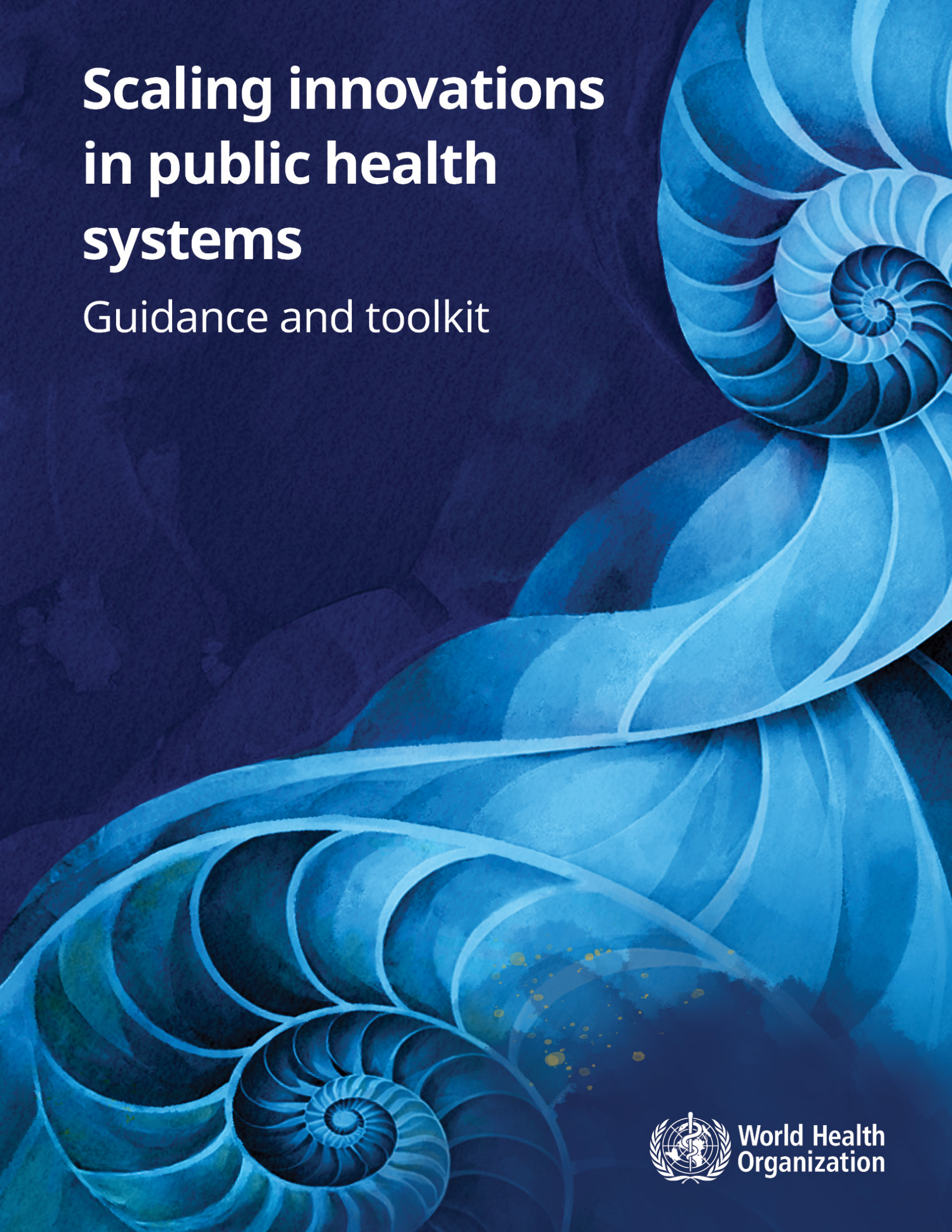
Scaling innovations in public health systems

Guidance and toolkit



World Health Organization

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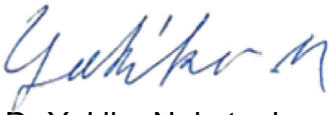
Foreword

In today's world, over half of the global population still lacks access to essential health services. Yet, we have never seen as many promising innovations in health, ranging from social innovations to frontier technologies like artificial intelligence. In the context of complex global pressures, public health systems are being challenged to rapidly and responsibly integrate and scale new innovative solutions. This presents a real opportunity to bridge the gap between the needs of populations worldwide and the booming innovation ecosystem. Yet, one critical strategic question endures: how can we scale what works so that its impact is equitable, sustainable and systemic?

This guidance and toolkit for scaling innovations in public health systems offer an evidence-based, practical framework to assist governments in making innovation scaling a priority – specifically, to steward a move from promising pilots to system-wide adoption, grounded in principles of health system strengthening and country ownership. It is designed primarily for ministries of health, national and subnational agencies and public sector institutions. It is also a powerful resource for engaging non-state actors, including private sector innovators and academic partners working in alignment with public objectives.

Scaling innovation is not merely replication – it is an intentional and adaptive process based on principles of inclusivity and equity. It requires a strong alignment between evidence and political will, while balancing structure, flexibility, national aspirations and local realities. This toolkit provides seven critical roles that governments can play in scaling health innovations, three strategic approaches to scaling and competences, and tools and activities for innovation scaling that support actors to explore, adapt and learn.

Innovation scaling is not an isolated act, but a collective endeavour and leadership opportunity. Successful scaling requires trust and political commitment, aligning incentives and learning across diverse sectors and communities, to move from isolated success stories to enduring improvements in health systems. I invite you to embrace and use this guidance and toolkit so that collectively we can achieve universal health coverage and the Sustainable Development Goals through the scaling of impactful innovations.



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Practitioner consultations
The following health innovation scaling practitioners were consulted and contributed with insights on the case examples shared throughout the guidance:

- Dr Himanshu Bhushan, Public Health Specialist, (Former) Deputy Commissioner & I/C MH Division, MoHFW, Government of India, India

- Magaly M. Blas, Director, Mamás del Río, School of Public Health and Administration, Universidad Peruana Cayetano Heredia, Peru

- Dr Ntuli Kapologwe, Director General, East, Central and Southern Africa Health Community (ECSA-HC), United Republic of Tanzania

- Chen-Ee Lee, former SingHealth Group Director (Innovation & Transformation), and Co-Chair (SingHealth Duke-NUS Academic Medicine Innovation Institute), Singapore

- Hasna Rouighi, Director of Innovation and Research and Head of the Innovation Office, Ministère de la Santé et des Services sociaux of Québec, Canada

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Abbreviations

AI (Artificial intelligence)

ASHAs (Accredited Social Health Activists)

HMIS (Health management information system)

HTA (Health technology assessment)

JSK (Janani Shishu Suraksha Karyakram)

JSY (Janani Suraksha Yojana)

LMICs (Low- and middle-income countries)

MEAL (Monitoring, evaluation, accountability and learning)

NHM (National Health Mission)

NGO (Nongovernmental organization)

NTA (National Transfer Account)

OECD (Organization for Economic Co-operation and Development)

PPPs (Public–private partnerships)

SDGs (Sustainable Development Goals)

SSTC (South-South Triangular Cooperation)

UHC (Universal health coverage)

WHO (World Health Organization)

Glossary

Terminology	Definition
Competence	Broader attributes that refer to an ability to use knowledge, skills and personal, social and/or methodological abilities in work or study situations and in professional and personal development *(1)*.
Stakeholders	Agencies, organizations, groups or individuals that have a direct or indirect interest in the intervention or its monitoring and evaluation *(2)*.
Impacts	The higher-level effects of an intervention's outcomes; the ultimate effects or longer-term changes resulting from the intervention. Such impacts can include intended and unintended and positive or negative higher-level effects *(2)*.
Performance monitoring	A continuous process of collecting and analysing data to compare how well a project, programme or policy is being implemented against expected results *(2)*.
Diffusion (innovation)	Innovation diffusion encompasses both the process by which the ideas underpinning product and business process innovations spread (innovation knowledge diffusion) and the adoption of these innovations by other firms or by the public sector (innovation output diffusion) *(3)*.
Innovation[1]	An innovation is a new or improved product, service or process (or combination thereof) that differs significantly from the unit's previous products or processes and that has been made available to potential users or brought into use by the unit (adapted from *(3)*).
Innovation scaling	Deliberate efforts to increase the impact of successfully tested health innovations to benefit more people and to foster policy and programme development on a lasting basis *(4)*.
Government actors	Any individual, group or institution that represents or functions on behalf of a government in performing roles, duties or responsibilities at various levels of governance.
Public health systems	All the organizations, institutions, resources and people whose primary purpose is to improve health *(5)*.
Public sector	Includes all institutions controlled by the government, including public business enterprises. The latter should not be confused with publicly listed (and traded) corporations. The public sector is a broader concept than the general government sector. It can either be centralized or decentralized/devolved, which will influence the ease and speed of public sector adoption and scaling of innovations.
Regulation	The implementation of rules by public authorities and governmental bodies to influence market activity and the behaviour of private actors in the economy. A wide variety of regulations can affect the innovation activities of firms, industries and economies *(6)*.

[1] Whereas the OECD definition of innovation includes marketing, this innovation type is not always relevant for governments. However, positioning, communicating and disseminating can still be relevant objects of innovation in the public sector. For instance, governments can act as ambassadors for particular innovations and, thereby, enable scaling.

Scaling pathways	Scaling pathways refer to distinct ways a proven intervention or innovation can be scaled while reaching sustainability over time: (i) interventions that seek to be adopted by the local public sector, (ii) interventions with a commercial business model and (iii) interventions requiring hybrid strategies in which public and private action are closely intertwined, for example, health services *(7)*.
Quality assurance	Encompasses any activity that is concerned with assessing and improving the merit or the worth of a development intervention or its compliance with given standards.

How to use the guidance and toolkit

Below is a summary of how to use the contents of this technical product.

Learn about the purpose, key concepts and framework for scaling health innovations by government actors.	Understand the strategies and competences needed to enable scaling in different contexts, including through mission-oriented innovation.	Explore the seven roles of government in enabling health innovation scaling.	Utilize the three scaling processes and tool typology to guide and enable actions in applying the framework for scaling health innovations.	Conclusion and where to begin.
Chapters 1 and 2	**Chapter 3**	**Chapter 4**	**Chapter 5**	**Chapter 6**

Executive summary

Scaling health innovations is a strategic imperative for transforming public health systems. As governments confront increasingly complex and evolving health challenges, from emerging diseases to rising health inequities, the ability to take proven solutions to scale has become central to achieving universal health coverage (UHC) and the Sustainable Development Goals (SDGs).

This guidance and toolkit for scaling health innovations in public health systems are a call to action to embed innovation scaling as a whole-of-government priority.

Developed through international expert consultation and a rigorous review of evidence and practice, this guidance offers governments a practical roadmap to lead, coordinate and sustain the scaling of health innovations. It is designed primarily for ministries of health, national and subnational agencies, and public sector institutions. At the same time, it serves as a strategic resource for engaging nongovernmental actors, private sector innovators and academic partners to work in alignment with public objectives.

At the heart of this guidance is the recognition that scaling is fundamentally a leadership challenge. It requires more than technical know-how – it demands political commitment, institutional vision and a reimagining of how governments steward innovation as a system function. Scaling efforts must be rooted in the understanding that innovation can only be sustained when it is inclusive, affordable, demand-driven and context-appropriate and that public health systems are dynamic and diverse and interdependent with actors and entities outside the health sector.

The guidance outlines three strategic approaches to scaling: directive efforts to make it happen, collaborative processes to help it happen and supportive conditions to let it happen. These strategies are not mutually exclusive; rather, they can be combined and sequenced depending on the political and societal context, the scaling challenge at hand and the level of government in question. In many cases, as a way to work holistically across these strategies, governments may benefit from adopting a mission-oriented approach – one that defines long-term, measurable goals; fosters cross-sectoral collaboration; mobilizes funding and integrates diverse scaling strategies under a unified vision for societal change. The growing normative turn in science, technology and innovation policy is reflected in the rise of mission-oriented approaches that direct innovation towards societal and environmental goals, while also pursuing economic development *(8,9)*.

Effective scaling also depends on strengthening internal government capabilities. The guidance highlights the importance of building institutional competences such as systems thinking, stakeholder engagement, change management, adaptive management and strategic communication. Equally critical is the need to institutionalize equity and inclusion and to systematically make trade-offs in decision-making and prioritization processes explicit, ensuring that scaling efforts intentionally reach marginalized and underserved populations.

The framework presented in this guidance identifies seven critical roles that government actors play in scaling health innovations. These roles, ranging from policy setting and regulatory reform to funding enablement and communication, are mutually reinforcing and adaptable to different contexts. Importantly, the role of the government as an innovation steward is emphasized: guiding the ecosystem of actors, aligning incentives and fostering shared ownership of solutions. Likewise, the communicator role includes engaging not only decision-makers and partners, but also communities and end users, whose participation is vital to impactful and sustained uptake.

Three interconnected processes led by public sector entities form the operational core of innovation scaling: exploring, adapting and learning**.** Exploring involves identifying and assessing promising innovations with attention to feasibility, cost-effectiveness and equity impact. Adapting ensures that innovations are responsive to specific sociopolitical and health system contexts, often requiring deliberate tailoring to local capacities and constraints. Learning is positioned as an ongoing, systemic process underpinned by robust monitoring and evaluation frameworks that support iteration, evidence use and course correction over time.

Ultimately, this guidance is a strategic instrument to position governments as drivers of health systems transformation. By embracing the roles, processes and strategies outlined herein, public sector leaders can move beyond short-term initiatives and isolated successes toward lasting, large-scale improvements in health outcomes.

The opportunity is clear: when governments lead innovation scaling with intention, alignment and equity at the core, they unlock not only better health for all but more resilient, responsive and inclusive health systems for the future.

1. Introduction

1.1 Why was the guidance and toolkit developed?

"The United Nations' health-related Sustainable Development Goals (SDGs) are off track in a world of increasing complexity, compromising the goal of health and well-being for all." *(10)*

Today's world faces many challenges, including a global decline in development aid, an increased frequency of climate-related disasters and their related epidemic diseases, the rise of misinformation and disinformation, demographic shifts putting strain on the health workforce, risks of pandemic diseases and inequitable access to basic services such as clean water and essential medicines. In the Global Health Strategy for 2025–2028 (14th General Programme of Work), WHO Director-General Dr Tedros Adhanom Ghebreyesus highlighted innovation as one of the means to support countries in implementing the General Programme of Work and attain the health-related SDGs *(10).*

Innovation, whether as a product, service or process, has the potential to accelerate progress toward universal health coverage (UHC), strengthen health system resilience and improve health outcomes by enabling more effective, efficient and equitable delivery of services. However, the potential of successful innovations to achieve high impact depends on their effective and optimal scaling within public health systems to ensure they reach the populations that need them most. Achieving national scale has proven particularly challenging, and effective new practices and products remain underutilized. While the field of scaling health innovations in public systems has evolved significantly over the past two decades, persistent systemic challenges remain, hindering the pace and consistency with which public health systems adopt and integrate these innovations *(4,11,12)*.

Complex scaling projects require long-term, stable funding, something that may not be available when needed. However, limited or unstable financing is not the only barrier to innovation scaling; the complexity of navigating policies, institutional priorities and regulatory frameworks; human resource constraints; and limited monitoring and evaluation capacity are also common barriers to scaling innovations. Barriers can also arise from a lack of interoperability between systems and difficulties in exchanging information and data for impact evaluation, leading to a duplication of effort and resources by partners and governments. Other common examples of barriers include difficulties in

the procurement process, intellectual property rights limitations, and lengthy and complex regulatory approval processes.

This technical product has been developed to address current gaps in the scaling of health innovations and to provide national, regional and local governments with practical guidance and tools to implement successful scaling strategies.

1.2 Who is the guidance for?

The target audience of this document is government officials of all levels working in or supporting the health sector as well as other stakeholders interested in engaging with governments in the effective scaling of health innovations. This guide can be particularly useful for policy-makers, technical experts and directors in ministries of health, regulatory agencies, public sector agencies, civil society and nongovernmental organizations. To advance public health, governance designed by the public sector is key to transitioning from a system that prioritizes private interests to one that serves the common good *(13)*.

1.3 How was the guidance developed?

The conceptual framework and guidance were informed by a scoping review of the literature, consultations with end users and consultations with an expert group convened by the WHO Innovation Hub. The guide also draws on prior work by WHO *(4)*. Details on the methodology can be found in Annex C.

1.4 What is included in the guidance and toolkit?

This product contains the following chapters:

- framework for roles and processes in innovation scaling (Chapter 2);
- strategies, competencies and mission-oriented innovation for scaling impact (Chapter 3);
- government roles in scaling health innovations (Chapter 4); and
- processes and tools for exploring, adapting and learning to enable scaling (Chapter 5).

Appendices include the following:

- tool typology for scaling (toolkit)
- detailed case examples

- methodology.

1.5 Limitations of the guidance

We strove to capture a diverse sample of cases and managed to cover innovations across all WHO regions. The guidance draws on consultations among a range of practitioners across Canada, Finland, India, Pakistan, Peru, Singapore, South Africa and the United Republic of Tanzania. Cases included innovations in maternal health, infectious diseases, noncommunicable diseases and mental health. These cases are illustrative and are not necessarily representative of all health domains. Going forward, it would be desirable to capture more cases from the different regions and areas of public health to nuance and deepen the learnings.

1.6 Key concepts

A range of key delineations and definitions has been deployed to scope and guide the work. The concepts have been identified and qualified as part of the literature review and in dialogue with the dedicated WHO Expert Group.

1.6.1 Innovation

The WHO Innovation Hub considers innovation as a holistic concept that is key to new value creation across products, services, systems and societies.

Specifically, the *Oslo Manual (3)* defines innovation as “a new or improved product or process (or combination thereof) that differs significantly from the unit’s previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process).” This definition deploys the term “unit” in reference to any institutional unit in any sector, including households and their individual members.

In public health, innovation can be viewed as the creation and implementation of novel processes, products, services, programmes, policies or systems that lead to transformations or improvements in health outcomes and equity. Stemming from new or enhanced ideas, innovation can take various forms, including digital health solutions with disruptive technology and social innovation promoting novel service delivery models, increased participation, partnerships, empowerment and innovative resource utilization to tackle public health issues *(14)*.

In the literature on scaling innovation, the term is sometimes used interchangeably with intervention. For the purpose of this guidance, we maintain that there is a difference. An intervention can be innovative, but it is not necessarily so. For an intervention to be innovative, in line with the Organization for Economic Co-operation and Development (OECD) definition, it must be new and improved and differ significantly from previous interventions.

1.6.2 Innovation scaling

We define scaling as the deliberate efforts to increase the impact of successfully tested health innovations to benefit more people and to foster policy and programme development on a lasting basis *(4)*.

Several concepts are used somewhat interchangeably with scaling. Most notably, these include diffusion, spread, institutionalization and implementation. While some of these concepts may be seen as synonymous, scaling has a couple of distinguishing features: First, it is linked directly to innovation, whereas implementation, for instance, does not have to relate to an innovation. Second, scaling is an intentional process, unlike diffusion and spreading, which are typically considered less intentional *(15,16).*

Different pathways to scaling exist, which may include the public sector, the private sector or both. Hybrid scaling strategies are particularly relevant when public and private activities are closely interconnected, such as in health services. Scaling can also have different aims. Moore, Riddell and Vocisano *(17)* suggest that scaling can be three different types:

- **scaling out:** growing or replicating an innovation to other geographic areas and populations;
- **scaling up:** changing institutions at the level of policy, rules or laws; and
- **scaling deep:** changing cultural values and beliefs.

1.6.3 Government actors

Government actors are any individual, group or institution that represents or functions on behalf of a government in performing roles, duties or responsibilities at various levels of governance. These actors are typically involved in the implementation, regulation and oversight of policies, laws and public services. We include actors that are empowered by a formal governmental structure to carry out its functions, enforce its authority and deliver services to the public. These may include elected officials, civil servants or state-controlled institutions operating at local, regional, national or international levels *(18)*. Government composition, functions and processes are highly heterogeneous. This

guidance is designed to be adaptable for governments at different levels in different geographies.

1.6.4 Public health systems

A health system consists of all the organizations, institutions, resources and people whose primary purpose is to improve health *(5)*. This includes efforts to influence determinants of health as well as more direct health-improvement activities. Building on this definition, and for the purposes of the guidance, the public health system encompasses all public organizations, entities and resources that collectively contribute to the improvement and protection of the health of populations.

In terms of actors, public health systems include public health agencies at the local, state, national and international levels; public health care providers (e.g., hospitals, clinics and public practices that contribute to community health); public educational institutions that train health professionals and conduct public health research; and policy-makers from across government entities that establish regulations and frameworks and/or contribute infrastructures for public health efforts.

This understanding reflects the multisectoral and interdisciplinary nature of public health systems. It emphasizes both the organized activities and the wide range of actors involved in achieving health outcomes for populations. Private enterprises, including life science firms, private hospitals, private health practitioners and clinics, private health insurance, community organizations and nongovernmental organizations (NGOs) are typically not considered part of public health systems. However, these actors are contributors to health systems, and it is important to recognize the key importance of this interplay. This essentially casts the scaling of health innovation as processes of co-evolution *(19)*.

2. A framework for scaling health innovation

Successful innovation scaling in public systems is contingent upon a multifaceted institutional approach – one that combines governmental leadership, robust and adaptable regulatory frameworks, effective partnerships and capacity-building.

