HEALTH INFORMATION SYSTEMS PROGRAM SOUTH AFRICA
(HISP-SA)

Business Strategy

2021 – 2025

Better Lives with Digital

Health Information Systems Program South Africa
Non-profit Company

Business Strategy
2021 – 2026

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hisp

Building Better Lives Together

"As social activists, over the last two decades HISP has improved citizens' health by working with the public sector and donor agencies, a strategy we will maintain."

Foreword

We dream of an enduring, innovative and thriving HISP which provides high-performance digital solutions to bolster the health and prosperity of many people, using information to reach more lives from cradle to grave. Achieving this vision involves accelerating our technology transformation, building value-adding teams and forging new partnerships for growth.

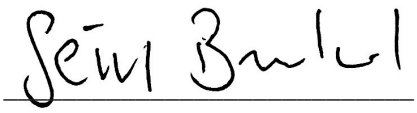
As social activists, over the last two decades HISP has improved citizens' health by working with the public sector and donor agencies, a strategy we will maintain. Our emerging identity as social entrepreneurs requires that we augment HISP's strategy to engage with people throughout their life journeys in new ways, embracing partners in both public and private sectors, and beyond South Africa's borders, to fulfill our purpose.

Our new strategy responds to a volatile health sector and rapidly transforming technology environment by refocusing on people. We recognise the need to reconnect with people to prioritise their needs, their access to their data, and protection of their personal information.

We have a history of contributing to digital public goods and we are now expanding this to build platforms that further democratise the digital development space, connecting more people and systems while we empower users and embrace data science opportunities that increase our scale and reach.

We have embarked on a journey that will re-invigorate our teams to produce digital products and services that enable rich personal experiences. Collaborating with our users, clients, partners and colleagues we are *building better lives together.*

Ms Lokiwe Mtwazi
Board Chairperson



Dr Sean C. Broomhead
Chief Executive Officer

Executive Summary

HISP believes in building better lives together with our staff and clients. Our purpose is to improve health and prosperity where it is needed most, reaching more lives with our digital solutions. HISP started in the health sector, supporting governments to make informed, data-driven decisions that strengthen the health system. We now recognise that this is not enough to make a tangible difference to people's health and prosperity. HISP's Business Strategy 2021-2026 moves us further along our journey of digital transformation, into more sectors, wider geographies, and closer to our users to achieve our purpose.

This is an emergent strategy, a culmination of a year of iterative consultation with the diverse people of HISP. Its creation involved thoughtful consideration of our current circumstances, and exploration of the opportunities and challenges we face and how best the entire organisation can move forward "better, together" to achieve our goals.

Our strategy responds to the threats of an increasingly volatile and competitive digital ecosystem by refining our products and services to ensure that they make a tangible difference for our clients, existing and new, differentiating HISP and securing our success. This includes strengthening the internal governance and operational performance we need for sustainability.

We understand the importance of putting people at the center of information systems, and building integrated platforms that connect people, processes and technology. To achieve this, we prioritise people, celebrating diversity within HISP's collaborative, high-performance teams, and supporting those who use our solutions to access their data and consent to its use in ways that empower them to play more active roles in building lives of health and prosperity. This strategy reinforces our leadership role in the digital health ecosystems of lower- and middle-income countries (LMICs) where we help people to use digital tools productively.

Our strategy describes three main themes. We prioritise:

1. **Products and services** that connect people, using technology to create new opportunities for health and prosperity and to democratise digital development; these involve accelerating the transformation of our solutions, working at both platform level for more data sharing, and at the user level to provide more personalised services.

2. **People and performance** initiatives that reinforce the dignity of people dedicated to our purpose, inside and outside HISP, celebrating diversity, responding to unique needs and building a unifying, purpose-driven, high-performance culture.

3. **Governance and growth** activities that create a highly productive, robust and secure working environment, moving purposefully along our growth path so that HISP and its people thrive.

Key objectives that drive strategic transformation over the next five years are summarised on the table below. Each year sustains and extends the work of the previous year. This Business Strategy provides clear milestones along a path of transformation, growth and success. Specific milestones over five years include:

Year 1 is about renewal, redirecting products and services towards achieving our purpose of improved health and prosperity where it is needed most as we cultivate the HISP ethos of social entrepreneurship. We will establish a culture of performance, collaboration and ethical innovation, strengthen governance and expand partnerships as we achieve revenue security.

Year 2 establishes innovation as a business driver, maturing our product road maps hand-in-hand with users to produce more personalised consent-driven solutions, supporting data science and artificial intelligence, and exploiting the benefits of interoperable platforms locally, benchmarking our performance, securing sustainable diversified revenue streams, advancing our leadership position, investing in partnerships and expanding our regional footprint.

Year 3 is a year of consolidation, ensuring our products are fully aligned with our purpose, including technology platforms that connect people and systems ethically and create new opportunities for health and prosperity, with evidence of high performance and expansion into new countries with more private sector integration and co-operation.

Year 4 focuses on expansion, securing initial evidence of our efforts to advance health and prosperity, and expanding it through partnerships that result in the emergence of a group of organisations that achieve local impact across a wide African footprint.

Year 5 involves maximisation of health and prosperity benefits, acknowledged as an industry leader for global goods that have a positive impact on the world with evidence across a larger global footprint.

