



A Strategic Approach to HIV Programming in a Changing Climate: FHI 360's Vision for Collective Action

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Acronyms

AIDS	Acquired immune deficiency syndrome
ART	Antiretroviral therapy
ARV	Antiretroviral
COP	Conference of the Parties
CBO	Community-based organization
DHIS2	District health information system
EpiC	Meeting Targets and Maintaining Epidemic Control
GIS	Geographic information system
HIV	Human immunodeficiency virus
LGBTQI+	Lesbian, gay, bisexual, transgender, queer, and intersex people and those of other diverse sexual orientations and gender identities
NGO	Nongovernmental organization
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PLHIV	People living with HIV
PrEP	Pre-exposure prophylaxis
WHO	World Health Organization

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The confluence of climate change and HIV

As the world grapples with the escalating climate crisis, a less visible but equally pressing challenge is unfolding: the impact of climate change on the global HIV response. This intersection of crises threatens to unravel decades of hard-won progress in HIV prevention, treatment, and care.

Consider Anjali*, a 68-year-old person living with HIV in Delhi who is struggling to breathe in smog-choked streets, her immune system compromised by air pollution. Or Chimwemwe*, a 24-year-old in Malawi, who is facing drought-induced food insecurity that threatens his nutrition and health while on antiretroviral therapy (ART). And Antonio*, a Filipino man identifying as gay whose access to pre-exposure prophylaxis (PrEP) is restricted when his neighborhood facility closes during an extreme flooding event. These stories exemplify the stark reality for millions of HIV affected individuals^a facing the collective impact due to the intersection of climate change and HIV.

The [2023 Frontline AIDS report](#) highlights how climate change exacerbates factors such as human migration, food insecurity, economic stress, and conflict, potentially increasing HIV infection rates, aggravating risk situations, and worsening health outcomes for people living with HIV (PLHIV). Climate impacts disrupt HIV services, reducing access to prevention, testing, and treatment, while also leading to poor adherence to medication regimens. Existing structural barriers, disinvestment, and persistent stigma and discrimination further amplify health disparities among marginalized communities, with these effects becoming even more pronounced during environmental shocks and disasters.^{1, 2, 3, 4}

* Pseudonyms are used throughout this document.

^a Someone "affected by HIV" is an individual who is either living with HIV or vulnerable to acquiring the virus. This includes people diagnosed with HIV infection as well as those at higher risk due to factors such as sexual behavior, drug use, socioeconomic challenges, or living in high-prevalence areas.

FHI 360 defines **climate-responsive HIV programming** as adapting to and building resilience against climate change on HIV systems, services, and affected populations, while minimizing its own environmental footprint and leveraging HIV service delivery platforms to promote climate awareness and action.

The scale of the climate threat is alarming. The [World Health Organization](#) (WHO) projects an additional 250,000 annual deaths between 2030 and 2050 due to climate-related health issues, while the [2023 Lancet Countdown on health and climate change](#) warns of a 4.7-fold increase in heat-related deaths by mid-century without decisive climate action. Even more concerning for HIV efforts, modelling based on temperature data and information from 400,000 people across 25 countries in sub-Saharan Africa predicts between 11.6 and 16 million additional cases of HIV by 2050 if carbon emissions are maintained at business-as-usual levels and temperatures continue to rise.⁵

These projections underscore the urgent need to safeguard and strengthen the HIV response as climate impacts escalate. They also present an opportunity for synergistic solutions. By supporting "climate-responsive HIV programming," FHI 360 can enhance resilience, improve health outcomes, engage communities, and leverage HIV platforms for climate action.

FHI 360's *Strategic Approach to HIV Programming in a Changing Climate* offers an evolving road map for such interventions, outlining collective action and swift, comprehensive, innovative responses to address the demands of these interlinked challenges. As evidenced by health becoming a central theme at [Conference of the Parties \(COP28\)](#), recognition of the need to prioritize human health in climate discussions is growing. Through climate-responsive HIV programming, we can help protect the gains in HIV prevention, treatment, and care, and ensure continued and sustained progress toward AIDS control in our changing world.

The climate–HIV nexus: Understanding the challenges

The intersection of climate change and HIV presents a complex set of challenges that threaten to undermine progress collectively made toward epidemic control. In light of the far-reaching consequences, it is crucial to understand the multifaceted ways in which these two crises interact and exacerbate vulnerabilities within health systems, in communities, and among marginalized populations.

Direct and indirect impacts of climate change on HIV

Climate change can have both direct and indirect impacts on the HIV epidemic. Direct impacts include the potential for increased HIV transmission due to climate-related migration and displacement, which can disrupt and limit access to health care information, products, and services, and increase the risk of sexual violence, exploitation, and exclusion.² Extreme weather events and natural disasters can damage health infrastructure, impact health information platforms, close health services, interrupt supply chains for antiretroviral (ARV) medications, diagnostic supplies, and HIV prevention commodities, and strain already overburdened health systems.^{6, 7}

Indirect impacts of climate change on HIV are equally concerning. Climate-related food insecurity and malnutrition can further weaken the immune systems of PLHIV, making them more susceptible to opportunistic infections and compromising the effectiveness of ART.^{8, 6} Economic shocks and livelihood disruptions caused by climate change can exacerbate poverty and inequality, which are key drivers of the HIV epidemic.^{1, 3} Climate change also increases outbreaks of waterborne, vector-borne, and foodborne diseases; expands malaria-prone areas; and elevates exposure to air pollution, a risk factor for various chronic noncommunicable diseases that can adversely impact PLHIV.⁵

Vulnerabilities of those affected by HIV to climate change

People living with or affected by HIV or AIDS are disproportionately vulnerable to the impacts of climate change. This vulnerability stems from a combination of factors, including poverty, marginalization, and more limited access to resources and support systems.^{7, 9} Women, girls, and members of key populations, who bear a disproportionate burden of the HIV epidemic in many parts of the world, are particularly at risk as they often face additional barriers to accessing health care, education, and economic opportunities.¹⁰ Climate change may intensify risk factors for gender-based violence, exacerbating domestic and intimate partner violence, and posing significant threats to vulnerable populations.²

