

Continuity of Care for HIV after a Disaster

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Continuity of Care for HIV after a Disaster

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Learning Objectives

Identify the potential impact of natural disasters and other emergencies on people with HIV and HIV care continuity.

Explore strategies for facilitating retention in HIV treatment during and after disasters.

Review from First Presentation:



Disasters can be natural (hurricane, earthquake etc.) or manmade (train accident, terrorist attack etc.).



Disasters are increasing, 5-fold over the past 50 years.



Many factors lead to infectious disease outbreaks after a disaster.



People with HIV have an increased risk of infections, due to immune system vulnerability, negative assumptions, and comorbidities.



Planning and preparation in your clinic can mitigate these risks.

Reasons for Infectious Disease Outbreaks after a Disaster

- Disruption of healthcare infrastructure
- Poor water, sanitation, and hygiene
- Population displacement
- Poor housing/overcrowded shelters
- Vector behavior change
- Collapse of healthcare facilities and systems
- Disruption of surveillance and health programs
- Low levels of immunity of vaccine preventable diseases or insufficient vaccine coverage

1. Charnley GEC, *et al.* *BMJ Open* 2020;10:e039608.
2. Kouadio IK *et al.* *Expert Rev. Anti Infect. Ther.* 10(1), 95–104 (2012).

What are the immediate impacts of disasters to the healthcare system?

- Physical damage to the infrastructure resulting in inoperable facilities
- A surge of demand for acute injuries and preexisting conditions exceeding capacity, resulting in increased wait times and lower quality care
 - Increase in hospital admissions for the next 30 days (4% in older people)⁽¹⁾
- Disruption of supply chains
 - Shortages of medications, supplies
- Logistical challenges
 - Care delayed and disrupted due to damaged roads, lack of power, disrupted communication

1. Bell SA et al. All-Cause Hospital Admissions Among Older Adults After a Natural Disaster. *Ann Emerg Med.* 2018;71(6):746-754.

What are the immediate impacts of disasters on health?

- Increased infectious disease risks
 - Respiratory, diarrheal, and skin infections
- Exacerbation of chronic conditions (such as HIV)
 - Stress can exacerbate cardiovascular risk, glucose control, immune system
 - Air quality can impact people with asthma and chronic obstructive pulmonary disease (COPD)
 - Lack of access to needed medicines
 - Missed dialysis sessions, chemotherapy, follow-up visits due to closures
- Mental health impacts
 - Stress and negative experiences can lead to an increase in anxiety, depression, and post-traumatic stress disorder (PTSD)

How do these impacts affect people with HIV and HIV care continuity?

Disruption of health systems and clinic operations

Antiretroviral therapy (ART) interruptions and viral rebound

Medical record loss and fragmentation of care

Mental health deterioration leading to additional challenges

Laboratory disruptions (VL, CD4, resistance testing)

Increased vulnerability and risky behaviors

Financial and insurance instability

Collapse of HIV Prevention Services

How do these impacts affect
people with HIV and HIV care continuity?

#1 Disruption of health systems and clinic operations



Closures or reduced clinic hours resulting in missed follow-up visits



Missed injections (ART, pre-exposure prophylaxis [PrEP], vaccines, sexually transmitted infection (STI) treatment)



Unable to get refills, missed medications



Decreased provider availability

Real World Examples:

#1 Disruption of health systems and clinic operations

- In 2020, in 238 HIV care sites across the world, 76% reported at least one negative impact on clinic operations.
 - Negative impacts included:
 - the reconfiguration of space to provide health emergency-related services (52%)
 - reduced provider availability because of illness, self-isolation, or quarantine (39%)
 - reduced hours/days for the provision of HIV services (26%)
 - interruptions in medical record-keeping or data entry (21%)

Real World Examples:

#1 Disruption of health systems and clinic operations



During Hurricane Sandy, in a survey of 31 HIV/STD providers, 84% had services and outreach disrupted.



During Hurricane Katrina, the Charity Hospital HIV clinic (HIV Outpatient Program) was closed for 3 months; a temporary location an hour away was opened after one month.

