Department of Health & Social Care

UK International Development
Partnership | Progress | Prosperity

Global Health Partnerships
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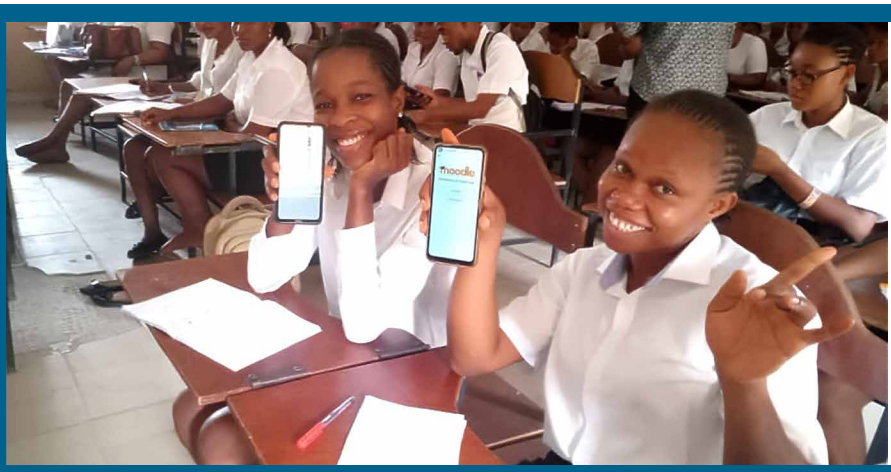
SOLUTIONS

Global Health Workforce Programme (GHWP)

Digital Technologies & Innovation



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Executive Summary

In February 2024, the UK Department of Health and Social Care commissioned Global Health Partnerships to deliver the inaugural phase of the Global Health Workforce Programme (GHWP). This ambitious programme is designed to strengthen the resilience of national health systems, with phase one focused on Ghana, Kenya and Nigeria. Forty-one locally led Health Partnerships were tasked with expansion of workforce capacity, improving quality and accessibility of training, supporting retention and wellbeing, and introducing innovative approaches to workforce delivery. Each project carefully aligned with national priorities and embedded gender, equity and social inclusion (GESI) principles. Digital health interventions played a central role across the programme, enabling scalability, sustainability and impact, and translating strategic ambition into tangible improvements across the portfolio.

This report presents a scoping review of digital innovation across the GHWP programme, combining project data with the World Health Organisation (WHO) Digital Health Interventions Framework and Health Systems Building Blocks to classify and analyse impact. Desk review findings were supplemented by three in-depth case studies to capture implementation experience, measurable outcomes, and early lessons relevant to both the GHWP and wider global health workforce development efforts.

Findings indicate that 11 of the 41 Health Partnerships used digital tools such as telemedicine, mobile applications and Artificial Intelligence (AI) as the primary lever for innovation, while a further 14 integrated digital support and online communications to enhance project management. All digital interventions addressed supply constraints for the health system, most commonly, workforce competence, supervision, leadership and geographic access. Activities primarily targeted healthcare providers and managers, with some additional support functions such as infrastructure development. Case studies demonstrate strong integration of digital solutions into national systems, professional curriculum and standardised Continuous Professional Development (CPD), signalling programme maturity beyond pilot phase. The strongest outcomes were achieved through blended models combining digital tools with in-person delivery,

peer support and adaptive features such as offline access and low bandwidth platforms. System level value was greatest where Digital Health Interventions (DHI) were embedded in established practice, enabling trained participants to emerge as local leaders and champions within their institutions and communities.

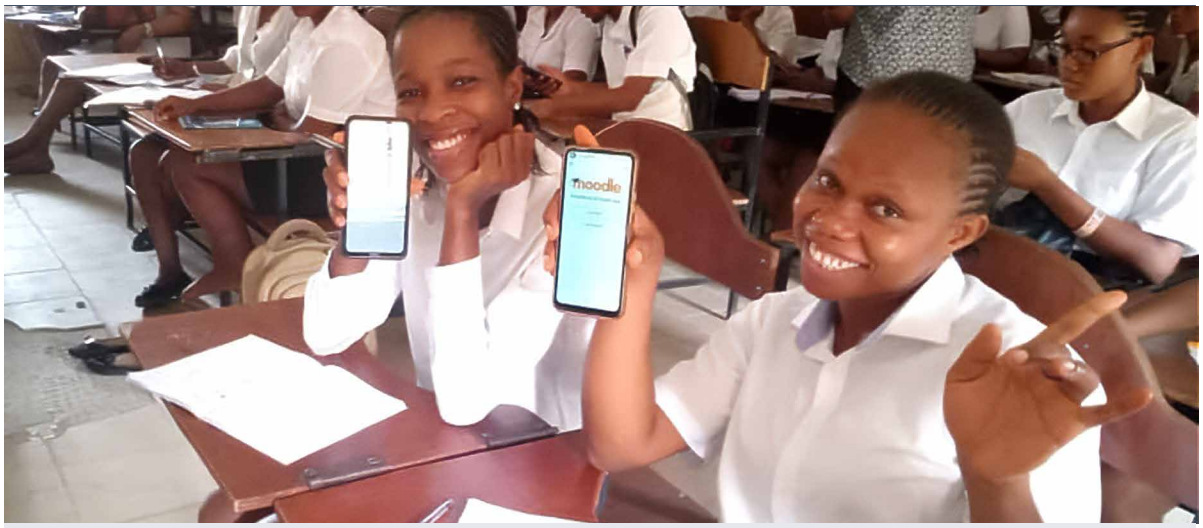
Initial lessons highlight the importance of sustained partnership, early system integration and formal national alignment in achieving scale and sustainability. Future efforts should prioritise standardised digital health reporting within the GHP monitoring framework to strengthen the evidence base on the added value of these interventions at both the local and system level. Additional priorities include deeper engagement with emerging technologies such as AI, stronger collaboration with diaspora health professionals, intentional reverse innovation, and mainstreamed investment in power and connectivity. Explicit testing of demand-side digital innovations that understand user behaviour and reduce barriers will further support learning, accountability and strategic prioritisation, enabling future GHWP work to accelerate progress towards Universal Health Coverage and more resilient health systems.

