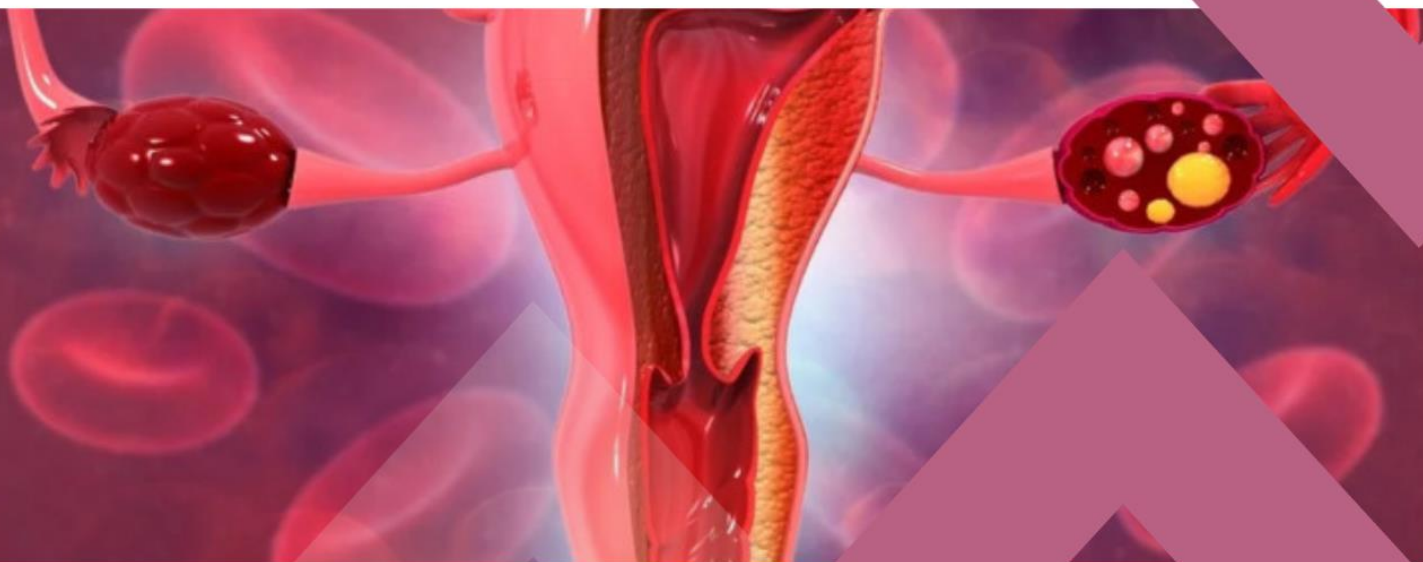




2023

SAMOA CERVICAL CANCER ELIMINATION STRATEGY



MINISTRY OF HEALTH

Acknowledgements

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Samoa Cancer Society

Samoa Family Health Association:

MOH Tupua Tamasese Meaole Hospital Staff:

- Obstetric and Gynaecology
- Maternity Ward
- Emergency Department
- Laboratory

MOH MTII Hospital Staff

Public Health Facilities:

- STI Clinic
- EPI Coordination Unit
- Satupaitea District Hospital Staff
- Foailalo District Hospital Staff
- Sataua District Hospital Staff
- Safotu District Hospital Staff
- Leulumoeaga District Hospital Staff
- Faleolo Health Centre Staff
- Lufilufi Health Centre Staff
- Lalomanu District Hospital Staff
- Sa'anapu Health Centre Hospital Staff

MOH Corporate Governance and Regulations:

- Office of the Director General
- Health Information & Communication Technology
- Health Information Services and Monitoring & Evaluation
- Quality Assurance and Infection Control
- Human Resources and Administration
- Finance and Procurement

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Foreword

Cervical Cancer is a devastating disease that affects women in the prime of their lives with grater personal, family and societal impact. It is the second most common female cancer and second most common cause of cancer death among women globally.

Cervical Cancer ranks as the 7th most frequent cancer among women in Samoa and the 4th most frequent cancer among women between 15-44 years of age.

This Cervical Cancer Elimination Strategy for Samoa (2023) is developed in collaborative effort among health sector partners and stakeholders both in public and private health sectors, aiming at eliminating cervical cancer in Samoa.

Cervical cancer is entirely preventable through vaccination against cancer-causing strains of HPV, periodic cervical screenings and if necessary, treatment of cervical lesions before they can develop into cancer. If girls and women can access these interventions, I firmly believe, Samoa can end cervical cancer as a threat to women's health.

The Ministry of Health in collaboration with its development partners are able to implement HPV vaccination for eligible girls and women in Samoa as a tool to prevent and detect cervical cancer early. Nevertheless, having these interventions and financial support for care is not enough to eliminate cervical cancer as a public health problem.

We must also coordinate efforts among key stakeholders, healthcare providers, community based organizations, and others to raise awareness among communities that these services are available and to improve access and availability of these services across the country.

Hence, it is very important for us, Samoa's health sector to work as a health family through whole-of-country and multi-sectoral approach to implement this strategy to spearhead our national public health progress to address and eliminate cervical in Samoa.

