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Climate Change and Digital Health

Building Resilience for the Future

White Paper **2025**

Table of Contents

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Executive summary

Climate change is not a distant threat – it is already disrupting health systems, increasing the spread of infectious diseases, and intensifying extreme weather events.

The urgency is clear: healthcare systems must adapt. Digital health offers a powerful set of tools to mitigate these challenges while building resilience. Organisations and health initiatives worldwide have been leveraging digital health solutions in low- and middle-income countries to address climate-related health challenges.

This white paper examines the intersection of climate change and digital health, offering insights into scalable solutions that can enhance resilience and reduce environmental impact.

Key priorities for scaling digital health solutions include:

1. Collaboration and Investment:
Strengthening partnerships between health, technology, and climate sectors to build interoperable systems and improve accessibility.

2. Scaling Up Adaptation Strategies:
Expanding digital health initiatives that integrate climate and environmental data into healthcare systems, ensuring inclusive and effective solutions.

3. Prioritising Sustainability:
Embedding environmental responsibility into digital health strategies, reducing their carbon footprint, and maximising long-term benefits.

By embracing digital health innovations, we can reduce healthcare's environmental impact while safeguarding millions of lives in an era of climate uncertainty.

2

Climate Change and Health: The Impact on Vulnerable Populations

Vulnerable populations, particularly those in low-resource settings, are disproportionately affected by climate change.

According to the 2023 State of the Climate in Africa report, African nations are losing an estimated 2–5% of GDP and spending up to 9% of national budgets on climate-related disasters [1]. Rising temperatures, air pollution, extreme weather events, and shifting disease patterns place additional strain on already fragile healthcare systems.

Increased climate-related displacement, driven by extreme weather events, is forcing migration and overburdening urban healthcare systems and emergency shelters. This leads to disease outbreaks in overcrowded refugee and internally displaced settings. Climate change also contributes to the increased risk of zoonotic disease transmission—such as Ebola and COVID-19—due to habitat destruction and closer human-wildlife interactions.

Below are key health challenges worsened by climate change:

2.1 VECTOR-BORNE DISEASES

Rising temperatures and changing rainfall patterns are expanding the range and breeding periods of disease-carrying vectors such as mosquitoes and ticks. This has led to an increase in malaria, dengue, Zika virus, and Lyme disease in regions previously unaffected. Digital health solutions, such as AI-driven disease surveillance and mobile health alerts, are helping predict outbreaks and guide timely interventions [2].

2.2 MATERNAL AND CHILD HEALTH

Climate change exacerbates maternal health risks by increasing pregnancy complications, neonatal mortality, and malnutrition. Heatwaves raise the likelihood of preterm births, while food and water insecurity contribute to maternal and child malnutrition.

Digital maternal health programs, like mobile-based prenatal care reminders and AI-powered risk prediction tools, can provide life-saving support to expectant mothers [3].

2.3 GENDER-BASED VIOLENCE AND CLIMATE DISPLACEMENT

Climate-related displacement and resource conflicts significantly increase the risk of gender-based violence (GBV), child marriage, and human trafficking, particularly as families struggle with food, water, and shelter shortages. The care-giving burden on women rises during disasters, often forcing them into economically dependent and vulnerable situations.

Digital platforms offering remote counseling, safety alerts, and GBV reporting channels are increasingly essential in both prevention and response.

2.4 MALNUTRITION

Droughts, floods, and changing agricultural patterns have led to increased food insecurity, stunting, and child malnutrition. In Africa, malnutrition accounts for 45% of child deaths under the age of five.

Digital nutrition monitoring tools, and predictive analytics for food security can help governments and humanitarian organisations track shortages and intervene early [4].

2.5 RESPIRATORY CONDITIONS AND HEAT-RELATED ILLNESSES

Air pollution, wildfires, and dust storms, exacerbated by climate change, are increasing cases of asthma, chronic obstructive pulmonary disease (COPD), and lung cancer. Prolonged exposure to extreme heat is also leading to heatstroke, dehydration, and cardiovascular disease.

Digital solutions such as real-time air quality tracking and AI-based early warning systems can mitigate these risks [5].