Addressing these institutional factors in a strategic, coordinated manner is important for the scaling of innovations in public systems. In much of the available literature on innovation scaling (see methodology in Annex C), institutional factors focus on the barriers to effective scaling that must be overcome if governments wish to address population health in ways that reach every relevant citizen and community.

While there is significant evidence and insights on institutional factors influencing innovation, the specific strategies, roles and processes that governments can embrace to proactively support the scaling of health innovations are less explored.

This guidance proposes a shift from a largely supply driven scaling of innovation to an innovation ecosystem and government ownership rooted in the needs of the public sector, of communities and of society. Crucially, it is individuals and teams within governments who take on the leadership needed to drive this change. Their actions, decisions and commitment are central to building the institutional capacity required to foster and scale innovation in ways that reflect and respond to population health needs. An important aspect of this includes a move away from a deficit mindset (e.g., benchmarking with other governments, often with the intent of pointing out what is missing) to an asset mindset (i.e., working with what you have). Catalysing an ecosystem is easier when taking an asset-based approach.

Governments must be empowered to examine data, interpret the evidence, identify key gaps and needs in consultation with relevant communities, articulate the demand and then create conditions for innovation to thrive. This does not mean that governments must drive innovation directly, but rather that they play a critical enabling role – ensuring that innovation responds to public health needs at scale. This role calls for a coherent framework of government support for scaling innovation, one that is based not only on health sciences, but also on political and managerial sciences, science of innovation and other disciplines.

2.1 Government as enabler of scaling

Government actors can address population health needs through four distinct yet interrelated approaches to scaling health innovations.

First, government actors can take a strategic approach. This entails making strategic choices on how to best enable innovations to scale, growing the associated competencies and adopting mission-oriented innovation as a holistic framework. Importantly, the pursuit of a specific strategy should reflect the political and societal context in which a health innovation needs to be scaled. Further, rather than building all the competences needed to fully embrace a particular strategy, government actors should draw on existing strengths and capabilities – essentially an asset-based approach.

Second, government actors can play different roles to move an innovation, regardless of what type of innovation it is or where it originated, towards wider uptake and thus better health outcomes. Institutional factors that are important for scaling are given concrete role descriptions (Chapter 4) to help government actors make them actionable. In addition, the different roles can be mixed and accentuated differently depending on the overall intent and strategic approach to scaling, dependent on the context and the wider stakeholder ecosystem.

> "The public sector plays a critical role in health innovation. In SingHealth, we support our healthcare staff in innovation so that they can find new ways to deliver better care for our patients. Our focus is on creating a positive impact on the lives of our patients, our population – even before they become ill – and our staff. Partnering with like-minded private entities can complement our expertise and resources and multiply our networks."
> *– Chen-Ee Lee, former SingHealth Group Director (Innovation & Transformation), and Co-Chair (SingHealth Duke-NUS Academic Medicine Innovation Institute)*

By recognizing and reflecting on the roles they can play, government actors will be better equipped to make deliberate choices on how best to approach opportunities for innovation scaling. In addition, the roles provide clarity on the types of competences needed under various conditions and associated strategies – including mission-oriented innovation approaches.

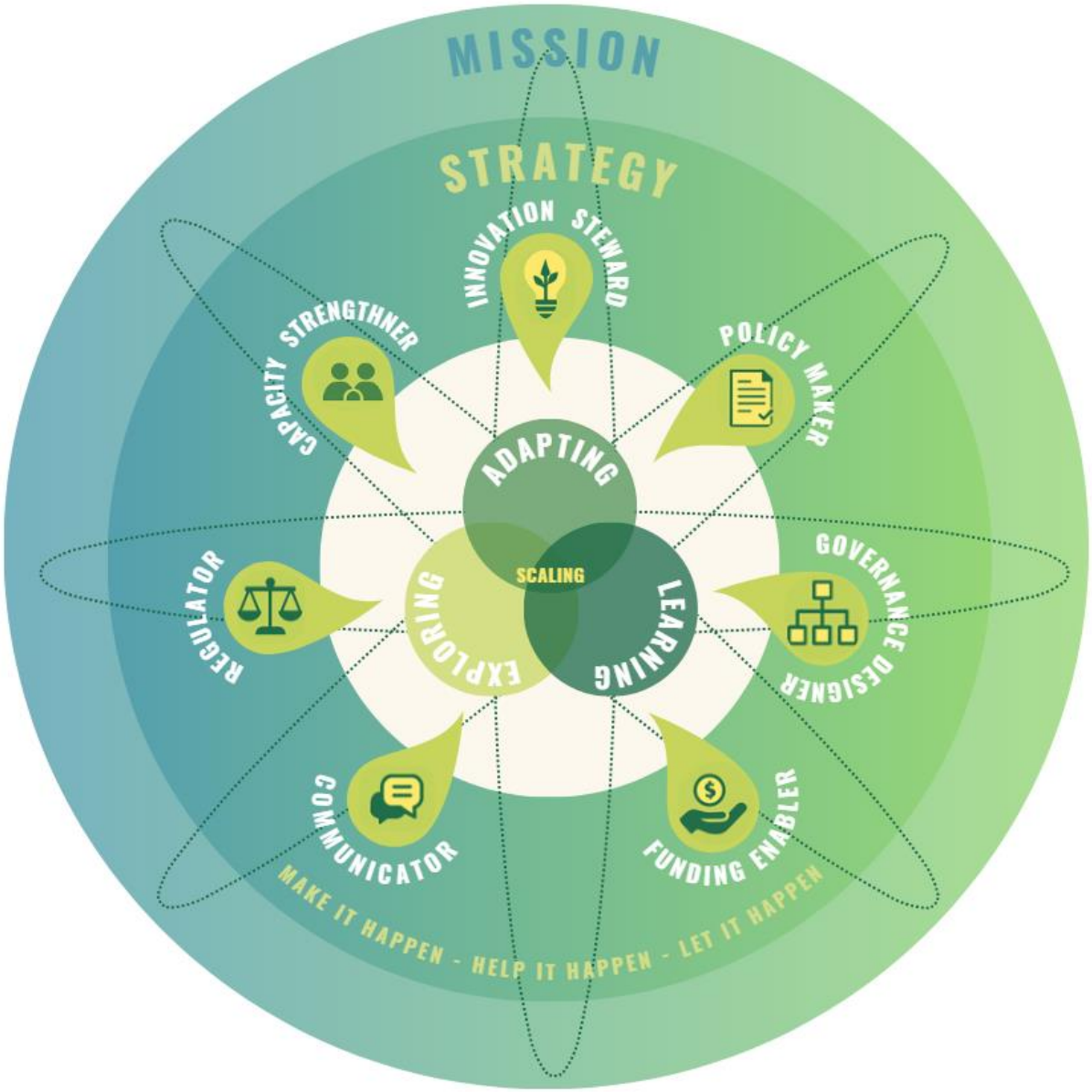
Third, government actors can employ three processes to ensure successful scaling: exploring, adapting and learning. These three processes are described in detail in Chapter 5.

Fourth, the types of tools and activities for government actors to fully leverage these roles and processes are identified. A typology of tools and activities has been developed, which allows governments to select the appropriate tools and find relevant authoritative resources (Annex A).

2.2. An innovation scaling framework

Using the elements described below – all of which are important for engaging effectively with health innovation scaling – government actors can make more strategic and intentional decisions about how to approach and ultimately succeed with innovation scaling. The framework for scaling health innovation, which we introduce below, is derived from a synthesis of evidence, including a literature review, a peer review, stakeholder consultations and consultations with the expert group. It illustrates the framework for scaling health innovation, including government strategies, roles and scaling processes (Figure 1).

Figure 1: A conceptual framework for scaling health innovation



The framework illustrates the overarching mission and the three strategies that government actors can choose to scale health innovations: a directed **make it happen** strategy, a more enabling **help it happen** strategy, and finally, a more bottom-up and organic **let it happen** strategy. The framework also shows seven government actor roles in innovation scaling: policy-maker, governance designer, innovation steward, regulator, capacity strengthener, funding enabler and communicator. These roles are distinct ways of describing how government actors can affect innovation scaling. Each role can be adapted to the chosen strategy and can use the three processes (exploring, adapting and learning) that ultimately lead to an innovation being scaled. The three processes are relevant to all seven roles and across all three strategies, but need to be tailored to each specific context and role. The dotted line represents the iterative zooming in and out through the mission, strategies, roles and processes, which allows for adjusting the different components as needed throughout the scaling journey. Not illustrated in the figure are the implied competences and tools that support scaling.

The following sections of the guidance present government strategies (Chapter 3), roles (Chapter 4) and descriptions of the processes (Chapter 5).

Key message

To succeed with the scaling of health innovations, government actors should take a proactive stance by embracing a set of clear strategies, roles and processes. This guidance suggests three strategies, seven roles and three interlinked processes – each entailing a range of tools and activities – for scaling innovation in health.

3. Strategies, competences and missions

This chapter presents a strategic frame to understand how governments can make informed decisions about their different roles – and develop them in appropriate ways. For each of the three scaling strategies, it maps the types of public management competences required.

Governments should embrace mission-oriented approaches to address more systemic, cross-sector and long-term health challenges via portfolios of innovations.

3.1 A strategic approach to scaling and government competences

Scaling of a health innovation needs to take place in a variety of contexts, depending not only on national and cultural characteristics, but also on the maturity of the particular health field: What type, urgency and magnitude of challenges are health actors facing, and what is the context in which governments need to unfold their various roles? How do government actors then choose not only their role in innovation, but also reflect strategically on the competences they will need as they pursue a particular scaling effort?

> “When we talk about innovation, our main concern is how we can bring value to the health care system." – *Hasna Rouighi, Director of Innovation and Research and Responsible for the Innovation Office, Ministère de la Santé et des Services sociaux of Quebec, Canada*

Some health challenges are characterized by a relatively stable context in which the actors are well known and the innovation itself is based on clear and well-documented evidence. In other instances, the context is more complex and the actors are more diverse; here, the key stakeholders may not be sufficiently capable of adopting or diffusing the innovation to the extent governments demand. Finally, there may be contexts in which the stakeholder landscape is not only diverse but populated by very competent actors that are generally well-equipped to adopt and diffuse the innovation in question.

Depending on the particular context, governments can pursue different strategies, reflecting key demands, policy priorities and targets. In turn, these strategies have implications for which competences public managers need to build – and to what extent they already possess them.

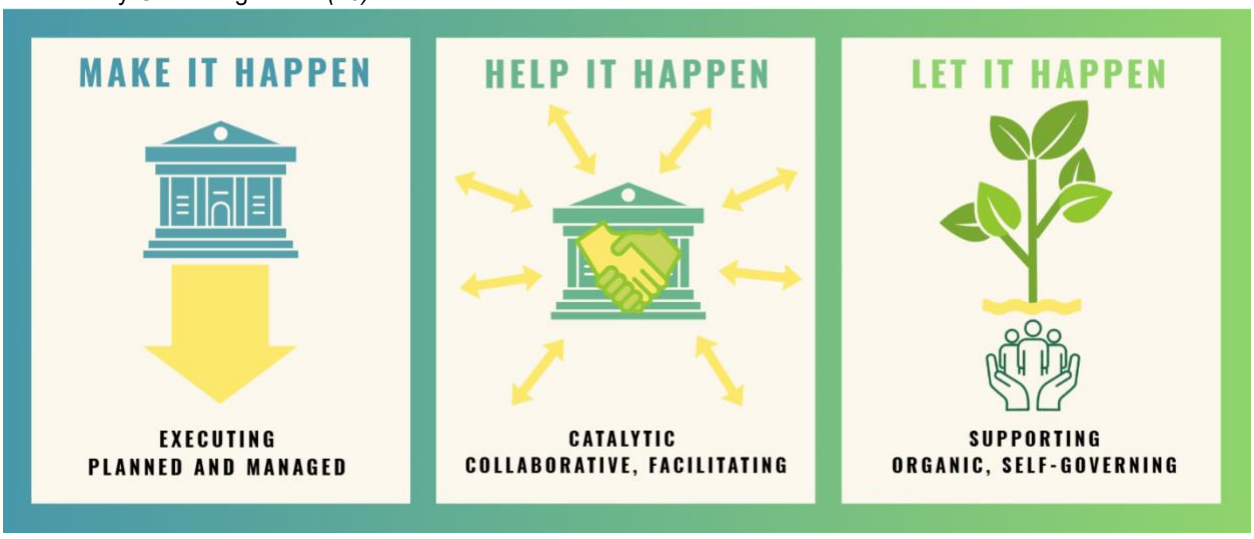
The purpose of this chapter is to provide a strategic framework for government actors to make more reflective, deliberate choices about scaling strategies, thereby better understanding how to play out their roles in ways that are fit for the job.

3.2 Three strategies for innovation scaling

Figure 2 illustrates the three strategic approaches derived from a comprehensive literature review *(15)* on the diffusion and spread of innovations in health service organizations: make it happen, help it happen, and let it happen. These approaches represent different degrees of intentionality, control and systemic support in the process of innovation adoption and spreading. The review highlights the importance of context-sensitive governance, recognizing that the success of any strategy depends on how well it aligns with local capacities, institutional cultures and the nature of the innovation itself. These strategies are archetypes that can and often should coexist in an organization or ecosystem, depending on the topic, purpose and maturity of the innovation and the organization.

Innovations are also part of the wider political economy. Whether an innovation scales is often a function of the political cycle – for example, is there a health crisis at hand? Is the government newly elected, and does it have a strong mandate? What is the relationship between the Ministry of Health and the Ministry of Finance? What are the key relationships between local and national governments?

Figure 2: Three scaling strategies
Informed by Greenhalgh et al. *(15)*.



Strategy	Make it happen	Help it happen	Let it happen
Context	Stable Predictable Few actors	Partly stable Less predictable More actors	Emergent Unpredictable Many capable actors
Approach to scaling	Executing Planned and managed	Catalytic Collaborative, facilitating	Supporting Organic, self-governing

The first strategy, **make it happen,** is essentially a top-down approach where the government actor – typically at the national level, but potentially international or regional – decides that a particular innovation needs to be scaled. It subsequently leverages significant resources to ensure this happens. This strategy is suited for relatively stable and predictable contexts, where the number of stakeholders is manageable and where the innovation to be scaled is well understood and, usually, well evidenced. Although this may not be simple in practice, the strategic choice and the management challenge are relatively straightforward: execute the scaling strategy. This strategy calls for a highly planned, managed and controlled process.

The second strategy, **help it happen**, is suited for less stable and clear environments, where predictability is lower, complexity is higher and the available evidence is less solid. Here, the innovation to be scaled might be less well understood, and further evolution and refinement of the innovation itself may be required. In essence, this strategy is more catalytic and needs to focus on collaboration and facilitation of the innovation scaling process. It also entails a significantly stronger focus on building the capacity of key actors in the system and enabling them to play relevant roles in supporting and driving the scaling process.

The third strategy, **let it happen*,*** is a hands-off approach to innovation scaling where the role of government is more of a supporter and cheerleader. This is amenable to contexts that are highly unpredictable and emergent and where there is less clear evidence available. The difference here, however, is that stakeholders are generally considered capable and have a strong ability to organically diffuse the innovation mostly on their own. Building light-weight institutional infrastructures or scaffoldings that can allow for the self-governing of actors across the field in question is the best approach.

Real-world scaling often contains a mix of elements. It is uncommon for any single case to align entirely with just one strategy. Greenhalgh et al. *(15)* emphasize that these strategies are not necessarily mutually exclusive.

Effective scaling often requires a hybrid or staged approach, where let it happen can serve as an incubator phase, help it happen supports adaptation and uptake, and make it happen consolidates widespread implementation. Combining approaches in a dynamic and flexible process is also a key tenet in mission-oriented innovation, which we consider later in this chapter.

Make it happen in practice

An example of a mostly make it happen strategy is the Janani Suraksha Yojana (JSY) programme. The initial conception and launch of JSY in 2005 stemmed from a clear national-level recognition of a severe problem: high maternal mortality rates, largely attributed to low institutional delivery rates among poor and labouring women. The decision to launch JSY as a demand promotion scheme with a fixed financial incentive was a top-down policy aimed at directly influencing behaviour at the grassroots level.

The implementation structure also reflects strong central management. The launch of the National Health Mission (NHM) in 2005 provided a dedicated, large-scale funding mechanism controlled at the national level. This funding, described as a "big national health mission budget," was a key enabler for the top-down push. The central ministry established reporting and monitoring formats, held quarterly review meetings with states, and utilized a digital health management information system (HMIS) to collect data from the lowest levels (sub-centres) and track programme progress. This centralized monitoring and evaluation system allowed the national level to identify bottlenecks and inform subsequent policy adjustments or complementary programmes.

The programme's response to identified bottlenecks demonstrates a managed, iterative process driven from the top. When it was observed that funds were not reaching beneficiaries promptly, an electronic and online transfer system was implemented. When the sudden surge in institutional deliveries overwhelmed facilities, complementary programmes like Janani Shishu Suraksha Karyakram (JSK) for free services and a quality assurance programme were introduced. The establishment of a national ambulance service and a policy permitting birth companions in labour rooms were also national-level responses to challenges observed during the scaling process. While local NGOs were involved in training Accredited Social Health Activists (ASHAs) and adapting content to local languages, the guidelines and funding for these activities were approved and channelled through the state and national levels based on proposals submitted by the states, indicating central oversight and direction within a decentralized framework.

More information can be found in Annex B.

Help it happen and let it happen strategies in practice

An example that draws more on a blend of help it happen and let it happen strategies is the Mamas del Rio programme in Peru. It is strongly characterized by capacity-building and enabling health actors at the community level, embodying a primarily bottom-up approach to scaling health innovation. The programme's genesis was rooted in the personal experience and observations of an innovator working directly in Amazonian Indigenous communities.

Recognizing the severe lack of access to basic maternal and child health care and the limited empowerment of the community to address its own health problems, the core idea was to strengthen the community from within. This sets it apart from traditional top-down health interventions or research projects that didn't prioritize community needs or capabilities to the same extent. A central pillar of the Mamas del Río strategy is the focus on community health workers (CHWs) and traditional birth attendants (TBAs). Instead of bypassing these existing community actors, the programme actively sought to train and equip them.

This involved not just technical knowledge but also leveraging the community actors' inherent understanding of local cultural practices around pregnancy and childbirth. The formative research conducted within the communities was crucial for tailoring the intervention, incorporating elements like the role of the *madrina* (a person who cuts the umbilical cord and takes care of the mother and baby if both survive or raises the child if the mother dies) and creating educational materials, including videos featuring a TBA explaining clean delivery practices, in a way that resonated locally. Simple technology, such as cell phones and tablets that can be used both online and offline, was introduced to support community-based actors in collecting information and accessing health knowledge, effectively enabling them to use modern tools adapted to their challenging environment.

The programme's growth and scaling journey, at least initially, was driven by this bottom-up energy and evidence generation. Starting with a pilot study funded by an external grant, the focus was on demonstrating feasibility and effectiveness at the local level. The subsequent transition-to-scale grant allowed for expansion to more communities and rigorous evaluation, producing scientific evidence to back the community-based approach. This evidence, generated from the ground up, then became a powerful tool for advocacy. While the programme originated outside the formal Ministry of Health structure, its success and the evidence it produced allowed the team to engage with governmental entities, notably the Ministry of External Affairs and later the regional government, and most significantly, to work on changing national legislation to recognize and provide incentives for CHWs. This demonstrates how enabling actors and building capacity at the community level can create a force that ultimately seeks to influence and integrate with top-down policy structures for broader, more sustainable impact.

More information can be found in Annex B.

3.3 Government competences for innovation scaling

After selecting the appropriate strategic approach, government actors will require certain competences to proactively scale. In this section, we suggest an overall, individual-level competency framework for guiding governments to perform self-assessment and competency-strengthening efforts.

Competences are broader attributes that refer to an ability to use knowledge, skills and social and/or methodological abilities in work or study situations and in professional and personal development *(1)*. In the context of innovation scaling, competence will include the technical and functional skills required to bring a project to scale, but also the interpersonal skills and values required to navigate complex ecosystems with processes that may not be linked or interoperable at the onset.

Across the three scaling strategies (Section 3.2), particular competences can be highlighted. Each strategy entails a bespoke mix of management skills, ways of engaging stakeholders and ways of enabling the innovation scaling processes. The competences identified in the following sections draw on the competences for the policy-making framework developed by the Joint Research Centre of the European Commission *(20).*

Competences are presented under the three strategic approaches. There is some overlap between the competences, but this is natural given the overall dynamics of enacting change. The purpose of suggesting these competences is to enable government actors to be aware of the competences that will enable the execution of a strategy and identify possible areas for further strengthening going forward.

Government actors can use the competency framework to identify gaps and weaknesses internally to build more robust organizational competences for innovation scaling.

Key message

Government actors can pursue three alternative strategic approaches to scaling innovation: make it happen, help it happen, and let it happen. They entail different degrees of intentionality, control and systemic support in the process of innovation adoption and spread. The success of any strategy depends on how well it aligns with local capacities, institutional cultures and the nature of the innovation itself.

3.3.1 Make it happen: competences for planned execution

Within this paradigm of innovation scaling, government actors rely on a distinct set of competences primarily centred around the phases of policy development. The core competences for top-down policy-making are embedded within the traditional sequential stages of the policy cycle.

Setting direction for action

The initial phase of this cycle is identifying societal issues and framing them as policy problems that warrant government action. Competences here involve understanding the political landscape, recognizing public concerns and articulating problems – such as population health needs – in a way that resonates with policy-makers and the public. This sets the direction for subsequent action.