Ma le fa'aaloalo lava.



Aiono Dr. Alec Ekeroma

DIRECTOR GENERAL OF HEALTH

Contents

Acknowledgements	1
Foreword.....	2
Introduction	4
<i>Rationale, objectives and principles for new policies and strategies for the elimination of cervical cancer in Samoa.....</i>	5
Policy Rationale	5
Objectives	5
Guiding Principles	5
<i>Samoa Cervical Cancer Situational Analysis</i>	6
Cervical Cancer Risk in Samoa	6
HPV Vaccination	9
Cervical Cancer Screening	10
Treatment of Cervical Cancer	11
Management of Cervical Cancer Patients.....	11
HPV Testing and Treatment	12
<i>Policy Directions</i>	13
1. Vision:	13
2. Mission:.....	13
Cervical Cancer Elimination Outcomes	13
Priority Areas and Strategic Actions	13
Strategies	14
<i>Action Plan.....</i>	15
Key Actions to achieve strategies for the elimination of cervical cancer	15
<i>Monitoring and Evaluation</i>	20
Monitoring and Evaluation Framework.....	20

Introduction

Cervical cancer has been identified as an important public health threat and concern for the women of Samoa. It is the second-most common cancer affecting women in Samoa, and the most common cancer for Samoan women aged 15-44.^{1,2} . It is estimated that Samoa's incidence of cervical cancer is the sixth highest of 26 countries in the Asia-Pacific region. In 2019 WHO indicated an age-standardised rate (ASR) for cervical cancer of 12.4 per 100,000 women for Samoa.

Cervical cancer is caused by the human papilloma virus (HPV), and HPV vaccination is the key long-term answer to the elimination of cervical cancer. While HPV vaccination has begun this year for school girls aged 12-18 in Samoa, cervical cancer mostly affects women in their late 30s to early 40s – typically, when women are at their most economically productive and responsible for many important community and family roles. Cervical cancer is easily prevented if pre-cancers are detected and treated early, but at present Samoan women unnecessarily die each year as a result of late-stage diagnosis of cervical cancer.

The Pacific Islands Forum in 2015 identified cervical cancer as one of the top three regional priorities. In November 2020, the World Health Organisation launched a Global Strategy to accelerate the elimination of cervical cancer as a public health problem. The WHO set targets for all countries:

- To reach and maintain an incidence rate of below four per 100,000 women by 2030

This goal rests on three pillars:

- 90% of girls fully vaccinated with the HPV vaccine by the age of 15;
- 70% of women screened using a high-performance test by the age of 35, and again by the age of 45;
- 90% of women with pre-cancer treated and 90% of women with invasive cancer managed

This document outlines a vision for the elimination of cervical cancer in Samoa and a set of strategies and actions to move Samoa toward the elimination of new diagnoses of cervical cancer. It intends to provide cervical cancer elimination policies and strategies, including vaccination of girls (and boys); widespread screening of women for HPV; treatment of those testing positive for HPV; and treatment and management of those women with cervical cancer. These issues are important in establishing a platform for action and mobilising resources and communities.

¹ Rijnberg, V. Is point-of-care cervical cancer screening cost-effective for Samoa? A cost-utility analysis based on a cohort Markov model. *Pacific Journal of Reproductive Health*

² Parkin D, Maxwell K, Louie S, Clifford G. Burden and Trends of Type-Specific Human Papillomavirus Infections and Related Diseases in the Asia Pacific Region. *Vaccine* 2008. Volume 26, no. Supplement 12 (2008/08/19/2008): M1-M16

Rationale, objectives and principles for new policies and strategies for the elimination of cervical cancer in Samoa

Policy Rationale

While Samoa's Health Sector Plan 2019/20 –2029/30 indicates that the vaccination against human papillomavirus of 9-13 year old girls and the screening and prevention of cervical cancer is one of the 16 best health 'buys' for Samoa, there is only one line allocated to cervical cancer, that is: to increase "the coverage of the national cervical cancer screening program"³. It also makes a dubious claim that the prevalence of cervical cancer in women aged 20 years and over has reduced by 50% from 2016-2017.⁴ The Health Sector Implementation Plan 2019/20-2029/30 calls for national cervical screening (p.13) and for an 80% national cervical screening coverage "depending on age" (p.27), and argues that screening should happen every 3-5 years.

Objectives

The main objective of this policy is to provide a framework to comprehensively address the elimination of cervical cancer in Samoa through the systematic implementation of evidence-based interventions for HPV vaccination, cervical cancer HPV screening, timely diagnosis, treatment, and palliative care. It sets in place strategies to increase awareness of the local burden of disease, set priorities for elimination (long-term) and the treatment and management of cervical cancer based on evidence-based strategies in order to allocate sufficient funding to achieve targets to reduce morbidity and mortality relating to cervical cancer and to work towards its elimination.

