Samoa Health Design

**APPENDICES**

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*Strategic input on health to the Australian Government*

1. Appendices

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Appendix A: Overview of Samoa’s health system (Currently Samoa’s health system remains the same and will change overtime when the final details of the health sector merger are officially relayed)

This appendix outlines key features of Samoa’s health system by reference to WHO’s six health system “building blocks”:

* Service delivery
* Leadership and governance
* Health workforce
* Health information system
* Medical products, vaccines and technologies
* Health system financing

Service delivery

Responsibility for delivery of publicly funded health services is primarily the responsibility of the NHS, which was established in 2006 as a state-owned enterprise and governed by a Board of Directors.

According to the 2016/17 budget, the NHS is expected to receive just over 80 per cent of government funding for health. It owns and operates all of Samoa’s publicly funded hospitals and health centres (see Table 1) and provides diagnostic imaging, laboratory and pharmaceutical services.

Table 1: NHS Facilities

|  |  |  |
| --- | --- | --- |
| Facility Type | Upolu | Savai’i |
| Referral hospital | TTM Hospital | Malietoa Tanumafili II Hospital (MTII) |
| District hospital | Leulumoega  Lalomanu  Poutasi | Foailalo  Sataua  Safotu |
| Community health centre | Lufilufi  Faleolo  Sa’anapu | Vaipouli |

The Samoa National Kidney Foundation is a Government Corporation established in 2004 to deliver publicly funded dialysis services and raise awareness of, and funding for, prevention and treatment of kidney disease.

Following passage of legislation in 2015 the Government of Samoa (GOS) also plans to establish a Health Promotion Foundation as a body corporate which will undertake advocacy; sponsor sports, the arts and culture; encourage healthy lifestyles and pursuits; and support research.

Several NGOs are also engaged in service delivery and/or advocacy on health matters. They include:

* SFHA, the national IPPF affiliate - provides clinical, advocacy and education services;
* Samoa Red Cross - which is responsible for managing collection, storage and distribution of blood and blood products;
* Samoa Cancer Society - provides support, leadership and advocacy in cancer control; and
* Nuanua o le Alofa - the national organisation of people living with disabilities which plays a role in advocating on health issues.

There is a small private sector made up of general practitioners, pharmacies and allied health practitioners, most of whom are based in Apia.

In 2008 it was estimated that some 900 traditional healers (taulasea) and 120 traditional birth attendants (fa’atosaga) were also practicing in Samoa (Ministry of Health, 2008).

Village Women’s Committees and Village Councils also play important, albeit often informal, roles in health care delivery (as well as leadership). The former, in particular, are engaged extensively in health promotion and community mobilisation and are “widely recognised as an important extension of health services” (Thomas, 2014).

Leadership and governance

The Ministry of Health (MOH) is the lead policy agency in the sector, reporting directly to the Minister of Health. Its vision is “An Effective, Accountable, Safe and People Centered Health System” and it has a mission “To regulate and monitor Samoa's Health System in order to achieve the Vision”.

The MOH is not expected to engage directly in service delivery, but rather to focus on strategic planning, policy development and performance and outcome monitoring.

The NHS is overseen by a nine-member, Government-appointed Board of Directors.

The separation of responsibilities for policy (MOH) and service delivery (NHS) took effect from 1 July 2006. It sought to provide greater role clarity underpinned by the development of distinct competencies relating to the organisations’ specific functions. In particular, the aim was to free MOH from an undue focus on technical aspects of service delivery, which, it appears, was seen to be detracting from the Ministry’s ability to adopt a considered, independent view on broader issues of policy and regulation for the sector as whole

A review of the realignment in 2011 found that, “there was general confusion and misconceptions among staff about the exact roles, responsibilities and linkages between the two new entities” and ”there was seen to be a power struggle between NHS and MOH management over which entity was in control” (Government of Samoa, 2011).

Subsequently, in 2014, a DFAT-funded review noted that, in relation to procurement roles and responsibilities in the health sector, “Despite the eight years that have passed since the separation, it is clear that MOH and NHS are still jostling for position and that the lines of demarcation of responsibilities have not been finalised”. (Charles Kendall & Partners, 2014).

More recently, in reviewing results of the health SWAp, the World Bank noted that “The Relationship between the two entities has improved over the course of the SWAp, though there continues to be room for further improvement and synchronization”. (World Bank, 2016)

While the Ministry is expected to hold the NHS to account it lacks the information and incentives to do so (in part because the NHS is funded directly from the Ministry of Finance). On the other hand, the NHS appears to consider that the Ministry’s inability (or unwillingness) to focus on more strategic issues results in ‘micro-management’ of the NHS by the Ministry which has limited the former’s ability to innovate.

Many of the Ministry’s staff have strengths in operational service delivery which might be better aligned to the work of the NHS. At the same time there are few staff anywhere in the sector who have the expertise the Ministry needs to be fully effective in a policy and legislative role[[1]](#footnote-1).

Health workforce

In 2010 Samoa had 1.85 nurses per 1,000 population, a ratio which is lower than in most other comparable Pacific countries but slightly above the average for lower middle income countries globally. In the case of doctors, however, Samoa is relatively well-supplied by Pacific standards but, in keeping with the overall under-supply of medical practitioners in the region has only about two-thirds of the number found in the average lower middle income country.

There are also shortages among skilled managerial (e.g. finance), allied health and professional/technical groups (such as biomedical engineers and pharmacists).

Distribution of doctors is a problem with all but a few choosing to live and practice in Apia.

Professional regulations and remuneration arrangements also constrain the system’s capacity to use human resources flexibly (e.g. by allowing nurses to prescribe from a limited formulary or to offer financial incentives to encourage staff to work in underserved communities).

Figure 1: Physicians per 1,000 people (2010\*)

\* Data for “Lower middle income” countries are from 2011

Figure 2: Nurses and midwives per 1,000 people (2010\*)

\* Data for “Lower middle income” countries are from 2011

Health information system

According to WHO, “A well-functioning health information system is one that ensures the production, analysis, dissemination and use of reliable and timely information on health determinants, health system performance and health status” (World Health Organization, 2007).

It is clear that Samoa does not currently have a health information system that WHO would deem to be “well-functioning”. Several recent reviews of development assistance provided to Samoa’s health sector have highlighted the lack of a comprehensive and reliable HIS as a major barrier to effective monitoring and evaluation.

