



CAPE TOWN ICC
4-8 MAY 2024

The
**2³_{rd} Annual
BHF Conference**

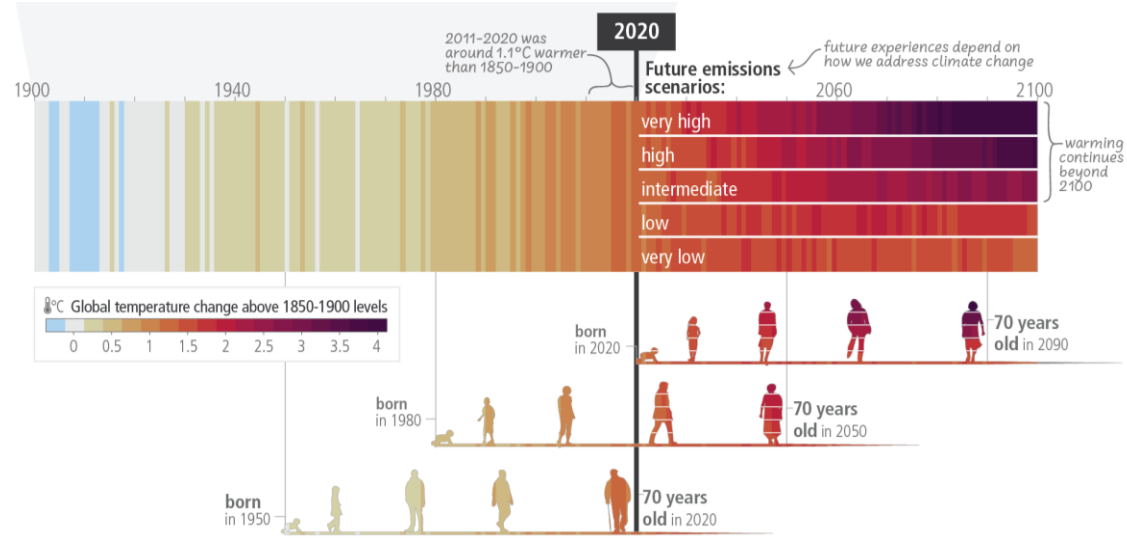
Beyond Barriers: Navigating the
Future for Sustainable Healthcare

