GENEVA GRADUATE INSTITUTE

INSTITUT DE HAUTES ÉTUDES INTERNATIONALES ET DU DÉVELOPPEMENT

GRADUATE INSTITUTE OF INTERNATIONAL AND DEVELOPMENT STUDIES

Geneva Graduate Institute

Master in International and Development Studies (MINT)
Autumn Semester 2024

ARP 39 – Blue Orchard

Climate Change Adaptation via Health Insurance – An Analysis of the Contribution of Digital Platform Providers to Insurance Access and the Supportive Role of Impact Investing

MINT317: Applied Research Foundations
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Word Count: 9448
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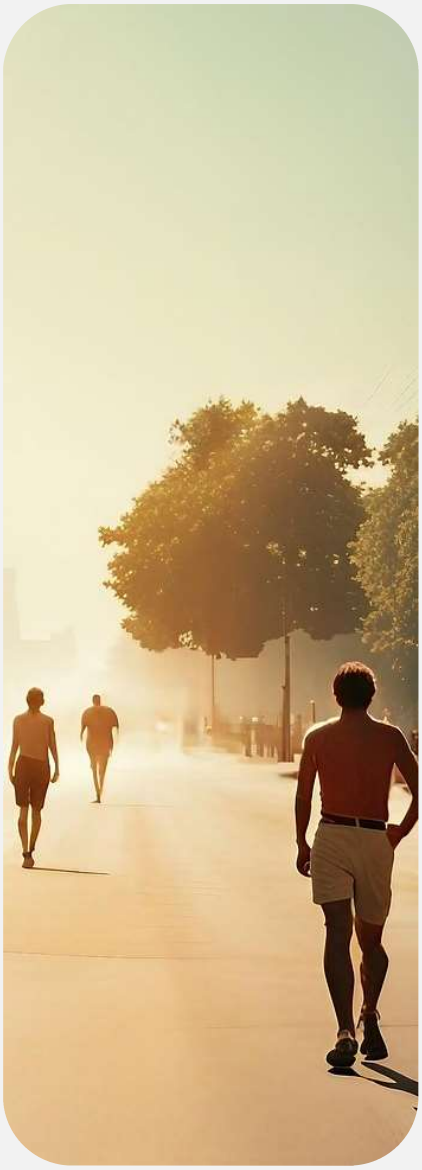
Submission date: 16/05/2025



EXECUTIVE SUMMARY

Climate change poses one of the greatest threats to human health to date - particularly in Low- and Middle-Income Countries (LMICs), where its impacts will be felt most acutely, and adaptation capacities remain severely limited. Previous research has highlighted the potential role of insurers and adjacent actors in supporting climate adaptation and strengthening resilience. However, the role of health insurance value creation has largely been overlooked.

This report aims to help fill that gap by focusing on the potential of digital platform providers (Insurtech platforms) to improve access to insurance - and thereby unlock scaling potential for a range of interventions across the insurance value chain that support both individual and health system resilience in LMICs. It focuses specifically on impact investing as a financing channel to enhance the reach and effectiveness of these platforms across three key dimensions: affordability, literacy, and distribution of insurance products - all of which are key to improving insurance access. The report provides insights into the strategies these platforms use to address these challenges guided by a Theory of Change perspective drawing on expert interviews and desk research. The key findings are a number of best practices that impact investors could look out for to achieve both impact and Return on Invest.

Climate Change Impacts on Health & Health Services

- Climate Change will put increasing pressure on health systems globally by:
  a) creating shifts in the frequency and intensity of extreme weather events;
  b) changing natural systems: geographic disease patterns of contagious-and vector-borne diseases, & air quality;
  c) creating further impacts heavily mediated by human systems (e.g, malnutrition, migration)
- *Vulnerabilities are unevenly distributed* across geographic and individual characteristics
- *Emerging reinforcing cycle of fragility in LMICs*: Poverty and poor health systems leave large segments of the population unable to access and afford quality healthcare. This exacerbates climate-related health impacts and further strains already fragile health systems.

Health Insurance as a Mechanism to Increase Health Resilience in LMICs

- Health insurers and adjacent actors are in a strategic position to improve health resilience in LMICs, where universal health coverage is largely inadequate.
- They can provide financial means to access quality care, influence public behavior, improve data availability, and strengthen health system capacity

- **Key Entry Points include :**

1. Expanding policy coverage and creating market incentives to improve the accessibility and availability of climate-adapted quality care;
2. broadening the product portfolio beyond healthcare coverage to help inform policy-interventions and improve health system capacities;
3. improving public health data availability and processing to inform policy scheme changes and support governmental health interventions
4. expanding access to health insurance in LMICs to substantially enhance the effectiveness of entry points 1-3 via supporting scalability and sustainability of climate-resilient health interventions.

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Market-Risk for Insurers, The Role of Insurtech Platforms & The Opportunity for Impact Investing

Risk Faced by Insurers

- Health Insurers will face rising demand, market volatility, and reduced risk pooling due to climate change
- These pressures strain short-term liquidity and long-term profitability, creating strong incentives to partner up with Insurtech Platforms

The Opportunity for Impact Investing

- Bridging Investment Barriers for Conventional Investments in LMICs
- Dual value of Insurtech Platforms (Impact & ROI for Platforms and Insurers)

The Role of Insurtech Platform s - Past Research

- ***Affordability***: Potentials to cut marginal costs and support low-cost insurance
- ***Health Insurance Literacy:*** Digital tools offer facilitating product info and improving user understanding
- ***Distribution***: Mobile access expands reach including to underserved populations.

Research Approach

- Desk Research & nine expert interviews (scientists, practitioners, practitioner experts)
- Modeling of a Theory of Change for each of the three dimensions of insurance access.

Findings: Potentials of Insurtech Platforms to Address Access Challenges & Business Approaches to Look Out For

- **Affordability**: By *digitalizing administrative processes* and client interaction as well as *bundling of services* across the insurance value chain, Insurtech platforms enable the expected cost savings and economies of scale. This allows to offer lower insurance premiums and thus increase access to healthcare for previously underserved groups.
- **Health Insurance Literacy:** Insurtech platforms can resort to embedded educational campaigns on insurance advantages and contextual selling to enhance understanding of benefits. Furthermore, digital platforms can offer *end-to-end costumer support and guidance during sign-up and claims process* resulting in higher number of completed sign-ups and lower drop-off rates while enhancing transparency and trust.
- **Distribution**: Through *integrating multiple stakeholders* – including clients, hospitals, practitioners, and e-health services within a healthcare system on a single platform, Insurtech Platform providers are able to offer insurance to clients in various contexts of care provision and connect them to different services. In addition, they may allow extending *coverage across borders*, thus responding to the needs of climate-induced migrants, a highly vulnerable group.

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List of Abbreviations

AI	*Artifical Intelligence*
CBHI	*Community-based Health Insurance*
DALY	*Disability Adjusted Life Years*
ESG	*Environmental, Social and Corporate Governance*
LMICs	*Low- and Middle-Income Countries*
OECD	*Organisation for Economic Co-operation and Development*
PHI	*Private Health Insurance*
SHI	*Social Health Insurance*
ToC	*Theory of Change*
WEF	*World Economic Forum*
WHO	*World Health Organization*

1. Introduction

Health Insurance & Climate Change

Past research has highlighted the **critical role of insurance in climate change adaptation** (Ebi et al., 2017; Organisation for Economic Co-operation and Development, 2023). Insurers provide **essential financial protection against economic losse**s emanating from the adverse impacts of climate change and play **a key role in advancing climate risk assessment and promoting adaptation** strategies (OECD, 2023). At the same time, the growing threat is also straining insurers' business models and financial capacities, requiring them to adapt to remain profitable (OECD, 2023).

While research on these necessary adaptations has primarily **focused on Property & Casualty insurance**, health insurers have received comparatively less attention (Bhattacharya-Craven, 2024).

However, climate change has been described as "the single biggest health threat facing humanity"(World Health Organization [WHO], 2021): A recent study by the World Economic Forum (2024) projected an estimated 14.8 million related deaths. Notably, the **majority (79%) of negative health impacts will manifest as morbidity, with an expected loss of 2 billion Disability-Adjusted Life Years** (DALYs; WEF, 2024), reflecting both lower life expectancy and time spent with disability or illness. This comes with an estimated **rise in treatment costs of US$1.1 trillion** worldwide by 2050 (WEF, 2024), highlighting the **urgent need for health insurers to revisit coverage models and long-term strategic planning** to ensure economic viability.

The Role of Digital Platforms in Strengthening Climate Resilience in Low- and Middle-Income Countries (LMICs)

Public Health challenges are expected to be **especially severe in LMICs**. These countries not only face **heightened exposure to climate change effects** but also have a particularly **limited capacity to respond** to them, especially in the health sector (Notre Dame Global Adaptation Initiative, 2022).

In the **lack of universal health coverage,** the financial burden often falls on individuals and families, with nearly **two billion people worldwide facing financial hardship** due to health expenditures to date (Kruk et al., 2018; WHO, 2023c). These figures are likely to worsen as climate change progresses, making adequate treatment increasingly inaccessible due to cost barriers, leading to the protection and exacerbation of existing conditions and further spreading of untreated communicable diseases

Health insurers **financially enabling role** – including through subsidiary actors they operate with – could be key to address these risks and **strengthen health system resilience** (Bhattacharya-Craven, 2024; Fantini et al., 2024).

Among possible interventions identified in previous literature, **expanding access to health insurance** emerged as a particularly promising lever for achieving scalable and equitable impact in LMICs. In these contexts, where **coverage gaps coincide with high vulnerability, digital platforms** may be uniquely positioned to address key access barriers. Prior studies point to their potential functionality in improving the inclusiveness of insurance products (Braun & Jia, 2025; Pazarbasioglu et al., 2020). These platforms –*usually smartphone apps or websites - operated by insurers or third parties,* facilitate **insurance transactions and information** exchange among **participants in the insurance ecosystem,** often across a range of services and products *(Jia, 2024)***.** They fall within the broader category of **Insurtech**, referring to "innovations of one or more traditional or non-traditional market players exploiting information technology to deliver solutions specific to the insurance industry"(Stoeckli et al., 2018, p. 289). We thus refer to them hereafter as "**Insurtech Platforms**".

Leveraging Impact Investing for Enhancing Insurtech Platform Impact

Research allowing for detailed insights into the **business models of Insurtech platform providers** to understand better how exactly access challenges are being addressed remains limited. At the same time, the **persistent problem of low coverage rates** suggests that their market impact is still limited, but also points to potential for expansion and scaling. Attempts to leverage traditional public and private sources of investment in LMICs are often hampered by several **structural barriers** that reflect local socio-economic conditions. In this context, **impact investing** - defined as an investment approach that seeks both financial returns and measurable social or environmental impact (International Finance Corporation, n.d.) **- can be a promising alternative, as we will show in this report**. However, successful impact investing relies on the very business model insights that are still lacking for investors to understand where and how to get involved.