In addition to the need for information to address system-wide issues (as anticipated by the WHO definition) much basic management information is also often rudimentary. Systems for procurement, asset management and inventory control are weak (Charles Kendall & Partners, 2014). Clinical records are typically maintained in paper format and, in smaller facilities, may comprise only handwritten notes. There is at best limited sharing of patient information between services and facilities, and linkages between clinical, financial and human resource data are poor or non-existent. As a result, both efficiency and safety may be compromised.

Samoa’s experience with computerised information systems in health is mixed. A computerised immunisation register has recently been introduced. The only other systems which appear currently to be in routine use are a pharmacy management system (LOTS)[[2]](#footnote-2) together with ad hoc, locally-developed systems in the laboratory and X-ray departments.

A patient information system (PATIS) was implemented to provide diagnostic and procedure information for inpatients and outpatients at the two main hospitals on Upolu and Savai’i but, at the time of writing, is reported as having fallen into disuse due to lack of user acceptance and inability to obtain maintenance/updates from the original vendor. A community health nursing information system that was previously in use was abandoned some 10 years ago.

The *Samoa eHealth Policy & Strategy 2016 – 2021* (Ministry of Health, 2016) identifies a total of 17 strategies to guide e-health developments. While those strategies address many key areas, they provide little detail on the overall architecture for e-health or the specific systems etc. that will be required to meet information needs.

Medical products, vaccines and technologies

Samoa relies almost exclusively on offshore suppliers for medical products, vaccines and equipment. Given occasional long lead times for supply, and the complex nature of logistics involved in servicing an island country, robust procurement arrangements are a vital element in the health system.

Data from 2012 report a two per cent stock out rate for medicines in rural areas and 95 per cent availability of essential medicines at all public health facilities (World Bank, 2016).

A recent extensive and detailed review of procurement arrangements found that the underlying framework for procurement in the sector is “satisfactory” and, in particular, found that “overarching legal framework is acceptable”. While numerous opportunities for improvement were identified, a lack of reliable management information precludes detailed assessment of performance, procurement systems and processes appear to be broadly satisfactory.

As part of the recent health SWAp a new pharmaceutical warehouse has been built in Apia and recently commenced operations. DFAT has also funded technical assistance (TA) for biomedical engineering as well as pharmaceutical and biomedical procurement.

Health system financing

The health sector in Samoa is relatively well-resourced. Data from the World Bank indicate that Samoa spent 7.2 per cent of GDP on health in 2014, which is between one third and two thirds higher than the equivalent figure in Fiji, Solomon Islands, Tonga and Vanuatu (Figure 3). Spending by Government accounted for 90.6 per cent of total health spending.

Figure 3: Health spending relative to GDP (2014)

Health accounted for 15.1 per cent of Government expenditure in Samoa in 2014, a figure which was higher than other, comparable Pacific nations. Samoa’s total health spending per capita (on a purchasing power parity basis) was also high relative to comparator countries (Figure 4).

Figure 4: Health expenditure (2014)

In 2014 DFAT undertook a review of financial management capability and capacity, together with associated risks and benefits, in MOH, NHS and SFHA. The review acknowledged some befits but also identified a number of significant risks associated with DFAT channelling funds through health sector agency systems and procedures. It recommended that DFAT should not conduct a future programme of support to the agencies concerned until a framework to implement relevant risk mitigation measures is agreed with GOS and those measures are implemented in a number of critical areas. (DFAT, 2014)

Appendix B: Other development partners

New Zealand Ministry of Foreign Affairs and Trade

New Zealand was a partner in the health SWAp contributing NZ$16.3 million to the program over the period 2008 – 2016.

Alongside its involvement in the SWAp New Zealand has also allocated NZ$5.02 million over four years from 2010 to support collaboration between the NHS in Samoa and Counties Manukau District Health Board via an Institutional Linkages Programme (ILP) which seeks to use peer-to-peer relationships to strengthen governance and management, and build clinical service capacity within the NHS. It also funds visiting medical specialist services and contributes towards the costs of Samoa’s overseas referral scheme which provides access to specialist hospital services in New Zealand.

A review of the ILP in 2014 (Sapere Research Group, 2014) drew generally positive conclusions. Areas where there was considered to be scope for improvement centred on the need for more explicit criteria to guide overseas referral decisions, improvements to monitoring patient outcomes and better alignment between the strategic goals of the ILP and the NHS.

A subsequent review of the whole of New Zealand’s country programme in Samoa concluded that, in relation to the heath sector, results had been mixed but noted some significant gains in policy and institutional strengthening, particularly within NHS. Specific recommendations for improvement included providing long term predictability for the ILP and better engagement with civil society and the private sector (Adam Smith International, 2015).

New Zealand’s MFAT has also indicated a commitment to continue support for health in Samoa and work to design the next New Zealand program is proceeding broadly in parallel with Australia’s design process.

Early indications are that New Zealand’s program may include *inter alia*:

* continuation (in a modified form) of the overseas referral and visiting health specialist schemes; and
* the possibility of supporting intiatives (such as building on the current PEN Fa’a Samoa initiative) to deliver improved health services for rural communities.

World Health Organization

The World Health Organization (WHO) was a partner in the health SWAp and, through its country and regional offices, is continuing to provide support to Samoa’s health sector in a number of ways.

The PEN Fa’a Samoa initiative, which is being led by the Ministry of Health with support from WHO, is showing promise as a means to improve early identification of NCD risk factors using a set of low technology, cost effective and evidence based interventions at primary care level.

WHO has also supported Samoa by providing technical assistance with planning for health information systems. It has funded a series of reviews and development of recommendations for the design and implementation of health information systems (Festin, 2015) (Spohr, 2013) and recently circulated a concept note for development of a health information system. (World Health Organization, Samoa Country Office)

The World Bank

The World Bank was also a partner in the SWAp and provided a total of US$6 million for the program between 2008 and 2015. The World Bank was responsible for fisuciary oversight of the SWAp. Recently under IDA10, the World Bank will provide USD10 million to the Government of Samoa to assist addressing health sector priorities. In November 2017, a World Bank Project Identification Mission was conducted in Apia. As an outcome of the mission, it was proposed that the Project Development Objective for the new health program will be *to strengthen NCD control in Samoa through enhanced health promotion and disease prevention as well as establishing people-centered disease management with strengthened primary health care.* A design mission is planned for early 2018 and DFAT plans to support the development and implementation of this new program.