PLHIV and other vulnerable populations in rural and remote areas are also highly vulnerable to climate change, as they may depend on climate-sensitive livelihoods such as agriculture and fishing. Climate-related shocks and stresses can undermine their food security, income, and access to health care, further compromising their health, well-being, and overall quality of life.¹¹

On the physical health front, PLHIV may be more susceptible to contracting climate-sensitive diarrheal pathogens and could face a higher risk of severe outcomes due to their potentially weakened immune systems.¹² Changes in the behavior of disease vectors, particularly mosquitoes, because of alterations in temperature, precipitation, and water quality, may lead to more aggressive presentations of vector-borne infections in PLHIV.¹³ Additionally, studies have found a potential link between chronic exposure to common air pollutants and neurocognitive impairment among children with perinatal HIV infection.¹⁴

Extreme heat

Climate disasters have a greater impact on the health of marginalized communities in significant ways. Just one example is extreme heat. Increased temperatures may exacerbate existing health conditions, intensify civil unrest, and complicate access to care. Marginalized groups, such as low-income individuals and those without stable housing, may find it challenging to maintain their HIV prevention or treatment regimens under these conditions. Extreme heat can strain public health infrastructure, making it harder for PLHIV and other vulnerable people to access necessary services, such as ART, HIV testing, or PrEP. Elevated temperatures, heat waves, and humidity have also been linked to heightened mental health challenges and increased risk of suicide, creating an even more complex health burden on marginalized populations.¹⁵

Implications for HIV prevention, treatment, and care

The challenges posed by the climate-HIV nexus have significant implications for HIV prevention, treatment, and care efforts. As climate change strains health systems and exacerbates inequalities, it can become increasingly difficult to maintain the availability, continuity and quality of HIV services.¹ This is particularly concerning in low- and middle-income countries, where health systems are already fragile and under-resourced.^{16, 17}

Climate change can undermine the effectiveness of HIV prevention efforts, such as community-based outreach and testing and commodity distribution and PrEP service delivery, by disrupting social networks, impacting the ability of outreach workers to reach clients, and limiting access to information, products, and services. The same disruptions to HIV prevention services also affect HIV treatment and care. During droughts, extreme heat, and rainfall, for example, people are more likely to stop taking ART and miss care appointments. Interruption in treatment may result in increased opportunistic infections, advanced HIV disease, and poor clinical outcomes, including HIV-associated mortality.⁵

Moreover, the mental health impacts of climate change, including increased stress, anxiety, discrimination, and trauma, can further compound the challenges faced by PLHIV and those at risk of infection.¹

Climate effects of HIV programming

While HIV programming is essential for public health, it can inadvertently contribute to climate change. The production and distribution of ARV drugs, HIV testing kits, and other medical supplies involve energy-intensive manufacturing processes and global supply chains, resulting in significant carbon emissions.¹⁸ Health care facilities providing HIV services consume substantial amounts of energy for lighting, heating, cooling, and medical equipment operation, often relying on fossil fuel power sources.¹⁹ The disposal of medical waste from HIV testing and treatment, including single-use plastics and contaminated materials, contributes to landfill growth and potential environmental contamination.²⁰ Additionally, frequent travel by health care workers and clients for HIV-related services intensifies transportation-related emissions.²¹ And, large-scale HIV social and behavior change communications initiatives may involve the production and distribution of printed materials, contributing to deforestation and paper waste.²²

Strategic pillars for climate-responsive HIV programming

FHI 360 will address the complex challenges posed by the climate-HIV nexus and pioneer innovative, sustainable solutions by working with government, nongovernmental organizations (NGOs), and multilateral and community partners to advance a strategic approach that rests on three key pillars: science, practice, and advocacy. These pillars represent a comprehensive, multidisciplinary framework for action that leverages FHI 360's existing strengths while also driving transformative change in the way we conceptualize, design, implement, and/or support HIV programming within the context of climate change.

The **science pillar** focuses on generating new knowledge and evidence to inform policy and practice. This involves conducting rigorous, context-specific assessments of the climate-related risks and vulnerabilities faced by HIV-affected populations, as well as developing and testing innovative interventions that enhance the resilience of individuals, communities, and health systems. By prioritizing locally led, participatory, evidence generation approaches, FHI 360 aims to ensure that the knowledge is relevant, actionable, evidence-based, and grounded in the lived experiences of those most affected by the climate-HIV nexus.

The **practice pillar** emphasizes the importance of mainstreaming climate-responsive actions into HIV and AIDS programs, services, and systems. This involves integrating climate change considerations into all aspects of program design, implementation, and monitoring and evaluation, from HIV prevention to HIV treatment. Examples include developing heat-resistant medication supply chains, implementing mobile clinics for climate-displaced populations, and incorporating climate resilience education into HIV prevention programs.

The **advocacy pillar** recognizes that addressing the climate-HIV nexus requires more than just programmatic interventions; it also demands policy and systems change at multiple levels. FHI 360 is committed to using its platform and expertise to advocate for and support the integration of climate change considerations into HIV and AIDS policies, strategies, and budgets, as well as for increased investment in climate-resilient health systems and community-based responses. We will also join efforts to elevate the voices of those most impacted, including youth. By building and/or joining strategic partnerships and coalitions with diverse stakeholders, including government bodies, researchers, multilateral agencies, civil society organizations, and communities, FHI 360 aims to promote a more holistic, rights-based approach to the climate-HIV nexus.

Together, these three strategic pillars constitute an evolving road map for addressing the intersection of climate change and HIV. The following sections explore each pillar in greater detail, highlighting specific strategies, approaches, and examples of FHI 360's work in action.

Science pillar: Expanding the evidence base for climate-informed HIV interventions

The science pillar is the foundation of FHI 360's strategic approach to addressing the climate-HIV nexus. By generating new knowledge and evidence, we aim to inform policy and practice, drive innovation, and ultimately improve the health and well-being of HIV-affected populations in a changing climate. Our research and implementation science agenda is guided by the following key objectives: mapping climate-responsive approaches and/or conducting climate vulnerability and adaptation assessments, introducing climate and HIV performance indicators and tracking performance trends, developing and testing innovative interventions, and generating evidence related to the interrelationship of climate and HIV to inform policy and practice.

