

Digital health systems to support pandemic response in Indonesia

Mapping digital health tools and matching deployment opportunities in response to COVID-19

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IN THIS TECHNICAL BRIEF

- 2 View a snapshot of the digital health tools mapped and matched to support Indonesia's COVID-19 response
- 4 Discover the digital health tools ready for adaptation to rapidly strengthen the COVID-19 response
- 4 Explore examples of global goods ready for adaptation and deployment for COVID-19 response
- 5 Delve into an in-depth look at digital health tools to support the COVID-19 response
- 10 Glimpse a high-level analysis of key elements to Indonesia's digital health systems
- 10 Take action using the Map and Match data and resources
- 11 Review annexes defining abbreviations and pandemic use cases, and describing how digital health tools can support vaccine deployment

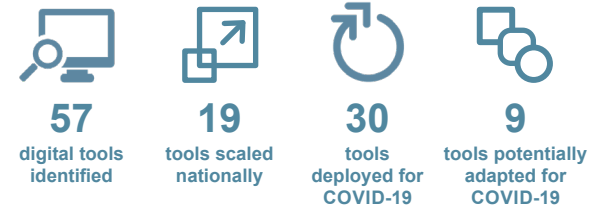


Introduction

Indonesia's Ministry of Health (MOH) is implementing digital health strategies centered around the digitization, integration, and ecosystem strengthening of health information systems. The COVID-19 pandemic has put additional strain on the health system, bringing a new level of urgency to the implementation of the government's strategies. Leveraging digital health tools is a rapid, cost-effective strategy to accelerate Indonesia's COVID-19 response while at the same time bolstering its health system at large.

Background

Digital Square conducted a landscape analysis of Indonesia's digital systems in the ten-year period from 2010–2020 with information validated by tool implementers and designers and digital health experts, as part of the US Agency for International Development (USAID)–funded Map and Match project. The purpose was to identify the existing digital tools used in Indonesia, map the tools already deployed for COVID-19 response to relevant uses cases, and highlight opportunities where existing tools can quickly be adapted and deployed to support COVID-19 response.



Analysis overview

Map and Match's analysis found that Indonesia's health system uses 57 digital health tools, with at least 30 already deployed for COVID-19 response. This brief identifies opportunities for existing digital tools to be adapted to pandemic use cases to respond to needs for the COVID-19 response and potential future epidemics. Mapping of the existing tools to the use cases revealed where there are strengths and opportunities in Indonesia's digital health system's response to COVID-19. The analysis identified three use case gaps, namely One Health, points of entry, and supply chain, with additional tools ready for adaptation to further address them. Strategic adaptation of existing digital health tools will accelerate the COVID-19 response, offering greater efficiency and more robust support to the government, health workers, clients, and other stakeholders.

Key definitions

Pandemic use case refers to the specific type of information collected, stored, tracked, analyzed, or visualized as it relates to the functional response to an epidemiological event, specifically COVID-19.

Digital health tool refers to a website, application, or other computer or mobile technology that supports data collection, storage, tracking, analysis, or visualization. The tool must have an electronic interface. One digital tool can address multiple use cases.

Application refers to components of digital tools that are primarily designed for use by clients of the health system or by health workers. Applications can be reused to address more than one use case, or applications can be uniquely used for only one use case.

Adaptation refers to making improvements to existing digital tools to improve their applicability and impact in the context of COVID-19.

Figure 1. Current number of digital health tool deployments mapped to pandemic use cases in Indonesia.

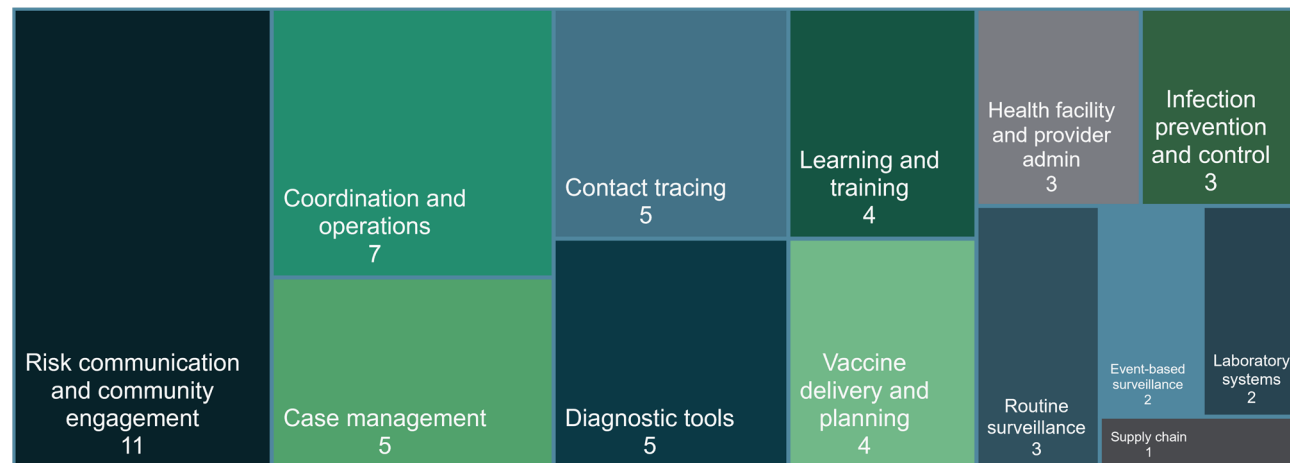


Figure 1 illustrates that many use cases are addressed using several tools in Indonesia's COVID-19 response while other use cases are filled by a sole tool.

Digital Square and USAID attempted outreach efforts to the MOH to conduct a key informant interview to validate the data found in the Map and Match assessment, but were unsuccessful.

Table 1. Mapping and matching digital health tools to strengthen Indonesia's COVID-19 response.

Digital Square mapped the current state of tools' functionality across the pandemic use cases in **blue** to illustrate how the digital health systems are supporting Indonesia's COVID-19 response. Digital Square matched opportunities for tool adaptation across the pandemic use cases in **green** to reveal places where Indonesia can reuse parts of its existing digital health systems to strengthen its COVID-19 response.

