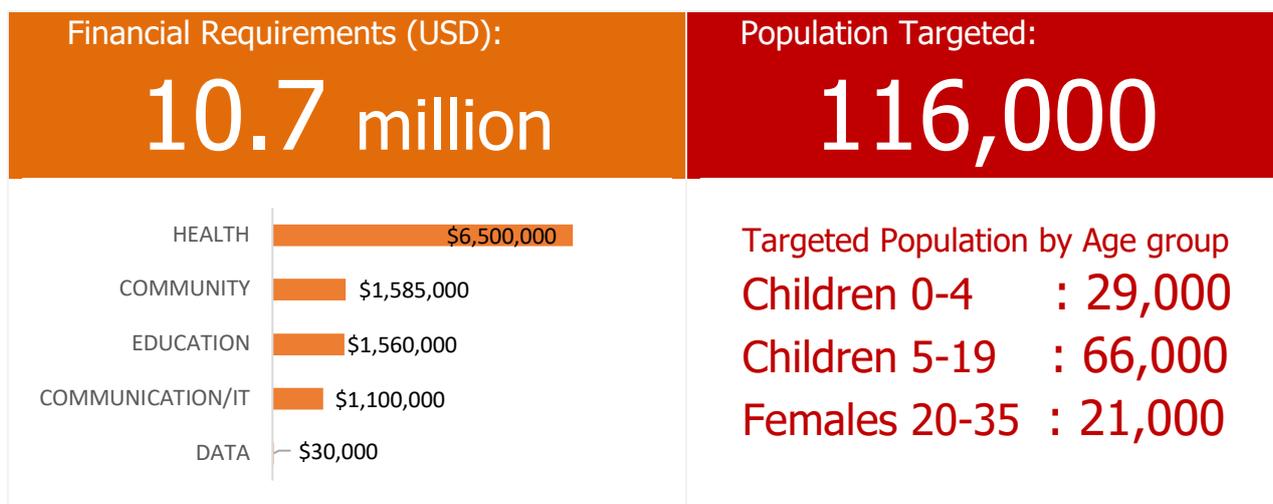




NATIONAL MEASLES RESPONSE AND RECOVERY APPEAL

6 December 2019

NATIONAL MEASLES RESPONSE AND RECOVERY APPEAL



Situation Update as at 4th December 2019

200,000	4,217	62
Approx. number of people exposed to Measles	Number of reported cases in last 24 hours	Total number of measles related deaths

TBC	73%
Total number of people vaccinated so far	Proportion of targeted Population vaccinated so far

The estimated vaccination coverage in both Upolu and Savai'i as at 4th December are:

- **76% of infants and children** aged 6 months to 4 years old
- **88% of children** aged 5 to 19 years old
- **85% of women** aged 20 to 35 years old
- 56% of the remaining population in Samoa

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CRISIS OVERVIEW

Since 2017, a global resurgence of measles cases has been affecting all regions of the world. In global immunization surveys, coverage for the second dose of measles-containing vaccine (MCV2) was 69%, with significant variability between regions. In the Asia Pacific region, outbreaks and clusters of measles cases are being reported from countries where measles has been eliminated, including Australia, Japan, New Zealand, Republic of Korea, as well as higher incidence in endemic countries such as Lao PDR, Malaysia, the Philippines, Thailand and Vietnam. The country most affected in the pacific region is Samoa with a total of 4217 measles cases, including 62 deaths. The outbreak in Samoa is caused by the D8 strain (genotype) of measles virus.

The Samoa Ministry of Health declared a national measles outbreak on 16 October 2019. There is widespread community transmission, with the outbreak strain the same as that causing the current outbreak in New Zealand. The Government of Samoa declared a state of emergency on 15 November 2019. Under the new Orders of the State of Emergency the Government has made vaccination mandatory for priority groups. Samoa activated its National Emergency Operations Centre (NEOC) on 15 November which meets daily to coordinate the emergency response and provides updates on the situation. Under the national order, various restrictions have been implemented including limitations on inter-island travel for all individuals below 19 years of age; temporary closure of schools, and strongly advising children not to attend public gatherings or attending any medical facility, unless they require medical attention. Unimmunized pregnant women are further restricted from attending their place of employment (public and private sector).

On 03/12, the Government announced that a nationwide mass vaccination will take place on Thursday and Friday (05 + 06/12) and all public services (excluding power and water, police, and health services) as well as the private sector (with few exceptions) will be shut down from 7 am – 5 pm to enforce the mass vaccination programme. Citizens were asked to stay at their residences and await the visit of mobile vaccination teams. There are 128 teams carrying out the mass vaccination campaign during this period. The Government of Samoa considered that this was the most effective way to increase the immunization level of the general population within the shortest time.

The impact of this national health emergency is far-reaching and tear at the very social fabric of society as every aspect of life is affected by this measles outbreak. It is imperative to strengthen the culture of acceptance of vaccination, in order to create “herd immunity”. It is also important to strengthen health services, who have been working heroically to save lives – often with limited resources and supplies. The Government of Samoa acknowledges with deep gratitude the support of partners and recognizes that substantial efforts are still needed in the short, medium and longer term to efficiently combat this emergency and to put measure into place that such an outbreak will not reoccur in the future.

AFFECTED GROUPS

To date there have been 4,217 measles cases, with around 200 new ones recorded on a daily basis. In addition, there were 62 measles related deaths. 32,743 were completed before the Mass vaccination campaign. Since the activation of the Mass Vaccination Campaign on 20 November 2019, the Ministry has successfully vaccinated 57,132 individuals, of that 42,611 were vaccinated in Upolu and 14,521 in Savaii. Lowest coverage and percentage of fatality rate is highest in the under five years age group.