Smart Climate- Health Early Warning System

Elizabeth Leonard & Vishal Brijlal
Clinton Health Access Initiative South Africa



Impacts of Climate Change



Observed increase in adverse climate impacts: Health & Well-being

Infectious diseases

Heat, malnutrition and harm from wildfire

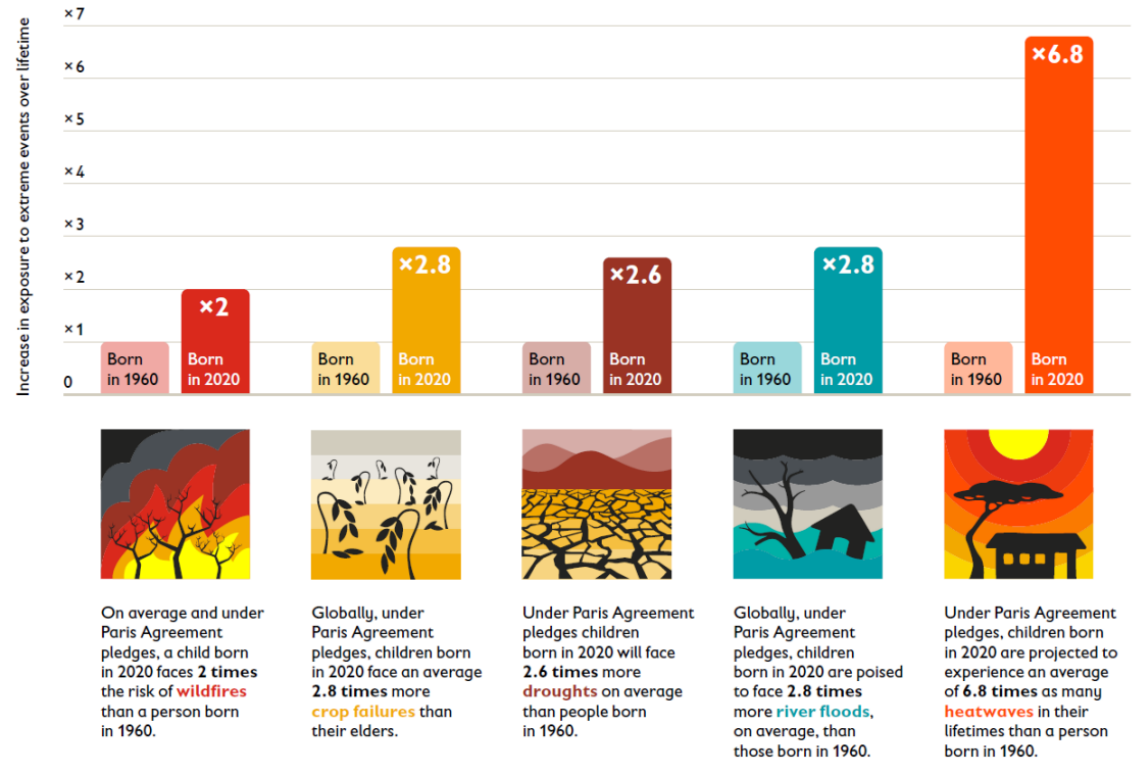
Mental health

Displacement

Confidence in attribution to climate change

- High or very high confidence
- Medium confidence
- Low confidence

IPCC Report https://www.ipcc.ch/report/ar6/syr/downloads/figures/summary-for-policymakers/IPCC_AR6_SYR_SPM_Figure1.png



On average and under Paris Agreement pledges, a child born in 2020 faces **2 times** the risk of **wildfires** than a person born in 1960.

Globally, under Paris Agreement pledges, children born in 2020 face an average **2.8 times** more **crop failures** than their elders.

Under Paris Agreement pledges children born in 2020 will face **2.6 times** more **droughts** on average than people born in 1960.

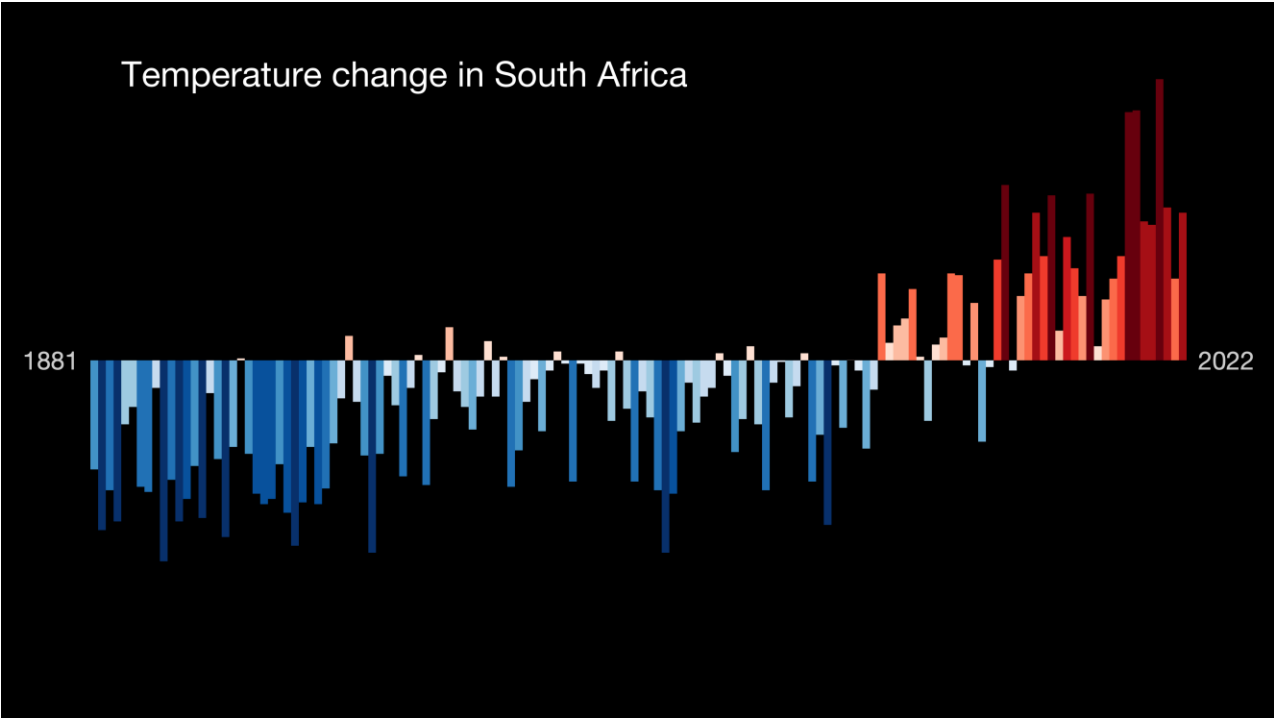
Globally, under Paris Agreement pledges, children born in 2020 are poised to face **2.8 times** more **river floods**, on average, than those born in 1960.