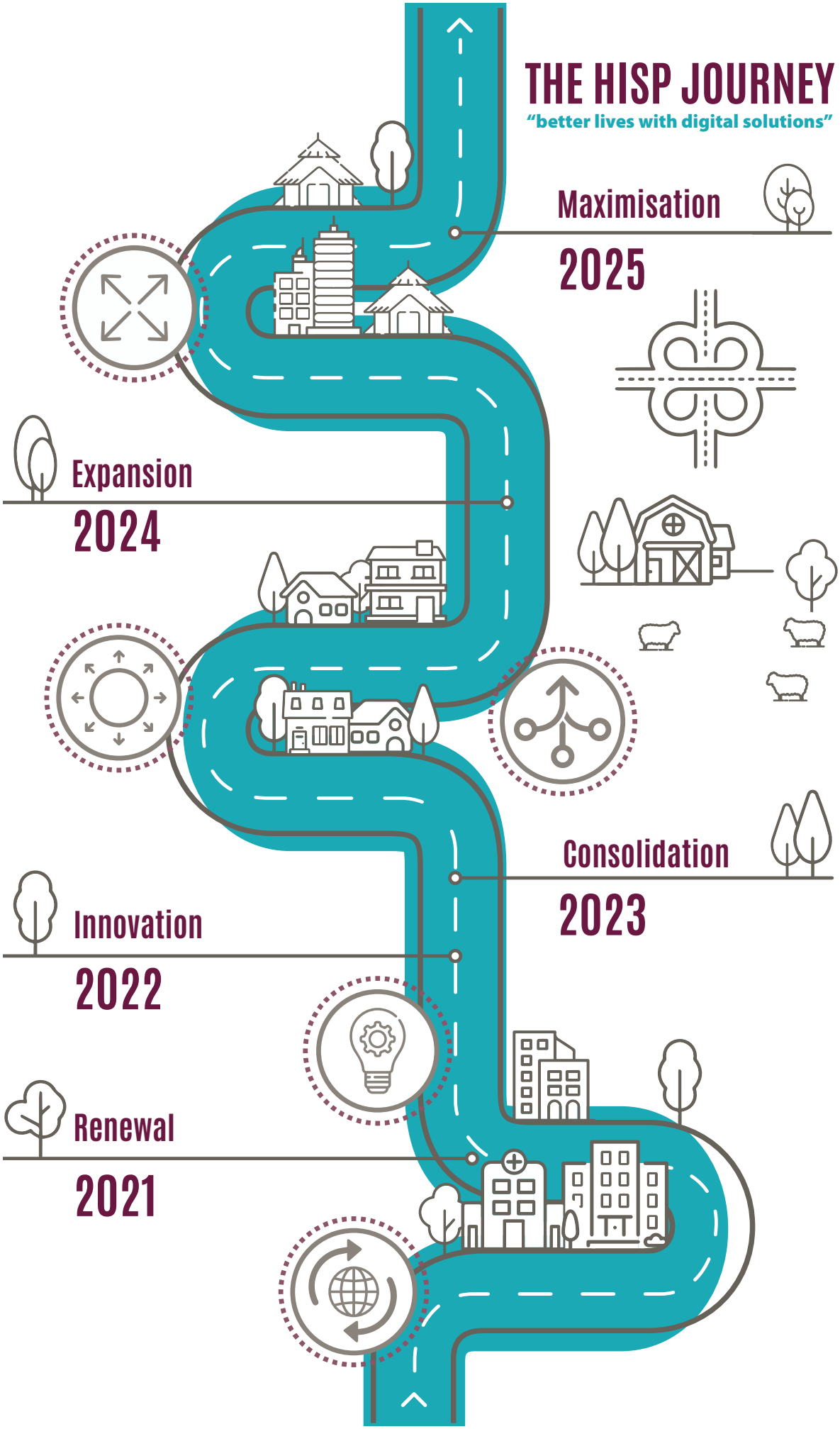


Figure 1: Summary of strategic road map

1. The situation we find ourselves in

Planning our way forward involved an extensive series of consultations both inside and outside HISP. These engagements sought to understand the current environment, our position within it, our relationships with others, and the responsibilities we carry to fulfill our desire to be good corporate citizens. This refreshed perspective provides the foundation for developing a clear road map for moving into the future better, together.

1.1 The digital opportunity

Digital solutions enable service transformation in ways that were previously impossible. They don't merely provide more information, faster; they enable us to change the way we do things. For example, in health, digital tools fundamentally change the way we engage in our health and the health system, whether we are patients, health workers, or simply people wanting to remain healthy. This creates new opportunities to achieve quality care and Universal Health Coverage (UHC). Digital Health is about transforming the user experience, particularly for patients and health workers, so that their experience of the health system changes, care improves, and so does the health and productivity of all system users.

"It has become increasingly clear that Universal Health Coverage cannot be achieved without the support of eHealth"

Global diffusion of eHealth: Making universal health coverage achieveable, in Report of the third global survey on eHealth. 2016, Global Observatory for eHealth, World Health Organization: Geneva

1.1.1 Global

There is probably no other public health situation quite like a pandemic to emphasise the importance of digital opportunities to support timely decision making to save lives. COVID-19 (SARS-CoV-2) has reminded the world of this point. Since COVID's global emergence, National eHealth Strategies have become more pertinent, and their realisation more urgent. The components of an effective strategy are felt acutely during a pandemic; if interoperable systems are in place, information flows in ways that support rapid, effective responses. When those systems have not been implemented their absence makes data difficult to manage and decisions hard to make with confidence.

Experience during the COVID-19 pandemic has shown rapid uptake of digital health. Numerous digital initiatives are being utilised to help contain the virus, including tools for services such as remote consultation, contact tracing and patient management. Countries' existing efforts to improve connectivity and expand their digital economies have also been heightened by coronavirus experiences, and opportunities for eHealth to support health systems' strengthening have been emphasised.

The pandemics serious and sustained challenges have accelerated digital transformation in many places. All this has occurred against a backdrop of growing recognition for the role of digital health in advancing UHC. The World Health Organization (WHO) has been encouraging member states to adopt digital health across a wide range of applications for more than a decade, including through the World Health Assembly and the Regional Offices.

The health-strengthening capabilities of digital health solutions are no longer disputed and are deemed fundamentally necessary to meet UHC objectives. The pandemic has placed most countries' health systems under considerable strain. Not only do they experience supply shortages, including personal protective equipment (PPE) for frontline health workers, other COVID-19 related factors increase pressures on the health system, such as the increased mortality rate and deaths, mental health and substance abuse caused by significant changes to daily lives, and lifestyle changes, including reduced physical activity levels that could prompt a resurgence of non-communicable diseases during or post COVID-19.

The social impact of coronavirus has also been significant; highlighted by socio-economic issues precipitated by the closure of borders, supply disruptions, depreciation of currencies, as well as dramatic scaling down of human and industrial activities, increasing gender-based violence cases during lockdowns, and increased social unrest with continued traveling restrictions and national lockdowns threatening food security and incomes. These issues place unprecedented challenges on the health system, which require novel and innovative solutions. Lessons from the pandemic thus far have shown that digital health solutions can help in several ways.

Since COVID-19 is likely to present further waves, and future pandemics are likely, health care systems must continue to identify and apply lessons for strengthening. The value of digital health tools is gained only when they are in place, emphasising that when a pandemic strikes it is too late to accelerate implementing actions of a national strategy, so keeping implementation on track before the pandemic is crucial.

Emerging technologies offer further potential to help move health services forward more rapidly than almost any other time in history utilising automation, decision support and intelligence. This heightens the urgency to implement National eHealth's Strategies, so that countries can begin to experience the benefits of having access to the critical digital tools needed to respond adequately to a pandemic. "With properly disaggregated health data, it is possible to plan actions that reduce potential health inequities at all levels of care, and facilitate the implementation of strategies to address such inequities."

"The 71st World Health Assembly (WHA) 2018 recognised the important role that eHealth plays to advance the Sustainable Development Goals (SDGs) and to support health promotion and disease prevention in all countries by improving the accessibility, quality and affordability of health services. Converting this potential into probable benefits requires a good strategy and implementation plan.

The HISP Business Strategy recognises the Seventy-First World Health Assembly (WHA) Resolution (WHA71.7) on Digital Health adopted by the WHO Member States in May 2018. It urges Member States:

"… to assess their use of digital technologies for health, including health information systems at the national and sub-national levels, in order to identify areas of improvement, and to prioritise, as appropriate, the development, evaluation, implementation, scale-up and greater utilisation of digital technologies, as a means of promoting equitable, affordable and universal access to health for all, including the special needs of groups that are vulnerable in the context of digital health".

In closing the 2018 World Health Assembly, WHO Director General said that everything WHO did going forward would be evaluated in the light of the "triple billion" targets which were approved in WHO's new five-year strategic plan. By 2023 the targets aim to achieve:

- 1 billion more people benefiting from UHC
- 1 billion more people better protected from health emergencies
- 1 billion more people enjoying better health and wellbeing.

As a consequence of implementing this strategy, HISP acknowledges its role in the attainment of the ambitious WHO Triple Billion agenda.

HISP's Business Strategy aligns with the WHO Global Strategy on Digital Health and its goal to promote evidence-based digital health interventions that will enable health systems strengthening for the benefit of all people in a manner that is ethical, safe, secure, reliable, equitable and sustainable.

The Global Strategy describes four strategic objectives:

1. Promote global collaboration and advance the transfer of knowledge on digital health
2. Advance the implementation of national digital health strategies
3. Strengthen governance for digital health at global, regional and national levels
4. Advocate people-centered health systems that are enabled by digital health.

1.1.2 Africa

The African Renaissance has the potential to dramatically alter Africa's scientific, technological and economic contributions to the continent's people and progress, as well as the world at large.

Already, nations such as Uganda, Kenya, Tanzania and Rwanda are working together to improve the lives of their citizens through agreements of co-operation and interoperation in the areas of healthcare, and health-related sectors. Initiatives like these present opportunities to engage productively to further our objectives of improving lives through digital solutions.

There are emerging global goods that offer Free and Open Source (FOSS) electronic health solutions. WHO AFRO has been developing a similar system using mobile first, FOSS technologies, aligned with current trends.

It has become clear that there is significant potential for digital solutions to improve capacity and help to deliver services throughout the African continent. It is equally clear that while funding is often available, the resulting projects often lack sustainability or an achievable execution plan for sustainability.

The development of vibrant local ecosystems of teams and organisations that provide high quality information systems development, maintenance, and support services is urgently needed across the continent.

1.1.3 South Africa

South Africa's National Digital Health Strategy aims to leverage digital health solutions to provide better health for all South Africans by creating an integrated digital health ecosystem of people, processes, and technology that supports the strengthening of health systems to enable efficient service delivery, effective patient care, and person empowerment required to achieve Universal Health Coverage (UHC); in this way promoting digital innovation and the use of digital solutions.

There are key COVID-19 lessons for digital health from South Africa. One emphasised by the health minister is the need to prepare a healthcare system that is able to provide UHC demonstrating agility and the need to prepare for future pandemics.