Once a problem is on the agenda, traditional policy-making for innovation scaling demands competences in formulating coherent strategies. This involves analytical skills to understand the root causes of problems, knowledge of existing or potential health innovations and the ability to structure scaling processes logically. It requires developing clear objectives, identifying target groups and outlining the intended mechanisms of change.

Impact assessment competences

A crucial competency in this strategy is assessing the potential consequences of the proposed scaling initiatives before implementation (ex-ante impact assessment) and designing methods for evaluating their effectiveness and efficiency after they are in place (ex-post evaluation design). This requires analytical rigour, an understanding of evaluation methodologies and the ability to anticipate both intended and unintended effects of policy interventions, such as scaling efforts.

Navigation and managerial skills

Moving a scaling policy from intent to official adoption requires navigating political and institutional processes. In the make it happen strategic context, this involves understanding the decision-making structures, building support among key actors and effectively communicating the policy's rationale and benefits to secure approval.

Putting an adopted policy into practice is a cornerstone of traditional policy-making – and this applies to scaling processes as well. This requires strong managerial and organizational competences and involves translating policy intent into operational plans, allocating resources, establishing administrative procedures and overseeing the delivery of services or enforcement of regulations.

Competences in managing resources, coordinating activities across different government departments or agencies and ensuring adherence to established procedures are also paramount.

This calls for underlying skills in planning, organizing and executing complex processes that are directly applicable to managing implementation.

Ability to track progress and measure outcomes

Tracking the scaling progress and assessing whether the policy is achieving its intended outcomes requires competences in data collection, performance monitoring and

evaluation implementation. It involves analysing results, identifying deviations from the plan and reporting findings to inform potential adjustments or future policy cycles.

Competences include technical skills needed to gather, process and interpret information about the policy's performance.

Strategic communication skills

Managing change within a top-down framework, particularly during implementation at scale or in response to evaluation findings, primarily relies on directive leadership, clear communication of new directives and established hierarchical governance structures to ensure compliance and control.

While there should be an emphasis on collaboration, more focus should be on coordination and information dissemination than on co-creation. Communication must focus on clearly transmitting policy decisions and implementation guidelines downwards through the hierarchy.

Managing innovation scaling within this model is largely a function of effective command and control structures and clear directive communication, relying on the established authority to drive adherence to new policies and procedures.

3.3.2 Help it happen: competences for catalysing innovation scaling

This strategy requires a set of competences that are crucial for governments operating beyond traditional top-down methods, particularly when dealing with complex environments, engaging diverse stakeholders and building capacity within the system and among external actors.

Navigating complexity requires policy-makers to move beyond linear thinking and embrace higher degrees of uncertainty. Systems thinking is paramount, enabling policy-makers to understand the interconnectedness of issues and anticipate unintended consequences in dynamic systems. Creative thinking allows for developing or identifying novel solutions when established approaches fail.

Learning and unlearning

Learning and unlearning are vital for adapting to new opportunities for innovation scaling and discarding outdated assumptions. Managing transformations is essential for guiding the significant, often disruptive, changes that characterize complex policy

challenges. The help it happen strategy for innovation scaling calls for competences such as an anticipatory mindset and the ability to scan for change that will enable policy-makers to proactively identify emerging innovations and potential future challenges, moving from reactive to more proactive governance in complex contexts. Scientific and data literacy are also critical as they provide the tools to make sense of complex information landscapes when working with data and models. It is important to highlight, however, that in conditions of high uncertainty, historical data cannot be relied upon as past behaviour does not necessarily predict future performance. For this reason, data should be used to drive learning in the light of dynamic feedback from interventions, not for predictions.

Enabling change with diverse groups of stakeholders

Moving beyond simply implementing policy, effective governance in complex environments requires working with diverse groups to enable change – including regional and local communities.

Competences here must emphasize inclusive and participatory approaches, an engagement mindset and the ability to conduct or commission citizen and stakeholder engagement processes. This involves creating spaces and mechanisms for meaningful input and co-creation and recognizing stakeholders as active contributors to the innovation scaling process.

This calls for public managers with a collaborative mindset and the ability to manage co-creation processes. Convening and facilitating skills are essential for bringing diverse groups together and guiding productive interactions. Empathy is important for building trust and understanding different perspectives. Working effectively through communities of practice and collegial networks further extends the reach and impact of collaborative efforts across organizational boundaries. Effective communication, including storytelling and visual literacy and dealing with mis- and disinformation, supports these engagement efforts by building shared understanding and navigating complex information environments.

Building capacity

Several competences are needed to build capacity in others and enable change throughout the system. Managing innovation processes often necessitates building new skills, knowledge and ways of working within public institutions and among scaling partners. Convening and facilitating involves empowering groups to identify problems and develop approaches collaboratively, thereby building their agency and capacity for action.

Fostering communities of practice and networks creates structures for peer-to-peer learning and shared capacity development across different parts of a system or among stakeholders. Designing effective engagement processes can also be a form of capacity-building, as participants gain knowledge and skills through their involvement. Ultimately, the ability to influence change implies fostering the conditions and capabilities necessary for a system and its actors to adapt and evolve as they engage in scaling processes.

Enabling health innovation scaling in more complex environments, orchestrating change with diverse stakeholders and building systemic capacity requires a shift from purely directive competences to those emphasizing collaboration, engagement, adaptability and sophisticated use of evidence and foresight.

Building government capacity for scaling: Quebec's innovation office

Quebec's Ministry of Health and Social Services has established an innovation office that exemplifies how a government can systematically build capacity to scale health innovations across a complex public system. Established in 2018, the office has pivoted from a supply-driven to a demand-led approach, concentrating on identifying and articulating unmet system needs and then sourcing or supporting innovations to address them. It is actively developing a methodology to map these needs and formalize demand-driven calls for innovation. A small, cross-disciplinary team at the central level – comprising experts in engineering, law, procurement, clinical care and innovation management – enables the office to address the multifaceted nature of scaling health innovations.

Beyond the central office, governance is reinforced through a high-level steering committee and a province-wide network of innovation leaders embedded in local health establishments. These regional actors, trained and supported by the central office, are critical to embedding innovation practices and challenging entrenched norms at the frontlines.

Through this evolving model, Quebec is moving from ad-hoc innovation toward a structured, capacity-driven approach to scaling, demonstrating how public governance can align innovation efforts with system-wide transformation goals.

More information can be found in Annex B.

3.3.3 Let it happen: competences for supporting innovation scaling ecosystems

Emergent contexts and unpredictable environments call for a distinct set of competences, where government actors shift from being the primary designer or director of scaling processes to becoming a facilitator and enabler of innovation scaling dynamics that emerge from the system itself.

Scanning for change

Operating in emergent and unpredictable environments demands a high tolerance for ambiguity and a departure from linear planning. Systems thinking is crucial, not just to understand complexity, but to identify leverage points where minimal intervention can support positive emergent behaviour among capable actors. Creative thinking is needed to imagine possibilities and approaches that are not immediately obvious or controllable.

As in the help it happen strategy, learning and unlearning become a continuous process of sensing what is happening in the environment and adapting the government's stance and support accordingly. Managing innovation scaling in this context is less about implementing a predefined change and more about nurturing the conditions that allow desired changes to emerge organically from the interactions of many actors. Scanning for change involves continuously monitoring the environment and the activities of diverse actors to detect patterns of emergence.

Engagement and collaboration skills

When many capable actors are present, and solutions are expected to emerge from the bottom up, the role of engaging with citizens and stakeholders transforms significantly. Competences move beyond consultation towards genuine co-creation and empowerment. A mindset that values the knowledge and capabilities of external actors is needed. Engagement processes must be geared towards facilitating dialogue, shared problem-solving and collective action among diverse groups, rather than simply extracting information or seeking validation for predefined policies. A key competence at this stage is also recognizing existing solutions and assets that exist in the community. This can be a blind spot for governments that may lean towards relying on traditional forms of expertise. Approaches like positive deviance have proven to be highly successful, for instance, in combating malnutrition in remote communities *(21)*.

Collaboration becomes the default mode of operation. This entails emphasizing trust, shared purpose and mutual learning among government and external actors. Managing collaborative processes involves facilitating interactions, building consensus where needed and supporting the self-organization of networks and communities. Convening and facilitating skills are paramount for bringing together disparate actors, fostering connections, and enabling groups to work together effectively without direct hierarchical control. Government actors must be able to understand diverse motivations and navigate potential conflicts in multi-actor environments. Working effectively through communities of practice and networks is also key to supporting the diffusion of ideas and solutions that emerge from the ground up.

Embracing diverse forms of knowledge

In environments where there is not a lot of strong, pre-existing evidence, the approach

to knowledge shifts. While some evidence-oriented competences remain important for making sense of available information, government actors must also cultivate an openness to diverse forms of knowledge and be comfortable acting based on incomplete or rapidly evolving evidence. Gathering evidence may involve tapping into the experiential knowledge and insights held by capable actors within the system, recognizing that the most relevant information might not come from traditional research channels.

New forms of communication

Advising the political level requires communicating the nature of complexity and the value of enabling approaches. It involves explaining why traditional top-down control is ineffective or counterproductive for the given context and advocating for policies and resource allocations that support experimentation, learning and the work of external actors.

Operating in emergent, unpredictable environments where bottom-up innovation scaling processes are desired requires government actors to cultivate competences centred on facilitation, collaboration, empathetic engagement, continuous learning and a flexible, adaptive approach to evidence and change. The focus shifts from directing action to enabling the conditions for positive outcomes to emerge from the collective intelligence and capabilities of the wider system.

Key message

Effective scaling can benefit from a staged approach, where **let it happen** can serve as an incubator phase, **help it happen** supports adaptation and uptake, and **make it happen** consolidates widespread implementation.

3.4 Missions: An approach to government innovation leadership

In the previous sections, it was suggested that governments can choose between three discrete strategies depending on the context of a particular scaling challenge. This is particularly relevant when the innovation to be scaled is a service or a product – physical or digital – which can be managed via a coherent strategic programmatic approach.

However, what if the innovation challenge is at a higher, more systemic level, where the key issue is not to scale a singular solution? What if the task is to mobilize a wider ecosystem to achieve holistic health outcomes via a portfolio of innovative interventions, where scaling an individual innovation is only one piece of the puzzle?

This is the case when governments choose to address more long-term, ambitious, cross-sectoral, cross-level missions that are aimed at whole-of-society systemic impact.

3.4.1 Missions for Health for All

The WHO Council on the Economics of Health for All suggests that a mission-oriented approach to health outcomes is a key approach. Governments should direct health innovation towards public health priorities and ensure availability and access, and health and innovation policies should be guided by a mission-oriented framework *(22)*.

Mission-oriented innovation is a strategic, collaborative and forward-looking approach to addressing systemic societal problems. The approach is promising for government actors seeking to enhance their innovation work and value creation with a more long-term, cross-sectoral and sustainable focus. This is also the case in the health domain, where a mission-oriented approach can act as an integrating force and help achieve equitable and universal access to health services and technologies. Missions call for the public sector to have a proactive role in coordinating innovation, investing in domestic capability and using tools like public procurement and partnerships to align technological development with national health priorities *(23)*.

Examples of missions for global health

Barbados - Public Health and Safety Mission: Following engagement with the University College London's Institute for Innovation and Public Purpose (IIPP), Barbados adopted six national missions, one of which relates to public health and safety. For instance, one long-term ambition is to achieve a 50% reduction in new cases of noncommunicable diseases. It signifies a government-led, holistic approach to addressing health challenges as a systemic issue *(12)*.

Brazil - Oswaldo Cruz Foundation (Fiocruz): In developing economies, organizations like Brazil's Oswaldo Cruz Foundation (Fiocruz), which is focused on tropical health, operate as mission-oriented research and technology organizations. They support national health missions by engaging in training, research and production, contributing to stronger health subsystems and addressing public health challenges specific to their context *(24)*.

EU Cancer Mission (Horizon Europe): As part of the European Union's Horizon Europe framework programme for research and innovation, one of the five missions is dedicated to conquering cancer. This mission aims to improve the lives of more than 3 million people by 2030 through prevention, cure and a better quality of life for those affected by cancer. It involves a coordinated effort across EU member states, bringing together researchers, health care providers, industry and citizens to achieve specific goals like personalized cancer care, better screening and improved treatments *(25)*.

Sweden's Vision Zero Cancer: Complementing the EU's efforts, Sweden launched its Vision Zero Cancer initiative. This national mission combats cancer through a mission-oriented approach, engaging

stakeholders and citizens across disciplines and sectors to strengthen national and international cooperation for faster development and uptake of research and technology solutions in cancer care *(26).*

The following section briefly explains what missions are and describes the implications of a mission-driven approach for scaling health innovations for long-term systemic change.

3.4.2 What is a mission?

Although there is some diversity internationally and nationally in defining missions, there is a broad consensus that a mission is characterized by the following key elements *(8,27)*:

- long-term goal of concrete societal change
- broad relevance and significance for society
- time-bound
- cross-sectoral, interdisciplinary approach
- portfolio focus
- crowding in of funding and other resources
- strategic measurement, evaluation and learning.

These individual elements are elaborated in the following table:

Table 1: Key characteristics of a mission
Source: Bason, 2024 *(28)*

Element	Questions	Characteristics	Considerations
Goal of concrete societal change	What significant, long-term, systemic, sustainable, social or environmental impact on society is desired?	Changes in behaviour or experiences occur (e.g., fewer vulnerable youth, increased biodiversity or greater access to art in society).	The degree of measurability can vary; both quantitative and qualitative goals can be included.
Relevance and significance for society	Is the mission understandable and inspiring for a broad part of society, thereby mobilizing action?	Decision-makers, specialists and ordinary citizens can broadly understand the mission's purpose and value.	The mission can be technical (e.g., CO_2 reduction) while remaining relevant.
Time-limited	What is the time frame or ambition to achieve the mission?	A specific year or duration defines the mission's ambition.	A clear time frame can increase urgency, though some missions may be less clear on precise dates.
Cross-sectoral, interdisciplinary	How do multiple sectors and disciplines contribute to the mission's execution?	A mission addressing a complex societal challenge engages multiple economic sectors and disciplines.	Some missions may have a narrower focus (e.g., the built environment, but still involving multiple sectors).

Portfolio focus	Is there a portfolio of initiatives contributing to the mission, developed and expanded over time?	A mission is implemented through various interventions or efforts that collectively align on a portfolio level.	The portfolio can evolve, with activities added or removed over time based on learning.
Crowding in of resources	How does the mission invite multiple actors and resources – both financial and non-financial – to contribute?	A mission does not displace economic activity but creates a platform for various actors, including private ones, to contribute.	Sufficient initial resources are needed to create momentum and ensure governance support.
Strategic measurement, evaluation and learning	Are hypotheses and learning questions formulated to guide the mission's interventions and ensure adaptability?	A mission is a way to learn what is needed to create systemic change in a problem area.	Measurement and evaluation can include both quantitative and qualitative approaches.

Establishing and working with missions consists of key overarching elements:

- **Set a direction**: A mission must have a clear, concrete direction articulating the significant, long-term, systemic and sustainable societal impact to be achieved.
- **Mobilize ecosystem**: A mission involves multiple actors across sectors and disciplines, requiring continuous and dynamic mobilization of partners.
- **Build a portfolio of initiatives**: A mission is composed of portfolios of initiatives and interventions at project and programme levels.
- **Build capacity and infrastructure**: Collaborating across sectors requires expanded governance, leadership, management and learning capabilities.

This logic is illustrated in Figure 3.

Figure 3: The key elements of a mission

Missions incorporate the different logic behind the three innovation scaling strategies into a single coherent framework that blends the strategic approaches. It entails a make it happen setting of top-down priorities combined with a help it happen building of ecosystem capabilities and a let it happen recognition of local competencies and the power of emergence.

Key message

Mission-oriented innovation is a whole-of-society approach to achieving long-term health outcomes that encompass multiple approaches to scaling. Governments increasingly turn to missions to address systemic, intractable challenges in the health space that call for wider portfolios of interventions across sectors and disciplines – driven by collaborative learning.

As a recommendation to governments, a mission approach to scaling health innovation is required when the challenge in question is less about the diffusion of a particular solution or programme and more about enabling a wide-reaching, long-term impact that entails a number of multiple interventions (portfolio) over time. By deploying missions, the scaling up of a particular individual innovation will be part of the wider approach. There will likely be a need to build new experiments and innovative solutions as the mission unfolds, and perhaps, there may also be some existing health solutions and approaches that must be discontinued to pave the way for more impactful systems change.

Mission-oriented innovation ultimately requires a mix of the competences suggested above since it blends the three strategic approaches in a dynamic balance. A useful perspective on dynamic capabilities in public sector organizations can be found in Kattel et al. *(29)*. Governments can build a diverse organizational skillset that spans from top-down directionality and execution to allowing bottom-up emergence and collaborative learning.

3.6 Choosing the right strategy, building the right competencies

To approach innovation scaling with intent and with the competences that match the ambition, governments can consider three alternative strategies, each of which entails a particular set of skills. Choosing a strategy for innovation scaling requires governments to assess and understand the context in which scaling should take place and deploy the most appropriate strategic approach – from top-down execution to facilitation to bottom-up enablement.

However, some health challenges are of a scale that does not lend itself to the scaling up of individual innovations, but require a blended, holistic approach that mixes the strategies via a long-term, ambitious mobilization of many diverse resources around a shared health impact. These challenges require a shift towards mission-oriented innovation and associated governance that essentially blends the strategies in more complex ways to be on par with the challenge. Governments should consider a mission-

oriented approach when innovation scaling dynamics cannot be isolated from the wider and more fundamental question of systems change and health impact.

Key message

Depending on the scaling strategy pursued, governments should consider whether they possess the relevant competences. These range from the ability to execute top-down policy to the facilitation of stakeholders and the support of a wider set of stakeholders to learn and adapt health innovations over the long term, including a mission-oriented approach.

4. Government roles

Within the three strategies and missions that can be used to promote scaling of health innovations within and across the public sector, there are seven key roles that government actors can hold. These roles are described below (Table 2).

Table 2: Summary of government roles in health innovation scaling

Role	Policy-maker	Governance Designer	Innovation Steward	Regulator	Capacity Strengthener	Funding Enabler	Communicator
What it is	Setting strategic direction and enabling the agreement of policies that advance innovations to scale	Arranging the structures and processes that allow for sound decision-making among relevant stakeholders	Navigating the stakeholder landscape to ensure mobilization and alignment over time	Adopting and upholding rules and regulations that underpin scaling efforts, including effective procurement	Building the needed competences, organizational capacities and system infrastructures for an innovation to scale	Ensuring that appropriate funding is available across the various scaling processes, matching financial resources with the scaling context	Proactively advocating and communicating the value and importance of the innovation and why it should be scaled

The roles are not mutually exclusive, as the way they are played out can reinforce each other. There is often overlap and synergies between different roles. For instance, the role of policy-maker is closely connected to the role of regulator since regulation is often the way high-level policy is operationalized and implemented. Likewise, the role of capacity strengthener is linked and dependent on roles such as governance designer and funding enabler since capacity-building typically requires robust stakeholder involvement (governance) as well as appropriate resources (funding).

The seven roles would also typically be taken on by different ministries, departments and agencies. For instance, the role of policy-maker could be held by the prime minister’s office or the ministry of health. The role of governance designer would typically be within the health ministry or agency, but could also, in some cases, be within social affairs or a ministry of regional development or require co-creation across several ministries, such as the ministries of health, infrastructure or finance. The funding enabler role might typically be held by the ministries of economy or finance, although other ministries may join its efforts to seek external funding (for example, with international organizations).

It should also be noted that government roles can concern individual, distinct innovations to be scaled as well as wider efforts of achieving health impacts across multiple innovation activities, for instance, through mission-oriented approaches *(22).*

> "When you try to scale something, it's never about yourself. It's about your partners and the local communities. There needs to always be somebody who's the glue between the different entities and trying to see who is supposed to be doing what and keeping up the momentum."
> *– Annika Launiala, Innovation Scaling Lead, UN Global Pulse*

It is useful for government actors to reflect on the roles individually to assess where to strengthen efforts and where efforts are already well developed. Orchestrating all seven roles in a concerted, aligned effort will place government actors in a powerful strategic position in health innovation scaling. To the extent that some roles are not filled in a scaling effort, it will harm the overall impact of the innovation.

Sections 4.1 to 4.7 describe each role in more detail.

4.1 Policy-maker

Policy-makers set the strategic direction and enable policy agreements that advance the scaling of innovations.

Policy-making is the process of deciding who gets what, when and how *(30).* Specifically in health, policy-making can be defined as the process by which governments and other stakeholders (e.g., providers, payers and patients) develop and implement decisions, plans and actions to achieve specific health care goals within a society *(31).* The role of government is to be a facilitator of a societal dialogue on what is public value through the process of setting policy.

The role of policy-maker is in many ways unique to government actors since, ultimately, they are the only legitimate adopters of official policies for a country or region. Governments play a critical role in prioritizing health issues within national agendas, allocating resources and creating supportive policy environments. Political leaders champion innovations, accelerating their institutionalization *(32)*. Governments can also leverage opportune moments, such as elections or new international agendas (e.g., SDGs), to advance scaling-up efforts.

Government actors thus play a critical role in setting strategic priorities and targets and creating supportive policies and frameworks to foster innovation *(33).* Scaling innovations often requires strong political will, especially in resource-constrained environments *(34)*. Elected officials are more likely to support initiatives that offer visible returns and align with voter priorities.

