

SAMOA E-HEALTH POLICY AND STRATEGY 2017-2022



Samoa Health Sector

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Moto'otua, Apia, SAMOA

Telephone: +685 68100

Website www.health.gov.ws

Private Bag, Ministry of Health, Apia, SAMOA.

FOREWORD FROM THE MINISTER OF HEALTH

Timely and Quality health information will improve healthcare service delivery and provide routine evidence performance of Samoa's health services.

We therefore, require a functioning Health Information Systems (HIS) capable of capturing accurate data in order to produce information reports for healthy decision making. I am proud to present Samoa's Health Sector eHealth Policy and Strategy 2017 – 2022.



It sets the long term pathway and roadmap in improving, strengthening and incrementally developing the complex and phased approach of Samoa's Health Sector eHealth planned development system.

Samoa's HIS has been characterized by fragmentation and lack of coordination, prevalence of manual systems and lack of automation, and where automation existed, there was a lack of interoperability connectivity between different systems.

This eHealth policy and strategy will be guiding the development of Samoa's Health Sector HIS from the current status to an integrated and well-functioning National system, based on agreed upon scientific and technological standards for interoperability in combating challenges of improving efficiency of clinical care, produce the indicators required for monitoring and evaluation reporting, facilitate patient mobility and supports healthcare professionals. The architecture of this system will ensure patient and health information confidentiality is maintained to its highest level even when it is enabled to interface with other transversal systems when and if required.

All of Samoa's Health Sector organizations and employees will ensure their compliance with Policy directions as set out while the eHealth Steering Committee will closely monitor the implementation and roll out of this Strategy plan.

Ma le fa'aaloalo lava,

Tuitama Leao Dr. Talalelei Tuitama
MINISTER OF HEALTH

ACKNOWLEDGEMENTS FROM THE DIRECTOR GENERAL OF HEALTH

This e-Health Policy and Strategy 2017 -2022 aims to support the strategic objectives of the Samoa Health Sector in a way that is comprehensive, pragmatic and innovative. Its vision and mission is aligned to the national Strategy for the Development of Samoa 2016/17-2019/20 and Health Sector Plan 2008 -2018 priorities.



The pathway for e-Health requirements, mandatory foundations, integration and coordination of all e-Health initiatives both public and private health sector is being set in the Policy component of this document. The policy adopts a set of principles which include getting the basics right, taking an incremental approach, building on relevancy of what already exists and looking for early wins.

The document includes a thorough situational analysis of health information challenges faced by the Samoa Health Sector and thus we have planned to move forward in addressing these challenges with implementing the various strategies planned.

The eHealth development is a product of a concerted effort by its Public Health Sector Leaders who worked tirelessly to develop it, in constant consultation with the eHealth Taskforce. The eHealth Steering Committee under the support of the MOH HISICT Division will provide the technical oversight required to ensure successful implementation of this policy.

I wish to extend my heart felt gratitude to the many people who have been involved in the development of this e-Health Policy and Strategy. I especially thank our development partners in health for their financial support. The result will radically contribute to enhancing the Information System for Samoa's Health Sector and Services.

Ma le fa'aaloalo,

Leausa Toleafoa Dr. Take Naseri
DIRECTOR GENERAL OF HEALTH/CEO

Glossary and Abbreviations

Term	Definition
ADB	Asian Development Bank
AG	Attorney-General's
ACEO	Assistant Chief Executive Officer
CDs	Communicable Diseases
CEO	Chief Executive Officer for the MoH (Samoa)
CRVS	Civil Registration and Vital Statistics
CHS	Clinical Health Services
Data Platform	Is a centralized computing system for the collection, integration and management of large sets of structured and unstructured data from disparate sources.
Data Platform	Is a centralized computing system for the collection, integration and management of large sets of structured and unstructured data from disparate sources.
DFAT	Department of Foreign Affairs and Trade (Australia)
DG	Director General for Health (Samoa)
DP	Development Partners
DSS	A decision support system (DSS) is an "informational" computer program application that analyses business data and presents it so that users can make business decisions more easily
eHealth	Information and communication technology that facilitates health and health care
eHealth Components	The parts of an EHealth framework such as governance frameworks, resources and business processes, used to deliver health care electronically through Information, Communication and Technologies (ICT).
eHealth Framework	The architectural structure of the EHealth framework that illustrates the location of and workflows between each of the components.
EHR	An Electronic Health Record is comprehensive medical record or similar documentation of the past and present physical and mental state of health of an individual in electronic form, and providing for ready availability of these data for medical treatment and other closely related purposes (Milieu Ltd, 2014)
eLCST	eHealth Local Counterpart Support Team
eSC	eHealth Steering Committee the entity responsible for the overall oversight of eHealth at a national level. They are a multi sectoral committee responsible for making decisions in relation to the establishment and development of eHealth in Samoa.

eT	eHealth Taskforce was initially established to drive the eHealth agenda until the remaining governance structures were finalized. This taskforce shall develop into the eHealth Steering Committee (eSC) as of the approval of this Strategy with all remaining actions to be incorporated into the work plan of the eSC
FK	Fa'aiuga Kapeneta (or Cabinet Directive)
Gbps	Gigabits per second is a measure data transfer (bandwidth) speed on a digital data transmission medium (e.g. optical fiber). The Samoa submarine cable project is expected to increase capacity by a minimum of 1000 times (there are 1000 gigabit in 1 terabyte).
GoS	Government of Samoa
GP	General Practitioner
GPA	General Practitioners Association (Samoa)
GM	General Manager for National Health Services (Samoa)
HDISP	Health Data and Information Standards Panel
HIS	Health Information System
HPAC	Health Program Advisory Committee
ICD	International Classification of Diseases
ICT	Information, Communications and Technology
Interoperability (eHealth)	The ability of two or more electronic health record systems to exchange both computer interpretable data and human interpretable information and knowledge. (Milieu, 2014)
IT	Information Technology
MCIT	Ministry for Communications and Information Technology
MFAT	Ministry of Foreign Affairs & Trade (New Zealand)
mHealth	MHealth (mobile health) is the use of mobile phones, applications and technology to deliver health information, education, and monitoring e.g. clinical decision support tools, data submission, text reminders for patient appointments etc.
MoF	Ministry of Finance(Samoa)
MoH	Ministry of Health (Samoa)
MPI	A Master Patient Index (MPI) Is An Electronic Medical Database That Holds Information On Every Patient Registered At A Healthcare Organization. It May Also Include Data On Physicians, Other Medical Staff And Facility Employees.
MTII	Malietoa Tanumafili II Hospital
NCDs	Non Communicable Diseases
NDD	National Data Dictionary
NDC	National Data Center
NGOs	Non-Government Organizations

NHIN	National Health Identifier Number
NHIR	National Health Indicator Registry
NHPI	National Health Professional Identifier Registry
NHS	National Health Services (Samoa)
NKFS	National Kidney Foundation of Samoa
PMU	Project Management Unit that is under the MoF.
Policy Areas	Are the parts of an eHealth framework such as governance frameworks, resources and business processes, used to deliver health care electronically through information, communication and technologies (ICT).
PRC	People's Republic of China
Registry	National Health Registries are health information systems used to collect, process and analyses data on the population, diseases etc. Within the Samoa eHealth environment, there are patient, health provider, health facility, village, health indicator registries anticipated. Registries for immunization (National Electronic Immunization Registry (NEIR) and births and deaths currently exist (Civil registration and vital statistics (CRVS).
RFP	Request for Proposal
SBS	Samoa Bureau of Statistics
SSCP	Samoa Submarine Cable Project
SWOT	Strength, Weakness, Opportunity, Threat
Telemedicine	Also Known As "TeleHealth", "E-Care", Telemedicine Allows Health Care Professionals To Evaluate, Diagnose And Treat Patients In Remote Locations.
ToR	Terms of Reference (for committees)
TTMH	Tupua Tamasese Meaole Hospital
WB	World Bank
WHO	World Health Organization

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POLICY STRATEGY STATEMENT

The Samoa eHealth Policy will guide the Samoa eHealth Strategy implementation. The Government of Samoa is committed to using eHealth to deliver quality health care services to the people of Samoa through the proper use and management of Information, Communications and Technology (ICT).

Vision: *To improve and sustain Quality of life for All by using eHealth to provide effective, accessible, safe, affordable and efficient health care services.*

Mission: *To ensure the health standards for the Samoan population are improved and maintained through a robust eHealth framework.*

The Principles that underpin this policy and reflect the Samoa Health Sector Plan (2008 to 2018)¹ are:

1) Accountable Governance in Health: The eHealth components are governed, managed and supported with integrity in accordance with all relevant legislative and policy requirements.

2) Sharing and Accessibility of Health Data and Information: Only approved users shall have access and be able to share health data and information within all relevant legislative and policy requirements without discrimination.

3) Appropriateness: The eHealth components shall be of appropriate standard to ensure confidentiality, security, integrity and availability of health information.

¹Ministry of Health (Samoa). Samoa Health Sector Plan (2008 to 2018). Samoa, Ministry of Health (MoH), 2007.

POLICY PURPOSE

The Samoa eHealth Policy guides the use and management of eHealth components in Samoa.

1. EHealth components are any parts of an eHealth framework such as governance frameworks, resources and business processes, used to deliver health care electronically through Information, Communication and Technologies (ICT).
2. The eHealth components are categorized under “**policy areas**” which details the operational implementation plans related to establishing and developing eHealth in Samoa.

All system administrators and authorized users of eHealth are responsible for ensuring that the use of EHealth functions comply with the requirements of all related eHealth legislation, policy and standard requirements to ensure that eHealth functions continue to serve the purpose of improving health care service delivery (public and private) to the people of Samoa.

POLICY SCOPE

This policy applies to all authorized users, managers, system administrators and stakeholders of eHealth components.

Background

This policy affirms the commitment of the Government of Samoa towards improving its health system and status through investments in Health Information System by way of eHealth component development.

Samoa's General Health System

Population: As of 2011, the increasing population of Samoa numbered 187, 820 people with a life expectancy of 73 (males) and 76 (females).²

Health Status: The *Samoa Health Sector Plan 2008 to 2018* prioritizes four (4) crucial health challenges concern including

- I. Increasing levels of Non-Communicable Diseases (NCDs),
- II. Importance of reproductive and maternal and child health,
- III. Infectious diseases and
- IV. Death and disability from injuries.

² Samoa Bureau of Statistics (SBS). Samoa Demographic and Health Survey 2014. Samoa, SBS, 2015.

The *Samoa eHealth Policy* will provide guidance for strategy implementation aimed at these health areas including the planning and delivery of quality health care services, health promotion and prevention through the provision of accurate information and reporting systems for business management and governance.

Health Facilities:

- 1 National Hospital (Tupua Tamasese Meaole Hospital, Upolu)
- 1 Referral Hospital (Maliotoa Tanumafili II, Savaii)
- 6 Rural District Hospitals (Leulumoeaga, Lalomanu, Poutasi, Foailalo, Sataua and Safotu)
- 4 Community Health Centers (Lufilufi, Faleolo, Saanapu and Vaipouli)
- All Private health service providers in Samoa
- Ministry of Health
- National Kidney Foundation of Samoa (NKFS)
- Any other health service providers under the administration of the Health Sector

SWOT Analysis of the Current eHealth Environment in Samoa.

Overall there is a lack of governance, infrastructure and workforce structures to support eHealth environment in Samoa however, there are opportunities to address these issues and concerns to ensure the successful implementation of eHealth development. (*Refer Annex 1: SWOT Analysis of the Current eHealth Environment in Samoa*)

Governance of eHealth – Leadership Obligations

Leadership:

All health sector proposals shall be submitted to the Cabinet after review by the relevant health sector agencies and endorsement by the eHealth Steering Committee.

The Ministry of Health (MoH) provides strategic leadership of the health sector through regulations, policies and monitoring of service standards and provides health promotion and preventive services.

The National Health Service (NHS) was established in 2006 to provide and manage health care service delivery primarily funded by the Government.