Climate vulnerability and adaptation mapping and/or assessments. Understanding the complex, context-specific ways in which climate change interacts with HIV is essential for designing and implementing effective, locally relevant interventions. At national, subnational, and community levels, FHI 360 will explore ways to collaborate with our partners to use programmatic data and/or conduct climate change and health vulnerability and adaptation assessments following [the step-by-step framework outlined by WHO](#) or by adapting programmatic tools that FHI 360 and our partners are currently using. The objectives of these assessments will be to:

- Describe the existing burden of HIV and related climate-sensitive health outcomes, and current vulnerabilities to climate variability and change
- Assess the capacity of health systems, communities, and/or individuals to manage the risks of climate-sensitive HIV and health outcomes
- Qualitatively or quantitatively forecast health risks of climate change on HIV-affected populations and geographies
- Identify and prioritize evidence-based policies, programs, and actions to address current and projected climate-related HIV and health risks

The assessments will seek to synthesize evidence on how HIV outcomes and determinants are currently impacted by climate, and, whenever possible, project how climate scenarios could exacerbate HIV risks and inequities among vulnerable individuals and communities and affect the HIV response. Assessments may employ a range of methods, including community-based participatory research, geospatial analysis, risk mapping, and predictive inquiry to generate a comprehensive, nuanced understanding of the local impacts of climate change on HIV. By disaggregating data by gender, age, population type, and other key social determinants of health, we aim to uncover the differential vulnerabilities and adaptive capacities of different populations, informing the development of targeted, equity-oriented interventions.

Based on assessment findings, FHI 360 and its partners will strive to recommend adaptation options to reduce climate-related HIV risks. These may include strengthening HIV and health services, integrating climate into policies and programs, improving infrastructure, and promoting cross-sectoral action on the HIV-climate nexus.

Climate and HIV indicators and performance trends. Building on the foundations laid by the climate change and health vulnerability and adaptation assessments, FHI 360 is committed to working closely with ministries of health and other partners to introduce and monitor key indicators at the intersection of HIV and climate change, informed by and building upon resources in the [WHO monitoring and evaluation toolkit](#).

Recognizing the importance of integrating climate considerations into HIV monitoring and evaluation systems, we will strive to collaborate with government, NGO, and community partners to articulate a core set of climate/HIV indicators. These may include metrics on the climate vulnerability of HIV-affected populations, climate resilience of HIV and health systems, and effectiveness of adaptation measures in reducing climate-related HIV risks.

To facilitate routine monitoring, FHI 360 will explore ways to support the integration of climate/HIV indicators into existing national, subnational, and/or programmatic health information systems and HIV surveillance tools. This may involve updating data collection instruments, training health workers, and strengthening reporting mechanisms to capture climate-related data alongside HIV program indicators.

We will also invest, whenever possible, in innovative data visualization and use. FHI 360 will endeavor to work with ministries of health and other partners to develop or strengthen user-friendly dashboards that synthesize real-time data on key climate/HIV indicators. Dynamic maps, graphs, and other visual aids will enable decision-makers and civil society to easily track emerging trends,

identify hot spots of vulnerability, and gauge the effectiveness of adaptation measures over time. Geospatial techniques or geographic information systems (GIS) for mapping climate change impacts on HIV programs and health outcomes will be employed whenever possible or feasible.²³

Climate/HIV dashboards and or GIS maps will be accessible to a range of stakeholders, from national policymakers to community health workers. Interactive features will allow users to disaggregate data by key variables such as gender, age, and geography to assess equity in climate-responsive HIV services.

FHI 360 will also aim to provide ongoing technical assistance to government and community partners to analyze and use climate/HIV data for adaptive programming and evidence-based policymaking. Through regular reviews and stakeholder consultations, we are committed to support the refinement of climate/HIV indicators and targets over time, promoting accountability for progress.

Innovative intervention development and testing.

Together with our partners, FHI 360 will make efforts to develop, support, and/or test innovative interventions that are responsive to and enhance the adaptation, mitigation, and resilience of individuals, communities, and health systems to the impacts of climate change. Our approach to intervention development is grounded in [human-centered design principles](#) and informed by FHI 360's [Social and Behavior Change \(SBC\) Adaptive Management Framework Toolkit](#), emphasizing the importance of co-creation, iteration, and adaptation.

Examples of potential interventions—highlighted in the practice section—include climate-resilient health infrastructure, community-based early warning systems, and climate-sensitive HIV prevention and treatment programming.

Evidence generation for policy and practice.

Translating research findings into policy and practice is a critical component of FHI 360's strategic approach to the climate-HIV nexus. We resolve to generate and

disseminate evidence that is actionable, policy relevant, and accessible to a wide range of stakeholders from policymakers and program managers to health care providers and community advocates.

Exploring linkages: Addressing the relationship between the climate crisis and HIV prevention with recommendations for emerging pre-exposure prophylaxis programs

Developed by FHI 360 and published in *Frontiers in Reproductive Health*, [this article](#) explores the intersections between the climate crisis and HIV prevention, with a focus on PrEP programs.²⁴ The authors propose four recommendations to mitigate the impact of the climate crisis on those who may benefit from PrEP:

1. Leverage existing research and lived experiences to intentionally reach individuals affected by the climate crisis who may need or want PrEP.
2. Emphasize the need for more climate-resilient PrEP products within the research and development pipeline.
3. Build understanding of the climate crisis-HIV relationship in product introduction through national collaboration.
4. Strengthen the integration of PrEP service delivery and response to intimate partner violence, which can be exacerbated by climate-related events and stressors.

The authors argue that as the PrEP market rapidly expands with the introduction of new prevention methods, it is crucial to consider and address how the climate crisis impacts not only the environmental landscape but also the HIV prevention ecosystem. By operationalizing these recommendations, we can better serve marginalized populations and work toward a more equitable, climate-resilient future for HIV prevention.

Our evidence generation efforts will aim to employ a variety of methods, including operational research, action reports, and policy briefs, to synthesize and communicate knowledge in clear, compelling ways. We will also prioritize the development and/or use of practical tools and resources, such as climate risk assessment guidelines, intervention manuals, and training curricula (including [training and educational materials developed by WHO](#)), to support the integration of climate change considerations into HIV and AIDS programs and services.