Research Focus

This report aims to lay the groundwork for addressing this gap by deepening our understanding of three interconnected themes:

1. Why insurance access is key to **fully harnessing** the potential of health insurance services in climate adaptation.

2. How Insurtech platform providers are developing strategies to overcome insurance access barriers **(focusing on the dimensions of affordability, health insurance literacy, and distribution),** and;
3. How impact investing can **support the scaling of these approaches** and thus contribute to strengthening health system resilience to climate change in LMICs contexts

It does so guided by the following question:

> *How can health insurers' value creation contribute to climate change adaptation (1.), and what role can Insurtech platforms (2.) and impact investing (3.) play in scaling access to insurance and strengthening health system resilience?*

Structure of the Report

In line with this threefold focus, the literature review begins by **establishing the need to address climate resilience in the health sector**, outlining the direct and indirect impacts of climate change on human health. Building on this foundation, the second section maps **the health insurance value chain in low- and middle-income countries (LMICs)** and elaborates on the **four strategic entry points** through which insurers and adjacent actors can enhance climate-related health resilience.

The third section makes the case for the **relevance of impact investing** by aligning climate resilience objectives with potential business benefits and human development outcomes. It also introduces the rationale for focusing on **Insurtech platform providers** and **insurance access** as key leverage points. The methodology section outlines the study's two-pronged research approach, which combines **desk research with expert interviews** conducted in March and April 2025. Finally, the findings section applies a **Theory of Change (ToC)** framework to present strategies for how digital platforms can strengthen access to health insurance, particularly by addressing issues of affordability, distribution, and health insurance literacy, and explores the enabling role that impact investors can play in advancing these solutions.

Overall, we identified a number of practices impact investors could look out for to achieve both potentials for impact and return on invest when investing in Insurtech Platforms. Yet, as this report is primarily scoping in nature, we were unable to control for potential confounding contextual factors that could influence the relationships outlined, which requires future analyses on a regional and company level.

Key Limitations of this research concern general pitfalls of the ToC, a lacking quantitative scope, and the need for additional insights on regional dynamics to fully understand the consequences of investment decisions.

2. Why Climate Change Impacts Health System Resilience

The chain of effects linking climate change and health outcomes has been extensively researched in recent years, with a focus on key hazards and their impact, mechanisms, moderators, as well as response strategies (see Berrang-Ford et al., 2021). Ebi et al. (2017) summarized them in **three main categories:** shifts in the frequency and intensity of extreme weather events, consequences generated by changes in natural systems, and factors heavily mediated by human systems (cf. Figure 1 for an overview).

Figure 1:

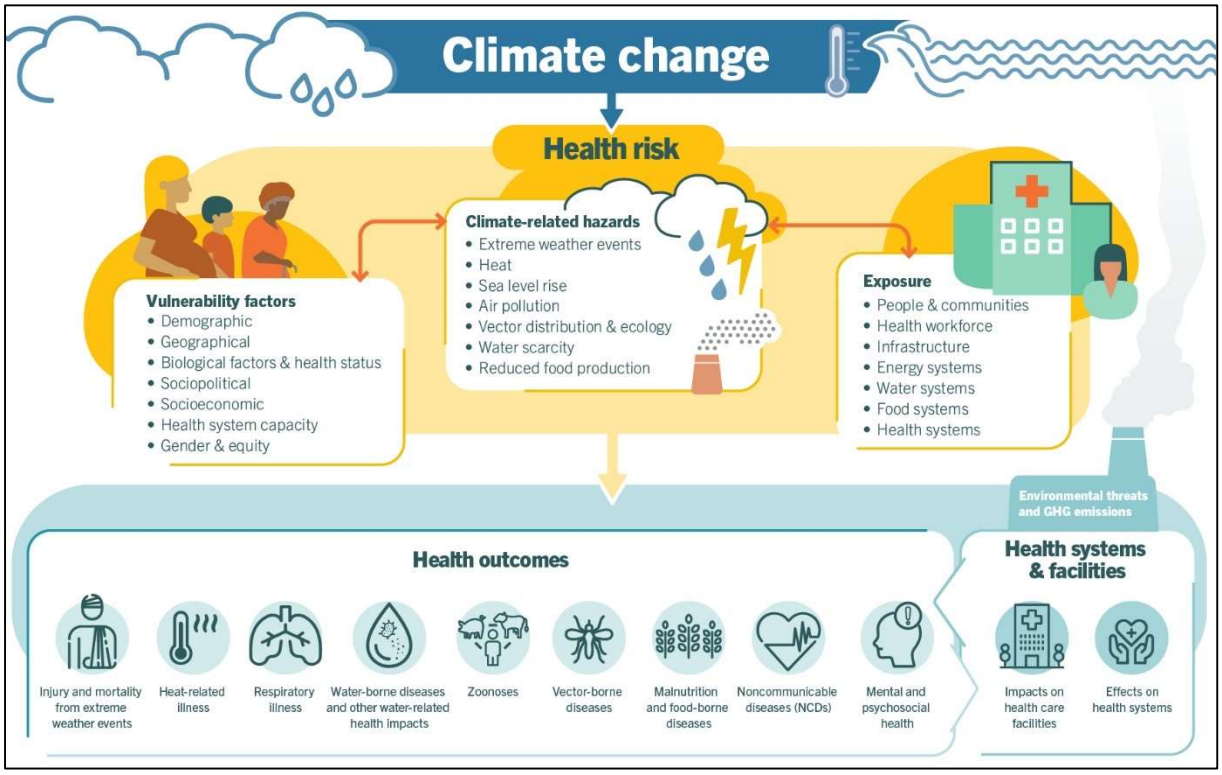
Climate Change Effects on Human Health (Ebi et al., 2017)

Impact Category	Explanation
Shift in the frequency and intensity of extreme weather events	Encompasses **shifts in the occurrences of droughts, extreme he storms, wildfires, and sea level rise**, causing immediate death as wel and physical harm (Ebi et al., 2017). For example, onset heat extremes have been associated with increa cardiovascular disease mortality - including stroke, heat exha myocardial infarction (Bell et al., 2024; Rocque et al., 2021).
Consequences generated by changes in natural systems	Shifts in **geographic disease patterns** and the intensity of infectious – and vector-borne diseases (notably, Malaria, Dengue, Cholera, Salm Ebola) driven by alterations modifications in trends such a temperatures, rainfall, and humidity (Rocque et al. 2021). Increasing prevalence of **respiratory diseases**, including lung diseas global deaths in 2019 cancer, asthma, chronic obstructive pulmona etc.) due to air pollution, from dust storms, wildfire smoke and more the ground (Cissé et al., 2022; Deng et al., 2020; Liu et al., 2015; Nog 2020)
Heavily mediated by human systems	Drought-caused **undernutrition,** health consequences from **clima migration, unemployment or decreased labor efficiency** (Ebi et al., 20 **Mental-health impacts** – notably post-traumatic stress disorder extreme weather events (WEF, 2024, Ebi et al., 2017).

The actual individual-level vulnerability to the effects summarized in Figure 1– the likelihood of confronting detrimental health outcomes (Balbus & Malina, 2009; Ebi et al., 2017) – strongly depends on a number of individual-level and systemic characteristics (cf. Figure 2).

Figure 2

Climate Change Impacts on Health (WHO, 2023a)



***Note**: Climate change effects on health, with mediating social, environmental and health-system related mediating determinants. Adopted from WHO (2023a)*

The **geographic distribution of climate impacts leaves people living in LMICs particularly exposed.** This vulnerability is compounded by demographic and socioeconomic factors: Children, the elderly, as well as women and girls, people with specific occupational exposures, and those with pre-existing conditions are at particular risks (Akachi et al., 2009; Cissé et al., 2022; Figueiredo et al., 2024; Song et al., 2024; Sorensen & Balbus, 2021).

Additionally, **poverty and marginalization** - both disproportionately pronounced in LMICs – are important predictors of vulnerability. Next to living conditions - for instance, the heat island effect (Bell et al., 2024) - this exposure materializes through *lacking access to and the ability to afford quality healthcare services.*

People lack the means to pay for treatment, while fragile, underfunded, and inequitable health systems often fail to provide adequate care (Bhattacharya-Craven, 2024; Romanello et al., 2021).

Adaptation of these structures via measures - that particularly account for the vulnerabilities caused by climate change (including for certain groups) - is rendered more difficult due to *lacking data* on the exact manifestation of climate health impacts in LMICs (Bianco et al., 2024).

As a result, **higher poverty rates in LMICs intersect with inadequate healthcare systems** and a disproportionate vulnerability to climate change compounded by a lack of knowledge as to how it will materialize. Existing health infrastructure is increasingly overwhelmed by demand that it cannot meet. Alternatively, services remain economically inaccessible from the outset. Consequently, chronic conditions worsen, and diseases spread, **creating a vicious cycle** that further destabilizes already fragile health systems.

An approach to break this cycle must thus consider all its elements – the lacking availability of climate-adapted care, the unaffordability of adequate treatment for significant parts of the population, and the dearth of climate-health data in LMICs.

Health insurers are key actors in this regard, as we will illustrate in the following section.

3. Health Insurance as a Mechanism for Building Climate-Responsive Health Resilience in LMICs

Resilience - defined as the capacity to adapt to and cope with changes (Martin & Sunley, 2015) - in the context of health systems, refers to the ability **to prevent or delay health impacts** ("*resistance*") and engage in **immediate intervention and long-term treatment following their onset** ("*reduction*"; WEF, 2024).

Insurance plays a central role in enabling resilience by providing policyholders with financial means and entitlements to **access quality care when coverage is adequate**. Insurance ownership has been linked to positive health outcomes, increased use of health facilities, and improved financial protection (Erlangga et al., 2019). Beyond financing care, insurers are in a **strategic position to influence public health behaviors**, improve health system capacities, and inform government risk models. This is due to their broad customer base, related market presence, and their ability to disseminate health information, enable preventive interventions, and collect important disease data from their clients. However, the extent to which these potential benefits can be realized in practice depends largely on the ability to scale coverage and services effectively.

We will further explore these different aspects in the following section by illustrating **four key entry points to strengthen resilience** that we retrieved from the existing literature. These will be linked to different components of the health insurance value chain. To set the stage, we will initially provide a conceptual outline of our understanding of this value chain and the specific challenges

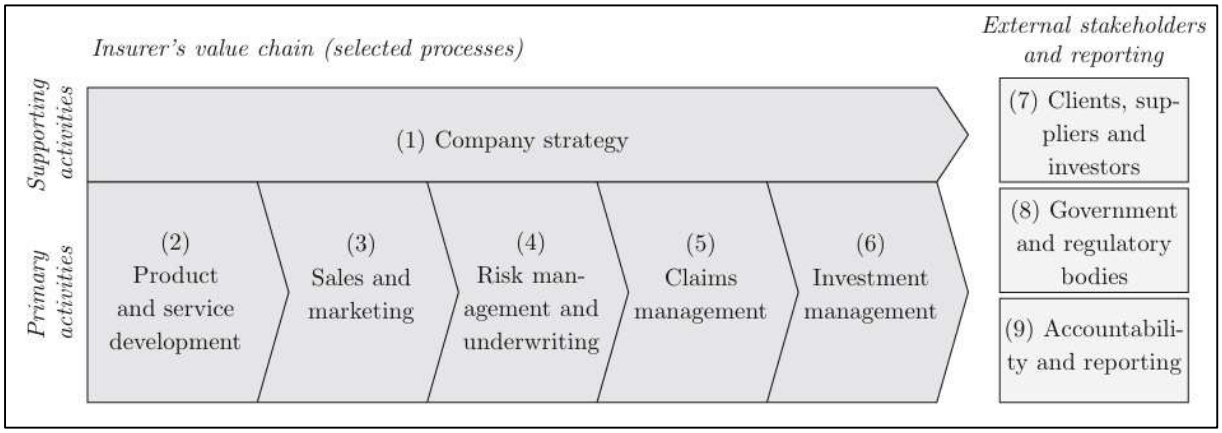
connected to health system resilience in LMICs – the focus of this study - before presenting the four dimensions in more detail.