South Africa established a National Coronavirus Command Council to take government-wide decisions, implementing an adapted WHO COVID-19 strategy for containing and mitigating the spread of the virus. The strategy included the creation of national and provincial incident management teams (IMTs), which comprised of a variety of work streams, including governance and leadership; medical supplies; port and environmental health; epidemiology and response; facility readiness and case management; emergency medical services; information systems; risk communication and community engagement; occupational health and safety and human resources.

South Africa describes the most salient lessons learnt between March and September 2020 as:

- Strengthened command and control were achieved through both centralised and decentralised IMTs
- Swift evidenced-based decision-making from the highest political levels for instituting lockdowns to buy time to prepare the health system and increase health care capacity.

South Africa's work towards achieving National Health Insurance (NHI) aspirations is well advanced and substantial information has been published regarding the importance of information systems strengthening to support implementation of the NHI. The related, unfolding work has a direct bearing on the information systems support role that HISP plays in South Africa.

1.1.4 HISP

Technology advances quickly, with new opportunities and innovations presenting themselves frequently. The HISP Business Strategy 2021-2026 helps to identify priority opportunities and focus resources on them to drive value for our clients and initiatives. Emerging technologies that offer new opportunities include:

- Mobile devices and the emergence of the Internet of Things (IoT)
- Data science disciplines such as advanced analytics, Artificial Intelligence (AI), Machine Learning (ML)
- Emerging connectivity technologies such as Television whitespace and 5G
- Sensors to populate digital devices with data.

The opportunities presented by these technological advancements can be unlocked by investing deliberately to establish the critical mass of expertise necessary to achieve the development and maintenance of solutions that meet client needs.

Engaging users in system development is essential to improving user experience and unlocking the electronic solutions' potential. It results in better, more integrated solutions and helps to disrupt previous methods that result in more fragmented, siloed information systems, which do not provide what users need.

1.2 SWOT analysis

Understanding our current status is a critical prerequisite for moving forward. The situation is summarised below, arranged according to HISP's main departments.

1.2.1 HISP South Africa

Table 1: Business SWOT summary

 STRENGTHS	 WEAKNESSES	 OPPORTUNITIES	THREATS
- Experienced and diverse management team - Excellent technical capabilities and health domain expertise - Proven track record conceptualising and implementing complex, multi-country, digital health initiatives	- Complex internal control systems need streamlining - Revenue requires further diversification and stabilisation measures - M&E systems and processes require additional investment	- Global digital health trends - Market solution gaps - Increasing global goods adoption - Diversification of funding sources	- Global corporations' increasing pressure into Public Health space - Remaining relevant and adapting to the market and technological advances requires agility - Increasing Cybersecurity risks

1.2.2 Leadership and governance

Table 2: Leadership and governance SWOT summary

- We have a track record of working in cross-functional environments of data, data usage and data-driven decision support - Our recent focus on governance strengthening positions us well to support governance aspects of health systems, organisations, and data - Our leadership team has considerable global exposure and relationships to be leveraged, as well as increasing regional and international profile	- Governance requires further strengthening - Operational decisions take too long to resolve - Financial systems use outdated technology and give little to no immediate visibility to financial information across departments, projects or the business - Leadership currently spending large amounts of time on governance, and routine operations, structuring the business - Our internal systems are far from ideal; we have poor internal systems' capability, cohesion, and support	- COVID-19 has "evolved" the marketplace in an accelerated manner, improving inter-operation and co-operation between previously disparate stakeholders - EU-funded work could lead to better ties with a strong, more diverse funder base - Improved reputation with both funders, stakeholders and global entities (WHO and UNICEF, etc) could lead to additional revenue if managed properly	- Competitors are slowly mobilising into the business space, already well-structured and positioned to threaten our relevance

1.2.3 Digital transformation

Table 3: Digital transformation SWOT summary

STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
- Diverse team with varied skillsets that are open to learning and engaging - Have all been involved in some process of digital tool use, creation process - Strong stakeholder relationships at various levels in many countries - The team is client-facing which allows for solutions to scale quickly	- User support team is only focused on one project - DT not fully integrated and clearly understood by all in the organisation - Inability to measure and monitor maturity in digital health progress in HISP - Research and development in Health Systems Analysis is lacking - Internal HISP practices not supporting rapid changes and development in business processes	- Can shape the Organisational culture to be supportive of learning and on-boarding new digital solutions - To make internal and external client processes visible, relatable, standard, and reproducible	- External environment is faster paced and has more resources than HISP in the on-boarding of new digital solutions

1.2.4 Engineering

Table 4: Engineering SWOT summary

- Team with wide variety of skills, experience and expertise - Experience within Health sector to analyse and respond to client needs efficiently - Technology agnostic DHIS2 highly versatile - Relationship with Oslo development priorities - Deep understanding and insight into data that we work with (supplemented by DT with their health knowledge and domain expertise)	- LOE constraints to do R&D needs to be addressed - User interface design not our forte - Internal approaches not data-driven for decision-making - Software Development Life Cycle (SDLC) needs strengthening - Scope creep in response to client demands - Vague or absent BRS often left us in technical debt to deliver - Re-use code and release re-usable modules - Lack of market ready as-a-full-package of open source global good solutions	- Chatbots - The WHO-AFRO DHP may be the start of an EMR - Cloud computing, AI, forecasting, ML - Build the consent server so that the patient can access his/her record - Work towards building FOSS tools that can be used for a total-package - Build modular systems which are micro-service and API driven - Build DHIS2 apps in REACT and release apps - Becoming Platform centric gives us flexibility and mileage to engage at the center of Digital Health Architecture	- DHIS2 seen as only an aggregated solution - Competing organisations who will exploit our weaknesses - Need a focus on a global good to stay relevant

1.2.5 Systems infrastructure

Table 5: Systems infrastructure SWOT summary

STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS

- Strong technical base and troubleshooting skills
- Good crisis management
- Excellent track record of complex health systems Mx, uptime & response
- Standardised approach
- Stack 5 (Band-Aid) has resources at its disposal, and a history of security, stability and performance
- Stack 6 (Stackzilla) is cloud-based, flexible, fast, and more secure
- Respected global and regional technical (DHIS) hosting expertise
- Team-wide focus on cost-saving, FOSS
	- Weak internal governance and documentation
	- Complex, custom environments lead to standards deviations
	- Lack of certifications and intensive staff development
	- Limited resources for:
	  - R&D (Stack 6 took 2yrs)
	  - Sick / study leave
	  - Skills transfer
	  - Time management
	- Small solution offering and focus on DHIS
	- Legacy systems and poor internal systems lead to lack of data, and weak financial control
	- Fledgling security framework underway
		- Global expansion and reach; HMIS solutions and skills are widely needed
		- Standalone hosting
		- Workshops, webinars, events and skills transfer/development XaaS expanding our solutions offering, including:
		  - Cloud services
		  - Containerisation
		  - Automation
		- Mobile solutions for disease surveillance while enforcing security and privacy of health data.
		- Cybersecurity consulting and review for governments and ministries of health
			- Competition from bigger cloud providers and other competitors in the public health space "eating our lunch" before we come to market
			- Data security focus; POPI, phishing

1.2.6 Project implementation

Table 6: Project implementation SWOT summary

- Project management approach and methodologies for the organisation with training for PMs
- Transitioning to Integrated online PM tools
	- Contract renewal process is not efficient
	- Inconsistent project management processes:
	  - Lack of intergration of PM tools
	  - Budgets don't align with deliverables
	  - Inconsistent project documentation
	  - Inconsistent PM training
	  - Inadequate PM procedures
		- Need for data science opportunities and projects
		- Projects in other related sectors, (Education Mining)
		- Ground level implementation projects to broaden our reach
		- Prioritisation of digital transformation
		- Expand "Ask Tanya" AI toolset
			- Competitors in the same space
			- Political environment
			- Stable power supply
			- Sustainable pipeline of long term sustained projects