Under Paris Agreement pledges, children born in 2020 are projected to experience an average of **6.8 times** as many **heatwaves** in their lifetimes than a person born in 1960.

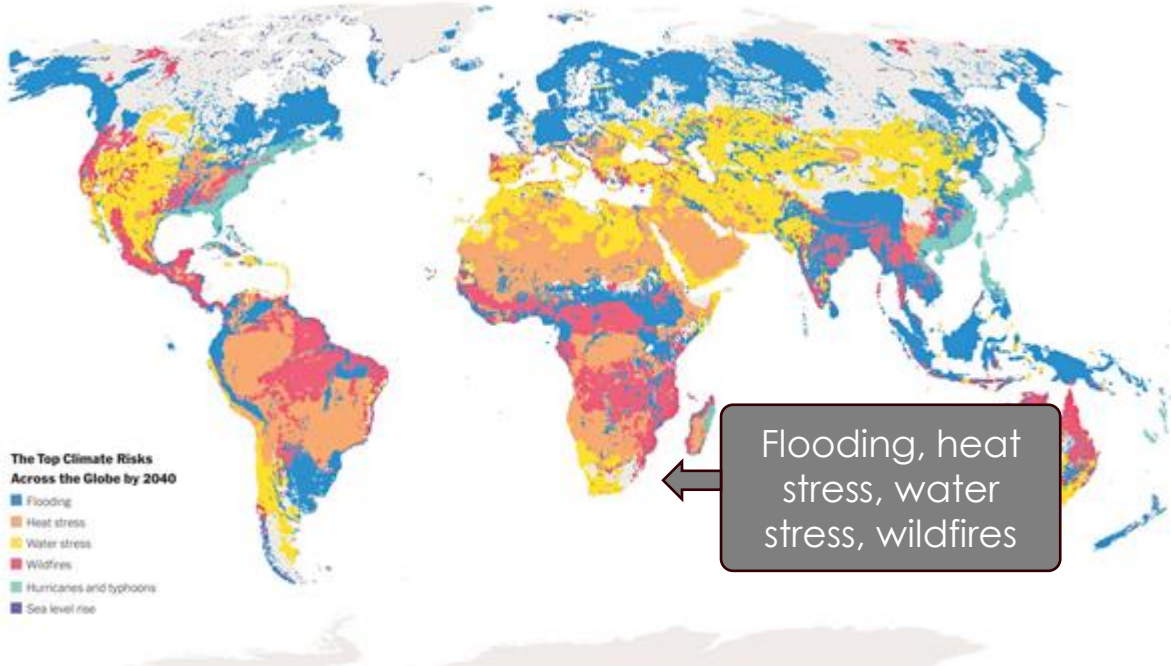
Save the Children. Born into the climate crisis. 2021.

Adverse impacts from human-caused climate change will continue to intensify
~ 2023 IPCC Report