Acronym List

AI	Artificial Intelligence
CPD	Continuous Professional Development
CIT	Community Innovation Teams
CSO	Civil Society Organisations
DHI	Digital Health Innovation
DHSC	Department of Health and Social Care
eLMS	Electronic Learning Management System
FCS	Fragile and Conflict-affected States
GESI	Gender, Equity and Social Inclusion
GHP	Global Health Partnerships
GHWP	Global Health Workforce Partnerships
HBB	Health Building Blocks
HEI	Higher Education Institutions
HP	Health Partnerships
HSS	Health System Strengthening
ICT	Information Communications Technology
ODA	Overseas Development Assistance
OOP	Out of Pocket (expenditure)
LMG	Learning, Management and Governance.
MDT	Multidisciplinary Team
MEAL	Monitoring, Evaluation, Accountability and Learning
MAF	Medical Aid Films
NHS	National Health Service (UK)
PA	Professional Associations
PCI	Primary Care International
PHC	Primary Health Care
PHW	Primary Health Workers
PoP	Principles of Partnership
RAG	Red Amber Green (Matrix)
REaCH	Remote Consultations for primary Healthcare
RB	Regulatory Bodies
ToC	Theory of Change
ToT	Training of trainers
VfM	Value for Money
WB	World Bank
WHO	World Health Organisation
UHC	Universal Health Coverage

Key Terms

Demand (Health) Factors	Population characteristics, health needs and utilisation patterns, used to establish demand for services and service providers.
Digital health intervention	A discrete technology functionality – or capability – designed to achieve a specific objective addressing a health system challenge.
Digital health application	The software, information and communications technology (ICT) systems or communication channels that deliver or execute the digital health intervention and health content.
Health system challenge	A generic (not health domain specific) need or gap that reduces the optimal implementation of health services. Health system challenges represent a standardized way of describing bottlenecks. For example, "loss to follow-up" is a health system challenge used to generally describe specific bottlenecks that may be articulated as "the person did not come back for their appointment" or "the person has not received a follow-up vaccination".
Innovation	Creation of something fundamentally new and different, including devices, technique, system, model or role.
Reverse Innovation	An innovation flow from low- to high-income countries.
Supply (Health) Factors	Supply of available health care providers and services as it relates to population needs. Includes entrants and attrition of providers in the labour market, with available equipment, commodities and services.



LG.83. nursing students eLearning with mobile applications

Introduction

Global Health Partnerships (GHP) envisions a world where everyone has access to quality healthcare. For almost 40 years, GHP has fostered long term Health Partnerships in over 30 countries, supporting health workers to strengthen health systems from within, and championing innovative programmes that save lives. Guided by its Principles of Partnership (PoP), GHP works with health institutions, international bodies and national health workers to address a wide range of global health challenges, creating sustainable impact and value for money through the exchange of skills, knowledge and experience.

In February 2024, the UK Department of Health and Social Care (DHSC) commissioned GHP to lead the first phase of the Global Health Workforce Programme (GHWP) in Ghana, Kenya and Nigeria. The programme aims to strengthen national health system resilience and to accelerate progress towards Universal Health Coverage (UHC). It does this by i) enhancing health workforce capacity aligned with national strategies and gender equity; ii) expanding the number and quality of training opportunities; iii) supporting retention and wellbeing; v) and the development and sharing of innovative workforce approaches across the programme and wider global health sector.

To deliver these objectives at scale, GHWP has invested in a portfolio of locally led partnerships that use innovative approaches - including the use of digital health interventions - to amplify impact and optimise results.

Accelerating Health Workforce Capacity through Digital Health and Innovation

Digital Health Interventions (DHI) are powerful tools for transforming health systems and workforce development. By expanding access to high-quality training, standardising clinical competencies, and enabling remote support, DHI can overcome barriers of distance, cost and mobility, while creating value for money [1,2]. When integrated into national governance and regulatory systems, these technologies strengthen career pathways, improve recruitment and retention, and promote climate-conscious models of care by reducing travel and resource consumption [3-5].

GHWP participants receiving digital skills training in Nigeria

GHP's digital innovation agenda extends beyond technical capabilities to advance broader global health priorities. By investing in locally led, low-cost digital solutions, GHP supports the decolonisation of health programmes, ensuring that knowledge creation, decision-making, and implementation are rooted in national expertise rather than externally imposed models [6]. Remote training and care delivery further democratise access for underserved communities aligning with GHP gender, equality and social inclusion (GESI) principles and an equitable partnerships approach [3]. At the same time, by reducing the need for frequent international travel, DHIs support climate conscious programme delivery,

minimising the carbon footprint of these health workforce development initiatives [7].

Embedding digital tools within national systems promotes sustainable financing and delivers better value for money [1,6,9]. When DHI are aligned with national strategies and Official Development Assistance (ODA) priorities, they reinforce efficiency, accountability, and long-term sustainability, rather than being treated as stand-alone “silver bullet” solutions [8]. By strengthening local capacity - through reduced reliance on recurrent in-person training and the leveraging of low-cost digital platforms - DHIs can generate lasting health system benefits while optimising resources an increasingly constrained funding landscape.

Methodology

This scoping review explores where and how GHWP projects have leveraged digital health interventions to strengthen and scale their results. A desk review combines programme data with the WHO Digital Health Interventions (DHI) Framework and WHO Health Systems Building Blocks (HBB) to classify interventions and assess system impact. Three case studies offer additional insights into the implementation of these digital solutions, with lessons learnt for GHWP and the wider global health sector.

Digital Health Innovation Framework (version 2.0)

The WHO DHI Framework was relaunched in 2023 and provides a standardised classification for digital health and innovation programmes, mapping digital tools to health challenges, intervention types and service applications (see annex 1 for matrix and indicators) [9].

Health Systems Building Blocks

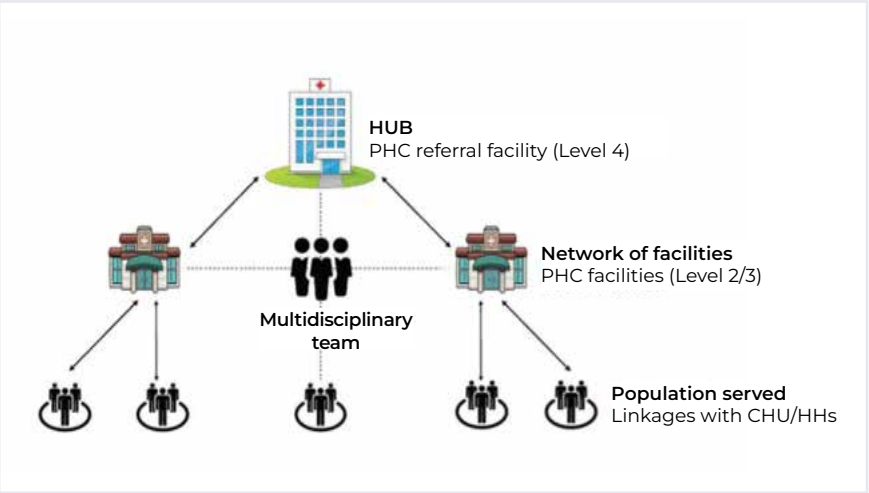
The WHO Building Blocks of Health System Strengthening framework outlines six core system components - leadership and governance, health financing, workforce, medical products and technologies, information and research, service delivery – to guide investment towards improved responsiveness, financial protection and efficiency. Programme data was analysed against these building blocks to assess access, coverage, quality and safety [10].

The review presents an overview of digital innovation in the GHWP programme. It references the 25 projects that reported digital engagement, through platforms such as WhatsApp and Zoom. It then focuses in greater depth on the 11 projects where Digital Health Interventions (DHI) were central to programme design and delivery, in order to maximise learning and shape recommendations.