Practice pillar: Adapting and innovating HIV services

The HIV cascade, a widely used framework in the global HIV response, outlines the sequential steps needed to achieve viral suppression. However, addressing climate actions now to improve and sustain cascade outcomes and enhance the resilience and sustainability of HIV services and systems is critical. At FHI 360, we developed [practical considerations](#) to integrate climate adaptation, mitigation, and resilience strategies into our HIV programming, alongside emergency response measures to address acute climate-related events and polycrises.

Climate adaptation involves adjusting HIV programs to function effectively under changing climate conditions, such as rising sea levels, increased temperatures, shifting precipitation patterns, population displacement, and degrading air quality. This may include such strategies as climate/HIV action planning, adapting prevention and care services to reach climate-displaced populations, or strengthening supply chains to withstand climate disruptions.

Simultaneously, **climate mitigation** efforts aim to reduce the environmental impact of HIV services by lowering greenhouse gas emissions, improving waste management systems, supporting renewable energy sources, and promoting sustainable supply chains. Minimizing the carbon footprint of HIV programs can contribute to global efforts to curb climate change while ensuring long-term sustainability of HIV services.

Underpinning these adaptation and mitigation measures is a focus on building **climate resilience**—enhancing the capacity of HIV service systems and vulnerable communities to protect and improve population health in an unstable and changing climate.

This may involve investing in [early warning systems](#), strengthening community-based organizations (CBOs), or integrating climate considerations into health worker training and HIV education programs.

Defining climate actions within the HIV response

Emergency response. Immediate actions taken before, during, or after a specific, acute, and sudden climate-related event; focus is on emergency preparedness, disaster risk reduction, and rapid response to minimize damage and recover quickly.

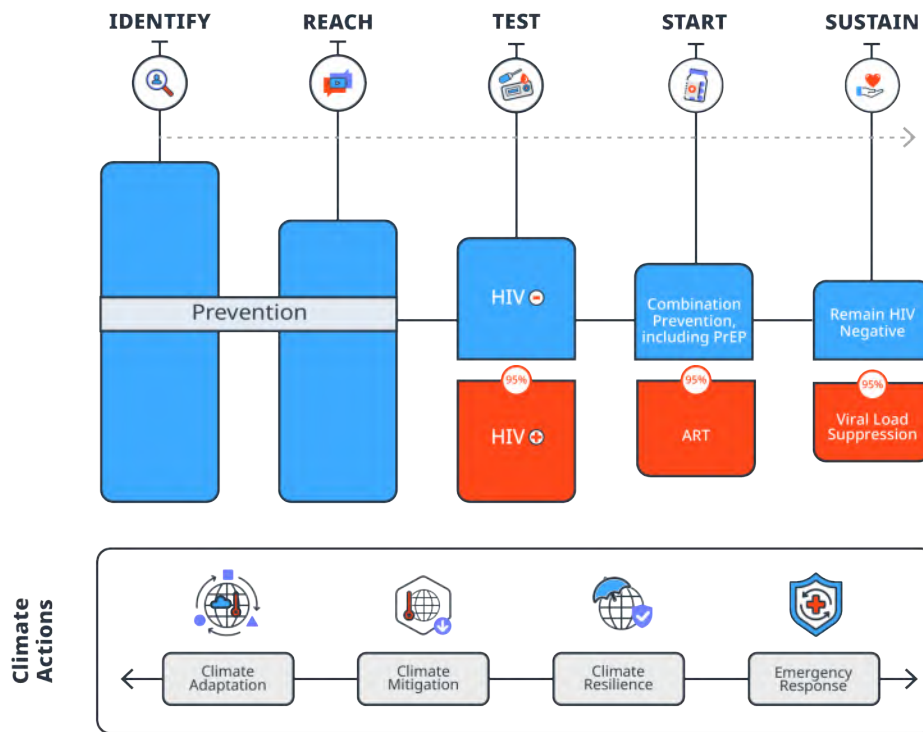
Climate adaptation. Adjusting HIV programs to function effectively under climate change conditions. Climate adaptation involves strategies to adjust to climate change and its effects, which may include acute events but also longer-term changes like rising sea levels, increased temperatures, shifting precipitation patterns, population displacement, and degrading air quality.

Climate mitigation. Reducing the climate impact of HIV services. Strategies may include efforts to lower greenhouse gas emissions/carbon levels, improve waste management systems, support renewable energy sources, and promote sustainable supply chains.

Climate resilience. Enhancing the capacity of HIV service systems and vulnerable communities to protect and improve population health in an unstable and changing climate.

Importantly, our climate-responsive HIV programming also prioritizes **emergency preparedness and rapid response** to minimize damage and ensure continuity of HIV services during acute climate-related events such as floods, droughts, earthquakes, hurricanes, or heatwaves. By integrating disaster risk reduction strategies and emergency response protocols into our HIV programs, we aim to protect the health and well-being of HIV-affected populations even in the face of sudden climate shocks.

Figure 1. FHI 360 climate/HIV cascade



The FHI 360 climate/HIV cascade (Figure 1) blends elements of climate adaptation, mitigation, resilience, and emergency response across HIV prevention and care.

Emergency preparedness and rapid response

Across the HIV cascade, FHI 360 will strive to support climate-related emergency preparedness and rapid response efforts to ensure continuity of critical HIV services during these events. Recognizing that disasters such as floods, droughts, and heatwaves can disrupt HIV prevention, testing, treatment, and care, we will make efforts to work with partners to develop, strengthen, and operationalize comprehensive emergency management plans. These HIV-focused efforts will set the stage for, or reinforce, broader crisis prevention and resilience interventions in the face of climate events.