3.1 Insurance Value Chain and the LMICs Context

Our conceptual understanding of insurance operations is based on the insurance value chain framework developed by Aburto Barrera & Wagner (2023). It provides an **expanded view of the operations of the sector**, also including an Environmental, Social, and Corporate governance principles (ESG) perspective appropriate for our impact focus. Guided by a company's overall strategy, an insurance value chain includes the development of insurance products and services, their sales and marketing, risk management and underwriting to guard against financial losses, management of claims, as well as investments made with a share of the premiums charged (see Figure 3). **The value chain is integrated into a complex network of adjacent actors**. In addition to state and regulatory institutions, accountability-oriented organizations, and investment partners such as reinsurers, our focus is primarily on suppliers of services and products such as data, and healthcare providers, insurance intermediaries bridging the gap to clients, notably, Insurtech platforms, and other institutional partnerships.

Figure 3

Insurance Value Chain (Aburto Barrera & Wagner, 2023)



In LMICs, there are diverse types of health insurance available to the general population: First, there is national or social health insurance (SHI), which is based on mandatory enrollment payments, with some countries setting up full-coverage schemes (Spaan et al., 2012). Additionally, private health insurance (PHI) is widely available in most of these countries. However, PHI is not very significant in aggregate terms, as the median share of PHI coverage in emerging markets overall amounts to less than 2% (Geneva Association, 2019). Concurrently, a number of LMICs employ

innovative and grassroots schemes such as community-based health insurance (CBHI) targeting low-income households under a mutual family-based aid framework (Ruberangeyo et al., 2011).[1]

Overall, however, universal health coverage is largely insufficient or nonexistent in many LMICs (WHO, 2023b), leading people to risk immense costs if undergoing health prevention activities, emergency response, and treatment (Bhattacharya-Craven, 2024). Low-income levels, limited government funding due to low tax revenues, and the connected need to rely on costly private healthcare for proper care drive high out-of-pocket expenses (Kruk et al., 2018). As a result, many people are **unable to afford essential treatments**, worsening unmet health needs, and poverty. Members of the most climate-vulnerable groups find themselves with substantially lower chances to benefit from medical services, whether measured by geographic accessibility, particularly in rural areas, financial accessibility, or quality of care (Peters et al., 2008; Spaan et al., 2012).

3.2 Entry Points for Fostering Climate Health Resilience

When it comes to building health system resilience to climate change, past research has identified three broad channels through which climate-related health system resilience can be strengthened globally (Bhattacharya-Craven, 2024): **Policy-level interventions**, such as establishing universal health coverage and implementing early warning systems; **Capacity-building investments**, including strengthening the health workforce, infrastructure, and supply chains; and **improving access to climate-adapted, high-quality healthcare services** (Bhattacharya-Craven, 2024).

Connecting these dimensions to the health insurance value chain and their positioning in LMICs highlighted our four strategic entry points:

1) Expanding policy coverage and creating market incentives to improve the accessibility and availability of climate-adapted quality care;

2) broadening the product portfolio beyond healthcare coverage to help inform policy interventions and improve health system capacities;

3) **improving public health data availability and processing** to inform policy scheme changes and support governmental health interventions; and

4) expanding access to health insurance in LMICs as a means to substantially enhance the effectiveness of entry points 1-3 via supporting scalability and sustainability of climate-resilient health interventions.

[1] Due to the limited scope of this report, distinctions between different types of insurance are not addressed.

The following sub-sections provide an overview of each of these approaches.

3.2.1 Expanding Policy Coverage and Creating Market Incentives to Improve the Accessibility and Availability of Climate-Adapted Quality Healthcare

Primary Value Chain Stage (Figure 3, p. 11):

Product & Service Development

First, health insurers could update existing insurance plans to account for shifting prevalences of diseases due to climate change and incorporate newly emerging risks that are yet insufficiently covered by existing policies (Aburto Barrera & Wagner, 2023; Fantini et al., 2024). Notably, this had to include accounting for new needs associated with the disproportionate affection of climate-vulnerable groups (Aburto Barrera & Wagner, 2023). Conducting **corresponding amendments to policy schemes** *(Product & Service Development)* - combined with **awareness-raising campaigns** could make it easier for people to access related health system resilience-conducive services and thus increase market demand. This in turn, creates incentives for healthcare providers to expand their portfolio accordingly and improve the availability and quality of these services (Chen et al., 2024). E-heatlh solutions are a case in point (see Case Study 1).

Case Study 1: E-Health Innovations and Climate Resilience

Increasingly including digital services such as virtual consultations, remote monitoring and digital communication in policy schemes could provide for a targeted way to promote climate-related health education. Via related digital tools insurance owners could receive behavioral advice during climate-related disasters to reduce exposure, while vulnerable populations in remote areas are provided with an easy-access way to consult a physician and address immediate needs (see Peters et al., 2008; Rahimi-Ardabili et al., 2022). In addition, these innovations offer economic benefits by reducing transportation costs and may even allow for shortening the length of hospital stays, thereby saving costs for both insurers and policy holders and reducing strain on healthcare facilities.

3.2.2 Broadening the Product Portfolio Beyond Healthcare Coverage to Help Inform Policy Interventions & Improve Health System Capacities

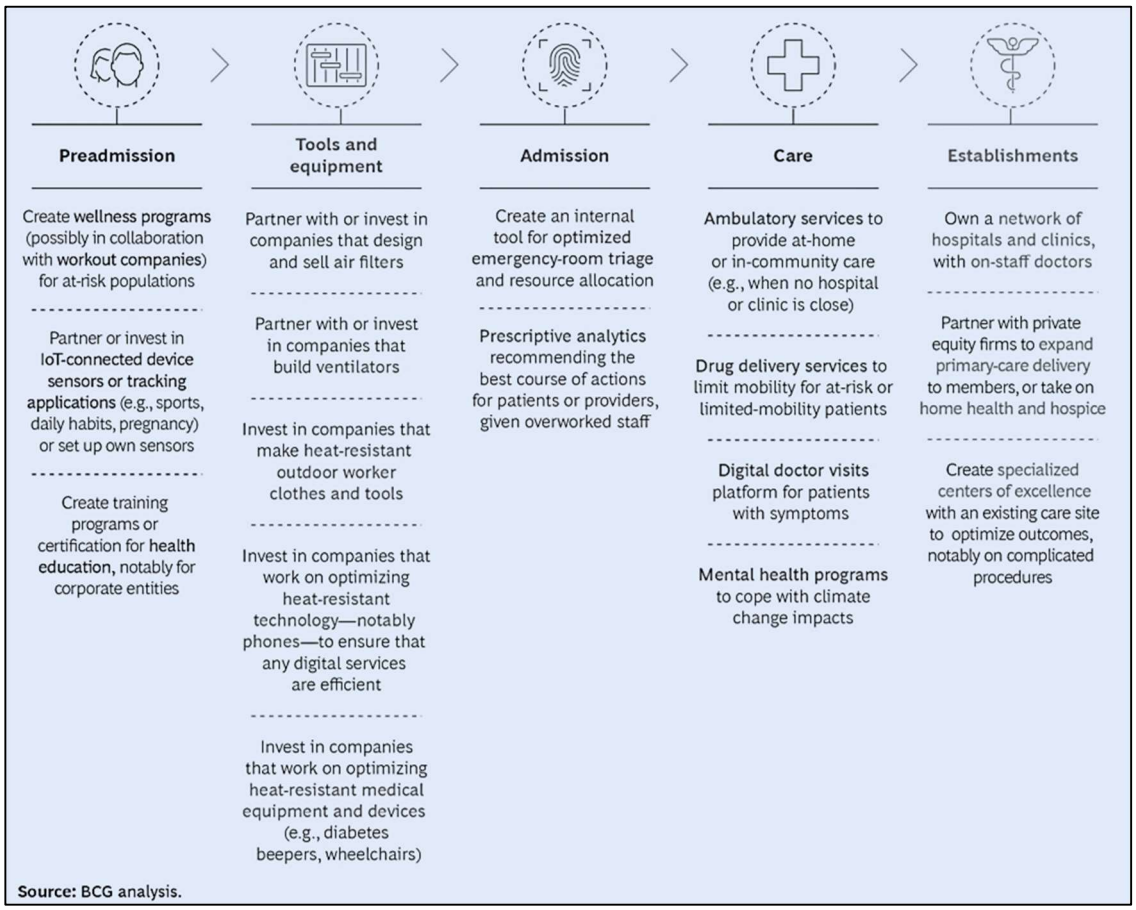
Primary Value Chain Stages (Figure 3, p. 11):

Product & Service Development; Investment Management

A closely related second entry point to foster climate resilience concerns a possible expansion of the health insurance product portfolio to areas beyond immediate care delivery. By introducing *(Product & Service Development)* or investing *(Investment Management)* directly in and partnering with companies offering **innovative preventive measures**, such as app-based early warning systems or public education campaigns, companies could reduce the strain on the overall capacities and infrastructures of facilities and may even **provide products facilitating overarching health system response** (Fantini et al., 2024). These measures could span the entire value chain of medical services (see Figure 4) and address diverse climate hazards in a targeted manner. To this end, insurers and other supportive actors within the insurance value chain could seek to foster partnerships with public health institutions, employers, care providers, scientific institutions in the fields of epidemiology and climate, and health authorities (Bhattacharya-Craven, 2024). Solutions such as early warning systems could also inform policy-making.

Figure 4

Portfolio Diversification Options for Insurers Along the Health Service Value Chain (Fantini et al. 2024)



3.2.3 Improving Public Health Data Availability and Processing to inform policy scheme changes and support governmental health interventions

Claims Management, Risk Management & Underwriting, Investment Management

Entry point three concerns improving the gathering and processing of health information, notably **claims data but also client and climate data models**. To be able to measure and price risks (*Risk Management & Underwriting*), **precise gathering of all information** possible about the risk of climate change on health and the **characteristics of vulnerable groups** potentially impacted is critical (Keucheyan, 2018). The **complex interplay of multiple variables** within the nexus of climate and health results in **highly localized effects** and **limited utility of historical data**, adding to the lack of related scientific research in LMICs described in Part 2 (Bhattacharya-Craven, 2024; Nagaichuk et al., 2020). This hampers the ability of insurers to **properly adjust and design their products** in a climate-adaptive way (Bhattacharya-Craven, 2024). Investments *(Investment Management)* by insurers and adjacent actors in solutions to **better process claims data** *(Claims Management)* and expand disease data availability in LMICs could therefore both **improve existing and inform new insurance products** (Bhattacharya-Craven, 2024), while – if shared with health authorities **– help to improve public health planning and policy** (Schwalbe et al., 2020). For instance, **AI-based or geospatial forecasting solutions** could be further improved and scaled (see Considine et al., 2023; Kamel Boulos & Wilson, 2023). The latter may provide a new profitable business case for insurers and adjacent actors (see Case Study 2).