	Case management	Contact tracing	Coordination and operations	Diagnostic tools	Event-based surveillance (including rapid response teams, case investigation)	Health facility and provider administration	Infection prevention and control	Laboratory systems	Learning and training	One Health	Points of entry	Risk communication and community engagement	Routine surveillance	Supply chain	Vaccine delivery and planning
3M's joint monitoring activities in public places			Blue				Blue						Blue		
Bersatu Lawan COVID-19 App (BLC) (United Against COVID-19 App)		Blue		Blue			Blue					Blue			
Bima									Blue			Blue			
ColdTrace														Blue	Blue
Computer Aided Detection for COVID-19 (CAD4COVID)				Blue											
COVID-19 Electronic Medical Record (EMR)	Blue														
DataToCare			Blue					Blue							
Facebook Live					Green				Blue						
HomeCare24 Mobile App	Blue			Blue			Blue					Blue			
Hub InaCOVID-19												Blue			
Indonesia COVID-19 Dashboard						Blue						Blue			
Indonesia HMIS (DHIS2 + COVID-19 Surveillance + Tracker)	Blue	Blue	Green	Green	Blue	Green		Green		Green	Green	Green	Blue	Green	Blue
Ministry of Health Board of Human Resources for Health Empowerment and Development (BPPSDMK): COVID-19 and Health Workforce Dashboard			Blue			Blue									
Mobile Technology for Community Health (MOTEC) (CommCare)	Blue	Green			Green	Green	Green	Green	Green		Green	Green			
Ona Data			Blue												
Open Smart Register Platform (OpenSRP + COVID-19 Testing and Screening Adaptation)	Green	Green		Blue				Green					Green	Green	Green
Pedulilindungi (Care Protect)		Blue										Blue			Blue

Blue: Digital tools deployed for COVID-19 response Green: Opportunities to adapt tools for pandemic response

Table 1. Mapping and matching digital health tools to strengthen Indonesia's COVID-19 response, continued.

	Case management	Contact tracing	Coordination and operations	Diagnostic tools	Event-based surveillance (including rapid response teams, case investigation)	Health facility and provider administration	Infection prevention and control	Laboratory systems	Learning and training	One Health	Points of entry	Risk communication and community engagement	Routine surveillance	Supply chain	Vaccine delivery and planning
Pikobar West Java COVID-19 Information and Coordination Center															
Qlue App															
RapidPro															
Safe Delivery App															
Silacak (DHIS2)															
SI-SDMK															
SISFO COVID															
Sistem Monitoring Imunisasi Logistik secara Elektronik (SMILE) (Logistimo)															
Task Force for Handling COVID-19 Dashboard															
Teman Sehat (Health Buddy)															
US President's Malaria Initiative (PMI) Digital Monitoring Tools for Community Response of COVID-19															
Viamo's 3-2-1 Service															
World Continuing Education Alliance (WCEA)															
Bahmni															
Cadasta platform															
Community Health Toolkit (CHT)															
GxAlert															
Magpi															
OpenMRS															
reach52															
THINKMD Clinical Decision Support Tool															
U-Report															

DIGITAL HEALTH TOOLS

■ Digital tools deployed for COVID-19 response ■ Opportunities to adapt tools for pandemic response

Matching digital health tools ready for adaptation to fill the pandemic use case gaps

The analysis identified existing digital tools that can be adapted to support COVID-19 response for the use case gaps below, which are One Health, points of entry, and supply chain. Use case gaps are defined as use cases that have fewer than two tools addressing them. Many of these tools also provide opportunities to streamline the COVID-19 response across a range of use cases.

To learn more about the tools in the matrix below, please see Table 2 for more details to facilitate adaptations. To find out more about all the Digital Square approved global goods mapped across these pandemic use cases, please see [this Map and Match resource](#), which can provide decision-makers with targeted information to deploy and adapt global goods to fulfill gaps in the COVID-19 response.

One Health

Magpi	Indonesia HMIS (DHIS2 + COVID-19 Surveillance + Tracker)
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Points of entry

Bahmni	Community Health Toolkit
Indonesia HMIS (DHIS2 + COVID-19 Surveillance + Tracker)	Magpi
MOTECH (CommCare)	

Supply chain

ColdTrace	Bahmni
Indonesia HMIS (DHIS2 + COVID-19 Surveillance + Tracker)	OpenSRP + COVID Testing and Screening Adaptation
reach52	

Examples of global goods ready for adaptation for COVID-19 response in Indonesia

Bahmni (OpenMRS)

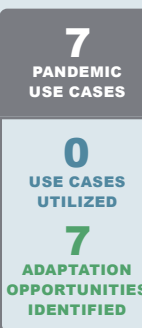
Bahmni is an open source EMR and hospital information system developed in the global south to meet the needs of low-resource environments and is currently deployed in 50+ countries. Bahmni is a distribution of the OpenMRS medical record platform. It manages patient information in a flexible fashion throughout the care cycle, including registration, various points of care, investigations, laboratory orders and results management, picture archiving and communication systems, and billing.

Bahmni released a COVID-19 kit that uses an OpenMRS module initializer to install forms that capture travel history and contact tracing, enable patient screening, and track information on home quarantining. Nepal adapted Bahmni for COVID-19 response as a case management tool in government hospitals by creating a COVID-19 screening template and syncing data in near real time to dashboards.

CommCare

CommCare is an offline-capable mobile data collection and service delivery platform used in more than 80 countries. CommCare is popular for its offline case management capabilities proven to be effective at scale. It is designed for everything from simple surveys to comprehensive longitudinal data tracking. It allows for easy digitization of surveys, has forms that are intuitive for end users, utilizes simple device deployment, and includes translation features.

Dimagi worked to rapidly design and deploy a set of free, templated CommCare applications and reporting options using mobile, web, and SMS. These applications have been applied to a wide variety for COVID-19 use cases, including community preparedness, contact tracing, facility readiness assessment, point of entry screening, and health worker education. More than 25,000 users from more than 70 organizations and governments have used CommCare for a variety of use cases in more than 30 countries.



- Case management
- Diagnostic tools
- Event-based surveillance
- Health facility and provider administration
- Laboratory systems
- Points of entry
- Supply chain



- Case management
- Contact tracing
- Event-based surveillance
- Health facility and provider administration
- Infection prevention and control
- Laboratory systems
- Learning and training
- Points of entry
- Risk communication and community engagement

Table 2. An in-depth look at digital health tools to support the COVID-19 response.

