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*Digital Square is a PATH-led initiative funded and designed by the United States Agency for International Development, the Bill & Melinda Gates Foundation, and a consortium of other donors.*

*This strategy is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of PATH and do not necessarily reflect the views of USAID or the United States Government.*
**Introduction**

Digital Square is a PATH-led initiative that focuses on creating better alignment to accelerate health equity through digital health innovation. This initiative brings partners together to improve how the global community designs, uses, and pays for digital health tools and approaches. By strengthening coordination within the global community, Digital Square reorients the market to better match tools and approaches to the needs of countries and communities.

In this document, Digital Square outlines the vision, theory of change, and role of the initiative to increase understanding of both why the Digital Square initiative exists and how Digital Square works. The strategy is divided into sections addressing each of these components:

- **The Digital Square Vision.** Building from the Digital Square Manifesto published in 2019, the first section of this strategy outlines the large-scale impact that Digital Square hopes to contribute to and current barriers to creating this impact.

- **The Digital Square Theory of Change.** The theory of change presented in this strategy illustrates how a more aligned and coordinated digital health sector can contribute to health outcomes.

- **Digital Square’s Role.** The final section of this strategy outlines the three primary workstreams of the Digital Square initiative: Alignment & Co-Investment, Global Goods, and Regional & Country Systems. For each of these workstreams, the strategy presents activities that are in-scope and out-of-scope for the initiative. The strategy also includes priorities and learning questions associated with each workstream.

This strategy is intended for partners, donors, and other stakeholders within the digital health community, both those who are already working with Digital Square and those who are interested in further understanding its role within the sector. The Strategy intends to build a common framework for Digital Square and its partners and to provide transparency into the motivation and goals of the initiative.

**Digital Square Vision**

**Building a more equitable world**

*Digital Square envisions a world where the appropriate use of digitally enabled health services closes the health equity gap.*

In this world, individuals have the information they need to manage their health and know when and where to seek professional care. Health worker shortages and medical stock-outs no longer plague health systems. Governments and private providers deliver efficient, high-quality health services, affordably extending coverage to everyone. Governments better allocate their resources, both financial and otherwise, ensuring health systems meet the needs of communities. Families are not mired in poverty from their health bills. And importantly, health innovations no longer take 20 or more years to cascade from the earliest adopters to widespread use.
Digital health innovations are increasingly disrupting the health sector in high-resource countries by delivering services that transform the quality and length of life. In some communities today, individuals manage their wellness via smartphones and wearables that track critical health metrics and provide insights that strengthen nutrition, mental well-being, and care-seeking decisions. Health providers use robust, individual-level information captured in electronic health records to customize care. Groundbreaking medical innovations—like cancer treatments tailored to specific genetic profiles with machine learning and cloud processing—are transforming the way we treat disease. Digital health is an amplifier, but these innovations risk widening the gap in health equity if access is not universal. It is up to us—the global community—to ensure that its power moves health equity forward.

**Taking stock of where we are**

While there have been extraordinary gains in health equity since the 1990s, disparities caused by social, economic, and geographic forces remain. Digitally enabled health services have the potential to close this gap by overcoming these equity barriers.

> While digital technology can improve health outcomes, particularly in low-resource settings, a fragmented landscape of actors and interests working to implement digital health solutions can lead to a lack of coordination, waste, and unrealized benefits.

— National Academies of Science, Engineering, and Medicine

**Country and regional leaders face barriers to the digital transformation of health systems.**

In 2018, WHO Member States unanimously passed the Resolution on Digital Health, demonstrating the interest in and commitment to the digital transformation of health systems. Digital transformation refers to the strategic integration of digital technologies and associated change management capabilities to strengthen systems, increase their efficiency, and improve the quality and access to services.

However, countries with fewer resources face a particular set of challenges in this transformation—some have populations in areas with poor infrastructure, inadequate capacity to use and maintain digital health interventions, or lack policies and governing bodies designed to protect populations from misuse of digital health interventions.