1. Vacca K et al. Experiences of HIV/STD Providers in New York State During Hurricane Sandy: Strengths, Challenges, and Recommendations. *Dis Med Public Health Prep.* 2020;15(6):691-6.
2. Infectious Disease Section, LSU. Eight Months Later: Hurricane Katrina Aftermath Challenges Facing the Infectious Diseases Section of Louisiana State University Health Sciences Center. *CID* 2006;43:485-9.

How do these impacts affect
People with HIV and HIV care continuity?

#2 ART interruptions and viral rebound



Disasters frequently disrupt access to ART by closing clinics, interrupting supply chains, and displacing patients.



Treatment interruptions rapidly raise viral load within as little as days to weeks, increasing risk of morbidity, mortality, and drug resistance.



Elevated viral loads also increase inflammation and the risk of other diseases, cardiovascular, cancer, infections, etc.



Elevated viral loads can result in transmission to others (sexual partners, mother to child, needle sharing partners).

Real World Examples:

#2 ART interruptions and viral rebound

- After Hurricane Ida, the Office of Health Policy and AIDS Funding New Orleans EMA, Part A Administrator performed a Survey that included 194 patients from 10 different Ryan White funded agencies.
 - 7% had no medications when the hurricane hit; 33% had only 1-2 weeks of medications.
 - Of the evacuated, 30% could not access care and 21% could not access medications.
 - Of those who stayed, 32% could not access care and 25% could not access medications.
 - Reasons for not taking medications, per the patients:
 - Pharmacy did not have the medication in stock, did not take their insurance, or they did not have insurance
 - Fear to be seen taking medications that might reveal their status due to staying with extended friend and family
 - Were unable to fill prescriptions in another state if they evacuated and had Louisiana Medicaid

How do these impacts affect people with HIV and HIV care continuity?

#3 Medical record loss and fragmentation of care



Usual care facilities may not be available.



Unfamiliar providers and settings might deter patients from needed care.



Patients may evacuate across state or country lines, complicating medication access that is state-dependent and disrupting care continuity.



Medical records and medication lists may not be accessible in new facility.

Real World Examples:

#3 Medical record loss and fragmentation of care

After Hurricane Katrina, HRSA reported that displaced individuals were moving to other jurisdictions and seeking medications and medical care. States faced several hurdles in providing needed HIV/AIDS care, including:

- lack of authority to provide AIDS Drug Assistance Program (ADAP) aid and other Ryan White services to patients who were not residents of the jurisdiction;
- lack of patient documentation of eligibility, medical records, or lists of medications taken;
- lack of capacity to provide additional care.

Loss of medical records after Hurricane Katrina led to the recommendation by providers to:

- convert to electronic storage of medical records with frequent back-ups on distant servers, so local damage does not result in loss.

Source: <https://www.clinician.com/articles/125806-hiv-patients-displaced-by-katrina-scramble-for-meds-care>

Clark RA, et al. Six Month Later, The effect of Hurricane Katrina on health care for persons living with HIV/AIDS in New Orleans. AIDS Care 2006;18:59-61

How do these impacts affect
people with HIV and HIV care continuity?

#4 Mental health deterioration leading to additional challenges



Disasters increase stress and negative experiences can worsen mental health disorders.



System disruptions and psychosocial strain contribute to disengagement from care and resultant nonadherence to ART.



Increased mental health burden and service needs strains limited service capacity post-disaster.

How do these impacts affect
people with HIV and HIV care continuity?

#5 Laboratory disruptions (VL, CD4, resistance testing)

Disasters limit laboratory capacity, including staff and supplies, resulting in minimal-monitoring models of care.

This delays detection of virologic failure and increases the risk of resistance.

How do these impacts affect
people with HIV and HIV care continuity?

#6 Increased vulnerability and risky behaviors

- Factors that increase risk:
 - Immunocompromised status (varies based on CD4 count)
 - Lower response to vaccination
 - Less access to healthcare
 - Under- or malnutrition
 - Co-infections
 - Higher rates of tobacco use
- Risky behaviors such as transactional sex⁽¹⁾
 - Due to economic instability



$$\mathbf{RISK} = \mathbf{HAZARD} \times \mathbf{EXPOSURE} \times \mathbf{VULNERABILITY}$$

How do these impacts affect
people with HIV and HIV care continuity?