Effective policy intervention is not merely supportive but often foundational to successful, widespread adoption of health innovations. Governments are essential for the formal adoption of innovations at national or subnational levels through policy changes, legal frameworks and integration into planning mechanisms. This ensures sustainability by embedding innovations into health systems and budgets. The role of government as a policy-maker in enabling health innovation scaling is thus both critical and multifaceted. Five particular perspectives on this role can be highlighted:

First, governments should align health innovations with overarching policy goals, such as UHC or more discrete health priorities, such as maternal health, newborn survival, ageing populations and primary care. Policies and strategies must create frameworks within which innovations can be intentionally scaled. This is because innovations that align with existing national priorities are more likely to be adopted and scaled. Beyond individual champions, embedding innovation within national strategies provides a crucial framework. Policy-makers should proactively identify priority health challenges and explicitly signal the need for innovative solutions within national plans. Governments can use scaling-up initiatives as instruments for broader health sector reforms, such as decentralization, which fosters local autonomy and adaptation of innovations to specific contexts.

Second, governments can create mechanisms to translate high-level policy goals into specific, actionable demands for innovations (i.e., by being clear about the desired effects of innovations). Being vocal and specific about these effects can inform the subsequent process of innovation, financing and scaling. Engaging frontline health staff and sub-national actors can help identify granular entry points for innovations and, through this engagement, inform policy.

Third, aligning policies and associated regulations and funding across multiple levels of government can be critical for nationwide uptake of health innovations.

Fourth, government policies should consider how they influence health financing and resource allocation, ensuring innovations are incorporated into national budgets and procurement systems.

Finally, by setting long-term direction at the country or regional level, governments also help shape markets by articulating demand and delineating fields where innovations are needed. By articulating where society needs problem-solving, governments help would-be innovators concentrate their resources and accelerate the emergence of new markets that deliver on health demand. Market-shaping via strategic policy-making is closely connected to mission-oriented innovation approaches and the notion of the entrepreneurial state (8,*27)*.

Governments, acting as policy-makers, are not passive recipients of innovation but active architects of the conditions under which health innovations can scale. Their roles include setting strategic direction, creating enabling legal and financial environments, fostering collaboration, leveraging data and evidence, and investing in human capacity. Effective policy in these areas can also help shape markets and is paramount to translating promising pilot projects into widespread health improvements.

4.2 Governance designer

Governance designers arrange the structures and processes that allow for sound decision-making among relevant stakeholders.

Governance is the process of interaction and decision-making among the actors involved in a collective problem. Governance processes, in turn, lead to the creation, reinforcement or reproduction of social norms and institutions *(35)*. The role of governance is key to transitioning from a system that tends to prioritize private interests to one that serves the common good *(13).*

The focus of governance in scaling health innovations is not only the overall organization of health system actors in a country context, but also the distinct organization and competences that underpin the ability to structure and execute the three elements of exploring, adapting and learning (see Chapter 5).

Effective governance of health innovation scaling requires clearly defined governance structures. This includes setting up formal steering committees or technical working groups and governance frameworks early in the innovation lifecycle to bridge the gap from early-stage frontend innovations to scaling up and systemic learning. This might entail establishing bodies with technical and political oversight to ensure accountability and clarity of roles. Such structures can provide the necessary checks and balances and maintain momentum across scaling processes *(36)*.

The government is the designer of governance arrangements, rather than the primary holder of them. Governance models may be implemented at other levels of government or, potentially, be managed by NGOs or in public–private partnership (PPP) arrangements.

A successful governance arrangement that enables innovation scaling may involve extensive collaboration across multiple stakeholders, including health care professionals, subject matter experts, private sector partners, community representatives and different governmental agencies. Effective governance integrates local contexts and community participation, adapting innovations to cultural, social and

logistical realities on the ground. Robust governance of innovation scaling also demands transparency, accountability and effective use of data for monitoring and learning. This implies mechanisms to ensure fair play and transparent processes *(37)*. This reflects our earlier point on co-evolution as a relevant frame to understand the interplay between governance institutions, markets and civil society *(19)* and the notion of working with what you have. A stronger civil society and a stronger private sector put pressure on the government to up its game, even from a relatively low base, and vice versa. This is particularly important for governments in low- and middle-income countries (LMICs) that might feel overwhelmed by the task of setting policy and designing governance for innovation.

> "We wouldn't have managed without involving multiple stakeholders to make sure that they mobilize the community. If we hadn't involved them, MomConnect would have failed taking off." – *Jane Sebidi, Deputy Director, MomConnect manager in the Department of Health (NDoH), South Africa*

In devolved systems (where authority and decision-making are transferred from the central government to regional or local governments), regional governments are key players in implementing health innovations. However, coordination between national and regional levels is essential to ensure alignment and resource allocation. This also calls for the design of governance arrangements, where intergovernmental relations are managed and incentives are aligned to support the scaling of innovations.

Governments can institutionalize roles and processes for innovation scaling by partnering with local organizations, creating innovation hubs and integrating innovation-related responsibilities into existing structures.

Innovation labs, hubs and centres are bespoke entities that are typically established to enable existing organizations (such as national, regional and local public health bodies) to more strategically and systematically stimulate, support, enable, drive and/or scale innovations. These entities can also be designed to enable cross-level, cross-sector collaborations – across multiple organizations – to address more complex health challenges. Governments should consider their need to institutionalize innovation support and scaling with such a body – and if so, build a relevant governance structure to give legitimacy and direction to its work. Such entities – or alternatively, long-term scaling programmes – may also help create an environment where distributed, localized experimentation is welcome, and policies are designed to quickly identify and strengthen those innovations that are successful.

Key message

The role of designing governance structures to enable collaborative decision-making

and action for innovation scaling is key. By building governance models that reflect their context, governments can pave the way for smooth and transparent processes of innovation scaling across levels and sectors. Innovation hubs are a way of institutionalizing innovation governance and enabling scaling.

4.3 Innovation steward

Innovation stewards navigate the stakeholder landscape to ensure mobilization and alignment over time.

Effective scaling requires government actors who possess strategic leadership capabilities and adaptive management skills to navigate complexity, ambiguity and unforeseen challenges. Through their leadership and prioritization, they can create the necessary momentum and legitimacy for scaling efforts.

Governments can engage with scaling from the early demand aggregation and exploration stage to the inception stage to stimulate or identify promising innovations that can adapt, scale and enable iterative learning. Across all of these processes, ongoing attention and support are needed.

Through innovation stewardship, government actors can better navigate change and value creation. This includes innovation scaling in health systems, as scaling processes often involve a great deal of change. According to the *World Health Report (38)*, stewardship in public health entails “the careful and responsible management of the well-being of the population.”

Innovation stewards orient the understanding of the role of government in scaling health innovations towards a leadership role, or as Mintzberg *(39)* has framed it, “management done well”. In this understanding, leadership is not just about efficiency but also about ethical decision-making, innovation and change. The role of government in scaling health innovations is, in part, to connect with user demands and articulate user needs strategically to enable decision-making and action *(40)*. As stewards, government actors will draw on policy frameworks as well as governance structures and processes to navigate scaling needs. A strong understanding of the politics of health systems is also an asset for innovation stewards, who must navigate the political dimensions of health systems skilfully, building alliances and managing stakeholder interests, all while aligning innovations with policy priorities to ensure successful scaling.

A particular dimension of innovation stewardship concerns governments leading missions. Mission-oriented innovation *(12,22)* seeks to address innovation challenges at

a systemic level, where the key issue is not to enable a singular solution to be scaled, but to mobilize a wider ecosystem around more holistic cross-sectoral, cross-level health outcomes via a portfolio of innovative interventions. Mission-oriented innovation for health outcomes is described in Chapter 3.4.

M-mama, the United Republic of Tanzania and the roles of government

The M-mama programme in the United Republic of Tanzania is an emergency transportation system that uses digital technology to address delays in transporting women, especially pregnant women and newborns, to health care facilities. The programme utilizes a toll-free number that community members can call to request transport. Initially, the programme used government ambulances, and it was later expanded to include private vehicles to increase efficiency. The M-mama programme has significantly improved access to health care services, reduced maternal and child mortality and has been scaled up from a pilot project to a nationwide initiative. Between 2016 and 2022, the United Republic of Tanzania's maternal mortality ratio decreased by 80%, a substantial decline that is attributed to interventions such as the M-mama programme. In addition, in facilities supported by M-mama, there was a 40% decrease in newborn deaths between October 2017 and September 2021.

The United Republic of Tanzania played a key role in scaling the M-mama programme:

Policy-maker: The government created policies that enabled the implementation and scaling up of the M-mama programme.

Governance Designer: Government bodies, such as the Commission of Science and Technology (COSTECH), oversaw the innovation process and fostered collaboration between public and private sectors, including the Ministry of Health and the Vodafone Foundation.

Innovation Steward: The government adopted the M-mama innovation after it had successfully scaled regionally in Shinyanga. President Samia Suluhu Hassan endorsed its scaling up from initial pilot phases to nationwide implementation.

More information can be found in Annex B.

4.4 Regulator

Regulators adopt and uphold the rules and regulations that underpin scaling efforts, including effective and innovation-friendly procurement.

The role of high-level policy-making must be supplemented with the more technical role of regulator. Regulation refers to rules or orders issued by a government agency, carrying the force of law, usually to implement a law passed by the legislature *(41)*.

Governments establish rules and regulations that either enable or hinder scaling. Governments can establish guidelines, standards and oversight mechanisms that

ensure quality and consistency during scaling up. Regulation should not merely be considered as oversight but as essential for ensuring that innovations align with public health goals and protect the interests of the population, including marginalised and disadvantaged groups *(42)*.

Outdated procurement and complex accreditation processes often pose barriers and heavy bureaucratic burdens to adopting new innovations *(11)*. Another challenge can be the absence of processes and mechanisms for the assessment and standardization of technological innovation. Policy-makers need to examine and potentially adapt regulations to be more conducive to integrating innovative solutions, particularly those originating outside traditional public sector procurement channels. Approaches that governments should embrace to reform procurement include the following:

- outcome-based procurement or performance-based specifications that define health outcomes (e.g., reduced maternal mortality) rather than specifying inputs;
- precommercial procurement and competitive dialogue, where governments engage the market in early stages to shape solutions collaboratively;
- framework agreements and advance market commitments that enable faster scaling once a product proves its value to create predictable demand signals that incentivize private sector investment;
- strengthening health technology assessment (HTA) frameworks by defining clear purposes, establishing transparent processes, sharing assessment checklists, setting timelines and making HTA recommendations the default basis for inclusion/exclusion and conditions of use;
- embedding health innovation into strategic procurement planning that includes innovation roadmaps aligned with health priorities (e.g., noncommunicable diseases, maternal health);
- strengthening local ecosystems and supply chains to create pathways for local innovators to access procurement and scaling opportunities;
- reducing entry barriers (e.g., prequalification and bid security waivers for startups); and
- encouraging tech transfer and local production where feasible.

Governments can also institutionalize learning and adaptive management, for instance, by setting up innovation sandboxes or procurement labs to test new models. They can use data from pilots to inform scale decisions to shift from one-off procurements to sustainable scaling platforms.

In addition, governments can provide technical training for public health officials and CHWs to facilitate scaling. CHWs can be involved in various activities related to scaling,

such as identifying/validating priority needs; selecting aligned innovations; monitoring implementation, learning, and outcomes; providing relevant insights and foreseeing challenges.

Intellectual property (IP) rights and a transparent regulatory system are important components to consider in the process of scaling. The global strategy and plan of action on public health, innovation and intellectual property (GSPA-PHI) deals with this complex matter in detail *(43)*.

Regulations can also be instrumental in shifting incentive structures to enable innovation scaling. In some countries, for instance, regulation has been deployed to recognize and provide incentives for CHWs so that their vital role in delivering health interventions in remote areas is sustainable, which would address a fundamental barrier to scaling community-based innovations *(44)*. Government actors, via regulation, can directly impact the human infrastructure necessary for scaling by formalizing roles and ensuring fair compensation and support. It can be highly relevant to embed innovations within the health system's structures and processes. This institutionalization often necessitates regulatory adjustments to accommodate new incentives, practices or technologies *(4)*.

Health technology assessment and innovation scaling

Health technology assessment (HTA) plays a significant role in the context of scaling health innovations, acting as a structured process within the government's purview to evaluate the value and potential impact of new health technologies and interventions. HTA goes beyond what is traditionally thought of as technology to encompass new interventions more generally, including clinical practices. It can be understood as a multidisciplinary process that uses explicit methods to determine the value of a health technology, considering aspects such as clinical effectiveness, safety, cost-effectiveness and broader social, ethical and organizational implications. Its main purpose is to inform evidence-based decision-making regarding the adoption, use and reimbursement of health technologies within a health system.

Government-mandated HTA bodies (or similar national institutes focused on evaluating health interventions) contribute in multiple ways. They systematically evaluate the available evidence on an innovation's performance, comparing it to existing practices. This provides policy-makers with critical evidence when deciding whether a particular innovation is worth scaling across the public health system. While clinical outcomes are central, HTA's multidisciplinary nature allows for the assessment of an innovation's value across multiple dimensions relevant to widespread implementation. This holistic view is crucial for understanding the full consequences of scaling. Establishing a common evaluation framework, often led by an HTA body, supports a more systematic approach to identifying innovations ready for scale. By highlighting organizational and systemic implications, HTA can inform the strategies needed to integrate an innovation into existing health service delivery structures and workflows. Understanding these aspects upfront can help anticipate and mitigate challenges during the scaling process.

However, the role of HTA in rapid innovation scaling is also subject to discussion. Traditional HTA

processes, often based on extensive literature review and lengthy evaluations, may face challenges in keeping pace with the dynamic and sometimes less formally evidenced nature of health innovations emerging from diverse sources. The need for quicker data acquisition and the incorporation of real-world evidence during the scaling process can potentially challenge the standard HTA paradigm. Therefore, for HTA to effectively support innovation scaling, there may be a need for HTA methodologies to become more agile and integrated with the iterative learning processes that characterize successful scaling initiatives. Governments should also consider ways to leverage HTAs done by other countries to mitigate repetition when it comes to scaling.

4.5 Capacity strengthener

Capacity strengtheners build and strengthen the needed competences, organizational capacities and system infrastructures for an innovation to scale.

Governments need to strengthen internal capacity to assess, adopt and scale innovations. This includes training officials in areas such as scalability assessment, cost-effectiveness analysis and change management. Capacity strengthening (also referred to as capacity-building) can be defined as the activities that improve an organization's ability to achieve its mission, especially by enhancing internal structures and external relationships *(45)*. In the public health domain, capacity strengthening implies the development of knowledge, skills, commitment, structures, systems and leadership to enable effective health promotion *(46)*.

Frontline health workers, innovation managers and technical teams responsible for implementation at scale will need technical training and capacity strengthening. Government actors also strengthen capacity by developing strong institutions and organizational frameworks necessary for sustaining scaled innovations and by building internal capacity for robust financial management and strategic resource mobilization *(4)*.

Some governments have created innovation offices within ministries of health that facilitate strategic decision-making while remaining grounded in the operational realities of the health system. This can help develop demand-oriented processes, for instance, by identifying innovations that are developed locally but are unable to scale as a system.

The capacity strengthener recognizes systemic gaps in scaling and designs structures to address them. This might include fostering networks of innovation offices at the regional/local level to build capacity and bridge central strategy with local implementation.

Governments can also build skills, competences and capacities for effective stakeholder management, cross-sectoral collaboration and PPPs. In order to build capacity, and more broadly, to scale innovation, government actors and policy-makers must strengthen in-house competences and skills so that governments are more confident in identifying and supporting the scaling of innovations led by others *(47)*. Some examples of skills that can be developed across the government and health system include innovative thinking, negotiation skills and project management as well as monitoring, evaluation, accountability and learning (MEAL).

Capacity strengthening is a shift by governments from a deficit mindset to an asset-based approach. It should, therefore, build on existing resources and draw inspiration from effective practices and examples already present within national, regional and local contexts.

4.6 Funding enabler

Funding enablers ensure that the appropriate funding is available across the various scaling processes, matching the nature of the scaling context.

Government actors serve as critical funding enablers by making substantial, long-term, strategic commitments that provide a solid foundation for scaling innovations. Funding structures need to be flexible and adaptive so that they can rapidly respond to emerging needs, bottlenecks or scaling opportunities. Governments can adopt a clear demand-driven orientation rather than offer-led approaches, ensuring government resources directly respond to clearly defined health system needs *(11)*. Additionally, governments can be careful to fit the funding mechanisms to the context, including enabling results-based financing models.

Government funding plays a crucial role in ensuring the sustainability and continuity of scaling efforts, especially in the transition from pilot stages to full-scale implementation. It is important to link financial resources to robust accountability and performance management systems to ensure transparency, effectiveness and results *(48)*. Financial incentives within health systems must be thoughtfully designed to avoid unintended disincentives or misaligned incentives during scaling.[2] Financing strategies such as public demand-side risk pooling, which include social health insurance funds, can be considered. Such funds can accredit selected innovations and include them in their

[2]It should be noted that corruption can be a challenge in scaling innovations and advancing health care in some countries. It can manifest in various ways, such as embezzlement of funds, procurement fraud, illicit payments for services and diversion of medical supplies – all of which can hinder the effective delivery of health care services and the scaling of innovations.

benefit packages, providing sustainable demand-side financing for innovation uptake at scale.

Limited discretionary funding within government health budgets can restrict the ability to scale innovations. Governments can leverage donor funding, PPPs and development budgets to overcome financial constraints. Governments can also establish different social impact bonds (an outcome-based financing mechanism) to incentivize donor agencies and impact investors and philanthropy to support the scaling of proven innovations. This helps strengthen accountability and governance, ensuring that efforts remain focused on outcomes. Governments can act both as funding partners and as conveners that mobilize financing for innovation.

Government funding can be leveraged in collaboration with other funders, such as international donors, private sector entities or interministerial partnerships, to achieve broader impact. Co-financing or complementary financing should be organized to allow governments to maintain leadership. Apart from funding, governments can assume leadership roles by using the following:

- convening power due to their legitimacy as actors in the public interest
- specialized skills and knowledge in the health sector
- strong and broad stakeholder relationships.

A particular aspect of funding for innovation scaling is the role of public procurement. Procurement is a necessary function within the broader task of mobilizing resources and managing costs to ensure that a scaled innovation is adequately equipped and can be sustained within national and local budgets and systems. Strategically leveraging procurement mechanisms – both nationally and regionally – can be highly powerful approaches to innovation scaling *(49)*.

Important aspects of procurement for health innovation scaling include the following:

- centralized procurement mechanisms, such as essential drug lists, to promote sustainability once an innovation becomes a regular part of service delivery; and
- cost assessment of the scaling-up process, including resources needed for personnel, training, facilities, drugs, materials and supplies; economies of scale, such as bulk purchases of supplies, can help manage these costs during scaling up.

Governments are advised to blend funding sources thoughtfully. This can entail combining public financing with philanthropic grants, impact investments or service

contracts to create a more resilient and adaptive financial base. This is particularly relevant when innovations move through different phases – from initial pilots to regional rollouts and eventual national integration.

JSY Maternal Health Programme, India

The Janani Suraksha Yojana (JSY) programme in India is a demand promotion scheme designed to reduce maternal mortality by increasing institutional deliveries. In the early 2000s, India faced a high number of maternal deaths, with many occurring due to complications during childbirth that were not being addressed promptly. To address this, the JSY programme was launched, providing cash incentives to women who delivered in public health institutions, compensating them for lost wages. The Indian government, particularly the Ministry of Health and Family Welfare, played several key roles in scaling the JSY programme:

Policy-maker: The government designed and launched the JSY and related programmes, embedded within the National Health Mission (NHM).

Governance Designer: The government established mechanisms for programme implementation, monitoring and reporting, including an HMIS.

Innovation Steward: The government adapted and expanded the programme over time, introducing new initiatives to address challenges such as fund disbursement delays, quality of care issues and transportation barriers.

Funding Enabler: The NHM provided dedicated funds to support the JSY programme, ensuring resources – including from donors – were available for implementation. A core strategy of the JSY programme was to stimulate demand for institutional deliveries through conditional cash transfers. Notably, the NHM shifted from a top-down to a bottom-up approach, providing states and local health facilities with greater autonomy and flexible funding.

Capacity Strengthener: The government ensured the programme included training and capacity-building for health workers, ASHA workers and other stakeholders to improve the quality of care and service delivery.

"There is the beauty that India has so many provinces and states, and every state supported this programme and implemented it. It was a result of a unified effort." – Dr Himanshu Bhushan, Public Health Specialist, (Former) Deputy Commissioner & I/C MH Division, MoHFW, GoI

More information can be found in Annex B.

4.7 Communicator

Communicators proactively convey the value and importance of the innovation and why it should be scaled.

WHO emphasizes the use of evidence-based communication strategies and principles to promote and protect the health and well-being of individuals and communities *(50)*. Effective scaling requires clear, consistent and high-level communication from senior political and governmental leaders to foster trust, legitimacy and widespread buy-in for innovation initiatives. Governments must communicate the specific objectives, rationale and expected outcomes of innovation scaling initiatives to align stakeholder actions and foster accountability.