Shortages in institutional capacities to respond to the outbreak persist with pregnant nurses encouraged to opt out of the vaccination process and other necessary clinicians being provided to MOH through Emergency Medical Teams, with the support of WHO. Management of the vaccination process, medical records and existing health infrastructure remain challenging, proper planning including procurement as well as outreach and post-outbreak monitoring being immediately needed due to persisting limited capacities in the health system of Samoa.

Based on estimates from the census, there are 44,286 women in Samoa that are currently of reproductive age, of whom 6,444 may be pregnant and require medical assistance for safe delivery of an estimated 2,148 babies in the next three months. Approximately 15% of these pregnancies may likely face obstetric complications that may include C-sections. The government has prioritized women of reproductive age (20-35 years old) for vaccination and they will need access to condoms and other family planning methods to prevent pregnancy within the four-week contraindicated period. There is increased need for antenatal management and psychosocial support to women who are pregnant and test positive for measles. The strain on health services to respond to the epidemic risks crowding out essential maternal and reproductive health services for women of reproductive age without measles, impacting on access to care and increasing potential risks of morbidity and mortality.

Support to families of the deceased patients as well as strengthening a culture of immunization in Samoa also require financial resources to be made available to the Government, civil society organizations and other actors to engage.

MEASLES CASES BY AGE GROUP

Age group	Total measles cases	Total measles-related death
0-5 months	302	9
6-11 months	514	17
01- 4 years	1,363	28
05 -9 years	416	1
10 – 14 years	134	1
15 -19 years	429	3
20 – 29 years	638	1
30 - 39 years	260	2
40 – 49 years	112	0
50+ years	17	0
Missing age	32	0
Total	4,217	62

Source: MOH 4th December 2019

OVERALL OBJECTIVE OF THE APPEAL

The Samoa Measles Appeal is being launched by the Government of Samoa to receive financial assistance from partners to support national efforts to contain the outbreak, to effectively treat people who contracted measles, and to achieve herd immunity for long term protection of the population. Another important aspect is preventing regional migration, meaning that if the outbreak spreads, the disease has the potential to impact surrounding countries.

The measles outbreak has resulted in a significant disruption of the Samoan health system with an ongoing rise in incidence and requirement for quarantine of infected persons. This has led to increased burden on health care workers and restricted access to essential medicines and care for communicable and non-communicable diseases especially for pregnant and lactating women.

STRATEGIC OBJECTIVES OF THE APPEAL

This appeal will seek to support: -

Short term

- Refresher trainings for health care workers to update their knowledge and skills in the area of effective vaccine management, proper immunization techniques, injection safety, proper recording and reporting.
- Support to enhance supervision capacity on ongoing campaign and routine vaccination to ensure the quality of services.
- Relevant immunization supplies including cold boxes, vaccine carriers, etc.
- Community awareness through mass media campaigns and interpersonal communication through community networks to increase measles vaccination coverage among the most vulnerable target groups of under five children.
- Training on interpersonal communication skill to health workers when interacting with caregivers, families and communities.

Medium term

- Strengthen the routine immunization to increase the coverage to more than 95% to generate herd immunity among population as a measure to prevent any future outbreak from any vaccine preventable diseases.
- Improve the capacity on immunization data recording and reporting system as well as analysis and use of data for local planning to improve immunization coverage.
- Support social mobilization activities in Samoa to increase immunization coverage rates inclusive of measles as well as routine immunization in the country.
- Expand access to reproductive health services for women of reproductive age without measles who are denied access to care and face increasing potential risks of morbidity and mortality.

HEALTH

1. Background - Linking the Appeal to the Health Sector Plan 2019/20-2029/30

The vision of “A Healthy Samoa” serves to direct the new Health Sector Plan (HSP) 2019/20 to 2029/30. It translates the overarching goal for health development in Samoa and entails the need for an inclusive, people-centred service with emphasis on health prevention, protection, patient-care and compliance.

The need to re-establish the core value of services **that places people and the communities as central**, is the main focus. A more holistic and people-centred approach to health is required and a balanced consideration of the people’s rights to health and the responsibilities and capacities of the health sector. To address these approaches, the new HSP reaffirms the need to:

- (i) Strengthen governance, leadership and ownership through partnerships;
- (ii) Improve and strengthen people-centred health services (health promotion, health protection and healthcare services);
- (iii) Ensure effective and efficient human resource development of health at all levels and across all disciplines;
- (iv) Strengthen health information development and management through surveillance, research and health intelligence;
- (v) Improve health sector financial management and predictability;
- (vi) Ensure appropriate, effective and safe health technologies; and
- (vii) Continuous management of disaster and emergency preparedness and response to climate change.

In alignment with Outcome 7 of the HSP, the 2019 measles epidemic has indicated strategic directions for the health sector to undertake in the most immediate, short and longer terms. The measles cases presented as in the tables below, illustrates the hot spot areas of concentration of the disease as well as gender and age disaggregation to better inform interventions in this appeal. It is against that background that the short and longer terms strategic objectives for health related to the measles epidemic, are aligned to.

Placing the Focus back on Public Health:

2.1 Short Term (US\$3.7million):

(i) Facilitation of Community Mobilisation

The appeal will assist Government in advancing developments by shifting investment in health to Population Health/Public Health through the planned decentralization of resources, both personnel and services. That will entail interventions such as strengthening outreach services to the community and further empowering community development through the Village Women’s Committees (Komiti Tumama). The strong partnership between Health and the VWCs once provided a secure mechanism which ensured that the children’s immunization and general welfare programs are promoted implemented and closely monitored. This partnership is currently being revived under the PEN Fa’aSamoa and can be assisted further through the Appeal.