Case Study 2: Parametric Flood Insurance for Cities: Data Availability As a Prerequisite

In September 2024, the city of Fremont, California, took out parametric flood insurance offered by Alliant Insurance Services Inc. (Kaufman, 2025). This was made possible by a newly developed mapping technology from New York-based start-up Floodbase, which enabled real-time monitoring and made flood risks insurable for the first time in this specific context (Kaufman, 2025).

Similar data-driven approaches could also be considered for climate change and health-related challenges such as heat waves or the outbreak of infectious diseases.

3.2.4 Expanding Access to Health Insurance in LMICs to Scale the Effectiveness of Policy Interventions 1-3 and Make them Scalable: Affordability, Literacy, Distribution

Primary Value Chain Stages (Figure 3, p. 11):

Product & Service Development*; *Sales Management & Distribution, Claims Management

Finally, while insurance can improve access to healthcare by addressing vulnerability, limited access to insurance itself remains a major barrier - both to extending the benefits of an enhanced product portfolio and policy design outlined in Sections 3.2.1 and 3.2.2 to broader populations, and to generating an improved database as envisioned in 3.2.3. In contrast to high-income countries, where the focus should rather be on improving **policy design within existing systems (entry points 1-3)**, the challenge in LMICs is to **build coverage from the ground up**. This will not only help enhance the impact of pursuing the other entry points but could also contribute directly to individual and collective health resilience. It thus emerges as the **strongest lever to pull for enhancing health system resilience** and thus represents the central object of this study.

Coverage rates in LMICs remain low at 5-25% (James & Acharya, 2022). Previous systematic reviews on insurance uptake have highlighted a range of individual and sociodemographic factors - such as **marital status, income, age, and health** - alongside broader community or country-level influences (Dror et al., 2016; Fadlallah et al., 2018; James & Acharya, 2022): The latter encompass **cultural norms, notions of solidarity, political backing, and the quality of healthcare services available.**

Insurers have limited or mostly indirect ways of influencing these factors, such as through market-based incentives that might impact health system quality (see 3.2.1). However, there are other areas more directly under their control, **particularly centered around the value chain stages of *Product and Service Development* and *Sales Management & Distribution,* as well as *Claims Management*** *(cf. Figure 3)*. These include choices around payment frequency, enrollment criteria, restrictions on the types of health facilities covered, tailoring to specific needs, and how ceilings and deductibles are handled (Fadlallah et al., 2018).

One factor that consistently stands out across studies is the **affordability** of premiums, often cited as a major barrier to enrollment (Dror et al., 2016; Fadlallah et al., 2018; James & Acharya, 2022). External premium subsidies have been shown to be an effective strategy for increasing insurance uptake (James & Acharya, 2022). Similarly, **income-based contribution models** were associated with higher enrollment rates than flat-rate premium structures, which often exclude the most vulnerable - typically lower-income populations (Fadlallah et al., 2018). Both focused premium reductions for specific groups (e.g., the poor) and a **general attempt toward reducing overall**

premium levels could thus be key strategies to support insurance uptake, for instance, via **digitization** (Pazarbasioglu et al., 2020).

Furthermore, enrollment was associated with a lack of information on the benefits of a plan and understanding of its functionality (Basaza et al., 2007, 2008; De Allegri et al., 2006; Shewamene et al., 2021). **Trust in products and education** played an equally important role with all three factors pointing to the importance of fostering an appropriate understanding of the functionality of schemes and health insurance principles such as risk pooling among potential clients(Dror et al., 2016). Thus, **fostering health insurance literacy** defined as – *"knowledge, ability, and confidence to find and evaluate information about health plans, select the best plan for. . . [one's]. . .financial and health circumstances, and use the plan once enrolled"* (Quincy, 2012, p. 7) could be a key aspect to address within the insurance value chain. It addresses both the *Sales & Marketing* phase—by ensuring **product benefits and functionality** are communicated clearly a - and *Product Design & Development* (cf. Figure 3), with simple, **easy-to-understand models** like the parametric Women's Climate Shock Initiative Insurance (WCSI), which offers payouts based on predefined temperatures (UNDRR - PreventionWeb, 2024).

Finally, beyond literacy, **distribution** arrangements—such as marketing and promotional strategies pertaining primarily to *Sales & Marketing*—have featured prominently in past research. **Community-based awareness campaigns and access to promotional channels** like radio and television have been shown to positively influence insurance uptake in several studies (Fadlallah et al., 2018). At the same time, localized enrollment support, including assistance with form completion, showed successes in increasing coverage rates (Dror et al., 2016). This may also include **partnering up with local institutions** such as churches or NGOs (James & Acharya, 2022). Together, these findings highlight the importance of bringing insurance products closer to people's attention and making the sign-up process more accessible.

Lastly, further aspects of financial inclusion, notably access to accounts, have to be considered, with about 1 billion people globally lacking access to banking, **4 out of 5 residing in highly climate-vulnerable economies** (Klapper et al., 2023). In resource-constrained settings, effective distribution has to also consider the underlying **payment infrastructure** enabling clients to actually enroll, pay their premium and receive payouts. **Expanding the reach of digital banking solutions and microfinance** providers may facilitate financial transactions for payouts and premiums (Zetterli, 2023), thus relating to *Product & Service Development* and *Claims Management.*

Figure 5 summarizes the four different entry points identified.

Figure 5 *Overview of Potential Entry Points Within the Expanded Health Insurer's Value Chain in LMICs*

Entry Point	Description	Value Chain Focus	Examples
1. **Expanding Policy Coverage and Creating Market Incentives** *Improve the Accessibility and Availability of Climate-Adapted Quality Healthcare*	Focus on strategically covering key financial risks associated with climate-related health treatments by updating existing insurance policy frameworks and setting market incentives.	• Strategy • Product & Service Development	E-health (Rahimi-Ardabili et al., 2022) Vulnerable Group-focused Service Expansion
2. **Broadening the Product Portfolio** *Help Inform Policy-Interventions & Improve Health System Capacities*	Incorporating Tools and Services for Prevention and Emergency Response in the Product Portfolio and Engage in Public-Private Partnerships	• Product & Service Development • Investment Management	See Figure 4
3. **Improving Public Health Data Availability and Processing** *Inform policy scheme changes and support governmental health interventions*	Invest in Data Collection, Improve Processing of Claims Data and Exchange with other Public Health Stakeholders in LMICs	• Risk Management & Underwriting • Claims Management • Investment Management	AI-based forecasting solutions to Predict Heat Impacts (Considine et al., 2023) Geospatial Techniques to Identify Vulnerable Communities (Kamel Boulos & Wilson, 2023)
4. Expanding Access to Health Insurance in LMICs *Scale the Effectiveness of Policy Interventions 1-3 and Make Them Scalable*	Focus on improving affordability, health insurance literacy of clients, and distribution channels to enable broader insurance uptake in LMICs	• Product & Service Development • Sales & Distribution • Claims Management	Innovative & More Flexible Pricing Models (Bhattacharya-Craven, 2024; Fantini et al., 2024) Digitization & Insurtech Approaches (see Pazarbasioglu et al., 2020)

4. From Climate Risk to Strategic Resilience: How Digital Platforms and Impact Investment Can Redefine Insurance Access

Risk faced by insurers

Climate change challenges current insurance models by **threatening the short-term liquidity and long-term sustainability of insurers** (Gupta et al., 2024). The increased strain on human health, in particular, in LMICs, and the spike in related health expenditures are likely to **materialize in higher claims by policyholders**, which could result in **long-term profitability losses** or **decreasing coverage rates** and thus capital stock (Aburto Barrera & Wagner, 2023). In addition to this, markets altered by climate change face an **inherently challenging and volatile environment** characterized by constant regulatory adjustments, disruptive changes, and shifts in consumer behavior, which again pose significant **risks to the financial stability and resilience of insurance portfolios** (Luiz, 2024).

Benefits for Insurers to Commit to Entry Points 1-4.

Contributing to averting these costs and mitigating uncertainties by strengthening health system resilience thus holds a **clear economic benefit for insurers** across all four entry points: Updating and broadening the existing product portfolio *(Entry Points 1 & 2)* – thus responding to new market demands - converts the threats of global warming into "**marketable risks"** with new potentials for revenue (Jarzabkowski et al., 2015). At the same time, stronger policy coverage and better-aligned market incentives improve **overall health outcomes for policyholders** by ensuring that manageable conditions receive timely and adequate treatment. This, in turn, helps insurers **avoid higher payouts.** Furthermore, improving data collection and processing *(Entry Point 3)* could **benefit-cost analyses and reduce uncertainties in modeling** (Collier et al., 2021). The latter, however, should be aligned with ESG principles.

Finally, broadening health insurance access *(Entry Point 4)* can help them **distribute risks into larger pools of risk bearers**, while at the same time providing more people with an opportunity to benefit from the quality care needed (Christophers et al. 2020). Higher levels of health in the population not only **protect insurance holders from the indiscriminate spread of communicable diseases**, but also potential health **repercussions of overwhelmed health systems** more generally.

The Role of Insurtech Platforms in Addressing Insurance Access.

Partnering with Insurtech platform providers could be a powerful channel to reach higher levels of health insurance uptake - provided that these partners actually use efficient practices to achieve the desired effects and are able to scale them. The relevance of Insurtech platforms is rapidly increasing, with **platform markets expected to grow by ~ 78% between 2025 and 2030 globally** (MarketsandMarkets, 2025). They support insurers across the entire value chain by digitizing key

processes such as *Sales & Marketing*, *Risk Management & Underwriting*, and *Claims Management* (Jia, 2024):

First, via services such as online information exchanges, digital payments, and automated claims processing, platforms **reduce administrative overhead and marginal costs** related to **manual paper processing**, thus significantly reducing the cost of insurance products. The latter is particularly relevant for providing **low-cost microinsurance solutions** in LMIC contexts (Pulvermacher, 2023), thus offering a promising avenue to address the ***affordability*** dimension of lacking health insurance access.

Second, by offering easier product comparison and **incorporating multimedia content**, Insurtech platforms can also enhance the presentation of insurance products to clients - potentially improving **health insurance literacy and informed decision-making** (International Association of Insurance Supervisors, 2018; Jia, 2024). In addition, they hold potential to **make insurance processes more transparent and comprehensible** (see Renner-Micah et al., 2020 for proposals on health insurance in Ghana). Overall, this contributes to ***health insurance literacy.***

Third, Insurtech platforms may also serve as "**matchmakers**"(p.6) for health insurance schemes, contributing to both discoverability of products and ***distribution*** by **linking products more closely with the associated risks (Jia, 2024)**. A case in point is the Indian company Practo, which offers both e-health services and health insurance through a single platform (Baur et al., 2021). In LMICs, digital access to insurance solutions has been particularly effective in **reaching underserved and marginalized populations:** Mobile platforms enable users to enroll, manage policies, and submit claims directly from their smartphones, removing traditional access barriers (Ahmad & Dixit, 2023). Larger penetration of ICT is also believed to have contributed to expanding life insurance markets in Africa (Sibindi, 2022). In addition, lower operational costs combined with faster contract setup may promote climate-risk-focused**, low-cost "opt-in" insurance models** offering facilitated access and higher flexibility (see Case Study 3).