Asian Development Bank

In 2015 the ADB agreed to fund a US$25 million Samoa Submarine Cable Project (Asian Development Bank, 2015). One output from that project (valued at US$6.5 million) is support for development of a health information system that is tailored to Samoa’s needs. It is intended that the ADB funding will help to meet the costs of hardware, software, installation, testing, and training.

Other partners

Several other bilateral and multilateral partners are also engaged with Samoa’s health sector. They include:

* UNFPA and UNICEF were also partners in the SWAp;
* the People’s Republic of China provided an estimated US$70.1 million between 2009 and 2014 in the form of grant funding for capital expenditure on the new MOH headquarters building and the new TTM Hospital.

In addition the Global Fund for AIDS, TB & Malaria (US$3.4million), Japan International Cooperation Agency (US$1.2 million) were significant donors over the period 2009 – 2014 while the Global Environment Facility, the Government of Italy, Secretariat of the Pacific Community and the European Union also contributed lesser sums to the sector over the same period (Ministry of Health, 2011).

Appendix C: Alignment with Making Performance Count: Enhancing the accountability and effectiveness of Australian aid

|  |  |
| --- | --- |
| Target | Alignment |
| Promoting prosperity | Measures to tackle NCDs and CDs should support economic growth.  The program will not have any clear ‘aid-for-trade’ component. |
| Engaging the private sector | The private health sector in Samoa is small but there is scope for extensive private sector engagement in development of health information systems and, potentially, innovative approaches to clinical and support service delivery. |
| Reducing poverty | A strong health system, especially one which effectively targets NCDs, can increase individuals’ ability to join or remain in the workforce and thus protect against poverty. |
| Empowering women and girls | Investments in sexual and reproductive health (SRH) will benefit women and girls.  Improved health information systems will permit more sophisticated analysis of health needs and service utilisation by gender |
| Focusing on the Indo-Pacific region | Samoa lies in the Pacific region |
| Delivering on commitments | Focus on TA in the early stages will help to ensure that Samoa is equipped to deliver on commitments.  Formal oversight arrangements established under the health SWAp will be maintained as an effective means to ensure ongoing dialogue. |
| Working with the most effective partners | MOH and NHS are the principal partners. Concerns have been expressed regarding their effectiveness in light of poor role clarity. The design seeks to support measures which will enhance their effectiveness as key players in the sector.  Work with SFHA provides the opportunity to build the organisation’s effectiveness as a key NGO in the sector. |
| Ensuring value-for-money | DFAT investment in health information systems will be conditional on results of cost-benefit assessment of options.  Any subsequent development of health information systems will facilitate improved M&E.  Support for procurement of pharmaceuticals and biomedical equipment will increase value for money in those areas of spending |
| Increasing consolidation | Coordination of investments will be ensured through the HPAC |
| Combatting corruption | In light of previous concerns regarding PFM (albeit not specifically corruption) in MOH, NHS and SFHA use of partner systems will be limited and dependent on implementation of recommended improvements (DFAT, 2014). |

Appendix D: Intermediate outcome pathways

The theory of change identifies a series of intermediate outcomes for each of the design’s three end of program outcomes (EOPOs) as detailed below:

|  |  |  |
| --- | --- | --- |
| EOPO 1 - Better resourcing and approaches for district-level primary health care | EOPO 2 - Health sector staff are better equipped to develop policy, deliver services and monitor performance | EOPO 3 - Improved access to sexual and reproductive health services |
| 1.1 – The new Primary Health Care Program explores and replicates effective approaches for delivering district level primary health care. | 2.1 - Senior leaders and managers have access to reliable information and analysis to inform policy and oversight | 3.1 - SFHA has improved organisational performance |
| 1.2 – Health services, including primary health care services have access to informed surveillance interventions. | 2.2 - The health workforce has access to information required to plan, deliver and monitor services | 3.2 - SFHA services are delivered in locations and in ways that are affordable, accessible and appropriate |
| 1.3 - Health services, including primary care services, have access to the supplies and equipment they need to be effective | 2.3 - Health sector institutional arrangements are better adapted to Samoa’s health needs | 3.3 - SFHA implements innovative solution(s) to improve sexual and reproductive health service delivery |

**1.1 – The new Primary Health Care Program explores and replicates effective approaches for delivering district level primary health care**

|  |  |  |  |
| --- | --- | --- | --- |
| **If** | As part of the design process for the new primary health care program, the designers consults with district hospitals and health centres and undertakes analysis to better understand their particular needs for primary health care | **then** | The health sector will be better able to develop approaches which are tailored to the needs of each district |
| **If** | As part of the design process, the designers design approaches to strengthen district-level primary health care which are tailored to the needs of each district. (*Note: DFAT plans to fund a specific part of the new PHC design where there is value for Australia to invest).* | **then** | MOH will be able to demonstrate which approaches most effectively improve district-level primary health care |
| **and** | MOH monitors and evaluates these approaches including the associated costs and benefits |
| **If** | If the new primary health care program funds and replicates effective approaches to improving district-level primary health care | **then** | There will be increased resources, better incentives for health workers and better service delivery approaches for district-level primary health care that meet each district’s needs |

The following assumptions underpin the above outcome pathway:

* DFAT is closely involved with the World Bank and health sector in the design of Samoa’s new primary health care program and that DFAT agrees to fund implementation of specific approaches.
* The health sector has adequate funding and supply of appropriately skilled doctors and nurses. The key issue is how these resources are allocated towards district-level primary health care.
* Doctors and nurses will have the capacity and motivation to remain and perform in their positions at the district level.

**1.2 - Health services, including primary health care services have access to informed surveillance interventions.**

|  |  |  |  |
| --- | --- | --- | --- |
| **If** | MOH has better functioning systems and sufficient staff with the skills and motivation needed for effective surveillance | **then** | MOH will more effectively plan, conduct and mange public health interventions. |
| **If** | MOH undertakes more effective surveillancethat produces well informed and timely information | **then** | Primary health care services, including at dirtict level have access to informed public health interventions |

The following assumptions underpin the above outcome pathway:

* MOH has sufficient staff and motivation to improve surveillance.
* There is sufficient funding to fund effective and efficient public health interventions.