1.2.7 Finance and investment

Table 7: Finance and investment SWOT summary

STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
- Adequate financial reserves and good financial ratios - Highly skilled, experienced and committed workforce - Policies and SOPs for most processes with strong internal controls and segregation of duties	- Not yet one Integrated Transaction Processing System (TPS) - Long term Financial Strategy (5 - 10 years) - Resource planner integration with project budget and costing needs refinement - Lack of clear understanding of corporate governance and adherence there to by many layers of management - Lacking corporate governance process - Capacity gaps in some units of Finance impacting internal controls, segregation of duties, good governance and business continuation	- Create a financial management dashboard for each department to track and monitor their performance - Create a budget control and tracker integrated with the TPS - Create financial tools for project reporting and management requirements for the TSS and TPS - Redevelop and Integrate the TSS and TPS systems onto latest technology to enhance integration of financial data processing and processes	- Volatile project funding environment to secure sustainable organisation financially

1.2.8 Human capital

Table 8: Human capital SWOT summary

- Highly motivated workforce - High retention and low turnover	- We don't use data driven approaches internally - Poor procedure, process and other related governance - Lack of Succession Planning implementation - Managers not fully familiar with HR procedures - Coaching programs not in place impacts staff - Investment in non-pivotal and non-credit bearing training interventions - Outdated policies and procedures	- Skills development platform for teams to develop competitive skills and keep up with trends - Increase employees with academic qualifications - HR Info Systems can be fully utilised once HR staff is fully capacitated - Establish and strengthen relationships with tertiary education institutions - New tools and advanced HR systems to provide data sharing within the organisation	- International competition for a limited supply of digital health expertise

1.2.9 Business development

Table 9: Business development SWOT summary

STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
- Pandemics help to focus attention on information issues - COVID has empowered ministries of health to take ownership of Digital Health and invest in strengthening digital health platforms - HISP has proven business development capabilities and dedicated expertise	- HISP website and social media pages don't portray HISP purpose, value and successes - BD proposal development processes, procedures and related documents needs strengthening - Define products more clearly - Define target markets better for business and marketing messages to be aligned - Inadequate pipeline and order book	- Develop in-house expertise for other global goods and offer implementation - A business model for non-government target market who may offer funding - Partner with organisations working with global goods to offer integrated digital health packages - Engineering to publish more data, have access to our website and what we can do with that data - Secure new work such as: - CDC NOFO 2123 proposal, Africa CDC expansion, E4H project, WHO work - Identify gaps in the Global Goods/FOSS markets that can be filled through HISP-SA-led or developed solutions - Consider Strategic Update "my life" timeline to "classify" where existing products sit, and highlight possible development directions - Highlight HISP SA's capabilities - Engage with the private sector more; explore partnerships and co-operation that can build incentives for expanded systems use, while being careful to maintain trust	- Large corporations beginning to identify digital health as a potential new revenue stream

2. How we will respond

2.1 Strategic direction

2.1.1 Purpose

Our purpose is to build ***better lives with digital*** solutions.

2.1.2 Vision

An enduring, innovative and thriving HISP shaping the future of the digital health space by providing user-responsive, sustainable digital solutions to bolster the health and prosperity for all.

2.1.3 Mission

Social entrepreneurs embracing partners in both public and private sectors to provide solutions that engage with people throughout their life journey, that support the ideals of local innovation and democratisation of the health sector, developing and enhancing public goods that promote information sharing for data-driven actions that improve health and prosperity, fulfilling our purpose while ***building better lives together.***

2.1.4 Core values

Our core values have been chosen by staff through a consultative process. They highlight unique characteristics of our culture and provide a clear indication of the required behaviours of HISP individuals and teams.

Table 10: Core values and expected typical behaviours

Theme	Description	Typical Behaviours
Accountability	Acknowledge and assume responsibility for decisions, solutions, and policies. It is expected at least at two levels: individual accountability of employees to one another and supervisors, and accountability of the company to employees, the Board, and other stakeholders.	- Protect the interests of HISP - Focus on delivering results - Accept responsibility and hold ourselves accountable for our work, behaviour, ethics and actions - Deliver on our commitments

Diversity	Having a range of different defining personal traits such as age, gender, race, marital status, ethnic origin, religion, education and other qualities. It is recognised as a welcome quality that helps to stimulate thought, challenge preconceived ideas, promote tolerance of different viewpoints, and be responsive to its environment.	- We promote inclusion and teamwork, deriving benefit from the rich diversity of the cultures, ideas, experiences and skills that each employee brings to the business - We aim to be a global leader with the right people - We undertake to use our diversity to benefit HISP and advance its strategic objectives
Respect and dignity	Showing due regard for the feelings, wishes, or rights of others. Dignity is the state or quality of being worthy of honour or respect and having a sense of self-worth.	- We believe that individuals who are respected and entrusted to take responsibility respond by giving their best - We seek to preserve people's dignity they can make HISP a success

2.2 Strategic themes

This Business Strategy focuses on activities grouped according to three themes.

Table 11: Business strategy themes

Theme	Description	Leading department
Technology, products and services	Our outputs will enable rich personal experiences that improve health and prosperity, empowering people to use digital tools productively and make choices about what happens with their data. Our emphasis on people and technology creates unique multi-disciplinary collaborating teams that build responsive solutions. As we strengthen our deep understanding of users to personalise solutions and improve user experience, we also invest in data science to make maximum use of available data.	- Digital transformation - Engineering - Systems infrastructure
People and performance	HISP comes to life through its people. We will invest in identity, talent, diversity, culture, and performance, attracting and retaining diverse expertise, creating career paths and building diverse high-performance teams. These actions are at the heart of our "Building Better Lives Together" campaign that faces both externally and internally.	- Human resources
Governance and growth	HISP's internal control environment, governance, and quality assurance helps to reduce risks and produce efficiencies. Long term sustainability requires integrated strengthening across HISP teams. Our clients reflect our purpose and our offering. Our partners provide mutually beneficial, complementing and expanding our capabilities. We manage finances responsibly to support our growth and sustainability objectives.	- Corporate governance - Finance - Business development

2.3 Embracing the changing digital landscape

To succeed, we will remain abreast of emerging digital opportunities, their benefits and risks, exploring how to use what we learn to advance people's health and prosperity.

The digital environment is constantly evolving, driven by numerous factors, including those described on the next page.

2.3.1 Understanding people

To improve health and prosperity, our solutions and services must respond to what makes people act. Most of us want better lives. Even so, we don't often do what is best for us.

Rather, we often do what we enjoy doing, regardless of whether it is good for us or not, and our decisions are driven by feelings.

Figure 2: Motivators to use a digital solution

2.3.2 Optimising engineering breakthroughs

Understanding how people think and behave is not enough to unlocking the transformative potential of digital tools. We also need sophisticated engineering that is seldom visible to the user. This work "under the hood" can make a significant difference. Each component's relative contribution varies depending on the project. Digital solutions can't reach their potential without these kinds of issues being addressed in the right way.

Not every country or organisation starts from the same position. There is a wide range of digital health maturity and appropriate digital health initiatives must respond both to users' needs as well as their setting's relative maturity to ensure that tools developed achieve net benefits for their people and are sustainable. Understanding both people and technology is essential along this path towards better lives with digital solutions.

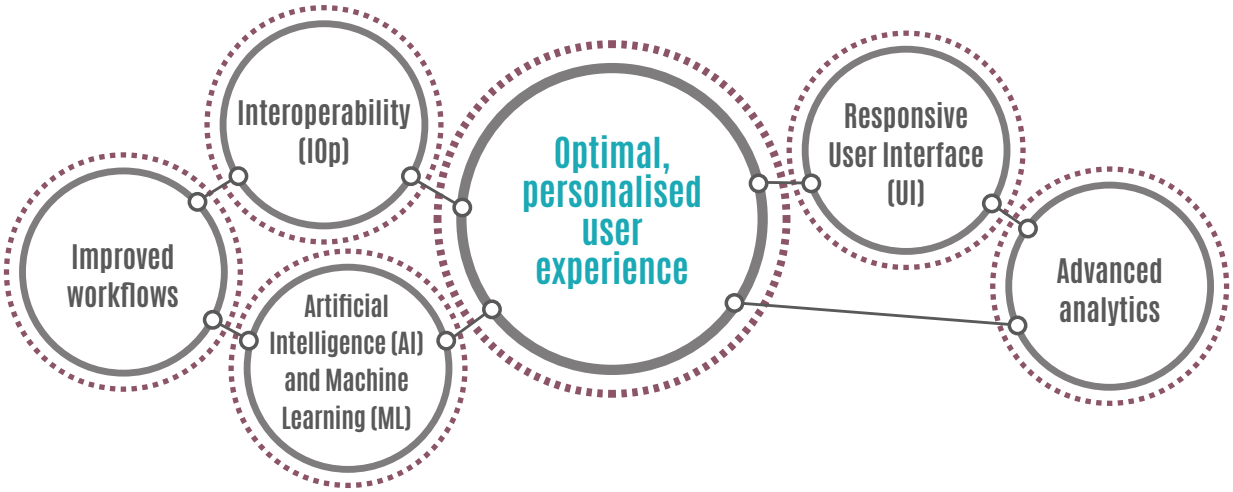


Figure 3: Motivators to use a digital solution

2.3.3 Creating cohesive, integrated offerings

Understanding what makes us behave the way we do, and providing smart tools that respond to our needs, unlocks opportunities to help us make choices that keep us healthy and prosperous for longer. Any available data about us provides opportunities for smart technology to support us.