In line with WHO recommendations, FHI 360 will strive to provide technical assistance to government ministries, community partners, and HIV programs to develop and/or implement climate-related emergency preparedness and management plans. These plans will outline strategies to:

- Stockpile HIV prevention and sexual and reproductive health products, PrEP, HIV testing kits, antiretroviral medications, and other essential commodities in climate-resilient storage facilities
- Put in place measures to counter weather disruption, such as ways to transfer medical records and medications, introduction of multimonth dispensing plans, and defined strategies for backup power, water, and staffing
- Establish alternative service delivery points in case primary health care facilities are damaged or inaccessible
- Train health care workers and community partners on early warning and emergency response protocols
- Develop communication channels to rapidly disseminate information to clients and communities
- Coordinate with disaster response agencies to ensure HIV is integrated into relief efforts
- Continue monitoring service access and uptake through existing or modified data recording and reporting channels or platforms, such as [DHIS2](#)

In the event of a climate-related emergency, FHI 360 will strive to help activate rapid response teams to undertake actions that may include, but are not limited to:

- Assessing impacts on HIV services and identifying immediate needs
- Mobilizing stockpiled commodities and deploying health care and community workers to alternative service points
- Implementing emergency communication plans to provide clients with information on where, when, and how to access HIV and related or adjacent services
- Collaborating with disaster response partners to deliver integrated health and HIV services to affected populations
- Using hotlines, e-referral, or online booking platforms (e.g., [Online Reservation App](#)) to virtually link clients to existing or emergency HIV services. These communication channels can provide connections to ARVs, PrEP, HIV self-testing, and condoms and lubricants.
- Strengthening virtual support groups and communication channels for service clients to report violence, stigma, discrimination, mental health issues, and economic distress to staff who are trained to respond to such disclosures. These channels will use encrypted platforms for communication and explain to participants the risks and rules for maintaining privacy and security.
- Supporting ongoing access to harm reduction for people who inject drugs, including access to needles and syringes and opioid substitution therapy for opioid dependence. Needles and syringes may need to be available through new channels, such as pharmacies or differentiated service delivery points, and access to safety disposal bins where needles are dispensed must be ensured.
- Advocating for adjacent support services—such as food provision, childcare, and mental health support—for marginalized people. FHI 360 will work with partners to update lists of adjacent services available and help individuals access these services whenever possible.

- Expanding options for HIV testing services that will maximize access and availability during emergencies, such as HIV self-testing, facility pick-up, peer-facilitated delivery, community testing, home-based delivery, and testing at private clinics, laboratories, or pharmacies.
- Intensifying diversified ART and PrEP service delivery options to incorporate home-based services, community-based distribution methods, digital orders, and facility pick-ups
- Considering systems for viral load sample collection at community levels such as the use of dry blood spot, plasma separation card, home collection, and testing at private facilities or laboratories

Climate adaptation

FHI 360 will endeavor to support the adaptation of HIV programs to ensure they can effectively respond to the evolving needs of populations affected by climate change. We will work, whenever possible, with our partners to identify and implement targeted adaptation strategies across the HIV cascade. Illustrative strategies that build upon emergency preparedness actions may include the following.

Prevention

- Improve storage conditions for HIV prevention products and PrEP commodities to ensure their stability and effectiveness during heat waves and periods of increased temperature.
- Integrate climate vulnerability assessments into PrEP and other prevention programming to identify individuals and communities at increased risk or need due to climate impacts.
- Adapt PrEP delivery models to ensure continuity of access during climate-related disruptions (e.g., multimonth dispensing, community-based delivery, mobile clinics).
- Develop climate-sensitive demand creation campaigns that address the links between climate change and HIV risk.
- Expand combination prevention programs to address climate-related drivers of HIV, such as economic instability, migration, and gender-based violence.

Testing

- Improve storage conditions for HIV testing commodities to ensure their stability and effectiveness during heat waves and periods of increased temperature.
- Implement climate-resilient HIV testing strategies, such as community-based testing campaigns and self-testing, to maintain access during climate disruptions.
- Integrate HIV testing into climate-related health outreach activities, such as disaster response efforts and health campaigns in climate-affected areas.
- Utilize geospatial mapping to identify climate hot spots and target HIV testing resources to those who are affected the most.
- Train health care workers and community partners on climate-sensitive HIV testing and counseling approaches.

Treatment

- Expand climate-adapted treatment models, such as multimonth ART dispensing, community ART groups, decentralized drug distribution, [virtual case management](#), and home-based care, to ensure continuity of treatment during climate disruptions.
- Integrate climate considerations into treatment adherence support programs, such as climate-sensitive treatment literacy materials and peer support groups.
- Strengthen health systems to maintain ART supply chains and cold chain management in the face of climate impacts.
- Establish mechanisms for rapid ART provision to climate-displaced populations, such as mobile clinics and emergency drug stockpiles.
- Support PLHIV to take control of their health and well-being by strengthening self-care service delivery, referral, and virtual social support mechanisms.
- Integrate mental health care into treatment models to address the mental health impacts of climate change for PLHIV.

Additional support mechanisms

- Collaborate with and support local partners to develop and implement community-based education initiatives that raise awareness about the links connecting climate change, HIV, and gender-based violence, and promote positive coping strategies and support services.
- Integrate climate-informed violence prevention and response measures into existing HIV programs, such as training health care workers and peer educators to identify and respond to signs of violence, stigma, and discrimination, and to establish referral pathways to support services during climate crises.
- Advocate for the inclusion of violence prevention and anti-discrimination measures in national and local climate adaptation plans and policies, emphasizing the need to protect the rights and well-being of people living with HIV and other vulnerable populations.

Climate mitigation

In addition to adapting HIV programs to respond to the impacts of climate change, FHI 360 recognizes the importance of mitigating the climate footprint of HIV services. We will explore ways to work with partners—and harness the expertise of other FHI 360 colleagues—to assess the environmental impact of HIV programs and implement strategies to reduce greenhouse gas emissions, minimize waste, and promote sustainability across the HIV cascade.