Digital health tool	Purpose	Use case(s)	Funder(s)	Implementer(s)	Licensing	Scale
3M's joint monitoring activities in public places	The 3M monitoring system allows the government to visualize and understand the effectiveness of COVID-19 prevention campaigns over time based on structured observations undertaken by a network of more than 30,000 volunteers. Volunteers report data on handwashing, mask usage, and physical distancing via smartphones. Data are then collated at the national level by the 3M platform to inform decision-making around COVID-19 preventive measures. UNICEF Indonesia collaborated with the COVID-19 Task Force, UNICEF partners, and WASH Cluster (PMI, SNV) to support 3M monitoring activities to reduce the spread of COVID-19 in public locations.	Coordination and operations, infection prevention and control, routine surveillance	UNICEF	MOH, PMI, SNV, UNICEF		Subnational
Bersatu Lawan COVID-19 App (BLC) (United Against COVID-19 App)	BLC is an application developed for COVID-19 pandemic response to support users to perform self-diagnostics and receive recommendations based on the results of the diagnosis. The Direct Contact History feature allows users to inform people they have been in contact with. The Live Vulnerability Monitor feature shows users the risk level of their area for COVID-19. People can use BLC to find out about COVID-19 referral hospitals and consult a doctor online. The app also provides the latest updates about COVID-19 (e.g., positive cases, cure rate, death rate) from reliable data sources.	Contact tracing, diagnostic tools, infection prevention and control, risk communication and community engagement		MOH, National COVID-19 Task Force		National
Bima	Bima is an eLearning platform that hosts many eLearning modules that cover a number of topics, including five that address COVID-19 (e.g., prevention measures).	Learning and training, risk communication and community engagement	Gates Foundation, USAID	BKKBN, Johns Hopkins Center for Communication Programs	Open source	Subnational
ColdTrace	ColdTrace is a wireless remote temperature monitoring solution designed for vaccine refrigerators in rural clinics and health facilities. The impact of COVID-19 on lifesaving immunization services has highlighted the need for a resilient cold chain system that can serve both routine and emergency vaccination going forward. This is possible by having end-to-end visibility into the country's vaccine cold chain network and ensuring data on fridge performance, power, and connectivity are available to the MOH in real time through ColdTrace. ColdTrace has partnerships with seven national governments and is active in 17 countries. Nexleaf Analytics has connected cold chain equipment from more than 16,822 health facilities and trained more than 1,400 health workers to respond to cold chain failures.	Supply chain, vaccine delivery and planning	GCC	Nexleaf Analytics	Proprietary	Subnational
Computer Aided Detection for COVID-19 (CAD4COVID)	CAD4COVID is an artificial intelligence software that triages suspected COVID-19 cases on chest X-ray or CT images. CAD4COVID supports triaging suspected COVID-19 cases, provides additional information to clinicians, and helps clinicians determine the next step in a patient's care, particularly in resource-constrained settings and high-prevalence areas. CAD4COVID is CE certified and is the first AI software that is proved to perform at the same level as human expert readers to detect COVID-19-related abnormalities on chest X-ray images. This tool is being used in Indonesia to strengthen COVID-19 screening capacity for employee health programs and help respond to high demand for COVID-19 screening from key business communities, such as mining and manufacturing industries, located in remote areas. The country deployment is aiming to screen 4,000 employees, families, and people in local communities and contribute to ensuring employee health and safety and business continuity as well as maintaining local economies. CAD4COVID-XRay will also enable early triage and screening of COVID-19 before RT-PCR, and the SAM platform will manage results under the integrated platform.	Diagnostic tools	Fullerton Health Indonesia, GIZ, IDBH, Universitas Indonesia	Delft Imaging, Fullerton Health Indonesia, IDBH, University of Indonesia	Freemium	Subnational
COVID-19 Electronic Medical Record (EMR)	The COVID-19 EMR is a registration system for COVID-19 cases used in 30 hospitals to manage EMRs and medical resumes for outpatients. The tool also includes a telemedicine module for consultation and data dashboard available to each of the 30 hospitals. The data dashboards are available in Muhammadiyah Province and to the Muhammadiyah Central Board of COVID-19 response.	Case management	USAID			Subnational

 Digital tools deployed for COVID-19 response  Opportunities to adapt tools for pandemic response

Table 2. An in-depth look at digital health tools to support the COVID-19 response, continued.

Digital health tool	Purpose	Use case(s)	Funder(s)	Implementer(s)	Licensing	Scale
DataToCare	DataToCare is a suite of integrated applications that collects and disseminates diagnostic and surveillance data from remote laboratories to regional and national stakeholders. It allows medical teams access to the data for decision-making. The DataToCare desktop is installed across Indonesia in laboratories to collect and transfer diagnostic data and send via internet or SMS to the central server. The DataToCare server computes diagnostic or epidemiological data from points of care and remote laboratories. Data on the central server are used to create a dashboard that provides national/regional/provincial overviews of the data in real time. DataToCare also allows notification of the test results to clients via SMS as soon as they are available and validated by the operator. DataToCare has added a COVID-19 module that facilitates the tracking of COVID-19 lab results and patient data and sends the data to a national server to provide an overview of the data in real time.	Coordination and operations, laboratory systems	The Global Fund, USAID	Savics, USAID, WHO	Proprietary	
Facebook Live	In Indonesia, the Facebook Live platform has been used to train family planning field workers. Indonesia quickly trained frontline health workers through weekly meetings that people attended on Facebook Live. All materials are available on the Facebook page, and people are able to upload and share their materials and stories. Partners are also using Facebook Live for COVID-19 response.	Learning and training, event-based surveillance	USAID	Johns Hopkins Center for Communication Programs Breakthrough Action	Public domain	Subnational
HomeCare24 mobile app	HomeCare24 is a mobile app platform that allows users to search for registered nurses and caregivers. Health workers listed on the platform must be a registered nurse with at least a diploma in nursing, certifying their ability to perform emergency medical action when necessary. The app offers information on COVID-19 testing locations and how to receive medical support from home. The app offers independent isolation assistance for COVID-19-positive patients with mild to moderate symptoms for 10 days. Services include teleconsultation with doctors, provision of vitamins, doctor and nurse visits, as well the ability to perform a Swab PCR Test carried out at home.	Case management, diagnostic tools, infection prevention and control, risk communication and community engagement		Homecare24		Subnational
Hub InaCOVID-19	The Hub InaCOVID-19 is a GIS portal used by the Task Force for the Acceleration of Handling COVID-19 in Indonesia.	Risk communication and community engagement		Government of Indonesia	Proprietary	National
Indonesia COVID-19 Dashboard	The Indonesia COVID-19 Dashboard visualizes the COVID-19 total, active, deceased, and discharged cases in Indonesia.	Health facility and provider administration, risk communication and community engagement		Ucode Academy		National
Indonesia HMIS (DHIS2 + COVID-19 Surveillance + Tracker)	District Health Information Software 2 (DHIS2) is an open source, web-based platform, typically used as national health information systems for data management and analysis purposes, for health program monitoring and evaluation, as facility registries and service availability mapping, for logistics management, and for mobile tracking of pregnant mothers in rural communities. DHIS2 supports the collection, analysis, visualization, and sharing of both aggregate and individual-level data, including mobile and offline data collection using the DHIS2 Android app. The COVID-19 digital data package includes standard metadata aligned with the WHO's technical guidance on COVID-19 surveillance and has been adapted to local country context and language in this implementation. DHIS2 Tracker supports data collection, and analysis of transactional or disaggregated data. In practice, DHIS2 Tracker is used for tracking individual data and can be used in a community or facility setting. DHIS2 Capture is the mobile component of the DHIS2 platform.	Case management, contact tracing, coordination and operations, diagnostic tools, event-based surveillance, health facility and provider administration, laboratory systems, one health, points of entry, risk communication and community engagement, routine surveillance, supply chain, vaccine delivery and planning	CDC, DHIS2, Gates Foundation, Gavi, MOH, Norad, PEPFAR, The Global Fund, UNICEF, University of Oslo	HISP Vietnam/India, MOH	Open source	National
Ministry of Health Board of Human Resources for Health Empowerment and Development (BPPSDMK): COVID-19 and Health Workforce Dashboard	The COVID-19 and Health Workforce Dashboard is an architecture and visualization tool to share COVID-19 information across government and health workforces. Facilities rely on the information to effectively deploy health workers and maintain essential services at the facility level. The dashboard ensures that policymakers at all levels, from national, provincial, district, and city, have access to data for use to aid decision-making and for policy design.	Coordination and operations, health facility and provider administration	USAID	BPPSDMK, HRH2030		National

 Digital tools deployed for COVID-19 response  Opportunities to adapt tools for pandemic response

Table 2. An in-depth look at digital health tools to support the COVID-19 response, continued.