Even when these foundational building blocks are in place, providers of health services struggle to identify and pay for digital health products and services that meet local needs, are of high technical quality, and are affordable at scale. On the implementation side, many investors and service providers look for opportunities to ‘leapfrog’ existing processes, but these opportunities tend to be risky and rarely appropriate for resource-constrained contexts. On the software side, investors have shied away from funding core software development. Without a deep technical knowledge of computer science or the ability to rapidly evaluate early successes, investors are uncomfortable with the high up-front expenditure and level of risk. The digital health community...
has struggled to articulate why core development is a key enabler for health impact, particularly to those investors without a computer science background.

Digital health must be an integral part of health priorities and benefit people in a way that is ethical, safe, reliable, equitable and sustainable… with accessibility, scalability, replicability, interoperability, and security in mind

– World Health Organization: Draft Global Strategy on Digital Health

To unlock the full value of digital technologies, increased attention to and investments in the human, institutional, and policy and regulatory enabling ecosystems are required.

- USAID: Fighting Ebola With Information

Many pilots are not followed by full-scale implementation due to a lack of sustainable financing, high risks for individual stakeholders and long time-to-market for commercial solutions.

- GSMA: Scaling Digital Health in Developing Markets

As a result, the story of digital health contains failed pilots, unscalable solutions, privacy violations, and short-lived ideas, which have created skepticism and resistance to digital health interventions.

There are many barriers to the equitable use of digitally enabled health services. From access at the individual level to resourcing at the national level to fragmentation and misalignment at the global level, these barriers collectively compound efforts to improve health in marginalized communities.

**Digital Square has identified three barriers where it can have the most influence:**

1. Inadequate alignment of actors pursuing the digital transformation of health, leading to large inefficiencies in digital health investments
2. Inadequate investment into scaling digital health innovations beyond the pilot stage, and maturing them into global goods, resulting in loss of trust from countries when pilots are unable to replicate small-scale successes at scale
3. Country health leader demands for information, knowledge, and skills are not being met, and information asymmetries lead to misalignment around national digital health strategies

These three challenges often prevent the long-term success of strong digital health systems and the effective use of data for national and sub-national decision making. By addressing these challenges, Digital Square contributes to the global efforts working to strengthen health services to achieve health equity, universal health coverage, and the Sustainable Development Goals.
A Digital Health Theory of Change

Digital Square has developed a theory of change (Figure 1) to explain the core activities of the initiative and how these activities contribute to improved health systems and health outcomes. The theory of change illustrates the value proposition of digitally enhanced health care and Digital Square’s contribution to that value proposition.

The theory of change is structured around three stages: alignment among digital health actors, improved information production and use, and improved health access, quality, and efficiency. This section explains each of these three stages and how they lead from one to the next.

Alignment among digital health actors can catalyze digital transformation.

Using digitally enabled health services effectively requires the digital transformation of an inclusive health system. In the context of health systems, digital transformation is intended to strengthen core functions and should be supported by and aligned with overall national health strategies, specific national digital health strategies, the Principles for Digital Development, and the Principles of Donor Alignment for Digital Health.

Digital transformation requires an aligned and coordinated health community including:

- **Investors** who influence policy and develop corporate partnerships; develop, advocate for, and fund solutions; and pursue aligned, coordinated investments informed by global policymakers, communities, health workers, and/or decision-makers
- **Global goods innovators and implementers** who support digital transformation with mature digital health global goods and services in compliance with global policy-maker guidance, and in response to needs articulated by communities, health workers and decision-makers
- **Decision-makers** who identify opportunities to use global goods in their specific context; and support digital transformation when they have the skills, ability, motivation, and information to lead digital transformation efforts and influence global decisions
- **Communities and health workers** who support digital transformation when they have the skills, ability, motivation, and information to inform national and global decisions and provide digitally enabled health services
- **Global policymakers** who develop evidence-driven standards and policies for digital health; own, diffuse, and adapt guidance; and enforce and influence curricula supporting digitally enhanced health care

Working together, these digital health actors collectively ensure that digital interventions are aligned and responsive to the needs of communities, health workers, and decision-makers; capture the technical talent of the global goods innovators and the knowledge of global policymakers, and are affordable for investors and decision-makers.
Digital transformation strengthens the health system by improving the data use cycle and empowering people to make evidence-informed decisions.