Climate Risks in South Africa



<https://showyourstripes.info/c/africa/southafrica/all>



Source: Four Twenty Seven and The New York Times



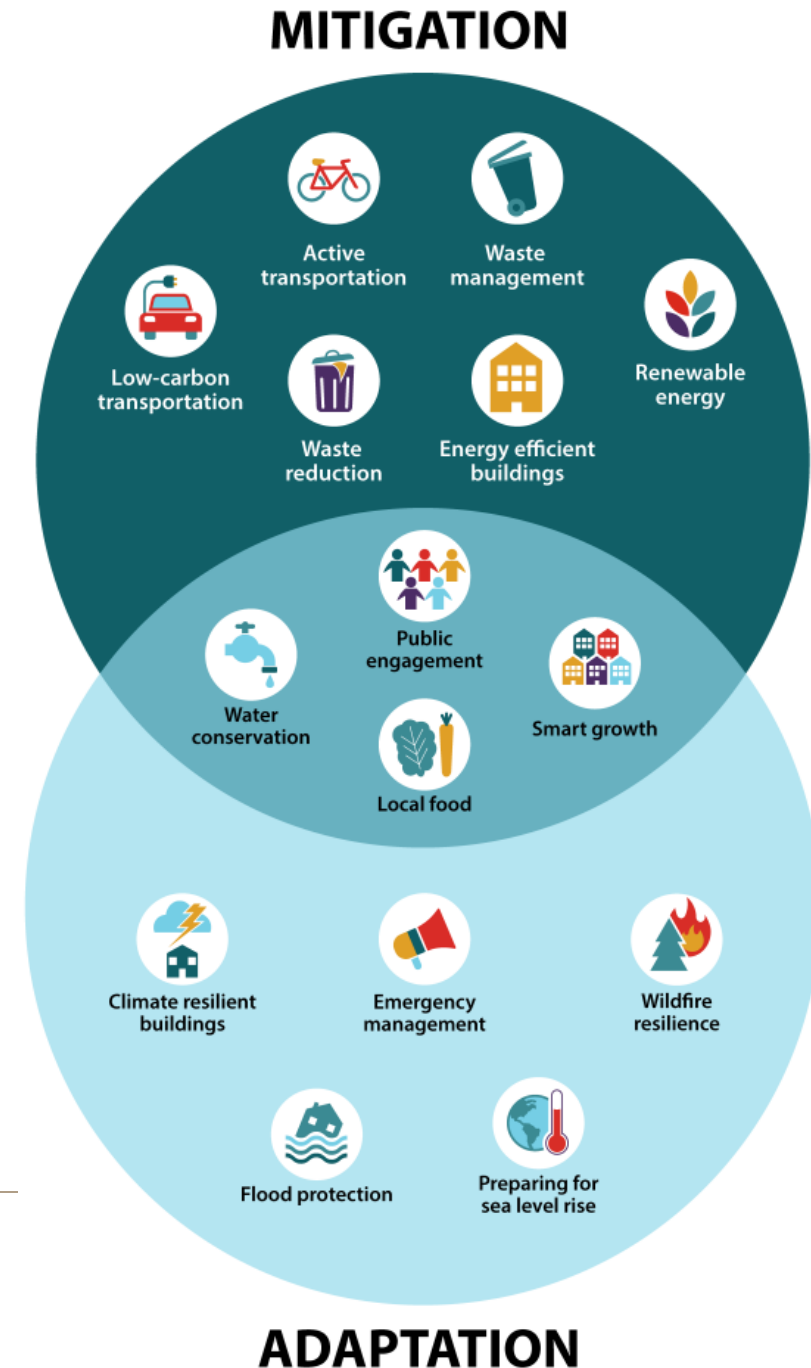
Responding to Climate Change

Mitigation vs. Adaptation

- Mitigation: preventing or reducing the emission of greenhouse gases to make the impacts of climate change less severe.
- Adaptation: process of adjusting to the current and future effects of climate change.

Early Warning Systems as a critical adaptation strategy:

- providing timely and effective information to individuals exposed to hazards,
- enabling them to take action to avoid or reduce their risk and
- prepare for an effective response.



Early Warning Systems as an adaptation strategy

Existing early warning systems in South Africa include:



- National Institute for Communicable Diseases: communicable disease surveillance reports from surveillance systems; this includes the notifiable medical disease surveillance system.



- South African Weather Services: pending severe weather to the National/Provincial Health Operations Centre which is disseminated to district health services and healthcare facilities.

Recommendations to improve early warning systems:



- Adopt a more integrated, inter-sectoral approach that links health and weather systems.

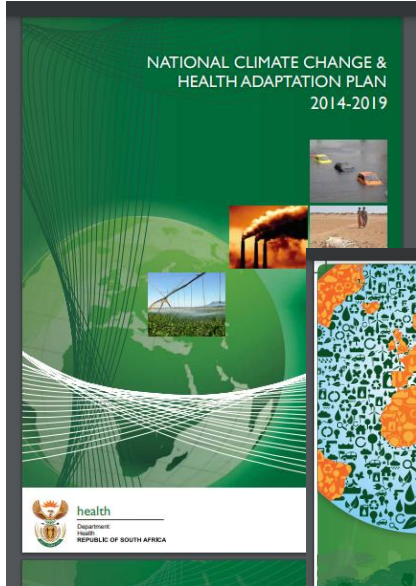


- Improve dissemination of information shared by early warning systems to rapidly target vulnerable populations.