Transparency, openness and authenticity are vital characteristics of a communicator, especially regarding the challenges, barriers and realities encountered during the scaling process. Effective scaling requires government advocacy and communication tailored to local cultural, social and contextual realities, ensuring that messages resonate appropriately across diverse communities and stakeholder groups. Governments can also facilitate stakeholders, such as researchers and the private sector, to take stock of the political landscape and better understand the political reality of health policy in order to promote innovation. This understanding of political dynamics and political economy can be crucial and lead to better-informed decision-making from all stakeholder groups.

Scaling AI chest X-ray triage for tuberculosis in Pakistan and 20 other countries

Tuberculosis (TB) remains a leading infectious disease killer, especially in low-resource settings with limited access to timely diagnosis. To address this, artificial intelligence (AI) has been applied to chest X-ray interpretation through computer-aided detection (CAD) models that automatically analyse digital images and flag potential TB cases for faster triage and referral.

Pakistan was among the first countries to adopt this innovation at scale. Supported by the Global Fund and its National Tuberculosis Programme (NTP), it deployed mobile X-ray units with CAD software for community screening. From 2017 to 2021, over 1.2 million people were screened across 11,000 mobile camps, identifying more than 7,600 TB cases. The initiative proved the feasibility of integrating AI into public health workflows and catalysed wider adoption. By 2025, AI-enabled TB screening had expanded to over 20 countries, with more than US$193 million invested in scaling efforts.

The government of Pakistan played a multifaceted role in scaling the CAD innovation, consistent with WHO's framework for scaling health innovations. Importantly, the government played a key role as a communicator, promoting the benefits of CAD and engaging communities to reduce stigma and encourage participation in screening campaigns. The government also communicated effectively with various stakeholders to secure funding and endorsement for the initiative.

More information can be found in Annex B.

Ongoing, multi-directional communication, maintaining regular dialogue and feedback loops with stakeholders throughout the scaling process, is a necessity. Internal

communication across government departments, ministries and administrative levels is critical for aligning internal stakeholder efforts, securing interdepartmental cooperation and ensuring cohesive and unified scaling processes.

Communication is also contextual and will need to be adapted depending on the particular strategic approach chosen by government actors.

4.8 Adapting the roles to the three strategies

Choosing a particular strategy for scaling entails taking stock of the societal context, system capacity, political dynamics, political economy and evidence base. The roles and competencies of government actors will vary depending on the chosen approach, which may evolve over time or coexist across levels of government. The seven roles of governments in scaling innovation should, therefore, be interpreted and adapted within the overarching strategy being pursued and tailored to the specific challenges at hand.

The following table guides government actors to adapt their strategies and roles to different contexts. All seven roles of government in innovation scaling may still be relevant; however, the way in which they play out will vary depending on the strategy.

Table 3: Strategic implications for government roles

ROLES	#1 Make it Happen	#2 Help it Happen	#3 Let it Happen
Policy-Maker	Devising top-down strategy competences; strong planning and management skills	Creating change from the middle; building policies that strengthen key stakeholders	Supporting bottom-up change processes; removing perceived barriers
Governance Designer	Highly formalized and structured; small number of stakeholders	Formalized; larger number of stakeholders; emphasis on collaborative decision-making	Informal, open and potentially very large; emphasis on systemic learning
Innovation Steward	Strong and targeted intent; hands-on and controlling	Particular focus on mobilizing multiple actors around a shared vision for scaling; a particular view on convening and facilitating	Light touch stewardship; focus on emerging scaling dynamics and local needs

Regulator	Clear and well-defined regulatory mandate; focus on centralised procurement processes	More open and context-dependent regulation; focus on more distributed processes	Few regulatory implications; main focus on removing barriers
Capacity Strengthener	Understanding how to build capacity, mainly within government settings	Expanding capacity-building to comprehensive programmes among other government agencies and levels as well as nongovernment actors	Building frameworks and processes that underpin and connect actors; more of a nudging approach.
Funding Enabler	Securing and allocating funding across the entire scaling process; main focus on procurement.	Mixing centralised funding with local and/or regional resources; special focus on investing in capacity.	Funding is mostly generated and received by other actors such as local communities, research centres and accelerators/incubators; innovation emerges organically with bespoke resources.
Communicator	Limited and focused efforts to communicate top-down implementation efforts	Broad-based communication targeted to the stakeholder landscape	Relatively hands-off; giving local and community actors space to communicate

This gives government actors a frame of reference for reflecting on not only how to accentuate their particular roles, but also to assess which management competences they may need to build or strengthen to fully play those roles.

Key message

By recognizing the seven roles needed to enable innovation scaling, governments can take a stronger lead in adopting a demand-oriented approach that centres health innovations on public needs. Governments should strengthen capacity across all seven roles and adapt them to the chosen strategy and the context in which scaling takes place.

5. Enabling innovation scaling processes

This chapter describes the processes government actors can use or engage with – from design to implementation and assessment – to successfully enable the scaling of health innovations. Government actors must appreciate and understand their unique contributions to making innovations scale, even if they do not necessarily play active roles in all the associated activities.

Three key innovation scaling processes are important for government actors: exploring, adapting and learning. These processes are highly iterative and mutually connected, but are treated separately for clarity. Each process is considered in detail, and the activities involved are described thoroughly.

In addition to processes and activities, the types of concrete tools that support their implementation are suggested and framed within an overall typology of innovation scaling tools for government actors. The individual types of tools can be found in Annex A.

Delineating the scaling process entails defining when scaling starts and when it ends. The whole process of scaling innovations relevant to governments is considered here, from the process of innovation to adoption in a systemwide setting, creating impact and sustainably addressing a targeted need as relevant *(11)*.

> "Whenever you are having an innovation and you have a proof of concept, you should not focus on pilots. Rather, you should be focusing on a phased approach to scaling."
> *– Dr Ntuli Kapologwe, Director General, East, Central and Southern Africa Health Community (ECSA-HC)*

Scaling processes are often visualized as a linear and sequential set of steps, when they are usually iterative and systemic, involving different elements in parallel *(51)*. This guidance does not aim to define an ideal scaling process with a clearly delineated set of steps. Rather, it describes the elements that are a part of scaling processes – with a special focus on how governments can catalyse the scaling of health innovation.

Scaling innovations in public health systems is often complex, funding intensive and organizationally challenging. Therefore, a mainly systemic approach to scaling "as an interconnected set of elements that is coherently organized in a way that achieves something" *(52)* is proposed. Rather than simply focusing on an innovation or innovative solution and how it might be scaled to a wider audience, a systems-based scaling

approach takes into account a number of different factors, actors and processes. This is addressed in the sections on scaling strategies and mission-oriented innovation approaches (Chapter 3.5).

The purpose of this guidance is to equip government leaders and practitioners with the insights, strategies, processes, tools and competencies to be able to strategically, proactively and systematically engage with and drive relevant processes of scaling health innovation. Chapter 5 considers how governments can support and enable scaling in various ways, focusing on particular scaling processes that are of relevance to government.

5.1 Processes for governments to enable scaling of innovations

Government actors can enable scaling of innovation in a public health system through three interconnected processes: exploring, adapting and learning. The three processes are illustrated in Figure 4.

Figure 4: The three processes in government-enabled scaling of health innovations

As the model illustrates, these processes aren't sequential and separate, but rather overlapping and mutually reinforcing – underlining the iterative, nonlinear nature of scaling in public health systems.

Various tools and activities exist for governments to explore, adapt and learn during the innovation scaling journey. As the three processes are interconnected, most tools can be used across all the processes. Different types of tools are described in Annex A, along with a brief description of their applicability across the processes of the innovation scaling journey. Some tools and processes might be more useful for some roles, but

overall, the seven roles can make use of the processes and tools described in this chapter.

5.2 Exploring

The process of exploring within scaling can be viewed as “search, variation, risk-taking, experimentation, play, flexibility, discovery and innovation", as inspired by March’s *(53)* definition of exploration. For the purposes of this guidance, we more narrowly define exploring as the establishment of insight in documented health demands, and the search and discovery of promising health innovations that match these demands or challenges (see also *(22)*). The exploring process of innovation scaling can entail uncovering unmet innovation needs with citizens and health care professionals, developing new and innovative solutions and conducting early-stage testing. Furthermore, exploring can involve stimulating innovation through knowledge sharing, early-stage funding and capacity-building.

5.2.1 Activities that support the process of exploring

Government actors can engage in a number of different activities that seek to identify both the demand for innovation and the existing or emerging solutions that can meet it. In the exploring process, governments can assist, as resources allow, in creating capacity for innovation; in identifying needs and opportunities; in identifying and stimulating innovation; in aligning different actors around shared goals; in prototyping and testing innovations; and in assessing the feasibility, viability, desirability and sustainability of potential innovations. Below, we describe these activities and the types of tools that governments may apply during the process of exploring.

Gathering evidence to inform future decision-making
Governments are well positioned to help ground innovation and scaling in a clear understanding of documented health demands and challenges. This moves governments beyond passively receiving innovation offers to proactively seeking solutions for identified problems *(11)*. Importantly, governments can play a supporting role by facilitating the creation of proofs of concept and gathering sufficient evidence of an innovation's feasibility and effectiveness, even if initially on a small scale *(54)*.

Identify existing innovations
To identify existing innovations with potential to scale, governments can communicate with both public and private innovation actors in different ways, such as market dialogues, innovation challenges, pitch sessions and more. It is worth emphasizing that innovation can emerge at all levels of a public health system. Patients regularly

innovate, particularly when existing products or services do not meet their needs, and governments can take an important first step by identifying and learning from these patient-led innovations. Nurses and other frontline health workers also innovate continuously, as illustrated in the case example from Singapore. Physicians also innovate through research and practice. Innovation also flourishes within Indigenous health systems, drawing on traditional knowledge. Even in low-resource settings, there is often a strong foundation of existing innovation that governments can recognize, support and scale. Additionally, governments can look beyond borders towards international organizations or other countries, such as the South-South Triangular Cooperation (SSTC). In the last few years, countries with similar types of challenges (including reproductive, maternal, newborn, child, and adolescent health and noncommunicable diseases) have been exploring SSTC arrangements to understand the modalities of scaling innovation and enable mutual learning. SSTC can facilitate the exchange of governance models, policy frameworks and regulatory approaches that support innovation ecosystems.

Identifying digital health innovation in Singapore

Singapore's largest public health care cluster, SingHealth, explored an AI-enabled ultrasound-guided system that had been developed by anaesthesiologists at the KK Women's and Children's Hospital. The technology received funding from innovation grants from the SingHealth-Duke NUS academic medical centre as well as national-level innovation grants to gather evidence on its workability and effectiveness at different hospitals. The innovation allowed teams to accurately identify spinal landmarks for epidural administration, significantly improving accuracy, especially for obese patients, where traditional methods have a high failure rate. Projects such as these often gain attention through internal grant applications, but innovators are also connected to a network of innovation centres, such as the Alice Lee Innovation Centre of Excellence (A.L.I.C.E).

More information can be found in Annex B.

Using existing data for evidence

Governments can leverage existing national data sources like censuses and demographic surveys to quantify health challenges and identify areas of greatest need. This includes health systems assessments *(55)*. Governments can also utilize National Transfer Accounts (NTA), which is a system of macroeconomic accounts that measures how resources are produced, consumed and redistributed across different age groups within an economy. Along with demographic surveys, NTA can be used to understand economic changes, including in health, to define and shape policies.

Generating new data for evidence

Understanding the needs of the population requires government actors to look beyond aggregated data to the realities experienced by both health care providers and citizens using methods from human-centred innovation and design approaches *(56).*

Anticipating long-term opportunities and risks

Governments can apply and facilitate foresight and scenario planning to stimulate and improve the sustainability of long-term innovation. Based on the needs of users, governments can specify demands, support and stimulate the creation of new innovations and help identify existing ones that match identified demands. They can also use foresight and scenario planning to select the best options for roll-out and long-term maintenance of the innovation by addressing critical questions regarding funding sources, supply chain management, maintenance costs, capacity strengthening requirements and operational costs in the medium and long-term. For instance, emerging technologies such as AI represent opportunities that can be explored during forecasting, as the technology becomes more affordable and accessible.

Creating infrastructure to stimulate innovation

To stimulate innovation, governments can establish dedicated innovation infrastructure such as innovation labs, desks and clusters as well as support research and development activities in the public sector or across sectors. To validate and qualify innovations, governments can create the infrastructure for prototyping and testing both in the initial stages and along the scaling pathway. One way of doing this is by establishing or giving access to test facilities, labs and incubation environments. At the local level, it can support the establishment of fab labs (fabrication laboratories, which are small-scale workshops that provide access to tools for fabrication and a community for learning, creating and inventing) and makerspaces (collaborative workspace that provides tools and community) that give practitioners direct access to innovation resources. Additionally, it can develop innovation challenges and prizes to stimulate and uncover new and interesting innovations.

Activating the ecosystem

One way of leveraging innovation capacity during the exploring process is to map the innovation ecosystem, which will then facilitate connections between actors (public, private and civil society) and enable co-evolution. Governments can increase scaling innovation capacity by linking up actors that would otherwise work separately and facilitating dialogue and collaboration. One powerful way of doing this is by facilitating the creation of a shared vision of scaling *(11)*. This strategic role of government actors is considered in more detail in Chapter 4.

From exploring to adapting
When an innovation has been identified during the exploring process, it then needs to be adapted to the local context. This is when the adaptation process becomes crucial. It is important to note that governments should come back to the exploration process if and when the situation calls for it.

5.3 Adapting

Government actors play a unique and indispensable role in the process of taking a promising health innovation and successfully integrating it into a complex public health system at scale. Scaling is rarely a simple matter of replicating a pilot. It inherently involves adapting the innovation to fit the specific national, regional and local contexts. This includes tailoring the innovation to align with existing policies, available resources, sociocultural patterns and the specific needs and perspectives of the target population. This adaptation is crucial to ensure relevance and effectiveness in diverse settings *(33)*.

5.3.1 Activities that support the process of adapting

Governments are responsible for public health infrastructure. Adapting an innovation for scale means integrating it into existing service delivery channels, information systems, supply chains and human resource structures. This is a complex task that requires government leadership. It's critical that the government makes use of existing processes and structures rather than creating parallel systems, as addressing weaknesses in existing institutions contributes to sustainability. Successfully integrating innovations requires navigating bureaucratic processes and ensuring alignment with existing or new operational procedures. This section presents various activities and associated tools that governments can use during the adapting process.

Adapting policy and the regulatory environment
Governments have the authority to shape the policy and regulatory environment to be conducive to the adopted innovation. This can involve integrating the innovation into national health strategies, adapting procurement processes or even changing legislation. They can also tilt the playing field in the direction of desired social outcomes using a market-shaping approach *(27,57).* Government actors can help institutionalize innovations through national planning mechanisms, policy changes or legal action. To consider operational and financial aspects of innovation scaling, regulatory sandboxes and policy labs are especially apt *(58).* Governments, through policy, can address systemic barriers and help create the necessary legal and structural foundation for widespread adoption *(59)*.

Adapting procurement mechanisms
Governments can significantly influence the success of scaling a health innovation through their procurement processes. Thus, having procurement procedures and templates that are conducive to innovation is important. Section 4.4 describes considerations for public procurement in more detail, and innovation-friendly procurement is discussed in Annex A.

Adapting the funding environment
Governments play a crucial role in creating a funding environment that can catalyse innovation. As described in section 4.6, governments can support the scaling of health innovations through a variety of financial instruments. Some concrete tools are described in Annex A.

Building and strengthening capacity to adapt
Adapting an innovation often requires building new skills and capacities within the health workforce and management structures. Governments play a crucial role in developing and implementing training programmes to equip personnel at all levels with the knowledge and skills needed to deliver the innovation effectively at scale. Strengthening capacity for innovation scaling by governments is described in section 4.5.

Building communities that will support the adaptation
Governments play an active role in creating the right conditions for scaling, for example, by building communities around the innovation, making sure that both innovators, regulators, health care professionals and users remain committed to the scaling process. Governments can play a significant part in creating and facilitating formal partnerships between actors. This also entails disseminating knowledge about an innovation and advocating its adoption. In situations and environments where the innovation is far from existing practice, insisting on its importance may be key to sustaining it beyond the barriers to adoption *(33)*. The collective experience built through these communities provides a vital basis for learning and improving the scaling efforts.

Mamas del Rio and processes of innovation scaling

Mamas del Rio is a health innovation focused on improving maternal and child health in the Amazonian regions of Peru and Colombia. The programme was initiated in response to the lack of medical care, including the absence of basic resources like pregnancy tests, experienced by women in the Amazon. The core intervention involved training and equipping CHWs to conduct home visits to provide education and support essential newborn care. The scaling of Mamas del Rio involved several key processes, including exploring, as the programme emphasizes rigorous research and the generation of

scientific evidence to support and guide the intervention. The programme has also demonstrated the ability to adapt to different contexts, as seen in its implementation in Colombia, where adjustments were made to account for legal and cultural differences.

More information can be found in Annex B.

5.4 Learning

Government actors are central to establishing and maintaining the learning processes that promote the scaling of health innovations. By prioritizing data collection and utilization, implementing robust evaluation frameworks, fostering feedback loops, supporting phased and iterative implementation and promoting the sharing of knowledge, governments can create a dynamic environment where continuous learning drives successful and sustainable scaling.

5.4.1 Activities that support the process of learning

The scaling process is iterative and can be viewed as an opportunity for continuous learning and training. Governments can play a crucial role in enabling, facilitating and utilizing learning throughout the scaling journey, moving beyond simple implementation to continuous adaptation and improvement *(60)*. This involves strategically leveraging data, evidence, evaluation and feedback mechanisms. Below, we describe activities and types of tools that governments may use to encourage learning during the scaling of innovation.

> "At every stage of the process, we've documented our work through scientific publications — from the study protocol and the design of educational videos, to the baseline assessment, the implementation of the intervention, and its measured impact."
> *– Magaly M. Blas, Director, Mamás del Río, School of Public Health and Administration, Universidad Peruana Cayetano Heredia*

Fostering a culture that encourages learning

Flexibility and adaptability are important elements of success, allowing strategies to be adjusted as circumstances change. This contrasts with rigid, standardized implementation. Learning from both successes and failures is necessary, and governments can support this by fostering a culture that encourages learning and by providing mechanisms for knowledge sharing, such as communities of practice or innovation manager networks. Also, the government can provide an infrastructure for learning in the form of "sandboxes", which allow stakeholders to test the scaling of innovations in different technological, economic and regulatory contexts and scenarios. Sandboxes are safe spaces that allow stakeholders to express ideas and concerns and

test them out in low-risk environments. Sandboxes are very useful resources to test the complexities that can arise as innovations enter existing contexts.

Designing for evidence generation and learning

Government actors can enable research, evaluation and data collection from the outset, stressing the necessity of project research components in the design phase. They can partner with universities and other nongovernmental research institutions to create independent assessments to determine the relevance and evaluate the impact of innovation scaling. This focus on evidence generation can be conducive to establishing proof of concept and to building the evidence needed to convince stakeholders to back and participate in the scaling process. By insisting on evidence generation and learning being built into the early stages of a scaling process, governments can improve the likelihood of success later on.

Collecting data for structured learning

Governments can enable learning through the development and utilization of data systems and measurement frameworks. Implementing comprehensive information systems, such as an HMIS, allows for the capture of relevant data from the lowest levels of the health system. This data is then used to monitor programme progress, track key indicators (like reach, coverage and outcomes) and identify bottlenecks or areas of poor performance. Regular review meetings, informed by this data, enable central authorities to understand challenges on the ground and inform necessary adjustments. The establishment of common evaluation frameworks across a region or country ensures consistency in how innovations are assessed, facilitating comparison and shared learning. Furthermore, governments play a role in fostering accountability linked to data and performance. By monitoring implementation fidelity and outcomes, governments can hold different levels of the health system accountable for the effective delivery of the innovation. This requires clear indicators and reporting mechanisms. The use of data to demonstrate impact and return on investment can be a powerful way to maintain political buy-in and ensure sustained support for scaling efforts *(42)*

Adapting the way we learn

It should be noted, however, that in many countries, systems similar to HMISs were established decades ago. While they have helped governments understand the progression of key indicators in managing a range of health areas, these systems also need to change to address current challenges and technological opportunities. This can entail shifting to output level indicators, to the integration of frontier tech such as AI and large language models (LLMs), and to interoperable features that enable easy extraction, data processing and decision-making by health workers at different levels. This, in turn, calls for training service providers and frontline workers so they understand

datasets and can facilitate evidence-based decision-making. This will enable a bottom-up approach to systemic change.

MomConnect Programme, South Africa and processes of learning

MomConnect is a national programme in South Africa that uses mobile technology to improve maternal health outcomes. It was initiated in 2014 to address the high maternal mortality rate in the country and to improve the utilization of maternal health services. The programme delivers stage-based health information to pregnant women via SMS and WhatsApp, operates a help desk for inquiries, and includes a feedback mechanism for women to rate services and provide compliments or complaints.

The scaling of MomConnect involved several key processes.

Adapting: The programme was adapted from the Mobile Alliance for Maternal Action (MAMA), which was implemented in South Africa in 2011 and was handed over to the South African government in 2013. MAMA was also implemented in India, Bangladesh and Nigeria. The lessons from MAMA were integrated into MomConnect to fit the South African context, considering cultural factors and resource availability. MomConnect was integrated into the South African public health system to improve service delivery and responsiveness. While not a traditional pilot, the programme was rolled out strategically as a phased implementation, with continuous monitoring and adjustments based on user feedback and data.

The National Department of Health collaborated with various stakeholders, including provincial health departments, health care workers, academics, nonprofits and mobile network operators, to ensure effective implementation and sustainability.