Guiding Principles

The implementation of this policy will be guided by the following principles:

1. **Multi-sectoral approach:** Cervical cancer can only be addressed fully through involving both health and non-health sectors. This will be achieved through a coordination and partnership framework.
2. **Ownership:** Engagement and buy-in of stakeholders will ensure effective implementation of this policy.
3. **People-centred approach** that focuses on interventions that are responsive to women's needs.
4. **Quality of care** will be safeguarded in order to achieve desired outcomes in cervical cancer care.
5. **Evidence-based:** all efforts to tackle cervical cancer in Samoa will be guided by recognised best practices and scientific evidence and supported through monitoring and evaluation and research.

³ p.56

⁴ It argues that a drop in the number of patients with cervical cancer admitted to TTM from 16 in 2016 to 8 in 2017 indicates a drop in prevalence (2021, p.45)

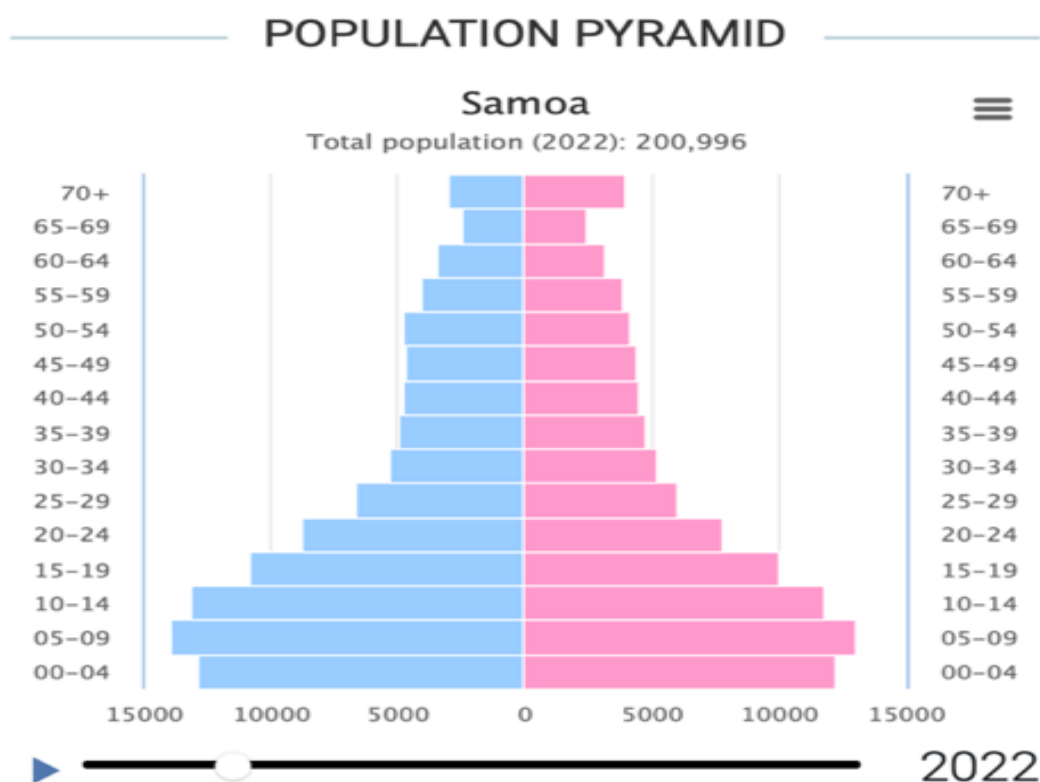
6. **Equity, social justice and universal coverage:** there is recognised need to ensure equitable access for all to HPV vaccination, cervical cancer testing, treatment and care with a focus on vulnerable women and girls.
7. **Cost-effectiveness:** prioritising the allocation of resources to cancer elimination interventions that have the potential to yield the greatest improvement in health for the least resources.
8. **Accountability:** The policy to be implemented within a clear accountability framework.
9. **Appropriate technology** harnessed to support the delivery of gold standard quality HPV vaccination and HPV testing to prevent cervical cancer and to deliver best care for women with cervical cancer.

Samoa Cervical Cancer Situational Analysis

Cervical Cancer Risk in Samoa

While HPV vaccination of girls (and boys) holds the key to the elimination of cervical cancer there are two generations of Samoan women who will not be vaccinated and who may be at risk of cervical cancer. According to the 2021 census there are 98,104 women and girls in Samoa.⁵ The population pyramid provided by the Pacific Community's Statistics Division (Table 1) indicates that there are 40,724 women in the age-group most at risk of cervical cancer (20-59 years).

Table 1: Population Pyramid 2022



⁵ Samoa Bureau of Statistics.

Over the years the Tupua Tamasese Meaole (TTM) hospital gynaecology services have observed an increasing number of women diagnosed with gynaecological cancers, and cancer of the cervix and uterus were the most common. Moreover, data provided by the TTM Hospital Laboratory (Table 2) show that in the last 5 years, on average, 7 women are diagnosed per annum.