Resourcing the Komiti Tumama to undertake their public health roles in the communities is important and the appeal will be an avenue to facilitate that, given the lessons learnt from this measles epidemic.

Accelerating efforts to work with the communities will also mean the urgent need to strengthen the MOH EPI programme and the SRH Program in partnership with UNFPA. Building on from the mass vaccination campaign currently undertaken, routine MMR immunization with coverage rate of 95% needs to be achieved. To support that, refresher trainings for health care workers are proposed in the areas of guidelines and proper protocol for effective vaccine management. These will include proper immunization techniques, injection safety, proper recording and reporting. Enhanced supervision capacity needs to be instilled on ongoing vaccination campaigns and routine vaccination to ensure not only the quality of service but that no one is left behind.

(ii) *Psychosocial Support*¹ is crucial and urgently needs to be addressed through the Appeal. Strengthening access to mental health services is an emphasis of the National NCD Control Policy 2018 to 2023 as well as the 2017 Health Sector Disaster Risk Management Strategy. It directs the need for a systematic approach to screen for instance, all chronic patients for mental illness and to establish service agreements with related community partners in health such as the GOSHEN Trust. In line with the efforts now undertaken by the MWCSO as part of their village outreach, psychosocial support has to continue for all the grieving families, families with children requiring rehabilitation and long-term care as the result of the measles complications.

In alignment with their mandated function, MOH is responsible for providing psychosocial support for inpatients and families that need to be counseled and encouraged, thus requiring support whilst in hospital care. Health professionals and support staff such as security personnel, cleaners, Ambulance staff (including FESA) have been the most at high risk being exposed at ICU and at Emergency. There are teams now allocated to provide support for them but more needs to be done to assist, in terms of institutionalization of Psychosocial services within MOH and the Ministry of Women community and social development

The lessons learnt from the post-tsunami of 2009 and Cyclone Evans of 2012, requires psychosocial support to be provided by Samoans based locally or overseas. The rationale is simply to ensure that there is better understanding in terms of language interactions, cultural understanding and identified behavioral patterns. There are Counsellors with faith-based institutions, NGOs and overseas nurse missions which have undertaken this for MOH in the past disasters and their work can be further supported under the Appeal. That is through establishing partnerships and professional developments.

(iii) *Strengthened surveillance* for better monitoring and prevention of recurrent episodes needs to be the norm and can be facilitated through the Appeal. That would then look at critical health systems strengthening through the establishment of a Public Health Laboratory and efficient human resource development of health, at all levels of surveillance. Current capacity in Samoa is limited given that the National Health Laboratory deals mainly with diagnostic cases. The SROS laboratory concentrates mainly on testing for commercial purposes, thus their service is also limited by nature of their mandated function. The constructing of a Public Health Laboratory within MOH premise to house all surveillance testing with sufficient professional capacity, is supported under the new sector plan. It can be undertaken gradually within the short term/long term period of this appeal, which will serve long outstanding issues faced by the sector in terms of long lead time waiting for results undertaken overseas and professional development gaps.

Accelerated border control security measures need to be instilled to ensure that systems in place are well resourced to detect Highly Infectious Diseases (HID). *Infection Prevention and Control (IPC)*. The 2018 MOH Health Facility Assessment outlines the need for standard infection control in all health facilities. That assessment needs to be practically applied with the final 2018 IPC Guidelines to be enforced so that facilities could be accredited and comply with the guidelines. All health facilities need to be upgraded in terms of infectious diseases surveillance and service delivery, so as to control hospital infections and a measure to prevent antimicrobial resistance (AMR).

(iv) Capacity building for the delivery Immunization Programmes

- refresher trainings for health care workers to update their knowledge and skills in the area of effective vaccine management, proper immunization techniques, injection safety, proper recording and reporting
- support to enhance supervision capacity on ongoing campaign and routine vaccination to ensure the quality of services
- relevant immunization supplies including cold boxes, vaccine carriers, etc.
- community awareness through mass media campaigns and interpersonal communication through community networks to increase measles vaccination coverage among the most vulnerable target groups of under five children.
- training on interpersonal communication skill to health workers when interacting with caregivers, families and communities.
- Countering the negative impact of anti-vaccine campaigners in the region.

¹ Psychosocial Support = SAT850,000.00

2.2 Medium Term and Beyond (US\$2.8million):

(i) Immunization Information System. The Immunization Registry System was launched in 2016 and is a web-based system centrally located at the main hospital server and deployed to all district hospitals. That allows direct data entry of immunization records from the rural health facilities to the central server and allows for faster collation and synchronization of national data. The system has been designed to ensure it connects with the national E-Health System. Developed by WHO, the digital EPI system should be digitalized at the point of service delivery to minimize mistakes and improve compliance. The Appeal can provide support through ongoing professional developments, IT goods for the office and tablets for rural district hospital (RDH) staff to regularly use the system.

(ii) There is a need to look at how we can garner the lessons learnt and use the experiences to prepare us for the future. There is awareness that as a result of the measles epidemic, little attention is being paid to the ongoing vaccinations programs. The Appeal would support reviewing and setting in place an effective, efficient system that would consider ways to improve on and the means to implement a high coverage program

(ii) Identified Isolation Wards at TTM Hospital (Upolu) and MTII Hospital (Savaii). Fundamental principles of **isolation** are (i) Standard precautions (ii) droplet precautions (iii) airborne precautions and (iv) contact precautions. An isolation facility needs to follow these precautions to ensure that the hospital is not a source of infection to the hospital patients with in and the community. As in the Samoa case, the measles epidemic has been categorized as a Highly Infectious Disease (HID) posing a threat for both personnel and the public. Suspected cases should be managed in specialised facilities minimizing infection risks but allowing state-of-the-art critical care.