2.6 WATER-RELATED DISEASES

Extreme weather events, including floods and droughts, disrupt water supplies and increase the spread of cholera, typhoid, and diarrheal diseases. In sub-Saharan Africa, over 40% of healthcare facilities lack access to clean water, making infection prevention difficult [6]. Remote water quality monitoring, SMS-based disease tracking, and AI-powered sanitation mapping can help prevent outbreaks and improve public health responses.

Messaging systems, such as those developed in collaboration with the WHO, can also be deployed post-disaster to share health alerts and recovery guidance, helping communities reduce further illness and exposure.

2.7 MENTAL HEALTH IMPACTS

Climate disasters, forced displacement, and economic instability contribute to rising levels of anxiety, depression, post-traumatic stress disorder (PTSD) and eco-anxiety.

Digital mental health solutions, including crisis counseling, mobile therapy apps, and chatbot-based psychological support, are playing a crucial role in expanding mental healthcare access, especially in disaster-prone areas [7].

3

Digital Health: Scalable Solutions for Climate-Health Resilience

Empowering communities and strengthening frontline health delivery.

Digital health technologies offer scalable, cost-effective solutions to help individuals and health systems prepare for, respond to, and recover from climate-related health challenges. From personalised messaging services and mobile alerts to AI-driven health forecasting, digital tools are empowering communities and strengthening frontline health delivery. In the context of climate change, digital health supports both **mitigation** - by reducing the carbon footprint of healthcare delivery - and **adaptation** - by helping vulnerable populations stay safe, healthy, and informed during climate shocks.

These solutions are not abstract. They are already being used across Africa and other climate-vulnerable regions to extend healthcare access, drive behaviour change, and enhance resilience. Below are key examples of how digital health is driving meaningful impact:

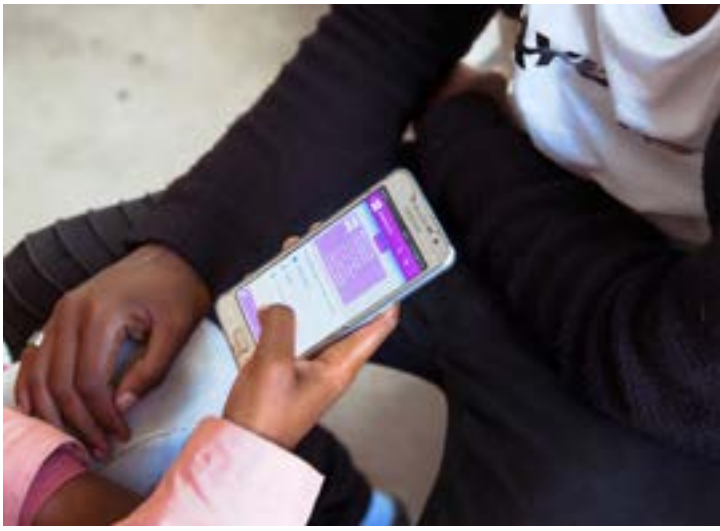
3.1 ENABLING BEHAVIOUR CHANGE

Digital health applications can be powerful tools to engage communities, improve disaster response, and drive behaviour change. By providing real-time information and interactive platforms, these solutions empower individuals to make informed decisions for their health and the environment.

Digital tools can also influence broader environmental behaviours, like promoting cleaner cooking methods or reducing exposure to air pollution, contributing to both climate and health goals.

3.2 SUPPORTING PREPAREDNESS THROUGH EARLY WARNING SYSTEMS

One of the most powerful roles digital health can play in climate adaptation is through early warning systems. These systems combine climate data, public health surveillance, and mobile technology to provide communities with advance notice of extreme weather events and climate-related disasters such as heatwaves, floods, hurricanes, and droughts.



For pregnant women and young infants, who are especially vulnerable, early warning systems can:

- Enable timely evacuation or relocation to safer areas.
- Improve access to pre-positioned health services, like maternal shelters or emergency obstetric care.
- Reduce exposure to infectious diseases by prompting early distribution of clean water supplies, hygiene products, and vaccinations.
- Trigger nutritional support and food aid during early signs of drought or crop failure, reducing the risk of maternal and child malnutrition.
- Alleviate mental distress, as the availability of timely and trusted information improves psychological preparedness and resilience.

When integrated with mobile platforms, chatbots, or IVR systems, early warning tools can deliver lifesaving alerts directly to affected populations, including those in remote and low-literacy settings.