Digital health tool	Purpose	Use case(s)	Funder(s)	Implementer(s)	Licensing	Scale
Mobile Technology for Community Health (MOTECHE) (CommCare)	The MOTECHE Suite for maternal, newborn, and child health and nutrition mobile application is designed to support CHWs to deliver MNCH and nutrition services more efficiently by reinforcing intervention protocols, serving as job aids, and acting as monitoring tools. MOTECHE adapted to support response and mitigation efforts for the COVID-19 pandemic, building onto the adaptations first designed and deployed during the West African Ebola pandemic. This includes a set of free, templated CommCare applications and reporting options using mobile, web, and SMS. These applications have been applied to a wide variety of COVID-19 use cases, including community preparedness, contact tracing, facility readiness assessment, point of entry screening, and health worker education.	Case management, contact tracing, event-based surveillance, health facility and provider administration, infection prevention control, laboratory systems, learning and training, point of entry, risk communication and community engagement	Grameen Foundation	CRS, World Vision	Open source	
Ona Data	Ona Data is being used to improve the overall performance of the One Data Vaccination System. This includes digitization of the COVID-19 Vaccine Introduction Readiness Assessment Tool (VIRAT) using Ona Data and web dashboard technology to monitor progress of preparedness activities at the national and subnational levels prior to and during the vaccine introduction, and to identify issues and course-correction along the way in timely manner.	Coordination and operations, event-based surveillance, vaccine delivery and planning	UNICEF	MOH, Ona	Open source	National
Open Smart Register Platform (OpenSRP + COVID-19 Testing and Screening Adaptation)	OpenSRP is an open source mobile health platform to support frontline health workers and simultaneously provide program managers and policymakers with current data for decision-making and policymaking. The digital health card technology allows frontline health workers to electronically register and track the health and services of their entire client population. SID runs the OpenSRP program through the THRIVE project. This program has successfully been implemented in five districts in Indonesia with 116 users and benefits more than 120,000 pregnant women, neonatal babies, and children under 5 years old. SID adapted an RDT protocol (previously used for malaria rapid diagnosis) for COVID-19 in the COVID-19 Testing and Screening App. The OpenRDT Reader application is integrated with OpenSRP. The COVID-19 Testing and Screening App is developed but not yet deployed at a large scale in Indonesia.	Case management, contact tracing, diagnostic tools, laboratory systems routine surveillance, supply chain, vaccine delivery and planning	Gates Foundation, GCC	Indonesian Clinicians Society, MOH, Ona, Qualcomm Wireless Reach, SID, WHO	Open source	Subnational
Pedulilindungi (Care Protect)	The app enables users to compile data related to the spread of COVID-19 in their communities and help boost the government's efforts to track confirmed cases, as well as those suspected to be infected with the virus. It cross-references data stored on mobile devices through Bluetooth. When a user is in the vicinity of another user whose data has been uploaded to Pedulilindungi, the app enables an anonymous exchange of identities, according to its official website. The Pedulilindungi application is an application designed by the Ministry of Communication and Informatics and the Indonesian Ministry of BUMN (State-Owned Enterprises) to be used by the MOH and the Task Force in overcoming the COVID-19 pandemic.	Contact tracing, risk communication and community engagement		MOH		
Pikobar West Java COVID-19 Information and Coordination Center	Pikobar West Java COVID-19 Information and Coordination Center is an open source app and web tool that West Java citizens can use to access the latest COVID-19 data, submit requests for help, access emergency numbers, and clarify misinformation.	Risk communication and community engagement			Open source	Subnational
Qlue App	The Qlue App enables Indonesians to report neighborhood conditions to city authorities and businesses. Qlue introduced a new feature to allow citizens to report confirmed COVID-19 cases, which are then communicated to the government in an aggregated form to identify virus hotspots. The government can use this information to take necessary measures, such as enacting a smart lockdown and contact tracing.	Contact tracing, coordination and operations, risk communication and community engagement		Qlue		
RapidPro	RapidPro collects data via SMS and other communication channels (e.g., voice and social media platforms, such as Facebook Messenger, Telegram, and WhatsApp) to enable real-time data collection and mass communication with target end users, including beneficiaries and frontline workers. RapidPro also powers U-Report, UNICEF's youth and citizen engagement platform. As part of national systems strengthening, RapidPro supports digital health interventions in 18 countries. As a mobile tech programming tool, RapidPro allows partners to gather accurate real-time information on vital areas such as health, nutrition, education, water and sanitation, and child protection—even in remote and hard-to-reach places—and use that data to reach those most in need. In Indonesia, RapidPro has been used for national immunization campaigns to enable real-time coverage analysis at the community health center (i.e., puskesmas) level.	Risk communication and community engagement	UNICEF	MOH, UNICEF	Open source	National

 Digital tools deployed for COVID-19 response  Opportunities to adapt tools for pandemic response

Table 2. An in-depth look at digital health tools to support the COVID-19 response, continued.