In Upolu, the current isolation units are located within the hospital vicinity, with the isolation facility in Savaii now located at Vaipouli. Planning for this period of the current HSP and Samoa Possible 2040, the isolation centres need to be fully equipped with resuscitation equipment, patient monitors and pulse oximeters. For both hospitals on both islands, double door negative pressure rooms should be constructed and staffed with the relevant personnel such as infectious disease specialists - doctors and nurses. Proper ventilation systems should be installed and regularly maintained.

COMMUNICATION AND INFORMATION TECHNOLOGY

1. ESTABLISH A CENTRALISED VACCINATION REGISTRY (ALL AGES)

In an effort to support the Ministry of Health in this area, the current Immunization web-based e-form solution will be expanded to capture more sensitive information not currently recorded on the paper form. In addition to this, it will capture all the vaccinations given to all people of all ages (specifically the Samoa National Childhood Immunization Program), through general practice and community/district clinics or hospitals and eventually become the Immunization Registry.

With great 3G/4G LTE broadband infrastructure coverage across Samoa and the availability of the National Broadband Highway Network (SNBH) that connects all Government Ministries/Offices, Schools and Hospitals, this solution can leverage on this resilient connectivity and can be deployed and accessed from anywhere/anytime (ubiquitous) in Samoa, with live data feed into the central database at the Ministry of Health Data Centre.

2. DIGITISED IMMUNISATION RECORDS

To address this issue with regards to data on these forms, it requires digitization. There are various commercial software applications available now that can do this record digitisation of all paper records, and can populate scanned content into specific fields in a database. There is a need of a whole assessment of the current infrastructure and capacity to deploy such applications, in terms of storage (local data centre or cloud), build on the disaster recovery plan of the Ministry of Health to ensure that the system live at all times, ensure there are incident response/business continuity plan developed, consider cyber risks and mitigation factors, the data/system security, confidentiality and privacy laws is also critical, and so forth.

These digital solutions/systems, will not only maximise the utilisation of our SNBH but also form part of our e-Health project overall outcomes, taking into account that we must build these digital solutions on international standards, which at a later stage can be accessible and interoperable with other e-Health initiatives and developments.

3. CAPACITY BUILDING COMPONENT

This component is crucial to ensure the sustainability and credibility of the information that will be collected. This will require training on the use of the system together with its maintenance. The finer details on skills gaps will be submitted upon successful consideration of this proposal.

Indicative Cost:

Phases	Indicative Cost/s
Phase 1: <ul style="list-style-type: none">Scoping Study and AssessmentInfrastructure/Technology/Security review and upgradePlanning, Designing and Development of a Web-Based e-Form PlatformDeployment of solution	USD 400,000
Phase 2: <ul style="list-style-type: none">Procurement of specialized software for content analysis of scanned paper records.Further review of Network, Systems, Security, Storage/Datacentre, Cloud option, Backup, Incident/Cyber AssessmentData Migration and verificationInteroperability linkages to other e-Health Services and SystemsDeployment of final stages of the solution to all Hospitals/Medical Centres/Clinics.	USD 600,000
Phase 3: Capacity Building Component <ul style="list-style-type: none">Ongoing Train the Trainers type trainingAwareness and Rollout CampaignAdvanced training for Technical teams	USD 100,000
TOTAL	USD 1,100,000

EDUCATION

Activity	Costings
Vaccinating all students at compulsory year age (4 years – 17 years old, about 63,817 ECE-Secondary and 4,777 PSET) based on 2018 data) before school starts 27 January 2020, as per the Mandatory Vaccination Amendment Bill 2019.	The costs for Vaccination would be factored under the MOH operational costs.
Training of teachers (about 3,302 ECE – Post School Education and Training) and relevant staff on spotting measles symptoms and administering first aid	435 teachers ECE:1,020 secondary teachers (mission and private), 1,400 primary teachers Training materials: est. \$50,000 Printing costs: \$100,000 First Aid for schools \$150,000
Safe administration of national assessments for secondary school students by having all students vaccinated and have all preventative measures in place	Vaccination costs to be factored under MOH budget
Increasing access for all year 12 and 13 students sitting national assessments to masks and sanitizing liquids during examination times.	Procurement of Masks \$ 50,000 Sanitizers: \$150,000
Awareness on healthy living and healthy eating and as part of the primary Health curriculum to target vulnerable children and their communities.	Awareness programs \$250,000 including social media, Television programs,
Promoting measles preventative measures in school activities including lessons	Activity preparation including printing and resourcing: \$160,000
Collecting data as part of school census on vaccination – 168 Primary and 42 Secondary schools- 126 ECE centers	Printing costs for Census for all ECE, primary and secondary schools \$150,000
Integrating in school programs vaccination in collaboration with the public health services to ensure healthy and safety learning and teacher environments across the education sector	School programs in line with the Minimum Service Standards of MESC \$250,000
Awareness on healthy living, healthy eating, healthy practice (fruit tree planting, vegetable gardening, sports and exercise) in all schools as part of their extra curricula activities.	Healthy living and healthy eating promotion for students \$200,000 (fruit tree planting, vegetable gardens, sports and exercise activities.
Develop child friendly resources (pamphlets, brochures, stick-ons, mini booklets, pencils, rubbers etc) on healthy living/healthy eating/healthy lifestyle messages for young children. Disseminate these resources to all schools in Samoa.	\$50,000
Integrating in school programs a school-based lunch programme administered during lunch hours on a daily basis by parents using the Pacific Guidelines for Healthy Living; a handbook for health professionals and educators.	
training of teachers, parents and relevant staff on spotting measles symptoms and other similar contagious diseases and administering first aid. –	
Strengthen partnership amongst relevant stakeholders (MoH, MESC, MWCS and others) to monitor the implementation of manuals/ guidelines/ Acts and provide the necessary support	

COMMUNITY DEVELOPMENT

Background

The Community Development Sector plan 2016-2021 provides a framework for guiding the development of community in Samoa. It is a strategic tool to achieve the vision, mission and overall goal / outcome of the work of the Community Development Sector. The Community Sector contributes to the work of all the other 14 sectors as well as being the main beneficiary group for the same sectors.

