)
	Hospital/Clinic	32 (55%)
	Community Outreach	3 (5%)
	School	3 (5%)
	Jail/Prison	10 (17%)
	Prenatal	7 (12%)
	Other Institutional	1 (2%)
	Delivery	2 (3%)
Self Referred		21 (20%)
Patient Referral		4 (4%)
HD Referral		19 (18%)
Cluster Related		2 (2%)

Tohono O'odham Legislative Council Resolution 11-150 (April 14, 2011)

“NOW, THEREFORE, BE IT RESOLVED that the Tohono O'odham Legislative Council:

1. Declares that the Sexually Transmitted Diseases outbreak that was declared on April 18, 2007 is over.
2. That the recommendations made by the core team and listed below are hereby adopted.
 - Universal STD screening continue to be offered at least once each year, or more frequently if indicated, to patients between the ages of twelve (12) and forty-five (45) at any clinic visit.
 - Annual screening to be conducted of the Nation's junior high and high schoolstudents.
 - Prevention education to be conducted by the Nation's Health and Human Services Department, the Indian Health Service and public Health Nursing.
 - Require prenatal syphilis screening at the first prenatal visit, again during the third trimester (26-32 weeks), and again at delivery.”

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Lessons Learned

- Support must be gained from a fully informed tribal leadership
- Build communicable disease program capacity and public health infrastructure
- Assure training for clinical staff, community health workers, and health agency staff
- Share technical assistance by state, county, and federal health agencies
- Provide comprehensive data/case information sharing among jurisdictions
- Implement comprehensive STD screening as part of routine health care
- Develop and maintain integrative and collaborative program relationships with wide range of partners

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