Global Health Workforce Programme

In its first 18 months, GHWP has invested in 41 Health Partnerships across Ghana, Kenya and Nigeria. Supported activities have included the strengthening of pre-service and postgraduate training across a range of specialities; facilitation of cross-country exchanges to build health workforce capacity; efforts to improve retention of health workers in underserved districts; scaling of remote care; and contributions to national policy development, such as Nigeria's new national eye health strategy [11].

Of the 41 projects in the GHWP portfolio, 11 directly used digital tools to accelerate their stated outcomes, while a further 14 combined digital tools and innovation principles to catalyse transformation, giving a total of 25 projects with digital components. These were distributed across all three countries; Nigeria (n=8), Kenya (n=12), and Ghana (n=12), with six projects delivered across more than one site. Whilst 2 of the 25 projects (8%) were delivered solely in rural communities, and 5 (20%) in urban centres, the majority of digital projects (18/25; 72%) used hub-and-spoke or train the trainer models to cover both urban and rural communities.



LG.46 Example Hub and Spoke Model: Leadership skills in Kenyan Primary Care

Delivery partners consisted of Higher Education Institutions, Civil Society Organisations, Regulatory Bodies, Professional Associations and Healthcare Providers e.g. NHS trusts and frontline partner health facilities. Grants were either larger awards of £200-300,000 (14/25, 56%) or small grants of up to £50,000 (11/25, 44%). Larger grants were predominantly secured by HEI (7/14, 50%) and CSO (7/14, 50%), with small grants awarded to a broad range of partners. All large grants for digital programmes were led by UK institutions or international organisations with the exception of NANA Girls and Women's Empowerment Initiative in Nigeria who secured a larger grant in partnership with Medical Aid Films (MAF) UK.

Lecturers creating digital learning content.

Table 1. GHWP partner summary for digital health interventions

Partner Type	UK Partner	Host Country Partner
Higher Education Institutions (HEI)	8/25 (32%)	7/25 (28%)
Civil Society Organisation (CSO)	11/25 (44%)	6/25 (24%)
Regulatory Bodies (RB)	0	2/25 (8%)
Professional Associations (PA)	2/25 (8%)	6/25 (24%)
Front Line Health Professional	4/25 (18%)	3/25 (12%)

Table 1. GHWP partner summary for digital health interventions

Digital Health Interventions

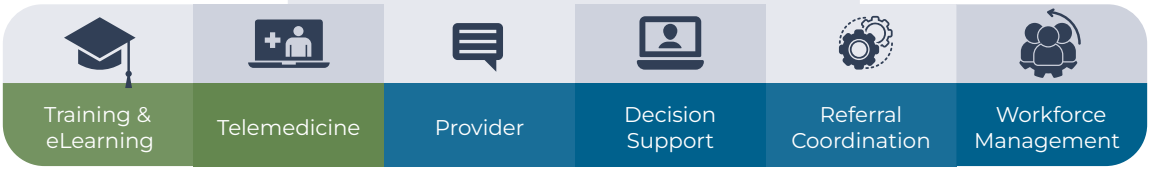
A scoping review of Health Partnership projects revealed that digital health interventions primarily targeted health system quality challenges, driven by insufficient workforce competence (DHI indicator 3.2 – see annex 1) and limited available supervision (indicator 3.6). Utilisation challenges were also common, with geographic inaccessibility (indicator 5.2) being a key factor, alongside shortages of qualified staff (indicator 2.4), equipment (indicator 2.3) and service provision (indicator 2.2). Overall early findings from GHWP projects suggest that supply challenges rather than demand were the main barrier addressed by digital interventions. All projects featured health worker capacity building interventions (indicator 2.0), with a single health partnership in Nigeria reaching more than 3,100 students through digital resource creation (LG.83 - see annex 2 for Health Partnership codes). Blended learning models combined remote and in person training to strengthen both physician anaesthetist capacity in Ghana (LG.04) and emergency care training in Nigeria (LG.130).

Digital solutions, including peer support, webinars and online learning, strengthened Multidisciplinary Team (MDT) breast cancer management in Nigeria and Ghana (LG.16). Beyond clinical skills, programmes also used electronic Learning Management Systems (eLMS) and online mentoring to strengthen leadership, management and governance (LMG) skills of 63 PHC managers across 10 counties in Kenya (LG.46) These programmes were complemented by investments in sustainable infrastructure such as solar power and multimedia studios (LG.83). Further programme details are provided in annex 2.

DHI Category Interventions

within the Global Health Workforce Programme (GHWP)

Digital Intervention types



DHI Category Interventions

	Health Partnerships	2.1 Identification & Registration	2.3 Health Provider Support	2.4 Health Provider Telemedicine	2.5 Provider Communication	2.6 Referral Coordination	2.7 Scheduling & Activity Planning	2.8 Health Worker Training	3.1 Human Resources Management
LG.04	Anaesthetist training in Ghana				✓			✓	
LG.06	Remote Consultations for primary Healthcare (REaCH)			✓				✓	
LG.116	Oncology Training & Resources (Nigeria and Ghana)		✓		✓	✓		✓	
LG.130	Emergency Obstetric & Newborn Care in Nigeria		✓	✓	✓	✓		✓	
LG.24	Emergency care workforce through a nationwide site network in Kenya.		✓		✓			✓	
LG.46	Strengthened leadership capacity of Kenya's health workforce.	✓	✓		✓	✓	✓	✓	✓
LG.83	Nursing & Midwifery Education in Nigeria			✓	✓			✓	
SG.16	Community care training				✓			✓	
SG.23	AI-driven eLearning	✓	✓		✓	✓		✓	✓
SG.24	Increasing Palliative Capacity in Kenya, through 'Hi-Five' approach.		✓		✓			✓	
SG.56	Scaling Mental Health Support & Supervision in Kenya				✓	✓		✓	

Health System Strengthening

Digital Health Interventions (DHI) under the GHWP have strengthened national health systems, driving measurable improvements in access, quality coverage and safety (annex 3).

Access:

Application of digital tools, including online platforms and telemedicine, expanded access to health services across GHWP projects, particularly for remote and rural populations. This was demonstrated by the REaCH project's use of remote consultation in Ghana and Nigeria (LG.06). Standardised training, clinical protocols and MDT referral mechanisms further improved the service availability and strengthened the capacity of qualified staff, as seen in the BFIRST programme which combined interdisciplinary webinars with blended learning to enhance breast cancer care in Nigeria and Ghana (LG.116). Workforce focused digital interventions, such as remote training (LG.130), standardised leadership and management skills (LG.46) and extended faculty coverage through online services for underserved communities (LG.04), supported improved utilisation and retention of healthcare workers. Access to technologies was also demonstrated through the provision of digital equipment and solar infrastructure, ensuring reliable power for delivery of education and training in both healthcare facilities and Higher Education Institutions (LG.83).