The National Disaster Management Plan 2017-2020 clearly states MWCS D responsibilities as key stakeholders in coordinating community / village representatives, Sui o Nuu, Sui Tamaitai and Sui o Malo to better prepare, respond and recover from natural and man-made disasters. It is the role of the Ministry to coordinate, provide support for Village representatives during and after any emergency.

This plan outlines the work to be carried out in the relief and recovery period of the Measles Emergency, it includes short term goals and longer-term goals for recovery and preparedness for epidemics and health related emergencies. All the activities in this plan build on the current work being carried out by the Ministry and Community sector partners.

- Healthy Homes Healthy Villages / Aiga ma Nuu Manuia Programme. Aiga ma Nuu Manuia Program focuses on primary health care principles and community-based solutions to health promotion, achieve and sustain safe and hygienic living standards at the family / community level. It is a tool which the Ministry utilizes to monitor the state of living environments which include, living areas (homes), kitchens, toilets, disaster risk reduction component as well as assess the state of nutrition in the family such as the establishment of vegetable gardens for healthy sustenance.
- Psycho-Social Activities
- Child Protection areas— activities to ensure improved information and awareness of childhood diseases, care and protection of children in all families. Targeting government ministries and corporations, private sector, NGO's, parents, grandparents, extended family, family leaders, community leaders, church leaders, teachers, school principals, children of different ages, church youth groups, sports teams.
- ICT support for ministry day to day activities and carrying out programme activities, M & E, Policy and research activities.
- Monitoring & Evaluation support
- Communication support to the Ministry to strengthen the Ministry communication plan including Communication with STN/SN, District Committees, General public and NGO partners

Project Objectives are taken from the Community Development Sector Plan 2016-2021

Outcome 1: Improved Inclusive Governance at all levels and Community Development	1.1 Improved governance and inclusiveness at the national level
	1.2 Improved Community Development and Governance.
	1.3 Improved Community Resilience and Preparedness to Climate Change and Natural Disaster
Outcome 2: Improved Social Outcomes for the most vulnerable in our Communities	2.1 Strengthened individual, family and village safety & wellbeing from all forms of abuse.
	2.2 Support the achievement of improved health outcomes for the most vulnerable
	2.3 Support the achievement of basic education outcomes for the most vulnerable at all levels
Outcome 3: Economic Empowerment of vulnerable individuals, families and villages	3.1 Entrepreneurship and employment
	3.2 Decrease vulnerable household expenditure
Outcome 4: Capacity Building, Communication and Strategy Development for the Community Sector Stakeholder	4.1 The communities, MWCS D and relevant partners have an appropriate capacity to fulfill their roles in implementing the Community Sector Plan
	4.2 Enhanced sector communication capacity for MWCS D and relevant partners to achieve the Community Sector Plan outcome statements.
	4.3 Evidence based policies and regulatory frameworks relevant to the community sector are aligned
	4.4 Well coordinated and implemented Community Sector Plan at all levels

4.5 The Community Sector Plan strategic programmes are adequately resourced for successful implementation.

Vision: Communities leading inclusive development for quality of life for all Mission: empowering communities to lead their inclusive development for quality of life for all				
Indicators:				
Activity Result	Activity	Partners	Inputs	Est. Cost
CSP #2 Improved Social Outcomes for the most vulnerable in our Communities				
Aiga ma Nuu Manuia programme	Community training/ capacity building and hands on workshops in the areas of water and sanitation to improve the standards of households in selected villages	MWCSD	TA (if needed) costs Consultation costs Logistic and administration costs Awareness and civil education costs Research costs	30,000
	Hygiene materials and workshops.	MWCSD		20,000
	Site visits for inspections and awareness demonstrations on maintenance and hygiene standards	MWCSD		10,000
Total				60,000
Psycho-Social Support	Psycho-social support to the community affected by measles	MWCSD, NCCRC members, Civil society partners, donor partners	TA (if needed) costs Consultation costs Logistic and administration costs Awareness and civil education costs Research costs	250,000
	Training on psycho-social first aid for Ministry of Women, Community and Social Development front line staff, and NGO's and other partners			30,000
	Psycho-social support to the front line staff carrying out the Awareness Outreach programme			20,000
Total				300,000

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CSP #4 Capacity Building, Communication and Strategic Development for the Ministry of Women, Community and Social Development AND Community Sector Stakeholder

ICT- Develop the ICT capacity to support all work of the Ministry, both programme, coordination and Planning, policy and research.	Tablets for monitoring visits, and research		30 tablets at \$1,000 each	30,000
	Wifi hardware			10,000
	Laptops		30K (5x\$3k)	15,000
	Up to date server			21,000
	Licensed software (Microsoft Office)			10,000
	Network printers		5k x 6 divisions + Savaii office= 35K	35,000
	New Switches for the network		5 x \$1,200= 6K	6,000
	Support staff for ICT UNIT—volunteers, or short-term assistance, long term assistance —			10,000
	Training/ capacity building for ICT staff on networking and other technical areas			20,000
	Offsite back up for servers			23,000
	Rack for server			5,000
Upgrade ministry computers— current audit check identified 40 workstations need to replace its computer.		40 X \$3,000	120,000	
Total			305,000	