Table 2: Cervical Cancer Data 2012-2021 (TTM Hospital Laboratory)

Year	Total Cervical Specimens Received	Cervical Cancer	Age Range	% with cancer	Total Pap Smears	Total Cytology Cases
2012	38	15	20-70*	40	ND	ND
2013	19	6	20-75*	32	ND	ND
2014	29	13	20-80*	45	10	ND
2015	23	8	20-85	35	61	ND
2017	39	5	42-62	13	188	384
2018	35	8	36-64	23	161	362
2019	30	10	33-73	50	148	404
2020	43	6	40-56	14	61	305
2021	27	8	48-62	30	9	254

*1 of unknown age

NB: there are small discrepancies between cc specimens and admissions to hospital (Table 3)

Cervical cancer admission to TTM, age and date of death from 2018 -2021 are provided in Table 3

Table 3: patient data: date of diagnosis, age and date of death (2018-2021)

2018			2019			2020			2021			2022		
Date of Admission (Diagnosis)	Age at diag.	Date of death	Date of Admission (Diagnosis)	Age at diag.	Date of death	Date of Admission (Diagnosis)	Age at diag.	Date of death	Date of Admission (Diagnosis)	Age at diag.	Date of death	Date of Admission (Diagnosis)	Age at diag.	Date of death
01/18	63	05/18	02/19	45	06/21	02/20	53	08/20	01/21	62	05/21	01/22	55	09/01
02/18	60		05/19	64		02/20	35		01/21	42		02/22	64	26/08
03/18	43	07/18	05/19	67	07/19	02/20	49	06/20	01/21	64	03/21	05/22	45	
04/18	54		06/19	61	01/21	04/20	44		01/21	51	01/21	07/22	46	
05/18	50	10/18	06/19	68		06/20	63	06/20	01/21	55		08/22	39	12/08
07/18	78	08/18	07/19	40	10/19	07/20	58	08/20	01/21	57		08/22	63	12/08
08/18	66	08/21	08/19	60		08/20	61		01/21	55	01/22	08/22	63	
08/18	78		11/19	55		08/20	48		02/21	47		08/22	65	
10/18	48	01/21				09/20	42		02/21	59		08/22	47	
12/18	45					12/20	54		02/21	56		09/22	49	
									03/21	53		09/22	65	
									03/21	71		09/22	46	
									04/21	67		10/22	50	
									04/21	69	07/21	10/22	68	
									09/21	49		11/22	50	
									10/21	36		12/22	54	
									11/21	49				
									12/21	29	12/21			

Data in Table 3 indicate that of the 46 women admitted to TTM and diagnosed with cervical cancer between 2018-2022 (5 years), 20 women (43%) or nearly half have since died, and the average time from diagnosis to death was just under 11 months. The average number of deaths per year was five. The average age at diagnosis was 54 years old.

Samoa does not have a functioning Cancer Registry. Without a fully-functioning Cancer Registry it is not possible to reliably calculate the actual latest incidence of, and mortality rates for, the most common cancers affecting the Samoan population, including for cervical cancer. There is, however, a plan for a Cancer Centre which should be operational in 2024 and use a Registry.

HPV Vaccination

After a delay due to COVID-19, HPV vaccination was rolled out across Samoan schools from July 2022. This program was funded by the Government of Samoa and the Asian Development Bank as part of the \$29.7 million System Strengthening for Effective Coverage of New Vaccines in the Pacific Project. This project with the assistance of the United Nations Children's Fund (UNICEF), is supporting the introduction of three new vaccines- Rotavirus, Pneumococcal and HPV, in the Childhood Routine Vaccination programmes in Samoa, Tonga, Tuvalu, and Vanuatu. The HPV vaccine utilised was the bivalent Cervarix vaccine as Gardasil was not available at the time, but there are plans to move to using Gardasil in the near future.

Consultations were held with village women's committees, church groups and other stakeholders, prior to the roll-out and consent was obtained from parents. There were low rates of refusal and little anti-vaccination sentiment expressed. This may be because the discourse of the stigma of HPV as a sexually transmitted infection has been replaced by the fact that HPV causes cervical cancer and death. In fact, during the rollout some mothers were keen to be vaccinated alongside their daughters. For the initial introduction of the HPV vaccine, all schools in Upolu and Savaii were targeted. A total of 8,589 girls from Year 8-13 were vaccinated for HPV, including girls in special schools for those with disabilities (see Table 4 below). This equates with approximately 85% of girls enrolled in school.⁶

Table 4: School-based vaccinations (Girls in Year 8 to Year 13): 2022

Upolu	# vaccinated
LEULUMOEKA	1203
FALEOLO	403
POUTASI/SAANAPU	786
LALOMANU	299
LUFILUFI	337
AUA	2583
Total Upolu	6485
Savaii	
TUASIVI	761
SATUPAITEA	378
FOAILALO	333
SATAUA	242
SAFOTU	390
Total Savaii	2104
GRAND TOTAL	8589

The 2023 rollout has begun and to date (September 2023) the coverage is around 70%. In the future, girls in Year 8 will be vaccinated on an annual basis.

The challenge remains (and this is a priority for the Ministry of Health) to vaccinate out-of-school and marginalised girls 18 and under (who may be sexually active earlier and thus more at risk of HPV infection). Reaching out to these groups needs to be coordinated and rolled out

⁶ Samoa Bureau of Statistics (2019 school enrolments Years 8-13).

in conjunction with the Ministry of Women Community and Social Development and local NGOs and Women's Committees.