Quality

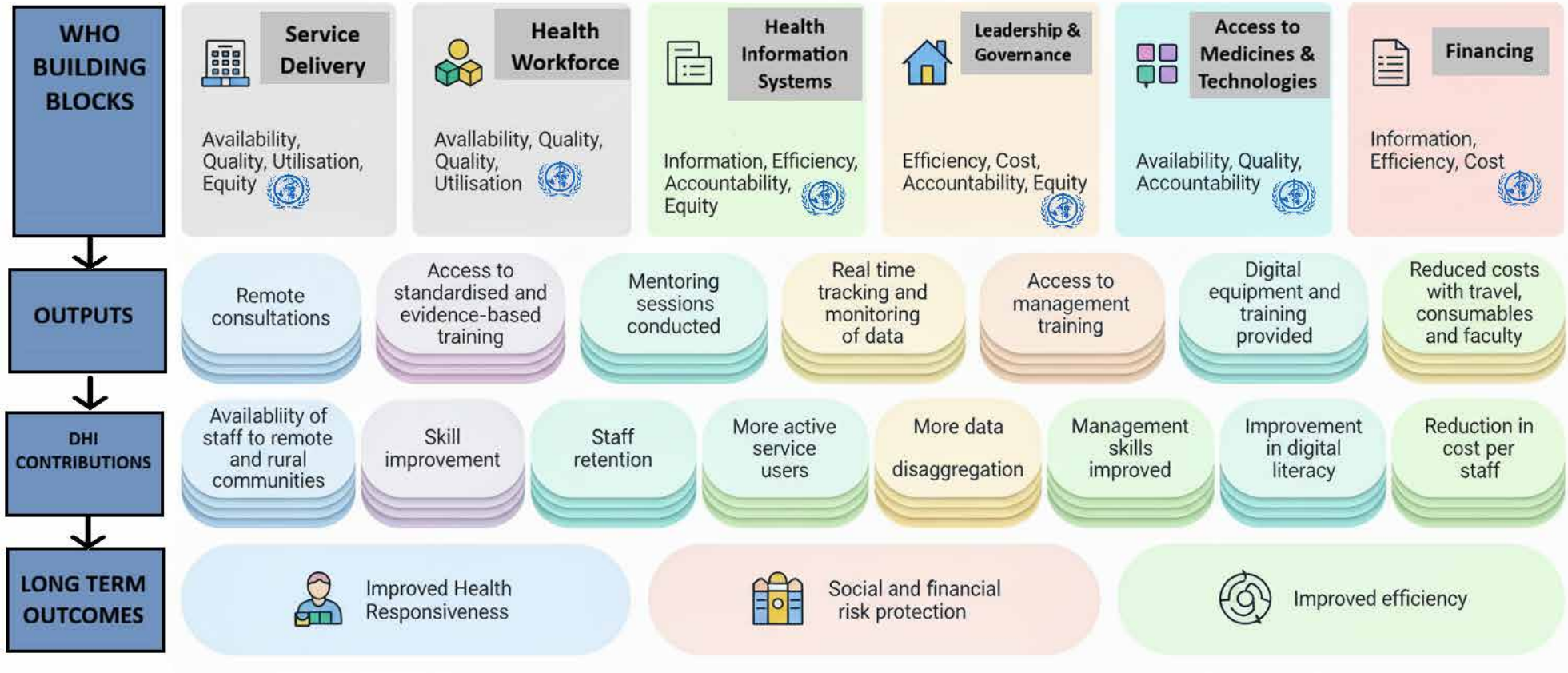
Quality of care was enhanced through digitally supported supervision and peer support programmes, exemplified by the strategic Health Partnership which targeted delivery of care in marginalised communities in HomaBay County, Kenya and Liverpool, UK (SG.16), as well as the development of national emergency care networks in Kenya (LG.24). Investment in digital leadership, management and governance projects strengthened the standard of management practices and policies (LG.46). Additionally democratised access to eLMS and multimedia teaching resources in 8 of the 11 DHI projects also enhanced the quality and longevity of educational materials, ensuring availability beyond the project lifecycle.

Coverage

Across all projects, digital solutions expanded both current and future service coverage by extending training and supervision to previously underserviced areas and marginalised groups in the UK and the three partner countries. Activities combined community engagement with pre-service and in-service health workforce development, including curriculum design and development, undergraduate teaching and Continuous Professional Development (CPD) for medical, nursing and allied health staff**.** Participant satisfaction was high, averaging 80% across the projects, driven by accessible, relevant content designed for wide use across multiple devices, including offline, and tailored to a multigenerational workforce. These factors are expected to support improved workforce retention, although longer term follow up will be required to confirm this impact.

Safety

Safety was reinforced by digital interventions through more accountable systems, standardised competencies and protocols for monitoring patient care. Cost efficiencies from digital delivery models, local administrations, and train the trainer approaches also supported sustainable, equitable, and safe health services.



GHWP Health System Challenges and Building Blocks

Case Studies

The following case studies highlight the digital innovation across GHWP, revealing how partners used digital health to accelerate progress towards their targets and that of the programme. Measurable impact and partner feedback help to build a picture of lessons learnt from the first 18 months and to identify prioritisation of recommended next steps - both for the Partners and for future global health workforce development efforts.

Case Study 1.

LG.O6: Kings College London UK. University of Ibadan, University of Warwick UK, Bayero University, Kano, and the University of Ghana.

WHO Health Challenges

Sustainable development goals

Partners

This Health Partnership used the REmote Consultations for primary Healthcare (REaCH) training platform to train Primary Health Workers (PHW) and pre-service healthcare trainees in Ghana and Nigeria on

remote consultation. The programme was embedded within Continuous Professional Development (CPD), in-service training and preservice training curricula. The training strengthened health worker capacity, to deliver care in 46 facilities in hard-to-reach areas, supporting progress towards Universal Health Coverage. Ongoing engagement with State Level Primary Healthcare Development Agencies has enabled sustainability and the scalability of the intervention nationally and in the wider region.

Digital Health Intervention

Phase one of this project partnered with 47 Primary Health Care (PHC) facilities to implement digital health interventions across Nigeria and Ghana. Five online training modules were developed and delivered via online platforms and mobile applications. To ensure access modules were offered in offline versions and available on a range of devices, with training targeted at those delivering care at a primary health care level. **Training was delivered to 796 trainees** (470 students and 325 in-service health care workers). This demonstrated **an increase of 47%** compared to target of 375 trainees in the same period.

Telemedicine services were also established in each project site, with the number of remote consultations doubling from baseline during the programme lifecycle, for example, reaching **1012 consultations in Ibadan.**

Use of digital communication channels, including mobile apps, WhatsApp groups, QR codes and video conferencing software facilitated the operational management of the project.