The Ministry of Communications and Information Technology (MCIT) oversees the ICT framework for Samoa including supporting access to information and the coordination of legislation and legislative training that relate to eHealth components.

Implementation and Operation:

The eHealth Steering Committee will replace the eHealth Taskforce set up under FK (14)40 (*Refer eHealth Steering Committee TOR in Annex 4*). The eHealth Taskforce was set up as an initial governance entity until the establishment of the eHealth Steering Committee and other relevant counterpart support teams such as the eHealth Local Counterpart Support Team (eLCST); the Health Data and Information Standards Panel (HDISP) (*Refer TORs Annex 5 – 6*) will be necessary to be setup from the initial implementation of eHealth to ensure a coordinated, managed approach on the roll out of eHealth project.

eHealth Stakeholders and Partners:

Stakeholders and partners within the health sector who are involved with establishing, using, maintaining, updating, managing, supporting, monitoring and evaluating the eHealth infrastructure in Samoa include:

- Government Ministries and Agencies
- Private Health Service Providers
- Health Professional Associations
- Traditional Health Providers
- Health Related Non-Government Organizations (NGOs)
- Faith-based Organizations
- Health Related Community Based Organizations
- Academic Institutions
- Development Partners
- Patients, careers and families

eHealth Users in Samoa include³:

- Only Relevant Stakeholders and Partners
- Only Hospitals and Health Care Facilities
- Only Health Service Providers
- All Health Professionals (Registered and Authorized under Samoa's Legislations)
- Only Relevant Community Groups/ Members
- Only Approved and Authorized Researchers and Academia

³Hesse BW, Shneiderman B. eHealth Research from the User's Perspective. American journal of preventive medicine. 2007;32(5 Suppl):S97-103. doi:10.1016/j.amepre.2007.01.019.

Samoa's Health Sector ICT Environment & Human Resourcing Constraints

Infrastructure:

a) Broadband Connectivity: Currently the Health Sector does not have a network infrastructure that will cover the range that is required for eHealth connectivity. Therefore, it pivots on the Samoa National Broadband infrastructure network that is already in place. Reliance on the Samoa Submarine Cable Project (SSCP) is forcible as it is expected to increase capacity and deliver cost-efficiencies for internet access to Samoa and eHealth initiatives.⁴

b) Systems, Hardware and Software: Some health facilities in Samoa have desktop computers and mobile telephones with limited internet and network connectivity. Several information systems have been implemented with no interconnectivity including the following:

- Patient Administration System (PATIS) used in only two hospitals in Upolu and Savaii: TTM and MTII.⁵
- Community Health Nursing Information System (CHNIS)
- Pharmacy Dispensary System
- National Electronic Immunization Registry (NEIR)
- Civil Registration and Vital Statistics(CRVS)

c) Data and Information: Data is predominantly paper-based and manually collected, analyzed and reported through paper or spreadsheets mainly excel. Patient information is manually created and stored separately at individual facilities.⁶

Resources:

a) Human Resourcing: The local health, IT and Information Management workforce in Samoa is limited in terms of quantity and expertise, with the majority of workers being expatriates. In order to operationalize the successful implementation of this development the Health Sector will require additional human resource capacities and expand in terms of having a dedicated division for Health Information System as well as Division for Information Communication Technology with adequate staffing numbers. Central Agencies of Government namely, the Office of the Public Service Commission, Governance Boards is required to provide its organizational human

⁴Asian Development Bank. Grant Report: Samoa Submarine Cable Project. Samoa. 2015.

⁵Spohr, M. Samoa Health Metrics Network Assessment. Samoa, 2013.

⁶Festin, S. Analysis of High Level Requirements and Implementation Options for Samoa's Health Information System. Samoa, 2015.

resources support upon requests for favorable consideration given the investments towards this investment development.

- b) **Technology Advancement:** There is an opportunity within the eHealth environment to share internationally based knowledge through tele-medicine; provide remote tertiary care, diagnostics, treatment and digital data processing;⁷ as well as other relevant capacity development within the health sector at such a time when its ehealth infrastructure and human and resources capacities is in order.

Governance of eHealth – Legal Framework Requirements

Legislation:

There are existing legislations already in place which will guide the use of electronic health information and ICT in the health sector namely the Crimes Act 2013. However, further legislation will need to be reviewed and developed specifically (if necessary) for eHealth as it is further implemented in Samoa. The legislation shall link to the Samoa eHealth Policy and Strategy and related framework and standards.

Table 1: Existing Legislations and Policies in place for eHealth:

Legislation / Policy Name	Purpose and Relation to eHealth	Required changes to incorporate eHealth
1. Crimes Act 2013 ⁸	Foundation of eHealth is already enforced under the Crimes Act Part XVIII for crimes involving electronic systems.	No further changes required.
2. Ministry for Communications and Information Technology (National Information and Communication Technology Policy) 2012 to 2017 (Samoa) ⁸	Framework for ICT across all sectors in Samoa. Includes strategies for access, policy and legal reform, human resource development, economic development and governance of ICT in relation to health service delivery.	Requires eHealth specific components.

⁷World Health Organization. Tenth Pacific Health Ministers Meeting. Samoa. 2013.

⁸ Legislative Assembly of Samoa. Crimes Act 2013 Part XVIII Crimes Involving Electronic Systems. Samoa

⁸Ministry for Communications and Information Technology (National Information and Communication Technology Policy) 2012 to 2017

3. Ministry of Health Act 2006 (Samoa)⁹	Roles and responsibilities of the MoH.	<i>To be expanded to include sections specific to eHealth and health information related areas. Specifically, in relation data sharing and access, MoH shall be the authority providing data access in their role as the overseeing entity for the health sector. Access shall be provided to all approved users to support their functions through the eHealth architecture.</i>
4. National Health Service Act 2014 (Samoa)¹⁰	Roles and responsibilities of the NHS.	<i>Health Information section to be expanded to include sections specific to eHealth related areas including data sharing and access.</i>
5. Telecommunications Act 2005 (Samoa)¹¹	Framework for the provision of telecommunications in Samoa.	<i>To be expanded to include sections specific to eHealth or health information related areas.</i>
6. Births, Deaths and Marriages Registration Act 2002	Requires timely registration of births and deaths.	Legislation should ensure that the registration of deaths (MoH) link with the cause of death register at the Samoa Bureau of Statistics.
7. National Kidney Foundation of Samoa Act 2005	Roles and responsibilities of the NKFS.	<i>Health Information section to be expanded to include sections specific to eHealth related areas including data sharing and access.</i>

⁹Ministry of Health Act 2006 No. 19. 2006. Samoa.

¹⁰National Health Service Act 2014. Samoa.

¹¹Telecommunications Act 2005. Samoa.

Required Legislation:

To support the eHealth environment in Samoa we will need further legislations to be put in place in the following areas¹² to ensure compliance, access, reporting, confidentiality and privacy, and protection of users, the health workforce and population community and patients at any given time.

Legislation	Purpose and Relation to eHealth
1. Electronic Health Record (EHR)¹³	<ul style="list-style-type: none">• Creation, access and updating requirements (including in emergency cases).• Content (adequate, relevant, concise), hosting and processing of records, authorization to edit and access data, data encryption requirements, auditing requirements.• Identify and set different user privileges, access and authorization levels• Identification and legal obligations of health professionals editing the EHR.
2. Identification Numbers for patients¹⁴ health providers, health facilities and villages. For use across all facilities including private and public.	The mechanism to initiate, store, manage and maintain the national identifiers for patients, health providers, health facilities and villages that are linked to all other relevant systems (e.g. Education, electoral etc.)
3. Patient Consent¹⁵	Mechanisms to seek patient consent for use of patient information (aside from treatment related consent). Guidance should be provided to facilitate collecting, processing, downloading, editing or sharing health related information while balancing the interests of public health. This legislation shall also consider patient consent for the sharing of information with other systems and across organizational and geographical borders.

¹² EU Health Programme. *Overview of the national laws on electronic health records in the EU Member States and their interaction with the provision of cross-border eHealth services*. Brussels. 2014.

¹³ Milieu Ltd. *Overview of the national laws on electronic health records in the EU Member States and their interaction with the provision of cross-border eHealth services*. Brussels. July 2014 / 29

¹⁴ Hesse BW, Shneiderman B. eHealth Research from the User's Perspective. *American journal of preventive medicine*. 2007;32(5 Suppl):S97-103. doi:10.1016/j.amepre.2007.01.019.

¹⁵ *ibid*

4. Secondary use of health information¹³	Guiding methods on using health information for public health and research purposes including safeguards such as de-identifying the data. The functions of the MoH Research and Ethics Committee inclusive of intellectual property and consent requirements prior to publishing.
5. Retention, storage and disposal of health information¹³	Stating the period of time that systems and records are to be kept, in what manner and how they are to be destroyed. Consideration shall be made to cater for patients who move and return to Samoa and related financial impacts to the health sector.
6. Interoperability¹³	Guiding the mechanisms for systems to exchange data and knowledge. This includes the connectivity between pharmaceutical systems and EHRs to facilitate the prescribing of medications and cross-border interoperability.
7. Protecting Health Privacy and Confidentiality	Legally define privacy, confidentiality, health information, and lawful purposes for collecting health information eHealth System Measures and institutional processes for protecting health information

1. Samoa's Current Health System and eHealth Environment

General Summary Current Health Systems		
Dimension ¹⁶	Public Health Sector	Private Health Sector
Services ¹⁷	<p>Primary care: hospital outpatient clinics and outreach clinics (women's' rural health)</p> <p>Secondary care: TTM and MTII hospitals, NKFS (dialysis)</p> <p>Tertiary care: contracted to hospitals in Australia and New Zealand (Samoa Overseas Medical Treatment Scheme)</p>	General Practitioner (GP) clinics, private pharmacies, Dental practices, healers (including Traditional Birth Attendants), alternative therapists (acupressure clinic, chiropractic) and private physiotherapists.
Geographical Areas and Terminology	<p>National</p> <p>District / Regions (4 areas – Apia Urban, North Wes Upolu, Rest of Upolu, Savaii)</p> <p>Urban</p> <p>Rural</p>	
Demographic Information	<ol style="list-style-type: none"> 1. Total population: 187,820 (increasing) 2. Age: 50% (0-14 and 65 years and older), 50% (15-64 years) 3. Sex: Male (52%) Female (48%) 4. Life expectancy: Male (73 years), Female (76 years) 	
Mortality and Morbidity	<p>Morbidity¹⁸: Non-Communicable Diseases (NCDs) diabetes mellitus, hypertension etc. (obesity, inactivity and diets rich in fat, salt and sugar) and Communicable Diseases (CDs) especially mosquito borne viruses.</p>	

¹⁶ World Health Organization. National eHealth Strategy Toolkit. Geneva, World Health Organization, 2005.

¹⁷ Ministry of Health (Samoa). Samoa Demographic and Health Survey (2014). Samoa, Samoa Bureau of Statistics and Ministry of Health, 2015.

¹⁸ World Health Organization. Western Pacific Health Databank. Geneva, 2013.