Mobile technology (SMS and WhatsApp) was leveraged to reach a large number of women, provide information and facilitate communication.

Learning: The National Department of Health actively monitored the programme's implementation and outcomes, using feedback from users and conducting research and impact evaluations. User feedback and research findings were used to continuously improve the programme and address challenges.

More information can be found in Annex B.

Learning through feedback

Feedback mechanisms are vital tools for learning, providing insights directly from users and implementers. Actively seeking and utilizing feedback, whether through dedicated help desks, complaint/compliment systems or user feedback loops, allows governments to understand how the innovation is being received and where adjustments are needed. This user feedback can inform adaptations to the innovation itself or to the implementation strategy.

Learning in phases

Governments enable learning by providing opportunities for piloting, phased implementation and mid-scale testing, for example, as described in the ExpandNet and WHO guidance *Beginning with the end in mind (11)*. While there is a caution against pilots that never lead to scale, well-designed initial implementations serve as crucial learning opportunities. The above-mentioned guidance suggests testing innovations under real-life operating conditions to understand feasibility and compatibility. A phased approach to scaling allows lessons learned in earlier phases to inform subsequent expansion. Supporting mid-scale implementation projects involving multiple sites can help build a stronger business case and identify implementation challenges before a full provincial or national rollout. These intermediate steps act as learning laboratories, generating evidence and practical insights.

M-mama Programme, the United Republic of Tanzania: Process approaches

The scaling of the M-mama programme in the United Republic of Tanzania involved several important processes.

Exploring, **pilot testing and iteration**: The innovation was initially piloted in one district and then scaled to five districts, allowing for testing and refinement before national implementation. The programme partnered with private car owners to expand the transportation network.

Adapting: The government integrated the M-mama programme into the broader health care system to improve emergency transportation and referral services. Digital technology was used to create an efficient and accessible emergency transportation system.

Learning: Data and research findings were used to inform programme design, implementation and scaling decisions. Securing political support and buy-in from key stakeholders, including ministers and the president, was also crucial for successful scaling. Publications and reports were used to document the programme's processes, outcomes and lessons learned, facilitating knowledge sharing and replication.

More information can be found in Annex B.

Learning across initiatives and regions

Governments can facilitate the sharing of learning and evidence across different initiatives and regions. Establishing repositories of documented innovations and their scaling experiences can provide valuable resources for others facing similar challenges. Convening forums or conferences where practitioners and policy-makers can exchange lessons learned fosters a culture of shared learning and accelerates the diffusion of effective strategies.

Key message

Scaling health innovations is a nonlinear, iterative set of interconnected processes. Governments can enable scaling through three different processes: exploring, adapting and learning. These processes are overlapping and mutually reinforcing. For each of these processes, governments can apply different tools and activities.

6. Towards a revitalized role of government in health innovation scaling

This guidance and toolkit are resources for government actors at all levels to take a leading role in the scaling of health innovations. Governments should check the following elements as they shift to a strategic, intentional and proactive stance towards health innovation scaling:

- Scaling health innovations must be reframed not as a technical afterthought, but as a strategic public priority. It is an investment, not a cost. Governments and health systems that embed innovation scaling into their national strategies, budgets and institutional agendas are better positioned to deliver sustainable, equitable health outcomes. This requires not only political will but also a shift in leadership mindset – positioning the scaling of innovation as a core leadership function involving vision-setting, cross-sector mobilization and the institutionalization of innovation-friendly norms.

- To coordinate this complex landscape, choosing a strategic approach is essential. In selecting its strategy, a government needs to adapt the roles it plays, for example, how financing is leveraged and how policy and regulations support the implementation. These decisions must be rooted in transparency about the scaling process and capacities of all actors involved.

- Building internal competences is key. Scaling health innovations requires skills such as systems thinking, stakeholder engagement, navigation and management, and strategic communication. Governments must invest in these capabilities at both the central and decentralized levels to institutionalize innovation as a core function of health governance.

- A mission-oriented approach can unify efforts under shared societal goals – such as achieving UHC, improving maternal and child health or strengthening pandemic resilience. This approach encourages multisectoral support, facilitates long-term commitment and ensures that health innovations are not only scaled but embedded in the broader vision of a healthier, more inclusive society.

- Effective scaling demands recognition of the multiple roles that government actors play across the innovation ecosystem: policy-maker, governance designer, innovation steward, regulator, capacity strengthener, funding enabler and communicator. Strategic alignment of these roles – through clear mandates,

coordination platforms, and shared accountability – ensures that innovations move beyond pilots to deliver system-wide benefits.

- The journey begins with the intentional exploration and identification of population health needs that call for innovations. This process must be evidence-based and equity-driven, leveraging data, lived experience and practitioner knowledge. It is critical to clarify what works, under which conditions and for whom, ensuring that promising solutions are not just technically sound, but socially and contextually relevant.

- No innovation scales uniformly. Each opportunity must be assessed within its specific political, societal, institutional and financial context. Several tools are available to provide essential guidance for determining scalability, affordability and institutional fit. Innovations that are not only impactful but also cost-effective and financially sustainable are more likely to be adopted and retained within public systems.

- Adaptation is equally vital. Scaling should mean translation, not replication. Innovations need to be modified to fit diverse cultural, operational and infrastructural realities while retaining core values. Engaging end users, subnational actors and communities in the adaptation process ensures relevance and fosters ownership. Here, PPPs can be instrumental, drawing on the comparative strengths of diverse actors.

- Structured systemic learning is at the heart of effective scaling. Real-time data, agile management and strong monitoring, evaluation, accountability and learning (MEAL) systems enable iteration, feedback and course correction. Scaling strategies must be designed with built-in mechanisms for tracking impact, including metrics for equity, inclusion and long-term effectiveness, ensuring that innovations reach marginalized and underserved populations.

Sustained impact at scale requires a shift from opportunistic scaling to strategic, inclusive and system-oriented action. Figure 5 captures the essence of this guidance and provides a step-wise approach to getting started on a scaling journey. By adopting the recommendations laid out in the guidance, underpinned by strong leadership, inclusive partnerships and adaptive learning, governments and partners can transform health innovation from isolated success stories into enduring improvements in population health.

Figure 5: Where to begin? Four steps to innovation scaling

References

1. Terminology of European education and training policy, second edition. Luxembourg: European Centre for the Development of Vocational Training; 2014 (https://data.europa.eu/doi/10.2801/15877, accessed 16 June 2025).

2. Glossary of key terms in evaluation and results-based management for sustainable development, 2nd edition. Paris: Organization for Economic Co-operation and Development; 2023 (https://doi.org/10.1787/632da462-en-fr-es, accessed 16 June 2025).

3. Oslo Manual 2018: guidelines for collecting, reporting and using data on innovation, 4th edition. Paris: Organization for Economic Co-operation and Development; 2018 (https://doi.org/10.1787/9789264304604-en, accessed 16 June 2025).

4. World Health Organization, ExpandNet. Practical guidance for scaling up health service innovations. Geneva: World Health Organization; 2009 (https://iris.who.int/handle/10665/44180, accessed 16 June 2025).

5. The world health report: health systems financing: the path to universal coverage. Geneva: World Health Organization; 2010 (https://iris.who.int/handle/10665/44371, accessed 26 June 2025).

6. Lunn, P. Regulatory policy and behavioural economics. Paris: Organization for Economic Co-operation and Development; 2014 (https://doi.org/10.1787/9789264207851-en, accessed 26 June 2025).

7. DAC guidance on scaling development outcomes. Paris: Organization for Economic Co-operation and Development; 2024 (https://doi.org/10.1787/621810cc-en, accessed November 21, 2025).

8. Mazzucato M. Mission-oriented research & innovation in the European Union – A problem-solving approach to fuel innovation-led growth. Brussels: European Commission Publications Office; 2018 (https://data.europa.eu/doi/10.2777/360325).

9. Schot J, Steinmueller WE. Three frames for innovation policy: R&D, systems of innovation and transformative change. Research Policy. 2018;47(9):1554–67. (https://doi.org/10.1016/j.respol.2018.08.011).

10. A global health strategy for 2025–2028 – advancing equity and resilience in a turbulent world: Fourteenth General Programme of Work. Geneva: World Health

Organization; 2025. (https://iris.who.int/handle/10665/380456, licence: CC BY-NC-SA 3.0 IGO).

11. Results for development, insight health advisors. Enhancing public sector demand for, and scaling of, health innovations. International Development Innovation Alliance; 2021. (https://www.idiainnovation.org/resources/enhancing-public-sector-demand-for-and-scaling-of-health-innovations), accessed 17 Jun 2025).

12. Mazzucato, M. A mission-oriented strategy for inclusive and sustainable economic growth in Barbados, policy report no. 2023/05. London: UCL Institute for Innovation and Public Purpose; 2023 (https://www.ucl.ac.uk/bartlett/publications/2023/nov/mission-oriented-strategy-inclusive-and-sustainable-economic-growth-barbados).

13. The WHO Council on the economics of health for all, Council Brief N°1, 29 November 2021: Governing health innovation for the common good. Geneva: World Health Organization; 2021 (https://www.who.int/publications/m/item/governing-health-innovation-for-the-common-good).

14. Mishra S, Jain K. Innovations in healthcare: A systematic literature review. J Bus Res. 2025;194:115364. (https://doi.org/10.1016/j.jbusres.2025.115364).

15. Greenhalgh T, Robert G, Macfarlane F, Bate P, Kyriakidou O. Diffusion of innovations in service organizations: systematic review and recommendations. Milbank Q. 2004;82(4):581–629. (https://doi.org/10.1111/j.0887-378X.2004.00325.x).

16. Safe Foundation, Grundfos Foundation, Bikuben Foundation, Transition Collective, Boston Consulting Group, Realdania. Foundations and systemic change: foundations' prerequisites for addressing complex societal problems in Denmark. Copenhagen: Realdania; 2024. (https://www.realdania.org/publications/in-english/foundations-and-systemic-change, accessed 6 November 2025).

17. Moore M-L, Riddell D, Vocisano D. Scaling out, scaling up, scaling deep strategies of non-profits in advancing systemic social innovation. Journal of Corporate Citizenship. 2015;58:67–84.

18. Wilson, J Q. Bureaucracy: what government agencies do and why they do it. New York: Basic Books; 1989.

19. Ang YY. Making details matter: how to reform aid agencies to generate contextual knowledge. Next Horizons Essay Competition 2014–15: The future of development assistance. New Delhi: Global Development Network; 2016.

(https://www.gdn.int/sites/default/files/NH%20Essay%20Contest%202014%20-%20Ang,%20YY%20-%20Final_0.pdf).

20. Schwendinger F, Topp L, Kovacs V. Competences for policymaking. Luxembourg: Publications Office of the European Union; 2022 (https://dx.doi.org/10.2760/642121).

21. Pascale R, Sternin J, Sternin M. The power of positive deviance: how unlikely innovators solve the world's toughest problems. Boston: Harvard Business Press; 2010.

22. Health for all: transforming economies to deliver what matters: final report of the WHO Council on the Economics of Health for All. Geneva: World Health Organization; 2023 (https://iris.who.int/handle/10665/373122, license: CC BY-NC-SA 3.0 IGO).

23. Gadelha CA, Maretto G, Nascimento MA, Kamia F. The health economic-industrial complex: production and innovation for universal health access, Brazil. Bull World Health Organ. 2024;102(5):352–6. (https://doi.org/10.2471/BLT.23.290838).

24. Perez-Aleman P, Ferretti T. Creating innovation capabilities for improving global health: inventing technology for neglected tropical diseases in Brazil. J Int Bus Policy. 2023;6(1):84–114. (https://doi.org/10.1057/s42214-022-00143-y).

25. Duggan-Walls K, Nowak A, Suriano G. EU Cancer Mission – what it is and why it is so important. Copenhagen: WHO Regional Office for Europe; 2025 (https://iris.who.int/handle/10665/380749, license: CC BY-NC-SA 3.0 IGO).

26. Vision Zero Cancer (website). Vinnova; 2025 (https://www.visionzerocancer.com/, accessed 8 Jun 2025).

27. Mazzucato M. The mission economy: A moonshot guide to changing capitalism. New York: Penguin Books; 2022.

28. Bason C. Transition design: an emerging approach for policy and governance. European Public & Municipal Administration, 2024;25(1):30–49. (https://doi.org/10.58992/epum.2025.25).

29. Kattel R, Mazzucato M, Puttick R, Chau B, Hill D, Gomez-Mont G, et al. Assessing dynamic capabilities in city governments: creating a public sector capabilities index. London: UCL Institute for Innovation and Public Purpose; 2025 (https://www.ucl.ac.uk/bartlett/publications/2025/oct/assessing-dynamic-capabilities-city-governments-creating-public-sector-capabilities-index).

30. Lasswell HD. The policy orientation. In: Lerner D, Lasswell HD, editors. The policy sciences: recent developments in dcope and method. Redwood City: Stanford University Press; 1951:3–15.

31. Evidence-informed policy-making: a glossary of key terms. Cairo: WHO Regional Office for the Eastern Mediterranean Region; 2025 (https://iris.who.int/handle/10665/380916, license: CC BY-NC-SA 3.0 IGO).

32. Pandian J, Suresh S, Desikachari BR, Padmanaban P. Increased utilization of primary health care centers for birthing care in Tamil Nadu, India: a visible impact of policies, initiatives, and innovations. J Family Med Prim Care. 2013;2(4):329–33 (https://doi.org/10.4103/2249-4863.123781).

33. Berry J, Berry S, Chizema E, Fundafunda B, Hamer DH, Tembo S, et al. Institutionalizing innovation: from pilot to scale for co-packaged oral rehydration salts and zinc—a case study in Zambia. Global Health: Science and Practice. 2024;12(1):e2300286 (https://doi.org/10.9745/GHSP-D-23-00286).

34. Huaynoca S, Chandra-Mouli V, Yaqub Jr N, Denno DM. Scaling up comprehensive sexuality education in Nigeria: from national policy to nationwide application. Sex Education. 2014;14(2):191–209 (https://doi.org/10.1080/14681811.2013.856292).

35. Hufty M. Investigating policy processes: the governance analytical framework (GAF). In: Wiesmann U, Hurni H, editors. Research for sustainable development: foundations, experiences, and perspectives. Bern: Geographica Bernensia; 2011:403–424 (https://ssrn.com/abstract=2019005).

36. Coelho Rodrigues J, Barros AC, Claro J. A configurational perspective for the generalisation of healthcare innovations: the case of a new screening programme. Technological Forecasting and Social Change. 2024;201:123226 (https://doi.org/10.1016/j.techfore.2024.123226).

37. Reinforcing the focus on anti-corruption, transparency and accountability in national health policies, strategies and plans. Geneva: World Health Organization; 2019. (https://iris.who.int/handle/10665/326229, license: CC BY-NC-SA 3.0 IGO).

38. The World Health Report 2000: health systems: improving performance. Geneva: World Health Organization; 2000 (A53/4; https://iris.who.int/handle/10665/79020).

39. Mintzberg H. Managing. San Francisco: Berrett-Koehler Publishers; 2009.

40. Peter J, Benjamin P, LeFevre AE, Barron P, Pillay Y. Taking digital health innovation to scale in South Africa: ten lessons from MomConnect. BMJ Glob Health. 2018;3(Suppl 2):e000592 (https://doi.org/10.1136/bmjgh-2017-000592).

41. International Finance Corporation, Multilateral Investment Guarantee Agency, World Bank. Regulatory governance in developing countries. Washington: World Bank Group; 2010 (https://doi.org/10.1596/27881)

42. Bloom G, Berdou E, Standing H, Guo Z, Labrique A. ICTs and the challenge of health system transition in low and middle-income countries. Globalization and Health. 2017;13(1):56 (https://doi.org/10.1186/s12992-017-0276-y).

43. Global strategy and plan of action on public health, innovation and intellectual property. Geneva: World Health Organization; 2011 (https://iris.who.int/handle/10665/77931).

44. Building health system resilience to public health challenges: guidance for implementation in countries. Geneva: World Health Organization; 2024 (https://iris.who.int/handle/10665/377652, licence: CC BY-NC-SA 3.0 IGO).

45. Lusthaus C, Adrien MH, Perstinger M. Capacity development: definitions, issues and implications for planning, monitoring and evaluation. Universalia Occasional Paper; 1999;(35)08:1–21.

46. Health promotion glossary. Geneva: World Health Organization; 1998. (https://iris.who.int/handle/10665/64546, accessed 16 Jun 2025).

47. Schwendinger F, Topp L, Kovacs V. Competences for policymaking. Luxembourg: Publications Office of the European Union; 2022 (https://dx.doi.org/10.2760/642121).

48. Ssennyonjo A, Ekirapa–Kiracho E, Musila T, Ssengooba F. Fitting health financing reforms to context: examining the evolution of results-based financing models and the slow national scale-up in Uganda (2003–2015). Global Health Action. 2021;14(1):1919393 (https://doi.org/10.1080/16549716.2021.1919393).

49. Gadelha CA, Maretto G, Nascimento MA, Kamia F. The health economic-industrial complex: production and innovation for universal health access, Brazil. Bull World Health Organ. 2024;102(5):352–6. (https://doi.org/10.2471/blt.23.290838)

50. Communicating for health: WHO strategic communications framework for effective communications. Geneva: World Health Organization; 2017.

51. Woltering L, Valencia Leñero EM, Boa-Alvarado M, Van Loon J, Ubels J, Leeuwis C. Supporting a systems approach to scaling for all: insights from using the scaling scan tool. Agricultural Systems. 2024;217:103927 (https://doi.org/10.1016/j.agsy.2024.103927)

52. Meadows DH. Thinking in systems: a primer. London: Earthscan; 2008.

53. March JG. Exploration and exploitation in organizational learning. Organ Sci. 1991;2(1):71–87.

54. Breaugh J, McBride K, Kleinaltenkamp M, Hammerschmid G. Beyond diffusion: a systematic literature review of innovation scaling. Sustainability. 2021;13(24):13528 (https://doi.org/10.3390/su132413528).

55. World Health Organization, European Observatory on Health Systems and Policies. Health system performance assessment: a framework for policy analysis. Geneva: World Health Organization; 2022. (https://iris.who.int/handle/10665/352686, license: CC BY-NC-SA 3.0 IGO).

56. Perla RJ, Pham H, Gilfillan R, Berwick DM, Baron RJ, Lee P, et al. Government as innovation catalyst: lessons from the early center for Medicare and Medicaid innovation models. Health Aff (Millwood). 2018;37(2):213–21 (https://doi.org/10.1377/hlthaff.2017.1109).

57. Kumpf B, Strandberg N, Barkell R. Systems innovation blog series - part four: systems innovation – building blocks (blog). In: International Development Innovation Alliance (https://www.idiainnovation.org/resources/part-four-systems-innovation, accessed 6 November 2025).

58. Agile governance: reimagining policy-making in the fourth industrial revolution. Geneva: World Economic Forum; 2018. (https://www.weforum.org/publications/agile-governance-reimagining-policy-making-in-the-fourth-industrial-revolution/, accessed 26 June 2025).

59. Cooley L, Howard J. The scale up sourcebook. In: Proceedings. Scale Up Conference, Purdue University, Indiana, September 25–27, 2018. (https://docs.lib.purdue.edu/scaleup/sourcebook/book/1).

60. Van Niekerk L, Manderson L, Fosiko NG, Likaka A, Blauvelt CP, Msiska B, et al. Identifying positive practices to institutionalize social innovation in the Malawian health system. International Journal of Health Policy and Management. 2024;13(1):1–11 (https://doi.org/10.34172/ijhpm.8141).

61. Borthwick M, Tomitsch M, Gaughwin M. From human-centred to life-centred design: considering environmental and ethical concerns in the design of interactive products. Journal of Responsible Technology. 2022;10:100032 (https://doi.org/10.1016/j.jrt.2022.100032).

62. Engholm I. Design for the new world: from human design to planet design. Bristol: Intellect Press; 2023 (https://doi.org/10.2307/jj.2458924).

63. Skibsted J M, Bason C. Expand: Stretching the future by design. Dallas: Matt Holt; 2022.

Annex A: Toolkit

This annex contains a repository of tools and activities for innovation scaling that can be deployed by government actors. The annex can be used as an inspiration and navigation guide for deciding which tools and activities should be applied during which parts of a scaling process.

Under each type of tool, the following aspects are described:

- purpose and description
- the value that the tool gives to innovation scaling processes
- practical advice for using the tool
- links to relevant examples of tools or activities.

The tools and activities have been identified based on a comprehensive literature review and additional research into best practices.

How to navigate the toolkit

All the tools and activities presented are relevant – in different ways – for the processes described in Chapter 5. For each process, the tools play out in different ways and provide different value. The value of each activity and related tool for each respective process is described in Table A1.

