



Public Health Response to HIV Clusters and Outbreaks 201

2020 National Ryan White Conference on HIV Care and Treatment

August 12, 2020

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Vision: Healthy Communities, Healthy People



Disclosures

Susan Robilotto has no relevant financial or non-financial interests to disclose.

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Learning Outcomes

At the conclusion of this activity, participants will be able to:

1. Provide definitions for HIV cluster and HIV outbreak
2. Identify different methodologies for rapidly detecting increases in HIV incidence
3. Create local examples for responding to HIV clusters and outbreaks

Health Resources and Services Administration (HRSA)

Overview

- Supports more than 90 programs that provide health care to people who are geographically isolated, economically or medically vulnerable through grants and cooperative agreements to more than 3,000 awardees, including community and faith-based organizations, colleges and universities, hospitals, state, local, and tribal governments, and private entities
- Every year, HRSA programs serve tens of millions of people, including people with HIV/AIDS, pregnant women, mothers and their families, and those otherwise unable to access quality health care



HRSA's HIV/AIDS Bureau (HAB) Vision and Mission

Vision

Optimal HIV/AIDS care and treatment for all.

Mission

Provide leadership and resources to assure access to and retention in high quality, integrated care, and treatment services for vulnerable people with HIV/AIDS and their families.



HRSA's Ryan White HIV/AIDS Program

- Provides comprehensive system of HIV primary medical care, medications, and essential support services for low-income people with HIV
 - More than half of people with diagnosed HIV in the United States – nearly 519,000 people – receive care through the Ryan White HIV/AIDS Program (RWHAP)
 - Funds grants to states, cities/counties, and local community based organizations
 - Recipients determine service delivery and funding priorities based on local needs and planning process
- Payor of last resort statutory provision: RWHAP funds may not be used for services if another state or federal payer is available
- 87.1% of Ryan White HIV/AIDS Program clients were virally suppressed in 2018, exceeding national average of 62.7%



Source: HRSA. Ryan White HIV/AIDS Program Annual Client-Level Data Report 2018; CDC. HIV Surveillance Supplemental Report 2018;21(No. 4)



Overview of Public Health Response Institute

- Session 101: What is a cluster and why does it matter?
- **Session 201: Public health approach to addressing clusters and outbreaks – How does your organization fit into a response?**
- Session 301: Taking lessons learned from clusters and applying it in your system of care

Public Health Response to Clusters and Outbreaks 201

- **Overview of Session 101: What is an HIV cluster and why is it important?**
 - Susan Robilotto, DO, HRSA
- **Planning a response to an HIV cluster or outbreak**
 - R. Paul McClung, MD, LCDR (USPHS), Centers for Disease Control and Prevention (CDC)
- **Asset Mapping, Engaging Stakeholders, and Developing an Implementation Plan**
 - Susan Robilotto, DO, HRSA
- **Jurisdictional Perspective**
 - Dawn Fukuda, ScM, Massachusetts Department of Health



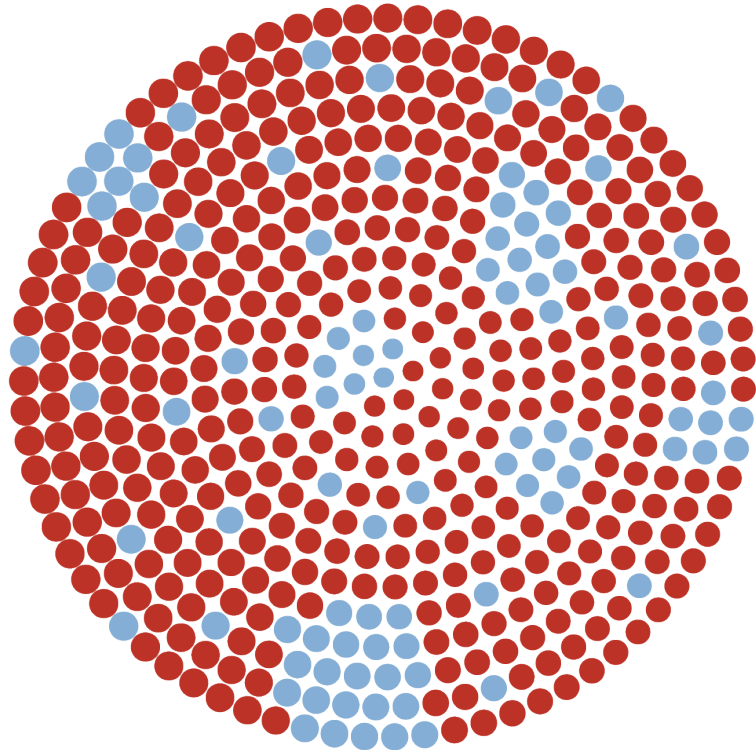
Recap of Session 101

Susan Robilotto, D.O.