GHWP Targets

Health Workforce Capacity: Training was formally accredited as CPD by the Nursing and Midwifery and Dental and Medical Councils in Ghana, and well as the Nigerian Community Health Practitioners, Medical and Dental, and Nurses and Midwifery Councils of Nigeria - with **plans to integrate the training into in and pre-service curriculum in 2026.** Training modules emphasised leadership skills, equipping participants to apply their new technical skills in mentoring, supervisory and decision-making roles.

GESI: GESI was embedded across both project design and delivery. **Women made up 51% of project trainees** and content explicitly promoted GESI principles, such as inclusive admissions policies and greater diversity of representation in student cohorts. Additionally, remote consultations expanded access to underserved populations - including women, children and persons with disabilities.

Sustainability and Climate: Training is now available via mobile app on the Google Play Store. By reducing the need for physical travel, infrastructure and consumables, the project lowered its environmental impact whist strengthening efficiency and reach.

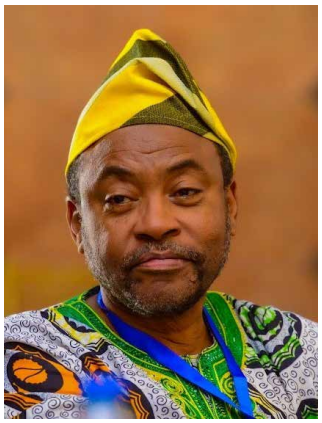
Universal Health Coverage: The uptake in telemedicine contributed to reduction in Out of Pocket (OOP) expenditure by offering local care solutions to ensure no one was left behind as a result of geographic, social or financial barriers.

Partner Feedback

Professor Akinyika Omigbodun, co-lead for the project from the University of Ibadan commented:

"Investing in remote healthcare will improve the efficiency of health workers and ultimately improve the indices of health status in the communities. We are concentrating on training the medical officers and the Community health officers who are holding those facilities, because they will set the pace if they know what to do and how to do it right. They can guide those who are under their supervision to also do things right. So that's the philosophy of our project .

The rural populations embrace this approach because they have longer distances to travel to get to the nearest health facility, so anything that could save them that commute is always welcome to them. With remote consultations, their healthcare needs are taken off [their plate] and generally they feel very good that they're making the best use of the time available. So those are some of the advantages to the rural population of having this kind of healthcare available to them."



LG.06 Professor Akinyinka Omigbodun © image provided by the Health Partnership

Case Study 2

LG.83: Nana Girls and Women's Empowerment Initiative, Medical Aid Films, Usmanu Danfodiyo University Sokoto, and the Nigerian and Midwifery Council of Nigeria.

WHO Health Challenges

Sustainable development goals

Partners

NANA Girls & Women Empowerment Initiative

Nursing & Midwifery Council of Nigeria

MedicalAidFilms

This Health Partnership was created in response to scoping work that identified a lack of innovative and engaging teaching methods as a key barrier to health worker motivation. Through a partnership with Medical Aid Films, the project strengthened the capacity of Nursing and Midwifery lecturers to create and deliver high quality multimedia learning for academic and clinical training. A blended learning approach built the capacity of faculty, students and healthcare workers. Early success, combined with GESI training for programme designers and lecturers, enabled the project to expand, including the use of these tools to mainstream GESI principles across college operations.

Digital Health Intervention

Phase one of the GHWP project partnered with 60 lecturers in institutions across 6 regions of Nigeria. Multimedia training was developed to advance digital teaching skills. In total **training was delivered to 339 lecturers** and more than **300+ new digital products** created.

Digital interventions included multimedia development training, direct experience of a co-creation project, online professional guidance and peer to peer support. Installation of digital studios with sustainable power sources, combined with a toolkit containing accessible multimedia tools, ensuring sustainability of the project impact.

Successful faculty training resulted in the **delivery of digitally enhanced training for 2,898 pre-service health professionals** over the project lifecycle. A further **4,260 students accessed digital resources via the eLMS.** Pre and post intervention assessment demonstrated an **81% improvement in technical skills and understanding**, with **69% reporting enhanced learning experiences** from digital interventions.

GHWP Targets

GESI: In response to the underrepresentation of female faculty, the Health Partnership prioritised female lecturers in selection criteria. As a result, **women made up 79% of project trainees**, and as the programme evolved, GESI principles were a core focus of the content created.

Health Workforce Capacity: Sixty initial trainers from 6 regions formed a national pool of multimedia trainers, who then trained other lecturers in their region. This created a self-sustaining training cycle beyond the life of the project, that supports inclusive, multigenerational learning and strengthens HCW engagement.

Sustainability and Climate: Solar infrastructure was also implemented across 8 colleges to ensure sustainability of power and connection, reducing the carbon footprint of the project, reducing emissions and strengthening sustainability.

Universal Health Coverage: Digitisation of resources, HR systems and student submissions via mobile application (Moodle app) strengthened

value for money of project activities with local provision and reduced reliance on physical resources. In addition to quality learning experiences for a new generation of HCW.

Partner Feedback

"I am absolutely thrilled and can't wait to step down the knowledge I've gained from this training to my students. I can already imagine their excitement and how engaging the classes will be, especially since the younger generation is a step ahead in terms of computer usage. This training will definitely spark more interest, particularly in the subjects they previously found challenging. I'm eager to see how this new approach will transform our teaching and learning experience."

Mary - Zonal training participant

Case Study 3

LG.46. Intrahealth International, Kenya. Primary Care International (PCI), Strathmore University.

WHO Health Challenges

Sustainable development goals

Partners

This Health Partnership has improved primary healthcare design and delivery in 10 counties through the strengthening of leadership and management capacity in Kenya's PHC workforce. A blended learning programme offered management trainees an in-person and online curriculum that incorporated health financing, national policy and GESI principles. The comprehensive Leadership, Management and Governance (LMG) package was targeted at health workers in predominately rural communities, strengthening equity of access for those traditionally underserved. Phase one of the GHWP project partnered with the Ministry of Health (MoH) to identify gaps in LMG capacity in the Kenyan PHC level as a critical priority for national health resilience.

Digital Health Intervention

Training was designed and delivered to **63 PHC managers (27 male, 36 female**), as part of the national network and hub and spoke model, equipping them to train others in their facilities.

Online training modules were developed and delivered via online platforms, with weekly virtual sessions and eLearning. Participants were supported through online mentorship and coaching sessions, offered by **18 trained specialist educators and mentors,** including diaspora.

Use of digital communication channels, including WhatsApp groups, and video conference software facilitated the organisation of the project. With a combination of virtual training with self-directed learning, this ensured the inclusion of participants with social commitments, such as primary caregivers.

GHWP Targets

Health Workforce Capacity: As a competency based LMG training programme, skills developed included resource mobilisation, financial management, human resources and essential health products and policies. Through the production of an accessible eLearning and facilitator manual. the Learning Management System (LMS) designed will ensure sustainable access for future trainees beyond the project lifecycle, led by local decision makers.