This first roll-out was a great success. The EPI Team is in the process of Round 2, targeting girls (13 years old) in Year 8. There are plans for lowering the age to 10 years old – Year 6 - with a catch-up for year 7, and to vaccinate boys (although this is not possible under the current funding).

Cervical Cancer Screening

The Pap Smear Test has until recently been the only cervical screening test carried out in Samoa. With no organised outreach, screening has been carried out in an opportunistic manner, mainly women aged 25-65 years old who attended gynaecology clinics, family planning, and antenatal clinics at the two main hospitals (where conditions were not ideal due to overcrowding and lack of privacy), as well as Samoa Family Health clinics and private practices. Few women have turned up to public health facilities requesting a Pap Smear and generally smears are not done for many antenatal clinic patients, as most mothers only attend clinic in the late second to third trimesters. Up until 2017, only women who attended for gynaecological consultations were offered Pap Smears, and there was not a screening programme in place.

While midwives and nurses at other district hospitals could do this work, at present, no cervical examinations or Pap Smears are carried out at district hospitals. Women are referred to the two main hospitals if they present with pain, bleeding or discharge. Moreover, at the present time, there is no cervical screening being carried out either at TTM or at the Public Health STI Clinic (which refers to TTM all women presenting with syndromes not related to STIs). This is borne out by a large drop in the number of slides tested: from 1814 in the years 2000-2005, to 1176 between 2006-2011, and in the last five years just 567 Pap smears were carried out⁷ (see Table 2). These data represent a very small and reducing proportion of women in the age group where screening is most needed.

Table 5: Pap smears years 2000-2012; 2017-2022

	# Pap Smears	Negative results	# with cancer	% with cancer	# unsatisfactory smears
Year					
2001-2005	1814	1362	35	1.9	220
2006-2011	1176	862	34	2.9	207
2017-2021	567	530	37	5.7	ND

NB: no data 2012-2016

The lack of pathology services is one of the major reasons for the extremely low rate of cervical cancer screening in Samoa in the last five years. Earlier data from 2000-2005 indicate that cytology was carried out at the TTM hospital, and from the year 2006-2011 Pap Smears were sent to Australia to the Victoria Cytology Service laboratory in Melbourne, for processing and reporting. In the years since 2012 there has been no full-time pathologist at TTM Hospital. While a new pathologist has been appointed to TTM Hospital, as at September 2022 there was

⁷ No data is available for 2012-2016

a backlog of 121 Pap Smears from as far back to 2018 that had not been processed.⁸ This backlog has now been processed and this should free up the laboratory for increased screening.

Data collected between 2001 -2011 also indicated a high percentage of unsatisfactory pap smears (see Table 5). The authors indicate a need for training for doctors and nurses on doing Pap Smears. The expectation should be a rate of unsatisfactory pap smears of under 5%.

Treatment of Cervical Cancer

Samoa does not have the capability to treat cervical cancer, and therefore, some women with Stage 1 and 2 cancers (who are in the public system) are transferred to New Zealand (or, for a period of time, to India) for treatment. Since 2016, only 17 women have been sent overseas for cervical cancer treatment (see Table 6). While very few women who apply are declined, in the relevant period only a third of women were eligible.

Table 6: Overseas Treatment for Cervical Cancer							
	Age Group	Carcinoma Cervix Stage	Referred to OVT	Approved	Declined	Travel for Treatment	*Refusal of Treatment
2022	60-68	II	1	1	0	1	0
2021	60-65	II	2	1	1	1	0
2020	35-75	II, III	4	4	0	4	0
2019	45-65	I, II, III	5	5	0	4	1
2018	50-60	II, III	3	2	1	1	1
2017	40-70	I, IV	3	3	0	3	0
2016	40-50	IB	3	3	0	3	0

However, most women present for diagnosis with late stage cancer (often to the Emergency Department to stabilise bleeding). More affluent women who are diagnosed (mostly earlier) in the private sector go to New Zealand for treatment.

Management of Cervical Cancer Patients

Management of patients with cervical cancer occurs through the Samoa Cancer Society and some District Hospitals. District Hospitals assist a small number of women with late stage cancer with pain relief and antibiotics. The Samoa Cancer Society offers support to women after diagnosis, mainly with palliative care for late stage cancer. This includes navigating the health service, teaching women and their families about home care and with medication. They have supported ten women since 2018, of whom only two are still alive.

⁸ Pers. Comm Dr Seventeen, TTM

HPV Testing and Treatment

According to WHO, the gold standard for screening and testing for cervical cancer is HPV testing which looks for the DNA of virus (human papillomavirus) that can cause these cell changes. HPV16 and 18 are the major oncogenic types (especially 16), so testing tends to concentrate on identifying these types. The big advantage of HPV testing is that those women who test negative for HPV do not need a pelvic examination. The development of rapid molecular methods for detecting HPV DNA for screening and treating is a milestone in cervical screening in low-resource settings, making screening more feasible in the future and reducing the infrastructural requirements of previous screening programmes. Reviews comparing the different screening tools in LMIC, indicate that once in a lifetime testing with HPV had a superior sensitivity and greater reduction in cervical cancer incidence compared to VIA or cytology testing (Pap smear)^{9,10} However, the HPV strategy is more expensive than VIA.

