![Transform Health logo]

CLOSING THE DIGITAL DIVIDE:
MORE AND BETTER FUNDING FOR THE DIGITAL TRANSFORMATION OF HEALTH IN ASIA

Key regional facts and figures:

- **26/40** - Countries with a national digital health strategy[1]
- **36%** - Percentage of people without internet access
- **47% vs 82%** - Digital divide in internet access between rural and urban areas[2]
- **2.7%** - Domestic expenditure on health as a % of GDP
- **41%** - Level of out-of-pocket expenditure on health[3]
- **Unknown** - National/regional spending on digital health

Investing in digital health transformation in Asia

The world's health systems are changing rapidly, driven by the introduction of digital technologies, artificial intelligence and the use of large data sets. The digital transformation has the potential to expand access to health care and accelerate progress towards the Sustainable Development Goal target of reaching universal health coverage by 2030. We have reached a stage in the digital health journey where we need to think beyond enhancing health systems through the introduction of individual digital technologies or solutions and instead consider the overall digital transformation of health systems.

Based on Transform Health's report, *Closing the digital divide: More and better funding for the digital transformation of health*,[4] this brief explores the situation in Asia, with recommendations to guide investments and action in the region towards health for all in the digital age.

---

1 Governing Health Futures 2030. Compilation of national digital health policies and strategies. Accessed 19 January 2023. (Data for WHO South East Asia and Western Pacific regions).
2 ITU. Measuring Digital Development: Facts and Figures 2021. 2022. (Data for ITU Asia-Pacific region)
3 World Bank databank. Accessed 19 January 2023. (Combined data for East Asia & Pacific and South Asia),.
4 Transform Health. Closing the digital divide: More and better funding for the digital transformation of health. Basel: Transform Health; 2022.

The status of digital transformation of health in Asia

Asia has undergone a massive digital transformation with almost 100% of the region's population living within reach of a mobile signal. The health sector has been one of the fastest to adopt digital technologies and has witnessed a considerable shift in recent years. Following the COVID-19 pandemic, where digital health technologies were rapidly adopted for the emergency response, many countries are now focusing on systemic digital transformation of health systems.

The digital health maturity levels in ten Asian countries, mostly low-and-middle-income countries (LMICs), are mapped by the Global Digital Health Index. Eight countries are assessed to be at Level 3 and above , thereby indicating the average-high digital health maturity in the region. However, as in other regions, digital transformation in Asia is not uniform across and within countries. Network coverage, for example, is not translating into equitable internet access or use. Just over one-third of people in Asia do not have access to the internet. In Asia, women and girls, and people living in rural areas have significantly lower levels of digital access and digital literacy compared to men and boys, and those living in urban areas.

Asia is primed for further, rapid digital health adoption, thanks to a combination of bold government strategies for digital transformation, a vibrant private sector, donor interests, and increasingly digitally literate populations. Sustained national efforts to achieve universal health coverage are driving the digital health transformation agenda in countries such as India, Indonesia, Philippines and Thailand. Industry estimates show that the market size of digital health in Asia could collectively create up to USD 100 billion in value by 2025, up from USD 37 billion in 2020.[7] Care delivery constitutes 75% of this market size including digital therapies, telemedicine, remote monitoring, and digital pharmacies.

However, systemic barriers are undermining the full potential of digital health to improve health access and outcomes across the region. For example, data silos, poor integration of digital health initiatives, and lack of interoperability continue to be a challenge in many countries. Weak regulatory frameworks for data and digital health solutions are also significant limitations. The private sector's alignment with the public sector is very limited leading to fragmentation, duplication, inconsistent standards and further interoperability challenges. As the role of the private sector in health continues to grow, public sector leadership and oversight will become increasingly important to ensure digital transformations result in better and more equitable health outcomes in Asia.