General Summary Current Health Systems		
Dimension ¹⁶	Public Health Sector	Private Health Sector
	Leading causes of death: The leading causes of death are congestive heart failure, cancers, cerebrovascular diseases, accidents, pneumonia, and septicemia.	
Funding	<ol style="list-style-type: none"> 1. Funding: Government subsidized for Samoan nationals with contributions from development partners, PRC (China) and other donors. Funding covers workforce salaries, equipment and infrastructure, travel and training, maintenance, medicines and medical supplies, professional services and consultants. 2. Funding mechanisms: Direct and indirect funding facilitated by the MoF in alignment with strategic plans for the health sector. 3. Funding and budget cycle: 1 July to 30 June. 	
Governance of the Health Sector	<ol style="list-style-type: none"> 1. National: Government of Samoa (GoS) <i>Cabinet</i> 2. Finance provision and monitoring: Ministry of Finance (MoF) 3. Policy, regulation, monitoring, health promotion and prevention (international, regional, national): Ministry of Health (MoH) 4. Provision of health services: Government enterprises and private health sector (e.g. National Health Services (NHS), National Kidney Foundation of Samoa (NKFS), private GPs etc. 	
Effectiveness and efficiency	Limited health information capabilities to support decision making, health care service delivery and the monitoring and evaluation of service provision.	
Accessibility	<ul style="list-style-type: none"> • Health Information: fragmented, unreliable and paper-based • Health care: limited workforce and facility resources especially in remote areas. Telemedicine inadequately supported by the current standard of ICT infrastructure in Samoa (especially in district health facilities). 	
Current Challenges	<ul style="list-style-type: none"> • Workforce shortages • Sustained funding • Fragmented health systems and service delivery 	

General Summary – Current eHealth Environment					
eHealth Policy Area (Component)	eHealth Policy Component	Public Health Sector	Private Health Sector	Comments and Proposed Solution	
		Yes- <i>Adequate</i> No- <i>Not Available</i>			
1. Leadership and Governance	eHealth Governance Framework and Strategy	No	No	Developed under eHealth Policy and Strategy 2017 - 2022	
2. Legislation, Policy and Compliance	Legislation (eHealth related)	No	No	Planned under eHealth Policy and Strategy 2017 - 2022	
	Policies (eHealth related)	No	No		
	Standards (eHealth related)	No	No		
3. Standards and Interoperability	Interoperability with other health systems (e.g. data platforms and data center)	No	No	Planned under the Samoa eHealth initiative by 2018 in line with HIS implementation.	
	Registries	Yes	No	Within the Samoa eHealth environment, there are patient, health provider, health facility, village, health indicator registries planned for national implementation by 2018. Registries for immunization (National Electronic Immunization Registry (NEIR) and births and deaths currently exist (Civil Registration and Vital Statistics (CRVS)).	

General Summary – Current eHealth Environment				
eHealth Policy Area (Component)	eHealth Policy Component	Public Health Sector	Private Health Sector	Comments and Proposed Solution
		Yes- <i>Adequate</i> No- <i>Not Available</i>		
				This strategy includes mechanisms for interoperability with local and regional existing and planned systems.
	National Identifier (Patient, Facility, Village and Provider)	No	No	Planned for 2018. <i>Consideration</i> should be given to linking with local and regional systems such as the biometrics electoral registration system already used in Samoa.
	National Data Standards / Dictionary	No	No	Planned under eHealth Policy and Strategy 2017 - 2022
4. Infrastructure	Power Supply	Yes	Yes	Sufficient with consideration of Backup Generators if needed. Only MOH, TTMH, MTII have Backup generators in place. District Hospitals do not have backup generators on sight.
	Server/s (Capacity and location)	Yes	Yes	MoH, NHS and MCIT currently have servers available for its current needs. Planned upgrades/ replacement under the Samoa eHealth initiative in line with HIS implementation is a priority requirement.
	Computers	No	No	Planned upgrades and capacity building under the Samoa eHealth initiative in line with HIS implementation.

General Summary – Current eHealth Environment

eHealth Policy Area (Component)	eHealth Policy Component	Public Health Sector	Private Health Sector	Comments and Proposed Solution
		Yes- <i>Adequate</i> No- <i>Not Available</i>		
	Software	No	No	Planned under the Samoa eHealth initiative by 2018 in line with HIS implementation (i.e. EHR, HIS, Decision Support Application etc).
5. Services and Applications	Health Information Systems (HIS) including Electronic Medical Record (EHR) and Ancillary Systems	Yes	No	Currently manual and paper-based. Paper based medical records in hospital. SBS collects and maintains population census and sample survey data. HIS are not integrated. Planned integration of all HIS within the eHealth environment of Samoa.
	IT Support and Maintenance Resources	No	No	Additional support is required at the national level (MOH and NHS) in terms of human resources as well as recurrent financing for maintenance purposes. Required for support at the pre and post development of this project development.
6. Health Workforce	Workforce - Health Care Professionals e.g. doctors, nurses, allied health	No	No	Workforce capacity and capability building framework required under the Samoa eHealth Policy and Strategy (2016-2021) and expected to be developed and commence by 2017/2018.
	Workforce - Health Information and IT Professionals	No	No	Expansion and training required to fully support all Policy Areas.

General Summary – Current eHealth Environment

eHealth Policy Area (Component)	eHealth Policy Component	Public Health Sector	Private Health Sector	Comments and Proposed Solution
		Yes- <i>Adequate</i> No- <i>Not Available</i>		
				Workforce capacity and capability building framework required under the Samoa eHealth Policy and Strategy (2017-2022) and expected to be developed and commence by 2017.
	Training Resources & Assistance (health information)	No	No	Training for Ministries (MoH etc): Public Service Commission Government enterprise (NHS, NKFS etc): Ministry of Foreign Affairs (Samoa) Workforce capacity and capability building framework required under the Samoa eHealth Policy and Strategy (2017-2022).
	Scholarships / Education and Career path development initiatives - Health Care Professionals e.g. doctors, nurses, allied health	No	No	To be considered as part of the eHealth workforce capacity and capability building framework which is to be incorporated within institutional Workforce Planning Frameworks.

2. Implementation Linkages of the eHealth Policy

2.1. eHealth Policy Strategic Alignment

The Samoa eHealth Policy is governed under the Strategy for the Development of Samoa (2016/17-2019/20)¹⁹

principles of the Samoa National Health Sector Plan (2008 to 2018)²⁰ and linked to the Samoa eHealth Strategy (2017 to 2022)²¹ which details how the components of the Samoa eHealth framework shall produce outputs to deliver better health care services through ICT. This eHealth Policy also aligns with

international and national initiatives, policies, strategies and legislation (*Refer Annex 2*). The eHealth governance structure (*refer to Annex 3*) shall align and/or develop existing structures to ensure a collaborative and cohesive approach towards supporting eHealth outcomes.

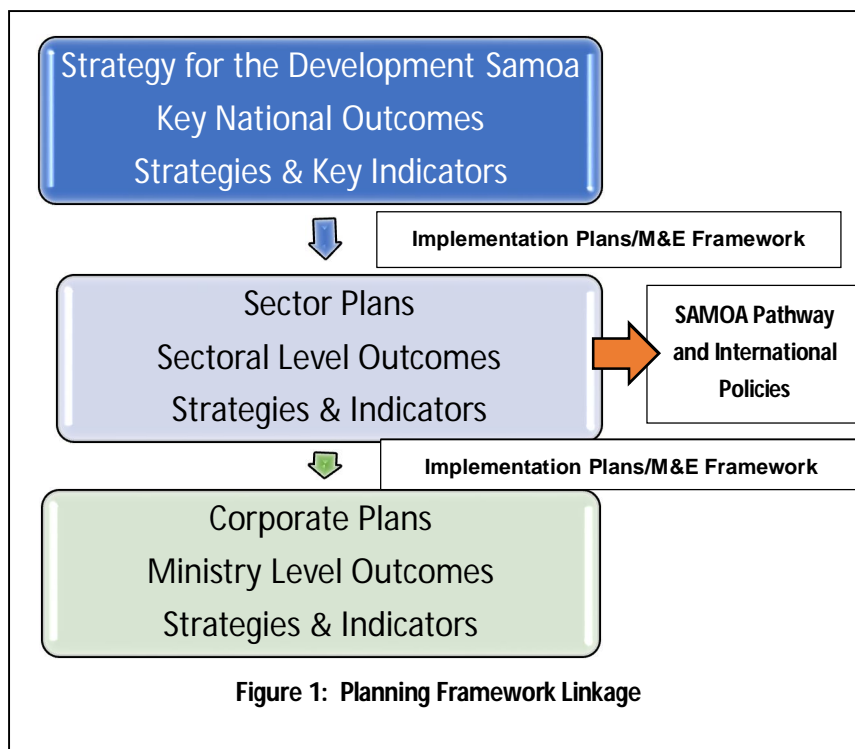


Figure 1: Planning Framework Linkage

2.2. eHealth Awareness, Communication and Advocacy

To properly advocate for the use and support of eHealth in Samoa, all stakeholders and users require a clear understanding of eHealth and its outputs. The national eHealth Policy and EHealth Strategy are available as a guide to explain how eHealth can provide better health services and outcomes in Samoa. A national Communication and Training plan shall be developed and implemented from the onset implementation of this development to ensure first and foremost that all eHealth users are highly and adequately trained for sustainability of this development as well as those involved or

¹⁹ Ministry of Finance (MoF). *Strategy for the Development of Samoa 2016/17 – 2019/20*. Samoa. 2013.

²⁰ Ministry of Health (MOH). *Health Sector Plan 2008 – 2018*. Samoa. 2008.

²¹ Ministry of Health (MOH). *Samoa eHealth Strategy 2016 - 2021*. Samoa. 2016.

impacted by the Samoa eHealth policy and strategy are provided with relevant training and information to support their requirements and use of the integrated system.

2.3. eHealth Guiding Principles

Samoa's Health Sector embraces the following core principles:

- i. Collate and collect quality, relevant, accurate and timely information;
- ii. Sharing information with only relevant partners;
- iii. Making health decisions on evidence-based information;
- iv. Ensure the connectivity, protection and security of health information.

3. Policy

The eHealth components are categorized under eHealth policy areas¹⁹ with corresponding strategic priorities.



3.1 eHealth Policy Area 1: Leadership, Governance and Support

3.1.1 Strategy: Establish eHealth governance structures

All components of the eHealth framework and their outputs shall be managed by appropriately appointed committees in alignment with the existing governance structures in Samoa. The organization structure shall support alignment of strategic priorities and activities to prevent duplicated activities. The following committees shall be established or refined to govern eHealth in Samoa:

1. **eHealth Steering Committee (eSC):** The entity responsible for the overall control and management of eHealth at a National level. This is a multi-sectoral committee responsible for making decisions in relation to the establishment and development of eHealth in Samoa. They report to the Executing Agency of Government and only when/if necessary will provide information to the Health Advisory Committee (HAC). (*Annex 4: eHealth Steering Committee Terms of Reference; Annex 3: eHealth Governance Structure*)

¹⁹ World Health Organization. National eHealth Strategy Toolkit. Geneva, World Health Organization, 2005.

2. **eHealth Local Counterpart Support Team (eLCST):** This team of locally existing positions from the Health Sector is required to provide technical support and advice to Samoa's Health Sector as well as eSC on technical eHealth and ICT development prior to implementation and during implementation of eHealth project. The structure and composition of this team is selected from within the current existing positions of the health sector whereby their roles and responsibilities will transition and integrate eHealth requirements under its overall Health Information System management. (*Annex 5 for Terms of Reference.*)
3. **Health Data and Information Standards Panel (HDISP):** Is comprised of health and social sector staff involved in recording/ reviewing/ analysis of data and information. This specialist panel will review and make recommendations to the eSC on electronic data codes and standards benchmarked to that of international standards, data access and confidentiality, storage and exchange and patient information. (*Annex 6 for Terms of Reference.*)

3.1.2 Strategy: Review Division and Organization Re-structure

Establishment of separate Health Information and ICT Divisions: Separate division's specific to Health Information Management and Information Communication Technology will be necessary to assure successful implementation of this development as well as putting in place the organizational support required long term.

The division for Health Information Management will take on the responsibilities of Monitoring and Evaluation; System Data Analysis and Reporting for all or any Health Information, Statistics, Indicators and Goals and Surveys whilst the Information Communication Technology Division focuses all its efforts on Maintenance of Infrastructure; Connectivity and Access; Programming and Upgrades; and Training of Users in collaboration with Health Information Division.

3.2 eHealth Policy Area 2: Legislation, Policy, Compliance

3.2.1 Strategy: National eHealth regulatory framework established ("eHealth Governance Framework")

1. A Legal framework to guide and manage all eHealth Policy Areas shall be developed and coordinated with all users and stakeholders. Appropriate legislation, policies and standards that align with and reflect international best practice shall be implemented to govern all components of the eHealth framework.
2. The regulation shall be coordinated to avoid duplicated processes and activities.
3. The framework shall be consistent with all data standards and be coordinated with the.