A triage strategy has also been clinically tested where point-of-care HPV DNA testing of specimens and same-day thermal ablation are carried out. Work carried out by Rinjberg et al (2022)¹¹, indicated that 5-yearly HPV one-step screening programmes with treatment of pre-cancerous lesions using cryotherapy would be highly cost-effective for Samoa, and would save the most years of life. Rinjberg et al (2022)¹ also recommend a point-of-care cervical cancer screening programme as a planning tool for policy-makers, and a way to contribute data on HPV prevalence that can inform decisions about cervical cancer programmes in the future. Ultimately, screening is a necessary component among several in a wider strategy for combatting cancer in Samoa.

Samoa Family Health Association has a grant from the Australian Government's Department of Foreign Affairs and Trade (DFAT) to enable them to carry out HPV DNA screening and testing in their clinic. This will reach around 200 women a month and will provide an indication of how HPV testing might work in the wider public health system. This was due to commence in 2022, however due to COVID-19 there were delays in shipping of equipment, as well as approvals including business licenses and work visas, and being able to get in-country to set up the lab. Final preparations are being made for opening the laboratory, in the first week of October. The laboratory will be based at Samoa Family Health Association.

⁹ Vu, M., Yu, J., Awolude, O. A., & Chuang, L. (2018). Cervical cancer worldwide. *Current problems in cancer*, 42(5), 457-465.

¹⁰ Rizzo, A. E., & Feldman, S. (2018). Update on primary HPV screening for cervical cancer prevention. *Current problems in cancer*, 42(5), 507-520.

¹¹ Rinjberg, V. Is point-of-care cervical cancer screening cost-effective for Samoa? A cost-utility analysis based on a cohort Markov model. *Pacific Journal of Reproductive Health*

Policy Directions

1. Vision:

The vision of the policy is the elimination of cervical cancer in Samoa within two generations.

2. Mission:

To eliminate HPV in girls (and boys) through HPV vaccination and to reduce the preventable burden, incidence, morbidity and mortality due to cervical cancer. This should be done through multisectoral and multi-disciplinary collaboration and cooperation so that Samoan women can reach the highest attainable standards of reproductive health, quality of life and productivity throughout their life course.

Cervical Cancer Elimination Outcomes

To move towards the goal of cervical cancer elimination, it will be necessary to ensure that Samoa is in a position to implement gold standard HPV vaccination, HPV testing and treatment where necessary, as well as cervical cancer treatment and palliative care, based on current scientific evidence.

The Goal is to ensure by 2030:

- 85% of all girls (both in and out of school) over the age of 12 years are vaccinated against HPV.
- 50% of Samoan women by age 35 are tested for HPV; and that
 - 90% of those testing positive for HPV undergo pelvic examination, with treatment if necessary via thermal ablation or referral for gynaecological review and colposcopy
 - 90% of those who are referred for gynaecological review with signs of pre-cancers are referred for specialist treatment.
- 90% of those diagnosed with early stage cervical cancer are treated.
- 90% of those diagnosed with late stage cancer are managed, and obtain palliative care.

Priority Areas and Strategic Actions

The Plan identifies the following five strategic actions:

1. Improve cervical cancer program organisation, governance and information systems;
2. Create an enabling environment for cervical cancer elimination; and
3. Improve cervical cancer screening and precancer treatment through innovative strategies;
4. Improve access to services for cancer diagnosis, treatment, rehabilitation, and palliative care;
5. Build health worker capacity to diagnose, treat, and manage cervical cancer; and
6. Strengthen linkages and referral systems.

Strategies

1. Improve cervical cancer programme organisation and governance, and information systems

- Establish required leadership, governance and coordination for a national programme.
- Endorse the National Cervical Cancer Programme Strategy and Plan, with targets and milestones for 2030 in line with sexual and reproductive health, HIV/STIs, and health system plans.
- Improve cervical cancer information systems and access to cancer data.

2. Create an enabling environment for the elimination of cervical cancer

- Strengthen partnerships at every level – other sectors, stakeholders and relevant disciplines.
- Strengthen advocacy for cervical cancer at all levels.
- Mobilise communities for HPV vaccination and HPV screening

3. Improve cervical cancer screening and precancer treatment through innovative strategies

- Ensure access to HPV vaccination of year 8 girls and boys, including those out of school.
- Ensure access to HPV testing kits for screening.
- Increase numbers of women accessing cervical visual inspections and thermal ablation to treat abnormal cervical lesions
- Undertake HPV DNA testing using GeneXpert equipment.