HIV Is Transmitted Through Networks

Transmission is not uniform

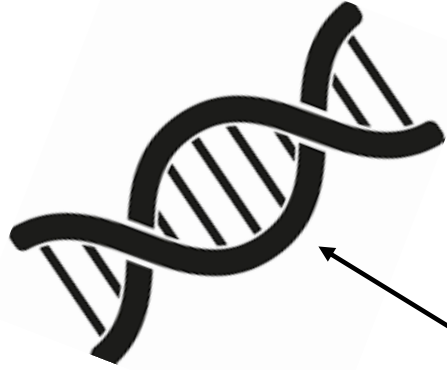


Identify networks in which HIV
is spreading quickly



Help people get into care and
prevent HIV

Molecular clusters



Oster AM, France AM *et al.*
JAIDS 2018
Oster AM *et al.* CROI 2020

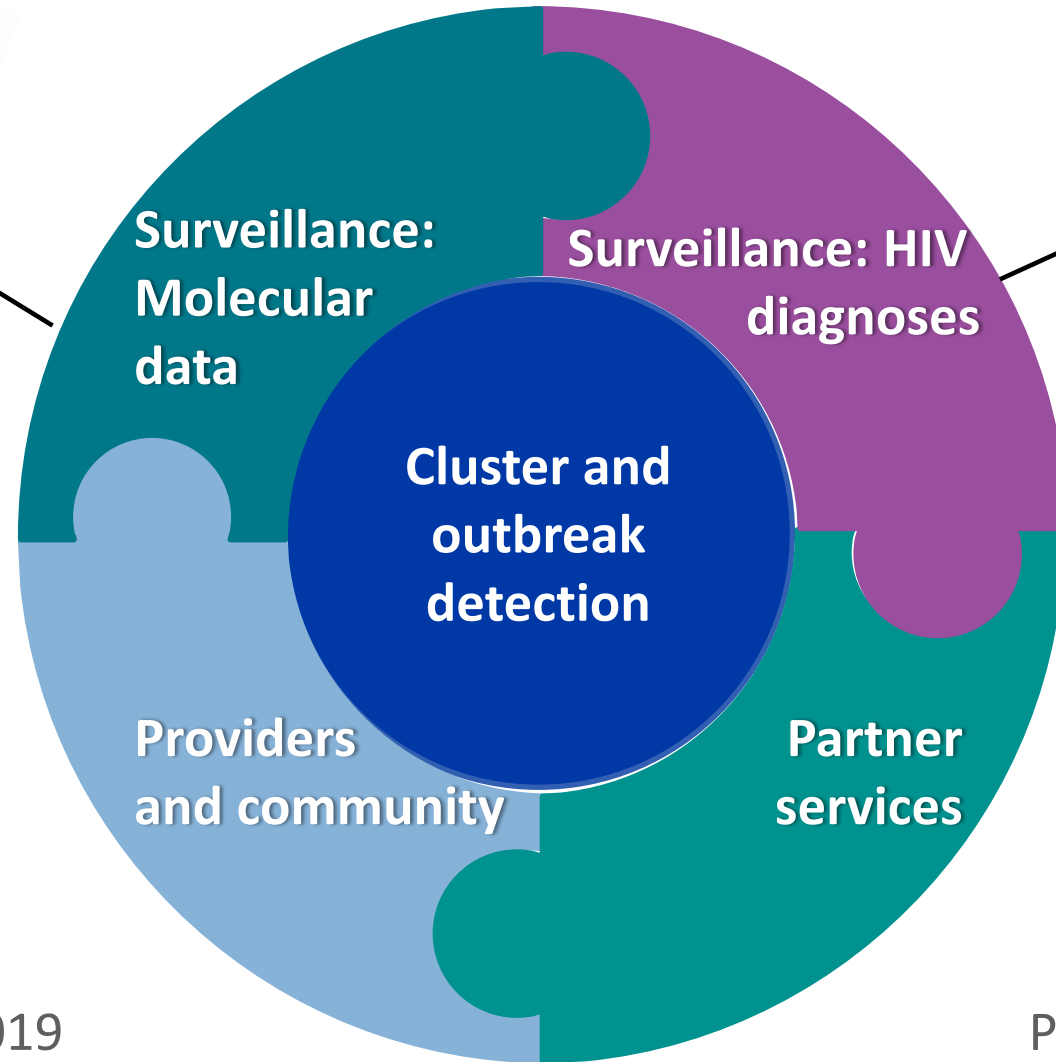
Time-space clusters



McClung RP *et al.* CROI 2020
Conyngham SC *et al.* NHPC 2019
Samoff E *et al.* AJPB 2020
Fitzmaurice A *et al.* EID 2019

Cranston K *et al.* MMWR 2019
Alpren C *et al.* AJPB 2019

Peters PJ *et al.* NEJM 2016
Golden MR *et al.* MMWR 2019



Clusters and Outbreaks

- Groups of people among whom there is suspected rapid transmission
- Can be detected using various approaches
- Range of concerning levels of transmission
 - Clusters and outbreaks exist on the same spectrum
- Response to clusters and outbreaks should be guided by
 - Local epidemiology
 - Context
 - Level of concern for ongoing transmission



Benefits of Cluster and Outbreak Detection and Response

- Interrupt transmission of HIV
- Engage populations that are difficult to reach
- Better understand barriers to prevention and HIV treatment and care
- Improve HIV prevention and care services
- Reach goals of Ending the HIV Epidemic: A Plan for America



What Does it Look Like?

- Detailed descriptions of clusters
- Cluster response is a data-to-care activity
- Integrated plan
- Integrated response
- Integrated funding

Public Health Response to HIV Clusters and Outbreaks 201

R. Paul McClung, MD, LCDR (USPHS)

Division of HIV/AIDS Prevention, CDC

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**So you detected an HIV cluster
(or outbreak).**

What do you do now??

Responding to an HIV cluster or outbreak

1. Carefully consider the affected communities
2. Identify barriers or gaps in HIV prevention and care services
3. Plan and prioritize interventions to address these gaps