Case Study 3: Sompo Holding Inc. & Sumitomo Life Insurance – Daily Heatstroke Insurance

In Japan, two of the countries' major insurers created a daily opt-in insurance plan covering expenditures related to heat-related hospital stays and other medical expenditures. Users could decide every morning to purchase the insurance. The product managed to reach 6,900 policy sales on only one day in the summer of 2022

Finally, these platforms facilitate the collection of advanced data that could improve underwriting accuracy and thus create premium cost benefits (***affordability***), improve understanding of effective - that is, customer-centric - product presentation (***health insurance literacy***) and ***distribution***. Overall, these initial findings highlight both the opportunity and the need for insurers to expand access to health insurance and to partner with or build Insurtech platforms to do so: How well they succeed is likely to become a significant factor in the competitiveness of products in the market (Jia, 2024).

The Opportunity for Impact Investing

Insurance-related investments in LMICs, which could **focus on scaling and improving Insurtech providers'** impact, or directly help insurers building up these platforms themselves, often face barriers linked to factors like political instability, currency risks and low existing insurance market penetration (Golnaraghi et al., 2018). In addition, **expectations of limited returns in low-income environments** may make it more difficult to access conventional private capital funds. This is the gap at which impact investing could step in. Impact investing offers a transformative approach to leveraging the resources of global financial markets to address persistent and complex challenges, taking social responsibility (Clarkin & L. Cangioni, 2016). Unlike traditional investments, it **intentionally seeks to tackle societal problems** aligning with frameworks that combine non-financial elements and traditional performance assessments (Oleksiak et al., 2015).

As noted, investing in Insurtech platforms **offers dual benefits**: **financial returns for insurers and providers – thus impact investors, and enhanced health system resilience**- even in early stages **where commercial returns may still be limited.** However, making informed investment decisions requires impact investors to understand how **platform providers' business** models specifically address health insurance access challenges, which **metrics effectively capture impact success**, and which **strategies** hold the most promise for scalable growth.

The second part of this report therefore takes a closer look at these business models and identifies potential for impact investing to get involved, using a theory of change approach.

5. Methodology

5.1 Analytical Framework – Theory of Change (ToC)

To better understand how business operations of platform providers contribute or could contribute to improving access to health insurance, and to uncover opportunities for impact investing, the Theory of Change (ToC) framework offers a good analytical starting point: Representing an established tool to evaluate impact investments, conduct development change management, and identifying success indicators (Jackson, 2013; Verrinder et al., 2018; UNSDG, 2017). It allows for

mapping the pathway toward realizing the objective of better insurance access across the three pre-defined dimensions – affordability, health insurance literacy, and distribution. The ToC explains how a specific intervention – in our case activities by platform providers and impact investors – are expected to lead to development changes, whereby it describes both the resources needed for the intervention and the relevant activities (*inputs* and *activities*) that lead to pre-defined and quantifiable *outputs*, reflecting a certain *outcome – its "achieved short-term and medium-term effect"* - contributing to the desired *impact* (UN Sustainable Development Group, 2017; UNICEF, 2017, p. i).

Sample ToC: Health Resilience Against Influenza (simplified)

Input = Influenza vaccines, healthcare staff time, syringe

Activities = information campaigns, vaccine administration

Output = no. of vaccinations administered, no. of campaign placements (e.g., on television)

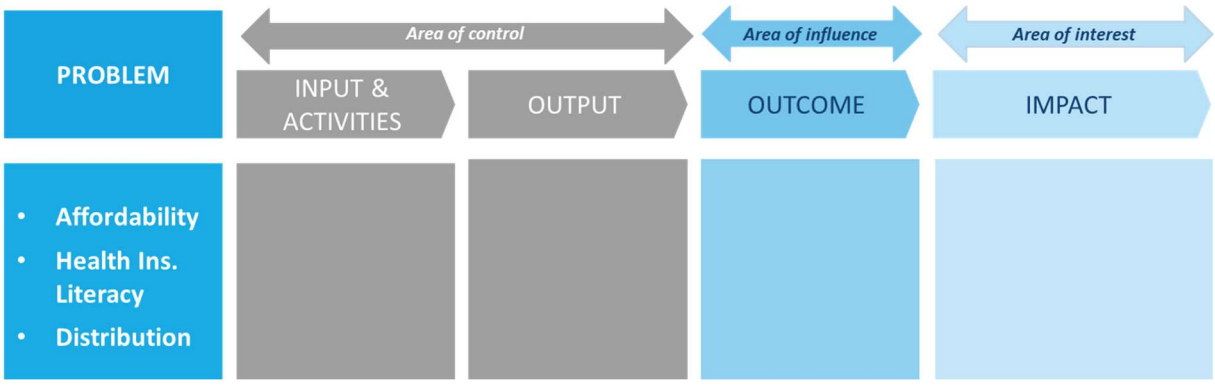
Outcome = higher population immunity, reduction in influence- related hospitalization

Impact = enhanced individual and system resilience to influenza

The ToC-method is a valuable tool for the assessment of our case, first, because it is useful in systematically map the effect chain of suitable interventions to initiate a complex development change (UNSDG, 2017). Figure 6 provides an overview of the different steps to consider in its development. A discussion of key limitations of the ToC is provided in the Conclusion section.

Figure 6

Theory of Change (BlueOrchard)



5.2 Data Collection & Analysis

To account for the exploratory nature of our research and the lack of relevant existing metrics, we relied on a qualitative and narrative approach to address the different categories of the ToC framework.

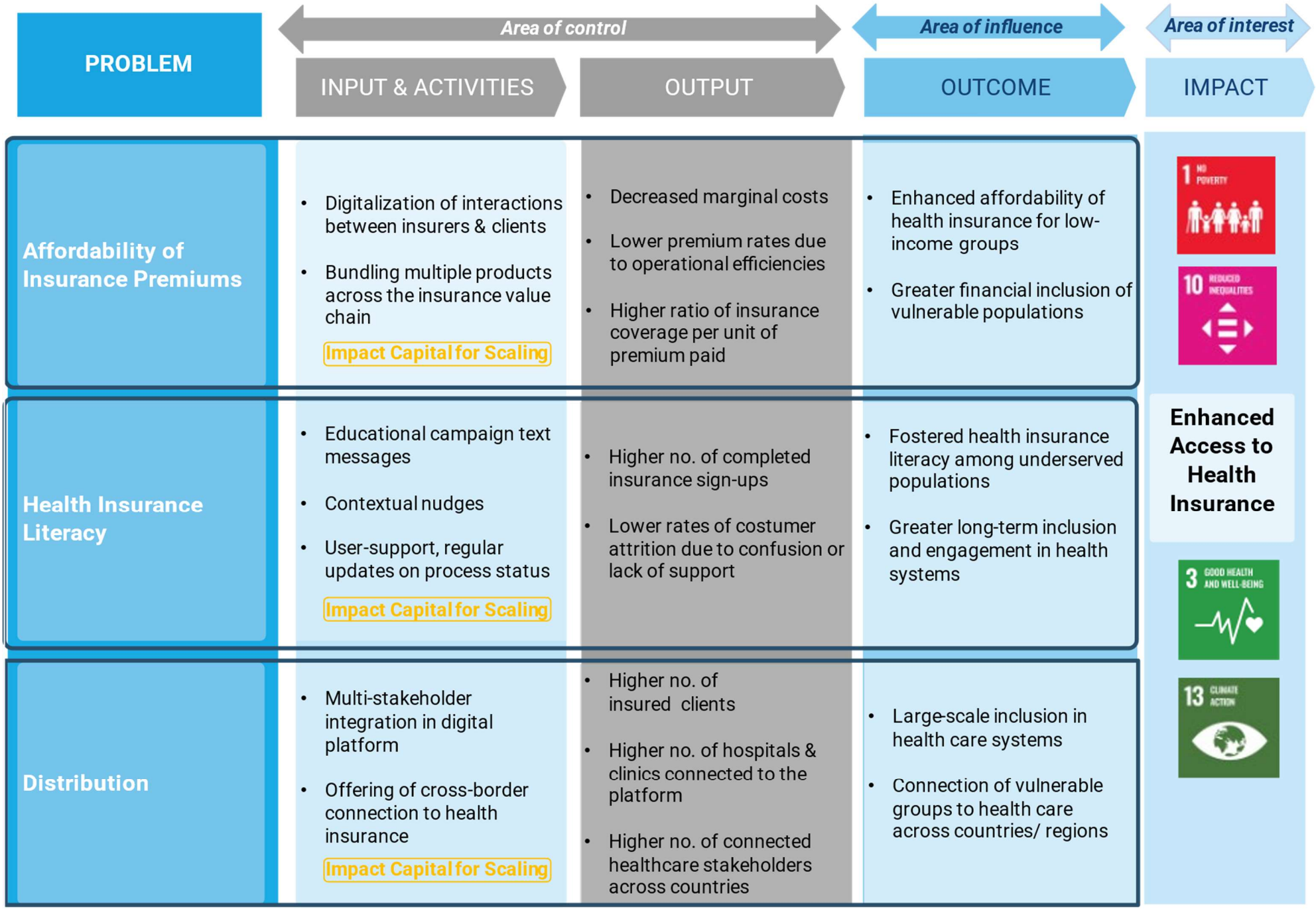
A content analysis of experts interviews has been chosen as an effective method of data collection to gain an initial understanding of the topic and refine the research approach (Meuser & Nagel, 2009). We additionally relied on desk research to complement and contextualize these findings.

Overall, we conducted nine semi-structured interviews with platform providers, field experts from insurance companies and associated services, impact investors as well as academic scholars. The aim of this approach was to establish a comprehensive perspective combining the direct perspective of platform practitioners and a related broader industrial and academic perspective. *Appendix A* provides a comprehensive outline of our methodological approach for the interviewee selection, the list of interviewees and the steps conducted for the content analysis. Appendix B contains the interview questionnaires we used. Finally, Appendix C includes an access link to our transcripts.

6. Findings: Fostering Access to Health Insurance. The Role of Platform Providers and Opportunities for Impact Investments - A Theory of Change Perspective

Our research results corroborate the vital role Insurtech platforms can play in expanding health insurance access previously identified in academic literature with many key potentials reoccurring in both desk research and the expert interviews. In the following three sections we will summarize our insights into business model approaches to address each of the three dimensions catering to insurance access. To this end, we will initially highlight the main findings of our research regarding business approaches, before we highlight the role of impact investing as a financial enabler and how both could be translated into the ToC framework. Figure 8 provides a summary of these findings.

Figure 8 *Theory of Change – Insurtech Platform Providers & Health Insurance Access*



6.1 Affordability

Aligning with previous literature, the expert interviews jointly highlight the key potential of Insurtech Platforms to improve the affordability of health insurance services. Insights gathered point to two elementary approaches to achieve cost advantages that enable insurers to charge lower premiums and make healthcare more accessible. First, the digitalization of processes and customer relations leads to efficiency improvements, allowing cost savings, which are reflected in premium prices. Second, bundling multiple products and steps in the insurance value chain on digital platforms generates economies of scale and provides insurers with the opportunity to outsource previous activities, also leading to cost cuts, translating to more affordable health insurance services.