When designed with appropriate people, process, and culture changes, digital health can enable improved data production and exchange in the following ways:

- Improving the *timeliness, accuracy, and completeness* of data collection, management, and sharing through unique identifiers, data validation checks, automation, common data standards, maintenance of health records
- Increasing the *plurality of actors* that can participate in timely information exchange through the development, identification, and promotion of open standards
- Increasing the *plurality of data sources* that are linked through interoperable solutions through the adoption of open standards in the digital health infrastructure and point of service systems
- Increasing the *directionality* of information exchange (e.g., from community case reporting “up” to health facilities, reporting “down” to health workers for real-time decision support, or “horizontally” between health workers at neighboring facilities)
- Increasing the *nodes* of information exchange (e.g., one to many, many to one, or many to many) in a scalable way through centralized services with open standards and architectures
- Improving patient and provider *access* to data through electronic health records, dashboards, and decision support tools

The improved flow of information allows the right information to be available and accessible to the right person at the right place and time, thereby enabling information use. Communities, health care providers, or health system managers can use information to improve the way care is monitored, accessed, or delivered. Digital solutions can improve data analysis, decision-making, and evidence-based action through:

- Supporting *decision-making* through clinical decision-support tools, provider alerts, or direct-to-patient communication
- Improving the *timeliness, affordability, and ease* of data analysis through interoperable systems, cloud-based visual analytics, and near-real-time data sharing
- Incentivizing and increasing *accountability* for evidence-based decision-making through systems that support the clinical workflow and generate actionable data for patient monitoring and provider performance management
- Increasing *trust* in the data through adherence to data standards and quality checks

Evidence-informed decisions accelerate outcomes at all levels of the health system to drive toward high-quality health care and health impact.

When individuals, communities, and providers use the information captured in a digitally enhanced health care system, their behavior change can deliver accountable, affordable, accessible, and reliable health care. For example:
**Giving individuals and communities more control over their health.** Digital platforms democratize the insights that can be gained from health data in unprecedented ways, allowing individuals and communities to play a more prominent role in their health.

Two studies in Australia demonstrated improved awareness on how to prevent sexually transmitted infections and reduced risky behavior following SMS-based outreach. Additional research has revealed important opportunities to increase the agency of individuals and communities, from preventing infectious diseases to increasing healthy behaviors, in Vietnam, Tanzania and Zambia, South Africa and Uganda, Kenya, Cambodia, Peru, the United Kingdom, the United States, and Ecuador.

**Improving quality and increasing efficiency of service delivery.** In low-resource settings with health worker shortages and financing challenges, digital platforms improve health worker productivity, support efficient resource allocation, and standardize aspects of service delivery to ensure quality.

In Tanzania, digital, de-duplicated data collection and automated reporting saves health workers 10 hours per month on average which is time that they can then spend on clinical care. Gains in service delivery efficiency and quality have also occurred in India, Bangladesh and Mali, the United States, the Dominican Republic, China, Malawi, Germany, and Ghana. Some country governments have saved millions of dollars lost to fraud by digitizing their human resource and financial systems.

These drivers of high-quality health care are interrelated and mutually reinforcing. For example, digital tools can reduce health care worker time and associated cost spent on data entry tasks, and that time can be repurposed to provide reliable care. As the quality of care improves, citizens’ trust in the health system may improve, which can increase demand. Ultimately, as more people in low resource countries access health care, and the health care that is provided is of high quality, Digital Square expects to see improvements in individual- and population-level health outcomes.
Figure 1: Draft Digital Square Theory of Change

Alignment among digital health actors can catalyze digital transformation.

Digital transformation can strengthen the health system by improving the data use cycle and empowering target users...

...which can accelerate outcomes at all levels to drive toward high-quality health care and health impact.