Digital health tool	Purpose	Use case(s)	Funder(s)	Implementer(s)	Licensing	Scale
Safe Delivery App	The Safe Delivery App supports skilled birth attendants to quickly diagnose issues in pregnancy and with newborns, offering step-by-step guidelines to perform a treatment. It is free to download and can be preinstalled so that providers can watch the animated instruction videos and read the action cards and drug lists whether or not they have Wi-Fi. The Safe Delivery App includes the adaptation of a COVID-19 content module that provides skilled birth attendants (e.g., midwives) with key information, animated video instructions, and checklists to support them to limit the spread of COVID-19 in the health facilities, including information on infection prevention, breastfeeding, and vertical transmission.	Learning and training	Gates Foundation, Merck for Mothers, UNFPA	ICM, Laerdal Global Health, Maternity Foundation, Merck for Mothers, UNFPA, University of Copenhagen, University of Southern Denmark	Open source	National
Silacak (DHIS2)	Silacak is a national contact tracing information system and application jointly developed by the MOH and the National COVID-19 Task Force. Silacak was piloted in ten priority provinces (i.e., Aceh, Bali, Central Java, East Java, DKI Jakarta, North Sumatra, South Kalimantan, South Sulawesi, Papua, and West Java) with plans to expand its use to the other 24 provinces in Indonesia. Silacak is currently hosted by MOH's Data and Information system with nine dedicated servers.	Contact tracing				
SI-SDMK	SI-SDMK is the central human resources information system for the MOH, in particular the BPPSDMK, to support its role in the strategic management and planning of the health workforce. The SI-SDMK stores data on health workers, including name, basic biometric information, national identification number, facility location, category, employment status, entry/exit date, educational background, continuing education and in-service training data, as well as registration and licensure data. The SI-SDMK is managed by the Sub-Division for Data and Information of the BPPSDMK, which is responsible for the management of all human resources for health data for the MOH.	Health facility and provider administration	USAID	BPPSDMK, Chemonics, MOH		National
SISFO COVID	SISFO COVID is a web-based application for recording and reporting of COVID-19 specimen shipments used by data officers. The information system also tracks COVID-19 examinations at health facilities using all available methods (e.g., Rapid Test—Ab/Ag, RT-PCR, TCM).	Case management, laboratory systems		KNCV Indonesia Foundation, KNCV Indonesia Foundation		National
Sistem Monitoring Imunisasi Logistik secara Elektronik (SMILE) (Logistimo)	Indonesia introduced the system SMILE based on India's Electronic Vaccine Intelligence Network (Logistimo). SMILE works to ensure that vaccines are available to all children at all times. Logistimo is a fully mobile-enabled platform for supply chain management that countries can use to optimize supply chain performance across their networks to achieve optimal service quality. It enables inventory management, order management, demand forecasting, inventory optimization, remote temperature monitoring (for cold chains), and transportation logistics management. The tool includes a mobile app for supply chain handlers, a temperature monitoring logger, and a web interface for data storage.	Vaccine delivery and planning	UNDP	Logistimo, MOH, UNDP Indonesia	Open source	
Task Force for Handling COVID-19 Dashboard	This dashboard visualizes the COVID-19 situation in Indonesia, such as the number of confirmed cases, deaths, and total recovered. The tool also shows the breakdown of the cases per province.	Coordination and operations, risk communication and community engagement		Government of Indonesia		National
Teman Sehat (Health Buddy)	Teman Sehat is a mobile app with digital services that manage the booking, payment, and diagnostic testing for COVID-19 with certified results delivered within the hour.	Diagnostic tools		Achiko		National
US President's Malaria Initiative Digital Monitoring Tools for Community Response of COVID-19	This is a dashboard to present community response activities for COVID-19. The community activities can be disaggregated based on the territorial mapping (e.g., provincial, regency, subdistrict, village). This dashboard is used as an online monitoring tool to provide an overview of the progress of the US President's Malaria Initiative branches in their COVID-19 community response.	Coordination and operations	USAID	PMI/IFRC		Subnational

■ Digital tools deployed for COVID-19 response
 ■ Opportunities to adapt tools for pandemic response

Table 2. An in-depth look at digital health tools to support the COVID-19 response, continued.

Digital health tool	Purpose	Use case(s)	Funder(s)	Implementer(s)	Licensing	Scale
Viamo's 3-2-1 Service	Viamo's flagship product, the 3-2-1 Service, is a free information service available in 18 countries globally. Users can access prerecorded audio messages in local languages for free. Users can also play interactive audio games, which are engaging, pathway-based games that allow people to think through decisions on relevant topics. Existing technology integrations in-country can be used to reach any mobile subscriber on any network to disseminate crucial information throughout the targeted regions and to vulnerable populations. COVID-19 services/solutions via Viamo include national and regional awareness campaigns, mobile surveys, social media chatbots, COVID-19 case reporting hotline, COVID-19 support call center, outbreak mapping and data visualizations, and remote training for health workers. In Indonesia, this tool has been used to conduct three rounds of a known number survey to assess the socioeconomic impact of COVID-19. The 3-2-1 Service added agricultural messages and designed a market linkages mobile service to assist farmers to connect with value chain actors in Indonesia. This is part of DFAT PRISMA's COVID-19 response efforts because of the impact the pandemic has had on in-person interactions among value chain actors and farmers in Indonesia.	Risk communication and community engagement, routine surveillance		Palladium's DFAT PRISMA project, SMERU Research Institute, UNDP, UNICEF, Viamo	Proprietary	Subnational
World Continuing Education Alliance (WCEA)	This learning management system is a multifield eLearning and mHealth system that supports virtual and blended learning linked to certifications for professional development and lifelong learning. Examples of content include modules about nursing and midwifery and COVID-19 (both clinical and nonclinical). The platform generates reports on study habits and data of users (i.e., age, gender, location, qualification, role, employment status).	Learning and training		Midwifery Association, WCEA	Proprietary	National
Bahmni	Bahmni is an open source EMR and hospital information system that is currently deployed in more than 50 countries. Bahmni is a distribution of the OpenMRS medical record platform that is designed to help health workers improve the efficiency and quality of patient care, reduce the margin of error in clinical diagnosis, and advocate for policies related to public health in rural areas. It manages patient information in a flexible fashion throughout the care cycle, including registration, various points of care, investigations, laboratory orders and results management, picture archiving and communication systems, and billing. Bahmni released a COVID-19 kit that uses an OpenMRS module initializer to install forms that capture travel history and contact tracing, enable patient screening, and track information on home quarantining.	Case management, diagnostic tools, event-based surveillance, health facility and provider administration, laboratory systems, points of entry, supply chain	Unitaid	endTB, MSF, PIH	Open source	Subnational
Cadasta platform	Cadasta provides a common global platform and set of technology and training tools that allow local organizations, government entities, and communities to document and map land and occupants in a more quick, efficient, and affordable way. Cadasta uses an Esri-based suite of best-in-class tools and technologies that take the land-related data and migrate it into government systems. To best support community resilience in the face of COVID-19, Cadasta is providing consistent and cohesive community-level data concerning resources for response efforts, including medical clinics, pharmacies, hospitals, testing sites, and other treatment centers. The Cadasta platform is designed to be lean, agile, and easily configured for communities to use in response to a multitude of evolving needs, including those related to COVID-19 response.	Coordination and operations, risk communication and community engagement, routine surveillance		Cadasta, Daemeter	Proprietary	Subnational
Community Health Toolkit (CHT)	CHT is a collection of open source technologies and open access design, technical, and implementer resources and is a community of practice for digitally supported care delivery. It is designed to support community health systems and teams delivering care in the hardest-to-reach communities. The CHT has been adapted for COVID-19 response efforts in other countries to better facilitate investigation of COVID-19 alerts, as well as to effectively triage to ensure that those most at risk can access appropriate care in a timely manner.	Case management, contact tracing, coordination and operations, event-based surveillance, health facility and provider administration, laboratory systems, learning and training, points of entry, risk communication and community engagement, routine surveillance, vaccine delivery and planning		East Bali Poverty Project, Jhipiego, Medica mobile, MOH, Universitas Indonesia	Open source	Subnational

■ Digital tools deployed for COVID-19 response
 ■ Opportunities to adapt tools for pandemic response

Table 2. An in-depth look at digital health tools to support the COVID-19 response, continued.