Since our lives are complex, the more data points available to our digital tools, the more likely they will be able to provide meaningful assistance. For digital health solutions to work well, they must access sufficient, accurate data that tell the stories of our lives.

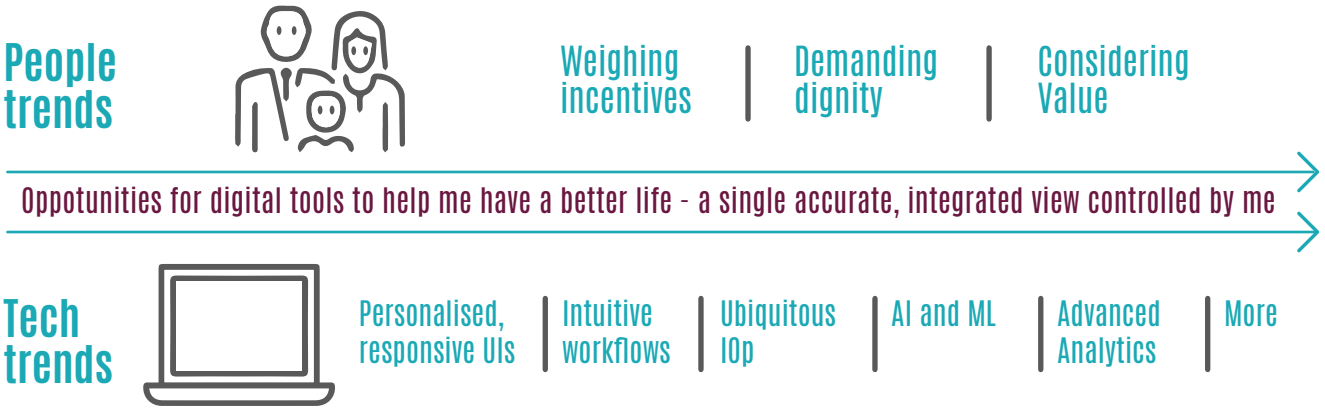


Figure 4: Building better lives with digital solutions

Many of our stories are private. We want to choose which details we share, when and with whom. HISP understands this and is committed to protecting individual data. We are creating ways to ensure that users control what happens to their data, using technology to protect it.

HISP is part of developing the numerous ideas and technologies needed to build the ecosystem of the future. Considerable work is underway to understand what needs to be built, how it should be architected, what skills are needed, and how the ideal of putting control in the hands of users will be achieved. We recognise that an ecosystem of solutions is needed that combines underlying architectural consistency and uniformity, with freedom to explore innovative user interfaces that inspire meaningful user experiences. This combination of a foundational platform layer with more flexible application layer democratises the environment, creating opportunities for more innovators, while maintaining robust security and privacy.

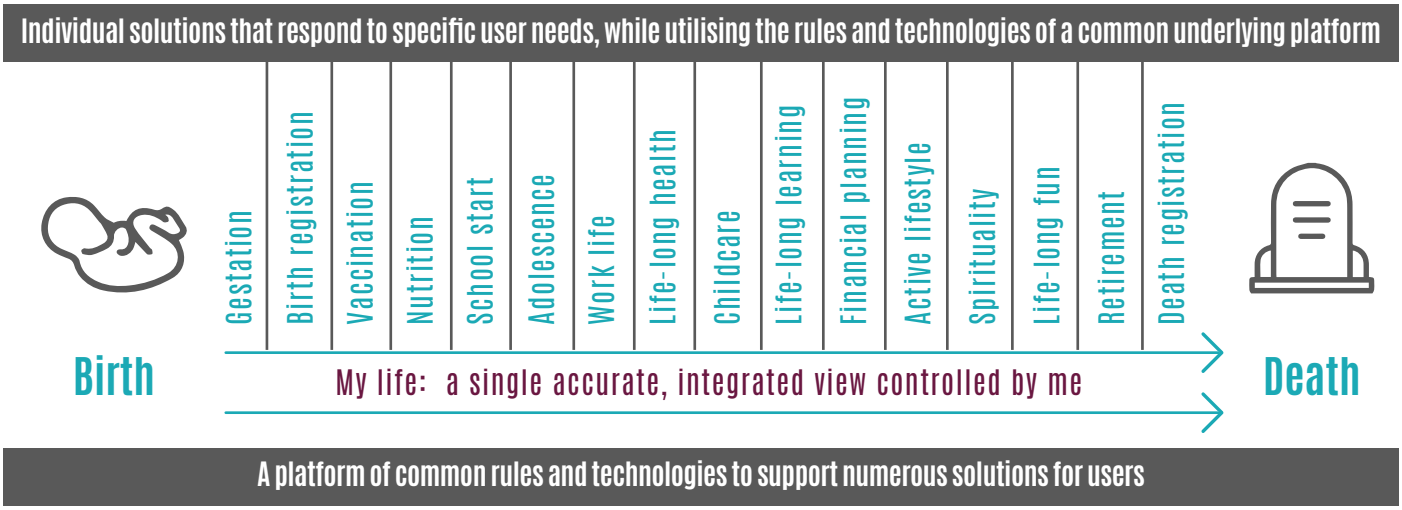


Figure 5: The digital solutions of my life

3. What we will do

3.1 Choices

To be successful, this Business Strategy must deliver positive benefits for its stakeholders over the 5-year period of the Strategy. Critical success factors include:

- Effectively linking our capabilities to our purpose
- Continuous capacity building aligned with changing demands and opportunities
- Robust Change Management
- Mutually beneficial partnerships
- Optimal technology choices
- High-performance and adept execution
- Agility

Choosing what we will not do is as important as choosing what we will not do. In the scenario described above under 2.3 Embracing the changing the digital landscape, hundreds of different solutions providers are likely to participate, collaborating and competing for users' attention.

HISP's place in this will be based on our vision of the future and our expertise. The specifics will be refined during the first year of the strategy, and will focus on our specific expertise and how we use that to advance our purpose, such as:

1. Maintaining interoperability between multiple systems and mediating these interconnections
2. Protecting personal information
3. Helping users to manage access and consents regarding their personal information
4. Providing advanced data science services
5. Helping people in lower- and middle income countries (LMICs) to use digital tools productively to advance health and prosperity for their people.

3.2 Five year roadmap

Our objectives over the next five years are shown in the figure and table on page 21.