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3. M & E Support	Impact study on the effects of the Measles epidemic on Village communities, using qualitative and quantitative data to measure the economic and social impact of the epidemic, this could be linked to the Vulnerability assessment that the Ministry has carried out.	MWCSD	TA (if needed) costs Consultation costs Training costs Logistic and administration costs Cost of services and programs	250,000
	Qualitative In-depth study on community feedback on the measles epidemic focusing on the reasons for the low immunisation rate and how the community sector can assist to improve in this area.	MWCSD	TA (if needed) costs Consultation costs Training costs Logistic and administration costs Cost of services and programs	200,000
	Licensed data base programme to hold all data and information			15,000
	Training/ capacity building on data bases, statistical analysis, writing reports, M & E.	MWCSD Other ministries Donors/Development agencies		20,000
	Vehicle for carrying out monitoring and evaluation activities		Two vans	200,000
Total				685,000
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Communication support to the Ministry to strengthen the Ministry communication plan including Communication with STN/SN, District Committees, General public and NGO partners. Especially for public health and GBV prevention and awareness.	Editing equipment / computer 10K	MWCSD	TA (if needed) costs Consultation costs Training costs	10,000
	DSLR camera and accessories (microphones, stabiliser, lenses, flashes etc..) 15K	MWCSD	Logistic and administration costs Cost of services and programs	15,000
	Video camera 15K	CSOs		15,000
	Editing programmes (software) 15K	MWCSD NCCRC		15,000
	E-Library (Digital archive) hardware 10k	MWCSD		10,000
	Licensed Digital archive software 10K	CSOs		10,000
	Studio Lighting 10K			10,000
	Drone for high filming 10KST			10,000
	Training/ capacity building for AV staff, info-graphics, filming, photography, editing, graphic designing			20,000
	Training /capacity building for communication-media officers, division officers to attend to improve planning and implementation of communication activities			20,000
Vehicle for communication activities		One pick up	100,000	
			235,000	
Total				1,585,000

DATA

- Strengthen the support by Samoa Bureau of Statistics (SBS) to the Ministry of Health not only in the current support to the measles data collection, compilation and analysis but also providing on-going support in the future in the provision of data applications and training capacity to MOH personnel to improve the immunization data recording and reporting system to support the immunization coverage.
- Strengthen support by SBS to the Ministry of Health in compiling the current records of vaccinated individuals for the measles but also needs continuing this support through digitalization of the manual records across country via the use of SBS existing digital applications and maps for centralizing records in a dedicated database under the Ministry of Health's coordination unit. Records of measles cases are also needed for the medical history of the individuals affected. Procurement of drones in the future will be a great asset to SBS especially for capturing high risk disease areas and also the impact of natural disaster.
- Strengthen support by SBS to the Ministry of Women, Community and Social Development and all other Ministries in the compilation of the Village and District household database and digital maps from the latest population census (2016) which is already established at SBS for emergency efforts as well as national and village projects.
- Strengthen support by SBS to the National Disaster Management Office in the provision of digital maps and household names from the Population census database for all emergency efforts.

Strengthen support by SBS for Communication strategies including pamphlets, infographics, posters, radio advertisements, television commercial and televised public service announcements and social media posts to support national data collections for Population Census and all Household Surveys for emergency and national interests

MAIN HUMANITARIAN NEEDS

Since the outbreak of the crisis, the Government of Samoa has assessed that the entire population of the country (approximately 200,000 inhabitants) is being affected by the current emergency. This appeal aims to target a total of 116,000 individuals comprising the 0 -19 age group as well as non-pregnant women of reproductive age (20-35 years). Among these targeted groups, the most vulnerable are children below 4 years of age (approximately 29,000).

Main humanitarian needs identified for this appeal consist of preventive health care including immunization, maternal health services, robust data management of immunization records and medical history as well as social services at the community level to ensure full awareness regarding medical risks and appropriate support.

RESPONSE STRATEGY

Requests by the Government for funding support reflects their national mandates and the necessary expansion of vaccination services and medical supplies given the current crisis. Activities identified will complement already ongoing emergency measures as well as lifesaving activities being funded by the Central Emergency Response Fund (CERF) which will provide USD1.5 million for vaccines, medical equipment and financial support to emergency medical teams.

While the critical phase of the crisis is addressed with existing national capacities and resources complemented by the CERF and regional partner support, persisting vulnerabilities in the health care system require longer term planning and adequate financing. It is in this context that the Government of Samoa prepared a national appeal to deal with the identified vulnerabilities and reverse to the extent possible the impact of the outbreak which is expected to be significant.