Key climate mitigation activities may include:

Reducing emissions from HIV service delivery

- Minimizing the use of paper-based job aids, social and behavior change communications, monitoring and evaluation forms, and other materials
- Conducting facility-level greenhouse gas inventories to identify emission hot spots and reduction opportunities
- Supporting the transition to renewable energy sources, such as solar power, for HIV clinics and testing sites that are designed to withstand disruptions caused by extreme weather events

- Optimizing HIV service delivery models to minimize travel-related emissions, such as through telemedicine and decentralized care which brings services closer to clients via community ART groups, mobile clinics, task-shifting to community health workers, integration with primary care, home-based services, and point-of-care diagnostics
- Promoting efficient or more sustainable transportation options for specimen collection and for health care workers and clients, such as the pooling of samples and the use of bicycles, electric vehicles, or public transport

Greening HIV supply chains

- Assessing the climate footprint of HIV commodities, including condoms, PrEP, testing kits, and ARV drugs
- Advocating for the development and procurement of more environmentally sustainable HIV products and processes, such as biodegradable packaging and low-emission manufacturing
- Supporting green procurement policies that prioritize suppliers with strong environmental track records
- Optimizing supply chain logistics to reduce transportation-related emissions and minimize waste

Promoting sustainable waste management

- Conducting waste audits to identify opportunities for reduction, reuse, and recycling in HIV programs
- Implementing comprehensive, climate-contextual waste management plans that address both hazardous and non-hazardous waste streams; for example, in the context of rainy seasons when runoff pushes waste into rivers, oceans, and other bodies of water
- Training health care workers on proper waste segregation, treatment, and disposal practices
- Exploring circular economy approaches, such as repurposing used HIV commodities—or other materials—for supplementary applications

Raising awareness and building capacity

- Integrating climate mitigation considerations into HIV program planning, budgeting, and reporting processes
- Building capacities of health care workers, community workers, implementing partners, and government officials on climate-smart HIV programming
- Developing and disseminating best practices and case studies on climate mitigation in HIV programs
- Advocating for the inclusion of HIV sector emissions in national greenhouse gas inventories and climate mitigation plans

Climate resilience

FHI 360 recognizes that strengthening the capacities of health systems and communities to anticipate, absorb, and adapt to climate-related shocks and stresses is critical to ensuring the long-term sustainability, continuity, and effectiveness of HIV services.

Key climate resilience activities may include:

Strengthening health system resilience

- Conducting climate risk and vulnerability assessments of health facilities, supply chains, and information systems
- Developing and implementing climate resilience plans for health facilities, including infrastructure upgrades, emergency preparedness, and continuity of operations planning
- Building capacities of health care workers, community workers, data managers, and other implementing partners on climate resilience strategies, such as risk communication and emergency response
- Integrating climate data and early warning systems into health information systems to inform preparedness and response efforts for acute, anticipated, or prolonged climatic events

Enhancing community resilience

- Engaging communities in participatory climate resilience planning and decision-making processes, including the design of climate responsive programs that center on the needs and perspectives of the communities most affected
- Implementing community-based education and awareness campaigns on climate and health risks and resilience strategies
- Supporting community-led initiatives to address climate-related vulnerabilities, such as income-generation activities and social safety net programs
- Building partnerships between HIV programs and CBOs working on climate resilience and disaster risk reduction

Promoting cross-sectoral collaboration

- Advocating for the integration of HIV considerations into national and local climate resilience policies and plans, and vice versa
- Strengthening multisectoral coordination mechanisms to facilitate collaboration between HIV programs and other sectors, such as water, agriculture, and social protection
- Developing and disseminating guidance and tools for integrating HIV and climate resilience programming
- Mobilizing resources to support cross-sectoral climate resilience initiatives that benefit HIV-affected populations

Malawi's response to Cyclone Freddy: Safeguarding HIV programming through community empowerment and swift adaptation

In March 2023, as Malawi grappled with its worst cholera outbreak in recent history and widespread food insecurity, Cyclone Freddy struck, unleashing catastrophic flooding and devastation. The cyclone affected over 2.2 million people, displaced more than 650,000, and severely damaged health infrastructure, particularly in the southern districts, which bear the heaviest HIV burden. Amid this crisis, Malawi's Ministry of Health and FHI 360's Meeting Targets and Maintaining HIV Epidemic Control (EpiC) project collaborated to mount a swift and effective response, ensuring the continuity of lifesaving HIV services.

Agile development and implementation of emergency policy protocols by the Ministry of Health allowed for rapid dispensing of ARVs to PLHIV, bypassing the need for extensive documentation. EpiC Malawi leveraged its network of multi-skilled community workers, including peer educators, navigators, and outreach staff, to support the delivery of HIV services in displacement camps and affected communities. These frontline workers played a crucial role in reconstructing lost client records, tracing displaced peers, and distributing ARVs and condoms.

The EpiC team's effective collaboration with the Ministry of Health, including rapid assessment of the cyclone's impact on HIV services, informed the design of targeted short- and long-term interventions. The project optimized multimonth dispensing of ARVs and decentralized drug distribution

through drop-in centers and home deliveries, and maintained open communication channels with key stakeholders to facilitate a coordinated response.

Remarkably, despite the immense challenges posed by Cyclone Freddy, the continuity of HIV services remained largely unaffected, as evidenced by national program data on HIV testing, sexually transmitted infection management, antenatal care attendance, and ART retention.

Malawi's experience offers valuable lessons for strengthening the resilience of HIV programs in the face of climate shocks. These include the importance of investing in community-based networks, leveraging technology for predicting and tracking population movements, and proactively addressing the heightened risks of stigma and discrimination faced by key populations in crisis settings.

Generating evidence and sharing knowledge

- Generating evidence that identifies effective strategies for building climate resilience in HIV programs and communities
- Documenting and disseminating best practices and lessons learned on climate resilience in the HIV response
- Participating in global and regional knowledge-sharing platforms to exchange experiences and expertise on climate resilience in the health sector
- Advocating for increased investment in climate resilience evidence generation and programming in the HIV response

Advocacy pillar: Amplifying the climate-HIV nexus

The advocacy pillar recognizes that addressing the climate-HIV nexus requires more than just programmatic interventions; it also demands policy and systems change at multiple levels. FHI 360 pledges to work with our partners and use our platform and expertise to advocate for the integration of climate change considerations into HIV and AIDS policies, strategies, and budgets; for increased investment in climate-resilient health systems and community-based responses; and for diverse, inclusive partnerships that promote a more holistic, rights-based approach to the climate-HIV nexus.