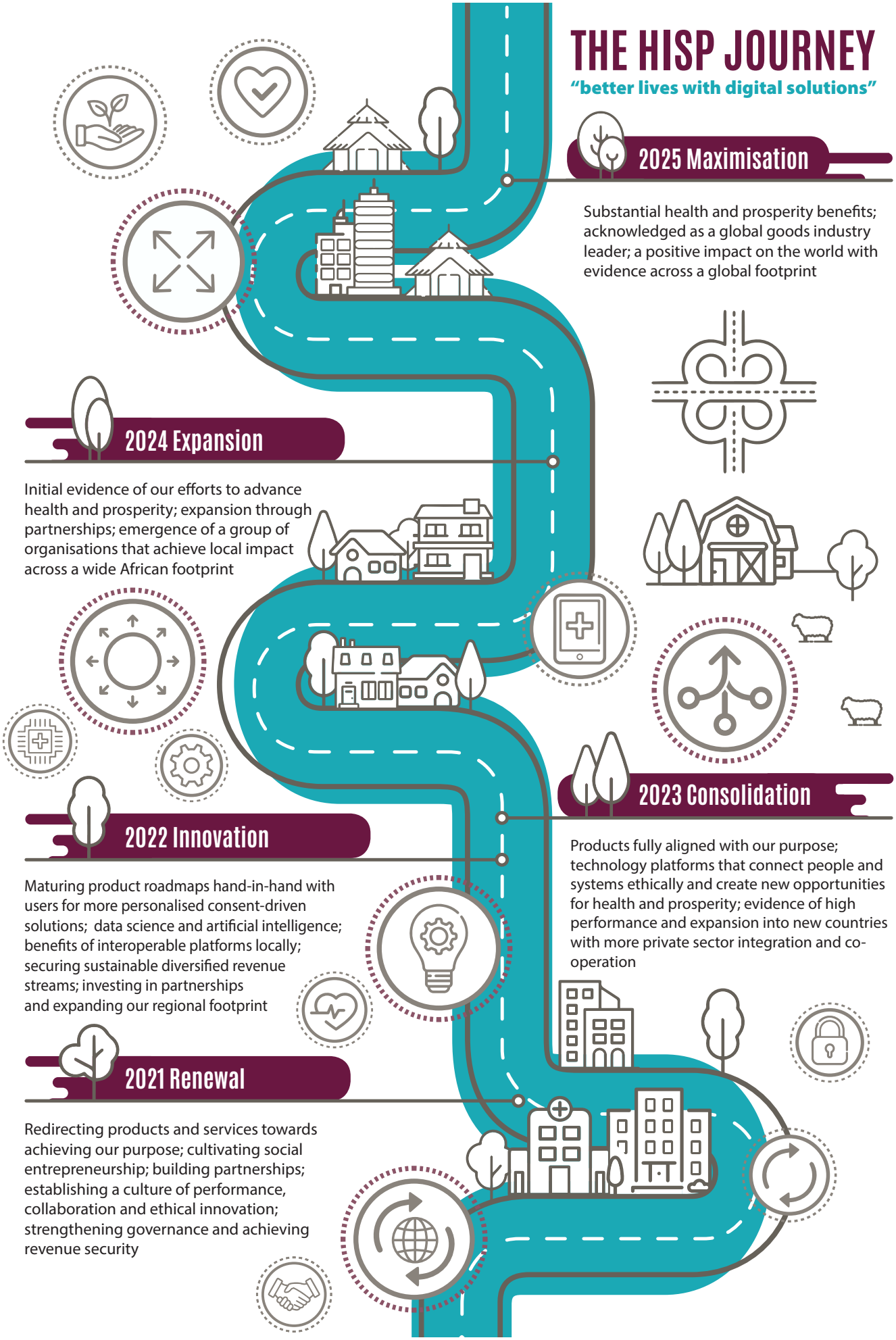


Figure 6: Strategic road map

Table 12: Key business strategy objectives over 5 years

Year	Products & services	People & performance	Governance & growth
1	- Re-focus product and service road maps towards achieving our purpose of improved health and prosperity where it is needed most - Establish effective mechanisms to co-create products and services with users, clients and partners - Establish the interoperability platform	- Cultivate the HISP ethos of social entrepreneurship and an organisational culture of performance, collaboration, cooperation, ethical innovation, humility and service - Establish initiatives that reinforce diversity as a key HISP value and strength across culture and gender	- Secure revenue sustainability - Align resources with purpose - Strengthen governance and improve operational efficiency - Establish effective partner and client relationships to advance our purpose
2	- Evidence of co-created products and services emerges for: - User directed product road maps - Personalised tools - Expand Interoperability platform, connect-a-thons - Data science driven outputs; invest in AI-driven R&D - Consent-driven tools that help users to protect their personal information	- Benchmark performance of individuals and business units - Advance HISP's leadership role on priority digital development themes	- Extend revenue sustainability - Expand geographic coverage - First private sector product developed and new revenue stream achieved - Investments in partner organisations in line with our purpose
3	- All products and services fully aligned with our purpose of improved health and prosperity, including: - Building technology platforms that help people, processes and technology to connect, creating new opportunities for health and prosperity - Employing data science techniques and tools that maximise impact	- Achieve high performance against individual and business unit benchmarks - Evidence of HISP's leadership in the digital development community	- Consolidate and rationalise business units to promote growth - Expanded investments into new countries - Focus on development of private-sector integration and co-operation
4	- Initial evidence of effective digital tools for advancing health and prosperity	- Evidence of partner driven expansion	- Emergence of HISP Group and pan-African focus
5	- Maximised impact on health and prosperity	- HISP setting acknowledged performance standard and leading industry advancement	- HISP Group established along with expanded international footprint

3.3 Guiding principles

Successful implementation of this Business Strategy will be supported by the principles for digital development listed in the table below.

Table 13: Adapted from principles for digital development

Principle	Description
Universal Health Coverage (UHC)	The strategy will promote UHC meaning that all people and communities can use the promotive, preventive, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship
User-centric	Systems emerging from the strategy will be designed with the user in mind; and the use of the system should ensure a better experience of the health system, thereby providing more patient-centric, health worker-centric and citizen-centric services
Continuity of care	Systems will support effective continuity of care for all patients, along their care pathways
Data Security, Privacy and Confidentiality	All data on patients' health will be kept private and secure
User-centric	Systems emerging from the strategy will be designed with the user in mind; and the use of the system should ensure a better experience of the health system, thereby providing more patient-centric, health worker-centric and citizen-centric services
Non-discrimination and respect for human rights	The strategy will support upholding fundamental human rights of patients must be respected at all times, improving the health of all persons irrespective of their social and economic status, or any other differentiation
Adherence to global standards on eHealth practices	HISP will use global standards, particularly open standards, and open source software wherever possible
Accountability, transparency and accessibility	HISP will be data driven, promoting accountability through data use, transparency and ensure accessibility of data and systems to all users
Affordable and sustainable health services	Services will provide value for money, being affordable, sustainable, and delivering a net benefit over time for all users
Sustainable partnerships to advance eHealth	HISP will be collaborative and build solutions that will scale and be sustainable
Ensure adherence to global standards of data quality	Services will meet global standards across the different dimensions of data quality such as accuracy, completeness, consistency, timeliness, validity, and uniqueness

3.4 Strategic objectives

Strategic objectives align to the four themes to drive organisation strengthening needed for HISP to achieve long-term sustainability.

3.4.1 Leadership and governance

One of the key challenges affecting successful implementation of digital solutions, is coordinated governance. For our Business Strategy to be implemented effectively, it requires clear leadership and governance structures at all levels of implementation.

Table 14: Leadership and governance objectives and interventions

Objective	Intervention
Establish effective Leadership and coordination of the strategy	- HISP Business Strategy to articulate a 5-year strategic plan within a broader 10-year strategic trajectory, with annual updates
Collaborative, integrated working arrangements	- Expected behaviours published and embraced in all parts of HISP, to establish a robust and effective integrated approaches based on respectful collaboration that drives value for our projects and clients
Manage change effectively	- A deliberate change agenda, with clear milestones aligned with implementation of the HISP Business Strategy - Regular organisational climate and culture surveys that assess the change progress and identify areas for strengthening
Governance framework and compliance	- Leadership supporting delegation of authority that places decision-making, responsibility and accountability and the lowest feasible level

3.4.2 Digital transformation

The Digital Transformation department leads engagement with clients to conceptualise solutions that enable rich personal experiences and deliver tangible value, maintaining support for users throughout the project life cycle.

Table 15: Digital transformation objectives and interventions

Objective	Intervention
Identify cost effective solutions and sustainable approaches	- Establish a Digital Health Impact Framework and use it to ensure that HISP products and services achieve required benefits, sustainably, for key stakeholders, within timeline targets
Create collaborative internal environment across value streams	- With HISP's project life cycle clearly defined, embracing agile principles and approaches will add value to HISP products and clients. Clarifying the role played by each department

Identify and align with relevant leadership bodies and governance mechanisms	- Establish and maintain relationships that are well aligned with existing priorities, including:
	  - With national bodies that drive implementation of national digital health strategies
	  - With regional and continental bodies strengthening African health systems

Optimise the quality and value of users' digital experiences	- Upgrade all user interfaces, by improving design to unlock more value from each users' digital experiences - Establish User experience Design (UxD) policy and standards for development of software applications
User experience: optimise the quality and value of digital beneficiaries	- Establish a result-driven User support service experience for all beneficiaries, supporting them in the tools used
Identify a collaborative external supportive Digital transformation platform/group/consortium/think tank	- Establish relevant external international relationships for expanding the business vision of digital transformation in HISP.