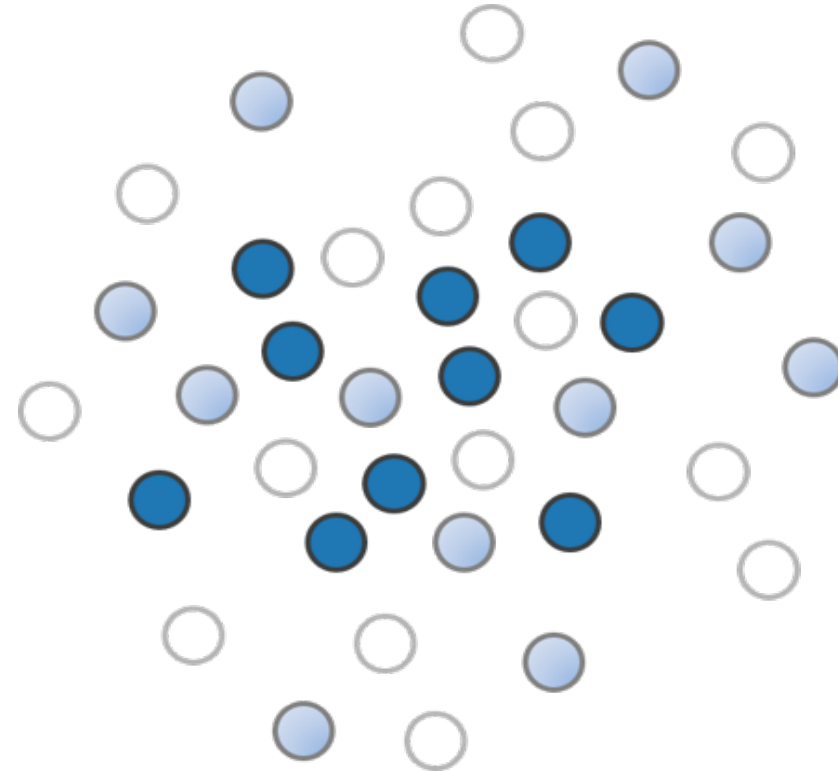
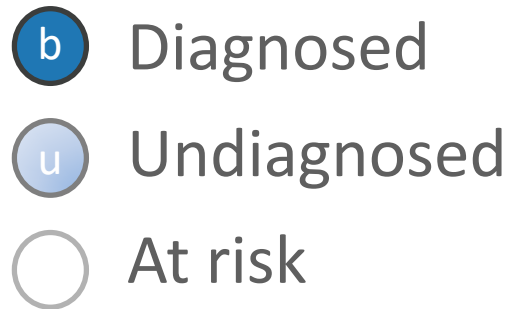
1. Carefully consider the affected communities

- Review available data
 - Partner services: information about behaviors, risks, and networks
 - HIV surveillance: diagnosis, risk factor information
 - CAREWare: Clinical care information
 - Sexually transmitted infections or other co-infection
 - Medical records and pharmacy history
- Identify key themes
 - Geography, timeline, venues, behaviors, etc.
 - What are the characteristics of the network(s)?
 - Are multiple communities affected?



1. Carefully consider the affected communities

- Your case count is a fraction of the total cluster or outbreak
- Networks include people with and without HIV



1. Carefully consider the affected communities

- Consider challenges and barriers faced by these communities
 - Structural barriers and inequity
 - Discrimination and marginalization
 - Past experiences working with service organizations and government
- Consult with others inside and outside your organization to develop your best understanding of the cluster or outbreak
- Assess urgency and priority of the cluster



2. Identify barriers or gaps in HIV prevention and care services

- What services are currently provided to the affected communities?
 - Programming within your organization
 - Other organizations working with the community
 - All relevant services: HIV testing, PrEP, syringe services, social services, etc
- Engage other programs and partners to identify gaps
 - Are these new gaps or known challenges?
 - Who knows these communities best?



2. Identify barriers or gaps in HIV prevention and care services

- Talk to people in the affected communities
 - Work with established community groups or reach out to new ones
 - Engage key individuals in the communities
 - What do they see? Listen to their needs and challenges
- Gather more information when needed
 - Qualitative interviews
 - Additional partner services interview questions
 - Medical chart review



3. Plan and prioritize interventions to address these gaps

- Act on what you've learned
 - Focus on the most critical gaps and barriers
 - Timing matters! How will you prevent new cases now?
 - Some program gaps will take time to address
- Set measurable goals
 - How will you know you are succeeding?
 - Work backwards: plan interventions to meet your goals
- Don't wait to act

“Big Picture” Goals

- Prevent new HIV infections
- Provide support to people with HIV or at risk for HIV

Ending the HIV Epidemic: A Plan for America

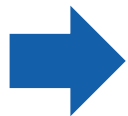


Diagnose all people with HIV as early as possible.

Treat people with HIV rapidly and effectively to reach sustained viral suppression.



Prevent new HIV transmissions by using proven interventions, including pre-exposure prophylaxis (PrEP) and syringe services programs (SSPs).



Respond quickly to potential HIV outbreaks to get needed prevention and treatment services to people who need them.