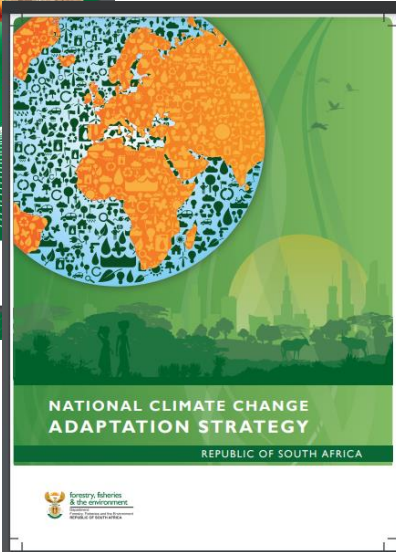


Relevance of a smart climate-health EWS

"...through the institution of early warning or surveillance systems, to behavioural interventions..."



"Develop and continuously update a national climate information and early warning system..."



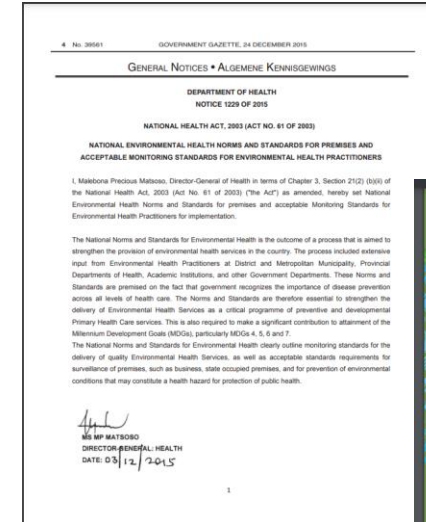
"Enhance the resilience of people and the economy to climate change."



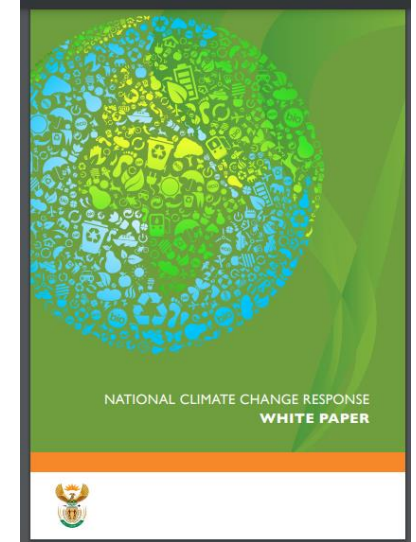
"Heat Health Action Plans, incorporating Heat Health Warning Systems are important adaptation strategies..."