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**Decision-makers**
- Have the skills, ability, motivation, and information to influence global approaches and adapt them to local context

**Investors**
- Align and coordinate resources toward a ground-up approach

**Global policymakers**
- Develop evidence-driven standards; own, diffuse, and adopt guidance; endorse and influence curricula

**Global goods innovators**
- Mature their global goods, which add value to holistic country architectures

**Communities and health workers**
- Have the skills, ability, motivation, and information to inform ground-up approaches and provide health services

**Foundational elements**:  
- National health strategy/plan  
- National digital health landscape and strategy  
- Principles for Digital Development  
- Principles of Donor Alignment for Digital Health

**WHO Classification of Digital Health Interventions**:  
- Data governance and responsible data use  
- Health equity (including gender) considerations

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**Core health system functions**:  
- Human resources for health  
- Health finance  
- Health governance  
- Health information  
- Medical products, vaccines, and technology  
- Service delivery

**Data use cycle**:  
- Data production, knowledge flows, and exchange  
- Information use for management, planning, budgeting, and delivering services

**Behavior change at all levels**:  
- Citizens/communities can access information and services to manage their health  
- Health providers are accessible and have information to provide high-quality care  
- Health system managers match available resources to needs so that resources are available at the point of care

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**Contextual factors**: Health equity (including gender), global initiatives, civil/political unrest, disease outbreaks, socioeconomic status, natural disasters, privatization, decentralization, etc.

*The communities and health workers actor group is greyed out because Digital Square does not engage directly with these digital health actors.*
Digital Square’s Role in the Digital Health Sector

Digital Square is a digital health marketplace—or ‘square’—where supply and demand come together to accelerate health equity through the development, adoption, scale, and delivery of digital health innovations in low-resource countries.

Vision
A world where the appropriate use of digitally enabled health services closes the health equity gap

Mission
Connect health leaders with the resources necessary for digital transformation

Digital Square plays a unique role, creating a platform where all voices in the digital health sector can be heard, and where investment, innovation, and impact can be better aligned. The initiative helps investors, decision-makers, and innovators learn about high-quality, trustworthy digital health global goods that are appropriate for low-resource settings. Decision-makers can access opportunities to grow their digital skills and strengthen their digital procurement processes through professional networks, workshops, and certification programs. Innovators can design solutions using open standards and clearly documented business and technical requirements specific to low-resource settings, and secure the financing needed to meet those requirements. Finally, Digital Square’s investors achieve a double-bottom-line on their investment—they give communities faster access to digitally-enhanced healthcare and open new markets for existing software solutions.

The following sections explore Digital Square’s three primary workstreams, including what success looks like for each, activities Digital Square does, activities Digital Square does not carry out directly, priorities of the initiative for 2020, and learning questions that will continue to shape these priorities.

Alignment & Co-Investment

DIGITAL SQUARE HELPS TO IDENTIFY PROMISING INVESTMENT OPPORTUNITIES AND PROVIDES OPERATIONAL SUPPORT TO STREAMLINE PROCUREMENT.

Successful alignment includes:

- Partners working towards a shared digital health vision, and a shared approach to developing technical scopes of work
- Investors using coordination and pooling mechanisms to defragment investments intended to scale digital health interventions
- Investors supporting national country digital health strategies, as stated in the Principles of Donor Alignment for Digital Health


To achieve this alignment, Digital Square is:

- **Supporting a shared vision.** Digital Square tracks and aligns our work to global policies, guidance, and other documents, and advocates for our investors and the broader community to do the same. The initiative leverages our more than 200 active stakeholder relationships to identify information asymmetries that prevent alignment or erode trust. Digital Square advocates for investment to close gaps and diffuse information across the eco-system to strengthen trust and deepen alignment. Finally, Digital Square serves as a secretariat in multi-stakeholder coalitions, supporting a neutral, trusted marketplace with no vested interest in a specific aspect of the market.

- **Growing the overall digital health sector.** Digital Square engages in targeted advocacy efforts to encourage new investors to support digital health. Digital Square partners with our donors, the Digital Square Board, and PATH’s Executive Team to connect to new people and organizations that are interested in this sector and explore with them what evidence would help them decide whether to invest in this space. The initiative promotes the expansion of global goods with new software vendors and implementing partners. Finally, Digital Square works with non-traditional partners including the private sector to increase the available digital technologies and approaches in low-resource contexts.

- **De-risking investment into digital health by making high impact opportunities visible.** Digital Square has invested in a strong technical team and the infrastructure within our initiative to facilitate robust procurement processes that yield high-quality investment opportunities. In particular, the Open Application Process has incorporated significant transparency, technical expert review, and agility in both the application and implementation phases. The initiative balances this approach with the rules, regulations, and requirements of a variety of investors, utilizing 42+ years of operational experience and infrastructure from our host organization, PATH. Digital Square offers multiple ways of coordinating investments to make coordination easier for investors—spanning from pooled procurements to discreet investments against a common workplan.