4. Improve access to services for cancer diagnosis, treatment, management, and palliative care

- Those with abnormalities referred for gynaecological review
- All women attending gynaecological review have pap smears
- Increase access to overseas treatment for those with early stage cervical cancer
- Strengthen management and care of women with cervical cancer
- Strengthen palliative care for patients with invasive cancer within District Hospitals and through Samoa Cancer Society

5. Build health worker capacity to diagnose, treat, and manage cervical cancer

- Build capacity of health workers to undertake HPV screening
- Build capacity of health workers to carry out cervical visual inspections for those testing HPV-positive, and to utilise thermal ablation to treat abnormal cervical lesions
- Build capacity of staff to utilise HPV DNA testing using GeneXpert
- Update knowledge and skills on treating and managing cervical cancer
- Strengthen ability of health staff and Samoa Cancer Society to manage palliative care patients

6. Strengthen linkages and referral systems

- Improve and coordinate district hospitals, and community health information systems
- Strengthen communication system between hospitals and clinics
- Improve the referral pathway for the programme

Action Plan

Key Actions to achieve strategies for the elimination of cervical cancer				
Strategy	Outcomes	Activities	Timeframe	Responsibility
Strategy 1: Improve cervical cancer program organization and governance and information system				
1.1 Establish required leadership, governance and coordination for a national programme	National Cancer Committee (N3C) is established.	Develop a terms of reference for the N3C that defines the role, sets out the responsibilities of stakeholders and defines the frequency of committee meetings.	28.02.23	MoH and other stakeholders
1.2 Formulate a monitoring and evaluation (M&E) framework for the National Cervical Cancer Action Plan, with targets and milestones for 2030	M&E framework is endorsed by N3C	Develop an M&E framework in consultation with stakeholders and seek endorsement.	30.06.23	N3C
1.3 Proceed with design National Cervical Cancer Action Plan and programme implementation	Programme up and running		31.07.23	N3C
1.4 Improve cervical cancer information systems and access to cervical cancer data	Cancer Registry is fully functional Regular population-based data produced on incidence and mortality relating to cervical cancer	Review and update Cancer Registry and produce regular reporting.	30.06.23 From 30.07.23	MoH

Key Actions to achieve strategies for the elimination of cervical cancer				
Strategy	Outcomes	Activities	Timeframe	Responsibility
Strategy 2: Create an enabling environment for cervical cancer elimination				
2.1 Strengthen partnerships at every level – other sectors, stakeholders and relevant disciplines	Partners fully on board for promotion of cervical cancer elimination.	Develop and establish Memorandum of Understanding with various stakeholders.	From 1.07.23	N3C plus stakeholders
2.2 Strengthen advocacy for cervical cancer at all levels	Increased awareness of cervical cancer among the public.	Work with various stakeholders conduct campaigns to raise awareness of cervical cancer that are culturally appropriate and widely disseminated through different mediums	From 1.07.23	N3C + Samoa Cancer Society
2.3 Mobilize communities for HPV vaccination and HPV screening	More out-of-school girls and boys and people with disabilities are vaccinated.	Work with relevant government department and NGOs to access girls (and boys) out-of-school and other marginalised groups.	From 1.07.23	N3C, SCS, plus stakeholders
Strategy 3: Improve cervical cancer screening and precancer treatment through innovative strategies				
3.1 Increase access to HPV vaccination for all eligible girls (and boys) including those out-of-school and marginalised	85% of all girls (and boys), both in and out of school, over the age of 12 years are vaccinated against HPV.	Continue conducting HPV vaccination in-schools. Work with non-government organisations to reach out-of-school girls and boys for HPV vaccination.	31.12.24	MoH plus stakeholders
3.2 Ensure access to HPV testing kits for screening	Fully stocked HPV test kits are regularly available	Track and maintain supply of HPV testing kits.	Ongoing from 30.06.23	MoH

Key Actions to achieve strategies for the elimination of cervical cancer				
Strategy	Outcomes	Activities	Timeframe	Responsibility
3.3 Increase numbers of women accessing cervical visual inspections and thermal ablation to treat abnormal cervical lesions	50% of Samoan women by age 35 are tested for HPV; and that 90% of those testing positive for HPV undergo pelvic examination, with treatment if necessary via thermal ablation	Provide training to health workers to conduct visual inspections and thermal ablation and offer the services to women.	31.12.24	TTM
3.4 Undertake HPV DNA testing using GeneXpert equipment.	HPV testing is rolled out and all samples are processed in a timely manner	Procure equipment and supplies to conduct HPV testing. Provision of materials/reagents for the interpretation of specimens	By 31/12/23	TTM
Strategy 4: Improve access to services for cancer diagnosis, treatment, management, and palliative care.				
4.1 Those with abnormal presentations treated with thermal ablation or referred for gynaecological review.	All women treated Those with cervical abnormalities reviewed by a gynaecologist	Develop guidelines and conduct training for screening.	By 31/12/23	TTM
4.2 All women attending gynaecological review have Pap Smears	All women reviewed by gynaecologist have Pap Smear tests	Develop guidelines and conduct refresher training for doing Pap Smears and biopsies Train pap smear screeners Enable ongoing support for Pathologist interpretation of the pap smears Utilise liquid based cytology	By 31/12/23	TTM