3.3 ENHANCING ACCESS IN UNDERSERVED AREAS

Digital health can help overcome geographic, financial, and systemic barriers to healthcare in low-resource settings. In remote and rural areas, digital health platforms can reduce the need for in-person visits and expand reach through telemedicine, mobile clinics, and self-service platforms.

However, to ensure equitable outcomes, digital health solutions must be designed for inclusion. That means:

- Prioritising low-bandwidth channels like SMS and WhatsApp over high-data apps.
- Offering content in local languages and accommodating users with limited literacy.
- Integrating digital health into existing public health systems to ensure continuity of care.

A strong example is the use of mobile health platforms during floods or droughts, where people can access first aid instructions, find nearby health facilities, or receive guidance on protecting infants from heat exposure or waterborne illness.

3.4 CLOSING THE GENDER GAP

Women in low-resource settings face additional barriers to accessing digital health—despite being some of its greatest potential beneficiaries.

Barriers include lack of access to mobile devices, limited digital literacy, and exclusion from decision-making forums during climate disaster planning.

This digital exclusion increases vulnerability during climate-related health emergencies, particularly for pregnant women and mothers. To address this gap, digital health solutions must:

- Prioritise gender-sensitive design and onboarding.
- Partner with community health workers and women-led organisations.
- Offer anonymous support channels, especially for survivors of GBV and climate-related displacement.

Closing the gender gap in digital health is not only a matter of equity, it is critical for ensuring that half the population can prepare for and respond to climate shocks effectively.

4

The Power of AI and Big Data in Climate-Health Solutions

Artificial Intelligence (AI) and big data analytics are transforming the way we address climate-related health challenges.

These technologies enable healthcare systems to become more proactive, predictive, and resilient, offering vital support for vulnerable populations in a changing climate.

From forecasting disease outbreaks to optimising resource distribution during extreme weather events, AI-powered digital health tools allow for timely, evidence-based decision-making.

However, while these tools hold significant promise, their environmental footprint and ethical risks must also be acknowledged and actively addressed. We cannot discuss AI as a climate solution without examining its own impact on the climate.

4.1 UNLOCKING PREDICTIVE POWER FOR PERSONALISED, CLIMATE-RESPONSIVE CARE

AI and big data enable the development of personalised health solutions tailored to individual needs, vulnerabilities, and environmental exposures.

Machine learning algorithms analyse massive datasets—combining health records with climate and environmental variables—to identify who is most at risk and where to intervene first. For example:

- During heatwaves, AI can forecast individuals most vulnerable to heat stress based on age, health status, and location, triggering targeted alerts and services.

- Real-time AI-driven disease surveillance can detect early warning signs of vector-borne disease outbreaks by analysing rainfall, temperature, and mosquito population trends.

This shift from reactive to proactive healthcare is especially critical in low-resource settings, where timely response can save lives.

4.2 OPTIMISING RESOURCE ALLOCATION AND EMERGENCY RESPONSE

AI enhances decision-making during climate crises by identifying areas of greatest need and helping health systems deploy limited resources more effectively. AI-driven analytics can:

- Assess environmental and epidemiological risks to prioritise healthcare delivery.
- Optimise the distribution of medical supplies, staff, and mobile clinics.
- Support emergency preparedness by modelling demand surges during disasters.

This ensures maximum impact from available resources, particularly in those climate-vulnerable regions where capacity is often stretched.

4.3 DISEASE MODELLING AND RISK MAPPING

AI-powered computational models are revolutionising how we predict, visualise, and respond to climate-related health threats. Examples include:

- Predicting the geographic spread of malaria or dengue based on shifting rainfall and temperature trends.
- Analysing air quality data to warn high-risk groups about respiratory dangers.
- Generating real-time climate-health risk maps that help policymakers and responders plan targeted interventions—such as mosquito net distribution or heatwave shelters.

By visualising risk in near real-time, AI supports data-informed public health planning and climate adaptation.

4.4 AI IN CLIMATE-RESILIENT HEALTHCARE INFRASTRUCTURE

AI and big data are also reshaping the infrastructure of healthcare itself—making it more responsive to climate shocks. They are being used to:

- Predict how floods or heatwaves will impact hospital operations, power supply and medicine stock.
- Enhance telemedicine platforms, allowing consultations to continue during transport or infrastructure disruptions.