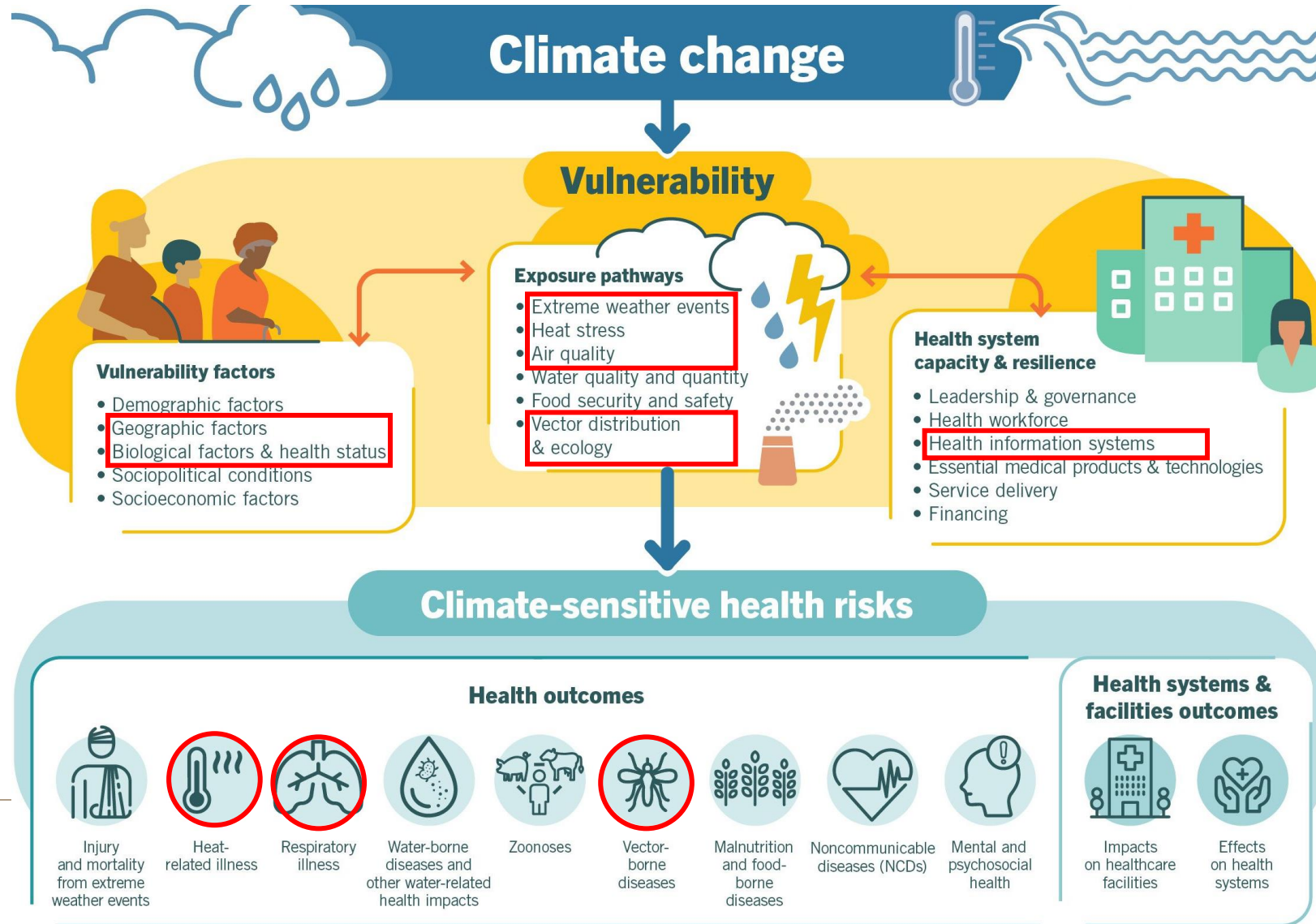
"...principles of communicating risks, early warnings and application of methods relevant for various groups of the population are essential."



"This includes setting up and maintaining early warning systems..."



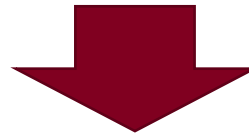
Establishing a smart climate-health EWS



Establishing a smart climate-health EWS



Data Integration and Predictive Analytics



Customized alerts providing timely, targeted early warning alerts & messaging focusing on:

- Climate alerts,
- Adaptation measures during pregnancy and newborns
- When to go to a health facility