Digitalization of Processes and Client Interactions

According to Richard Leftley, the founder and CEO of MicroEnsure, which provides microinsurance in 16 countries in Asia and Africa, insurance companies face **high administrative costs** during registration and claims management requiring extensive human resources. These expenses represent a large factor behind **unaffordable premiums** hampering access to health insurance services for vulnerable low-income groups. By **digitalizing key interactions** between insurers and their customers, Insurtech platforms contribute to significant cost reductions for insurance companies. E-health service provider and Insurtech Platform CarePay, for instance, utilizes artificial intelligence-driven tools to connect clients to insurance companies through a health wallet accessible via mobile phones (co-founder, Kees van Lede). Digitization of time and human-resources-consuming exchanges enables large-scale cost savings and lower premiums. As a consequence, health insurance expenses constitute **a smaller part of the budgets of existing or potential clients**, thus increasing affordability. The impact of this progress can be measured by the degree of coverage of vulnerable groups across the income pyramid (van Lede). In Kenya, where CarePay entered into the market, constant expansion allowed for the stepwise straddling of all income groups, highlighting how process cost advantages translate into more affordable health insurance over time (Kees van Lede).

In a similar vein, Singapore-based health solutions company MILVIK BIMA leverages technology through a website, mobile applications and cloud infrastructures to provide cost-competitive, affordable and accessible insurance products. MILVIK BIMA also uses digitization to **tailor premium payment modalities more closely to the needs of low-income groups** (see Kyle, 2020; Zhang, 2020). The approach is summarized in Case Study 4.

Founder and CEO Gustaf Agartson stated that the firm's digital approach enables offering **2 to 3 times higher coverage of health insurance services per dollar premium paid.** This reflects the potential of Insurtech platforms to address affordability both in **absolute and relative terms,** making *more* healthcare services accessible for underserved populations at the same price (Gustaf Agartson).

Case Study 4: Digitalization at MILVIK BIMA

MILVIK BIMA, allows clients to submit claims via free messenger services such as Facebook or WhatsApp in a completely digitized customer journey. In addition, the company is experimenting with automizing claims processing using AI to further decrease administrative expenses. Rather than monthly instalments, the platform relies on micropayments reflecting cash flow realities of many income groups, which are deducted from a client's prepaid phone airtime balance. The underlying partnerships with mobile network providers thus allow bank-less process and thus access for populations without a bank account.

Finally, MILVIK BIMA also offers e-health services – such as teleconsultation - directly via their platform which are interlinked with insurance products, currently used by about 1.4 million users. Some of these services – e.g., regular SMS messages on health prevention topics such as weight loss, women's health & childcare, or diabetes, are even offered free of charge, and could be extended to climate-health related topics (see e.g., SMS messaging services with behavioural advice for insurance holders provided by the WCSI; Early, 2024)

The cost advantages of these approaches and low-income-group-centred payment modalities reflect in MILVIK BIMAs client characteristics: Almost 93% of these clients belong to low-income groups with less than USD 10 of daily earnings, while three out of four clients are first-time insurance owners.

(Kyle, 2020; Zhang,2020)

Bundling Insurance Services

In many developing economies, the lack of access to health insurance for large shares of the population, notably vulnerable groups, can be traced back to an **insufficient supply of microinsurance solutions**. Traditional insurance companies assess serving low-income groups as less economically viable compared to high-value corporate accounts (Richard Leftley). This is well reflected in the fact that currently many microinsurance schemes continue to **rely on philanthropic support** (see e.g., CRA, 2024). In this context, the practitioners we interviewed underlined the crucial role of Insurtech platform providers in addressing this issue.

When embedded in a multi-stakeholder network (e.g., distribution channels, mobile payment services, microfinance organizations, etc.) Insurtech platforms can "**bundle" multiple insurance products and services along the insurance value chain**, such as product development, customer relations management, and data collection and analysis. This process **generates economies of scale**, creating cost advantages for insurers through **outsourcing of key services.** In addition, "bundling" provides platforms with the capacity to **process larger and more interconnected amounts of data across** policy schemes and services than an insurer, offering an opportunity to uncover further efficiency improvement potential. Cost savings allow insurers to reduce premiums and target lower-income groups thus expanding their client portfolio while at the same time contributing to increasing affordability and accessibility of health insurance services.

Opportunities for Impact Investing

When deciding on potential company investments, impact investors should particularly look out for platform providers that offer a **broad range of different insurance products and value chain services** to harness the benefits of insurance bundling in terms of supporting low-cost insurance.

As Gustaf Agarston from MILVIK BIMA underlined, building up an Insurtech Platform that bundles multiple insurance products in a multi-stakeholder ecosystem to create economies of scale and yield cost advantages through digitization requires time. All three practitioners interviewed confirmed that it took their companies several years to become profitable both on an individual country and an overarching level (Gustaf Agartson, Kees van Lede, Sandeep Katyiar, for India only).

During this time, impact investing can provide **patient capital** that prioritizes social benefits, such as financial inclusion and health access, over immediate returns. **Funding of critical infrastructure for digitization**, such as servers or personnel for nascent platform providers - e.g., in markets that still lack a corresponding offer – can give these companies time and space to grow their client base and achieve the cost benefits on premiums. For instance, in the case of MILVIK BIMA, thanks to the patient capital of impact investors, seven million people could be given access to health insurance services while at the same time ensuring the profitability of the company.

Applied to the ToC framework, via investing in platform providers (*input*) – in particular, those using product bundling, impact investors can target providing low-cost insurance solutions: The platforms themselves carry out the activities of digitalizing administrative processes and key interaction between insurers and customers, and product and value chain bundling. The direct *outputs* of these activities include **lower administrative costs, lower premium rates, and a higher ratio of health insurance coverage per premium dollar paid**. For instance, MILVIK BIMA assesses its effectiveness by comparing the premium costs with the services clients receive benchmarking this value against traditional non-platform insurance products in the same market (Gustaf Agartson). It was able to show, how insurance it disseminated directly delivered twice as much health insurance coverage per $/premium compared to conventional providers. Outputs translate into the *outcomes* of increased affordability and greater financial inclusion in the context of health insurance. The long-term impact is improved access to health insurance.

6.2 Health Insurance Literacy

In line with previous results, the two academic experts we interviewed jointly underscored the importance attributed to health insurance literacy in the reviewed literature to improve insurance access. They particularly highlighted the role of missing trust in institutions and products (Lore Vandewalle, Social Finance Researcher IHEID,2025).

> *"I think the problem is mainly the behavioral components and how to overcome them. (…). Because there is this whole aspect of you pay today for something likely or trusting that someone is going to help you in the future. "[T]he way that you frame your product make[s] a big difference."*
> Lore Vandewalle – Geneva Graduate Institute

Next to the generally low levels of institutional confidence in many LMICs, our experts pointed to a **lack of understanding** as a key source for this skepticism. Individuals often do not see the benefit of paying insurance premiums, as **products are often complex to understand and involve long sign-up and claim processes** filled with lots of legal information. The latter is particularly hard to process for clients with lower educational backgrounds. Furthermore, **customers are often left in the dark when it comes to where in the process they stand,** and which steps are required of them (Kees van Lede). Among the techniques used by Insurtech platform providers to address the issue, two approaches emerged as particularly successful: contextual selling, and targeted user guidance and accommodation.

Contextual Selling & Educational Campaigns

A key condition for individuals to value the benefit of health insurance, according to Gustaf Agartson, is that they fully **understand how a product benefits** them in relation to the monthly premium paid. Educational campaigns on insurance coverage and services disseminated through **ads or mobile text messages** issued to existing Insurtech Platform clients (to promote new products) and beyond – in a bundled form – through providers via public channels could offer a powerful tool to foster health insurance literacy. Experts interviewed particularly highlighted the importance of tailoring these campaigns to the local realities of vulnerable groups, addressing their healthcare needs in specific situations.

A key approach in this context that overlaps with the distributional dimension of access can be summarized as *contextual selling*. It refers to a type of **product presentation in which insurance is framed as a pragmatic solution to a specific, emotionally laden concern** within a potential client's life, rather than a "necessary expenditure". For instance, owners of agricultural insurance can be targeted with messages, elaborating on the possible consequences of health issues on them not being able to work in the fields anymore for a certain amount of time and how insurance could help cover health expenditures and avoid negative financial implications.

Contextual selling may even reach greater potential if embedded in partnerships between **platform providers and mobile payment applications**. Richard Leftley emphasized the role of remittances in this regard: If a mobile platform client issues a remittance, a message could appear, once the transaction is made, promoting insurance to the user via a targeted question: "Would you like to protect your family's income if drought or disease strikes again via our product?" Similar approaches could be envisioned for **other financial transactions**, such as travel bookings (see Case Study 5)

Case Study 5: Automated Chatbot Insurance Recommendations

Richard Leftley envisioned an innovative interconnected nudging model that could run via a chatbot: "When someone books a long-distance bus trip from, say, Nairobi to Kampala using their mobile wallet, the phone company knows. If they're also the insurance company, they can send a chatbot or WhatsApp saying, "Want travel or personal exit insurance?" Contextual selling like this gets much higher acceptance. People just press one for yes, $1 is deducted from their wallet, and take-up is higher.

Contextual selling of health insurance products assists people in **properly assessing risks in everyday life situations** and thinking preventively rather than reactively (Richard Leftley). With this framing, having insurance is not just about paying medical bills after illness, it is about **enabling early intervention, prevention, and health literacy**. Examples could include sending targeted nudges for prevention measures such as vaccinations or invitations for cancer screenings when users interact digitally with a health-related service or connected purchasing opportunities inside a health facility (Kees van Lede). This particularly highlights the **promising nature of Insurtech Platforms that directly combine e-health services and insurance offers**, such as MILVIK BIMA. Mobile platforms thus can make an important contribution to bridge the gap between awareness and action, and the recognition of the need for insurance.

Furthermore, Richard Leftley and insurance sector expert Jovita Sadrach from Indonesia Financial Group, from Indonesia Financial Group, a state-owned insurance and financial holding company, pointed out that people often l**ack previous experience with insurance products**. In LMICs, trust in telecommunication is given not because of inherent goodwill to these companies, but because related applications such as ride-hailing apps are used daily with mostly reliable results. Insurtechs that find a way to integrate insurance into **regular, familiar digital experiences** can build this kind of trust over time, which can be done, for example, by offering **frequent small benefits** like discounted medicine to help clients realize the concrete benefits of insurance ownership on a daily basis.

Targeted Customer Guidance

A second approach for targeting health insurance literacy is educating the clients on how to navigate products, including sign-up and claims processing procedures, often perceived as complex and opaque. In this context, Insurtech platforms can play a pivotal role in promoting transparency and trust via fine-grained guidance throughout different processes.

For instance, platform provider CarePay – which offers digital insurance sign-ups & claims processing - assists clients during pre-authorization procedures by **sending regular text message updates about their eligibility status**, as Kees van Lede highlighted. These updates are supposed to reassure clients by clearly indicating which stage they are at in the process and what actions are required from them. According to van Lede, clients greatly value this guidance, as it allows them to **better understand their entitlements**. An added benefit is that, as users become more familiar with the product, they ask fewer questions, reducing the need for manual support from insurance providers and lowering administrative costs.

It is equally important for platform providers to **ensure a smooth and simple registration process.** If it is too complicated or unclear, users may drop off before completing it. In this context, Gustaf Agartson stresses the importance of combining digital platforms with human support - an integrated approach that ensures users are guided effectively throughout their journey. Agartson highlighted how BIMA heavily invested in building an in-house distribution network that included partnerships with **mobile operators and outbound call centers to reach new customers. These agents also walked clients through** the process of registering for insurance, which, according to Agartson, significantly strengthens trust. Several interviewees also highlighted the importance of striving for more future in-person support accompanying digital product distribution in this context.