3.2.2 Strategy: Develop and establish a monitoring and evaluation framework that includes all

eHealth components.

The monitoring and evaluation framework shall align with any timelines specified for eHealth project implementations, national and partnership requirements. This framework shall be coordinated with all relevant stakeholder groups to avoid duplicated processes and activities.

3.3 eHealth Policy Area 3: Standards and Interoperability

3.3.1 Strategy: Develop and implement interoperability and sharing framework between the eHealth components to the Broadband infrastructure in Samoa.

1. Establish National Data Center to support eHealth project.

3.3.2 Strategy: Develop and implement the adequate information and technical standards framework that supports secure interoperability between all eHealth components where possible.

The standards shall align with international and national best practice and meet the following requirements²²:

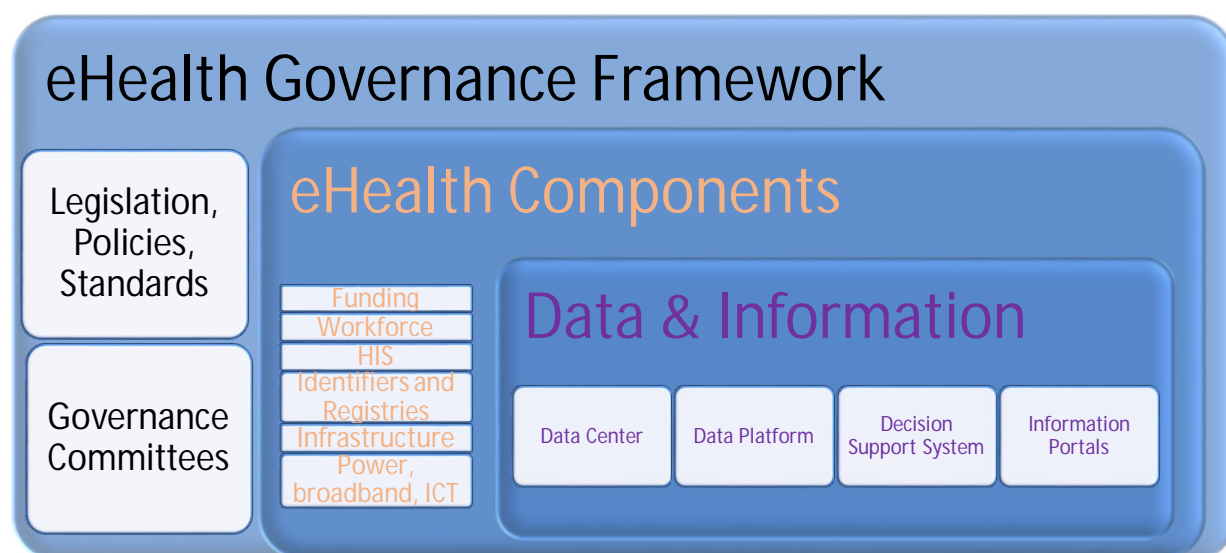
1. *Common terminologies*: Such as standard medical terminology that is used to describe symptoms, diagnoses and treatments (e.g. International Classification of Diseases (ICD).
2. *Data standardization*: To ensure data structures are standardized for consistent use across software solutions.
3. *Standard messaging protocol*: Uses standardized messaging structures that transmit data in a secure manner between approved entities, inclusive of delivery, acknowledgement and authentication mechanisms.
4. The responsibilities and sources for data collection, analysis, reporting and use shall be clearly defined and include monitoring mechanisms and integrate with existing forums (e.g. national surveys etc.).

²² Hesse BW, Shneiderman B. eHealth Research from the User's Perspective. American journal of preventive medicine. 2007;32(5 Suppl):S97-103. doi:10.1016/j.amepre.2007.01.019.

3.3.3 Strategy: Develop and implement the national eHealth architecture.

The national eHealth architecture shall be developed according to international best practice and applicable standards for Samoa to ensure that the eHealth framework is supported in producing the outputs and outcomes stated in the Samoa eHealth Action and Outcome Model²³.

Figure 2: Samoa eHealth Action and Outcome Model



1. Ensure that current clinical processes are ready for automation.
2. Training to address change management in terms of processes – clinical/ business functional requirements

3.3.4 Strategy: Develop and implement a National Health Identifier Numbering (NHIN) system and Registry.

The NHIN shall integrate and align with existing data standards, systems (including those in other sectors in Samoa) and with the Master Patient Index (MPI) where possible.

National Health Identifiers shall be allocated for health facilities, villages, health providers and patients.

The system shall be configured so that it is easy for health providers, health administrators and the community to use and be sustainable and flexible enough to accommodate identification / name changes that relate to the social and cultural requirements of Samoa (i.e. built-in mechanisms to match patients and minimize duplicate records, biometric fingerprinting to reduce mistaken identity and lost identification etc.).

²³ Spohr, M. Samoa Health Metrics Network Assessment. Samoa, 2013.

The registry shall facilitate authentication functions for the secure transfer of information between approved entities. These requirements shall be included for any health system RFP and comply with eHealth governance requirements.

3.3.5 Strategy: Develop a National Health Provider Identifier (NHPI) and Registry

The Identifier and Registry shall be easy for health providers, health administrators and the community to use and be sustainable and flexible enough to accommodate identification / name changes that relate to the social and cultural requirements of Samoa (i.e. built-in mechanisms to match health providers and minimize duplicates, biometric fingerprinting to reduce mistaken identity and lost identification etc.). These requirements shall be included for any applicable RFP and comply with eHealth governance requirements.

The Registry shall facilitate the following:

1. Health Provider Identification
2. Health Professional Provider Identification
3. Credentialing, Scope of Practice, Capability information
4. All other health provider information that is required for legal requirements, accreditation and professional membership.

3.3.6 Strategy: Revise the national suite of minimum core health indicators in Samoa for Application and use.

The minimum core health indicators shall be:

1. Applicable and useful in alignment with international and national health standards, priorities and strategies. Alignment with national and international health standards will allow the indicators to be benchmarked for performance monitoring and improvement.
2. Make use of available data collection and reporting mechanisms and resources to minimize extra and duplicate effort. The eHealth infrastructure including the data Center and HIS shall provide reporting capabilities to suit the core indicators and have the flexibility to accommodate future revisions, updates and changes to the indicators with minimum effort.
3. The indicators shall be stored in a data repository that is interoperable with all HIS in the eHealth environment in Samoa. All HIS and RFPs shall include this requirement along with support and maintenance mechanisms.

3.4 eHealth Policy Area 4: Infrastructure

3.4.1 Strategy: Develop and implement hardware and software standards²⁴.

Establish and implement standards, procurement and maintenance plans and protocols related to hardware and software including:

1. Physical resources (e.g. record storage facilities)
2. Replacement and upgrading of equipment, including computer hardware and Software.
3. Human resources for eHealth (e.g. training and retention of qualified staff)
4. Alignment with data and IT standards and architecture (including the data center, platform, services, broadband infrastructure etc.).
5. Disaster management and recovery

3.5 eHealth Policy Area 5: Services and Applications

3.5.1 Strategy: Develop and implement Health Information Systems (HISs) encompassing of clinical health; community and population health eHealth components that are linked across all relevant health care facilities and health in Samoa.

Coordinated and well-structured mechanisms governance, resourcing, maintenance, monitoring and evaluation required for this strategy are to be established and/or developed prior to the commencement of any related projects. All HIS and Request for Proposals (RFPs) for any HIS shall include the requirement for interoperability standards and integrated architecture that support data “facilitators” (i.e. interface applications, data platform, data centers, Health Information Exchange (HIE) etc) and national eHealth access, sharing and reporting requirements.

1. *Clinical HIS for eHealth development components* includes - EHRs, Laboratory Information Systems, Radiology Information Systems, Pharmacy Information Systems, financial modules, registries and other support systems etc.
2. *Community Health HIS for eHealth development components* includes – Maternal and Child Health, Elderly care, School screenings, Reproductive Health and Family Planning, Antenatal and Postnatal care and other support systems etc.
3. *Public and Population Health HIS for eHealth development components* includes – Water Quality, Sanitation, Notifiable Diseases, NCD Screening, care and counseling and other support systems etc.

²⁴ Public Health Information Network. Regional Health Information Systems Strategic Plan (2012 to 2017). Australia, 2011.

3.5.2 Strategy: Establish appropriate mechanisms for the community and health providers to Access eHealth outputs²⁵.

Mechanisms that are appropriate and suitable to provide access to health information for the health providers and community shall be established. In addition, backup and disaster recovery, and monitoring and evaluation processes shall be established to ensure that access to health information is in accordance with relevant standards and legislation.

1. Health Information and Knowledge portals: The implementation of separate internet based portals for the Samoan community, health care administrators and providers shall provide access to a set of nationally coordinated and validated health information sources according to the Samoan eHealth governance framework (i.e. legislation, policy etc.).
2. The data from Health Information Systems, databases and registries shall be integrated through a data center and data platform that facilitates timely and aggregated data for the Decision Support System, analysis, reporting and research.
3. Resources to support the access of health information shall be established. This includes **training** for all health information users (i.e. administrative, provider and community level), **infrastructure** (hardware, software, broadband capability, power supply, ICT that is adequate, reliable and affordable), and eHealth **resources** (e.g. support, workstations, internet access, easy to use interfaces).

3.6 eHealth Policy Area 6: eHealth Workforce

A strategic plan – capacity building institutional professional development shall be developed and implemented in co-ordination with all relevant stakeholder and eHealth user groups. The plan shall ensure competencies and capabilities are in line with international and national best practice standards and be supported and maintained through collaboration with existing and potential local, national and international health workforce development initiatives and resources.

3.6.1 Strategy: Establish a workforce competency framework for the following areas to ensure adequate support and skilled utilization of eHealth outputs.

1. The existing capabilities of the eHealth workforce (inclusive of health professionals, health information and IT specialists) are insufficient to carry through the implementation of project successfully. It shall be reviewed and in addition

²⁵ Spohr, M. Samoa Health Metrics Network Assessment. Samoa, 2013.

strengthened and regular competency assessment, training, support and monitoring provided.

2. Initiatives to build workforce capacity, establish promotion and retention mechanisms, develop career pathways, support current eHealth and workforce initiatives (e.g. upgrading and supporting the current use of telemedicine in Samoa, working with other sectors (i.e. education and government) shall be implemented.

3.6.2 Strategy: eHealth Education promotion and use

1. Existing organizational structures must be well supported in terms of education awareness on the promotion and use of eHealth in ensuring provision of efficient health services for the people of Samoa.
2. Developing of newly proposed structures to support and promote use of eHealth functionality and components on a regular basis.
3. Informing national population on the changes to eHealth system in order to further improve health outcomes.
4. Health awareness launches, campaigns and advertisements, announcements, eHealth branding in order to inform health professionals and national populations of systematical and clinical health changes which will improve health outcomes.