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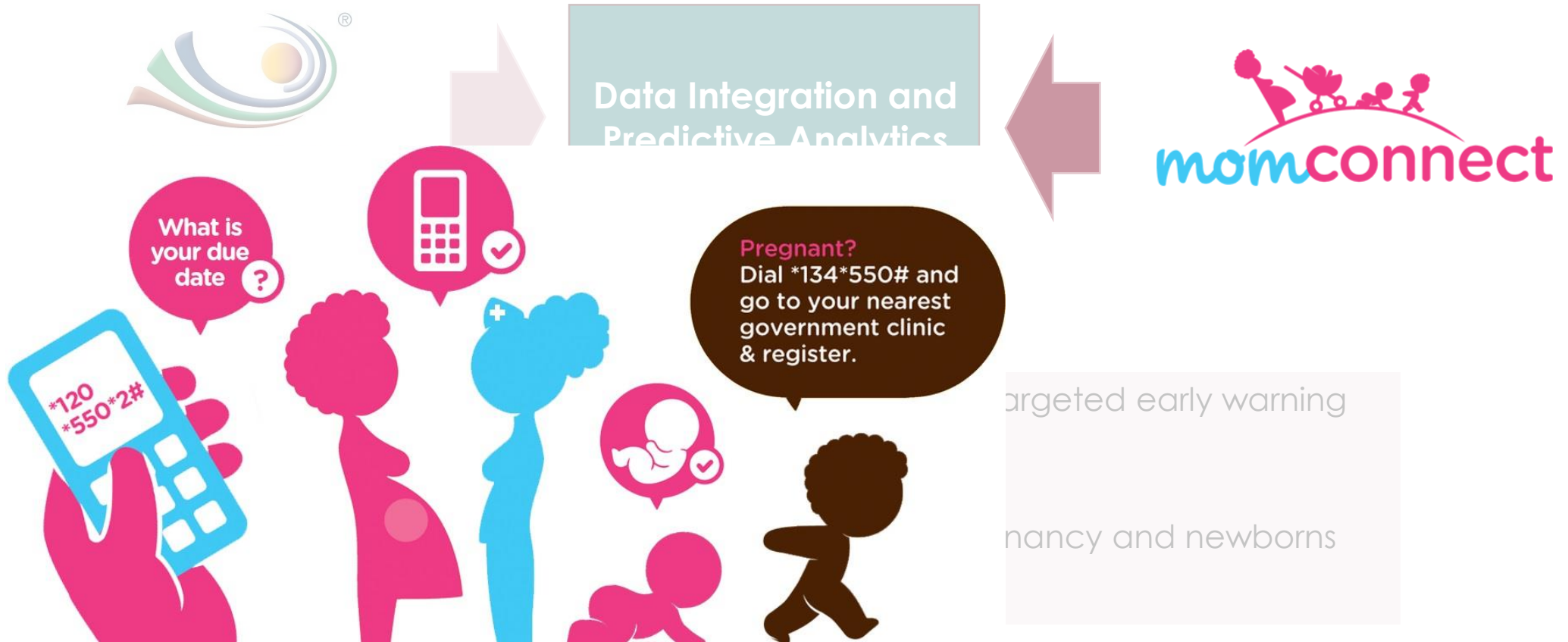


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Statistics as at September 2023

4,663,227

All time users

Active users

422,545

95%

of clinics to date in SA have registered mothers on MomConnect

\$0.20

Cost per person per year

98.6%

of registered moms would recommend MomConnect to a pregnant relative or friend

60%

of all mothers attending their 1st antenatal visit in the public sector in 2018 were registered on MomConnect.



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BEYOND
FUTURE I

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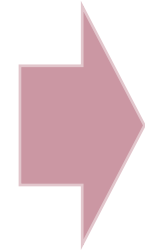
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Monitors:

- Geo-locations
- Pregnancy stage/ newborn age
- Cellphone numbers



Establishing a smart climate-health EWS



Data Integration and Predictive Analytics



- Monitors:
- Extreme temperatures
 - Relative Humidity (wet bulb effect)
 - Air quality
 - Rainfall
 - Wind speed



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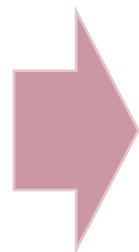
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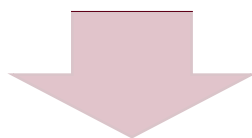


Establishing a smart climate-health EWS

Merger of SAWS weather forecasting systems with MomConnect database, incorporating climate-health learnings



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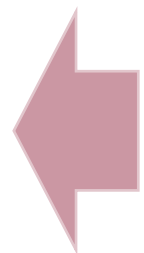
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*"If the **maximum temperature** at a particular town is expected to **meet or exceed 5 degrees C** above the **average maximum temperature** of "the hottest month" for that particular place, as well as **persisting in that mode for 3 days or more**, then a heat wave may be declared."*

Source: SAWS. What is a heat wave? SAWS.
<https://www.weathersa.co.za/home/weatherques>

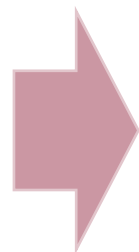
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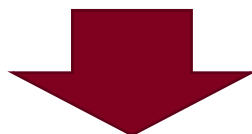


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Establishing a smart climate-health EWS



- **Enhanced Climate-Health Literacy:** empowering women to make well-informed decisions about their health and their newborns' welfare.



- **Sustainable and Cost Efficient:** building on existing systems to ensure high levels of acceptability and sustained use.