- Automate early warning systems for disease outbreaks or extreme weather events, improving speed and reach of alerts to frontline workers.

These tools are vital for keeping health systems functional during climate emergencies.

4.5 THE ENVIRONMENTAL COSTS OF AI: A DOUBLE-EDGED SWORD

While AI helps address climate-health challenges, it also has an environmental cost that must not be ignored. Training and running large AI models require significant energy and water resources.

Data centers consume vast amounts of electricity, often powered by fossil fuels. If unchecked, the AI industry could exacerbate the very climate crisis it aims to help solve.

A responsible path forward must include:

- Designing energy-efficient AI models that minimise computational load.
- Prioritising lean algorithms trained on smaller, more diverse datasets.
- Using renewable-powered infrastructure for digital health operations.

Balancing AI's promise with its footprint is critical to delivering truly sustainable digital health for all.

4.6 ETHICAL AND EQUITABLE USE OF AI

AI is only as fair as the data it is trained on. Without intentional safeguards, it can reinforce bias and deepen inequality. Key ethical concerns include:

- **Algorithmic bias:** If training datasets exclude women, minority groups, or LMICs, AI may deliver skewed or harmful predictions.
- **Data sovereignty:** Many low-income countries lack control over health data hosted on international cloud platforms.
- **Digital exclusion:** Populations without digital access risk being left out of AI-driven health services altogether.

To ensure AI is used ethically and equitably, we must:

- **Embed inclusive, representative data into all stages of model development.**
- **Enforce accountability and transparency in AI decision-making.**
- **Promote open-source, public-interest AI tools that prioritise global health outcomes over profit.**

4.7 A RESPONSIBLE VISION FOR AI IN CLIMATE-HEALTH INNOVATION

To maximise the benefits of AI while minimising harm, health systems and governments must commit to a Responsible AI agenda. This means:

- Prioritising human well-being over automation.
- Demanding transparency in AI models used for public health.
- Designing AI solutions that are not just powerful, but equitable, ethical, and environmentally responsible.

AI and big data offer game-changing opportunities in the fight against climate-driven health crises. But their success depends on how we design, govern, and implement them.

The future of AI in health must be one of radical responsibility, centred on both climate justice and digital equity.

5

Sustainability in Digital Health

As digital health continues to scale across regions and health systems, its environmental impact must not be overlooked.

From AI-driven analytics to cloud-based health records, digital tools consume energy, generate electronic waste (e-waste), and depend on vast amounts of data processing and storage.

If not carefully managed, the expansion of digital health risks exacerbating the very environmental challenges it aims to address. Therefore, integrating sustainability into the design, implementation, and governance of digital health solutions is essential for long-term viability and climate resilience [16].

A climate-smart digital health system is one that reduces emissions, conserves energy and materials, and operates within planetary boundaries—without compromising health access, equity, or quality.

5.1 ECO-DESIGN AND LIFECYCLE ASSESSMENT

Sustainability begins with the way digital health technologies are designed and developed. Applying lifecycle assessment (LCA) principles enables us to evaluate the carbon, material, and energy footprints of each solution from cradle to grave.

Key approaches include:

- Designing energy-efficient applications and hardware that minimise emissions.
- Prioritising modular, upgradeable devices that reduce needing full replacement.

- Using recyclable, non-toxic materials in hardware and packaging.
- Assessing the end-of-life impact of devices and ensuring planning for responsible retirement is done.

These practices extend the lifespan of digital health tools while reducing the environmental burden of frequent upgrades and device turnover [17].

5.2 ENERGY-EFFICIENT AI MODELS

AI models can be powerful, but computationally intensive. Training a single large model can emit as much CO_2 as five cars in their entire lifetime. Sustainable digital health strategies should therefore prioritise:

- Lean, task-specific AI models that require fewer computational resources.
- Edge computing, which processes data locally (on the device) rather than relying on centralised cloud servers.
- Using domain-specific datasets that are smaller and more efficient to train on.

These approaches reduce the energy demand of AI without compromising accuracy or functionality [18].