Overview of digital health funding in the region

Asian health systems are funded through a mixture of public and private sources. Levels of domestic government expenditure on health vary across the region from an average of 4.4% GDP spent on health in East Asia and the Pacific to just 0.9% GDP in South Asia (both lower than the global average of 5.9% GDP). Levels of out of pocket expenditure for health are particularly high in South Asia at 56%.[8]

Digital health transformation in the region is driven by collaborative efforts of governments, development partners, funding agencies, private sector, academic institutions, national and regional digital health associations, and others, with national governments in the lead-ership role. Major digital health programmes

5 Global Digital Health Index; http://index.digitalhealthindex.org/map (last accessed on 18 January 2023) The ten Asian countries featured are Afghanistan, Bangladesh, Indonesia, Lao PDR, Malaysia, Mongolia, Pakistan, Philippines, Sri Lanka and Thailand.
6 ITU. Measuring Digital Development: Facts and Figures 2021. 2022. https://www.itu.int/en/ITU-D/Statistics/Pages/facts/default.aspx
7 Baur A, Yew H, Xin M. The future of healthcare in Asia: Digital health ecosystems. McKinsey & Company. 2021. https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/the-future-of-healthcare-in-asia-digital-health-ecosystems (last accessed 18 January 2023).
8 World Bank databank. Accessed 19 January 2023

are largely funded by government budgetary allocations, supplemented by loans or funding from international donors like World Bank, Asian Development Bank, Korea International Cooperation Agency, the Global Fund, Bill and Melinda Gates Foundation, and others. Asian countries vary widely in terms of economic development with LMICs in the region being more donor-dependent. In such cases, external funding is usually coordinated through the government, World Bank or Asian Development Bank.

More than half of the countries in the Asia-Pacific region have a digital health strategy or blueprint that is aligned with their respective national health priorities. Despite detailed digital strategies, many countries do not have designated national budgets for their digital health programmes. India is an example of a country that has published budget allocations for its National Digital Health Mission.[9] Information about the amount that Asian countries have invested in digital health is rarely publically available. Digital health is not typically highlighted within national health budgets and expenditure on digital health is not routinely reported by governments. Similarly, digital health is not included as a parameter in donor project databases, making it difficult to identify digital health investments.

Priority investment areas in Asia

Regional research and key informant interviews for Closing the digital divide highlighted several priorities for investment in order to accelerate the equitable digital transformation of health.

1. Infrastructure - All components of Asia's digital health ecosystems require sustained investment. For many LMICs in the region, external investments are critical and should be used for expanding affordable digital infrastructure and closing the digital divide. Other areas requiring support include enterprise architecture, decision support, data exchange and interoperability, supply chain management, citizen-centric applications and telemedicine, and disease surveillance.

2. Standards and interoperability - Both government and external investments must help to address fragmentation and align disparate private and public sector digital health ecosystems. This includes developing and adopting standards and enterprise methodologies so that different actors can work harmoniously across populations to deliver consistent, high-quality health care.

3. Increasing access and capacity - Investments in the digital literacy and skills of patients and health workers are necessary to harness the potential of digital transformations. Digital health investments should therefore include components to address barriers to access and use for women and marginalised groups, and to enhance the capacity of health workers.

9 ETHealthWorld. Union Budget 2023 ticks the right boxes for India's digital health infrastructural ambitions. 3 February 2023. https://health.economictimes.indiatimes.com/news/health-it/union-budget-2023-ticks-the-right-boxes-for-indi-as-digital-health-infrastructural-ambitions/97577032

Transform Health

Cost estimates

Health planners in Asia currently lack reliable information on the short and long-term costs of digitally transforming their health systems. Reliable data on investments in digital health in Asia are not publicly available. This lack of solid evidence on digital health investment issues also deters investors or donors from intervening in the region.

Closing the digital divide estimates that US$ 12.5 billion is needed to support the digital transformation of health systems in LMICs over the next five years. This figure is based on a medium-cost scenario for nine priority investment areas. This translates to an annual investment of at least U**S$ 0.60 per person per year.** While approximately 60–70%[10] of this funding need should be covered by domestic sources, the remaining gap would ideally be covered by multilateral donors and development banks, existing global funding mechanisms, private foundations and bilateral donors.

The true investment requirements will ultimately need to be determined country by country and based on costed digital health strategies and investment roadmaps. Investments in digital transformation of health systems will also need to be complemented by wider investment to increase digital connectivity and usage among the population, as well as investments to address the broader enabling environment for the digital transformation of health.

Closing the funding gap

While many Asian countries have made progress in implementing universal health coverage schemes, the progress and the pace of implementation are not enough for the region to achieve UHC by 2030. Accessibility and affordability issues still loom large, and quality healthcare is elusive for large sections of the population. There are also variations within countries where access to healthcare is limited to rural communities in comparison to their urban peers.