5. EHEALTH STRATEGIES

DESCRIPTION	RECOMMENDED PERFORMANCE MEASURES	OUTCOME/S	RESPONSIBLE FOR OVERSEEING COMPLETION OF THE STRATEGY	POSSIBLE FUNDING SOURCE (\$)	TIME FRAME
Strategy 3.1.1: Establish eHealth governance structures	eHealth governance structures implemented within timeframe specified.	<p>eHealth outputs are effectively used for:</p> <ul style="list-style-type: none"> - planning and delivery of health care services - improve population health - economic and social development 	eSC	GoS	On going
Strategy 3.1.2: Review Division and Organization Re-structure	Review Division and Organization Re-Structure	<p>Successful ehealth roll out implementation</p> <p>Long term continuous support for HIS and ICT</p>	<i>Health Sector</i>	GoS	2017 - 2019
Strategy 3.2.1 National eHealth regulatory framework established	eHealth regulatory governance framework implemented within timeframe specified.	eHealth is used and managed properly	eSC	GoS, DP	1 year (April 2017- March 2018)

DESCRIPTION	RECOMMENDED PERFORMANCE MEASURES	OUTCOME/S	RESPONSIBLE FOR OVERSEEING COMPLETION OF THE STRATEGY	POSSIBLE FUNDING SOURCE (\$)	TIME FRAME
Strategy 3.2.2: Develop and establish a monitoring and evaluation framework that includes all eHealth Components.	<p>1. Fully automated reports inclusive of performance indicators are built into the eHealth framework, easily accessible to approved personnel and produced in a format that does not require additional explanation.</p> <p>2. The reports are reviewed and monitored by the relevant governance structures according to the reporting schedule and structures.</p>	Data is efficiently used and exchanged for health services, promotion, delivery and policy making.	MoH	GoS, DP	Commence in July 2017 and ongoing until SSCP broadband upgrade is completed.
Strategy 3.3.1: Interoperability framework between the eHealth components to the broadband infrastructure.	<p>1. Interoperability framework established in collaboration with the relevant stakeholders (e.g. MCIT, SSCP team etc.).</p> <p>2. Routine inspection reports</p>	Data is efficiently used and exchanged for health service promotion, delivery and policy making throughout the Health Sector.	MCIT, eSC, eLCST	GoS, DP	Starting in 2018 and ongoing as eHealth components are implemented.

DESCRIPTION	RECOMMENDED PERFORMANCE MEASURES	OUTCOME/S	RESPONSIBLE FOR OVERSEEING COMPLETION OF THE STRATEGY	POSSIBLE FUNDING SOURCE (\$)	TIME FRAME
	are reviewed and monitored through the relevant governance structure.				
Strategy 3.3.2: Develop an information and technical standards framework that supports secure interoperability between all eHealth components.	<p>1. Information and technical standards framework implemented</p> <p>2. All eHealth systems are assessed for interoperability on a regular basis.</p>	Data is efficiently used and exchanged for health service promotion, delivery and policy making.	eSC, MCIT, eLCST	GoS, DP	Starting in 2018 and ongoing as eHealth components are implemented.
Strategy 3.3.3 Develop and implement national eHealth architecture.	A national eHealth architecture framework is approved and established containing all eHealth components as per the <i>Samoa eHealth Policy and Samoa eHealth Strategy (2017 to 2022)</i> .	Health information is collected and reported in a standardized manner that facilitates analysis, decision making and benchmarking (performance Improvement).	eSC	GoS, DP	Establish HDISP and Develop framework April 2017 to July 2017
Strategy 3.3.4: Develop and implement a National Health Identifier	1. NHIN system and registry implemented within the timeframe	Health information is collected and reported in a standardized	eSC, eLCST, MOH	GoS, DP	6 months April to September 2018

DESCRIPTION	RECOMMENDED PERFORMANCE MEASURES	OUTCOME/S	RESPONSIBLE FOR OVERSEEING COMPLETION OF THE STRATEGY	POSSIBLE FUNDING SOURCE (\$)	TIME FRAME
Numbering for Patients, Villages and Health Facilities (NHIN) system and Registry.	<p>specified</p> <p>2. The system and register are established according to eHealth governance Requirements.</p>	<p>manner that facilitates confidentiality, analysis, decision making and benchmarking (performance Improvement).</p>			
Strategy 3.3.5: Develop a National Health Provider Identifier (Workforce and Facilities) and Registry	<p>1. NHPI system and registry identifies responsible users for data input and output implemented within the timeframe Specified.</p> <p>2. The system and register are established according to eHealth governance requirements.</p>	<p>Health information is collected and reported in a standardized manner that facilitates analysis, decision making and benchmarking (performance Improvement).</p>	<p>eLCST, eSC, MOH, NHS, NKFS</p>	<p>GoS, DP</p>	<p>6 months April to September 2018</p>
Strategy 3.3.6: Revise the national suite of minimum core health indicators in Samoa for application and use.	<p>1. The national core indicators align with national and international requirements.</p> <p>2. The indicators are benchmarked against national and international</p>	<p>Health information is collected and reported in a standardized manner that facilitates analysis, decision making and benchmarking (performance</p>	<p>MOH, NHS, NKFS, eLCST, eSC</p>	<p>GoS, DP</p>	<p>3 months April to July 2018</p>

DESCRIPTION	RECOMMENDED PERFORMANCE MEASURES	OUTCOME/S	RESPONSIBLE FOR OVERSEEING COMPLETION OF THE STRATEGY	POSSIBLE FUNDING SOURCE (\$)	TIME FRAME
	organizations where applicable.	improvement).			
Strategy 3.4.1: Hardware and software management framework	Hardware and software management framework implemented within timeframe specified.	Health information is functional leading to improved data collection and management that facilitates analysis, decision making.	eSC, eLCST	GoS, DP	
Strategy 3.5.1: Develop and implement a Health Information System (HIS) – Clinical, Community, Population and Public eHealth components that is linked across all health care facilities in Samoa.	<p>1. All HIS within the eHealth environment are linked through the national eHealth architecture.</p> <p>2. There is an effective mechanism for system users to notify system administrators about interoperability issues. The timeframes for this support are defined and routinely audited.</p>	Health information is collected and reported in a standardized manner that facilitates analysis, decision making and benchmarking (performance improvement).	eLCST	GoS, DP	<p>3 months preparation of legacy systems for paper and data migration to system. Phased Approach implementation of HIS eHealth 2018 to 2020.</p>

DESCRIPTION	RECOMMENDED PERFORMANCE MEASURES	OUTCOME/S	RESPONSIBLE FOR OVERSEEING COMPLETION OF THE STRATEGY	POSSIBLE FUNDING SOURCE (\$)	TIME FRAME
Strategy 3.5.2: Establish mechanisms to access data and information	<p>1. Data and health information managers, administrators, stakeholders and users are surveyed prior to implementation (needs analysis) and annually on whether they are able to access and utilize information.</p> <p>2. The survey results are reviewed and actions directed by the relevant governance structures.</p>	Access to health information will compensate for health workforce shortages and resource limitations for patient education and monitoring.	eSC, eLCST	GoS, DP	On going
Strategy 3.6.1: Establish a workforce competency framework for the following areas to ensure adequate support and skilled utilization of eHealth outputs.	<p>1. A survey shall be conducted prior and post implementation of the framework of 100% of the Work force.</p> <p>2. The survey results are reviewed and actions directed by the relevant governance Structures.</p>	<p>The health workforce is able to supply effective and efficient healthcare delivery at all levels.</p> <p>A Capacity Building Institutional Professional Development Program developed.</p>	eSC, eLCST	GoS, DP (TA)	1 year July 2018 to June 2019

DESCRIPTION	RECOMMENDED PERFORMANCE MEASURES	OUTCOME/S	RESPONSIBLE FOR OVERSEEING COMPLETION OF THE STRATEGY	POSSIBLE FUNDING SOURCE (\$)	TIME FRAME
Strategy 3.6.2: eHealth promotion and use	1. There is an annual plan under the applicable governance structure to promote and support the use of eHealth by the health workforce and for the people of Samoa (clients).	<p>The health Workforce is informed and trained on eHealth in order to effectively and Efficiently deliver healthcare at any health setting/ facility.</p> <p>Nationwide information and awareness of clinical health changes and systemic changes.</p>	Health Sector	GoS, DP	Continuous Initiative. Commence in July 2018

6. FUNDING

Partial funding specifically for eHealth had been approved and made available at the time of publication of this strategy through the Asia Development Bank (ADB). The ACEO for Aid and Donor Coordination at the Ministry of Finance shall provide guidance to the eHealth Taskforce in relation to the allocation of funds to eHealth strategies.

The proposed budget for eHealth establishment and development in Samoa includes cost estimates in United States Dollars (USD) and includes hardware, software and workforce sourced in Samoa and internationally. The budget below provides the proposed costs by strategic priority based on the HIS HMN analysis (2013) in which the ehealth policy areas and ehealth strategy linkages are founded upon.

(Proposed Estimated Budget for eHealth 2017- 2022)			
eHealth Policy Area Linkage	eHealth Strategy Linkage	Category	Estimated Total Budget
PA 1	S 3.1.1	GoS Contribution	
	S 3.1.2		
PA 5	S 3.5.1	Local Counter Part Support Team	
PA 2	S 3.2.1	Technical Assistance Required	200,000
	S 3.2.2		
PA 3	S 3.3.1	Software – Linkage of Systems & Applications	1,500,000
	S 3.3.2		
	S 3.3.3		
	S 3.3.4		
	S 3.3.5		
PA 5	S 3.5.2		
PA 3	S 3.3.6	Training Consultation	50,000
PA 4	S 3.4.1	Hardware Applications	2,000,000
		Software – eHealth Program	10,000,000
		Training	500,000
PA 5	S 3.5.2	Training Consultations	50,000
PA 6	S 3.6.1	Training Education – Users	500,000
	S 3.6.2	Training Promotion – Awareness	300,000
TOTAL COST ESTIMATES			15,100,000

7. eHealth Implementation Guidelines

- 1. National Health Data Center (NHDC) System Administrator:** A National Health Data Center will need to be developed from the commencement and implementation of the eHealth project. The NHDC will collect aggregate data on health care activities and diseases from all of the planned information system components. Its overall administration, management, maintenance and operationalization resides with the MoH as the lead agency for the Samoa Health Sector ensuring high quality information is generated. MoH shall have rights to accessing and utilizing all data derived from all/ any health information systems for the purposes of carrying out its expected legislated roles and functions. Regulation of access to the data center is under the control of MoH.
- 2. Clinical Health Information Systems eHealth Component:** Administration, Management, Maintenance and Operationalization resides with the National Health Services (NHS) throughout all Public Health Facilities under its control. Determination of access rights and user privileges will be maintained under the jurisdiction of the NHS in consultation with the MoH, NKFS and Private Health Providers.
- 3. Community Health Information System eHealth Component:** Administration, Management, Maintenance and Operationalization resides with the National Health Services throughout all Public Health Facilities under its control. Determination of access rights and user privileges will be maintained under its jurisdiction in consultation with the MOH, NKFS and Private Health Providers.
- 4. Public and Population Health Information System eHealth Component:** Administration, Management, Maintenance and Operationalization resides with the Ministry of Health throughout all Health Sector entities under its regulatory and monitoring roles and responsibilities. Determination of access rights and user privileges will be maintained under its jurisdiction in consultation with the NHS, NKFS and all Public and Private Health Providers.
- 5. National Health Provider Identifier (NHPI) and Registry:** Overall responsibility for ensuring accurate information, maintenance and management of registry will be the responsibility of the Ministry of Health through its division for Office of the Healthcare Professionals Registrar as per its legislated functions and responsibilities.
- 6. Planning:** The successful implementation of the *EHealth Strategies (2017 to 2022)* relies on **clearly defined and coordinated operational project plans** that manage stakeholder expectations and identify requirements.
- 7. Engagement:** To ensure the proposed strategies are effective in addressing the priorities identified, **communication, awareness, coordination and engagement** of all involved is required. There is already stakeholder commitment and initial collaboration towards establishing a national governance structure that facilitates robust mechanisms for the regulation and monitoring to ensure that eHealth objectives are met efficiently. This then

provides a stable platform for improving health information sharing and access for health education and to make decisions that improve the health outcomes of the population.

- 8. Alignment:** The **eHealth governance, components and funding mechanisms must be aligned** between all sectors and levels of the health system. Without **national coordination** there is a risk of extensive duplication, avoidable expenditure, and the creation of systems that are not integrated or scaled across the continuum of care.
- 9. Use:** Clear guidelines around information sharing as well as knowledgeable and skilled professionals and a community who are supported in using eHealth components are required to ensure that the eHealth outputs are fully utilised. Refinements to the current implementation and organisation of HIS across Samoa, guided by the regulation and national governance structures will support better coordination of HIS initiatives into the future.
- 10. Monitoring and Evaluation:** A clear monitoring and evaluation framework will be established to ensure the successful development and implementation of eHealth. The eSC will review the policies following implementation of each component to ensure that it is well aligned with the development in the national, regional and global landscape for a more responsive health information system.