- **Adverse Health Outcome Mitigation:** avert adverse perinatal health outcomes, including preterm births, miscarriages, and other climate-induced complications.



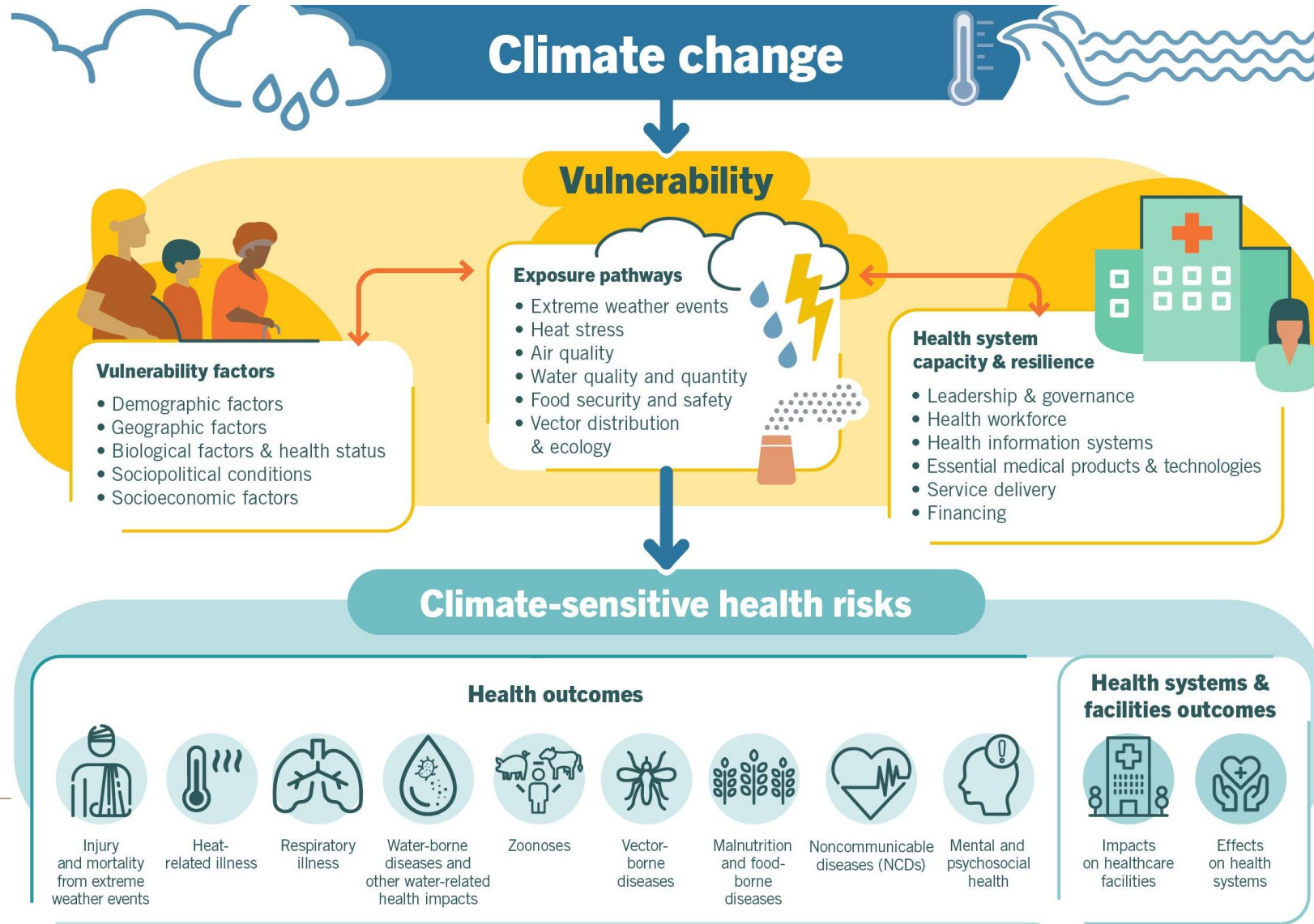
- **Cross Sector Learnings:** Importance of interoperability and utilising existing health infrastructure and community-based mHealth interventions.



- **Way forward:** Further development of the smart-climate health early warning systems and similar adaptation tools.



Where to next?



Thank You.

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