Most countries have recognised that conventional health system strengthening models will not be sufficient to achieve UHC or to meet future health challenges. Digital health transformation holds great potential to scale up coverage of health services – including in remote and resource-constrained environments, build more resilient health systems, and increase affordability and cost efficiencies. Data generated through digital approaches and application of AI and machine learning can also help countries design and implement a wide range of both targeted and national programmes that could deliver phenomenal health improvements.

---

10 This is an illustrative estimate based on the proportion of domestic spending to international aid spending in low-and lower-middle income countries health spending from WHO Global Health Expenditure database, and domestic investment proportions from the Global Fund 7th Replenishment projection of available resources.
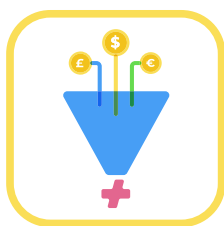
Transform Health

Recommendations for governments and digital health donors

Closing the digital divide calls on national governments, donors and development partners, and the private sector to increase and better coordinate investment in the equitable, inclusive and sustainable digital transformation of health systems in low- and lower-middle-income countries. The report sets out six overarching recommendations to increase and improve the impact of investments in the digital transformation of health systems.

Recommendation 1: Increase investment in digital transformation of health

Governments and international donors should prioritise funding to support low- and lower-middle-income countries in the region to digitally transform their health systems, ensuring investments are sustainable and support equity, inclusion and human rights. Investments should prioritise the gaps noted above, namely digital infrastructure, increasing harmonisation and alignment, and building the digital capacity of communities and health workers. The private sector should also be incentivised to develop digital health solutions in support of UHC and that accelerate implementation of national digital health strategies.

Recommendation 2: Improve coordination and alignment of digital health investments

National governments should improve integration and cooperation between all agencies responsible for digital transformation and UHC. Governments should also direct all digital health donors to align their investments with national priorities and put measures in place to ensure the sustainability of externally-funded programmes. Donor coordination groups and pooled funding mechanisms are among the mechanisms that must be strengthened to reduce the proliferation of fragmented digital health projects, duplication of resources and data silos. Greater public-private collaboration and coordination between Asian countries will create opportunities to replicate digital transformation success stories from the region and learn lessons from other countries' experiences.
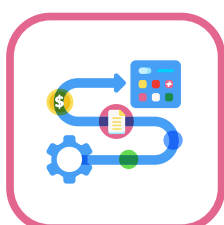
Recommendation 3: Develop investment roadmaps

Governments should develop (or update) costed strategic plans and investment roadmaps for the digital transformation of health, including building digital health literacy and skills, as an integral component of their UHC and health system strengthening agenda. Sustainable investments in the region will only be achieved when different actors know, based on efficient data, the true costs of digital transformation. This includes raising awareness about the importance of essential recurrent costs such as human resource training and technical support. The development of cost-benefit and timely impact evaluations of digital health initiatives will help to strengthen evidence-based policy-making and investments.
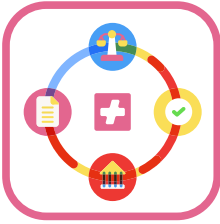
Recommendation 4: Strengthen policy and regulatory environments

National governments must strengthen their legislative and regulatory frameworks and develop the necessary policies to guide the inclusive, equitable and sustainable digital transformation of their health system. Such frameworks should include developing minimum standards for digital health systems and mechanisms for enforcing their adherence. Countries should also develop interoperability and integration standards to enable secure and seamless data sharing. All policy processes must be inclusive of all relevant stakeholder groups and prioritise issues such as health data governance. A transparent public policy environment increases planning and investment certainty for international donors and the private sector and clarifies the incentives and expectations.

Recommendation 5: Create mechanisms for meaningful multi stakeholder engagement

Involving stakeholders from multiple sectors and backgrounds in the development, implementation and monitoring of digital transformation strategies will help to ensure they reflect the needs of different communities. The participation of groups such as young people, women, older persons, persons with disabilities and marginalised and hard-to-reach communities should be supported financially to ensure that people across all strata of society are represented and can hold decision-makers and service providers accountable.

Recommendation 6: Bridge the digital divide

The impact of digitalisation, even in countries where this is more advanced, will be limited without a focus on equity. Equity must be the fundamental principle around which any digital health strategy or investment roadmap is structured, giving priority to those populations who are furthest from UHC. Governments and donors should prioritise strategic, targeted and coordinated actions to close existing divides in digital access, a prerequisite for access to digitally-enabled health services. Priority should be given towards improving power and connectivity infrastructure across health facilities and in rural communities.