3.4.3 Engineering

Successful digital tools are all about users, who use information systems productively. The applications we build must meet these users' needs. Usability is a critical requirement. The Engineering Department develops software applications, databases, and business intelligence. This is done through a range of activities one of which is Geographical Information systems (GIS) which allows the user to create interactive queries, store and edit spatial and non-spatial data, analyse spatial information, and visually share the results as maps.

Table 16: Engineering objectives and interventions

Objective	Intervention
Improve data-driven responsiveness to user needs with data science techniques in all solutions	- Add value for clients by developing AI models that can be used for multiple purposes - Package AI models into web services with secure access to data sources (requires adequate resources) - Integrate our BI reports with predictive analytics ability - Implement vendor agnostic BI dashboards in all of HISPs digital solutions
User experience: optimise the quality and value of users' digital experiences by upgrading all user interfaces	- Include UxD perspectives and expertise in all application design, following HISP's emerging UxD policy (where this relates to DHIS2 apps, liaise with and support University of Oslo on their work to develop global UX standards for DHIS2
Personalised: expand our response to individual users' needs by increasing the proportion of person-centered solutions to half of all HISP initiatives	- Publicising HISP's broader portfolio of work promoting the broad technologies and platforms HISP utilises promoting the expanding functional capabilities of the global goods HISP utilises - Respond to increasing concerns about data privacy and protection of personal information by developing products and services that reinforce the protection of personal information
Support the development of global goods that help to advance the HISP purpose	- Establish a development and support hub for an open-source global-good digital health software solution - Expand use of standards such as HL7 and HL7/FHIR
Establishing key components of the national digital health platform Improved access to health enhancing tools	- Support the implementation of key digital health strategy principles in the countries we support, such as in South Africa to utilise and expand its HNSF and establish a functional Digital Health Platform - Leverage Chatbots such as HISP's "Ask Tanya" and other tools, including public dashboards

3.4.4 Systems infrastructure

Systems infrastructure is a critical requirement for eHealth. It includes several aspects and has a close relationship with other units to establish, maintain and support the infrastructure. It includes:

- Workstations, including a range of devices such as desktop PCs, mobile tablets and mobile phones, which may be owned and managed by HISP or may be Bring Your Own Device (BYOD)
- Connectivity infrastructure
- Server infrastructure, including physical and virtual machines, the software loaded on those machines, maintained and supported, so that the machines function optimally and securely.

Table 17: Infrastructure strategic objective and interventions

Objective	Intervention
Establish effective and secure infrastructure to serve needs	- Acquire better equipment for improved performance - Establish faster ways to setup servers - Automate daily routines to improve Infra efficiency - Support AI models as webservices with adequate infrastructure resources
Development hub: Contribute to the development and support hub for an open-source global-good digital health software solution	- Design fully automated sign-up for 3 standard DHIS2 packages on offer on the HISP website - Design an Infra-in-a-box solution (data aggregation, help desk and monitoring all-in-one deployment) - Design and package standalone cloud services from HISP's private cloud offering
Security and Operations community for FOSS applications	- Establish a community of open-source application security and configuration experts with a focus on health systems - Quarterly development, operations and cybersecurity webinars (Dev, Sec, Ops Days)

3.4.5 Project implementation

The project implementation department is responsible for active coordination of teams from several other HISP departments throughout a project life cycle to ensure deliverables are achieved within agreed budgets and timelines. Key interventions are listed below.

Table 18: Project implementation objective and interventions

Objective	Intervention
Performance: increase project delivery and impact through value-adding performance targets for all staff	- Deliverable based incentives - Project value performance monitoring - Development of a performance matrix - Shortened Performance assessment cycles - Establish organisational driven skills training opportunities - Uniform, consistent project management framework supporting the entire project life cycle
Academy: establish a virtual academy for digital health capacity building as a profitable business unit	- Establish, maintain, and update digital learning platforms - Develop, market, and provide group, sponsored or individual paid enrolment courses. - Develop partnerships for hosting digital learning content - Upskill internal team on new technology and tools

3.4.6 Finance

The Finance department ensures organisational effectiveness by providing leadership in financial management functions, analysing performance, and making forecasts to support strategic and operational decision making.

Table 19: Investment objective and interventions

Objective	Intervention
Financial sustainability with annual net surplus	- Create sustainable income streams to ensure financial sustainability - Create secure sustainable long-term resourcing - Establish Financial Systems and processes in support of Financial Sustainability - Establish financial management dashboards for each department - Establish Integrated Budget control into TPS system - Create financial tools for project reporting and management
Effective internal control environment	- Ensure Annual Financial statement audits - Ensure Compliance to Funder rules and regulations and annual audits - Ensure clear Corporate Governance with proper policies and delegations - Establish an integrated TSS and TPS systems to enhance integration of financial data and processes

3.4.7 Human capital

Successful implementation of the HISP Business Strategy requires a pool of skilled and competent manpower at all implementation levels. Key interventions that will drive this are listed below.

Table 20: Human capital objectives and interventions

Objective	Intervention
Identity: reinforced and cohesive identity and corporate culture	- Establish a communication strategy that will reinforce corporate identity. - Encourage high performance culture through employee recognition
Diversity: achieve diversity targets across all teams	- Implement the use the HISP-SA 5yr Employment Equity Plan to achieve diversity of race, gender and other characteristics, facilitate targeted recruitment
Talent: secure and retain top talent for strengthening and sustainability	- Establish Critical Skills Transfer programs - Expand employee recognition by acknowledging individuals' unique strengths, qualities, skills and range of abilities. - Assign top talent to special projects to keep them motivated, growing, and interested. - Implementation of clear Career Pathing - Develop and implement Succession planning
Create a dynamic learning organisation	- Expand existing staff study development - Foster a mentoring and coaching culture

3.4.8 Business development

This Business Strategy will expand HISP partnerships and clients in line with its purpose. Key interventions are listed below.

Table 21: Business development objectives and interventions

Objective	Intervention
Clients: expand support for countries' digital strategies in health and other social sectors and secure private sector engagements for increased net surplus	Target strategic opportunities and build campaigns towards securing them
Partners: build mutually beneficial partnerships that extend the capabilities needed to implement HISP's strategy	Align partner strategy with the Business Strategy and update it annually
Networks: maintain and extend HISP-SA's position as a trusted digital leader and value adding organisation locally and abroad	A schedule of activities to showcase profile and capabilities, affirming HISP's Digital Health position by: - Showcasing HISP's broader portfolio of work - Promoting the broad technologies and platforms HISP utilises
Finances: sustainable income streams with increasing annual net surplus	Establish active pipeline management

3.5 Implementation

We recognise that this strategy is worthless if not implemented and implemented well. Failing to implement all aspects of this strategy is the single biggest risk that we face – for in so doing, we would expose the organisation to heightened likelihood of all the already-identified risks being realised.

For this reason, our approach includes facets of addressing the progress of the strategy at ALL levels of the organisation as described below.

- Departmental business plans
- Weekly scrum reviews
- Twice-monthly strategy updates at ManCom meetings.

Each HISP department has produced a 5-year business plan, led by the department Manager. These address the department's role, and a unit-based approach to supporting the strategy, CEO scorecard and business objectives, as well as risk mitigation efforts.

3.5.2 Costing the implementation plan

Producing a detailed, costed implementation plan to drive the strategic interventions is the responsibility of each Department. These are based on the Strategic Objectives and Strategic Interventions described above and indicate, for each intervention, the activities, accountability, and milestones for the years of the strategy.

Once approved, budgets and progress towards achieving their corresponding deliverables are monitored closely using the mechanisms described above and in section 3.6 (M&E).