Just as important as understanding what Digital Square does, is understanding what Digital Square does not do. Digital Square does not:

- **Create policies, guidance, or principles.** Digital Square may serve a secretariat or participate in multi-stakeholder coalitions that do this, but Digital Square is not a normative agency and supports the UN and affiliated coalitions in their normative work.

- **Create technical or data standards.** Digital Square supports the development of standards and guidance by standards development organizations such as HL7 or IHE that are intended for adoption by global goods.

- **Conduct issue- or organization-specific fundraising.** Digital Square does not exclusively or inequitably fundraise for a specific partner or topic, as that would compromise the initiative’s neutrality which is one of its core tenets. Digital Square will work with our partners to identify the closest ‘match’ between investor strategies and funding needs within the Digital Square portfolio and advocate for investments that have been approved by the Digital Square Board.

- **Engage in misaligned work.** Digital Square does not engage in work that is misaligned with global principles, strategies, and approaches such as the Principles of Digital
Development and the Donor Alignment Principles, or with national strategies and priorities.

**Digital Square priorities**
Digital Square has identified measurements which indicate progress towards increased alignment and co-investment in the digital health sector,

**Alignment around priority themes**
Priority themes for improved alignment and coordination in the digital health community via evidence generation and dissemination.

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### 2018 (achieved)
- Principles of Digital Development
- Principles of Donor Alignment for Digital Health

### 2019 (achieved)
- Sustainable Development Goal 3 Global Action Plan – Digital and Data Accelerator
- United Nations Report on Digital Cooperation
- Digital Square’s role within the ecosystem
- The Value of Co-Investment
- Structuring the digital and data ecosystem

### 2020 (target)
- WHO strategy
- Digital Square strategy
- Country leadership
- Maturity model harmonization
- The value of industry-level market analysis for digital health

### 2020 (stretch target)
- Common theory of change for digital health
- Digital health curriculum investment harmonization

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**Long-term target**
Alignment on how to create a self-sustaining market for digital health products in low-resource settings

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**Increased Investment**
Amount of direct investment (USD) into digital health for low-resource countries that align at least two investors (measured within Digital Square mechanism)

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>11.8M</td>
</tr>
<tr>
<td>2019</td>
<td>22.6M</td>
</tr>
<tr>
<td>2020 (target)</td>
<td>15M</td>
</tr>
<tr>
<td>2020 (stretch target)</td>
<td>30M</td>
</tr>
</tbody>
</table>

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**DRAFT long-term target** *(pending further learning, see learning questions)*
$1B/yr for global, regional, and country initiatives for digital transformation of health systems
At least $200M/yr invested through Digital Square to support specific aspects of digital transformation where the mechanism adds value
Active Investors
Active investors in Digital Square (new investors in bold)

Priority learning questions
Digital Square has identified a number of outstanding questions that may shift our priorities or strategy for alignment and co-investment.

• How much financial capital is needed to support a thriving digital eco-system?
• Where does this capital come from? Does the private sector contribute at all?
• What successfully incents coordination and alignment?

Global Goods

DIGITAL SQUARE PROMOTES THE DEVELOPMENT, ADOPTION, AND RE-USE OF GLOBAL GOODS, AND HELPS INCREASE THEIR AVAILABILITY, ADAPTABILITY, AND MATURITY.

A global good is a digital health tool that is adaptable to different countries and contexts. Digital Square categorizes global goods into three types: software, services, and content. Digital Square supports investments and creates a market for these global goods.

In a thriving global goods market:

• Digital health global goods are available at a high level of maturity to low-resource countries, providing an affordable foundation that in-country entrepreneurs and/or governments can adapt and use
• More country governments are adopting localized versions of the global goods and more local entrepreneurs are using global goods to build thriving businesses
To strengthen this marketplace, Digital Square is:

- **Allocating global goods investments transparently and with community input.** Digital Square makes investments into global goods primarily via the Open Application Process, which is an innovative procurement solution that fosters collaboration and agility. Digital Square supports the pairing of complementary concepts and identifies synergies between global goods. Proposals are evaluated by a Peer Review Committee whose names are public and are approved by the Digital Square Board. This approach allows the global digital health community an opportunity to understand and comment on global good investments.