Estimated eHealth Implementation Schedule Summary

Policy Area	Strategy Implementation						
Year			1.	2.	3.	4.	5.
	2016	2017	2018	2019	2020	2021	2022
Phase 1: Foundation							
1. Leadership and Governance							
2. Legislation, Policy, Compliance							
3. Standards and interoperability							
4. Infrastructure							
Phase 2: Implementation*							
5. Services and Applications							
6. Workforce							
Legend	Planning and Engagement		Implementation		Evaluation		

*NB. Continuous maintenance, monitoring and evaluation mechanisms are to be incorporated within each strategy and have not been portrayed in this timeline as they are ongoing activities.

The proposed budget will require review to allocate funding for workforce development.

ANNEXES

Annex 1: Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis of the Current eHealth Environment in Samoa

eHealth Policy Area (Component)	Strength	Weakness	Opportunity	Threat
Overall Review:	SWOT Although there is a lack of governance, infrastructure and workforce structures to support an eHealth environment in Samoa, there are opportunities to address these issues and concerns that are in progress (i.e. eHealth governance framework and accountable monitoring and evaluation mechanisms integrated into eHealth implementation strategies)			
1. Leadership and Governance	Commitment of Key Stakeholders: Government of Samoa (GoS) (policy, legislation and funding) and Development Partners (DP) commitment (infrastructure funding) ²⁶ .	1. Concerns regarding previous eHealth initiatives that were poorly implemented by key stakeholders, and development partners affecting support and funding for the remaining Policy Areas. 2. Reliance on inaccurate and outdated data and statistics for fair policy development and decision making.	Establish eHealth Governance Framework: eHealth legislation, compliance framework and funding gaps to be addressed in the <i>Samoa eHealth Policy and Strategy (2017 to 2022)</i> , Proposal and related project implementation plans).	Inadequate governance framework leads to poor implementation, management and monitoring of eHealth plans, outputs and outcomes.

²⁶Ministry of Finance (Samoa). Strategy for the Development of Samoa (2012 to 2016). Samoa, Ministry of Finance (MoF), 2012.

eHealth Policy Area (Component)	Strength	Weakness	Opportunity	Threat
2. Legislation, Policy and Compliance	Commitment of Key Stakeholders: Government of Samoa (GoS) and Development Partners (DP) to establish an eHealth governance framework as described by the Samoa eHealth Policy. ²⁷	No existing legislation and compliance framework.	(In alignment with 1. Leadership and Governance) Establish eHealth Governance Framework: eHealth legislation, compliance framework and funding gaps to be addressed in this Strategy, Proposal and related project implementation plans).	Samoa eHealth Policy and Strategy (2017 to 2022) developed to guide legislative requirements that are of international and national standard.

²⁷Ministry of Health (Samoa). *Samoa eHealth Policy (2016 to 2021)*. Samoa, Ministry of Health (MoH), 2016.

eHealth Policy Area (Component)	Strength	Weakness	Opportunity	Threat
3. Standards and Interoperability 5. Services and Applications	1. Detailed gap analysis completed development partners and eHealth needs identified. 2. Interoperability requirements considered and supported by the GoS (and will be requested of all systems) as per the proposed Samoa eHealth governance framework that is directed by the Samoa eHealth Policy and Strategy (2017 to 2022).	1. Partial funding currently available which covers approximately 20% (infrastructure and current workforce) of the entire eHealth environment. 2. Fragmented and unreliable data due to time consuming and expensive paper-based and manual systems that are not consolidated and a lack of consistent data standards. 3. No linkage between existing HIS in Samoa. 4. No national indicators for benchmarking and performance improvement. 5. Limited availability of health information and ICT infrastructure for the community and patients.	1. Samoa eHealth Proposal and supporting project implementation plans shall be provided to the Government of Samoa (GoS) and Development Partners (DP) to identify and request required funding support. 2. Robust, consolidated and aggregate data will be available for use through eHealth. 3. Interoperability standards to be implemented as per the Samoa eHealth legislative, policy and strategy requirements. 4. National health indicators developed according to HMN principles ²⁸ shall be developed for monitoring and benchmarking.	1. Funding and resources not availed for eHealth services and applications. 2. Systems not still inadequately linked / interoperability functions limited once eHealth environment is established. Impacts to aggregated data collection and reporting capabilities of the eHealth environment. 3. EHealth environment does not support proper data and indicator collection, analysis, and reporting. 4. Weak advocacy, training, infrastructure framework to support community access to health information leading to limited and poor use of eHealth outputs Samoa.

²⁸ Spohr, M. Samoa Health Metrics Network Assessment. Samoa, 2013.

eHealth Policy Area (Component)	Strength	Weakness	Opportunity	Threat
4. Infrastructure	Part funding for infrastructure requirements have been approved and are available from DP as part of the Samoa Submarine Cable Project (SSCP). Broadband capacity will be upgraded through SSCP that will adequately support the eHealth environment in Samoa.	eHealth infrastructure not yet procured. SSCP yet to be successfully completed (by end of 2019).	Align and co-ordinate infrastructure needs with SSCP, Ministry of Communication and Information Technology (MCIT) and other initiatives in Samoa.	Duplicated infrastructure and additional expenses due to uncoordinated infrastructure procurement with other applicable initiatives in Samoa.
6. Workforce	Establish eHealth Governance Framework: eHealth legislation, compliance framework and funding gaps to be addressed in the <i>Samoa eHealth Policy and Strategy (2017 to 2022)</i> , Proposal and related project implementation plans). Opportunities and upgrade facilities and resources at all levels.	<p>1. Limited quantity and expertise of health care professionals and health information professionals.</p> <p>2. Lack of reliable and timely data and information to support treatment, management and clinical care decision making and possible population/ public health threats.</p>	<p>1. Develop health care and health information workforce competency and training, build capacity and develop career path roadmaps for eHealth related areas as per the <i>Samoa eHealth Policy and Strategy (2017 to 2022)</i>.</p> <p>2.eHealth will provide avenues to share and up skill the workforce and population through ICT (i.e. telemedicine, mHealth etc)</p> <p>3. Availability of robust data and information to support clinical decision making and care.</p>	Workforce capacity and capability development framework does not cover all required areas of eHealth and is not implemented in time to support the implementation of eHealth projects. These initiatives are not sustained and maintained on an ongoing basis.

Annex 2: Samoa eHealth Policy alignment with international and national initiatives, policies, and STRATEGIES.

1. International Policies and Strategies

- 1.1 The Alma Ata and Primary Health Care Declaration (1978) (Primary health care integration Into national health strategy and allocation equity)
- 1.2 The Ottawa Charter on Health Promotion 1986 (Health promotion frameworks)
- 1.3 New Horizons in Health 1995 (Health as an essential human right/Healthy Islands Vision)
- 1.4 WHO Global Health Agenda 11th General Program of Work 2006-2015 (Priorities for health coverage, systems and governance)
- 1.5 WHO International Health Regulations (IHR) (Prevent, protect against, control and respond to the international spread of disease.)
- 1.6 Sustainable Development Goals (SDGs) (Interconnectivity between health, social and Economic development)
- 1.7 Pacific Plan 2005 (Economic growth, sustainable development, governance and security)
- 1.8 The Universal Declaration of Human Rights (1989) (Human rights principles and principles)
- 1.9 Convention on the Rights of Child (CRC)
- 1.10 Millennium Development Goals (MDGs) 8 (Develop global partnerships for development including making available the benefits of new technologies, especially information and communications.)
- 1.11 Apia Outcome Tenth Pacific Health Ministers Meeting (July 2013)
- 1.12 2014 SAMOA Pathways

2. Samoa Policies and Strategies

- 2.1 Samoa Health Sector Plan 2008 to 2018 (Six (6) Strategies: Health Promotion and Primordial Prevention, Quality Health Care Service Delivery, Governance, Human Resource for Health and Health Systems, Partnership Commitment, Financing Health, Donor Assistance)
- 2.2 Strategy for the Development of Samoa (SDS) 2012 to 2016 (Health Information Systems is One of the six (6) Pillars of the health system.)
- 2.3 Samoa Monitoring and Evaluation Manual (monitor the performance of the health sector)
- 2.4 Samoa Public Sector Administration Plan (Performance oriented Ministries and Government Bodies)
- 2.5 Samoa's Strategy for Development (SDS) 2005 – 2007 (Health promotion and prevention, human resource development, health infrastructure and financing improvement)
- 2.6 National Information and Communication Technology policy 2012-2017 (Recognition of the need to create an enabling secure environment for the development and adoption of ICT through policy reform and improvements in legal frameworks, striving to put in place

legislation to ensure the protection of children in relation to use of ICT and the security of information shared and access using ICT e.g. cybercrime laws).

2.7 Government of Samoa ruling party mandate HRPP Anavatau 2006-2011 (Advocates strengthening health promotion and prevention of lifestyle diseases.)

2.8 Health Sector Manifesto

3. Samoa Legislation

3.1 Ministry for Communications and Information Technology (National Information and Communication Technology Policy) 2012 to 2017 (Framework for ICT across all sectors in Samoa. Includes strategies for access, policy and legal reform, human resource development, economic development and governance of ICT in relation to health service delivery.)

3.2 Ministry of Health Act 2006 (Samoa) (Policy and monitoring of health services, provision of health prevention and promotion services.)

3.3 National Health Service Act 2014 (Samoa) (Provision of health services in Samoa)

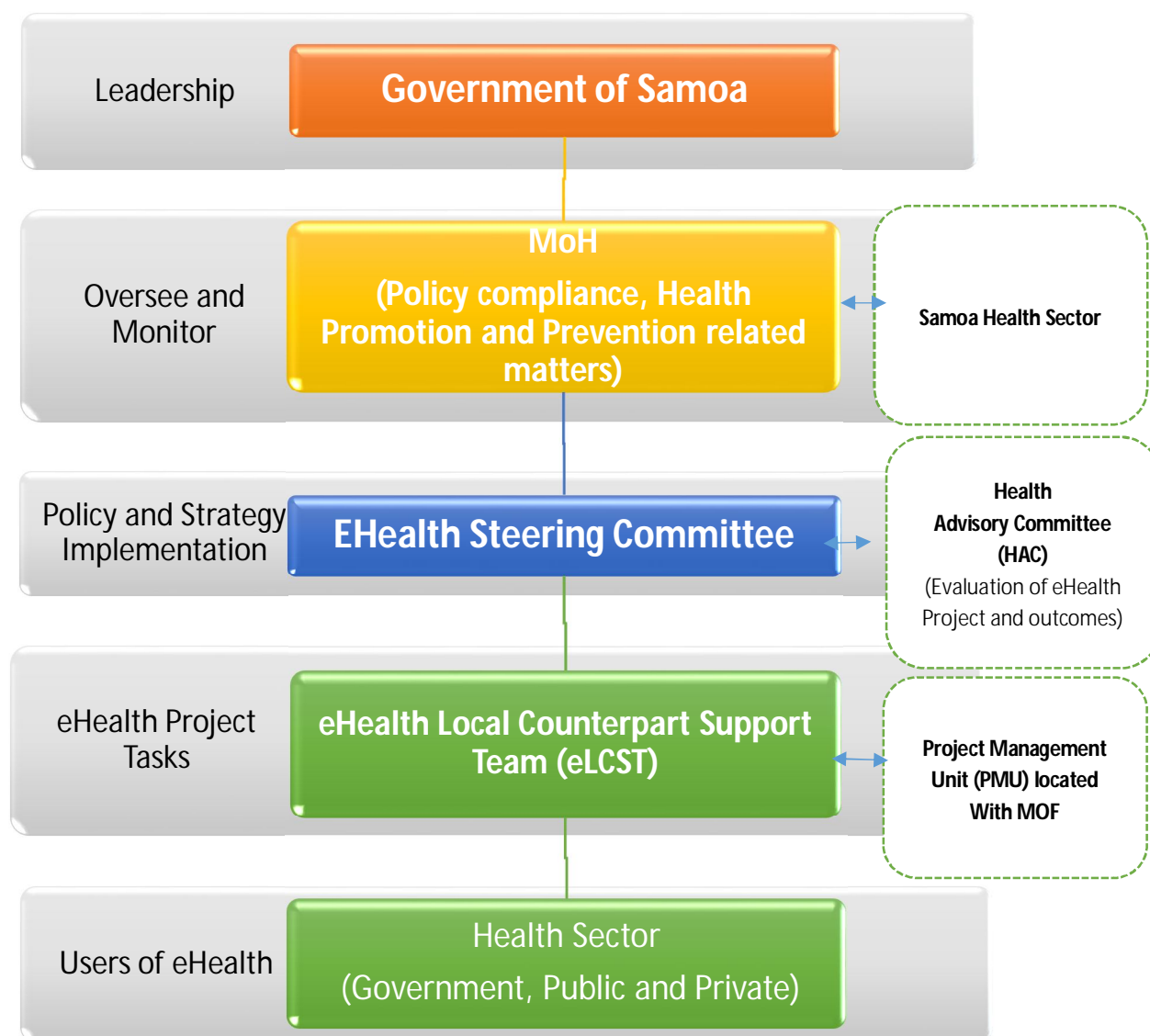
3.4 Telecommunications Act 2005 (Samoa) (Framework for the provision of Telecommunications in Samoa)

3.5 Crimes Act 2013 (which deals with accessing electronic system without authorization; illegal remaining in an electronic system, illegal interception, damaging or interfering with electronic data, SPAM etc.)