#7 Financial and insurance instability

Job loss, temporary closures, or relocation can lead to:

- Not enough money for food and rent
- Loss of health insurance coverage
- Inability to afford transportation, visits, medications, or labs
- Gaps in ADAP benefits, need for recertification

Economic instability correlates strongly with poorer HIV outcomes.

How do these impacts affect people with HIV and HIV care continuity?

#8 Collapse of Prevention Services



- In a review of 6 studies with HIV prevention outcomes after extreme weather events, results showed:
 - Increased risky behavior that can lead to HIV transmission: condomless sex, transactional sex, increased number of partners
 - Less HIV testing
 - Less HIV prevention interventions
 - More recent STI and HIV diagnoses

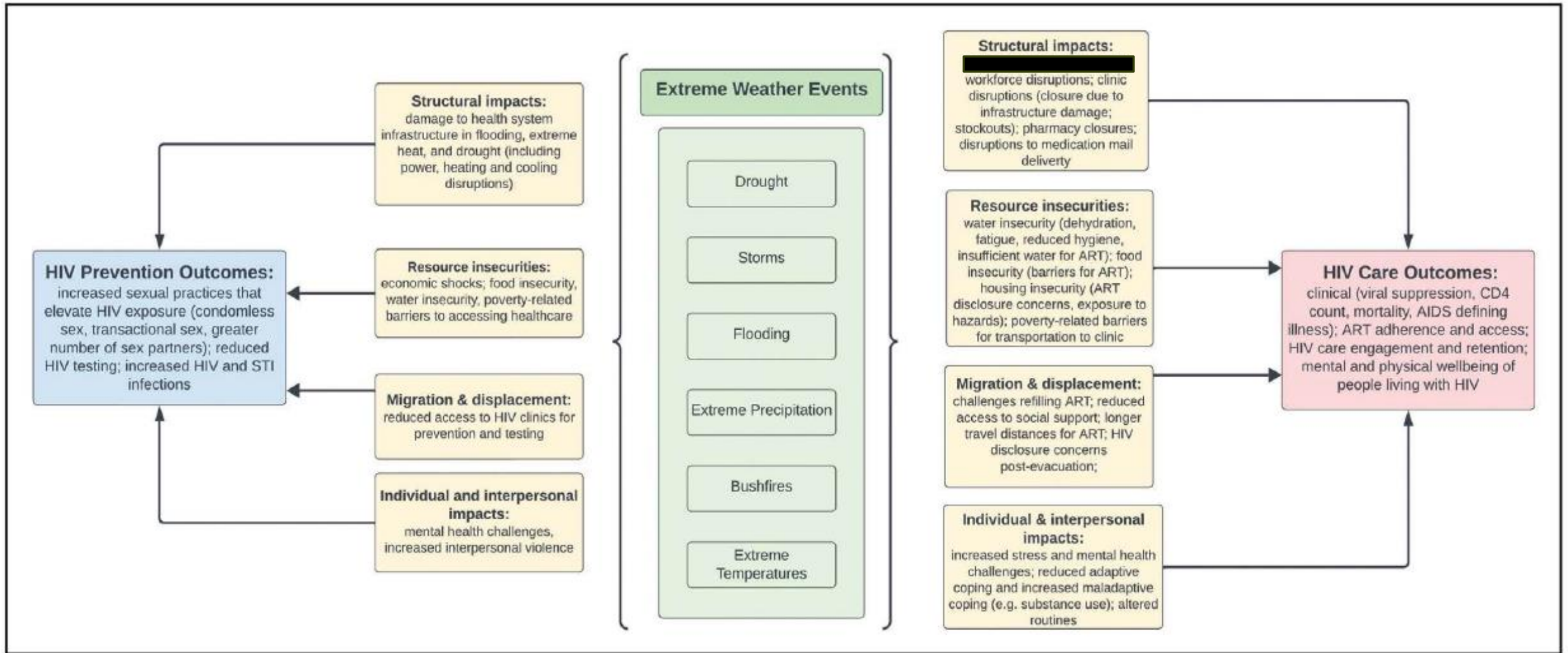
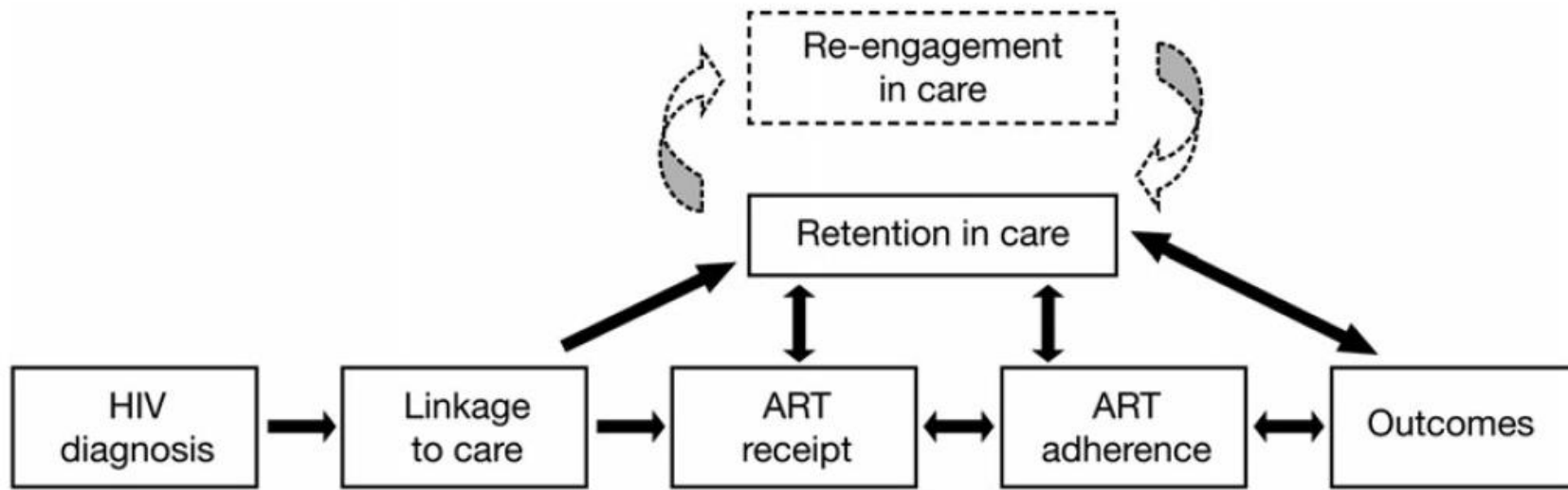
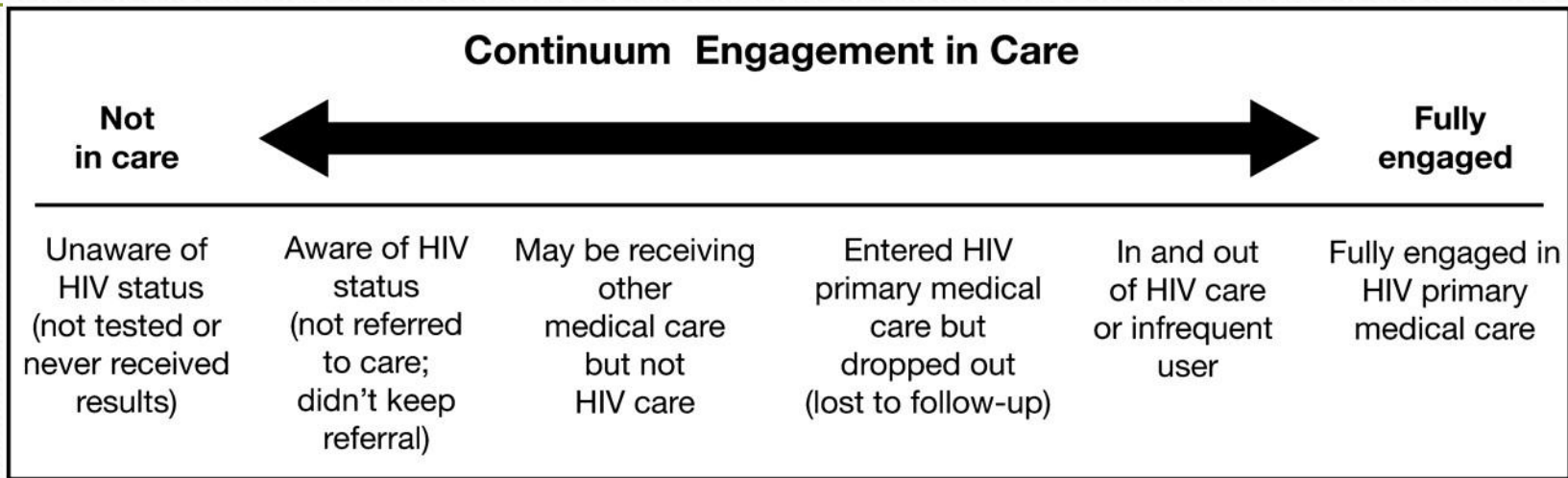