Table A1: The value of tools and activities for scaling innovation processes

Tool or activity	Exploring	Adapting	Learning
Ecosystem mapping	Use the tool to understand the actor landscape, how actors are related and what characterizes the health problem to be addressed.	Use the tool to understand what is needed so that various stakeholders engage with the innovation to be scaled and adapt it to their contexts.	Identify which key actors need to be involved in measurement, evaluation and learning activities, and which contribution they can make (supplying, delivering data, using data, etc.).
Foresight and scenarios	Establish a strategic perspective on multiple futures to understand long-term opportunities and risks as they relate to a health challenge.	Track, monitor and assess how the context changes and whether it indicates one scenario becoming more prevalent than others; adapt the approach accordingly.	Evaluate the health innovation against future scenarios to underpin continuous learning and adaptation.
Human-centred innovation	Enable or deploy human-centred approaches to understanding population health needs and as-is service journeys; enable or drive co-creation processes with users/patients and other stakeholders.	Continuously enable engagement and feedback from patients to understand how to adapt and scale health innovations to meet people's behaviours and needs.	Include highly qualitative, lived-experience perspectives as an integral part of measurement, evaluation and learning to keep iterating the situation from a human perspective.
Innovation-friendly procurement	Engage innovators early through market dialogues to discover or co-create new solutions.	Engage in competitive dialogues to develop adapted solutions in collaboration with the community.	Create framework agreements and advance market commitments as demand becomes more predictable; pathways for scaling innovations

			that demonstrate value become faster.
Assessment of scalability	Ensure early and robust assessment of scaling potential, including risks and opportunities.	Utilize ongoing assessment of scaling potential in the course of adaptation, allowing for real-time adjustments to the process.	Make use of a retrospective perspective and learning based on data from the implemented, scaled innovation.
Open Innovation	Build open and transparent processes for capturing innovative ideas and solutions from a wider set of stakeholders.	Keep the adaptation process open and dynamic to new potential suppliers, partners and co-producers.	Make data openly available as much as possible; ensure that systematic learning includes a broad range of actors that is open and inclusive over time.
Funding and partnerships	Identify funding and partner opportunities early to ensure buy-in and mobilization of knowledge, access and funds.	Work actively with funders and partners to ensure they support and accelerate the adoption and scaling of the innovation.	Assess whether the funders and partners contribute to the outputs, results and outcomes that were expected; ensure partners and funders learn; and be ready to adjust and adapt as more is learned.
Regulatory sandboxing and policy labs	Use sandboxes and labs to explore new opportunities and engage stakeholders, including end users in creative problem solving; ensure solutions are designed for scaling from the outset.	As the innovation shifts towards adaptation at scale, ensure that there is still ongoing learning and co-creation to adjust and strengthen the fit.	Use sandbox and lab methodologies to experiment with measurement, evaluation and learning methods and formats; assess which scaled innovations benefited from early sandboxing.
MEAL	Ensure that early-stage innovations are designed for and amenable to MEAL processes.	Track, monitor and guide the implementation and scaling of innovations using MEAL frameworks – and underpin adaptation and agile approaches with data and insight.	Ensure continuous strategic and systematic learning across the stakeholder landscape; ensure data are valid and reliable and support ongoing quality with a view to patients and ultimate health outcomes.
Agile management	Start at the earliest stage by adapting	Break scaling into more manageable, testable	Maintain a dynamic management and

	innovations to diverse contexts, managing change and maintaining stakeholder alignment.	increments; encourage real-time feedback from users and implementers, allowing for rapid course correction based on what is working.	governance approach after the innovation has scaled to ensure ongoing adjustments and underpin the business case.

Types of tools and activities

Table A1.1: Ecosystem mapping

Type of tool or activity	Ecosystem mapping
Purpose and description	To achieve a visual or big picture overview of actors and potential participants in developing and scaling innovation. Unlike traditional stakeholder mapping, ecosystem mapping takes into consideration the motivations, resources and capabilities of each actor and how these can deliver value to the concrete system. Ecosystem mapping is relational, so it focuses on how actors may position themselves within a wider system and how they may create positive synergies. An important part or outcome of mapping an ecosystem is the articulation of the demand for solutions.
Practical advice for activity and tool use	Ecosystem mapping works best when a wider set of actors is involved in the mapping exercise to reach a deeper understanding of the relationships between actors as they are today and what they might be in the future. Involving actors in the mapping exercise can help mobilize the actors to engage in the scaling process.
Links to example tools and activities	Health care system mapping: mappinghttps://www.futurelearn.com/info/courses/understanding-systems-thinking-in-healthcare/0/steps/76306 Innovation mapping: https://www.nesta.org.uk/feature/innovation-methods/innovation-mapping/ MSI's Advancing Policy and Institutional Change (APIC) Framework: https://www.msiworldwide.com/wp-content/uploads/2023/10/apic_long_final-1.pdf Landscape analysis tool (Annex 4C): https://www.villagereach.org/wp-content/uploads/2023/02/9781464819551-Governments.pdf Soft systems methodology: https://www.ifm.eng.cam.ac.uk/research/dstools/soft-systems-methodology/

Table A1.2: Foresight and scenario planning

Type of tool or activity	Foresight and scenario planning
Purpose and description	These tools are helpful when navigating complexity and uncertainty. They are especially important in systems innovation, where change is nonlinear, interconnected and often unpredictable. These tools help anticipate changes and emerging trends and improve strategic decision-making. Foresight and horizon scanning tools can both be projections of current data (strong and weak signals) as well as more open and speculative processes. Foresight and horizon scanning can help establish shared visions of the future and can be impactful in forming coalitions across policy actors and across sectors.
Practical advice for activity and tool use	Foresight and horizon scanning can be applied in varying degrees, depending on the complexity of the field of intervention. The greater the level of complexity and uncertainty, the greater the need to incorporate more open-ended and even speculative elements. If foresight and horizon scanning tools are applied with the aim of establishing shared visions of the future, they should be applied as a part of a collaborative, facilitated process.
Links to example tools and activities	The Futures Toolkit: https://www.gov.uk/government/publications/futures-toolkit-for-policy-makers-and-analysts UN Strategic Foresight Guide: https://un-futureslab.org/project/un-strategic-foresight-guide/ OECD Strategic Foresight Toolkit for Resilient Public Policy: https://www.oecd.org/en/publications/foresight-toolkit-for-resilient-public-policy_bcdd9304-en.html Foresight by Sitra: https://www.sitra.fi/en/themes/foresight-and-insight/#tools

Table A1.3: Human-centred design

Type of tool or activity	Human-centred design
Purpose and description	A human-centred design encompasses several tools, based on innovation theory and design thinking, aimed at creating innovations based on the following: ● insights about the needs and behaviours of end users and stakeholders ● innovative solutions ● experimentation and learning through prototyping and testing solutions. Human-centric innovation is conceptually adjacent and is often used to position innovation as collaborative, purpose-driven and ethically guided. Government can act as both the facilitator of and a participant in human-centred design and human-centric innovation. There is an emerging interest in life-centred design as an evolution from human-centred design, which expands the user concept to include the broader ecological systems, future generations and the planet's well-being *(61–63)*.
Practical advice for activity and tool use	Human-centred design is based on a deep understanding of the needs and behavioural drivers of end users (citizens, customers and patients). It is important to secure the time, resources and legitimacy to involve these groups. Human-centred design is iterative in nature, and it is important to make the space and time for iterations to unfold.
Links to example tools and activities	Framework for innovation: https://www.designcouncil.org.uk/our-resources/framework-for-innovation/ Human-centred design: An integrative design exploration: https://dschool.stanford.edu/tools/human-centered-design-integrative-design-exploration OECD-OPSI innovation playbook: https://oecd-opsi.org/toolkits/innovation-playbook/

Table A1.4: Innovation-friendly procurement

Type of tool or activity	Innovation-friendly procurement
Purpose and description	Innovation-friendly procurement is a strategic approach to public purchasing that encourages the development and adoption of new solutions. It focuses on outcomes rather than inputs, engages innovators early, creates predictable markets for scaling, lowers barriers for local innovators and uses learning and experimentation to make procurement a driver of sustainable innovation in health systems.
Practical advice for activity and tool use	Some of the key components of innovation-friendly procurement include the following: • **Needs assessments**: In collaboration with communities, identify opportunities where innovation can provide the greatest impact, ensuring procurement aligns with health system needs. • **Outcome-based or performance-based procurement**: Focus on achieving specific results (e.g., improved health outcomes) rather than prescribing inputs or products. • **Precommercial procurement and competitive/market dialogue**: Allow early engagement with innovators to codevelop and test new solutions before full-scale adoption.
Links to example tools and activities	Tools for innovation-friendly procurement by Innovation Norway: https://hip.innovationnorway.com/article/tools-for-innovation-friendly-procurement OECD Public procurement for innovation: https://www.oecd.org/en/publications/public-procurement-for-innovation_9789264265820-en.html WEF Innovation-friendly procurement: https://www3.weforum.org/docs/WEF_Innovation_Friendly_Procurement_Model_Policy_G20_2024.pdf Government of Chile - ¿Cómo podemos innovar en el proceso de compra pública? (in Spanish only): https://www.chilecompra.cl/wp-content/uploads/2018/08/20180614-DIRECTIVA-CPI.pdf?utm_source=chatgpt.com

Table A1.5: Assessment of scalability

Type of tool or activity	Assessment of scalability
Purpose and description	Tools for assessing the scalability of an innovation are crucial in moving an innovation scaling process. Assessing the scalability of health innovations requires a structured examination of both the innovation itself and the context into which it will be expanded. A key starting point is ensuring the robustness and readiness of the innovation. This involves verifying the effectiveness of the intervention (e.g., in a pilot phase), ensuring it delivers clear value to users and confirming that logistical, technical and financial dimensions are sufficiently mature to support broader deployment. Equally important is a systematic analysis of scalability using a well-defined framework. This includes reviewing whether the innovation is supported by evidence of effectiveness and cost-efficiency, whether processes and implementation protocols are well-documented and whether it can be adapted without loss of fidelity at scale. Innovations that are poorly defined or resource-intensive without demonstrating improved outcomes are less likely to scale successfully. Integration into existing systems is another critical factor. This means assessing whether the innovation aligns with the institutional capacities of the health system, including the readiness of implementing organizations, regulatory structures and political and financial support mechanisms. Scalability depends on the innovation's adaptability to diverse contexts and the presence of adequate planning for resources and sustainability. This includes evaluating whether the innovation can be financed and managed at scale, whether it resonates with local priorities and organizational cultures and whether it has champions and partners to support long-term adoption. A comprehensive scalability assessment thus brings together technical, organizational and contextual considerations to guide responsible and successful health innovation scale-up.
Practical advice for activity and tool use	The best way to use scalability assessment tools is to treat them as adaptive learning instruments rather than one-time checklists. They are most effective when used to facilitate structured reflection and dialogue among diverse stakeholders, such as implementers, funders, policy-makers and community representatives, rather than as rigid scoring systems. Assessments should begin early in the innovation process and be revisited at key milestones. Scalability is dynamic; what is feasible at the pilot stage may not hold at scale. Adapt the questions and criteria to reflect the realities of the local health system, cultural norms and policy environment. Avoid applying a universal template without adjustment.

	Importantly, encourage teams to make explicit the assumptions they hold about why and how the innovation will scale – then test those assumptions.
Links to example tools and activities	Scaling Assessment Map: An Evolving Tool Supporting Innovation Scale Up: https://www.thoughtworks.com/insights/blog/scaling-assessment-map-evolving-tool-supporting-innovation-scale Scaling up: From vision to large-scale change: tools for practitioners: https://www.msiworldwide.com/wp-content/uploads/2023/09/ScalingUp_toolkit_2021_v5_0.pdf WHO & ExpandNet Practical guidance for scaling up health service innovation: https://expandnet.net/PDFs/WHO_ExpandNet_Practical_Guide_published.pdf A guide to scaling up population health interventions: https://www.phrp.com.au/issues/january-2016-volume-26-issue-1/a-guide-to-scaling-up-population-health-interventions/#TocEntry1 BetaHealth Innovation Readiness Level: https://www.betahealth.dk/en/_files/ugd/37ec82_409083798e784c54b17308d6e312b1b2.pdf

Table A1.6: Funding and partnership tools

Type of tool or activity	Funding and partnerships tools
Purpose and description	There are a great number of tools supporting funding and partnership building along the scaling process – from funding early-stage innovations to budgeting for implementation, scaling and institutionalization. As a major source of funding at different stages, governments can make use of different tools. Several of the following funding models entail forming partnerships with other actors: ● early innovation funding support ● participatory budgeting ● partnership building ● grants and subsidies ● public procurement ● innovation funds and PPPs. One of the most effective approaches is to co-design funding mechanisms with key stakeholders, including government agencies, health providers, community actors and funders, at an early stage. This participatory process helps ensure that financial tools are aligned with local needs, capacities and institutional realities, building shared ownership and smoother implementation pathways. It is also important to blend funding sources thoughtfully. Combining public financing with philanthropic grants, impact investments or service contracts can create a more resilient and adaptive financial base. This is especially useful when innovations move through different phases – from initial pilots to regional rollouts and eventual national integration. Strategic government partnerships can involve more than financial contributions. They might include in-kind support, infrastructure access, procurement commitments or regulatory alignment. Structuring these relationships early can significantly enhance the long-term scalability and sustainability of an innovation.
Practical advice for activity and tool use	When funding innovation scaling, it's important to closely link to scaling potential assessments. Funding tools should be designed with flexibility in mind. Scaling involves navigating diverse contexts, variable timelines and evolving challenges. Financial instruments should allow for periodic review and adjustments, enabling implementers to adapt while remaining focused on core objectives. When funding tools are built as adaptive frameworks grounded in shared goals, performance tracking and public partnership, they become powerful enablers of scalable, equitable health innovation.
Links to example tools and activities	P.ACT: Partnership Co-Design Toolkit: https://d-lab.mit.edu/resources/publications/pact-partnership-co-design-toolkit The beginner's guide to participatory budgeting:

	https://www.govocal.com/guides/beginners-guide-to-participatory-budgeting?utm_source=oecd&utm_medium=resourcelibrary&utm_campaign=toolkitnavigator Financing for scaled impact: https://centers.fuqua.duke.edu/yyyyyyyy/wp-content/uploads/sites/7/2020/11/Scaling-Pathways_Financing-for-Scaled-Impact.pdf Leveraging government partnerships for scaled impact: https://centers.fuqua.duke.edu/yyyyyyyy/wp-content/uploads/sites/7/2020/11/Scaling-Pathways_Leveraging-Government-Partnerships.pdf Funding innovation – A practice guide by Nesta: https://media.nesta.org.uk/documents/Funding-Innovation-Nov-18.pdf

Table A1.7: Open innovation

Type of tool or activity	Open innovation
Purpose and description	Open innovation tools are designed to open up innovation processes to include innovation actors outside the organization, including other organizations, patients, customers and government entities. They are especially useful when dealing with problems that require a multi-sector approach. Governments can leverage open innovation by creating collaborative structures and incentives for innovation, such as the following: ● innovation incubators and accelerators ● innovation labs ● innovation challenges ● mission-oriented innovation. Opening up the innovation process can be conducive to scaling innovations by creating shared images of the future and building coalitions.
Practical advice for activity and tool use	When engaging in open innovation processes, government actors can be key facilitators, bringing stakeholders into the process and holding a shared space. Governments can also act to ensure transparency and accountability in the processes.
Links to example tools and activities	UNDP SDG Accelerator: https://www.undp.org/sdg-accelerator/tools Mission-oriented innovation – a handbook from Vinnova: https://oecd-opsi.org/toolkits/mission-oriented-innovation-a-handbook-from-vinnova/ OECD Innovation Labs: A Do-It-Yourself Guide: https://oecd-opsi.org/toolkits/innovation-labs-a-do-it-yourself-guide/ Open innovation in health by Nesta: https://media.nesta.org.uk/documents/open_innovation_in_health_0.pdf

Table A1.8: Regulatory sandboxing and policy labs

Type of tool or activity	Regulatory sandboxing and policy labs
Purpose and description	Regulatory sandboxes and policy labs are powerful tools and facilities for testing the viability and feasibility of innovations. A regulatory sandbox is a safe, structured environment where innovators can test new products, services or models under controlled or adaptive regulations with close oversight from regulators. Policy labs are multidisciplinary government or quasi-government teams that design, test and iterate policy interventions using real-world data, behavioural science and human-centred design.
Practical advice for activity and tool use	For governments, important elements to consider when working with regulatory sandboxes are clarity of scope and time frame. It is also crucial to make sure that there is sufficient regulatory guidance. Furthermore, it is important to involve stakeholders early and continuously. It is important for governments to ensure collaboration across agencies and government levels and include relevant stakeholders from outside the policy sphere. Governments can ensure that the right data is provided to make policy labs effective.
Links to example tools and activities	EU Policy Lab: https://policy-lab.ec.europa.eu/index_en How to build a regulatory sandbox: https://documents1.worldbank.org/curated/en/126281625136122935/pdf/How-to-Build-a-Regulatory-Sandbox-A-Practical-Guide-for-Policy-Makers.pdf Government as a system – toolkit: https://openpolicy.blog.gov.uk/2020/03/06/introducing-a-government-as-a-system-toolkit/ Implementing a sandbox approach in health technology assessment: https://www.nice.org.uk/news/blogs/a-safe-space-for-bold-ideas-implementing-a-sandbox-approach-in-health-technology-assessment

Table A1.9: Measurement, evaluation, accountability and learning (MEAL)

Type of tool or activity	Measurement, evaluation, accountability and learning (MEAL)
Purpose and description	MEAL activities are key elements throughout any scaling process – not just at the end. They can be used to continuously improve innovations, determine scalability, de-risk adapting, improve implementation and align stakeholders. Throughout an innovation scaling process, MEAL is essential to secure accountability of invested resources.
Practical advice for activity and tool use	In order to ensure the highest possible relevance, build MEAL into processes from the start when designing projects, programmes and portfolios. Health systems are complex. Make sure to design MEAL activities that take this into account by being open to different types of data and outcomes. When carrying out MEAL activities, make sure to engage with stakeholders and end users in order to secure diversity of views and to align stakeholders. Use MEAL results as vehicles for dissemination to promote scaling and avoid duplication of efforts.
Links to example tools and activities	Documenting Systems Change through Effective Collaborative Action – The Early Signals of Change Self-Assessment Tool: https://www.undp.org/foodsystems/publications/documenting-systems-change-through-effective-collaborative-action-early-signals-change-self-assessment-tool Theory and Practice – Monitoring & Evaluating Scale-Up of Health System Innovations: https://www.irh.org/resource-library/theory-and-practice-monitoring-evaluating-scale-up-of-health-system-innovations/ A funder's guide to using evidence of programme effectiveness in scale-up decisions: https://www.mdrc.org/sites/default/files/GPN_FR.pdf Evaluating Social Innovation to Create Lasting Change: https://www.nesta.org.uk/report/evaluating-social-innovation-to-create-lasting-change/learning-and-evaluation-scaling-innovations/ Rethinking monitoring and evaluation in complex systems — when learning is a result in itself: https://medium.com/@undp.innovation/rethinking-monitoring-and-evaluation-in-complex-systems-when-learning-is-a-result-in-itself-3d1fc90d22fc

Table A1.10: Agile management

Type of tool or activity	Agile management
Purpose and description	Agile management practices can significantly support the scaling of innovation in health care by introducing flexibility, responsiveness and continuous learning – key ingredients in navigating complex, highly regulated and stakeholder-rich health system environments. Scaling isn't just about replicating a pilot. It requires adapting innovations to diverse contexts, managing change and maintaining stakeholder alignment. Agile methods help by breaking scaling into manageable, testable increments; encouraging real-time feedback from users and implementers; and allowing for rapid course correction based on what's working. Agile management tools are cross-disciplinary and inclusive and lend themselves to involving end users and stakeholders.
Practical advice for activity and tool use	Agile management practices require different governance setups that allow for more adaptive and iterative processes. Government actors applying agile management methods should ensure that agile methods align with existing governance structures. These structures should also allow for the empowerment of individuals and teams of scaling actors.
Links to example tools and activities	Agile Governance – Reimagining Policy-making in the Fourth Industrial Revolution: https://www3.weforum.org/docs/WEF_Agile_Governance_Reimagining_Policy-making_4IR_report.pdf Managing complexity: Adaptive management at Mercy Corps: https://www.mercycorps.org/sites/default/files/2020-01/Adaptive%20management%20paper_external.pdf Navigating adaptive approaches for development programmes: https://media.odi.org/documents/202009_learnadapt_navigating_adaptive_approaches_wp.pdf

Annex B: Case examples

Box B.1: Mamas del Rio health innovation

Mamas del Rio health innovation

1. What is the case about?

Mamas del Rio is a health innovation focused on improving maternal and child health in the Amazonian regions of Peru and Colombia. The programme was initiated in response to the lack of access to medical care, including the absence of basic resources like pregnancy tests, experienced by women in the Amazon. The core intervention involves training and equipping CHWs to conduct home visits, provide education and support essential newborn care. The programme emphasizes community empowerment and the integration of traditional practices, such as the involvement of traditional birth attendants and godmothers or *madrinas*.

A key component of Mamas del Rio is the use of technology, specifically tablets with an application, to aid in data collection and information dissemination. The innovation also incorporates community-generated health information through digital stories and photo storytelling to improve the relevance and impact of health education. Mamas del Rio has evolved into a broader NGO called Ikara, which means a healing song in Indigenous Amazonian cultures. Ikara advances research and programmes in Indigenous, Amazonian and rural health, covering issues such as community empowerment, mental health, adolescent pregnancy prevention, environmental and human health contamination, and climate change and Indigenous adaptation, all with a focus on improving the health and well-being of women and their families in the Amazon.

2. What roles did the government play in scaling the original innovation?

The scaling of Mamas del Rio involved collaboration with government entities, primarily in Peru and Colombia. In Peru, the programme initially received funding from the Peruvian Council of Science and Technology, a governmental entity that promotes science. The Ministry of External Affairs of Peru and Colombia also played a significant role in scaling the innovation, providing funding and support to extend the programme to the border region between the two countries.