PEOPLE IN NEED AND PEOPLE TARGETED

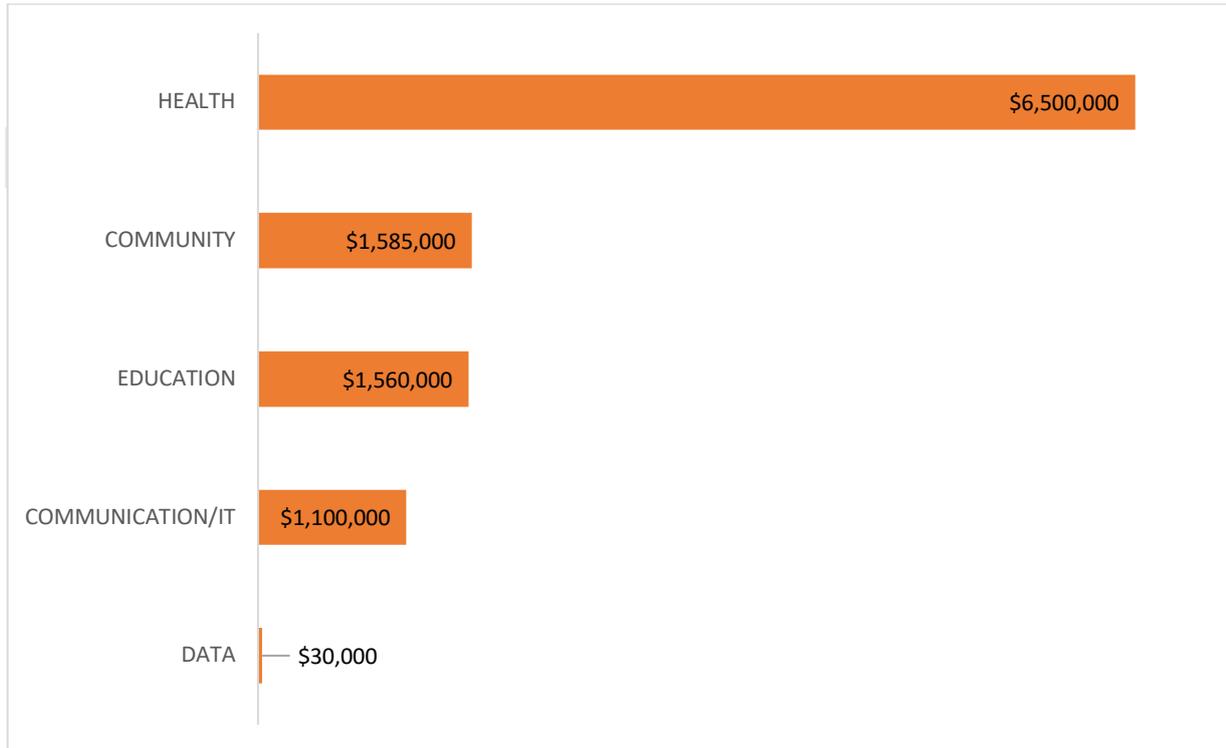
Total people in need
200,000

Total people targeted (PT)
116,000

FINANCIAL REQUIREMENTS PER SECTOR

Total requirements (US\$)

\$10,745,000



SECTOR PLANS

HEALTH & NUTRITION

People targeted

116,000

Financial requirements (USD)

\$6,500,000

Contact information:

Ministry of Health

Leausa Dr Take Naseri, (ceo@health.gov.ws)

Gaulofa Matalavea, (gaulofam@health.gov.ws)

Priority activities

1. Facilitation of Community Mobilization
2. Psychosocial Support
3. Strengthened surveillance
4. Capacity building for the delivery Immunization Programmes
5. Immunization Information System
6. Isolation Wards at TTM Hospital (Upolu) and MTII Hospital (Savaii)

Response strategy

The appeal will assist Government in advancing developments by shifting investment in health to Population Health/Public Health through the planned decentralization of resources, both personnel and services. That will entail interventions such as strengthening outreach services to the community and further empowering community development through the Village Women's Committees (Komiti Tumama). The strong partnership between Health and the VWCs once provided a secure mechanism which ensured that the children's immunization and general welfare programs are promoted implemented and closely monitored. This partnership is currently being revived under the PEN Fa'aSamoa and can be assisted further through the Appeal.

Resourcing the Komiti Tumama to undertake their public health roles in the communities is important and the appeal will be an avenue to facilitate that, given the lessons learnt from this measles epidemic.

Accelerating efforts to work with the communities will also mean the urgent need to strengthen the MOH EPI programme and the SRH Program in partnership with UNFPA. Building on from the mass vaccination campaign currently undertaken, routine MMR immunization with coverage rate of 95% needs to be achieved. To support that, refresher trainings for health care workers are proposed in the areas of guidelines and proper protocol for effective vaccine management. These will include proper immunization techniques, injection safety, proper recording and reporting. Enhanced supervision capacity needs to be instilled on ongoing vaccination campaigns and routine vaccination to ensure not only the quality of service but that no one is left behind.

*Psychosocial Support*² is crucial and urgently needs to be addressed through the Appeal. Strengthening access to mental health services is an emphasis of the National NCD Control Policy 2018 to 2023 as well as the 2017 Health Sector Disaster Risk Management Strategy. It directs the need for a systematic approach to screen for instance, all chronic patients for mental illness and to establish service agreements with related community partners in health such as the GOSHEN Trust. In line with the efforts now undertaken by the MWCSA as part of their village outreach, psychosocial support has to continue for all the grieving families, families with children requiring rehabilitation and long-term care as the result of the measles complications.

In alignment with their mandated function, MOH is responsible for providing psychosocial support for inpatients and families that need to be counseled and encouraged, thus requiring support whilst in hospital care. Health professionals and support staff such as security personnel, cleaners, Ambulance staff (including FESA) have been the most at high risk being exposed at ICU and at Emergency. There are teams now allocated to provide support

² Psychosocial Support = SAT850,000.00

or them but more needs to be done to assist, in terms of institutionalization of Psychosocial services within MOH and the Ministry of Women community and social development

The lessons learnt from the post-tsunami of 2009 and Cyclone Evans of 2012, requires psychosocial support to be provided by Samoans based locally or overseas. The rationale is simply to ensure that there is better understanding in terms of language interactions, cultural understanding and identified behavioral patterns. There are Counsellors with faith-based institutions, NGOs and overseas nurse missions which have undertaken this for MOH in the past disasters and their work can be further supported under the Appeal. That is through establishing partnerships and professional developments.

Strengthened surveillance for better monitoring and prevention of recurrent episodes needs to be the norm and can be facilitated through the Appeal. That would then look at critical health systems strengthening through the establishment of a Public Health Laboratory and efficient human resource development of health, at all levels of surveillance. Current capacity in Samoa is limited given that the National Health Laboratory deals mainly with diagnostic cases. The SROS laboratory concentrates mainly on testing for commercial purposes, thus their service is also limited by nature of their mandated function. The constructing of a Public Health Laboratory within MOH premise to house all surveillance testing with sufficient professional capacity, is supported under the new sector plan. It can be undertaken gradually within the short term/long term period of this appeal, which will serve long outstanding issues faced by the sector in terms of long lead time waiting for results undertaken overseas and professional development gaps.