FIGURE 2. Conceptual framework of pathways from climate change and related extreme weather events to HIV prevention and care.

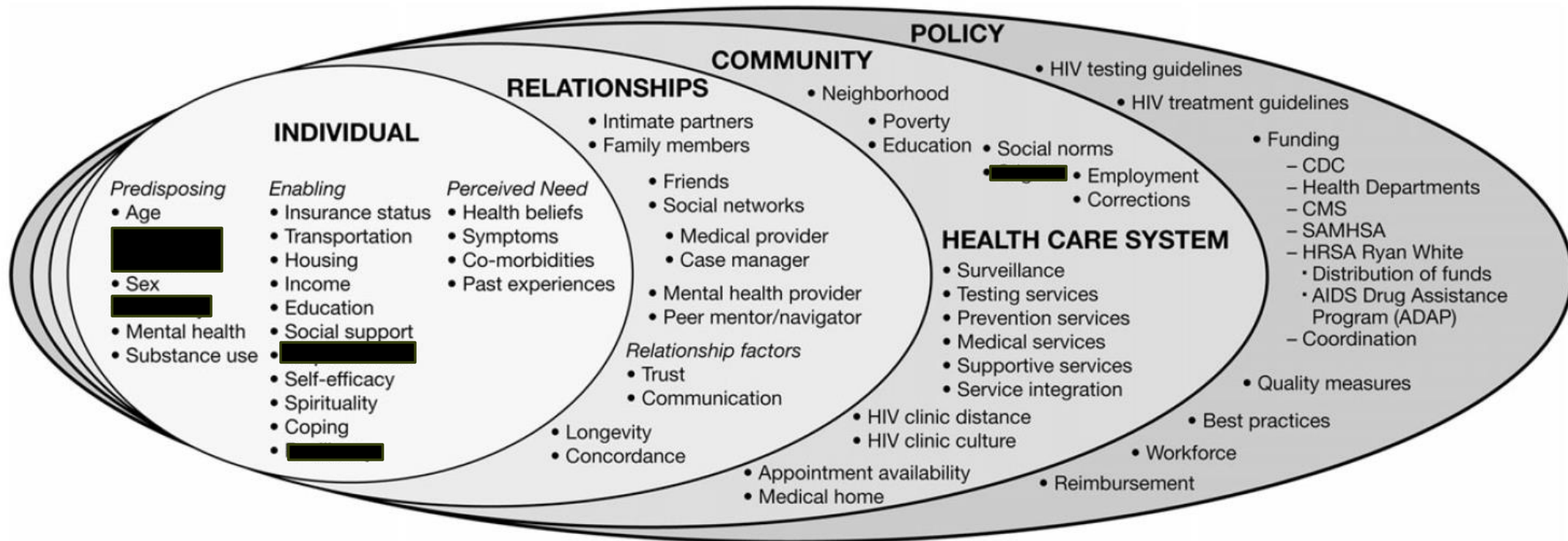
Retention in HIV Care (RIC)





Mugavero MJ, Norton WE, Saag MS. Health Care System and Policy Factors Influencing Engagement in HIV Medical Care: Piecing Together the Fragments of a Fractured Health Care Delivery System. *CID*. 2011;52(S2):S238-S246.

RIC is a complex interplay of multiple factors.



Mugavero MJ, Norton WE, Saag MS. Health Care System and Policy Factors Influencing Engagement in HIV Medical Care: Piecing Together the Fragments of a Fractured Health Care Delivery System. *CID*. 2011;52(S2):S238-S246.