Sustainability through Local Leadership:

Training is now available via an eLearning platform, with the explicit aim of democratising sustainable access to hard-to-reach communities across Kenya, such as Garissa, Tana River and Kitui. By reducing the need for physical travel, the project lowered barriers for historically marginalised leaders, including women and persons with disabilities, enabling their participation.

GESI: Women comprised **57% of project trainees,** reflecting a targeted commitment to female leadership, particularly in rural communities. Training modules promoted GESI principles such as disability friendly infrastructure, support of pregnant staff and representation, alongside national inclusion policies and best practice, as part of the broader LMG programme.

Universal Health Coverage The online component of the training contributed to reduced Out of Pocket (OOP) for participants. A strong focus on the primary health care (PHC) financing, combined with governance and leadership skills is also expected to strengthen the quality and sustainability of service provision in underserved populations.

Partner Feedback

82% of participants reported satisfaction with the programme.

Lessons Learnt

Early learning from phase one of GHWP demonstrated that digital health interventions (DHI), when applied in innovative and context specific ways, can effectively support health workforce strengthening efforts. Investment in digital innovation demonstrably accelerated programme goals, with measurable increases in training provision, uptake and services delivered. Digital approaches proved particularly effective at addressing health system supply challenges, including gaps in trained staff, supervision and service availability in underserved communities. The strongest results were observed in projects that combined digital tools with in-person delivery, peer support and adaptive design features such as offline access, low bandwidth platforms and mobile compatible content. These blended models helped overcome geographic, infrastructure and workforce constraints while maintaining the quality of interventions. Across the portfolio, projects achieved high levels of community engagement and satisfaction, with deliberate inclusion of an interdisciplinary and multi-generational health workforce.

Findings suggest that DHIs delivered the greatest system-level value when they addressed structural enablers such as leadership and governance, referral pathways, and health information systems, rather than training alone. The six projects that went beyond pilot phase did so by embedding practice into national and professional systems (see Annex 3). However, the only Health Partnership to scale access to their products beyond the project (LG.06) relied on a pre-existing long-term partnership with access to multiyear funding to develop open access applications. This underscores the importance of sustained funding models to enable scale beyond a single project lifecycle. Whilst early experiences indicate that digital solutions can improve efficiency, safety and potential value for money, longer follow up is required to enable clearer assessment of the long-term impact of digital innovation on programme objectives. The following recommendations are made for prioritised investment.

Recommendations

1. Mainstream investment in power and connectivity infrastructure.

Direct investment in cost-effective, low maintenance power solutions, such as solar and offline capable systems, significantly strengthened the sustainability of digitally enabled projects. Optimising offline functionality and sustainable infrastructure should therefore be a standard requirement in future DHI investment priorities. Consideration should also include data access, including funded data bundles or satellite-enabled connectivity. Strategic engagement industry partners will be essential to support affordable and scalable solutions. Equally, strengthened ownership by government and local partners, including regulatory authorities and state or county health departments, will be critical to institutionalising digital tools, reinforcing accountability and ensuring sustained oversight and investment. Alignment with national and regional health priorities also present an additional opportunity to mobilise domestic resources to sustain and scale these interventions. Investments should be underpinned by robust evidence of value for money and measurable improvements in health metrics.

Agile and sustainable digital clinics for remote consultation and education

2. Strengthen systematic evaluation of digital health interventions.

Future programmes should undertake systematic evaluation of the effectiveness of digital health interventions (DHI). All projects with digital innovation components should include a standardised digital health reporting

section within the GHP Monitoring, Evaluation, Accountability and Learning (MEAL) framework to strengthen the evidence base for impact and Value for Money (VfM) and aid investment prioritisation. To support analysis, DHI indicators should reflect national frameworks and global best practice, with a defined minimum set of indicators embedded into local systems. Further work is required to ensure that these metrics reflect the realities of project design and enable robust measurement, including comparability of interventions across the portfolio. Emerging technologies, including the use of machine learning and AI- enabled analytics and real time dashboards should also be explored to enhance monitoring, agile management and decision making for project teams.

3. Investment in a broader range of digital tools for workforce planning and delivery.

Future investment in digital solutions should explore a broader range of digital tool use to strengthen health workforce planning, training and service delivery. Lessons should be learnt from phase one GHWP pilots that demonstrate how AI platforms can share, monitor and optimise workforce interventions using machine learning and real-time analytics dashboards. Evidence from other low resource contexts should be considered to inform how other digital technologies could be leveraged, such as immersive technologies for remote clinical skills training in Uganda 12, mobile applications and wearables for CHW in Ethiopia 13 and surgical robotics for remote practice and training in Fragile and Conflict- affected States (FCS)14. By investing small ‘ start up’ style grants for a wider suite of digital tools, health systems can explore novel approaches - alongside establish digital interventions such as telemedicine - to democratise access to training and strengthen the delivery of quality care globally.

4. Increase investment in addressing demand side barriers for DHI engagement.

While phase one of the GHWP demonstrated that DHI can effectively strengthen workforce capacity and service delivery, greater

investment is needed to address persistent demand side barriers that limit equitable access and utilisation of health services and training. Particular challenges exist for DHI uptake in communities with limited awareness of available digital solutions, low levels of health and digital literacy, mistrust of technology enabled care, stigma associated with certain health services and fears around data privacy and confidentiality. Future programmes should prioritise digitally enable community engagement strategies, including targeted health promotion efforts, culturally sensitive communication options and user-friendly digital platforms that improve awareness, trust and confidence in digital services for those both delivering and receiving care. Strengthening digital health literacy and community ownership will be crucial to improving uptake of digital training and clinical care solutions. This balance of supply and demand focused interventions will maximise the effectiveness, equity and sustainability of digital health investment.

5. Enable and incentivise reverse innovation for mutual benefit.

While no fully implemented examples of reverse innovation were identified during the first phase of GHWP, several Health Partnerships demonstrated how innovations developed in low resource contexts had clear potential to address comparable workforce, training and service delivery challenges in the UK. For example, the Community Innovation Team (CIT) model, successfully implemented in Homa Bay County, Kenya, as a scalable approach to strengthening community engagement with vulnerable groups in Liverpool, UK. In addition to a range of digital tools and eLMS products developed through GHWP that could offer cost-effective models for workforce training and supervision in response to NHS pressures. Unlocking mutual benefit and long-term scale will require targeted, multiyear investment in provider -to- provider partnerships (twinning) to pilot, adapt and evaluate this impact of these models across sites. Structured engagement with diaspora health professional networks can further accelerate adaption, strengthen cultural competency, participate in remote mentoring and supervision of participants15. Developing

measurable indicators to assess the contribution of reverse innovation, and of diaspora engagement to digital innovations is therefore essential to demonstrate improvements in system efficiency, workforce performance and scalability across the UK and its partner countries.

Next Steps

Achieving UHC is central to ensuring healthy lives and promoting wellbeing (SDG 3). However, with just five years remaining until the SDG target date, progress has been significantly disrupted by the COVID-19 pandemic, global conflict and recent shifts in global health policy. Prioritisation of investment is therefore required to guide funding of digital health innovations programmes like GHWP.