**1.3 - Health services, including primary care services, have access to the supplies and equipment they need to be effective**

|  |  |  |  |
| --- | --- | --- | --- |
| **If** | NHS has better functioning systems and sufficient staff with the skills and motivation needed for effective procurement of pharmaceuticals and biomedical equipment | **then** | NHS will more effectively plan, conduct, manage and monitor procurement of pharmaceuticals and biomedical equipment. |
| **If** | NHS undertakes more effective procurement of pharmaceuticals and biomedical equipment | **then** | Primary health care services, including at district-level, will have a more consistent and timely supply of pharmaceuticals and biomedical equipment of the appropriate type, quantity and quality for their needs. |
| **at the same time** | | | |
| **If** | NHS has better functioning systems and sufficient staff with the skills and motivation to effectively maintain and manage biomedical equipment | **then** | NHS will better maintain and manage biomedical equipment |
| **If** | Biomedical equipment is better managed and maintained, | **then** | District primary health care services will have continued access to functioning equipment for their health needs |
| **and** | there will be less unnecessary spending on early replacement of poorly maintained equipment. |

Key assumptions underpinning the above outcome pathway are:

* NHS has sufficient staff and motivation to improve procurement of pharmaceuticals and biomedical equipment and maintenance of biomedical equipment.
* There are private sector suppliers that can provide pharmaceuticals and biomedical equipment in the quality, quantity and timeframe required.

**2.1 - Senior leaders and managers have access to reliable information and analysis to inform policy and oversight**

|  |  |  |  |
| --- | --- | --- | --- |
| **If** | MOH has the knowledge, capacity and motivation to co-invest in and establish a HIS based on advice from the HIS cost-benefit assessment | **then** | MOH will establish and maintain a HIS which is affordable and appropriate to the Samoan context and the information needs of health sector stakeholders. |
| **If** | An affordable and appropriate HIS is implemented and maintained | **then** | It will produce accurate, appropriate, timely and sex-disaggregated health data and information |
| **If** | those data and information are analysed and reported in an accurate, timely and appropriate manner and disseminated in a way which is user-friendly and accessible to its intended audiences, | **then** | Senior leaders and managers in the health sector, particularly the Minister of Health, Cabinet and senior leaders in MOH, will have reliable evidence available to inform health policy and oversight |

The following assumptions underpin the above outcome pathway:

* MOH has the motivation, resources and capacity to co-invest, establish, operate and maintain a HIS and is willing to consider different HIS options.
* There is demand from users across the health sector, particularly the Minister of Health, Cabinet and MOH for health-related data and information and they have the motivation and capacity to use this data to inform health sector planning, monitoring and regulation.
* DFAT is involved in key phases of Samoas HIS project (currently funded by ADB).

**2.2 - The health workforce has access to information required to plan, deliver and monitor services**

|  |  |  |  |
| --- | --- | --- | --- |
| **If** | MOH establishes and maintains a HIS which produces health data and information | **then** | the health workforce will have the information it needs to plan, deliver and monitor services |
| **and** | those data and information are analysed and reported in an accurate, timely and appropriate manner and disseminated in a way which is user-friendly and accessible to its intended audiences |

The following key assumption underpins the above outcome pathway:

* There is demand from the health sector workforce for health data and information and they have the motivation and capacity to use this data to inform health sector planning, delivering and monitoring.

**2.3 - Health sector institutional arrangements are better adapted to Samoa’s health needs**

|  |  |  |  |
| --- | --- | --- | --- |
| **If** | MOH has a deeper knowledge of institutional arrangements affecting health sector performance; and | **then** | MOH will take better-informed action to implement solutions to priority issues affecting its performance. |
| **and** | MOH has the capacity, motivation, influence and networks to address these |
| **If** | MOH evaluates these solutions, | **then** | It will better understand which solutions are or are not working and will be able to adapt its approach accordingly |
| **If** | MOH implements and evaluates solutions to address priority issues affecting its performance | **then** | Health sector institutional arrangements will be better adapted to meet Samoa’s health needs |

The key assumption underpinning the above outcome pathway is:

* MOH has the capacity, motivation, influence and networks to identify and address priority issues related to health sector institutional arrangements that are affecting health sector performance.

**3.1 - SFHA has improved organisational performance**

|  |  |  |  |
| --- | --- | --- | --- |
| **If** | SFHA understands its organisational strengths and weaknesses | **then** | it will be better able to target efforts to strengthen its organisational capacity |
| **If** | SFHA has improved organisational capacity | **then** | it will be better able to attract external funding and deliver more and/or more effective SRH services. For example:   |  |  |  |  | | --- | --- | --- | --- | | **If** | SFHA understands its role and strategic direction | **then** | it will be able to better target and manage delivery of its services to fulfil its mandate and increase the quality, accessibility and/or coverage of its SRH services | | **If** | SFHA has improved fundraising strategies, financial management, contract management and monitoring and reporting | **then** | it will be better able to attract, manage and retain funding and will be better resourced to deliver its services. | | **If** | SFHA has improved management | **then** | its resources will be better targeted to deliver optimum services | |
| **If** | SFHA has sufficient organisational capacity and motivation | **then** | it will provide increasingly appropriate, accessible, quality and well-managed services, including SRH services |
| **If** | SFHA is delivering better SRH services | **then** | more people, especially women, young women and other vulnerable groups will have better access to SRH services. |

The following assumptions underpin the above outcome pathway:

* SFHA staff have the incentives and motivation to perform their roles.
* SFHA staff have the technical capacity to deliver SRH services.
* There is demand from community members to access SRH services.

**3.2 - SFHA services are delivered in locations and in ways that are affordable, accessible and appropriate**

|  |  |  |  |
| --- | --- | --- | --- |
| **If** | SFHA understands the broader range of options to improve how and where its services are delivered | **then** | it will be able to make more informed decisions on this issue |
| **If** | SFHA delivers its services in locations and ways that are more affordable, accessible and appropriate | **then** | more men and women, including youth, will be able to access and be satisfied with its services |

The key assumptions underpinning the above s outcome pathway are:

* SFHA staff have the incentives and motivations to identify and implement solutions to improve how and where its services are delivered.
* There is demand from community members to access SRH services

**3.3 - SFHA implements innovative solution(s) to improve sexual and reproductive health service delivery**

|  |  |  |  |
| --- | --- | --- | --- |
| **If** | SFHA identifies and implements innovative solutions for SRH service delivery in line with its mandate | **then** | its SRH services may be better quality, reach more people and/or be more accessible (especially to vulnerable groups). |

The key assumption underpinning the above outcome pathway is:

* SFHA will have the interest, motivation and capacity to identify and implement innovative service delivery solutions.

Appendix E: Draft terms of reference for cost-benefit review of health information system options

Title

Cost-Benefit and Options Analysis of Samoa’s Health Information Systems (HIS).