5.3 GREEN COMPUTING INFRASTRUCTURE

Data centres powering cloud-based digital health services account for a significant share of the sector's emissions. Transitioning to green infrastructure is critical. Best practices include:

- Powering health tech operations with renewable energy (e.g., solar or wind-powered data centres).

- Implementing smart cooling systems that use ambient air or water-efficient technologies to regulate temperature.
- Scheduling data-intensive tasks during periods of renewable energy availability (also known as carbon-aware scheduling).
- Reducing server load by de-duplicating data and decommissioning redundant infrastructure [19].

In short, green infrastructure makes digital health more climate-friendly without compromising reliability.

5.4 RESPONSIBLE DATA MANAGEMENT

Data is the backbone of digital health—but it comes at an environmental cost. Every file stored, retrieved, or analysed consumes electricity. With health systems generating petabytes of data annually, optimising data practices is essential. Sustainable data strategies include:

- Data minimisation: Storing only what's necessary while deleting inactive or duplicate records.
- Exploring decentralised storage models such as distributed ledger technology (DLT) that offer redundancy with lower energy use.
- Applying AI for intelligent data triage—automatically prioritising high-impact insights to avoid unnecessary analysis cycles [20].

Responsible data handling enhances both efficiency and privacy, reducing the carbon cost of computation.

5.5 SUSTAINABLE PROCUREMENT AND DISPOSAL

E-waste is one of the fastest-growing environmental issues worldwide. Digital health programmes must account for the full lifecycle of their devices and tools—from sourcing to disposal. Strategies include:

- Circular economy models that promote refurbishment, repair, and recycling.
- Procuring devices made from ethically sourced, conflict-free materials.
- Working with certified e-waste partners to responsibly dispose of hardware.
- Designing procurement policies that favour durability, energy efficiency, and low-toxicity components [21].

A sustainable procurement framework helps health systems limit their ecological footprint while promoting ethical innovation.

By embedding sustainability into digital health strategies, from software design to data storage and device retirement, we can reduce the sector's carbon footprint and align innovation with environmental stewardship. Doing so will deliver a resilient digital health future that serves both people and the planet.

6

Partnerships and Policy Integration

A unified approach to Climate and Health

The complex intersection of climate change and health necessitates multi-sector collaboration, uniting governments, international organisations, technology providers, and healthcare professionals to develop sustainable, scalable solutions.

No single sector can address climate-driven health challenges alone: cross-sector partnerships and integrated policies are essential to ensure that digital health solutions are accessible, effective, and aligned with global sustainability goals.

6.1 BREAKING DOWN SILOS: CROSS-SECTOR COLLABORATION

Health, technology, and climate sectors must break down silos to facilitate a shared understanding of risks, challenges, and solutions.

True collaboration goes beyond simply sharing information - it involves co-designing and co-implementing solutions that make a tangible impact on climate-related health challenges. For example:

- Healthcare professionals must work alongside climate scientists to anticipate climate-sensitive disease outbreaks and improve preparedness.
- Technology providers should co-develop digital health solutions with public health experts, ensuring that tools are inclusive, ethical, and accessible.
- Policymakers and global health organisations need to integrate climate resilience strategies into health system planning, ensuring sustainability and funding for long-term impact.

A prime example of such collaboration is Clim-HEALTH Africa, a consortium of African technical institutions and international partners working to strengthen public health resilience against climate change. At its Fifth Clim-HEALTH Africa Meeting in Senegal (2024), over 80 experts from health, climate, and development sectors convened to develop a five-year strategic plan to build climate-resilient health systems across Africa.

6.2 EMBEDDING HEALTH INTO CLIMATE ADAPTATION POLICIES

Many national and international climate adaptation strategies focus on environmental sustainability and economic resilience, often overlooking public health considerations. Integrating health into climate policies ensures that healthcare systems are proactive in addressing climate challenges. Governments should:

- Incorporate digital health innovations into national climate adaptation plans, thus ensuring funding mechanisms support climate-health initiatives.
- Allocate resources from climate-focused financing frameworks, such as the Green Climate Fund, for digital health programs that address climate-related health vulnerabilities.
- Integrate AI-driven climate-health early warning systems into disaster response protocols to guide emergency preparedness and disease outbreak responses.