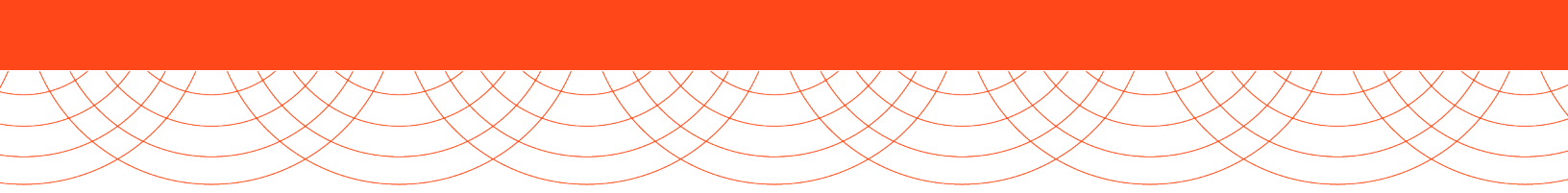
Key components of FHI 360's advocacy strategy may include:

1. **Evidence-based policy advocacy:** FHI 360 will strive to leverage its research findings and programmatic experience to advocate for evidence-based policies that address the intersections of climate change and HIV. This may involve developing policy briefs, position papers, programmatic analyses, and other advocacy tools that synthesize key evidence and recommendations; and engaging in targeted outreach to policymakers and decision-makers at local, national, and global levels.
2. **Multisectoral collaboration and partnership-building:** FHI 360 will actively seek to build or join strategic partnerships and coalitions with diverse stakeholders, including climate change experts, environmental organizations, human rights advocates, and community-based groups. By fostering

multisectoral collaboration and knowledge exchange, FHI 360 aims to promote a more integrated, holistic approach to addressing the climate-HIV nexus, and to amplify the voices and priorities of affected communities in policy and decision-making processes.

3. **Advocacy for increased investment and resource mobilization:** FHI 360 will advocate for increased investment and resource mobilization to support climate-resilient HIV and AIDS responses, particularly in lower- and middle-income countries that are most vulnerable to the impacts of climate change. This may involve engaging with donors,^b development partners, and the private sector to mobilize financial and technical resources; and advocating for the inclusion and integration of climate-related considerations in HIV and AIDS funding mechanisms and resource allocation processes.
4. **Promoting community-led advocacy and leadership:** FHI 360 will aim to work with affected communities—including young people—in their advocacy efforts, recognizing the critical importance of community voices and experiences in shaping effective, equitable responses to the climate-HIV nexus. This may involve supporting CBOs and networks to strengthen their own advocacy agendas and strategies and facilitating their participation in policy dialogues and decision-making processes at various levels.
5. **Advocacy for the integration of HIV and AIDS considerations into climate change policies and strategies:** Together with other FHI 360 teams, we will advocate for the integration of HIV and AIDS considerations into global, regional, and national climate change policies, strategies, and action plans. This may involve engaging with key climate change decision-making bodies, such as the United Nations Framework Convention on Climate Change and the Intergovernmental Panel on Climate Change, to ensure that the specific needs and vulnerabilities of people living with, or affected by, HIV are adequately addressed in climate change responses.

^b Within PEPFAR, this may include collaborating with the new Countries in Conflict/Crisis Working Group to develop and/or introduce principle-driven strategies and guidance.



Through its advocacy and partnership efforts, FHI 360 aims to support an enabling policy and resource

environment for effective, equitable, and sustainable responses to the climate-HIV nexus.

Launching a call to action: Building more resilient health systems to provide continual HIV services during polycrises

Polycrises—multiple crises such as climate events, political and civil conflicts, or anti-LGBTQI+ (lesbian, gay, bisexual, transgender, queer, and intersex people and those of other diverse sexual orientations and gender identities) threats that occur concurrently or simultaneously—negatively affect the ability of health systems to provide continual HIV and other health services. FHI 360 with Médecins Sans Frontières, U.S. Department of State Bureau of Global Health Security and Diplomacy, and WHO organized a satellite session at AIDS 2024 to reflect on the impact of polycrises on HIV service delivery, share practical experiences, illuminate gaps, and identify key priorities and actions necessary to ensure that people affected by HIV can continue to survive and thrive. The session featured diverse experiences, including the development and implementation of a national module to address crises—such as flooding, cyclones, drought, and armed conflict—as part of Mozambique’s guidelines for differentiated service delivery for HIV. The calls to collective action included updating the [Inter-Agency Standing Committee Guidelines for Addressing HIV in Humanitarian Settings](#), improving collaboration and coordination among humanitarian and HIV agencies and implementers to synergize responses to polycrises, and amplifying alliances within nations and regions to counter the destructive anti-LGBTI+ rhetoric and laws/policies that are undermining the HIV response.

Supporting locally led development in the climate-HIV response

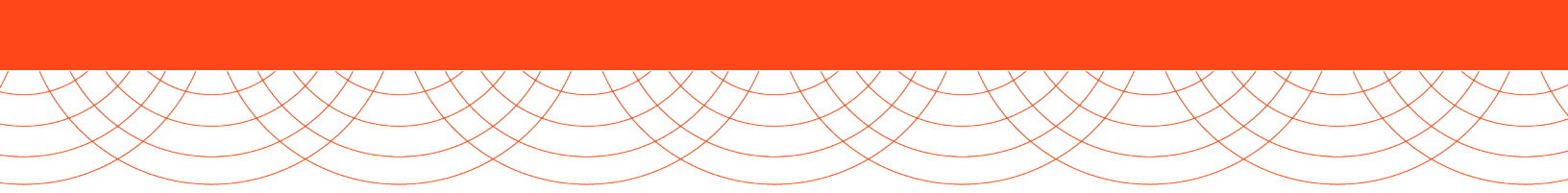
Central to FHI 360's climate and HIV strategy is a commitment to supporting locally led development, recognizing that sustainable, equitable, and effective responses to the dual challenges of climate change and HIV must be rooted in the priorities, knowledge, and leadership of local communities and partners. This section outlines the key strategies and approaches that FHI 360 will pursue to advance local leadership and invest in capacity strengthening, as part of its efforts to operationalize climate-responsive HIV programming.