Summary

Samoa’s need for a comprehensive, contemporary health information system is widely recognised. A number of possible approaches have been proposed but the health sector and development partners have acknowledged that the extent to which those approaches represent best practice and offer value for money is currently unclear. In light of that, a Cost-Benefit and Options Analysis is planned as a means to build on background work previously undertaken and provide recommendations to inform decision making on the design and delivery of Samoa’s HIS.

Background to Samoa’s health sector

Samoa is spread over 2,840 km2 on nine islands. Almost all of the population of some 190,000 people live on the two main islands of Upolu and Savai’i. A fifth of the population lives in the urban area in and around Apia while the rest reside in villages located along the narrow coastal plains fringing the mountain ranges. The close proximity of the main islands and road infrastructure around their perimeters enables good communication and transit for the majority.

Samoa has a reasonably strong national economy, with GDP per capita second only to Fiji among Pacific nations. It is politically stable, and has a strong national culture, Fa’asamoa, which defines clear social roles and contributes to the preservation of generally high levels of social capital.

The health sector is relatively well-resourced. In 2014 Samoa spent 7.2 per cent of GDP on health in 2013. Just over 90 per cent of that spending was from public sources with health accounting for almost one in every six dollars spent by Government.

There are some strengths in respect of sexual and reproductive health. Perinatal mortality rates are low while adolescent births have dropped steadily and consistently from 32.7 births per 1,000 women aged 15-19 in 2006 to 25.6 in 2014. Nevertheless, challenges remain with the 2014 Demographic and Health Survey finding that 35 per cent of married women expressed an unmet need for family planning.

In common with other Pacific island countries, Samoa faces a so-called “double burden” of disease. Communicable diseases continue to impact on health while a growth in non-communicable diseases, and in particular diabetes, is a major and growing threat.

The ongoing challenge of communicable disease is exemplified by the fact that more than 40 per cent of women aged under 25 years who were screened were found to have chlamydia and cases of trachoma were recently identified among primary school aged children on both of Samoa’s main islands. Sepsis is common, there are cases of leprosy reaching advanced stages before detection, and new viruses such as zika and chikungunya pose a constant threat.

In respect of non-communicable disease (NCD), there have been improvements in respect of some lifestyle-related risk factors such as physical exercise, alcohol consumption and smoking. Nevertheless, the 2013 STEP survey found that half of the participating adult population (aged 18-64 years) was at high risk of developing an NCD (by virtue of having at least three of five risk factors) and fewer than one per cent had no risk factors present.

The national Ministry of Health (MOH) is the lead agency in Samoa’s health sector which reports to the Minister of Health. Its vision is ‘An Effective, Accountable, Safe and People Centred Health System’ and it has a mission ‘To regulate and monitor Samoa's Health System in order to achieve the Vision.’ As such, MoH is not expected directly to engage in service delivery but rather to focus on strategic planning, policy development and monitoring.

The other key government agency in the sector is the National Health Service (NHS) which was established in 2006 as a state-owned enterprise governed by a Board of Directors. The NHS owns and operates all Samoa’s publicly funded hospitals and health centres, and provides diagnostic imaging, laboratory and pharmaceutical services.

There are also a number of other public and private sector bodies (including a handful of private general practices and pharmacies) which are involved in delivering health services. Nevertheless, the NHS is the dominant health care provider for most Samoans, most of the time.

The NHS delivers services via:-

* the Tupua Tamasese Meaole National Hospital (TTM) – Upolu
* the Malietoa Tanumafili II Hospital (MTII) – Savai’i
* three Rural District Hospitals on Upolu (Leulumoega, Lalomanu, and Poutasi)
* three Rural District Hospitals on Savai’i (Foailalo, Sataua and Safotu);
* four Community Health Centres on Upolu (Lufilufi, Faleolo and Sa’anapu); and
* one Community Health Centre on Savai’i (Vaipouli).

Additionally, both MOH and NHS employ small numbers of staff who are engaged in community-based ‘outreach’ activities such as environmental health inspections and health promotion activities.

Health information systems in Samoa

It is widely acknowledged that information systems in Samoa’s health system are currently inadequate. As a result, development and implementation of health policies and programmes, delivery of health services and management of public health threats are compromised.

There have been a number of attempts to address this situation over the last eight years or more. Various assessments and reviews have been conducted and the findings of those reviews have largely been consistent.

Basic management information is often rudimentary and heavy reliance on paper records can be both inefficient and sometimes unsafe. Further, several recent reviews of development assistance provided to Samoa’s health sector have identified the lack of a comprehensive and reliable health information system (HIS) as a major barrier to effective monitoring and evaluation of health outcomes and their impacts.

Samoa’s experience with computerised information systems in health is, at best, mixed. The only system which appears currently to be in routine use is a pharmacy management system (LOTS)[[3]](#footnote-3). A patient information system (PATIS) was implemented to provide diagnostic and procedure information for inpatients and outpatients at the two main hospitals on Upolu and Savai’i but, at the time of writing, is reported as having fallen into disuse due to lack of user acceptance and inability to obtain maintenance/updates from the original vendor.

A computerised immunisation register has recently been introduced and ad hoc, locally-developed systems are used in the laboratory, X-ray and Public Health Departments. Also a community health nursing information system has previously been adopted but was abandoned some 10 years ago.

The *Samoa eHealth Policy & Strategy 2016 – 2021* (Ministry of Health 2016) identifies a total of 17 strategies to guide e-health developments **(Table 1).**