6.3 ALIGNING WITH GLOBAL HEALTH AND CLIMATE GOALS

Integrating digital health into climate action aligns with several Sustainable Development Goals (SDGs), particularly:

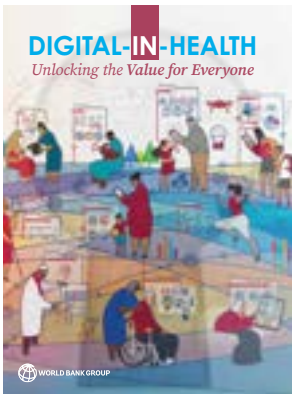
- **SDG 3 – Good Health and Well-Being:** Strengthening healthcare resilience through AI-driven digital health solutions.

- **SDG 13 – Climate Action:** Utilising data-driven interventions to predict, prevent, and mitigate climate-related health risks.
- **SDG 9 – Industry, Innovation, and Infrastructure:** Developing sustainable, low-carbon digital health technologies.

At the COP28 UAE Climate and Health Declaration, global leaders emphasised the need for integrated climate and health solutions, recognising digital health's potential to strengthen climate resilience in healthcare systems.

6.4 LESSONS FROM SUCCESSFUL PARTNERSHIPS

Several partnerships illustrate how collaborative models can drive impactful solutions at the intersection of climate change and health:

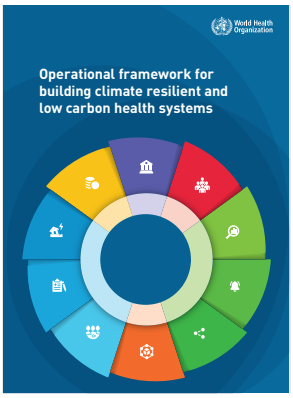


WORLD BANK'S DIGITAL HEALTH INITIATIVE

Supports low and middle income countries (LMICs) in scaling digital health infrastructure for climate resilience. Funds projects that integrate AI-driven disease surveillance with climate risk assessments.

THE LANCET COUNTDOWN ON HEALTH AND CLIMATE CHANGE

Provides annual reports tracking global climate health indicators, shaping data-driven policymaking.



WHO'S CLIMATE RESILIENT HEALTH SYSTEMS FRAMEWORK

Promotes intergovernmental collaboration to integrate climate-resilient digital health strategies into national health systems.

UNICEF'S AI-POWERED DISASTER RESPONSE REPORT

Uses machine learning to identify children most at risk from climate-related health threats and deliver targeted health interventions via mobile platforms.

6.5 ENSURING LONG-TERM SUSTAINABILITY OF CLIMATE-HEALTH PARTNERSHIPS

For climate-health partnerships to be effective and sustainable, they must be:

- **Data-Driven:** Using big data and AI to guide policy decisions and funding priorities.
- **Equitable:** Ensuring marginalised communities have equal access to climate-health
- solutions.
- **Scalable:** Designing interoperable digital health platforms that can be replicated across diverse regions.

By developing cross-sector collaborations, embedding health into climate policies, and aligning with global sustainability goals, we can build a resilient healthcare system capable of withstanding climate-related challenges.

7

Key Insights and Actionable Recommendations

Addressing the intersection of climate change and digital health requires strategic collaboration, policy alignment, and technological innovation. While digital health solutions offer unprecedented opportunities to enhance health resilience, their implementation must be intentional, inclusive and sustainable.

7.1 FOR POLICYMAKERS

Governments and regulatory bodies must prioritise health resilience in climate action plans, ensuring that policy frameworks, funding mechanisms, and governance structures support sustainable digital health solutions.

Our key recommendations:

- Invest in climate-resilient health systems by embedding digital health technologies into national climate adaptation plans.
- Establish regulatory frameworks that promote the sustainability and ethical implementation of AI-driven health technologies.
- Ensure equitable access to digital health solutions in low-resource settings, particularly for women, marginalised communities, and rural populations.
- Leverage climate financing mechanisms (e.g., the Green Climate Fund) to support climate-health digital transformation projects.
- Integrate AI-driven early warning systems into disaster response protocols, enabling real-time decision-making for extreme weather events and disease outbreaks.

7.2 FOR TECHNOLOGY DEVELOPERS

Developers of AI-driven digital health solutions play a critical role in ensuring that healthcare innovation aligns with climate goals, sustainability principles, as well as equity considerations.