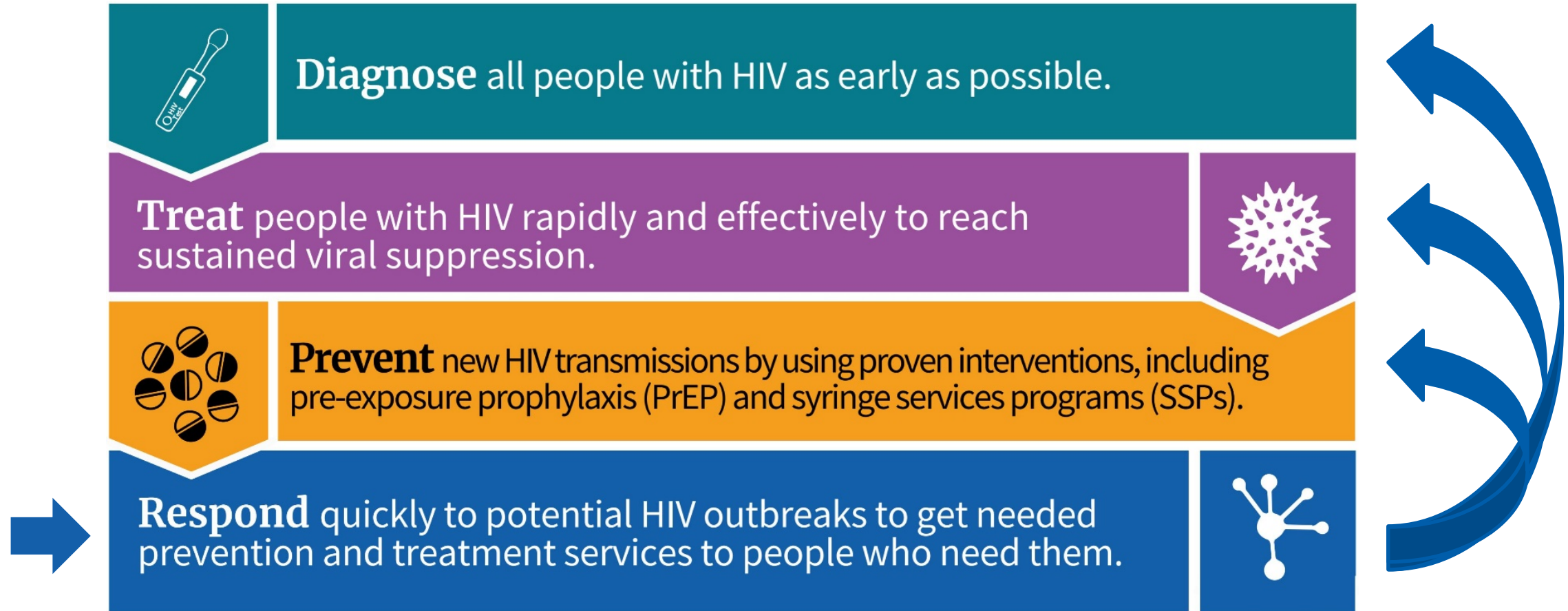


GOAL:

75%
reduction
in new HIV
infections
in 5 years
and at least
90%
reduction
in 10 years.



Response directs interventions from the other pillars





Diagnose all people with HIV as early as possible.

- Improve access and uptake of HIV testing among people at highest risk of HIV infection
- Improve testing where affected communities already access services
 - Clinics, emergency departments, pharmacies
 - Community-based organizations
- Improve outreach
 - Intensify partner services
 - Network-driven recruitment
 - Mobile or venue-based
 - Home or self-testing

Risk network approaches to locating undiagnosed HIV cases in Odessa, Ukraine

Approach	New HIV diagnoses (% positivity)
Intensive contact tracing	183/1,252 (14.6%)
Respondent-driven sampling (RDS)	20/400 (5.0%)
Outreach testing sites	331/13,936 (2.4%)

Treat people with HIV rapidly and effectively to reach sustained viral suppression.



- Rapid linkage to HIV care and ART initiation
- Care coordination and case management
- Improve delivery of key social services (e.g. housing, behavioral health)
- Improve retention in care and viral suppression
 - Similar to Data to Care (D2C), but more intensive
 - Individualized approach to barriers to care
 - Opportunity for collaboration between organizations

Treat people with HIV rapidly and effectively to reach sustained viral suppression.



(Continued)

- Helping known cluster members achieve viral suppression is essential
- However, HIV transmission can continue due to undiagnosed HIV

HIV TRANSMISSIONS IN 2016		
% OF PEOPLE WITH HIV	STATUS OF CARE	ACCOUNTED FOR X% OF NEW TRANSMISSIONS*
15%	didn't know they had HIV	38%
23%	knew they had HIV but weren't in care	43%
11%	in care but not virally suppressed	20%
51%	taking HIV medicine and virally suppressed	0%

Values do not equal 100% due to rounding. Source: Vital Signs, 2019



Prevent new HIV transmissions by using proven interventions, including pre-exposure prophylaxis (PrEP) and syringe services programs (SSPs).

- Putting evidence-based prevention tools into the hands of those who need them most
- Set measurable goals based on your understanding of the population at risk

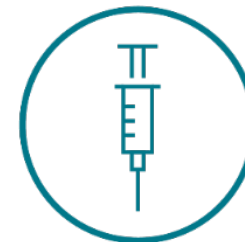
PrEP

- ❖ New providers or locations
- ❖ Improve PrEP messaging
- ❖ New outreach approaches
- ❖ Improve initiation, persistence



SSPs

- ❖ Expanded hours or locations
- ❖ Acceptability of services
- ❖ Peer-driven recruitment or education interventions



Respond quickly to potential HIV outbreaks to get needed prevention and treatment services to people who need them.



- Coordination of response activities within and between organizations
 - Use of a committee, working group, or incident command structure
 - HIV cluster and outbreak response is multidisciplinary
- Develop a comprehensive communication plan
 - Improve awareness and identify additional collaboration opportunities
 - Community engagement is an ongoing activity
- Gather, analyze, visualize data effectively
 - Monitor progress toward your goals

Example audiences

- ❖ **Affected communities**
- ❖ Healthcare
- ❖ Community organizations
- ❖ General public
- ❖ Other government agencies

3. Plan and prioritize interventions to address these gaps

- Implement, reassess, adjust: continuous quality improvement cycle
- Challenge: funding new activities or new collaborations rapidly
 - Strategy and creativity needed!
 - Increase flexibility of your funding options before an outbreak occurs
- Prioritize interventions: Assess impact and feasibility
- Responses vary in size and scope of activities