- **Providing rigorous yet pragmatic technical oversight on investments.** Digital Square’s global goods awards are overseen by a team whose combined expertise includes more than 50 years in the global digital health sector, more than 20 years of hands-on development of global goods housed at four different organizations, and implementation experience in more than 20 countries. The team has active participation and leadership in communities such as OpenHIE and HL7. The initiative prioritizes the recruitment of a diverse team, so Digital Square’s technical team is housed across six different countries, is gender-balanced, includes professionals from their mid-twenties to their mid-fifties, and comprises functional backgrounds in public health, informatics, computer science engineering, mathematics, and technical program management.

- **Connecting the global goods community to each other and to country efforts.** Digital Square has an active Global Goods Community that participates in monthly webinars, contributes to quarterly newsletters, co-creates web articles and other publications, and participates in our annual Global Goods Meeting in December. Digital Square’s community-building efforts are overseen by a Community Engagement Manager who ensures that country needs shape global goods conversations, and that global goods products and services are visible and available to country stakeholders that want to use them.

- **Securing investment for core software development.** Most financing for digital health global goods comes from global health projects, which typically have a country and/or disease-specific focus. Digital Square identifies and works closely with donors to articulate the link between country priorities, disease priorities and investments in core software development. Digital Square has recruited a trusted team that does early-stage monitoring, and documents, publishes, and disseminates information about the benefits of making investments in core software development. Digital Square further advocates for investment through its theory of change, which articulates a progression from digital health interventions to health impact, as well as its theory of adoptability, which articulates a set of ‘minimum requirements’ for at-scale adoptability. These materials help bring visibility to why certain investments are important to achieving scale and, ultimately, impact.

Just as important as understanding what Digital Square does, is understanding what Digital Square does not do. Digital Square does not:

- **Resource global goods that focus outside the health sector.** Unless part of a well-defined business model that benefits low-resource health systems, Digital Square generally refers cross-sectoral investments to the Digital Impact Alliance and other partners as appropriate.
- **Resource global goods that focus on higher-resource settings.** For global goods targeting higher-resource settings, Digital Square does not believe it is needed as a financial intermediary; in these contexts, the initiative encourages market-based approaches to scaling global goods. Digital Square may choose to make targeted investments in existing global goods that have a strong community in cases where they meet a priority need in a low-resource context.

**Digital Square priorities**

In late 2019, Digital Square identified metrics that indicate progress towards increased development, adoption, and reuse of digital health global goods.

**Increased breadth of global good utility**

Percent of WHO intervention categories (Figure 3) with at least one global good

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>Not yet measured</td>
<td>Not yet measured</td>
</tr>
<tr>
<td>2019</td>
<td>Not yet measured</td>
<td>Not yet measured</td>
</tr>
<tr>
<td>2020 (target)</td>
<td>90%</td>
<td>100%</td>
</tr>
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</table>

**Long-term target**

100% of WHO intervention categories have at least two global goods

**Increased country adoption**

Number of countries using at least two global goods by country market maturity level (Figures 2 & 3)

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>Not yet measured</td>
<td>Not yet measured</td>
</tr>
<tr>
<td>2019</td>
<td>Not yet measured</td>
<td>Not yet measured</td>
</tr>
<tr>
<td>2020 (target)</td>
<td>45</td>
<td>60</td>
</tr>
</tbody>
</table>

**Long-term target**

96 – the estimated number of countries in the first three levels of digital health market maturity*

*See: How Digital Health Maturity Can Inform Global Good Design on the Digital Square website
Priority learning questions
Digital Square has identified a number of outstanding questions that may shift our strategy for global goods.

- To what extent do Digital Square investments into global goods increase global goods adoption and use? In general, what accelerates the adoption of global goods?
- How does Digital Square successfully and appropriately signal promising private sector products?
- Should Digital Square be thinking about data global goods as part of the continuum?

Figure 2: Market segmentation map

This map represents how countries have been segmented and classified based on maturity. 1 represents the least mature markets, cascading to 5, which represents the most mature markets.