Opportunities for Impact Investing

As highlighted in the experiences of platforms like CarePay and MILVIK-BIMA, people are frequently **unaware** of the protections and benefits available to them through insurance, simply because the language and systems are too complex or unfamiliar. Impact investors can help bridge this gap by targeted investments in Insurtech platform providers that have demonstrated that they empower individuals to understand risks and products more clearly (*inputs*). In this regard, **contextualization in public and existing client outreach**, **accommodation to daily realities, and transparent guidance through the procedural steps** that previously seemed opaque or exclusionary may be key practices to look out for in potential investment opportunities. Via these interventions, impact investment could support the development of further technology and distribution networks that guide users through insurance application and approval processes step by step (*activities*), thus demystifying complex procedures. These interventions would reduce the cognitive and logistical burden on existing and potential insurance owners.

Additionally, by **financing partnerships with local organizations** or providing funds for platforms to hire **on-the-ground educators (*inputs*),** impact investors can improve the effectiveness of digital support offers. This not only increases the adoption of health-related products via **better-informed clients but also reduces client support demands on insurance companies**, lowering operational costs. This would result in key *outputs* for the platforms, such as a **higher number of completed insurance sign-ups and lower customer attrition** attributed to confusion and lack of support. Hence, these outputs contribute to the overall outcome of improved health insurance literacy, as well as facilitating greater trust in insurance providers. Eventually, this could lead to a broader impact of increasing and enhancing access to health insurance.

6.3. Distribution

When it comes to enhancing health insurance distribution, Insurtech Platforms add an important digital dissemination channel to previously prevalent sales locations, such as local banks or outlets

that are often out of the physical reach of the target population. The interviews repeatedly revealed how providers integrate a variety of stakeholders within their platforms, enabling clients to **access a network of insurers, hospitals, clinics, and telemedicine providers and pay premiums via their mobile banking wallets**. This bridges important physical access barriers to care beyond affordability, notably about ensuring continuous **health system access in the context of large-scale migratory movements**, by enabling insured individuals to access different local health systems. The following section will explore these aspects - a multi-stakeholder approach and cross-border connectivity - in more detail.

Multi-Stakeholder Integration

When embedded in an ecosystem of various actors in the health system, Insurtech platforms can **act as "market makers"** bridge the gap between insurers, healthcare providers, and underserved populations. A case in point is the Indian Insurtech Platform Finhaat, which shows how a multi-stakeholder approach can contribute to improved distribution and health insurance literacy alike (see Case Study 6).

Case Study 6: The Multi-Stakeholder Approach of Finhaat

Finhaat, an Indian fintech platform provider, makes financial services more inclusive for the lower-middle income population by addressing key insurance distribution challenges. It designs locally relevant, bundled products that reflect the intertwined nature of health and livelihood risks—like illness and transport breakdowns—and embeds them in a digital platform. Instead of using traditional agents, Finhaat partners with micro-finance institutions, agri-tech companies, and NGOs to distribute products through assisted digital journeys. This hybrid model increases reach and builds trust via local, familiar interfaces. Beyond delivery, Finhaat also focuses on engagement. Unlike many micro-insurance providers whose partners deprioritize insurance, Finhaat integrates human touchpoints and

digital infrastructure to educate users throughout the sales and claims process. This guidance helps overcome confusion and mistrust—key barriers to insurance adoption.

> "From the end customer's perspective, it is essential to understand the key product features, how and when to claim, and the claim process. There is no need to go into detail, as branch support is available. In case of hospitalisation, visiting the branch with the necessary documents is sufficient - staff will assist with claim processing. The platform plays a critical role by providing each branch access to customer policies and claim procedures, enabling fully digital claim processing for end customers."
>
> (Sandeep Katiyar)

E-health solutions provider CarePay, in turn, has been able to connect over 6000 hospitals and clinics in Kenya, which accounts for a significant share of the national healthcare infrastructure enabling broad access to services across the country. The connection of platforms to a wide network of health facilities offers insurers an **effective means to engage in large-scale customer acquisition via Business-to-Business sales**. For instance, Kees van Lede observed an ongoing fast growth in **employer-based schemes**, where large employers forge partnerships with insurers and roll them out via their platform. Thus, thousands of individuals gain access to health insurance while digital platforms facilitate their integration into the healthcare system.

Partnerships with mobile payment providers also offer great potential for enhanced distribution: At BIMA-MILVIK, related digital sales channels are contributing an increasingly significant share of the company's overall growth. In general, digital purchasing also plays a vital role in maintaining the **profitability of insurance business models**, particularly in low-margin, high-volume markets. A unique example is digitized **Community-based Saving Initiatives** as highlighted in Case Study 7.

Case Study 7: Community Based Saving Initiatives

Community-based savings groups, such as ROSCA's (Rotating Savings and Credit Associations) and Village Savings and Loan Associations, can play a key role in the distribution of healthcare financing and insurance delivery in low-income contexts. With the increased digitization of these groups, such as the Ethiopia-based Jamii One app, these informal groups have evolved into platforms that can support mutual-style health coverage. According to Richard Leftey, these groups possess a unique strength to self-administer and control fraud due to high trust and social accountability among its members. For example, if the whole group saves a dollar each week, they might allocate a couple of cents to a communal health fund that can be used to fund minor medical emergencies. The group then collectively verifies the need and cost, discouraging fraud as that is seen as stealing from peers.

> *"Platform providers can act as an "umbrella" insurance structure to these small mutual groups in a layered model. While the individual savings groups could handle routine and minor claims, the insurtech could step in to cover systemic risks such as disease outbreaks or natural disasters."*
> (Richard Leftley 2025)

Adding to that, partnerships of Insurtech platforms with data-providing and processing companies – next to efficiency gains, as noted earlier – could also serve to enable a **more targeted outreach to potential clients through calls or personalized social media campaigns**. Furthermore, and in line with the findings from the literature review, our experts highlighted the role of Insurtech platforms themselves as a valuable tool for the collection of data that can be analyzed to **refine and tailor insurance products and enhance distribution efficiency**. In sum, when anchored in a multi-stakeholder network within the ecosystem of healthcare, Insurtechs can connect a vast number of individuals to relevant actors in the healthcare system and beyond creating synergies between the different actors involved.

Cross-Border Connectivity

Extreme weather events induced by climate change, such as droughts, floods and heatwaves, are expected to force many people to leave their home regions. This will result in **large-scale internal displacement and cross-border migration** (see Figure 1 for the human-induced health effects of climate change). At the same time, **urbanisation** is progressing rapidly in many LMICs causing further movement within coutnries. Vulnerable groups are particularly reliant on access to healthcare in these circumstances, as undernourishment is often a significant issue caused by droughts and failed harvests. Kees van Lede emphasized that Insurtechs could play a pivotal role in providing an overarching framework of services that insurers could offer their clients across administrative boundaries in this context. One initial step could be to analyze migration dynamics and identify the relevant borders to establish **cross-regional and cross-country access to digital platforms** in countries **experiencing the largest population movements**. CarePay is one of the platforms spearheading these endeavors by observing and analysing population shifts between Kenya and Uganda.

Opportunities for Impact Investing

Impact investing can provide the necessary financial funding to enable Insurtechs to build the partnership infrastructure needed to benefit from a multi-stakeholder network within healthcare systems (*input*). Furthermore, as the cross-border connectivity of health system actors in different regions and nations through digital platforms still needs to be established, impact investing could play a key role in connecting different actors by **providing financial incentives to build the relevant partnership infrastructure *(input)***. Key *activities* such as multi-stakeholder integration on digital platforms and the potential offering of cross-border health insurance services scale up to measurable *outputs*, including a higher number of insured clients, a **larger number of hospitals and clinics connected to the platform**, and a greater number of **different healthcare stakeholders across countries** connected to digital platforms. The resulting *outcomes* include the large-scale

inclusion of populations in healthcare systems across different regions and countries, ultimately leading to enhanced access to health insurance for previously underserved groups.

7. Conclusion & Key Takeaways

Climate change poses a mounting threat to human health, especially for vulnerable groups in developing economies, while current public healthcare capacities in LMICs will likely be incapable of facing these increasing demands. In this context, health insurance can play a key role in contributing to **individual- and health system-level resilience**: It can provide financial protection against treatment costs, preventing people from delaying treatment. It can also set market incentives for expanded climate-focused care, contribute to closing health data gaps, and disseminate preventive measures and products to relieve capacity strain.

However, the low level of insurance coverage in LMICs indicates the **difficulty of providing health insurance to all income levels and achieving scale** for these interventions. Insurtech platform providers can help bridge this gap by **digitizing insurance processes** and interactions, as well as **bundling value chain services**. This lowers premium costs (*affordability*). Additionally, they can promote *health insurance literacy* **through contextual nudges and targeted user guidance**. By acting as intermediaries and market makers in the healthcare ecosystem, they **connect different stakeholders and increase the availability of health insurance across borders** *(distribution)*.

Impact investing can lead the way in further scaling and better realizing these impacts, by **supporting platforms successfully engaging in these practices**, measurable via the output metrics identified. This would bridge important barriers that conventional investors face when investing in LMIC markets. It could allow impact investors to benefit from the value-added for insurers by Insurtech Platforms, **yield returns on investment,** and simultaneously contribute to enhancing **individual health and health system resilience** against climate change, generating global impact. However**,** building partnerships, reaching efficiency gains via digitization, and determining the most effective ways to combine digital tools with human resources tailored to specific contexts takes time. The initial costs of developing and expanding Insurtech platforms are high, and they may not become profitable at the country and company levels for some time. Therefore, any commitment will require **patient capital.**

Limitations & Future Research

A primary limitation of the scoping nature of this report is that its initial exploratory findings are **unlikely to be all-encompassing**, given the limited number of interviews and the overarching qualitative nature of this study. Expert interviews may also **introduce biases due to the regional and field-specific focus of the experts' work** and prior experiences. This is particularly relevant given our convenience sample and the starting point of our snowball sampling at a Swiss Higher Education Institution, whose geographical distance from the study regions may result in a skewed perspective. Yet, as most of the **experts interviewed are focusing on different LMICs** across key world regions (Latin America, Central Africa, Middle East, India, South-East Asia) - we believe that these risks could be mitigated.

A further caveat of our research, and of the ToC, in general, is the **assumption of linearity when connecting inputs to outputs and outcomes**. While Output measures require quantitative scrutiny in terms of their validity and reliability, as with any other scientific research instrument, it is also unclear whether increased capacities of platform providers will always generate an increase in these values: **Intervening third factors**, such as the sociocultural contexts, for example, could substantially hinder surpassing certain insurance access thresholds once the 'more receptive' share of the population has been reached.