Example 1: Identifying and Addressing Gaps in Prevention: San Antonio, Texas

Molecular cluster members:

n=24



Sexual or needle sharing partners of 24 molecular cluster members or their partners:

n=87



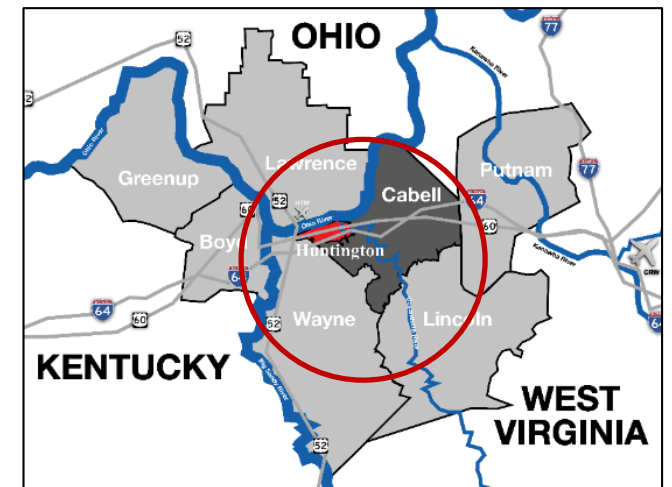
Example 1 (continued): Identifying and Addressing Gaps in Prevention

- Provider alert on HIV diagnostic testing and acute infection
- Provider alert on PrEP
- Funds redirected to scale up PrEP
- New coalition of people with HIV, providers, and public health → sign-on as a Fast Track City
 - Efforts to reduce stigma, improve care, eliminate new cases of HIV



Example 2: Rapid response to HIV transmission among people who inject drugs, Cabell County, WV

- Area severely affected by the opioid crisis (estimated 1,900 PWID¹)
 - Previously low burden of HIV (average of 2 cases per year among PWID)
- Restrictions placed on the SSP had severely limited access
- Goal: Rapidly increase SSP enrollment and use to pre-restriction levels
 - Removed restrictions
 - Increase referrals: Peers and community partners
 - Social network strategy: peer recruitment
 - Increased enrollment from 350 to nearly 900
- Other interventions²: PrEP, testing, care coordination



¹Allen et al. AJP 2019; ²Atkins et al, MMWR 2020 and McClung et al, CROI 2020

Cluster and Outbreak Detection and Response Can Help Bring the Nation Closer to Ending the HIV Epidemic

- Cluster and outbreak detection allow us to identify when HIV is spreading quickly.
- A cluster or outbreak indicates gaps in our prevention services that need to be addressed to improve access to services and stop transmission.
- Cluster and outbreak response use standard prevention approaches in a more focused way.



Asset Mapping, Engaging Stakeholders, and Developing an Implementation Plan

Dr. Susan Robilotto, HRSA



Asset Mapping

Who

What

Where



Who

- Who is involved
- Who needs to be involved
 - Local
 - Regional
 - Federal
- Who could be involved
 - Local government
 - Law enforcement



What

- Testing
- HIV care and treatment
- Other medical care
 - Behavioral health
 - Sexually transmitted infection treatment
 - Hepatitis C treatment
- Medical case management
- Health care coverage
- Transportation
- Food
- Housing



Where

- Accessible
- Non-threatening
- Convenient
- Other services to support location of care and treatment

Engaging Stakeholders

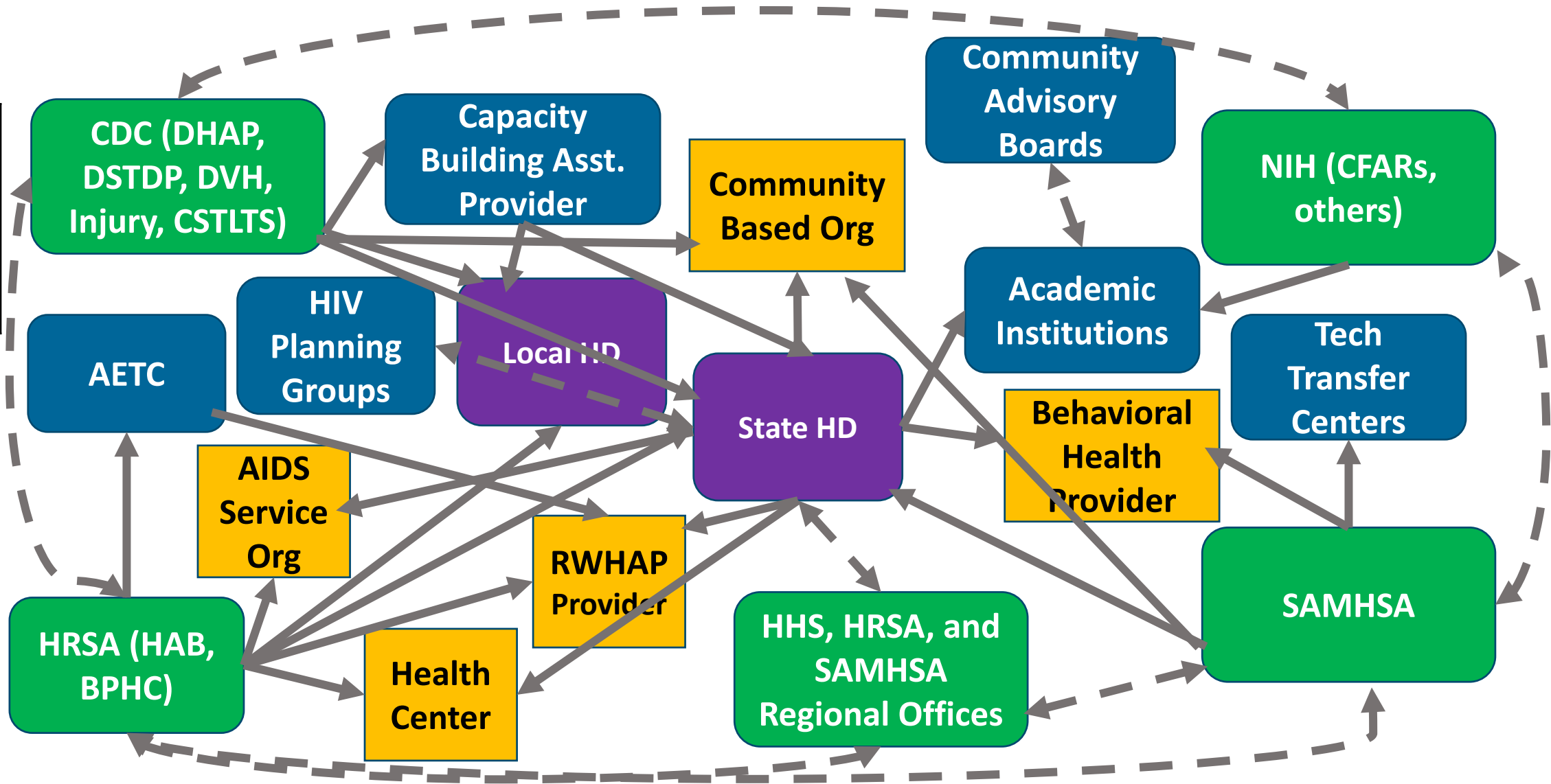
Improving the system through collaboration