Source: Data contributed by 22 countries to the Global Digital Health Index. For the remaining 127 countries, Digital Square developed an extension to the Global Digital Health Index that infers digital health maturity from 17 World Economic Forum Networked Readiness indicators.
Figure 2: Global good deployment in bottom three market segments

Source: Digital Health Atlas (DHA) and self-reporting from 10 Digital Square global goods. A more thorough, complete analysis will be initiated following community input on the strategy and its metrics. Digital Square is working with the DHA to ensure that data is captured including specific interoperability capabilities between systems that are deployed in a country.
Figure 3: Global goods by WHO Digital Intervention Category. Source: Self-reporting of Digital Square global goods via the Open Application Process. A more thorough, complete analysis will be initiated following community input on the strategy and its metrics.

<table>
<thead>
<tr>
<th>1.0 CLIENTS</th>
<th>2.0 HEALTHCARE PROVIDERS</th>
<th>3.0 HEALTH SYSTEM MANAGERS</th>
<th>4.0 DATA SERVICES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Targeted Client Communication (1)</td>
<td>2.1 Client identification and registration (6)</td>
<td>3.1 Human Resource Management (2)</td>
<td>4.1 Data Collection, Management and Use (9)</td>
</tr>
<tr>
<td>1.2 Untargeted Client Communication</td>
<td>2.2 Client Health Records (9)</td>
<td>3.2 Supply Chain Management (3)</td>
<td>4.2 Data Coding (1)</td>
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<tr>
<td>1.3 Client to Client Communication</td>
<td>2.3 Healthcare provider decision support (9)</td>
<td>3.3 Public Health Event Notification (2)</td>
<td>4.3 Location Mapping (6)</td>
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<td>1.4 Personal Health Tracking</td>
<td>2.4 Telomedicine (8)</td>
<td>3.4 Civil Registration and Vital Statistics (1)</td>
<td>4.4 Data Exchange and Interoperability (4)</td>
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<tr>
<td>1.5 Citizen-based Reporting (2)</td>
<td>2.5 Healthcare provider communication (3)</td>
<td>3.5 Health Financing (1)</td>
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<tr>
<td>1.6 On-demand information services to clients (2)</td>
<td>2.6 Referral coordination (7)</td>
<td>3.6 Equipment and Asset Management (1)</td>
<td></td>
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<tr>
<td>1.7 Client financial transactions</td>
<td>2.7 Health worker activity planning &amp; scheduling (6)</td>
<td>3.7 Facility Management (4)</td>
<td></td>
</tr>
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<td></td>
<td>2.8 Healthcare provider training (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.9 Prescription and medication management (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.10 Laboratory and Imaging Management Diagnostics (8)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend
- **Shaded** (#): Approved by Digital Square Board (number of Global Goods providing this intervention)
- **White**: Not currently supported by Digital Square
Regional & Country Systems

DIGITAL SQUARE HELPS ELEVATE COUNTRY PRIORITIES AND STRENGTHEN REGIONAL AND NATIONAL CAPACITY.

National and sub-national digital health systems rely on partnerships and capacity-strengthening that allow:

- More countries to have coordinated resources to support digital health transformation
- Regional initiatives to facilitate learning, sharing, and capacity-strengthening

To meet the demand for partnership from regional and country systems, Digital Square:

- Coordinates resources and expertise from multiple investors to support country and regional digital health initiatives. The Digital Square Operations team has developed a series of processes and protocols to enable the coordination of more than five donor investments into a single country- or regional-level initiative. Coordination includes in-depth knowledge of requirements for each donor, alignment of requirements to minimize administrative costs and aggregation of funds into a single award so that Digital Square does not burden country and regional initiatives with unnecessary administration. The Digital Square technical team provides oversight of these initiatives. This team has a collective, diverse set of experiences in providing capacity strengthening and technical support to country governments that helps them partner effectively with country and regional initiatives.

- Supports the professional development of local global good entrepreneurs and link them to the global goods community. Many global goods are governed by or receive major code contributions from computer science engineers in low-resource settings. In addition to fostering the leadership of local experts within the global goods governance models, the publication of global goods provides opportunities for entrepreneurs to build thriving businesses. Entrepreneurs can take a global good, adapt it to the local context, offer maintenance and service support, and build a business serving the local health system. Digital Square does not yet run a program that specifically supports this type of entrepreneurship but proposes prioritizing this as an area for future work.