Digital health tool	Purpose	Use case(s)	Funder(s)	Implementer(s)	Licensing	Scale
GxAlert	GxAlert is a digital platform that facilitates country-level surveillance of viral load laboratory testing results by allowing data to flow across the health system. GxAlert can connect to other electronic tuberculosis managers or M&E systems. GxAlert can also send targeted SMS alerts to facility managers, health officers, and suppliers. GxAlert enabled a solution to address the following gaps: (1) device management, monitoring, and reporting; (2) calibration, maintenance, and procurement planning; (3) lab technologists' capacity, availability, and training; (4) real-time results notifications to respective stakeholders including rapid case notifications for all positive results to all relevant health care officers; and (5) inventory management and notifications to reduce stockouts and expires. Countries can leverage GxAlert to quickly enable real-time reporting and notification of COVID-19 diagnostic data.	Diagnostic tools, event-based surveillance, laboratory systems		SystemOne	Proprietary	Subnational
Magpi	Magpi is a web-enabled mobile phone application used by volunteers to conduct house visits with a uniform approach and package of messages. Volunteers document the house visits in Magpi so that information is relayed to all campaign management levels. In Indonesia, Magpi is used to conduct baseline and endline surveys for community-based health and first aid programs. For COVID-19, Magpi could be used to map confirmed and suspected cases.	Contact tracing, event-based surveillance, One Health, points of entry, routine surveillance	American Red Cross, Spanish Red Cross	Indonesian Red Cross, Konsultan Magpi, Palang Merah Indonesia Kabupaten Kapuas	Freemium	National
OpenMRS	OpenMRS is a software platform and a reference application that enables design of a customized medical records system. OpenMRS has adapted its software to make it easier for 5,500 existing implementations to screen, test, and manage patients and to report data out efficiently to DHIS2 for public health surveillance.	Case management, contact tracing, event-based surveillance, health facility and provider administration, routine surveillance, vaccine delivery and planning		OpenMRS	Open source	
reach52	An offline-first Android and web platform, reach52 allows community health workers or residents of a community to provide better health access. A user can collect data on health needs (e.g., medical products, vaccines, medicines); run targeted health services, screening programs, and/or health campaigns; connect communities to medical advice; manage basic health records; order medicines; scan prescriptions; access and manage claims for health and life micro-insurance; and manage logistics for last-mile distribution of products. reach52 provides flexible data collection, education content, and program/service management. The tool can easily add in more questions or content for any disease, including COVID-19.	Case management, diagnostic tools, health facility and provider administration, learning and training, routine surveillance, supply chain, vaccine delivery and planning	reach52	reach52	Freemium	Subnational
THINKMD Clinical Decision Support Tool	THINKMD's platform is currently being implemented by community organizers working in the West Sumba region. Community organizers provide health education, assess potential danger signs, and refer program beneficiaries to local health facilities. Using the tool, implementing partners can supervise staff, monitor progress, and capture community-level public/population health data in real time.	Case management		THINKMD, Save the Children	Proprietary	Subnational
U-Report	U-Report has been used as a focused mHealth application, specifically providing real-time mobile counseling and conducting coordinated polls on HIV/AIDS among adolescents and young people. Youth networks use SMS and radio to facilitate community monitoring, discussion, and dialogue around key development issues, strengthening citizenship and democracy. U-Report has been adapted to support COVID-19 response efforts in Mozambique and Kenya.	Risk communication and community engagement	UNICEF	UNICEF	Open source	National

■ Digital tools deployed for COVID-19 response
 ■ Opportunities to adapt tools for pandemic response

At a glance

Figure 2 shows that Indonesia's digital health tools rely on different software licensing types with a mix of open source, proprietary, Freemium, and public domain tools. Figure 3 demonstrates that Indonesia has 19 digital health tools deployed on a national scale while 25 operate on a subnational scale. A limitation of the Map and Match analysis was the inability to find complete information about licensing type and scale of many of these tools in Indonesia. These figures are not specific to COVID-19 response, but they provide an overall picture of Indonesia's digital health infrastructure.

Figure 2. Software licensing types of Indonesia's digital health tools.

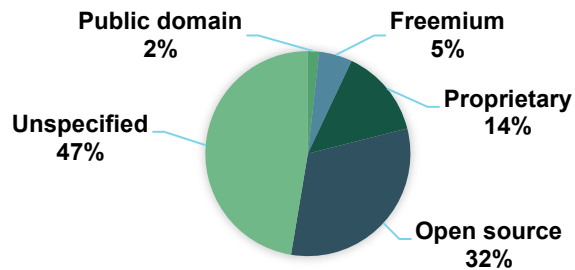
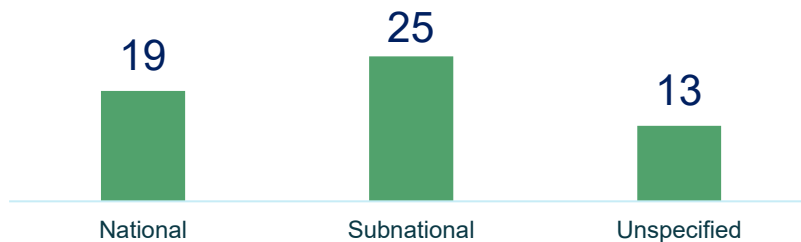






Figure 3. Number of digital tools deployed at scale in Indonesia.



Conclusion

Digital Square mapped 57 existing, adaptable digital health tools in Indonesia and matched them to help target investments to accelerate the country's COVID-19 response and simultaneously strengthen its health system. This brief underpins how critical it is to align funding to Indonesia's existing digital health infrastructure to bolster its capacity to mitigate the effects of the current pandemic and prepare the country to respond to future outbreaks.

Take action

- 
Coordinate with all digital systems stakeholders to create a unified, robust digital health system that can strategically and rapidly be part of the ongoing COVID-19 response. It is paramount to support the government's lead and support its national digital health strategies and the tools it approves. Visit the [Digital Health Atlas](#) to see a complete, regularly updated snapshot of Indonesia's digital health system. If you know of a digital system that is not identified in this brief, please add it to the [Digital Health Atlas](#).
- 
Reuse existing tools when possible. Do not invest in new systems if there are existing systems the government endorses that can effectively approach each of the pandemic use cases.
- 
Learn more about Indonesia's digital health systems and their role in the COVID-19 response by reviewing Indonesia's full Map and Match dataset.
- 
Apply GIZ's Assessment Tool for Digital Pandemic Preparedness to better understand the strengths and gaps in the country's COVID-19 response and to be well prepared for future disease outbreaks.

- 
Connect with additional relevant resources, including:

Digital Square continues to update its [wiki](#) with adaptations of Digital Square Global Goods and has a [COVID-19 resource page](#) that features hosted webinars that provide demos of tool adaptations.

The recently released [Global Goods Guidebook](#) (version 2.0) includes additional information about global goods deployment for COVID-19.