3.6 Criminal procedures Act 1972 (criminal proceedings)

3.7 Broadcasting Act 2010, Electronic Transactions Act 2008, Copyright Act 1998, Mutual Assistance in Criminal Matters Act 2007, Money Laundering Prevention Act 2007 (aspects of cyber security)

ANNEX 3: E-HEALTH GOVERNANCE STRUCTURE (MARCH 2016)²⁹



²⁹Asian Development Bank. Grant Report: Samoa Submarine Cable Project. Samoa. 2015.

ANNEX 4: E-HEALTH STEERING COMMITTEE (ESC) TERMS OF REFERENCE

VISION, MISSION AND VALUES

Vision

To improve and sustain the health of the citizens of Samoa by using eHealth to provide effective and efficient health care services.

Mission

The Mission of the eHealth Steering Committee ("Committee") is to drive and support the establishment and continuous development, implementation and maintenance of the eHealth environment of Samoa. This Committee is a partnership between the Ministry of Health (MOH) and government authorities, key stakeholders, and the health care provider community. The Committee provides leadership and direction in relation to the co-ordination, governance, and financial guidance of eHealth strategies.

Values

1. **Accountable Governance in Health:** The eHealth components are governed, managed and supported with integrity in accordance with all relevant legislative and policy requirements. This committee shall promote transparency and collaboration to eliminate all barriers to the efficient implementation of eHealth strategies for Samoa.
2. **Sharing and Accessibility of Health Data and Information:** This committee shall support the sharing and access of eHealth information and reporting through the review of recommendations from the Samoa Health Data and Information Standards Panel
3. **Appropriateness:** This committee shall mandate and review the compliance of all eHealth initiatives in relation to legislation, policy and standards that ensure the confidentiality, privacy, security, quality, safety, integrity and research-ability of health information.

RATIONALE

The Ministry's vision for the Health Care system of Samoa is *"an effective, accountable, safe and people-centered health system"*³⁰. This vision is supported by a set of Goals, Objectives and Performance Measures, which are defined in the *Health Sector Plan (2008 to 2018)*. Furthermore, this is aligned with the goal of the National Health Service (NHS) which is *"To assist the Government with the health care needs of Samoa through the development, provision and management of health services"*. eHealth enables the achievement of these goals through the provision of health information systems and outputs that improve the effectiveness, efficiency and quality of health care delivery in Samoa. Proper governance of the eHealth environment is essential in ensuring the outcomes are achieved according to policy and strategy objectives.

³⁰Ministry of Health (Samoa) website. <http://www.health.gov.ws/>. Samoa, 2016.

The establishment of the eSC will transition from the eHealth Taskforce which is in existence now with the addition of membership as documented below.

SCOPE and FUNCTIONS

This Committee will be responsible for the overall guidance and achievement of all eHealth related initiatives as set out under the *Samoa eHealth Policy and Strategy 2017 to 2022*.

The functions of this Committee are to:

1. Leadership, Steer and Provide central strategic planning, initiative endorsement and approval specific to eHealth;
2. Oversee & Monitor by Providing effective collaboration, co-ordination, integration and harmonization of eHealth initiatives; regularly meeting to monitor progress of policy and strategy implementation as well as implementation of eLCST tasks.
3. Endorse proposed reporting processes of the various working groups involved in eHealth initiatives, to ensure a fully coordinated approach nationally;
4. Review recommendations from advisory and working teams/ groups/ panels for eHealth;
5. Ensure effective communications with key stakeholders; and
6. Present recommended courses of action to the Government of Samoa (GoS) and Health for approval where and/or only necessary.
7. Resolve issues related to eHealth strategies, priorities, financial arrangement, and Governance and implementation approaches in consultation with relevant partners/ stakeholders;

REPORTING AND ACCOUNTABILITY

Executive summaries of the reports will be transmitted to the Minister of Health via the Director General (DG) of the Ministry of Health (MoH).

The Committee submits and reports quarterly of progress made to the HAC for its information.

The following groups and their key projects report to this Committee on matters relating to eHealth initiatives. *(This list is to be updated on the establishment of any other related groups involved with eHealth initiatives):*

1. eHealth Local Counterpart Support Team (eLCST)
2. Health Data and Information Standards Panel (HDISP)

These groups will present to this committee their initial plans and progress reports at regular intervals that align with the groups' regular reporting timeframes where possible, to minimize any duplication in effort. This committee shall provide input to those plans, and expedite the resolution of any issues and approval of funding requests (in alignment with financial accountability mechanisms).

MEETINGS

Meetings shall be held **regularly**; with extra-ordinary meetings held as required.

Meeting documents and reports shall comply with the REPORTING TIMEFRAMES specific in this Committees' **Error! Reference source not found.**

Delegates shall be nominated by committee members if a member is unable to attend a meeting.

The delegate is expected to exercise the same authority, decision-making capacity and participation as the committee member they represent. The committee member will notify the committee chair if they are unable to attend and are sending a delegate at least **two days prior** to the meeting date where possible.

Additional members and guests may be invited to join the committee and meetings where appropriate and as required. Travel and accommodation expense will be the responsibility of each individual committee Member.

COMMITTEE SECRETARIAT

The MoH Health Information System and Information Communication and Technology (ICT) division shall provide secretariat support for this committee with the alternative secretariat completing the secretarial duties in the absence of the secretariat.

MEMBERSHIP eHEALTH STEERING COMMITTEE

This committee consists of the following members:

1. **Chairperson:** Director General for Health (1)
2. **Alternate Chairperson:** General Manager, NHS (1)
3. **Member / Secretariat:** ACEO of HISICT, MoH (1)
4. **Member/ Alternate Secretariat:** Manager of MIS, NHS (1)
5. **Member:** General Manager, National Kidney Foundation Samoa (NKFS) (1)
6. **Member:** Representative from Ministry of Communications and Information Technology (MCIT) Member (1)
7. **Member:** Representative from Ministry of Finance, Aid Coordination (MOF)(1)
8. **Member:** Representative from Attorney General Office (OAG)(1)
9. **Member:** President Private General Practitioners (GPs)(1)
10. **Member:** Representative from Samoa Bureau of Statistics (SBS) (1)
11. **Member:** Representative from Development Partners (1)
12. **Member:** Representative from Samoa Red Cross (1)
13. **Member:** Representative from Samoa Family Health Association (1)
14. **Member:** Representative from Cancer Society (1)
15. **Member:** Representative from Samoa Private Pharmacy (1)
16. **Member:** Representative from Samoa Private Dental Practice(1)

****** Representatives of other eHealth groups established to implement eHealth strategies and initiatives shall attend meetings to provide reports as per agreed timeframes between the group and this committee.

ANNEX 5: EHEALTH LOCAL COUNTERPART SUPPORT TEAM (eLCST) TERMS OF REFERENCE

VISION, MISSION AND VALUES

Vision

To improve and sustain the health of the citizens of Samoa by using eHealth to provide effective and efficient health care services.

Mission

The Mission of the eHealth Local Counterpart Support Team is to manage and support the integrated and coordinated implementation of eHealth components as per the Samoa eHealth Policy and Strategy (2017 to 2022).

Values

1. **Accountable Governance in Health:** The eHealth components are governed, managed and supported with integrity in accordance with all relevant legislative and policy requirements. This Team shall ensure transparency and collaboration during the implementation of eHealth projects through accountable reporting as per the Team reporting structure.
2. **Sharing and Accessibility of Health Data and Information:** This Team shall ensure that best practice and applicable standards are established and followed for all eHealth projects to support the sharing and access of eHealth information and reporting. They shall incorporate the recommendations from the Samoa Health Data and Information Standards Panel (HDISP).
3. **Appropriateness:** This Team shall review and align eHealth projects with applicable legislation, policy and standards that ensure the confidentiality, privacy, security, quality, safety, integrity and research-ability of health information.

RATIONALE

The Ministry's vision for the Health Care system of Samoa is³¹: *"An effective, accountable, safe and people-centered health system."* This mission implies a set of Goals, Objectives and Performance Measures, which are defined in the *Health Sector Plan (2008 to 2018)*. The six goals in the plan are to:

1. Strengthen Health Promotion and Primordial Prevention
2. Improve Quality Health Care Service Delivery
3. Strengthen Governance, Human Resources for Health and the Health System
4. Strengthen Partnership Commitment
5. Improved Health Financing
6. Strengthen Partnerships with Development Partners

³¹Ministry of Health (Samoa) website. <http://www.health.gov.ws/>. Samoa, 2016.

These goals are supported by the goal of the National Health Service (NHS): *“To assist the Government with the health care needs of Samoa through the development, provision and management of health services.”* eHealth enables the achievement of these goals through the provision of health information systems and outputs that improve the effectiveness, efficiency and quality of health care delivery in Samoa. Proper governance of the eHealth environment is essential in ensuring the outcomes are achieved according to policy and strategy objectives.

This commitment has been articulated in a number of directional documents, including the *Strategy for the Development of Samoa (2012 to 2016)*, *Samoa Health Sector Plan (2008 to 2018)*, *Samoa eHealth Policy & Strategy (2017 to 2022)*, *Ministry of Health Corporate Plan (2013 to 2016)*, and *Samoa National Health Service Corporate Plan (2014 to 2016)* in alignment with international policies including the *WHO Sustainable Development Goals (SDGs)*.

SCOPE and FUNCTIONS

This Team accountable for successful, timely and effective implementation of eHealth components and objectives as set out under the *Samoa eHealth Policy and Strategy (2017 to 2022)*.

The function of this Team is to:

1. **Project Implementation and Collaboration:** Ensure and coordinate successful implementation of eHealth components in accordance with the timeframes and requirements set out as required and reported monthly to the eHealth Steering Committee (eSC).
2. **Resources:** Acquire adequate ehealth related/ relevant hardware equipment, software, ehealth human resourcing to ensure the efficient operation and support of the eLCST and fulfillment of its responsibilities including review, monitoring and continuous improvement processes;
3. **Technical Support and Advisory:** Provide technical support and ensure technical requirements are met by the implementation entity (e.g. vendor etc) for project and ensure Technical Assistance (TA) is sought where needed and necessary;
4. **Regularized Meetings:** Ensure that all members regularly meet both formal and informally with all discussions to be properly documented for ease of reference.
5. **Reporting and Monitoring:** Ensure regular monitoring of the status of project activities (through the preparation and updating of implementation plans and schedules, disbursement projections, etc.), including preparation and transmission of comprehensive progress reports as required by the governing entities in the Team reporting structure.
6. **Integrated Communication and Collaboration Approach:** Ensure contact and communication with other entities involved in the health sector to ensure cooperation and coherency in planned and ongoing programs, as well as regular exchanges of up-to-date information regarding eHealth Project.