Just as important as understanding what Digital Square does, is understanding what Digital Square does not do. Digital Square does not:

- Directly run training/certification programs. Digital Square’s partners create and administer a wide variety of training and certification programs. Digital Square may run an RFA for partners interested in doing this kind of work but will not directly carry out this work.

- Provide incubation services to start-ups. Many organizations provide incubation services—there are over 200 innovation and incubation hubs in Nairobi alone. Digital Square is happy to refer interested groups to existing incubation and innovation hubs, while it focuses efforts on supporting the scale of proven interventions.

- Implement sub-national digital health projects. Digital Square is a global mechanism that works deeply with country leaders. Digital Square partners have a strong collective presence across most low resource contexts. Digital Square may run an RFA for
partners interested in supporting sub-national digital transformation efforts, but its core focus remains at the global, regional and national levels.

**Digital Square priorities**
Digital Square has identified metrics that indicate progress towards improved regional and country capacity for digital transformation.

**Strengthened capacity at regional and country level**
Percent of individuals engaged in learning programs describing three or more examples of increased learning, sharing, or technical capacity as a result of engagement in the initiative

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>Not yet measured</td>
<td>0%</td>
</tr>
<tr>
<td>2019</td>
<td>Not yet measured</td>
<td>0%</td>
</tr>
<tr>
<td>2020</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>80%</td>
<td></td>
</tr>
</tbody>
</table>

*Assuming some degree of non-responsiveness or lack of learning due to factors outside the control of learning programs*

**Support for regional and country initiatives**
Initiatives and country governments receiving direct support from Digital Square

<table>
<thead>
<tr>
<th>Year</th>
<th>Achieved</th>
<th>Target</th>
<th>Stretch Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>Same number of initiatives and country governments as 2019 with greater impact within respective initiatives and country government efforts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>Four new direct country government partners, Launch of a holistic, cross-regional leadership program for digital health</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Long-term target**
A thriving Digital & Data Leadership Program for health leaders and technocrats
A network of local entrepreneurs using global goods to build thriving local businesses
Priority learning questions
Digital Square has identified a number of outstanding questions that may shift our priorities or strategy for regional and country systems.

- Is our current engagement with country health leaders adequate to ensure their needs are met by the global goods under development?
- Should more effort be focused on bridging the gap in understanding between technologists and health professionals to enable digital transformation in the health system?
- Does Digital Square have a unique value to add by directly supporting country governments on the digital transformation of health systems?

Conclusion
True digital health transformation at a global level requires a paradigm shift. In all aspects of our current work, Digital Square is committed to building momentum for this shift. The initiative creates evidence, strengthens the capacity of digital health leaders, and establishes frameworks for interoperability and coordination. But Digital Square cannot make this shift without transformative thinkers and doers. Transformative thinkers and doers will help us go beyond existing market structures to change the way digital health technologies and innovations are financed and scaled. They will help us better match the pace of digital health funding and implementation to the pace of technological evolution. They will inspire renewed creativity to improve the accessibility, quality, and effectiveness of health care—utilizing digital approaches—in order to reach billions of people. They will help us in catalyzing a large-scale transformation of how digital health interventions support health systems in low- and middle-income countries.
Glossary

Digital transformation
Refers to the strategic integration of digital technologies and associated change management capabilities to strengthen systems, increase their efficiency, and improve the quality and access to services.

Global good
A digital health tool that is adaptable to different countries and contexts. There are three types of global goods:

- **Software**: a software tool that is frequently free and open source, and used to manage, analyze, or transmit health-related data, with proven utility in several settings
- **Services**: a software tool that is used to manage, transmit, or analyze health-related data that can be freely accessed as a software service and adheres to open data principles
- **Content**: a resource, toolkit, or data standard that is available under an open license and that is used to improve or analyze health data management processes

Open Application Process
Refers to the competitive procurement process run by Digital Square where bids are submitted in a fair and transparent process for a committee to evaluate and select successful applicants.
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