Further accompanying research is imperative to understand these interlinkages. Any concrete step toward an investment commitment would require a **more thorough analyses of context dynamics to better understand the local setting**, the effect chains outlined, **and control for potential confounding variables**. In addition, the potential for impact investors to get involved beyond financial support could provide a fruitful avenue for future research. For instance, they could assist in forging important partnerships between digital platforms and global insurers and reinsurers to expand their market reach – notably, across borders. Finally, the **role of impact investors to support entry points 1-3 merits further research.**

Recommendations for Action

In sum, the present study has highlighted the benefits of climate change adaptation action in the health insurance sector of developing countries, through expanding access to policy schemes via digital platforms. The study has explained the circumstances under which these platforms develop their potential, and highlighted the key role impact investing can play in this regard. Based on our

findings (1 and 2) and the limitations of this study (3), we conclude with three important recommendations for impact investors:

Identify and evaluate Insurtech platform providers operating in LMIC markets that utilize the previously outlined access-enhancing business strategies.

Assess their effectiveness using the specified output metrics.

Conduct regional market analyses to account for variations in health insurance models and contextual dynamics to guide targeted investments

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Appendix

Appendix A: Interview Selection & Content Analysis Procedure

All experts selected for the interviews needed to meet the following two criteria: (1) Have a focus on emerging markets in their work or research, and (2) direct connections to the insurance industry or a focus on financial inclusion.

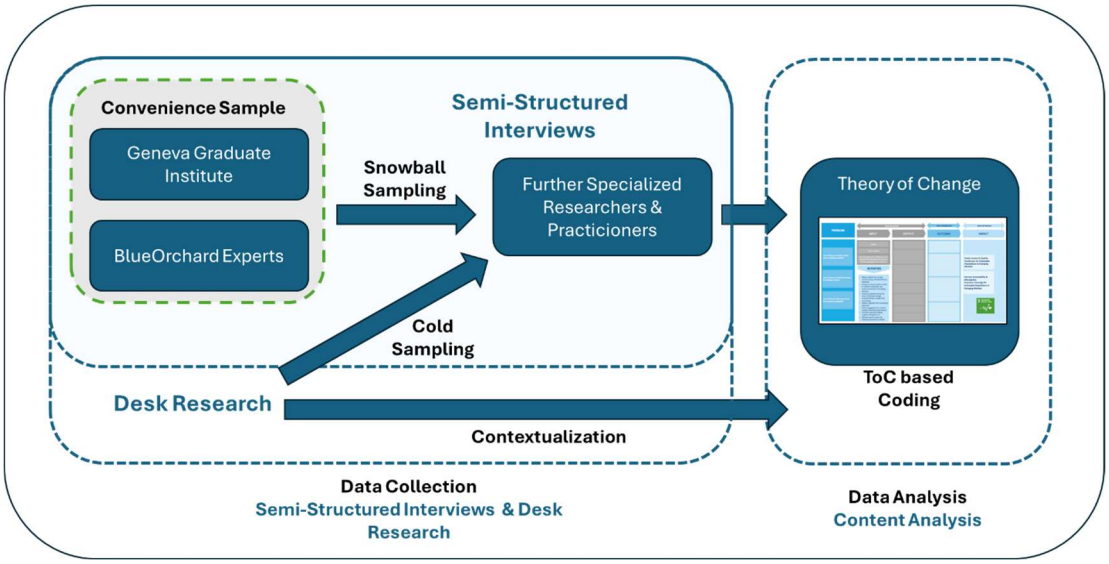
Interviewees were selected based on a convenience sample relying on the researcher's academic affiliation with the Geneva Graduate Institute and its Center for Finance and Development and research support by the Impact Investor BlueOrchard Finance Ltd.

We used two different versions of a questionnaire - an expert version and a practitioner version - in which we: (1) operationalized the different steps of the Theory of Change (ToC); (2) sought to better understand the three dimensions of insurance access challenges; (3) aimed to pinpoint entry points for impact investors; and (4) identified broader trends related to climate change impacts on the industry. Questions on the ToC were kept more general for experts, with a stronger focus placed on the other aspects.

For the content-analysis, interviews were recorded and transcribed, and findings were transferred into an excel based on a coding scheme that comprised the different categories of the theory of change – input, activities, output, outcome, and impact -, challenges toward and strategies to enhance insurance access distinguished along the three pre-defined dimensions (affordability, distribution, insurance literacy), and a final segment for impact investment entry points. Figure A below summarizes our overall procedure.

Figure A

Data Collection and Analysis Process



List of Interviewees

No.	*Interviewee*	*Position*	*Date*	*Association*		*Category*
1	Gustaf Agartson	Founder & CEO	11/02/2025	MILVIK BIMA	Insurance Platform Provider	Practicioner
2	Kees van Lede	Growth Advisory Board Member (former CEO)	27/02/2025	CarePay International	Insurance Platform Provider	Practicioner
3	Assistant Professor in Anthropology and Sociology & Chair in Finance and Development*		03/03/2025	Geneva Graduate Institute	Centre for Finance and Development	Academic Expert
4	Jovita Sadrach	Head of Life Insurance Division IFG	10/03/2025	Indonesia Financial Group (IFG)	State-Owned Financial Services Provider	Expert Practicioner
5	Prof. Lore Vandewalle	Professor International Economics & Pictet Chair in Finance and Development	13/03/2025	Geneva Graduate Institute	Centre for Finance and Development	Academic Expert
6	Epidemiologist - Epidemic Risks*		26/03/2025	Global Reinsurer		Expert Practicioner
7	Richard Leftley	Managing Director & Consultant Global Inclusive Insurance Facility	31/03/2025	Wavu Limited & International Finance Cooperation	Consultancy & International Organization	Expert Practicioner
8	Sandeep Katiyar	Co-Founder and Group Chief Financial Officer (CFO)	08/04/2025	Finhaat Technologies Pvt Ltd	Insurance Platform Provider	Practicioner
9	Richard Hardy	Investment Director - Africa Private Equity	14/04/2025	BlueOrchard Finance Ltd.	Impact Investor	Expert Practicioner

Note: *Practitioners (grey)* are individuals directly employed by an Insurtech platform provider. *Expert Practitioners (blue)* are professionals from the insurance industry, adjacent sectors, or the impact investing field who are not directly affiliated with an Insurtech platform. *Academic Experts*

(red) hold research positions at the Geneva Graduate Institute.*At the personal request of some interviewees their names and/or positions remain undisclosed.

Appendix B: Interview Questionnaire

B1: Practicioners & Expert Practicioners

Introduction, Presentation of the Project

1. Understanding the Business Model of the Platform provider via a Theory of Change

Communiqué:

We are aware that insurance platform providers pursue a variety of business models (e.g., B2B "claims processing services" vs. B2C "microinsurance distribution"). With the following question, we aim to capture the breadth of strategies employed across the sector. Feel free to highlight multiple models or describe how they may coexist within a single platform.

1.1. Core Activity:

What are the primary functions and objectives of your company/ of platform providers?

1.2 Inputs (Resources):

What key resources (technical, human, financial, etc.) are required to perform these core activities?

1.2. Outcomes (Value Creation):

What is your/ a platform's added value? What does it aim to achieve for its users or partners?

1.3 Impact:

What is your/ their broader impact (i.e., What long-term effects result from achieving these outcomes?

2. **Fostering Financial Inclusion to Financial Health Services: affordability, literacy, product distribution**

2.1. What would you consider to be the current most promising **solutions** that are

a) are provided or

b) could be provided

by your platform/platform providers to improve the affordability of **financial products/insurance services** fostering access to healthcare?

- Combined with community approaches? partnerships?
- Special solutions for marginalized groups/ those exposed to discrimination (women & girls, minority & indigenous groups, the elderly, etc.)?
- Case Studies?

2.2. What would you consider to be the current most promising **solutions** that

a) are provided or

b) could be provided

by your platform/ platform providers to expand literacy in an LMICs context regarding **financial products/insurance services** fostering access to healthcare?

- Combined with community approaches? partnerships?
- Special solutions for marginalized groups/ those exposed to discrimination (women & girls, minority & indigenous groups, the elderly, etc.)?
- Case Studies?

2.3 What would you consider to be the current most promising **solutions** that

a) are provided or

b) could be provided

by your platform/ platform providers to **improve the distribution** of financial products/insurance services fostering access to healthcare in an LMICs context?

- Combined with community approaches? partnerships?
- Special solutions for marginalized groups/ those exposed to discrimination (women & girls, minority & indigenous groups, the elderly, etc.)?
- Case Studies?

2.4 How would you measure changes in (**Output**):

- Affordability
- Health Insurance Literacy
- Product Access and Distribution

3. Impact & Profitability (Practitioners only) - *optional*

3.1 How long did it take your project to turn profitable?

3.2 How does your business model guarantee impact and profit at the same time?

4. Current Challenges & Entry Points for Impact Investing

4.1 What are the biggest challenges of the approaches you mentioned for:

- Affordability
- Health Insurance Literacy
- Product Access and Distribution

4.2 What are the 2-3 most salient aspects of climate-related issues that need to be addressed in future health-related financial products/health insurance services

4.3. What a) would you consider to be the most promising entry points for impact investments and b) what potential pitfalls should it consider?

Any further contacts you can recommend for further discussion?

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B2: Academic Experts

Introduction, Presentation of the Project

1. What would you consider to be the current most promising solutions and approaches to expand financial inclusion in terms of ***access to banking services*** (to manage insurance payments) in an LMICs context?
    - **1.1 Establishing a general understanding:**
    i. Digital applications? In particular, platform approaches

ii. Community systems (that could be further enhanced by digital services)?
iii. Other?
iv. Special solutions for marginalized groups/ those exposed to discrimination (women & girls, minority & indigenous groups, the elderly, etc.)?

- **1.2 Concrete Examples**

i. Are there any interesting cases/companies/organizations you recommend looking into from your past research (concrete examples to consider for potential case studies)?

2. What would you consider to be the current most promising solutions to expand ***financial literacy*** in an LMICs context (in terms of access to information on financial products)?

- **2.1 Establishing a general understanding:**

i. Digital applications? In particular, platform approaches
ii. Community systems (that could be further enhanced by digital services)?
iii. Other?
iv. Special solutions for marginalized groups/ those exposed to discrimination (women & girls, minority & indigenous groups, the elderly, etc.)?

- **2.2 Concrete Examples**

ii. Are there any interesting cases/companies/organizations you recommend looking into from your past research (concrete examples to consider for potential case studies)?

3. What would you consider to be the current most promising solutions to improve financial inclusion in terms of ***product access and distribution*** in an LMICs context (in terms of access to information on financial products)?

- **3.1 Establishing a general understanding:**

i. Digital applications? In particular, platform approaches
ii. Community systems (that could be further enhanced by digital services)?
iii. Other?

iv. Special solutions for marginalized groups/ those exposed to discrimination (women & girls, minority & indigenous groups, the elderly, etc.)?

- **3.2 Concrete Examples**

iii. Are there any interesting cases/companies/organizations you recommend looking into from your past research (concrete examples to consider for potential case studies)?

4. How do you measure changes in [Output]:
    a. Access to Banking
    b. Financial literacy
    c. Product access and distribution

5. What are the biggest challenges of the approaches you mentioned for:
    a) Banking
    b) Financial literacy
    c) Product access and distribution

6. What a) would you consider to be the most promising entry points for impact investments and b) what potential pitfalls should it consider?
    - Any contacts you can recommend for further discussion?
    - Fine with quoting (anonymously if needed)?

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Appendix C: Link to Transcripts

https://drive.google.com/drive/folders/1rHukTLrdLNw6oS-Tvc5QI3gjiUOEUOHl?usp=sharing