Accordingly, the Teams' achievements through their work plan shall be reviewed for completion by the eHealth Steering Committee (eSC). Monthly reports shall be provided to the eSC by the Team through a secure online portal established by the MoH.

EXPECTED OUTPUTS

1. Develop and maintain the **eLCST work plan** inclusive of planned activities and their status, timeline, budget, monitoring and evaluation Key Performance Indicators (KPIs). The eLCST shall conduct an annual review of the work plan and provide the report to the eSC.
2. **eSC Update Report (monthly):** Manage and coordinate project planning and budgeting, procurement planning, financial including review and submission of consolidated list of planned activities and expenses (as per the work plan) to the eSC on a monthly basis;
3. **HDISP Update Report (monthly):** Provide a monthly report to the Health Data and Information Standards Panel (HDISP) that is sourced from the eSC report to ensure any projects that involve data or information standards are reviewed by the HDISP. The HDISP shall then provide recommendations to the eSC who will guide the eLCST in relation to any projects without applicable established standards. The HDISP may provide the eLCST with information on already established and approved guidelines in relation to project implementation.
4. **eLCST Communication Plan:** Develop and maintain a communication plan of eHealth components, providing information, the status, and contact details that is accessible to the eSC members, the Health Data and Information Standards Panel (HDISP). Summary eHealth project information for the public shall also be provided when necessary.
5. **Project Stakeholder Update Report:** Progress reports and successful final implementation of the deliverables as stated in the work plans shall be provided when necessary with authorization from the eSC.
6. **Performance Appraisal:** The Team shall establish human resource protocols including annual performance appraisals and capacity and capability building initiatives (e.g. training etc). The capacity and capability training initiatives shall align with any established initiatives.

REPORTING AND ACCOUNTABILITY

The Team reports to the eHealth Steering Committee (eSC) through existing institutional reporting frameworks that are already in place on a monthly basis or whenever the Team is required to report.

COMMUNICATION

The Team has a responsibility to ensure its members have all required resources, training and support to carry out its functions. Additional requirements may be raised to the eSC with justification.

MEMBERSHIP:

The eLCST will consists of a minimum of professionals in relevant fields of experience and expertise drawn from the Public Health Sector. Specialized Technical Assistance (TA) as well as Additional members may be appointed / recruited according to applicable processes as required.

This Team consists of the following positions from existing roles and responsibilities within the Public Health Sector with the MoH overseeing the coordination and administration of all aspects of eHealth Project through the position of ACEO for HIS & ICT Division.

1. ***ACEO HISICT, MOH (1); Manager Information Services, NHS (1); Representative, NKFS (1) will be tasked the eHealth Project/ Component Managers***
 - Oversees all aspects of the eHealth project including coordination and follow up of project activities, guidance to stakeholders, staff, monitors project budgets and costs in accordance with the overall eHealth budget for Samoa, coordinating project activities with other implementing agencies and officials.
 - They will be accountable for successful, timely and effective implementation of eHealth projects and achievement of the Samoa eHealth Policy and Strategy (2016 to 2021) objectives.

2. ***Principal ICT Officers; Principal Information Officers – MOH, NHS, NKFS will be tasked as Information, Communications and Technology (ICT) Officer***
 - Provides ICT guidance and support in relation to eHealth project and eHealth components implementation
 - Compiles project component status reports, coordinates project schedules, manages project meetings, and identifies and resolves technical problems. Identifies and analyzes systems requirements and defines project scope, requirements, and deliverables. Coordinates project activities and ensures all project phases are documented appropriately.

3. ***Procurement Administration Support Officer:*** Provides financial, procurement and administration assistance to the eLCST team and eHealth Project. This Officer will be assigned from the Health Sector Resourcing Monitoring and Evaluation (HSCRM) Division of MoH.

ANNEX 6: HEALTH DATA AND INFORMATION STANDARDS PANEL (HDISP)

TERMS OF REFERENCE

VISION, MISSION AND VALUES

Vision

To improve and sustain the health of the citizens of Samoa by using eHealth to provide effective and efficient health care services.

Mission

The Mission of the Health Data and Information Standards Panel (HDISP) ("Panel") is to provide guidance on eHealth data and information standards to the eHealth Steering Committee (eSC) and other entities as required. This will ensure that eHealth data and information are managed appropriately and according to best practice and relevant legislative and policy requirements.

Values

1. **Accountable Governance in Health:** The eHealth components are governed, managed and supported with integrity in accordance with all relevant legislative and policy requirements.
2. **Sharing and Accessibility of Health Data and Information:** This Panel shall ensure that best practice and applicable standards are established and followed by all eHealth projects to support the sharing and access of eHealth information and reporting.
3. **Appropriateness:** This Panel shall review and align data and information standards related to eHealth projects with applicable legislation, policy and standards that ensure the confidentiality, privacy, security, quality, safety, integrity and research-ability of health information.

RATIONALE

The Ministry's vision for the Health Care system of Samoa is³²: *"An effective, accountable, safe and people-centered health system."* This mission implies a set of Goals, Objectives and Performance Measures, which are defined in the *Health Sector Plan (2008 to 2018)*. The six goals in the plan are to:

1. Strengthen Health Promotion and Primordial Prevention
2. Improve Quality Health Care Service Delivery
3. Strengthen Governance, Human Resources for Health and the Health System
4. Strengthen Partnership Commitment
5. Improved Health Financing
6. Strengthen Partnerships with Development Partners

These goals are supported by the goal of the National Health Service (NHS): *"To assist the Government with the health care needs of Samoa through the development, provision and management of health services."*

eHealth enables the achievement of these goals through the provision of health information systems and outputs that improve the effectiveness, efficiency and quality of health care delivery in Samoa. Proper governance of the eHealth environment is essential in ensuring the outcomes are achieved according to policy and strategy objectives.

³²Ministry of Health (Samoa) website. <http://www.health.gov.ws/>. Samoa, 2016.

This commitment has been articulated in a number of directional documents, including the *Strategy for the Development of Samoa (2012 to 2016)*, *Samoa Health Sector Plan (2008 to 2018)*, *Samoa eHealth Policy and Strategy (2017 to 2022)*, *Ministry of Health Corporate Plan (2017 to 2020)*, and *Samoa National Health Service Corporate Plan (2014 to 2016)* in alignment with international policies including the *WHO Sustainable Development Goals (SDGs)*.

SCOPE and FUNCTIONS

The Panel will review and provide recommendations to the eHealth Steering Committee (eSC) in relation to data and information standards including data access and sharing, exchange, storage and retention, confidentiality, transmission, definition and codes, workflows and processes and stakeholder communication. The function of this Panel is to:

1. **Standards:** Provide guidance to data and information standards based on best practice, international standards. The Panel shall refer to the International Standards on Information Security Management (ISO 27001 and ISO 27002). The International Standards provide guidelines, specifications and principles for initiating, implementing, maintaining and improving information security management for organizations. The areas covered include information security, communications and operations management, information systems acquisition, development and maintenance, and information security incident management. In addition, adherence to these standards shall provide a solid foundation for accreditation in relation to data and information governance practices.
2. **Access:** Provide guidance, facilitate requests for changes to access roles and provides clarification in relation to what users of eHealth data and information are allowed to view and use.
3. **Sharing:** Adjudicate the sharing of data and information to ensure the eHealth administrators and users are adequately supported to manage and provide quality health care service delivery. The Panel shall also provide guidance in relation to transmitting data and information in a secure manner in alignment with best practice international standards through the establishment of data standards for eHealth data exchange and partner agreements.
4. **Data definitions and codes:** Develop and review requests for additions or revisions to the data dictionary and ensure coding classifications, terminology and nomenclatures meet international best practice standards.
5. **Data and Information Retention and Storage:** The Panel shall provide guidance and run regular audits of all eHealth administrators to ensure electronic data, records and documents are maintained according to legal requirements and standards. In the absence of existing legislation, the Panel shall provide guidance to the relevant entity regarding best practice record management processes.
6. **Confidentiality and Protection:** The Panel shall provide guidance and run regular audits of all eHealth administrators to ensure electronic data, records and documents are kept confidential and protected against unauthorized use. All eHealth data and information administrators shall establish policies and procedures in relation to the following areas that shall be used as the benchmark for the Panel to audit the administrator against:
7. **Access:** only minimum and necessary access is provided to authorize users.
8. **Unauthorized Access:** is monitored and breaches are investigated and prosecuted.
9. **Storage:** mechanisms ensure that electronic data and information is kept securely, safely and with backup and disaster recovery protocols maintained.
10. **Transmission:** transmission mechanisms facilitate the secure transfer of data and information with encryption and transactional recording.

11. **Patient and User Access and Use:** The Panel shall provide guidance and provide a forum for which patients and users of eHealth data and information can provide feedback in relation to the access and use of electronic information. The Panel shall review and provide recommendations to the eSC to review and action accordingly.
12. **Communication and Collaboration:** Ensure contact and communication with other entities involved in the health sector to ensure cooperation and coherency in relation to data and information standards.

This Panel will require technical assistance on a long terms basis at initial development of ehealth system.

EXPECTED OUTPUTS

1. Develop and maintain the **data dictionary**.
2. **HDISP Update Report (quarterly):** Provide quarterly reports to the eSC on completed work.
3. **HDISP Communication Plan:** Develop and maintain a communication plan detailing Health information and health status that can be accessible.
4. **Compliance and Quality:** The Panel shall establish a framework to audit, monitor and report on the compliance of standards by eHealth administrators.
5. **Patient and User Feedback:** The Panel shall establish a process for patients and users to Provide feedback; the Panel to review and take action in relation to the feedback and report and escalate issues to the eSC.

REPORTING AND ACCOUNTABILITY

The Panel submits quarterly reports of progress to the eSC.

The Panel shall align all initiatives with applicable legislation, standards, policies and strategies. They shall ensure the communication and updates are kept current through providing reports at regular intervals that align with the Panels' regular reporting timeframes. The eSC shall review recommendations and expedite the resolution of any issues.

COMMUNICATION

The Panel has a responsibility to ensure its members have all required resources, training and support to carry out its functions. Additional requirements may be raised to the eSC with justification.

***MEMBERSHIP:

These members of the Panel shall provide meeting documents to their counterparts and provide consolidated feedback at the meetings from their counterparts:

1. **Chair:** *National Health Service (NHS) Lead Information Manager or equivalent*
2. **Member:** *Representative from Health Information Management / Medical Records (Main Hospital)*
3. **Member:** *Representative from Health Information Management / Primary Health Care Services (Main/ District Hospital)*
4. **Member:** *Representative from Clinical Coding section (Main Hospital)*
5. **Member:** *Representative from Nursing & Midwifery Division (Main Hospital)*
6. **Member:** *Representative from HSPQA (MOH)*
7. **Member:** *Representative from Clinical Health Service (Main Hospital)*
8. **Member:** *Representative from Pharmacy, NHS*
9. **Member:** *Representative from Laboratory, NHS*
10. **Member:** *Representative from Medical Imaging, NHS*
11. **Member:** *Representative from Allied Health, NHS*
12. **Member:** *Representative from Dental, NHS*
13. **Member:** *Ministry of Health (MoH) Lead Information Manager or equivalent*
14. **Member:** *National Kidney Foundation of Samoa (NKFS) Lead Information Manager or equivalent*
15. **Member:** *General Practitioner Lead Information Manager or equivalent representative*
16. **Member:** *Samoa Bureau of Statistics (SBS) Lead Information Manager or equivalent*
17. **Member:** *Representative from health research group*

* Chairmanship & Membership shall be reviewed in alignment with implementation phases of eHealth components to ensure that members are the actual users and represent the users of relevant eHealth component being developed.

**Additional members may be invited as required.

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