Map and Match's [project landing page](#) has many resources, including the Digital Applications and Tools Across an Epidemiological Curve, Global Goods Adaptations Across Use Cases, and other country briefs.

[Digital Solutions for COVID-19 Response](#), published by Johns Hopkins University, features digital platforms that have been adapted for COVID-19 case management and contact tracing needs. The assessment includes a review of nine tools that were selected based on their existing deployment, flexibility, and adaptability for COVID-19 use cases; their ability to support multiple languages; and stakeholder interest in how these applications can be leveraged in response to COVID-19.



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Annex 1. Abbreviations

Acronym	Definition
Ab/Ag	antigen/antibody
AI	artificial intelligence
BKKBN	National Population and Family Planning Board of Indonesia
BPPSDMK Development	Ministry of Health Board of Human Resources for Health Empowerment and Development
CDC	Centers for Disease Control and Prevention
CHWs	community health workers
CRS	Catholic Relief Services
CT	computed tomography
DFAT PRISMA	Australia-Indonesia Partnership for Promoting Rural Incomes through Support for Markets in Agriculture project
DHIS2	District Health Information Software 2
EMR	electronic medical records
GCC	Grand Challenges Canada
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
HIS	Health Information System
HISP	Health Information Systems Programme
HR	human resources
HRH2030	Human Resources for Health in 2030
ICM	International Confederation of Midwives
IDBH	IDBH Senso
IFRC	The International Federation of Red Cross and Red Crescent Societies
M&E	monitoring and evaluation
MNCH	maternal, newborn and child health
MOH	Ministry of Health
MSF	Médecins Sans Frontières
Norad	Norwegian Agency for Development Cooperation

Acronym	Definition
OpenMRS	open source Medical Record System
PEPFAR	US President's Emergency Plan for AIDS Relief
PIH	Partners In Health
PMI	Palang Merah Indonesia (Indonesia Red Cross)
PMI	US President's Malaria Initiative
RDT	rapid diagnostic test
RT-PCR	reverse transcription polymerase chain reaction
SID	Summit Institute of Development
SI-SDMK System	System Information SDM Kesehatan/Human Resources for Health Information System
SMS	short message service
SNV	SNV Netherlands Development Organisation
TCM	Tes Cepat Molekuler/Molecular Rapid Test
THRIVE	Technologies for Health Registers, Information, and Vital Events project
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WCEA	World Continuing Education Alliance

Annex 2. Use case definitions

Category	Objective	Functional description
Case management	Systematic processing of suspected infected persons	Systems for documenting patient details and clinical interactions
Contact tracing	Reduction of epidemic reproduction rate	Identification and follow-up with people who have had high-risk interactions with infected persons
Coordination and operations (including emergency operations centers)	Preparedness and response plans, support for multisectoral responses	Systems to support cross-coordination for multisectoral response, emergency operations centers, and executing response plans
Data analytics, visualizations, and use	Efficient and effective response to validated outbreaks	Systems for enabling data-driven decision-making and communications to field teams
Diagnostic tools	Improve efficiency in clinical diagnosis and collection of data from diagnostic tools	Diagnostic tools with digital connectivity to support monitoring, documentation, and reporting of diagnoses
Event-based surveillance (including rapid response teams, case investigations)	Early detection of outbreaks and epidemics, case detection and investigation, national and subnational emergency operations to ensure rapid management of infectious disease	Systems with functionality or ability to monitor patterns indicative of infectious disease epidemic outbreak; systems to detect and document cases of emerging disease threats, investigate those threats, identify cases, and manage the response
Health facility and provider administration	Robust organizational underpinning for response	Systems for managing facility accounting and HR
Infection prevention and control	Prevent infection among patients and health workers	Systems that support triage, isolation, WASH, waste management to prevent transmission to staff, other patients, and the community
Interoperability	Improve effectiveness of tools	Provision of standardized interfaces to other software modules
Laboratory systems	Validation of infectious disease incidence	Systems with functionality to order lab tests, follow progress of patient sample, receive test results (confirm suspected case)
Learning and training	Support health worker readiness, including improve patient data collection and sample testing	Localized E-learning solutions for health workers and others
One Health	Prevent zoonotic disease outbreaks	Monitoring of potential vectors to humans by tracking infectious diseases in local wildlife and livestock
Points of entry	Detect and manage international spread of disease by identifying suspected infected persons at border entry points	Systems to strengthen border health security, screen, and follow-up with suspected infected persons at ports of entry and other border entry points
Risk communication and community engagement	Improved public awareness of facts and best practices for disease prevention	Systems for channeling messaging and communication to public to promote public awareness, counter misinformation, encourage treatment seeking behaviors, and encourage citizens to take appropriate actions to promote health
Routine surveillance	Routine health data monitoring to identify trends	Systems to manage health data and track trends on an ongoing basis, regardless of whether there is an outbreak or epidemic; systems usually include aggregate data
Supply chain	Support allocation of resources to aid in response	Systems for monitoring facility readiness and stock levels
Vaccine delivery and planning	Systematic monitoring of vaccinations in the population	Systems for documenting vaccinations for patients







Annex 3. Digital tools supporting vaccine deployment

Digital technologies can act as accelerators for the introduction, deployment, and scale-up of vaccines in countries to assist health workers, communities, and other stakeholders. The use of digital tools and the data they enable facilitate rapid, iterative, and scalable approaches to ensure vaccines are safely delivered to health facilities, that health workers are equipped to administer them, and that communities are informed and confident in their efficacy.

Through the Map and Match project, Digital Square mapped the existing functionality of approved global goods to COVID-19 use cases, including those supporting planning, delivery, administration, and monitoring of COVID-19 vaccines. These adaptations and supporting resources are listed on Digital Square's [wiki](#).

Table 3 illustrates how digital tools can support activities aligned to five use cases focused on vaccines. Digital Square has information about its approved global goods and how they align to these use cases currently as well as potential adaptations on its [website](#). This list does not include all digital public goods in the digital health ecosystem. Other tools like RapidPro and WelTel, which are not supported through Digital Square, can be included in these use cases.

Table 3. Global goods tools to support vaccine deployment use cases.