Factors Associated with Retention in HIV Care from the CDC from 2021

- Similar RIC outcomes across:
 - Age
 - Race
 - Geographic area
- Strong associations with poor RIC:
 - Mental health
 - Negative assumptions
 - Substance and alcohol use disorders
 - Uninsured/underinsured

Retention in Care

Evidence-based services associated with increased retention in care:

- Case management
- Mental health services
- Substance abuse treatment
- Drug assistance programs
- Patient/peer navigation
- Food assistance
- Nutrition
- Housing assistance
- Transportation assistance

1. Ashman JJ, Conviser R, Pounds MB. Associations Between HIV-Positive Individuals' Receipt of Ancillary Services and Medical Care Receipt and Retention. *AIDS Care*. 2002;14(Suppl 1):S109-118.
2. Cabral HJ, Tobias C, Rajabiun S, et al. Outreach Program Contacts: Do They Increase the Likelihood of Engagement and Retention in HIV Primary Care for Hard to Reach Patients? *AIDS Patient Care STDS* 2007;21(Suppl 1):S59-67.
3. Horstmann E, Brown J, Islam F et al. Retaining HIV-Infected Patients in Care: Where Are We? Where Do We Go from Here? *CID*. 2010;50:752-761.
4. Sherer R, Steiglitz K, Narra J et al. HIV Multidisciplinary Teams Work: Support Services Improve Access to and Retention in HIV Primary Care. *AIDS Care*. 2002;14(Suppl 1):S31-44.
5. Bradford JB, Coleman S, Cunningham W. HIV System Navigation:An Emerging Model to Improve HIV Care Access. *AIDS Patient Care STDS* 2007;21:49-58.

Facilitating Retention in Care During and After a Disaster: Key Strategies

- Prior to (focus of previous lecture):
 - Clinic and system preparation
 - Patient preparation and safety
- Supporting patients and maintaining engagement in care during and after a disaster:
 - Consider different care models to resume services as soon as possible.
 - Expand communication strategies.
 - Ensure continuity of ART.
 - Expand/provide supportive services.

Clinic and System Preparation Prior to a Disaster: Brief Review

- Enhance the physical structure of the buildings that serve to provide medical and social support to people with HIV (PWH) to reduce disruption after hazards (fortified roofs, sandbags, etc.).
- Provide materials for patients to take during disasters which provide information on local and surrounding HIV resources.
- Have clear disaster definitions and plans, employee designations, and redundant communication plans for employees.
- Provide patient-driven care that engages and retains patients with HIV in care, resulting in viral suppression and improved immune systems (increased CD4).

Patient Preparation and Safety: Brief Review

- Educate patients to improve their knowledge of HIV, their numbers, and what to do if short on medicines. Encourage them to create an individual disaster plan.
- Keep patients healthy by encouraging exercise, a proper nutrient rich diet, and maintaining a normal weight.
- Keep vaccinations for pneumonia, influenza, RSV, tetanus, etc. up to date.
- Encourage and/or provide masks, disinfectants, and hand hygiene products for both shelter-in-place and evacuation supplies.
- Patients should maintain a portable health summary including diagnosis, medications, allergies, and healthcare contacts.

Step 1: Get ready. Have a plan for evacuation and for sheltering in place.

If a mandatory evacuation is issued and you can't evacuate on your own, the city will set up centralized evacuation locations throughout Orleans Parish. Text **EVACNOLA to 77295** to get set up and stay informed about city-assisted evacuation.

- Sign up for **NOLA Ready alerts** at ready.nola.gov/stay-connected/emergency-alerts/ or text NOLAREADY to 77295.
- Sign up for **Smart911**. It's free and can provide updates on resources specific to your needs. Create a Smart911 Safety profile for your household at smart911.com or download the Smart911 app from your app store.
- In **Jefferson Parish**, register online at jeffparish.net or call 504.349.5360. Or, just text JPALERT to 888777. Spanish speaking residents can text JPNOTICIAS to 888777.
- **Keep your prescriptions up-to-date.** Refill your prescriptions before the storm. Do not wait until the last minute. At all times, keep enough medication on hand to last you at least 14 days.
- **Ask your doctor to give you a copy** of helpful medical information—and keep it with you.
- **Sign up for a free LCMC Health Patient Portal account online.** The LCMC Health Patient Portal lets you to view your upcoming appointments. You can also request prescription renewals. Ask a nurse for your activation code to get you started. The code will print out on your "After Visit Summary" sheet.