**Table 1: E-health strategies (Samoa eHealth Policy & Strategy 2016 – 2021)**

|  |  |
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| **Key Strategic Area 1: Leadership and Governance** | |
|  | Strategy 1.1: Establish eHealth governance structures |
| **Key Strategic Area 2: Legislation, Policy, Compliance** | |
|  | Strategy 2.1: National eHealth regulatory framework established |
|  | Strategy 2.2: Develop and establish a continuous monitoring and evaluation framework that includes all eHealth components. |
| **Key Strategic Area 3. Standards and Interoperability** | |
|  | Strategy 3.1: Interoperability framework between the eHealth components to the broadband infrastructure. |
|  | Strategy 3.2 Develop an information and technical standards framework that supports secure interoperability between all eHealth components. |
|  | Strategy 3.3: Develop and implement national eHealth architecture. |
|  | Strategy 3.4: Develop and implement a National Health Identifier Numbering for Patients, Villages and Health Facilities (NHIN) system and Registry. |
|  | Strategy 3.5: Develop a National Health Provider Identifier (Workforce and Facilities) and Registry |
|  | Strategy 3.6: Revise the national suite of minimum core health indicators in Samoa for application and use. |
|  | Strategy 3.7: Develop and implement national registries. |
| **Key Strategic Area 4: Strategy and Investment** | |
|  | Strategy 4.1: Establish sustainable financing mechanisms for eHealth in Samoa |
|  | Strategy 4.2: Establish a mechanism to identify and utilize eHealth innovations. |
| **Key Strategic Area 5: Infrastructure** | |
|  | Strategic 5.1: Hardware and software management framework |
| **Key Strategic Area 6: Services and Applications** | |
|  | Strategy 6.1: Develop and implement a Health Information System (HIS) that is linked across all health care facilities in Samoa. |
|  | Strategy 6.2: Establish mechanisms to access data and information |
| **Key Strategic Area 7: Workforce and Community** | |
|  | Strategy 7.1: Establish a workforce competency framework for the following areas to ensure adequate support and skilled utilization of eHealth outputs. |
|  | Strategy 7.2: eHealth promotion and use |

Alongside the *Samoa eHealth Policy & Strategy 2016 – 2021* other work has been undertaken to detail issues such as the uses to which health information will be put, the overall architecture for e-health and the specific systems etc that will be required to meet information needs.

A report produced in June 2013 (Spohr 2013) proposed that current, largely paper-based information and records systems should be updated using ‘a modular, “best of breed” approach’ with individual, interoperable system components being linked via a central ‘interface engine’ as they came on-line.

More recently, a paper prepared by WHO (World Health Organization, Samoa Country Office n.d.) recommends that Samoa adopt “a combination of acquisition of existing software solutions and custom-development” to integrate with existing applications.

A possible alternative approach, relying on existing open source software solutions, has also been identified but concerns have been raised regarding a perceived lack of local technical expertise and current reliance on Windows-based systems in both MOH and NHS (Festin 2015).

A number of technological solutions have previously been proposed to meet Samoa’s HIS needs.

Specific proposals were submitted by three vendors in 2014-2015: Huawei, MedTech[[4]](#footnote-4) and MedSphere[[5]](#footnote-5). Those proposals have not been reviewed in preparing this document but all three reportedly reflect the ‘buy-and-customise’ approach and encompass health services, laboratory, radiology and pharmacy together with ‘some’ finance functionality. None is described as covering human resources.

A fourth potential vendor, Populus Global, has also been identified but no further details of their offering(s) are available.

Other suggested solutions are:-

* District Health Information System 2 (DHIS2) – an open source integrated health information management system widely used in Africa and in some Pacific countries, developed under the auspices of the Health Information Systems Programme at the University of Oslo’s Department of Informatics[[6]](#footnote-6);
* ‘in-sourcing’ HIS from Counties Manukau District Health Board (CMDHB) in New Zealand – CMDHB has developed close ties with Samoa’s NHS via an institutional linkage programme and it has been suggested that NHS facilities could be treated conceptually as remote service providers within CMDHB and thus adopt CMDHB systems (with appropriate firewalls etc);
* Upgrading and linking current systems (PATIS, LOTS, laboratory, X-ray and/or public health).

It is also acknowledged that there may be other technological solutions or broader approaches which are more suitable in meeting Samoa’s HIS needs.

None of the proposals or other potential solutions referred to above has been subject to formal review by or on behalf of DFAT and the risks of adopting a solution that is driven primarily by available technology (supply-side factors) rather than a considered analysis of needs and how best they might be met (demand-side) have been highlighted.

The focus will be on identifying different solutions to Samoa’s Health needs (including but not limited to options considered so far), assessing these solutions and making recommendations. This will require some assessment of Samoa’s HIS needs and that this part of the assignment will be based on existing reviews and reports.

Development of a health information system for Samoa

In 2015 the Asian Development Bank (ADB) approved the Samoa Submarine Cable Project (Asian Development Bank 2015) through a grant of US$25 million, with additional cofinancing from the Australian Government (US$1.5 million) and the World Bank (US$16 million). Under the project, one output (funded by the ADB grant) is to support investments in a digital health information system including hardware, software, installation costs, testing and training (for US$6.5 million).

Specific activities to be covered under the output are:-

* validating the needs of the health sector and clearly defining the requirements for the system;
* conducting technical and financial due diligence;
* procuring the integrated health information system components;
* installing and configuring the system’s hardware and software components;
* connecting to all users;
* migrating data sets from existing systems and other sources;
* ensuring effective operations through comprehensive testing; and
* conducting training for users and system administrators (Asian Development Bank 2015).

The ADB’s project documentation indicates that the system will be procured as one contract through an open tender process with a consulting firm also being engaged to provide project management support to MOH for its procurement and implementation.

Based on details provided by potential vendors, coupled with analyses by WHO and others, it appears the US$6.5 million grant support provided by ADB via the Samoa Submarine Cable Project will be insufficient to meet the full cost of meeting Samoa’s HIS needs.

The Government of Australia, via DFAT, has indicated to the Government of Samoa a willingness to meet at least some of any shortfall in funding (up to AU$3 million) as part of its programme of support to the health sector. Before doing so, however, DFAT wishes to be assured that the approach that will be adopted is cost-effective.

Objective of Assignment

The objective of the assignment is to provide DFAT with recommendations on the type and design of digital health information systems that are required to strengthen the health system in Samoa, and a proposed, costed implementation plan to inform DFAT’s investment decisions. It is expected that the review will draw upon existing reports and analyses, interviews and consultations with key informants in Samoa (including representatives of government agencies and development partners such as DFAT, ADB, WHO, etc.), analysis of existing proposals and critical appraisal of relevant experience from other countries and territories. The review should also be informed by extensive knowledge of, and practical experience in, the development of enterprise-wide information technology strategies coupled with an understanding of current and likely future developments in the field of health information systems.

Scope of Work

In respect of design, the review should address the following issues (as a minimum):-

* health and health service management information needs[[7]](#footnote-7);
* readiness of the sector to adopt a health information system (consistency of data definitions, robustness of existing manual systems, adherence to standardised processes)
* information systems scope and architecture(s); and
* preferred technological approach(es) and estimated costs.

Issues relating to delivery include-

* project planning, governance and management;
* procurement and financing arrangements (including consideration of innovative approaches to financing);
* implementation and adoption factors; and
* risks and risk management.

The review should also be informed by:-

* Samoa’s experience with health information systems;
* an appraisal of proposals already put forward; and
* other countries’ and territories’ experiences in procuring and implementing equivalent systems.