Partners and Relationships for Organizations Involved in HIV Responses



Other potential partners: IHS, PACE Program, HUD



• Funding Relationship →

← Collaborative Relationship →



Developing an Implementation Plan

Putting the pieces together



Implementation Plan

- Use asset mapping to identify system strengths and gaps
- Know your role in the response
- Engage a variety of stakeholders based on needs of community
- Include a communication plan
 - Establish internal and external communication
 - Identify lead for each stakeholder

Taking action

- Develop a plan before a cluster or outbreak
 - Adjust based on population, circumstances
 - Know available and potential resources
 - Engage affected communities early
- Know available and potential data sources
 - Use benchmarks to:
 - ✓ Drive decision making
 - ✓ Engage stakeholders
 - ✓ Inform public





VIRTUAL
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HIV CARE & TREATMENT

HIV Outbreak Among PWID in Massachusetts: Mapping Assets to Implement a Public Health Response

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Learning Outcomes



At the conclusion of this activity, participants will be able to:

1. Identify multiple types of data to consider when responding to an HIV outbreak in PWID
2. Inventory strategic capacities and action steps to prepare for potential HIV outbreaks in PWID
3. Apply lessons from Massachusetts to your own organization, community, or jurisdiction

Statewide HIV Outbreak in PWID



- Initial outbreak of HIV in PWID was first detected in northeastern Massachusetts (n=129 cases), but there were signals that preceded new infections:
 - Hepatitis C infections in young PWID under 30 years
 - Fatal and non-fatal overdoses
 - Changes in drug use patterns
 - Homelessness
 - Incarceration
 - Syphilis in females/congenital syphilis
- Clinical Advisory: Statewide HIV outbreak declared in February 2019, highlighting impacts in Boston and Worcester, in addition to Lawrence and Lowell
 - <https://www.mass.gov/lists/hiv-treatment-guidelines-and-clinical-advisories>

Building the Response



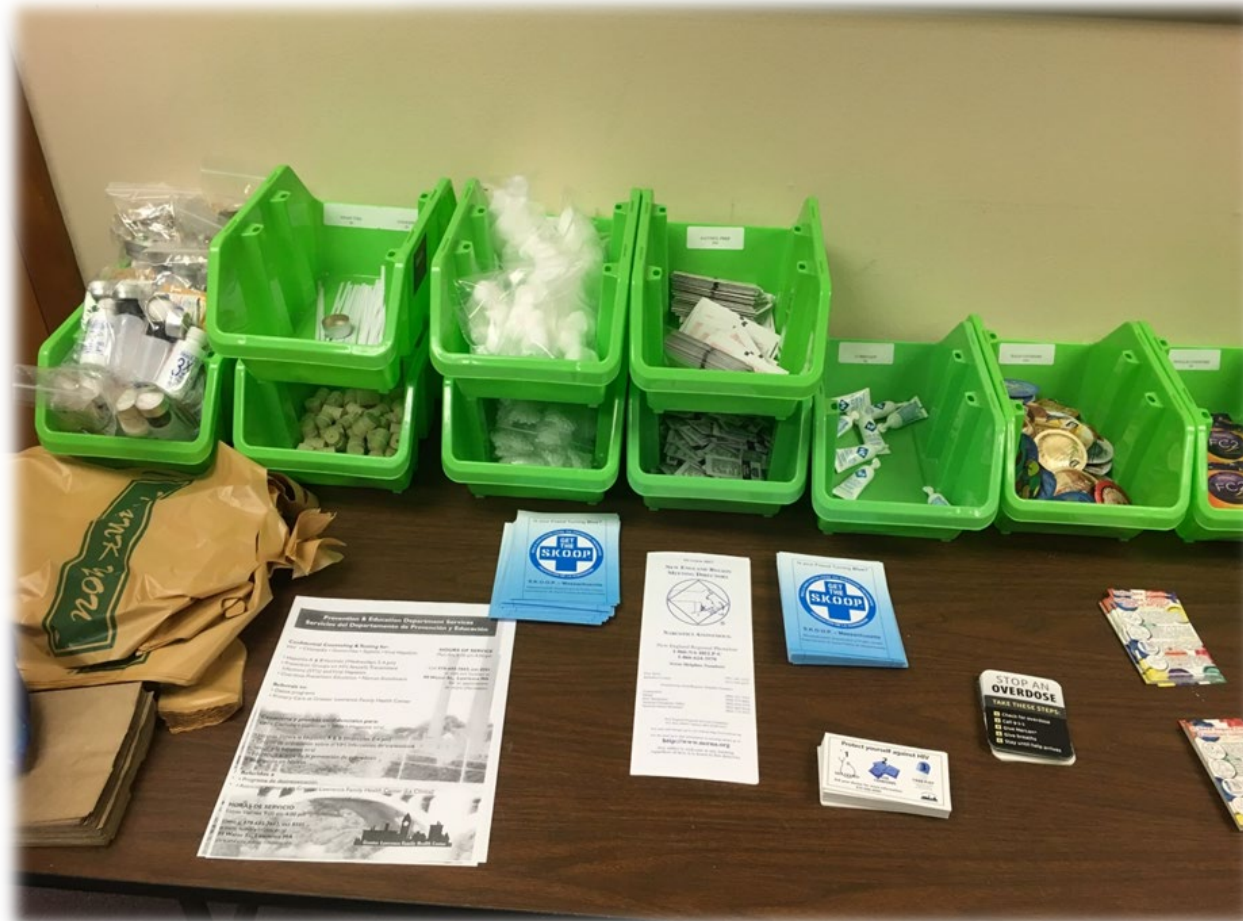
- Examine the data: surveillance, socioeconomic, local intelligence
- Use molecular HIV surveillance capacity
- Partner with local Health Department/Board of Health
- Hold stakeholder engagement calls earlier than you think you should
- Convene specialized provider consultations
- Map assets and anticipated barriers/challenges (people, payment, and politics)
- Prepare the field epidemiologist team
- Talk with the people you aim to serve (CDC Epi Aid, NHBS, stakeholder interviews)