3.6 Monitoring and evaluation

Detailed oversight and Monitoring and Evaluation (M&E) of this strategic plan is integrated into all of HISP operations in an adaptive management approach which supports adaptations to plans as problems encountered along the way are addressed and the situation becomes better understood. An example is shown in Figure 7 on page 29.

This includes contributions to organisational learning and knowledge sharing by reflecting upon lessons learned so that we gain the full benefit from what we do and how we do it and uphold accountability and compliance by demonstrating whether our work has been carried out as agreed and in compliance with established standards.

The monitoring aspect addresses processes, activities, outputs and outcomes, and accountability to allow for swift change of direction should interventions not be yielded the desired impact in the expected timeframe. The targets will be linked to the overall HISP business and the anticipated funding. Evaluation will focus on the effectiveness of key interventions and their contributions to achieving strategic objectives.

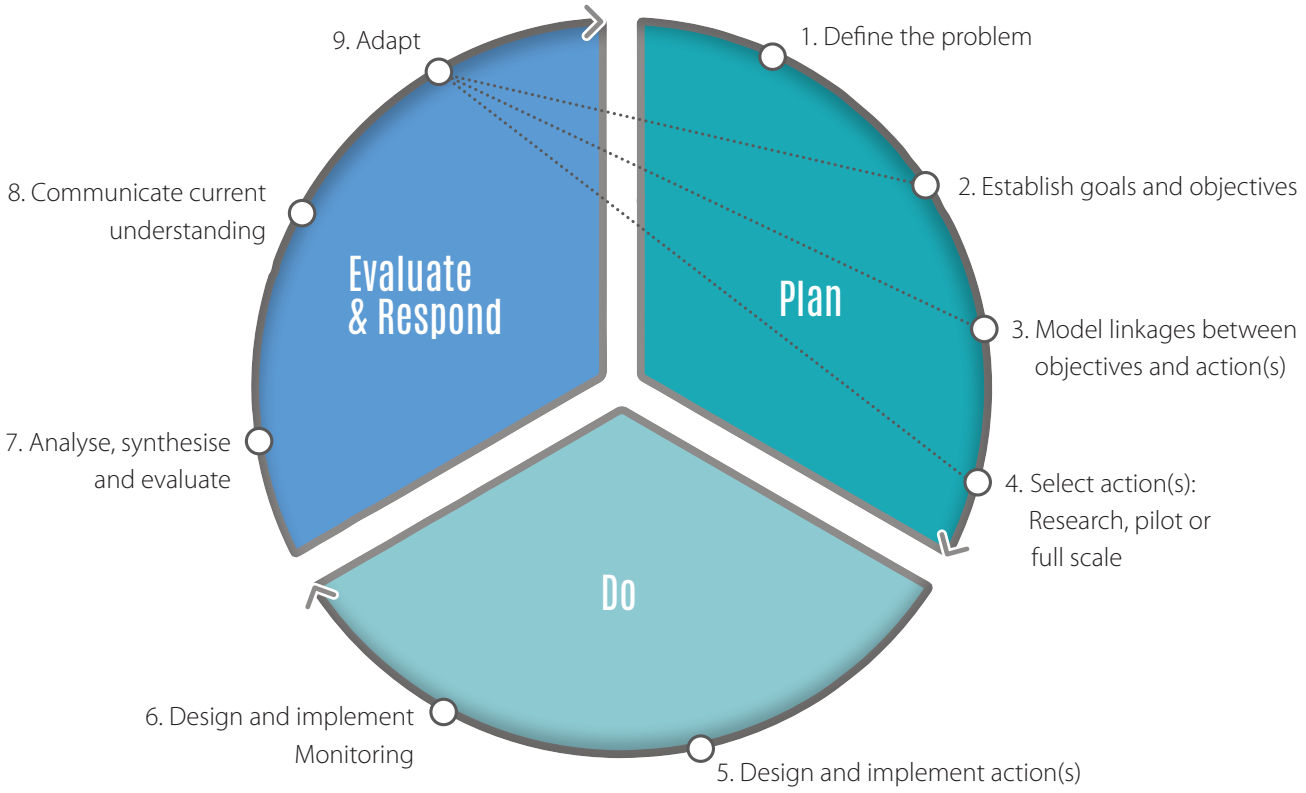


Figure 7: Adaptive management cycle

4. Annexure

4.1 Abbreviations and acronyms

AI	Artificial Intelligence
AIDS	Acquired Immune Deficiency Syndrome
BD	Business Development
BRS	Business Requirement Specification
BYOD	Bring Your Own Device
CBS	Case-based Surveillance
DHIS	District Health Information System
DHP	Digital Health Platform
DT	Digital Transformation
EHR	Electronic Health Record
EMR	Electronic Medical Record
FHIR	Fast Healthcare Interoperability Resource
FOSS	Free and Open Source Software
HISP	Health Information Systems Program
HL7	Health Level Seven
HNSF	Health Normative Standards Framework
HR	Human Resources
HRH	Human Resources for Health
HRIS	Human Resource Information System
ICT	Information and Communications Technology
IHE	Integrating the Healthcare Enterprise
IoT	Internet of Things
IT	Information Technology
ITU	International Telecommunication Union
LMICs	Lower- and Middle-Income Countries
M&E	Monitoring and Evaluation
ML	Machine Learning
NGO	Non-governmental organisation
OpenHIM	Open Health Information Mediator
PCs	Personal Computers
PMs	Project Managers
POPI	Protection of Personal Information
PPE	Personal Protective Equipment
R&D	Research and Development
SDG	Sustainable Development Goal
SDLC	Software Development Life Cycle
SWOT	Strengths Weaknesses Opportunities Threats
TPS	Transaction Processing System
TSS	Time Sheet System
UHC	Universal Health Coverage
UI	User Interface
WHA	World Health Assembly
WHO	World Health Organization
WHO AFRO	World Health Organization African Regional Office

4.2 Glossary of terms

eHealth - The WHO defines eHealth as "the use of ICTs for health". Over the years other names have been used including health informatics, telemedicine, health ICT, mobile health, and most recently, digital health. While there are recognised differences in their meanings, eHealth and digital health are frequently used as synonyms for each other. eHealth is at the intersection of medical informatics, public health, and business and offers health services to support care delivery, manage care, promote prevention, and educate; it is delivered or

enhanced through the internet and related technologies such as wearables and sensors.

Digital Health - WHO states that digital technologies can improve health, from personal fitness to building stronger health systems for entire countries and is determined to harness the positive potential of digital technology to promote and protect the health of all people.

Electronic health record (EHR) - This is a longitudinal electronic record of patient health information generated by delivering healthcare services. It includes patient demographics, progress notes, problems, medications, vital signs, past medical history, immunisations, laboratory data, and radiology reports. The EHR automates the clinician's work flow and can generate a complete record of the patient encounter, as well as supporting other care-related activities directly via an interface, including evidence-based decision support, quality management, and outcomes reporting.xxi

Electronic medical record (EMR) - This is a patient health record that typically has access to evidence-based decision support tools to aid clinicians in decision-making. The EMR can automate a clinician's work flow. It can also prevent delays in response that result in gaps in care. The EMR supports collecting data for clinical care, billing, quality management, outcome reporting, and public health disease surveillance and reporting.

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Fast Healthcare Interoperability Resource (FHIR) - FHIR is a data standard developed by HL7 International. FHIR solutions are built from a set of modular components called "Resources" that can easily be assembled into working systems that solve clinical and administrative problems. FHIR is suitable for use in a wide variety of contexts.xxii

Health Level Seven (HL7) - HL7 International is an organisation that provides a framework and related standards for the exchange, integration, sharing, and retrieval of electronic health information. These standards define how information is packaged and communicated, setting the language, structure and data types required for seamless system integration to support clinical practice and the management, delivery, and evaluation of health services.

Interoperability (IOp) - Interoperability in the health ecosystem refers to the ability of different information systems, devices and applications to access, exchange, integrate and cooperatively use data in a coordinated manner, within and across organisational, regional and national boundaries, to provide timely and seamless portability of information and optimise the health of individuals and populations globally. Health data exchange architectures, application interfaces and standards enable data to be shared appropriately and securely.

Universal Health Coverage (UHC) - The WHO defines UHC as a situation where all people and communities can use the promotive, preventive, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship.

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