For emergencies, call 911.

For non-emergency information and referrals in Louisiana, call 504.269.2673 or visit [211.org](https://www.lcmchealth.org).

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Step 2: Evacuate when instructed and take:

- All of your medicines and supplements in their original bottles, with a back-up list of medications and dosages
- Helpful medical information—your condition, diagnoses, and allergies
- Your clinic's name, your doctor's name, and phone number
- Your most recent hospital card, LDAP medication card (formerly called ADAP), insurance cards, etc.
- Picture identification, Social Security card, insurance policies, birth certificates, and other important legal papers
- Medical equipment and supplies (dentures, glucometers and strips, nebulizers, crutches, prostheses, etc.)
- First aid kit, battery powered radio, flashlight, extra batteries, cell phone, and charger
- Clothes, sleeping supplies, maps, and personal hygiene items
- A three-day supply of water, non-perishable food, and cash
- Plan for your pet's needs

Step 3: Medication, medication, medication – bring all of your medications with you.



It's a good idea to have enough to last 14 days or more. **Do not** skip dosages to stretch them out. Get refills as soon as possible.

- **If you run out of one of your HIV medications stop all HIV medications** until you get refills. But, **take your other medications** which lower your blood pressure or cholesterol, control your diabetes, or treat your eye or lung infections
- Ask your doctor, nurse, or pharmacist if you have questions about which medications you are taking for different conditions
- If you are on LDAP, call 504.568.7474 or the LA Statewide AIDS/STD Info Line at 800.992.4379 for assistance. You may be able to fill your prescriptions in your evacuation city

Patient-facing handouts⁵ with emergency information, local and surrounding HIV service organizations, shelter locations, and support hotlines.

Emergency Preparedness

Prepare for hurricane season by planning for your medical needs and medications.

Supporting Patients and Maintaining Engagement in Care During and After a Disaster

- Consider different care models to resume services as soon as possible.
- Expand communication strategies.
- Ensure continuity of ART.
- Expand/provide supportive services.

Consider
Different
Care
Models to
Resume
Services

Goal is to resume services as soon as possible, different models include:

- **Temporary facilities**
 - Provide care to local patients while repairs are made
- **Telehealth/video visit options**
 - Allows remote consultation, medication management, and can reconnect displaced patients with care
- **Creation of a mobile clinic**
 - Brings services directly to patients
- **Create rapid linkage pathways to other clinics**

Expand Communication Strategies

Keep websites with up-to-date information.

- Maintain an up-to-date information hub about available clinic services and resources in the surrounding areas.

Communicate across your agency and the other stakeholders.

Communicate with patients.

- Maintain redundant communication systems (phone, text lists, messaging apps, patient portals) to reach displaced patients.
- Maintain contact (proactively) with patients most likely to fall out of care.
 - With special consideration to uninsured/underinsured people, people with substance and alcohol use disorders, people with mental health disorders, economically unstable.

Ensuring Continuity of Antiretroviral Therapy (ART)

- Educate patients to access their medications with pre-disaster refills and to request early refills prior to the disaster.
- Engage with Medicaid and other insurers for 90-day prescriptions.
- Support disaster designations during and after the disaster to allow for ease of refill in surrounding areas.
- Maintain an up-to-date Information hub with open pharmacies and available clinic services.
- Coordinate with surrounding AIDS service organizations in your state and surrounding states after the disaster to aid patients with accessing medications.



Expand/Provide Supportive Services

Resume Social Services ASAP

Enhanced need during and after a disaster for:

- Emergency financial services
- Food bank/supplements
- Housing assistance and resources
- Transportation assistance
- Certification for Ryan White services for medication assistance
- Assistance with enrollment in government programs (Medicaid, Supplemental Nutrition Assistance Programs, etc.)