Services, though present were insufficient to need

Limited SSP
availability

Need for more
testing and linkage
services

Inadequate access
to medication
assisted treatment
(MAT)



Interrupted HIV care
reduces viral
suppression

Lack of knowledge of
HIV outbreak

Limited knowledge of
harm reduction
strategies

Need for additional
housing supports

Plan with Urgency



- Ramp up (Ab/Ag) HIV testing services (ideally HIV/HCV/syphilis)
- Deploy specialized linkage to care supports (especially for PWID diagnosed in the acute phase of HIV infection)
- Expedite ADAP approval for new/re-engaged HIV diagnoses
- Establish rapid access points for nPEP and PrEP, including financial assistance (PEP/PrEP DAP)
- Assure contact tracing and partner services capacity
- Advocate/Expand/Enhance Syringe Service Programs
- Build shelter security for impacted populations (not just housing)

PROTECT YOURSELF

Get Tested for HIV, Hep C, and STDs.

- Getting tested helps you take care of yourself and get the care you need.



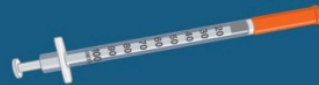
Get care and support.

- Hep C and many STDs are cureable. HIV and other STDs are treatable.
- Talk to program staff about lowering risks.
- Call 800-327-5050 to talk about substance use treatment options.



Use new needles, cookers, cottons, and water every time.

- These are one and done items. Reusing any of these items can cause infections.
- Use new needles for every drug, steroid, hormone, and silicone shot.
- Avoid licking needles.



Keep pipes, pipe covers, straws, and the rest of your works to yourself.

- Mark them so you know they are yours.
- Sharing works can cause infections.



Make an overdose safety plan.

- Avoid using alone. If you do, let someone know or be where they can find you.
- Put Narcan® out next to you.
- Do a tester shot. Start low and go slow.



Take care of your sexual health.

- Make a safety plan when going on dates.
- Use condoms and/or lube as often as possible.
- Ask about PrEP and PEP pills to prevent HIV.



**Use your own needles and works.
Get tested. Get treated.**

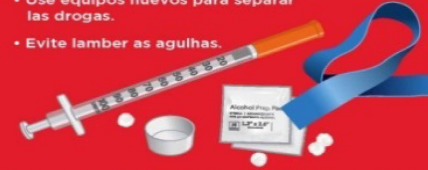
HN6502 English

Massachusetts
Department
of Public Health



PROTEJA SEU SANGUE

- Use agulhas novas para cada injeção de droga, esteroide, hormônio e silicone.
- Sempre use lenços com álcool ("wipes"), algodões, "cookers" (colheres, tampas, etc.) novos e água limpa.
- Marque e guarde seus instrumentos de modo que sejam para seu uso exclusivo.
- Use equipamentos novos para dividir as drogas.
- Use equipos nuevos para separar las drogas.
- Evite lamber as agulhas.



Use seus próprios instrumentos e agulhas. Faça seus testes. Siga seu tratamento.

HN6505 Portuguese



PROTECCIÓN DEL CUERPO

- Elabore un plan de seguridad cuando tenga citas de pareja.
- Use preservativos y/o lubricante tan a menudo como sea posible.
- Si no usa preservativos, use más lubricante.
- Pregunte sobre píldoras de PrEP y PEP para prevenir el VIH.
- Hágase análisis para la detección del VIH y enfermedades de transmisión sexual con frecuencia y reciba tratamiento si es necesario.



Use sus propios agujas y utensilios. Hágase análisis. Reciba tratamiento.

HN6513 Spanish



PROTECCIÓN DEL HÍGADO

- Siempre use agujas, quemadores y algodones nuevos, así como agua limpia.
- Póngase las vacunas contra la hepatitis A y B.
- Pregunte sobre la cura de la hepatitis C.
- Intente reducir la cantidad de alcohol que consume.



Use sus propias agujas y utensilios. Hágase análisis. Reciba tratamiento.

HN6516 Spanish



PROTEJA SEU BOCA E NARIZ

- Use seus próprios cachimbos para fumar.
- Use uma tampa no cachimbo.
- Beba muita água ou suco.
- Use protetor labial com frequência.
- Use seus próprios canudos para cheirar.



Use seus próprios instrumentos e agulhas. Faça seus testes. Siga seu tratamento.

HN6509 Portuguese



PROTECT YOURSELF



PROTECT YOURSELF

- Use your own needles, pipe covers, and smoking equipment.
- Get the Hep A and Hep B vaccine shot.
- Use lube and condoms.
- Avoid using alone and get Narcan® out next to you.

PROTECT YOUR MOUTH & NOSE



- Use your own smoking pipes.
- Drink lots of water or juice.
- Use your own smoking straws.