Supporting local leadership: FHI 360 firmly believes that decision-making, technical expertise, and program management should be in the hands of local teams and partners, who are best placed to understand and respond to the specific needs, challenges, and opportunities of their communities. To support this, FHI 360 will endeavor to:

- Support participatory, inclusive, and transparent processes for program design, planning, and implementation, ensuring that local voices and perspectives are at the center of decision-making. This may involve setting up community advisory boards, conducting regular consultations and dialogues, and using participatory tools and approaches to facilitate meaningful engagement and ownership.
- Foster a culture of trust, respect, and mutual accountability by establishing clear roles, expectations, and communication channels and by promoting open dialogue, feedback, and learning. This may involve regular check-ins, joint planning and review sessions, and opportunities for peer exchange and support.
- Advocate for and support the representation and influence of local leaders and organizations in national and global decision-making spaces related to climate change and HIV, by leveraging FHI 360's partnerships, networks, and platforms. This may involve nominating local partners for leadership roles, supporting their participation in key events and processes, and amplifying their voices and perspectives.

Prioritizing capacity strengthening: To enable local teams and partners to effectively lead and implement climate-responsive HIV programming, FHI 360 will prioritize targeted capacity strengthening efforts aimed at enhancing skills, knowledge, and capabilities across a range of technical and operational areas. This may include:

- Conducting comprehensive capacity assessments to identify strengths, gaps, and priorities for climate/HIV capacity strengthening in close collaboration with local partners. These assessments will inform the design of tailored, context-specific capacity strengthening plans and interventions.
- Developing and delivering a range of training, mentoring, and technical assistance interventions, covering topics such as climate risk assessments, adaptation planning, resilience building, and climate-sensitive programming. These interventions may utilize a variety of learning approaches and modalities, including in-person workshops, e-learning courses, on-the-job training, and peer exchange.
- Facilitating access to tools, resources, and knowledge products that support climate-responsive HIV programming by curating and disseminating relevant materials, establishing resource hubs and libraries, promoting knowledge sharing and learning across different contexts and partners, and leveraging community and indigenous knowledge and practice related to climate resilience and responsiveness in material development and adaptation.
- Investing in organizational development and systems strengthening to enhance the sustainability, effectiveness, and resilience of local partners. This may involve supporting the development of strategic plans, policies, and procedures; strengthening financial management, monitoring and evaluation, and human resources systems; and facilitating linkages and partnerships with other local actors and networks.



Fostering multisectoral collaboration. Addressing the complex intersections of climate change and HIV requires a whole-society approach that extends beyond the ministry of health and traditional HIV program implementers. FHI 360 is committed to fostering multisectoral collaboration to build the resilience of communities at the frontlines of the climate-HIV crisis.

In collaboration with other FHI 360 teams, we will strive to convene and facilitate partnerships between HIV programs and a diverse range of local stakeholders that may include:

- Community-based organizations working on climate change, environmental conservation, and natural resource management
- Women's rights and gender equality organizations addressing the gendered impacts of climate change and HIV
- Youth-led initiatives focused on climate activism, sexual and reproductive health, and social justice
- Faith-based organizations providing social support and spiritual guidance to climate-affected communities
- Agricultural cooperatives and farmer associations working to improve food security and livelihoods in the face of climate change
- Water, sanitation, and hygiene programs addressing the links between climate change, water scarcity, and HIV
- Disaster risk reduction and emergency response agencies preparing for and responding to climate-related crises
- Local government authorities responsible for climate change adaptation, land use planning, and social protection

By working together with these diverse stakeholders, FHI 360 aims to foster a more holistic and locally led response to the climate-HIV crisis. We will provide technical assistance, whenever possible, to strengthen collaboration and coordination among partners, with a focus on:

- Jointly assessing climate and HIV vulnerabilities and identifying opportunities for integrated programming
- Developing local climate-HIV action plans that leverage the strengths and resources of different sectors
- Implementing multisectoral interventions that address the social, economic, and environmental drivers of both climate change and HIV
- Monitoring and evaluating the impact of collaborative efforts and sharing lessons learned to inform future programming



A call to collective action

The urgent need to address the intersection of climate change and HIV is clear. As the impacts of the climate crisis continue to mount, the health and well-being of millions of people living with and affected by HIV are increasingly at risk. Inaction is not an option; we must collectively act now to build the adaptation and resilience of individuals, communities, and health systems in the face of this dual threat.

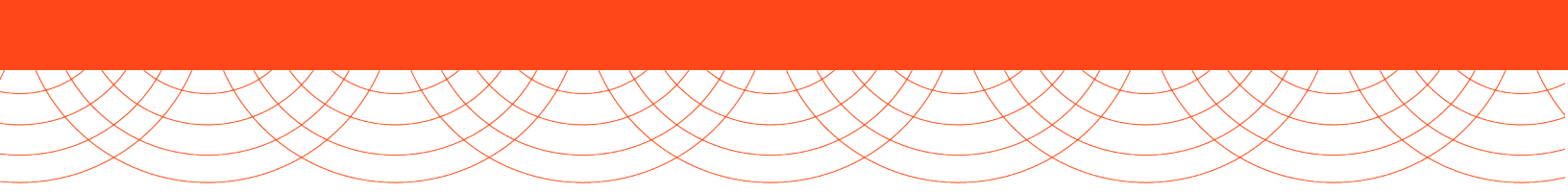
A Strategic Approach to HIV Programming in a Changing Climate represents FHI 360's commitment to pioneering innovative, sustainable, and equitable solutions at the intersection of these two global challenges. By leveraging our strengths in science, practice, and advocacy, working in partnership with a variety of actors, and by centering the voices and priorities of those most affected, we aim to drive transformative change and leadership in the climate-HIV nexus.

However, we recognize that this strategy is just the beginning. As we move forward with implementation, we will continue to learn, adapt, and evolve our approach based on new evidence, emerging best practices, and the changing needs and realities of the communities we serve. FHI 360 endeavors to work collaboratively with our partners, stakeholders, colleagues, and peers to share knowledge, strengthen capacity, and amplify impact.

We join the global health community, climate change activists, policymakers, donors, and all those committed to social justice and health equity in this critical work. Together, we can build a more resilient, sustainable, and equitable future for those living with or affected by HIV in the face of a changing climate.

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About FHI 360: FHI 360 is a global organization that mobilizes research, resources and relationships so people everywhere have access to the opportunities they need to lead full and healthy lives. With collaborations in over 60 countries, we work directly with local leaders to advance social and economic equity, improve health and well-being, respond to humanitarian crises and strengthen community resilience. We share data-driven insights and scalable tools that expand access and equity so communities can effectively address complex challenges, respond to shocks and achieve thriving futures.

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