Contract Details

Proposals to conduct a ‘cost-benefit’ and options review, as outlined above, are sought from suitably qualified firms using DFAT's procurement processes.

Detailed Tasks/Outputs

Details of findings and recommendations should be provided in the form of a report which addresses the issues listed under ‘Objective’ above. The report should initially be submitted to DFAT in draft form and, following review and feedback, in an agreed final form.

Team composition

Firms shall put forward the necessary number of consultants to cover the following areas;

* knowledge of contemporary approaches to HIS design and implementation;
* ability to access information on experience with similar HIS initiatives in other jurisdictions;
* expertise in large-scale information system project management, financing and procurement
* strong experience in enterprise architecture.

Communication and reporting

DFAT: Kassandra Betham, Senior Program Manager for Health and Disability, Australian High Commission, Apia, Samoa

Proposals

Proposals should detail, as a minimum:-

* understanding of the requirement and any suggested changes to the task;
* proposed approach;
* timeline (including key activities and milestones);
* consultants’’ relevant experience;
* fees and other charges.

Required reading:

* Festin, SP 2015, 'Analysis of high level requirements and implementation options for Samoa's health information system'.
* Ministry of Health 2016, 'Samoa eHealth Policy & Strategy 2016 – 2021', Ministry of Health, Samoa, Apia
* Ministry of Health 2008, ‘Health Sector Plan 2008-2018’, Ministry of Health, Samoa, Apia
* Spohr, MH 2013, 'Samoa health sector information system plan: Information system strengthening recommendations (Phase 1 - Planning and scoping)
* World Health Organization, Samoa Country Office, 'Concept Note on partnership for Samoa health information system’
* World Health Organization, Samoa Country Office May 2016, 'Samoa eHealth proposal’

Appendix F: GANTT chart

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  |  | 2017 | | | | | | 2018 | | | | | | | | | | | | 2019 | | | | | | | | | | | | 2020 | | | | | |
|  |  | Q3 | | | Q4 | | | Q1 | | | Q2 | | | Q3 | | | Q4 | | | Q1 | | | Q2 | | | Q3 | | | Q4 | | | Q1 | | | Q2 | | |
| **Component 1** | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Work closely with the World Bank and health sector to finalise the new Primary Health Care Program |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Agreement on specific activities for DFAT to fund under the Primary Health Care Program |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Implementation of the Primary Health Care Program |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Recruit Epidemiologist for the MOH Surveillance Unit |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Epidemiologist working alongside Samoan counterpart(s) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Epidemiologist prepare completion plan |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Pharmaceutical procurement specialist recruited |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Pharmaceutical procurement specialist working alongside Samoan counterpart(s) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Pharmaceutical procurement specialist prepares withdrawal plan |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Biomedical equipment procurement specialist recruited | Completed 2016 | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Biomedical equipment procurement specialist working alongside Samoan counterpart(s) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Biomedical equipment procurement specialist prepares withdrawal plan |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Biomedical equipment engineer fly-in, fly-out visits |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Component 2** | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | HIS ‘cost-benefit’ review invitation to tender issued |  | Completed 2016 | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | HIS ‘cost-benefit’ review tenders evaluated and consultant(s) appointed |  | Completed 2016 | | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | HIS ‘cost-benefit’ review |  | Completed 2016 | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | DFAT negotiations with ADB & GOS/MOH re potential support for HIS procurement and implementation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | HIS procurement and implementation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | MOH/Qld SPP activities |  | — |  | — |  | — |  | — |  | — |  | — |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | MOH/Qld SPP end-of-program evaluation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Support for sector-wide renewal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | As requested | | | | | | | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
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| **Component 3** | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | SFHA finalise design proposal |  | Completed Q2 2017 | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | SFHA implement design |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Evaluations |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Program management and M&E** | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Program Technical Adviser fly-in, fly-out visits (as needed) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | PFM review |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | M&E framework finalised |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Baseline data collection for M&E (TBC with partners) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Mid-term & Final evaluation (also dependant on individual project implementation) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Six-monthly progress report (also dependant on individual project implementation) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Annual report (also dependant on individual project implementation) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Update M&E plan (if needed and also dependant on individual project implementation) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Appendix G: Draft M&E framework - needs to be updated as necessary in line with SDS 2016-2020, Samoa’s HSP 2008-2018 and individual project designs.

This M&E framework has been designed to measure outcomes that can be realistically achieved within the timeframe of the program, as well as goals that may be achieved within a few years beyond the life of the program. The indicators have been carefully selected to ensure data is within the capacity of program implementers to collect (both in terms of time, skills and budget) or from appropriate existing Government of Samoa (GOS) data sources. The M&E Framework, including refining indicators will need to be revised and finalised to ensure relevance as activities are finalised and verifying the quality and availability of GOS data sources.

|  |  |  |  |
| --- | --- | --- | --- |
| **Goals** | | | |
| **Outcome** | **Indicator and/or monitoring question** | **Data collection method** | **Responsibility for data collection** |
| 1. NHS delivers more and better primary health care services at district level (to be confirmed in line with new primary health care program) | Proportion of the population living in communities with regular (≥ weekly) local access to core primary health care services delivered by trained health professionals. | NHS staffing & rostering data; census data | TBC |
| 2. Improved leadership and management enables a more effective health system | Examples of evidence-based change in the health sector | Assessment by Adviser (case studies) | Evaluator |
| 3. Samoan women and men, especially youth, have improved sexual and reproductive health outcomes | Increased % men and women (by age) using contraceptives  Reduced unmet need for family planning (gender and age disaggregated  Decreased Adolescent fertility rate (number of births per 1000 women aged 15-19)  Reduced Total Fertility Rate | Demographic and Health Survey (DHS)  DHS  DHS  DHS | MOH/SBS  MOH/SBS  MOH/SBS  MOH/SBS |
| **EOPOs** | | | |
| **Outcome** | **Indicator and/or monitoring question** | **Data collection method** | **Responsibility for data collection** |
| 1. Better resourcing and approaches for district-level primary health care | Increased number of district hospitals and health centres reporting that funding, human resources, surveillance interventions, pharmaceuticals and biomedical equipment meets their primary health care needs[[8]](#footnote-8) | Survey of district hospitals and health centres | TBC |
| 1. Health system staff are better equipped to effectively develop policy, deliver services and monitor performance. | Health system staff demonstrate knowledge of how to apply health information to improve their work practices  Health system staff report health sector institutional arrangements better enable them to perform their role | Survey of sample of health system staff & information from SPP & HIS reviews  Survey and/or interviews with sample of health system staff & from SPP reviews | TBC/Evaluators  TBC/Evaluators |
| 1. More women and men, including youth, are accessing SRH services | Increased numbers of women and men, including youth and people with a disability, accessing SRH services  Increased prevalence of contraceptive use | SFHA data  Demographic and Health Survey or service data | MOH/SFHA  MOH/SFHA |