PROTECT YOUR BODY



- Make a safety plan when going on dates.
- Use condoms and/or lube as often as possible.
- If you don't use condoms, use extra lube.
- Ask about PrEP and PEP pills to prevent HIV and STD.
- Get tested for HIV and STD regularly.

PROTECT YOUR LIVER



- Use new needles, cookers, cottons, and water every time.
- Get vaccinated for Hep A and Hep B.
- Ask about how to get cured for Hep C.
- Try to reduce the amount of alcohol you drink.

PROTECT YOUR BLOOD



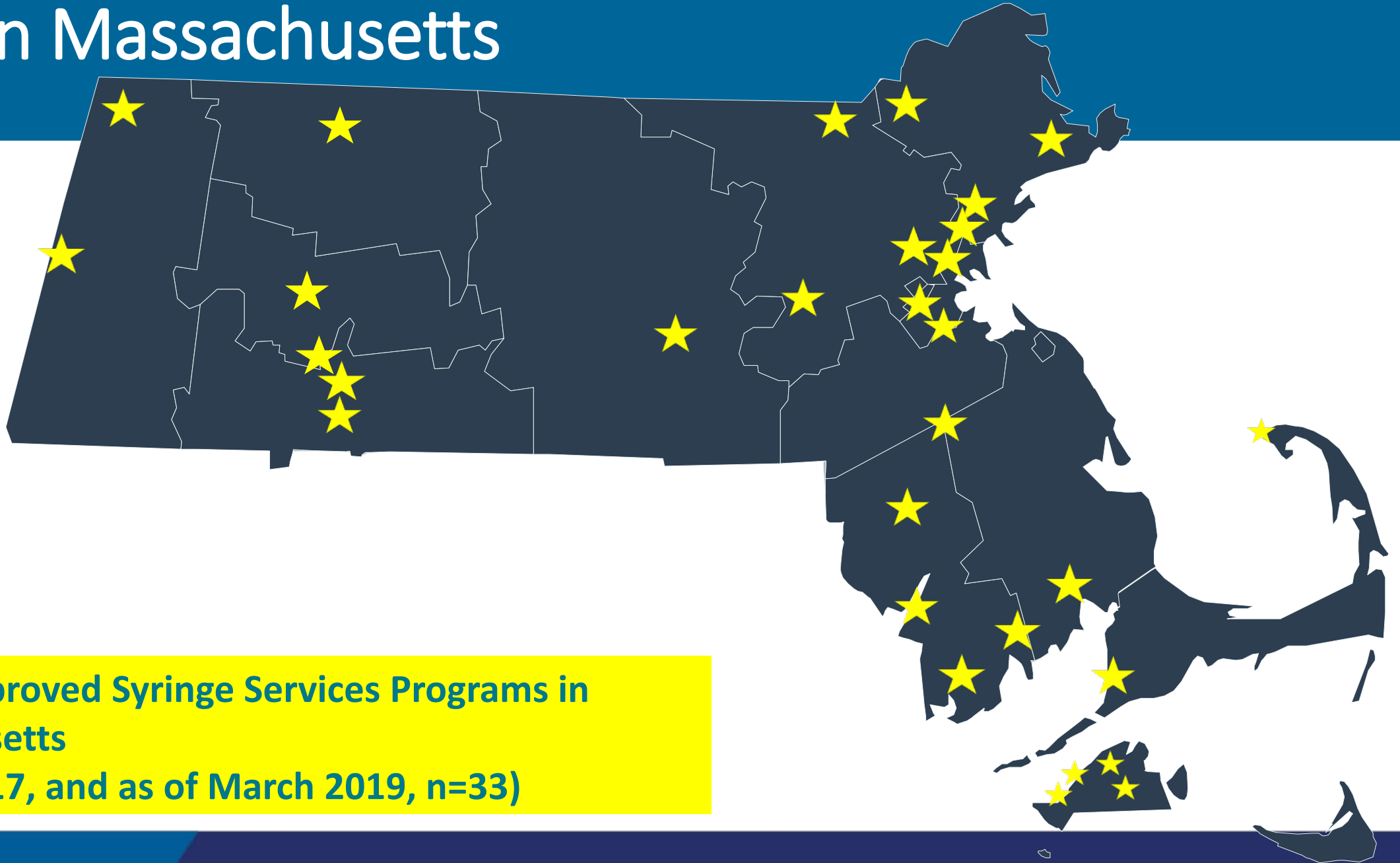
- Use new needles for every drug, steroid, hormone, and silicone shot.
- Use new cottons, cookers, and pipe covers.
- Ask about how to get cured for Hep C.
- Try to reduce the amount of alcohol you drink.

KNOW THE RISKS



- All drugs that blood gets into your body you might get infections like HIV and Hep C.
- Infections can be passed by sharing needles and other works for injecting, smoking, or snorting.
- Sharing cookers or pipe covers can get you infected.
- The best way to prevent any infections is to use clean, new needles, cookers, and pipe covers.
- Drink, use less alcohol, and get tested for other liver or STD.

SSPs in Massachusetts



**Locally approved Syringe Services Programs in
Massachusetts
(n=5 in 2017, and as of March 2019, n=33)**

Outcomes and Lessons Learned



- Levels of new HIV infections in PWID in the northeast have declined to pre-outbreak levels; evidence of slowing in other areas
 - ***And yet, overall 14% of recent infections between 2016-2018 were attributed to IDU (up from 6%-8% historically)***
- Create a rapid response protocol to acute infections in PWID
- Build capacity for Ag/Ab HIV testing
- Molecular surveillance is an significant asset
- Expand field-based presence for public health activities—Field Epi capacity doubled in NE region
- Ask for help - Massachusetts benefited from multiple CDC Epi Aid collaborations
- Consult stakeholders constantly
- Build on the urgency to expand responsive services

Questions?



Thank you

Contact Information

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