Key Actions to achieve strategies for the elimination of cervical cancer				
Strategy	Outcomes	Activities	Timeframe	Responsibility
4.3 Increase access to overseas treatment for those with early-stage cervical cancer.	All women with early-stage treatable cervical cancer are sent overseas for treatment	Increase budget allocation for overseas treatment of early-stage cervical cancer.	By 31/12/23	MOH Committee
4.4 Strengthen management and care of women with cervical cancer	All women have access to quality management and care		By 31/12/23	TTM
4.5 Strengthen palliative care for patients with invasive cancer within District Hospitals and through Samoa Cancer Society	All women have access to quality care including pain management, social and psychological support	Continue and expand support to patients and families of patients.	By 31/12/23	TTM, Samoa Cancer Society
Strategy 5: Build health staff capacity for delivery of cervical cancer prevention, screening, treatment and management services				
5.1 Build capacity of health workers to undertake HPV screening	Staff are able at both district and main hospital to undertake HPV screening via swab	Training of staff at district hospitals to screen for HPV	By 30/06/23	TTM and trainers
5.2 Build capacity of health workers to carry out cervical visual inspections for those testing HPV-positive, and to utilise thermal ablation to treat abnormal cervical lesions	Staff at main hospitals able to undertake visual inspections and to use thermal ablation	Training on VIA inspection and thermal ablation	By 30/06/23	TTM and trainers

Key Actions to achieve strategies for the elimination of cervical cancer				
Strategy	Outcomes	Activities	Timeframe	Responsibility
5.3 Build capacity of staff to utilise HPV DNA testing using GeneXpert	Laboratory staff at main hospitals can process HPV tests	Training of staff at TTM and MT2 to use GeneXpert machines to test for HPV 16.18.	By 30/06/23	TTM and trainers
5.4 Update knowledge and skills on treating and managing cervical cancer	Staff are able to offer quality care for those with cervical cancer	Training on management of patients with pre-cancers and early stage cervical cancer	By 30/06/23	TTM and trainers
5.5 Strengthen ability of health staff and Samoa Cancer Society to manage palliative care patients	Patients with late stage cancer receive highest quality care and support	Training on pain management and other palliative care for patients.	By 31/12/23	TTM and trainers
Strategy 6: Strengthen linkages and referral systems				
6.1 Improve and coordinate district hospitals, and community health information systems	Coordinated HIS		By 31/12/23	N3C and experts
6.2 Strengthen communication system between hospitals and clinics	Information shared between TTM and MT2 and district hospitals		By 31/12/23	N3C
6.3 Improve the referral pathway for the program	Coordinated referral systems and mechanisms so no loss to follow-up		By 31/12/23	N3C and experts

Monitoring and Evaluation

Monitoring is important to determine whether the programme is meeting its objectives effectively and efficiently. It is extremely important to monitor activities on an annual basis through a report of the Samoa National Cervical Cancer Programme, and to evaluate the achievements of the programme at 5 and 8 year points (2027, 2030). National Cervical Cancer Protocols should be subject to regular review and updated to ensure they adhere to international gold standards and meet the needs of women. In particular, it is important to monitor HPV vaccination rates, especially for eligible out-of-school girls, monitor improvements in efficiency of HPV testing and pre-cancer and cancer treatment services, and to ensure data on all aspects of cervical cancer testing, treatment, and management is collected, collated and analysed. Evaluation of the programme involves assessment at the end of a defined period as to whether the planned outcomes have been achieved and how effectively resources have been used. It is also necessary to undertake quality assurance of vaccination, testing, treatment and care.

Monitoring and Evaluation Framework

Activity	Output	Indicator	Baseline	Target
HPV vaccination coverage	Annual report on HPV vaccination utilising disaggregated data	% of Year 8 students vaccinated % of out-of-school girls 12 and over vaccinated	85% of Year 8 girls and boys vaccinated No baseline data	By 2030 85% of girls (and boys vaccinated) By 2030 85% of out-of-school girls vaccinated
HPV testing and treatment coverage	Annual report on HPV testing and treatment available at TTM, MT2, STI Clinic and District Hospitals	% of women 35 and over tested at least once for HPV % of those tested positive for HPV undergo pelvic examination, treatment and referral	No baseline No baseline	By 2030, 50% of Samoan women by age 35 are tested at least once for HPV 90% of those testing positive for HPV undergo pelvic examination, and treatment if necessary or referral for gynaecological review
Pre-cancer testing	Annual report on Pap Smear, biopsies and uterine specimen results delivered to women referred for pre-cancer and cancer diagnosis from TTM and MT2	% of women who have Pap Smears, biopsies or uterine specimen tested % of Pap Smears biopsies or uterine specimen testing which are processed efficiently	1.6% (2017-2022 data); WHO data (2019) 29% in last 5 years Between 2018-2022, 140 smears not processed	By 2030, 90% of those who are referred for gynaecological review with signs of pre-cancers have pap smears processed efficiently and are treated through specialist services
Treatment and management of cervical cancer	Annual report on treatment and management of women with cervical cancer – TTM and Samoa Cancer Society	% of those with early stage cancer going overseas for treatment % managed and obtain palliative care	2016-2022, 17 women sent overseas for treatment	By 2030, 70% of those diagnosed with early stage cervical cancer are treated 90% of those diagnosed with late stage cancer are managed, and obtain palliative care