| **Intermediate outcomes** | | | |
| --- | --- | --- | --- |
| **Outcome** | **Indicator and/or monitoring question** | **Data collection method** | **Responsibility for data collection** |
| 1.1 NHS explores and replicates effective approaches for delivering district level primary health care (to be confirmed in line with new primary health care program) | Proportion of the population living in communities where tailored district-level primary health care approaches are being introduced[[9]](#footnote-9) | NHS plans for new services; census data | TBC |
| Proportion of the population living in communities where tailored district-level primary health care approaches have been embedded on a longer term basis[[10]](#footnote-10) | NHS staffing & rostering data for embedded sites; census data | TBC |
| 1.2 MOH M&E of primary health care models informs better policy on district-level primary health care (to be confirmed in line with new primary health care program) | Proportion of tailored district-level primary health care approaches that have been subjected to formal M&E by MOH | MOH M&E records/reports; interviews | TBC |
| MOH timely dissemination of M&E findings on primary health care models to key stakeholders, especially NHS, in a user-friendly format | MOH M&E records/reports; interviews | TBC |
| MOH ability to specify needs for primary health care services at district level based on analysis of evidence | Needs analysis reports produced by MOH | TBC |
| NHS decisions on replication of tailored district-level primary health care approaches are based on evidence | Business cases prepared for replication of approaches | TBC |
| 1.3 Health services, including primary care services, have access to the supplies and equipment and surveillance interventions they need to be effective | Reduced number of reported stock-outs of pharmaceuticals | NHS records from hospitals and health centres | Pharmaceutical procurement specialist |
| Change in prices paid for a defined ‘basket’ of pharmaceuticals and other supplies/equipment | NHS finance reports | NHS Finance; Pharmaceutical & biomedical procurement specialists (to define ‘basket’ of good) |
| Biomedical equipment maintained according to standard schedules | NHS records from hospitals and health centres | Biomedical engineering advisor (NHS) |
| Reduced waiting time to replace or repair damaged biomedical equipment  Surveillance Information available in an accurate and timely manner to inform public health intervention | NHS records from hospitals and health centres  MOH surveillance records | Biomedical engineering advisor (NHS)  Epidimeologist  (MOH) |
| 2.1 Senior leaders and managers have access to reliable information and analysis to inform policy and oversight | Increase in routine use of health information by senior leaders and managers to inform decision-making (as evidenced by use of up-to-date performance/activity data in routine reports) | Review of routine reports or from SPP reviews and evaluations | TBC / SPP |
| Growth in frequency of senior leaders and managers accessing health information system following its introduction[[11]](#footnote-11) | Health information system utilisation logs (analysed by staff cohort) | Health information system manager (MOH) (TBC) |
| 2.2 The health workforce has access to information required to plan, deliver and monitor services | Increased uptake of health information system by managers and clinicians working at operational levels11 | Health information system utilisation logs (analysed by staff cohort) | Health information system manager (MOH) (TBC) |
| 2.3 Health sector institutional arrangements are better adapted to Samoa’s health needs | Consensus between key health stakeholders on priority institutional issues to address | Interviews & observations | Evaluators |
| Growth in number of formal agreements relating to service delivery between MOH and NHS | Review of formal documentation through SSP | MOH |
| 3.1 SFHA has improved organisational performance (e.g. clear role and strategic direction, management) | SFHA has documented strategic plan that is endorsed by DFAT, implemented and monitored | Preparation of plan completed; reports on towards plan targets/goals | SFHA |
| SFHA financial management meets requirements for donor funding | DFAT assessment of financial management systems and processes | DFAT |
| 3.2 SFHA services are delivered in locations and in ways that are affordable, accessible and appropriate. | Increased numbers of men and women, including youth, accessing SFHA's SRH services[[12]](#footnote-12)  Increased # contraceptives distributed by SFHA | SFHA clinical records  SFHA clinical records | SFHA  SFHA |
| 3.3 SFHA implements innovative solution(s) to improve SRH service delivery | Proportion of the population[[13]](#footnote-13) living in communities with regular (≥ quarterly) local access to sexual and reproductive health services delivered by SFHA12 | SFHA clinical records; census data | SFHA |
| Proportion of the non-urban population living in communities with regular (≥ quarterly) local access to sexual and reproductive health services delivered by SFHA12 | SFHA clinical records; census data | SFHA |

Appendix H: Risk management plan (external)

Appendix I: Position descriptions/Terms of reference (external)

1. This situation is not unique to Samoa. For example, similar challenges arose following the introduction of a ‘purchaser/provider’ arrangement in the British NHS where most senior staff had gained experience in service delivery and few had the expertise needed to operate effectively as funders/commissioners of health services. [↑](#footnote-ref-1)
2. https://www.corumhealth.com.au/products/lots-one [↑](#footnote-ref-2)
3. https://www.corumhealth.com.au/products/lots-one [↑](#footnote-ref-3)
4. http://www.medtechglobal.com/ [↑](#footnote-ref-4)
5. http://www.medsphere.com/ [↑](#footnote-ref-5)
6. https://www.dhis2.org/inaction [↑](#footnote-ref-6)
7. It is anticipated that information needs will largely be identified using a ‘normative’ approach and by drawing analogies with other, similar health systems. A detailed information needs analysis is not considered to be necessary. [↑](#footnote-ref-7)
8. Additional indicators under EOPO 1 will need to be added to reflect the work of the district-level PHC approaches, once the new PHC program is finalised. [↑](#footnote-ref-8)
9. Possible alternative is proportion of NHS resources allocated to new district-level primary health care approaches [↑](#footnote-ref-9)
10. Possible alternative is proportion of NHS resources allocated to embedded tailored district-level primary health care approaches [↑](#footnote-ref-10)
11. Use of these measures will only become feasible after the health information system has become operational [↑](#footnote-ref-11)
12. Measures relating to SFHA service delivery may need to be revised following completion of the SRH design [↑](#footnote-ref-12)
13. [↑](#footnote-ref-13)