Our key recommendations:

- Prioritise energy-efficient AI models to reduce the carbon footprint of health technologies.
- Apply responsible AI governance frameworks, ensuring transparency, fairness, and accountability in algorithmic decision-making.
- Design inclusive digital health platforms that address language, literacy, disability, and gender barriers.
- Expand mobile-first health solutions (e.g., WhatsApp chatbots, SMS-based alerts and voice assistants) to serve users in areas with limited internet access.
- Respect data sovereignty by enabling countries to store and manage their own health data securely.
- Strengthen interoperability across digital platforms, enabling seamless integration of climate, health, and AI-driven datasets.

7.3 FOR GLOBAL HEALTH ORGANISATIONS

International organisations, NGOs, and multilateral agencies are uniquely positioned to convene stakeholders, mobilise funding, and scale innovation across borders.

Our key recommendations:

- Scale up successful digital health pilot programmes and integrate them into national health strategies for long-term impact.
- Facilitate multi-stakeholder collaboration, including partnerships between governments, the private sector, academia, and civil society.
- Invest in capacity-building initiatives that support local innovation in climate-health technologies and strengthen digital literacy among healthcare workers.
- Advocate for the inclusion of digital health in climate adaptation financing and ensure that global health funding mechanisms prioritise climate resilience.
- Promote sustainable procurement guidelines and support the development of ethical, environmentally responsible supply chains in digital health.
- Develop and share best practices for managing digital health e-waste and carbon emissions, ensuring that the sector supports global sustainability targets.

By embedding policy alignment, technological responsibility, and global collaboration into climate-health strategies, we can accelerate digital health innovation while ensuring it remains sustainable, equitable, and impactful in the world's most vulnerable communities.

8

Conclusion

As the climate crisis accelerates, its effects on human health are becoming increasingly visible, and increasingly urgent. Rising temperatures, extreme weather events, and environmental degradation are placing health systems under pressure, while widening existing inequalities in access, outcomes, and resilience. At the same time, we are entering a pivotal phase in digital transformation - one that offers not just innovation, but the potential to reshape how healthcare is delivered in a climate-altered world.

This white paper has explored how digital health can serve as both a lifeline and a lever for transformation. From personalised early warning systems to AI-powered forecasting and mobile-based mental health support, these technologies are already showing promise in helping communities anticipate, adapt to, and recover from climate-related health threats.

However, the road ahead is not without challenges. The digital health sector must take responsibility for its own environmental impact: by building energy-efficient infrastructure, reducing e-waste, and adopting greener practices across the technology lifecycle. Equity must also remain at the core of all interventions: if digital tools fail to reach those most affected by climate change, they will fall short of their potential.

As we confront the realities of a warming world, we must seize this moment to reimagine healthcare, not only as a system for treating illness, but as a frontline force for climate resilience.

To succeed, we must act on three guiding principles:

- **Inclusivity:** ensuring that no one is left behind in the digital health revolution.
- **Sustainability:** designing systems that protect both people and the planet.
- **Collaboration:** uniting governments, innovators, and communities in a shared vision for a healthier, climate-resilient future.

The solutions exist - what is needed now is sustained commitment. The climate-health agenda must evolve from reactive responses to proactive, digitally enabled systems. That evolution will demand strategic partnerships, robust policy integration, and inclusive design principles that place people, and the planet, at the heart of healthcare innovation.

The opportunity is clear: to build health systems that are not only climate-resilient, but also smarter, fairer, and more sustainable than what came before. Let us move forward not just with urgency, but with clarity of purpose, and with the conviction that a healthier future is possible if we design it together.

OUR KEY TAKEAWAYS

- Climate change is already reshaping global health outcomes, especially among those in low-resource settings.
- Digital health offers scalable, data-driven solutions to adapt to climate impacts and build health system resilience.
- Artificial Intelligence and big data can enhance early warning, disease forecasting, and resource planning but must be deployed with attention to equity, ethics and environmental cost.
- Sustainability in digital health requires deliberate design choices, including energy efficient AI models, green infrastructure, and responsible data governance.
- Policy integration and global partnerships are critical to embedding digital health into climate action frameworks and ensuring that these tools reach the people who need them most.

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