Expand/Provide Supportive Services

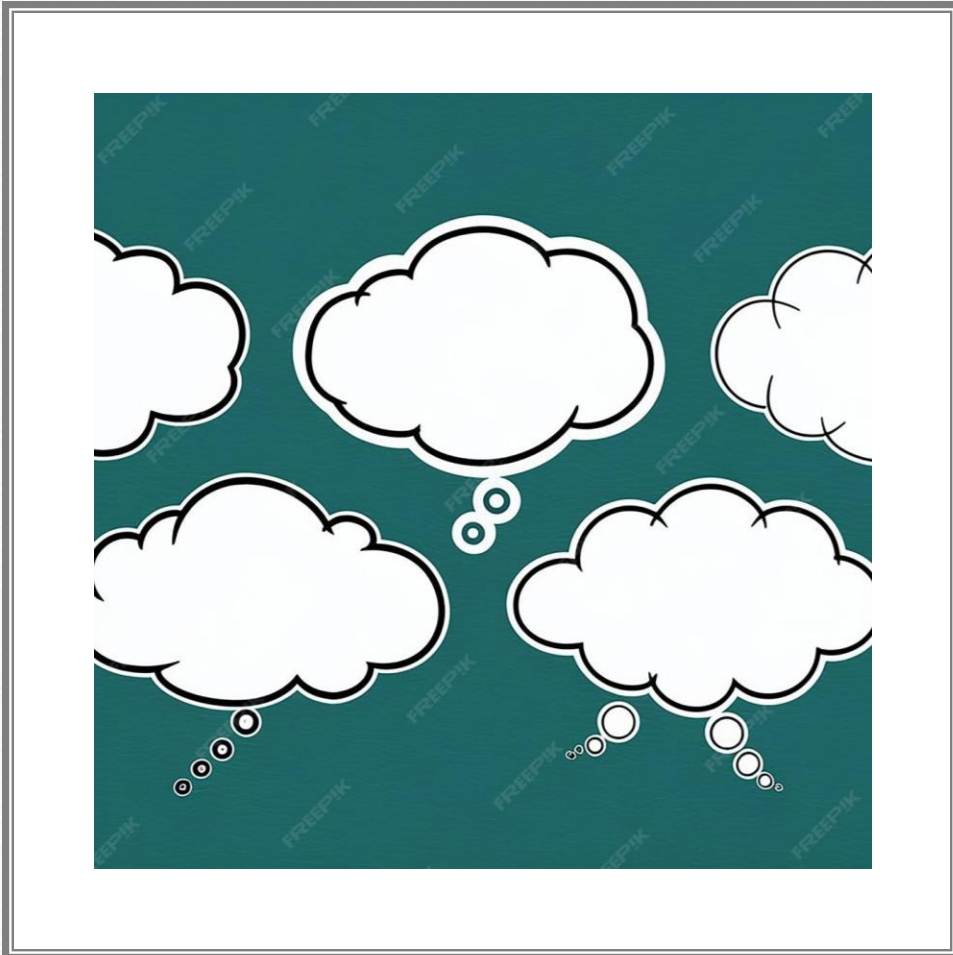
Request additional funding from grantors and/or local government to try to expand supportive services.

Tap into Peer Support Networks for increased psychosocial support.

- Move patient support groups to virtual when possible.
- Resume patient groups when feasible.

Resume mental health services as soon as possible.

- Increased need due to negative experiences, stress, and anxiety
- Potential worsening of underlying disease due to missed medicine and stress
- Consider the different models of care to provide (temporary facility, mobile clinic, telehealth, etc.)



Reflection and Assessment After the Disaster

- Survey patients to gather data about barriers to care and medications and use this for future planning.
- Acknowledge what went well and what went wrong with your clinic's disaster and communication plan.
 - Allow team members to provide honest, objective feedback.
- Assess and repair damage to physical infrastructure; rebuild with a goal of resuming and ensuring patient driven care.
- Strengthen relationships with surrounding AIDS service organizations and social service organizations.



Aspirational Goals

- Implementation of programs such as the Ryan White HIV/AIDS Program and state and local governments to create adaptable emergency funding mechanisms to support displaced patients and maintain and expand needed services
- Consideration of HIV care and integration of HIV care into humanitarian disaster response plans
- Expansion of 90-day refills through private and government insurance to include ART
- City, regional, and surrounding states seamlessly working together and coordinating HIV Care

Questions?

Please reach out to me with any questions in the future.

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