Description of vaccine deployment use cases	Digital Square approved global goods use cases
<p>Plan for vaccine introduction in country</p> <p>Digital tools can be used for planning and “microplanning” to inform how many vaccines are needed, where vaccines can be stored and monitored, who the most vulnerable populations are and where they are located, and other information essential to planning. Assessing the tools and data available throughout the health system, including patient data and health worker data, will inform this planning.</p> <p>As part of a vaccine introduction, governments need to build awareness of the vaccine and its benefits, and combat misinformation. Digital tools can be used for planning purposes to send messages to both health workers and communities about the vaccine.</p> <p>Training health workers is essential before introducing a new vaccine. Governments need to provide information to health workers on vaccine administration, possible side effects, and how to treat patients showing adverse reactions. Digital tools can be leveraged to rapidly share this information and offer virtual training.</p>	<p> Messaging</p> <p> Microplanning</p> <p> Training</p>
<p>Support vaccine introduction</p> <p>Digital tools can enhance the launching of a vaccination campaign. Communication tools like SMS and social media can support rapid information sharing with communities as the vaccine is made available.</p> <p>Pharmacies, hospitals, clinics, and other facilities use robust digital systems to ensure vaccines are stocked at facilities by tracking inventory and shelf life and ordering additional supplies when needed. Digital tools can manage the transactional movements of vaccines within multilevel supply chains. Supply chain systems can also ensure that syringes, diluents, and other materials needed for vaccine delivery are stocked.</p> <p>Digital tools can support temperature monitoring during transport and where vaccines are stored. Remote temperature monitoring can improve cold chain performance, giving health workers assurance that vaccines are safe and effective.</p> <p>Digital tools can track when clients receive vaccines as well as other data fields (e.g., vaccine type, immediate negative reactions, and longer-term potential adverse events). Countries can adapt existing electronic immunization registries (EIRs) for vaccine monitoring and follow-up.</p>	<p> Patient monitoring</p> <p> Supply chain</p> <p> Vaccine management</p>

Digital Square approved global goods use cases



Electronic immunization registries

DHIS2 Tracker, OpenSRP, OpenMRS, Tamanu



Messaging

CommCare, Community Health Toolkit, mHero, OpenSRP



Microplanning

Healthsites, OpenSRP, Reveal



Patient monitoring

CommCare, DHIS2 Tracker, OpenSRP, SORMAS



Supply chain

DHIS2, OpenLMIS, Logistimo, OpenBoxes, Product Catalogue Management Tool



Training












CommCare, Community Health Toolkit, mHero, OpenSRP, SORMAS



Vaccine management

CommCare, Community Health Toolkit, DHIS2, DHIS2 Tracker, Logistimo, OpenBoxes, OpenLMIS, OpenSRP, Tamanu

Table 3. Global goods tools to support vaccine deployment use cases, continued.

Description of vaccine deployment use cases	Digital Square approved global goods use cases
<p>Enhance roll-out of vaccine, support ongoing vaccine monitoring</p> <p>In this phase, scaling to vaccinate large portions of the population is a priority. Vaccine roll-outs can be enhanced by adapting digital tools to add workflows and functionality as vaccine coverage expands. Governments need to consider additional information communications technology (ICT) needs like larger cloud-hosting services and use of tools that are operational offline for areas that have limited mobile network coverage.</p> <p>Supply chain is critical as vaccines are transported to more sites across the country. Digital supply chain tools, especially when paired with vaccine delivery data (e.g., from electronic medical records/EIRs), can help forecast supply needs and include decision support to prompt vaccine orders when supply falls below a defined threshold.</p> <p>EIRs and other tools can help prevent overcrowding in clinics by scheduling specific clinic times for vaccines. This ensures more equitable distribution of health services.</p>	<ul style="list-style-type: none">  EIRs  Supply chain  Patient monitoring  Vaccine management
<p>Enhance communication to sustain vaccine demand</p> <p>Many COVID-19 vaccines are multi-dose shots. To ensure clients receive boosters, now and in the future, enhancing communication to sustain demand for the vaccine is important. Digital tools can be used to send messages to both health workers and communities about the vaccine. Communication tools can be linked with patient monitoring tools to automatically trigger direct communication to clients. Digital tools can continue to be used to increase vaccine demand and address misinformation, dispelling rumors and misinformation that cause vaccine hesitancy.</p> <p>Many EIRs include contact information and messaging features for patients' caregivers, allowing for direct communication to caregivers. These messaging features have historically been used to notify caregivers about upcoming immunization sessions or overdue vaccines. As the global community develops a greater understanding of COVID-19—including its transmission patterns, full range of symptoms, and treatment options—health workers also have the ability to share health promotion messages with patients.</p>	<ul style="list-style-type: none">  EIRs  Messaging  Patient monitoring
<p>Use data to inform vaccine-related decisions</p> <p>Patient monitoring and tracking tools as well as EIRs can help generate meaningful insights for future vaccination efforts and encourage data-driven decisions when countries are able to plan for catch-up campaigns. For example, some EIRs can quantify the number of missed vaccines and determine which areas have been under-vaccinated. This individual-level data will enable decision-makers to target immunization services and allocate funding to those areas most in need. For more information, this publication explains how Gavi and UNICEF are working to scale up use of digital tools for vaccination campaign performance monitoring.</p> <p>Interoperability is critical. As governments review the portfolio of tools and systems that are in place to support vaccine management, it is crucial that there is strong consideration given to the movement of data between systems to ensure a harmonized set of records for the population. This ensures that no individual is missed or counted twice.</p>	<ul style="list-style-type: none">  EIRs  Patient monitoring  Supply chain  Vaccine management

Digital Health Center of Excellence (DICE) to support the COVID-19 pandemic response

As countries operationalize their COVID-19 vaccine rollout plans, there is an opportunity to identify areas where digital health interventions can amplify these efforts, while improving service delivery and strengthening health systems more broadly.

The success of digital health solutions often correlates with the strength of the enabling environment for these technologies, such as ICT infrastructure readiness, workforce capacity, data standards, interoperability, and the policy and regulatory environment. Poorly designed or inappropriate digital interventions, as well as vertical approaches geared only toward COVID-19, risk undermining and ultimately weakening national systems.

To more effectively organize support to countries for COVID-19 response, a multiagency COVID-19 DICE, with a UNICEF-WHO cohosted secretariat, will launch in April 2021. The DICE will provide coordinated technical assistance to low- and middle-income countries to support sustainable and scalable deployment of carefully chosen digital health solutions that support COVID-19 pandemic response plans.

Areas the COVID-19 DICE covers include:

- Support countries to conduct a structural readiness assessment of their enabling environment, define business requirements, conduct platform analysis, and map partnerships, existing tools, and gaps. Along with support to countries, this will require standardizing approaches and tools across development partners.
- Coordinate surge support to countries to assist in their development of a rapid strategic approach to meet the imminent needs of the vaccine delivery and transition to a sustainable strengthened and digitally enabled health system.
- Foster capacity and partnership with regional and national digital health experts toward the development of capacity that can provide long-term technical support to the region.
- Strategically support developers and product owners to modify and optimize software products relevant for pandemic response and vaccine delivery toward interoperability, standardization, and vaccine-specific functionalities.
- Complement and operationalize WHO and UNICEF guidelines developed in the context of the Access to COVID-19 Tools Accelerator (ACT-A) to further clarify and identify mature options open to countries building health infrastructure.
- Support the transition, alignment, and integration of COVID-19-related digital health investments through a systems strengthening lens.
- Pilot and assess transformative approaches to digital health deployments, monitor global developments and opportunities for standardized approaches, increase south-south knowledge transfer, and compile lessons learned.