Building on the early successes of GHWP, initial lessons indicate that strategic investment in digital health innovations can advance safe, resilient services that protect lives and livelihoods. Targeted investments in future programmes will be pivotal in generating insights on how these interventions can be adapted for communities impacted by conflict and state fragility, providing further transferable learning for health systems globally. The RAG matrix in table 2 translates early learning from GHWP into investment priorities for GHP, donors and national governments. Priorities are rated using a traffic light system where green investments indicate high priority with strong evidence of impact, readiness to scale and alignment with programme objectives; amber indicates medium priority that show promise but require further evidence or enabling conditions for scale; and, for the purpose of this report, red indicates the need for longer term investment (as opposed to low priority) for success - these are strategically important to the wider GHP agenda but require more evidence.

Initial learning and recommendations from this review will be shared at the UK Global Health Summit in March 2026. Investment priorities and opportunities will be discussed with key stakeholders, including industry partners, clinical teams and technology experts. A working group will be formed to mainstream findings into future GHP practice.

Table 2. GHWP Matrix of Prioritised DHI Investment

Investment area	RAG	Early Evidence	Rationale for investment	Key enablers
Blended digital and in-person training models for HCW and service users.		Demonstrated increases in training provision, uptake, and service delivery across multiple projects; effective in underserved areas	Proven, scalable approach that addresses supply-side workforce gaps while maintaining quality and engagement	Continued support for adaptive design (offline, low bandwidth, mobile-compatible)
Scaling digital tools to for supervision, mentoring, service delivery and monitoring.		Strong impact in addressing gaps in clinical supervision and service availability; high community satisfaction.	Directly aligned with workforce strengthening and equity objectives	Integration into national systems; local ownership
Power and connectivity infrastructure (solar, offline, data access)		Exponentially increased sustainability of digital programmes	Foundational investment required for scale and value for money	Mainstreamed requirement; industry partnerships
Standardised evaluation of DHIs (MEAL integration)		Current evidence promising but inconsistent; long-term impact unclear	Enables accountability, learning, and future investment decisions	Agreed indicators and reporting templates
Digital platforms for Health Information Systems (HIS), electronic referrals and data analytics.		Greatest system-level value observed when DHIs extended beyond individual/ clinical training to LMG functions	Enables durable health system strengthening and sustainability	Alignment with national strategies and data governance frameworks
Demand-side digital innovation (access, utilisation, user behaviour).		Phase one of GHWP focused mainly on supply-side challenges	Opportunity to test comparative effectiveness and system impact	Targeted pilots and evaluation design
AI enabled workforce planning and monitoring tools		Early pilots (e.g. Kenya) and literature show potential but limited scale evidence	High potential to improve efficiency and targeting of interventions	Data quality, ethical frameworks, and national readiness
Exploration of immersive technologies, wearables, and robotics		Evidence exists externally but not yet within GHWP and needs investigation.	Strategic long-term potential, particularly for FCS and specialist care	Further piloting, cost reduction, and feasibility testing
Diaspora-enabled remote supervision and mentoring		Identified opportunity; not yet systematically applied	Enhances cultural sensitivity, sustainability, and national ownership	Structured engagement mechanisms and incentives
Reverse innovation to UK and HIC systems		Early signals only (e.g. CIT model, eLMS platforms)	Potential mutual benefit but requires new partnership models	Increased provider-to-provider partnerships

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Annexes

Annex 1. WHO Digital Health Innovation (DHI) Framework 9.

Annex 2 . GHWP Health Partnerships Uusing Digital Health Interventions. with digital components

	Project Goal (Impact)	Digital Intervention	Function/ Application	DHI Category – Health Challenges	DHI Category – Interventions	Maturity Level (pilot/implemented /scaled)
1 . LG.04	To increase capacity for physician anaesthetist training in Ghana.	Online Platforms.	Combined classroom-based, simulation and remote learning for physician anaesthetists.	Availability: **2.4** Quality: **3.4, 3.6** Utilisation: **5.2** Equity: **9.1**	Health Provider Communication: **2.5** Health Worker Training: **2.8**	Implemented
2. LG.06	To train primary healthcare workforce and pre-service healthcare trainees on remote consultation using the REmote Consultations for primary Healthcare (REaCH) training platform.	Telemedicine, online platforms, eLearning, and mobile applications.	Deliver professional education, Continuous Professional Development (CPD) and remote consultation.	Availability: **2.2, 2.4** Quality: **3.2, 3.5, 3.6, 3.8** Utilisation: **5.2** Equity: **9.1**	Telemedicine: **2.4** Health Worker Training: **2.8**	Scaled
3. LG.116	To improve the number and quality of training opportunities for the breast cancer health workforce by establishing a sustainable training and education resource in Nigeria and Ghana in partnership with BFIRST.	Website, online platforms, and eLearning portal.	Use a blended learning approach for oncology Multidisciplinary Team (MDT), including in- person and webinars.	Information: **1.4** Availability: **2.2, 2.4** Quality: **3.2, 3.4, 3.5, 3.6** Utilisation: **5.2** Efficiency: **6.2, 6.3** Equity: **9.1**	Health Provider Decision Support: **2.3** Communication: **2.5** Referral Coordination: **2.6** Health Worker Training: **2.8**	Implemented

	Project Goal (Impact)	Digital Intervention	Function/ Application	DHI Category – Health Challenges	DHI Category – Interventions	Maturity Level (pilot/implemented /scaled)
4. LG.130	To improve the availability of quality of emergency obstetric and newborn care at national and sub-national hospitals by strengthening the capacity of the National Postgraduate Medical College of Nigeria to deliver advanced EmONC competency-based curriculum to resident doctors in Obstetrics and Gynaecology.	Online platforms, eLearning portal, and telemedicine.	Implement a self-directed learning model, combined with online and face-to-face training of college faculty.	Availability: **2.1, 2.2, 2.3, 2.4** Quality: **3.2, 3.4, 3.5, 3.6** Utilisation: **5.2** Efficiency: **6.2, 6.3** Equity: **9.1, 9.2**	Telemedicine: **2.4** Health Provider Decision Support: **2.3** Communication: **2.5** Referral Coordination: **2.6** Health Worker Training: **2.8**	Implemented
5. LG.24	Development of emergency care workforce through a nationwide site network in Kenya.	Online platforms, eLearning and mobile applications.	Monthly global health grand round, peer support, online training.	Availability: **2.2, 2.3, 2.4** Quality: **3.4, 3.6** Utilisation: **5.2** Equity: **9.1**	Health Provider Decision Support: **2.3** Communication: **2.5** Health Worker Training: **2.8**	Implemented