The Ministry of Health of Colombia was also a key partner, involved in adapting and implementing the intervention in Colombia. Currently, there is an effort to influence policy in Peru by working with parliament to change the law for CHWs. The advocacy focuses on securing their formal recognition as part of the health system, along with provisions for incentives, improved training and supplies, regular supervision, health insurance, funeral coverage and fair compensation. Influencing policy and securing government support has been a critical process, involving engagement with politicians, government officials and other stakeholders.

3. Which processes were involved?

The scaling of Mamas del Rio involved several key processes, including exploring. The programme

emphasizes rigorous research and the generation of scientific evidence to support and guide the intervention. The programme has demonstrated the ability to adapt to different contexts, as seen in its implementation in Colombia, where adjustments were made to account for legal and cultural differences. In addition, the use of digital technology, including cell phones, tablets and data applications, has been integral to the programme's implementation and scalability.

4. Worth Noting

The case is also an example of cross-border collaboration. The expansion of Mamas del Rio to Colombia required collaboration between the governments and health authorities of Peru and Colombia. Across the various processes, community engagement was emphasized. A core principle of Mamas del Rio is the active involvement of the community in the design, implementation and evaluation of the programme.

Box B.2: M-mama programme, the United Republic of Tanzania

M-mama programme, the United Republic of Tanzania

1. What is the case about?

The M-mama programme in the United Republic of Tanzania is a comprehensive emergency transportation system that uses digital technology to address delays in reaching health care facilities through transportation of women, especially pregnant women and newborns. The programme utilizes a toll-free number that community members can call to request transport. Initially, the programme used government ambulances, but it was later expanded to include private vehicles to increase efficiency and community ownership. The M-mama programme has significantly improved access to health care services, reduced maternal and child mortality, and has been scaled up from a pilot project to a nationwide initiative. It is now being implemented in the Kingdom of Lesotho, with preparations underway for its launch in the Republic of Kenya and Malawi.

2. What roles did the government play in scaling the original innovation

The Tanzanian government played a key role in scaling the M-mama programme from its initial proof of concept to national implementation. It was an innovation steward by adopting the M-mama innovation and endorsing its sustainable scaling up from initial pilot phases to nationwide implementation. Government bodies, such as the Commission of Science and Technology (COSTECH), acted as governance designers and oversaw the innovation process and fostered collaboration between public and private sectors through different models, including blended financing. The government, as a policy-maker, created a supportive policy environment that enabled the implementation and scaling up of the M-mama programme.

3. Which processes were involved?

The scaling of the M-mama programme involved several important processes. The government explored the innovation through an initial pilot study in one district, then scaled to five districts, allowing for testing solutions and refinement before national implementation. The programme partnered with private car owners to expand the transportation network. The government adapted the innovation by integrating the M-mama programme into the broader health care system to improve emergency transportation and referral services. Digital technology was used to create an efficient and accessible emergency transportation system through the establishment of dispatching centres. Learning was evident through the use of data and research findings to inform programme design, policy formulation, implementation and scaling decisions. Additional processes included political advocacy and buy-in. Securing political support and buy-in from key stakeholders, including the president of the United Republic of Tanzania, who did a national launch, ministers, and regional and district commissioners, was crucial for successful scaling-up. Part of learning was documentation and knowledge sharing. Publications and reports were used to document the programme's processes, outcomes and lessons learned, facilitating knowledge sharing and replication. Analysis of the programme's implementation indicates that the transportation system may have contributed to a 38% reduction in maternal and neonatal deaths. Evidence from this innovative approach highlights that cross-sector and multisector collaboration is essential for the sustainable scale-up of the m-mama programme.

Box B.3: JSY Maternal Health Programme, India

JSY Maternal Health Programme, India

1. What is the case about?

The Janani Suraksha Yojana (JSY) programme in India is a demand promotion scheme designed to reduce maternal mortality by increasing institutional deliveries. In the early 2000s, India faced a high number of maternal deaths, with many occurring due to complications during childbirth that were not being addressed promptly. A key factor was the low rate of institutional deliveries, with many women, especially those from poor and rural areas, opting for home births with untrained traditional birth attendants.

To address this, the JSY programme was launched, providing cash incentives to women who delivered in public health institutions, compensating them for lost wages. Simultaneously, the ASHA programme was introduced, training CHWs to mobilize pregnant women to access institutional care. Over time, additional schemes and initiatives were added to complement JSY, including the Janani Shishu Suraksha Karyakram (JSSK) programme to provide free and no-cost delivery services and quality assurance programmes. The programme also spurred the creation of a national ambulance service and the implementation of electronic fund transfer systems.

2. What roles did the government play in scaling the original innovation?

The Indian government, particularly the Ministry of Health and Family Welfare, played a central role in scaling the JSY programme.

As a policy-maker, the government designed and launched the JSY and related programmes, embedded within the National Health Mission (NHM). As a funding enabler, the NHM provided dedicated funds to support the JSY programme. A core strategy of the JSY programme was to stimulate demand for institutional deliveries through conditional cash transfers. Notably, the NHM shifted from a top-down to a bottom-up approach, providing states and local health facilities with greater autonomy and flexible funding.

Further, the government, as a governance designer**,** established mechanisms for programme implementation, monitoring and reporting, including an HMIS. As an innovation steward, the government adapted and expanded the programme over time, introducing new initiatives to address challenges such as fund disbursement delays, quality of care issues and transportation barriers.

As a capacity builder, the government ensured the programme included training and capacity-building for health workers, ASHA workers and other stakeholders to improve the quality of care and service delivery.

3. Which processes were involved?

The scaling of the JSY programme involved several key processes, including exploring, as the programme was informed by data analysis and research, which was crucial in understanding the problem, identifying key interventions and monitoring progress.

The ASHA programme adapted by emphasising community involvement, with ASHA workers selected and trained within their communities to bridge the gap between the health system and the population. The JSY programme was scaled up in phases, starting with 10 high-focus states and then expanding to other regions, demonstrating a strategic approach to scaling.

4. Worth Noting

The programme evolved over time, with the government introducing complementary schemes and addressing bottlenecks to enhance its effectiveness and impact.

Box B.4: SingHealth, Singapore

SingHealth, Singapore

1. What is the case about?

SingHealth, one of Singapore's largest public health care clusters, is actively committed to driving innovation and effectively scaling new solutions within its extensive system. With a staff of 33,000, SingHealth, through its Division of Innovation and Transformation, plays a pivotal role in cultivating an innovation ecosystem and building a culture of innovation. A longstanding partnership between SingHealth and the Duke-NUS Medical School has led to the establishment of the SingHealth Duke-NUS Academic Medicine Innovation Institute, which convenes innovators, formulates innovation strategy and administers grants to support novel health care solutions. These grants are diverse and partner with philanthropic foundations and government agencies – the grants range from pre-seed and seed grants, test-bedding and adoption grants to commercialization and translation grants. Notably, there is support specifically allocated for critical members of the health system who are typically underrepresented in innovation, such as nurses and allied health professionals, alongside doctors and medical students.

2. What characterizes this case?

A key aspect of SingHealth's innovation strategy is its Medtech Office, which focuses on the development, productization, commercialization and adoption of medtech innovations, including SAMD (software-as-a-medical device). Another key office is the Impact Assessment Unit, which is part of the SingHealth Duke-NUS Academic Medicine Innovation Institute, responsible for triaging incoming projects, providing guidance for prioritization as well as adoption and scaling. This unit also works alongside selected projects to guide data collection and inform cost-benefit and cost-effectiveness analyses.

SingHealth works with the A.L.I.C.E (Alice Lee Innovation Centre of Excellence) network, funded by a philanthropic gift of SGD 50 million from the Lee Foundation. These centres serve as one-stop shops for partnering with outside entities, facilitating the codevelopment of solutions. Strong partnerships exist between the SingHealth Division of Innovation and Transformation and internal stakeholders, such as the Nursing Innovation and Transformation Steering Group. The group chief nurse co-chairs this group alongside the group director (innovation and transformation), demonstrating the group chief nurse’s commitment to innovation and visibly leading from the front. This identifies and supports projects from the ground up, as well as guides top-down, cluster-wide transformation projects. Collaborations extend to public sector agencies, private sector companies and national programmes.

SingHealth explores and nurtures innovation through both internally driven and outside-in approaches. Internally driven innovations can be bottom-up or top-down.

Bottom-up innovations often emerge organically from practitioners identifying and solving problems in situ. An example is an AI-guided ultrasound developed by an anaesthesiologist to accurately identify spinal landmarks for epidural administration, significantly improving accuracy, especially for obese patients, where traditional methods have a high failure rate. These projects often gain attention through internal grant applications, but innovators are also connected to the A.L.I.C.E network and other innovation offices in the SingHealth Duke-NUS Academic Medical Centre.

Top-down innovations are initiated or sponsored by SingHealth leadership to address system-wide challenges. An example was a telemedicine task force that looked at telemedicine across the cluster. Another was the development of an iPad app for patients and caregivers to address inadequate nursing manpower. This app provides patient education, meal ordering, patient requests, scheduling and test results. This involved establishing a work group, iterative development with developers, tracking adoption rates and working with IT. This project received 50% funding from the Ministry of Health and 50% from SingHealth, indicating a collaborative yet independently driven approach.

To deliver innovative and excellent care to patients, SingHealth also works with external partners (scientists, engineers and startups) to partner on outside-in innovations. The focus here shifts to how these products can be applied within SingHealth's system. The mode of collaboration could include codevelopment or test-bedding of these solutions, with the potential for codevelopment of foreground intellectual property.

3. Which processes were involved?

SingHealth’s scaling process used a phased and collaborative approach. It is characterized by a structured yet iterative methodology, involving exploring. Rigorous and objective evaluation processes are crucial to identify projects worthwhile for scaling, ensuring resources are allocated effectively. This involves establishing insight into documented health demands and discovering promising innovations that match these needs.

Another phase is facilitating or adapting. This phase involves significant collaboration with various partners, focusing on resource allocation (funding and manpower), project management, infrastructure creation and network development. Continuous iteration is key, as exemplified by the partnership with the National Supercomputing Centre of Singapore, led by the deputy group chief medical informatics officer, to bring in sufficient computing power for large data. The process of adapting innovations to fit the national and local context is also critical. SingHealth leans on university partners, other government agencies (e.g., national research institutes) and international health systems. Internal partnerships and advocacy are also essential for orchestration and governance. SingHealth illustrates how the public sector's role is vital, driven by impact and seeks like-minded partners.

Box B.5: MomConnect Programme, South Africa

MomConnect Programme, South Africa

1. What is the case about?

MomConnect is a national programme in South Africa that uses mobile technology to improve maternal health outcomes. It was initiated in 2014 to address the high maternal mortality rate in the country and to improve the utilization of maternal health services. The programme delivers stage-based health information to pregnant women via SMS and WhatsApp, operates a help desk for inquiries and includes a feedback mechanism for women to rate services and provide compliments or complaints.

2. What roles did the government play in scaling the original innovation?

The South African government, particularly the National Department of Health, played a crucial role in scaling the MomConnect programme. Its role included policy-making and innovation stewardship**.** The minister of health at the time, Dr Aaron Motsoaledi, championed the programme, ensuring buy-in from provincial health leaders and providing strategic guidance. Additionally, the deputy director general (DDG) of maternal and child health was given high-level responsibility for overseeing the programme's implementation.

3. Which processes were involved?

The scaling of MomConnect involved several key processes, including adaptation and learning.

The programme was adapted from the Mobile Alliance for Maternal Action (MAMA), which was implemented in South Africa in 2011 and was handed over to the South African government in 2013. MAMA was also implemented in India, Bangladesh and Nigeria. The lessons from MAMA were integrated into MomConnect to fit the South African context, considering cultural factors and resource availability. MomConnect was integrated into the South African public health system to improve service delivery and responsiveness. While not a traditional pilot, the programme was rolled out strategically as a phased implementation, with continuous monitoring and adjustments based on user feedback and data.

The National Department of Health collaborated with various stakeholders, including provincial health departments, health care workers, academics, nonprofits and mobile network operators, to ensure effective implementation and sustainability.

Mobile technology (SMS and WhatsApp) was leveraged to reach a large number of women, provide information and facilitate communication.

The National Department of Health exhibited learning by actively monitoring the programme's implementation and outcomes, using feedback from users and conducting research and impact evaluations. User feedback and research findings were used to continuously improve the programme and address challenges.

Box B.6: Building government capacity for scaling: Quebec’s innovation office

Building government capacity for scaling: Quebec’s innovation office

1. What is the case about?

Quebec's Ministry of Health and Social Services has established an Office of Innovation, which serves as a compelling case study of a government entity deliberately building capacity to address the challenge of scaling health innovations. The evolution and activities of this office highlight a strategic shift towards a more proactive and structured approach to moving promising innovations from pilot stages to wider implementation across the provincial health system.

The Office of Innovation was initially established around 2018, with a small team positioned at a high level, reporting directly to the minister. This initial setup, part of the provincial life sciences strategy, was primarily focused on connecting the health care system with an external offer from the ecosystem, helping companies showcase their solutions. However, a significant shift occurred, accelerated by the COVID-19 pandemic, leading to the office's integration into the ministry in 2021 and the creation of a new governance structure for innovation in 2022. This restructuring marked a move towards embedding innovation as a core part of the health system's vision, particularly in the post-pandemic era.

2. What roles did the government play in scaling the original innovation?

A key characteristic of the restructured office is its strong emphasis on demand-led scaling. Recognizing that many super innovations were being developed locally but failing to scale system-wide, the office pivoted its focus to building capacity for identifying and articulating the system's needs and then actively seeking or supporting innovations to meet those needs. This involves a deliberate process of mapping needs, defining them in detail and launching calls that specifically respond to these identified demands. The office is actively developing a methodology and documenting this demand-mapping process to formalize it within the system. The office operates with a lean, cross-disciplinary team at the central ministry level, comprising individuals with diverse backgrounds including engineering, innovation management, communication, law, procurement and clinical expertise (nursing, ambulance services and genetics). This diverse skill set is seen as necessary for navigating the complexities of health innovation scaling, which involves technical, clinical, regulatory, financial and human factors.

A crucial aspect of Quebec's approach is the development of a robust governance model and network that extends beyond the central office. A high-level steering committee, including assistant deputy ministers and presidents of major university health centres, provides strategic direction and prioritizes areas for innovation efforts (e.g., ageing, primary care and access to specialized medicine). Complementing this strategic level is a network of designated innovation respondents and offices within health establishments, which is crucial for driving change on the ground and challenging the status quo across Quebec. The central office has actively worked to build the capacity of these regional/local teams, providing training in innovation management.

While facing challenges, particularly regarding the lack of dedicated funding mechanisms for demand-led initiatives and the complexities of procurement, the office is actively working to build the case for

dedicated funding mechanisms for demand-led initiatives and to formalize processes for evaluating and scaling innovations.

3. Which processes were involved?

In terms of learning, the Office of Innovation is developing a common evaluation framework in collaboration with the National Institute of Excellence in Health and Social Services (INESSS) to ensure consistency in assessing the value of innovations. The office is also supporting mid-scale implementation projects involving multiple establishments to build a stronger business case before provincial-level scaling. Examples of innovations the office has been involved with include supporting a robotization initiative youth services programme that originated locally and was scaled provincially and facilitating the adoption of an AI-based oncology solution in multiple establishments. The office is also directly involved in structuring the evaluation and implementation of breakthrough technologies requiring significant changes in practice across several sites.

This case demonstrates a government actively trying to move beyond ad-hoc innovation adoption towards a more systematic and enabled approach to scaling.

Box B.7: Scaling AI chest X-ray triage for tuberculosis

Scaling AI chest X-ray triage for tuberculosis

1. What is the case about?

Tuberculosis (TB) remains one of the leading infectious disease killers worldwide, particularly in low-resource settings where access to timely diagnosis is limited. To address this challenge, AI has been applied to chest X-ray interpretation through computer-aided detection (CAD) models. These models automatically analyse digital chest X-rays and flag images that suggest TB, enabling faster triage and referral for confirmatory testing such as Xpert MTB/RIF.[1]

Pakistan was one of the first countries to adopt this innovation at scale. With support from the Global Fund and its National TB Programme (NTP), Pakistan deployed mobile chest X-ray units equipped with CAD software to conduct community-based screening campaigns. Between 2017 and 2021, over 1.2 million individuals were screened across more than 11,000 mobile camps, resulting in the detection of over 7,600 TB cases. The success of this initiative demonstrated the feasibility of integrating AI into public health workflows and laid the foundation for broader adoption. By 2025, AI-enabled TB screening had expanded to more than 20 countries, with over US$193 million invested in scaling efforts. WHO now endorses CAD as a viable alternative to human readers for TB screening and triage.

2. What roles did the government play in scaling the original innovation?

The government of Pakistan played a multifaceted role in scaling the CAD innovation, consistent with the WHO's framework for scaling health innovations. As a policy-maker, the government integrated CAD into national TB screening protocols, which aligns with WHO recommendations of ensuring that the innovation was embedded within broader health strategies. It also acted as a governance designer, coordinating across ministries, donors and implementing partners to establish structured decision-making processes and ensure that resources were effectively allocated.

In its role as an innovation steward, the government championed the adoption of CAD, mobilizing stakeholders and maintaining momentum throughout the scaling process. Regulatory adjustments were made to accommodate the use of AI tools, including updates to procurement standards and quality assurance mechanisms. The government also invested in capacity-building**,** training health workers to operate mobile X-ray units and interpret CAD outputs. As a funding enabler, Pakistan partnered with international donors to secure financing for equipment, software and operational costs. Finally, the government played a key role as a communicator, promoting the benefits of CAD and engaging communities to reduce stigma and encourage participation in screening campaigns.

3. Which processes were involved?

Pakistan's pilot demonstrated high yields in TB detection, particularly among underserved populations. CAD software was calibrated to local epidemiological patterns, and mobile units were deployed to reach remote areas. This phase helped establish the feasibility and effectiveness of the innovation in real-world settings. CAD tools were integrated into existing workflows, with adaptations made to accommodate infrastructure limitations, workforce capacity and diagnostic algorithms. Lessons learned from Pakistan's implementation informed adaptation in other countries, allowing for context-specific modifications that improved efficiency and impact. Learning involved continuous monitoring and evaluation, which guided policy updates, resource allocation and training needs. Data collected from screening campaigns were used to refine implementation strategies and ensure that the innovation remained responsive to evolving public health needs.

4. Worth Noting

One of the most significant outcomes of scaling CAD for TB screening has been its impact on equity. The innovation has dramatically improved access to TB diagnosis for marginalized groups, including refugees, prisoners and rural populations – communities that are often missed by conventional health systems. CAD tools have also shown potential for detecting other lung diseases, enhancing their utility and cost-effectiveness.

The initiative reflects a mission-oriented strategy, combining top-down policy direction with bottom-up community engagement to achieve systemic health impact. By embedding CAD into broader health system strengthening efforts, governments are not only scaling a tool but transforming service delivery. The endorsement by WHO further legitimizes the innovation and encourages its continued expansion across high-burden countries.

Annex C: Methodological approach

The guidance and toolkit were developed based on research on existing global literature, including emerging best practices from empirical case studies and consultations with health innovation experts and practitioners.

As the field of scaling health innovations within and across public systems is a highly specialized and still developing field, it has from the outset been expected that there would be a need to look to neighbouring fields of research and practice to identify frameworks, methodologies and cases relevant to the development of the WHO Guidance and Toolkit *(54)*.

Further, given the relatively maturing nature of the field, the body of peer-reviewed academic literature is still emergent and evolving. This has been confirmed in the initial phases of the research via conversations with leading scholars, practitioners and government officials in and outside WHO. Three key sources informed the guidance and toolkit: a comprehensive literature review, a range of stakeholder consultations and contributions from an international expert group.

Literature review

A comprehensive scoping review of state-of-the-art literature on scaling innovation in health care was conducted. The purpose of this literature review was, firstly, to review existing academic peer-reviewed literature as well as grey (non-academic) literature, focusing on the role of government in enabling the scaling of innovation, to identify what literature exists on the overall topic and what characterizes it. Secondly, the purpose was to map the current state of the literature with regard to the main factors influencing scaling of innovations in public sector health systems, with a specific focus on the role of government actors.

The work included peer-reviewed academic literature drawn from key journals as well as a range of grey literature covering research, studies, toolkits and methods. The review identified 43 highly relevant sources, which were assessed and analysed.

Stakeholder consultations

Key stakeholders were engaged in multiple ways to develop and qualify the guidance and toolkit. Consultations were carried out with seven end users (i.e., representatives from health care authorities and systems at country and regional levels).

The choice of informants was made in consultation and based on the following criteria: geographical spread (across all WHO regions); positive deviant actors *(21)* who have unique experience in overcoming barriers and succeeding with scaling innovation in the public sector – preferably but not exclusively in the health sector; and experience with the different processes and institutional conditions. The interviews were 1–2 hours in duration and carried out online. The interviews were conducted using a semi-structured guide to leave room for individual, contextual reflections from informants. Selected case examples are provided throughout the guidance and are included in Annex B.

Expert group

The guidance and toolkit were developed in close collaboration with an expert group convened by the WHO Innovation Hub (from September 2024 to September 2025), consisting of practitioners and scholars from the global health innovation community. The group contributed across three interactive online seminar sessions as well as with input and feedback to the literature review. The composition of the expert group is described in the acknowledgements section.

Finally, a range of meetings, workshop sessions and interviews were conducted with the WHO Innovation Hub and key WHO staff.