	Project Goal (Impact)	Digital Intervention	Function/ Application	DHI Category – Health Challenges	DHI Category – Interventions	Maturity Level (pilot/implemented /scaled)
6. LG.46	Improved delivery of primary healthcare services through strengthened leadership capacity of Kenya's health workforce.	Online platforms, eLearning portal.	Hybrid (face-to-face, online workshops/ seminars and self-paced eLearning) training and mentorship on leadership and management skills and competencies.	Information: **1.4, 1.6** Availability: **2.4** Quality: **3.6, 3.7, 3.8** Utilisation: **5.2** Efficiency: **6.1,6.3** Cost: **7.1** Equity: **9.1, 9.2**	Identification and registration: **2.1** Health Provider Decision Support: **2.3** Communication: **2.5** Referral Coordination: **2.6** Scheduling and Activity planning **2.7** Health Worker Training: **2.8** Human Resource Management: **3.1**	Implemented

	Project Goal (Impact)	Digital Intervention	Function/ Application	DHI Category – Health Challenges	DHI Category – Interventions	Maturity Level (pilot/implemented /scaled)
7. LG.83	**To strengthen the quality of undergraduate nursing and midwifery education and training by building the capacity of health lecturers to create and use multimedia teaching materials and resources in academic and clinical training, and to integrate these into the continuing professional development training national curriculum in Nigeria.**	**Online platforms, eLearning, software training, mobile applications, solar power infrastructure (sensors), audio visual and social media tools (digital content creation), digital studio creation and ICT eLibrary.**	**Blended ICT learning for teaching faculty in professional nursing programmes (CPD), strengthening lecturer and student digital literacy and quality education outcomes.**	Information: **1.4** Availability: **2.2, 2.3, 2.4** Quality: **3.4, 3.6** Utilisation: **5.2** Equity: **9.1, 9.2**	Telemedicine: **2.4** Health Provider Communication: **2.5** Health Worker Training: **2.8**	Implemented
8. SG.16	Transforming the community health workforce strategy: A programme of mutual learning between Homabay County, Kenya and Liverpool, UK to improve health equity in both contexts.	Online platforms for the Community Innovation Teams (CIT).	Remote pairing of expert 'change-makers' in Homabay County, Kenya and Liverpool via online peer mentoring and job shadowing, to cross-fertilise learning and trigger innovation.	Quality: **3.1, 3.5** Acceptability **4.2** Accountability**: 8.6** Equity: **9.2**	Health Provider Communication: **2.5** Health Worker Training: **2.8**	Pilot

	Project Goal (Impact)	Digital Intervention	Function/ Application	DHI Category – Health Challenges	DHI Category – Interventions	Maturity Level (pilot/implemented /scaled)
9. SG.23	To build an AI-driven Continuing Capacity Building eLearning platform for Community Health Promoters (CHPs) in Tharaka-Nithi County, Kenya.	Mobile application, Artificial Intelligence (AI), online platform.	Sustainable access for CHPs to professional skills through a multi-stakeholder co-produced eLearning platform, enabled by AI.	Information: **1.2, 1.4, 1.6** Availability: **2.4, 2.6** Quality: **3.1, 3.2, 3.4, 3.5, 3.6, 3.7, 3.8** Utilisation: **5.2** Equity: **9.1, 9.2**	Identification and registration: **2.1** Health Provider Decision Support: **2.3** Communication: **2.5** Referral Coordination: **2.6** Health Worker Training: **2.8** Human Resource Management: **3.1**	Pilot
10. SG.24	Increasing Palliative Health Workforce Capacity in Kenya, through the 'Hi-Five' approach.	Online platforms and eLearning	Deliver a trainer of trainers (ToT) model of virtual palliative care training, mentoring and online meetings with 14 teams of 5 trainees, to teach other health professionals in their facilities.	Availability: **2.4, 2.6** Quality: **3.2, 3.5, 3.6, 3.7, 3.8** Acceptability: **4.2** Utilisation: **5.2** Efficiency: **6.2** Equity: **9.2**	Health Provider Decision Support: **2.3** Communication: **2.5** Health Worker Training: **2.8**	Pilot

	Project Goal (Impact)	Digital Intervention	Function/ Application	DHI Category – Health Challenges	DHI Category – Interventions	Maturity Level (pilot/implemented /scaled)
11. SG.56	Scaling integrated mental health training and ongoing support/ supervision to non-specialist Health Care Workers (HCWs) in Kenyan Primary Care and Oncology to strengthen health systems and improve overall population health outcomes (for physical as well as mental health conditions) using the WHO mhGAP Care Pathway tool.	Online platforms and eLearning	Deliver mental health training (combining ToT and direct frontline training), supported with remote support and post-training supervision.	Availability: **2.4** Quality: **3.2, 3.4** Acceptability: **4.2** Utilisation: **5.2** Equity: **9.2**	Health Provider Communication: **2.5** Referral Coordination: **2.6** Health Worker Training: **2.8**	Pilot

Annex 3. Health System Strengthening with DHI

Building Block	Priority WHO health challenge*	How DHI Contribute	Example Outputs	GHWP Programmes
Service Delivery	2.0 Availability 3.0 Quality 5.0 Utilization 9.0 Equity	Improves equitable access to quality care through standardised process, protocols and referral mechanisms. Increasing the availability of staff to deliver services to remote and rural communities.	# remote consultations # avoided journeys for care # of staff accessing standardised and evidence-based training	2, 4, 6, 7, 9
Health workforce	2.0 Availability 3.0 Quality 5.0 Utilization	Improves access to training, standardises competencies, strengthens faculty coverage for remote supervision, improves staff retention.	# of staff trained % skill improvement # mentoring sessions conducted # of staff retained annually	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
Health Information Systems	1.0 Information 6.0 Efficiency 8.0 Accountability 9.0 Equity	Real time tracking and monitoring of workforce data, CPD and patient records. In addition to mapping of geospatial and clinical data.	# active service users # users, disaggregated by key metrics % completeness of CPD, national training initiatives.	3, 6, 7, 9
Leadership and Governance	6.0 Efficiency 7.0 Cost 8.0 Accountability 9.0 Equity	Standardised policy, protocol and practice for leaders and managers, including skills in workforce and commodity planning and GESI principles	# staff trained in management skills % of female leaders trained % leaders trained in GESI principles	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11

Building Block	Priority WHO health challenge*	How DHI Contribute	Example Outputs	GHWP Programmes
Access to Medicines and Technologies	2.0 Availability 3.0 Quality 8.0 Accountability	Provision of appropriate and high-quality digital equipment and commodities to strengthen education and training, including ICT suites and power infrastructure i.e., solar panels.	# of digital equipment(s)/tool provided # of staff trained in use % improvement in staff digital literacy % of stock recorded digitally for tracking	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
Financing	1.0 Information 6.0 Efficiency 7.0 Cost	Digital efficiency with reduced travel, consumables and faculty cost. Alongside strengthened return on investment through ToT models and local administration. For services users,	% reduction in cost per trainee % reduction in transportation costs % reduction in administration costs Reduction in OOP expenditure for patient travel costs.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11

* Priority relates to the objectives of the GHWP; in this case DHI for health workforce capacity as strengthening tool towards UHC.