Accelerated border control security measures need to be instilled to ensure that systems in place are well resourced to detect Highly Infectious Diseases (HID). *Infection Prevention and Control (IPC)*. The 2018 MOH Health Facility Assessment outlines the need for standard infection control in all health facilities. That assessment needs to be practically applied with the final 2018 IPC Guidelines to be enforced so that facilities could be accredited and comply with the guidelines. All health facilities need to be upgraded in terms of infectious diseases surveillance and service delivery, so as to control hospital infections and a measure to prevent antimicrobial resistance (AMR).

Capacity building for the delivery Immunization Programmes would include refresher trainings for health care workers to update their knowledge and skills in the area of effective vaccine management, proper immunization techniques, injection safety, proper recording and reporting. Support to enhance supervision capacity on ongoing campaign and routine vaccination to ensure the quality of services. Relevant immunization supplies including cold boxes, vaccine carriers, etc. Community awareness through mass media campaigns and interpersonal communication through community networks to increase measles vaccination coverage among the most vulnerable target groups of under five children. Training on interpersonal communication skill to health workers when interacting with caregivers, families and communities. Countering the negative impact of anti-vaccine campaigners in the region.

The Immunization Registry System was launched in 2016 and is a web-based system centrally located at the main hospital server and deployed to all district hospitals. That allows direct data entry of immunization records from the rural health facilities to the central server and allows for faster collation and synchronization of national data. The system has been designed to ensure it connects with the national E-Health System. Developed by WHO, the digital EPI system should be digitalized at the point of service delivery to minimize mistakes and improve compliance. The Appeal can provide support through ongoing professional developments, IT goods for the office and tablets for rural district hospital (RDH) staff to regularly use the system.

(i) There is a need to look at how we can garner the lessons learnt and use the experiences to prepare us for the future. There is awareness that as a result of the measles epidemic, little attention is being paid to the ongoing vaccinations programs. Funding from the Appeal will support review and setting in place an effective, efficient system and would assist to consider ways to improve on and the means to implement a high coverage program.

(ii) *Identified Isolation Wards at TTM Hospital (Upolu) and MTII Hospital (Savaii)*. Fundamental principles of **isolation** are (i) Standard precautions (ii) droplet precautions (iii) airborne precautions and (iv) contact precautions. An isolation facility needs to follow these precautions to ensure that the hospital is not a source of infection to the hospital patients with in and the community. As in the Samoa case, the measles epidemic has been categorized as a Highly Infectious Disease (HID) posing a threat for both personnel and the public. Suspected cases should be managed in specialised facilities minimizing infection risks but allowing state-of-the-art critical care.

In Upolu, the current isolation units are located within the hospital vicinity, with the isolation facility in Savaii now located at Vaipouli. Planning for this period of the current HSP and Samoa Possible 2040, the isolation centres need to be fully equipped with resuscitation equipment, patient monitors and pulse oximeters. For both hospitals on both islands, double door negative pressure rooms should be constructed and staffed with the relevant personnel such as infectious disease specialists - doctors and nurses. Proper ventilation systems should be installed and regularly maintained.

DATA

*People targeted***116,000***Financial requirements (USD)***\$30,000****Contact information:****Samoa Bureau of Statistics**Aliimuamua Malaefono Taua, CEO - (malaefono.taua@sbs.gov.ws)***Priority activities***

1. Strengthen the support by SBS to the Ministry of Health not only in the current support to the measles data collection, compilation and analysis but also providing on-going support in the future in the provision of data applications and training capacity to MOH personnel to improve the immunization data recording and reporting system to support the immunization coverage.
2. Strengthen support by SBS to the Ministry of Health in compiling the current records of vaccinated individuals for the measles but also needs continuing this support through digitalization of the manual records across country via the use of SBS existing digital applications and maps for centralizing records in a dedicated database under the Ministry of Health's coordination unit. Records of measles cases are also needed for the medical history of the individuals affected. Procurement of drones in the future will be a great asset to SBS especially for capturing high risk disease areas and also the impact of natural disaster.
3. Strengthen support by SBS to the Ministry of Women, Community and Social Development and all other Ministries in the compilation of the Village and District household database and digital maps from the latest population census (2016) which is already established at SBS for emergency efforts as well as national and village projects.
4. Strengthen support by SBS to the National Disaster Management Office in the provision of digital maps and household names from the Population census database for all emergency efforts.
5. Strengthen support by SBS for Communication strategies including pamphlets, infographics, posters, radio advertisements, television commercial and televised public service announcements and social media posts to support national data collections for Population Census and all Household Surveys for emergency and national interests

COMMUNICATION AND INFORMATION TECHNOLOGY

People targeted

116,000

Financial requirements (USD)

\$1,100,000

Contact information:

Ministry of Communication and Information Technology

Talatalaga Mata'u, CEO - tmatau@mcit.gov.ws)

Priority activities

1. Establish a centralized vaccination registry (all ages)
2. Digitized immunization records
3. Capacity building

Response strategy

In an effort to support the Ministry of Health in this area, the current Immunization web-based e-form solution will be expanded to capture more sensitive information not currently recorded on the paper form. In addition to this, it will capture all the vaccinations given to all people of all ages (specifically the Samoa National Childhood Immunization Program), through general practice and community/district clinics or hospitals and eventually become the Immunization Registry.

With great 3G/4G LTE broadband infrastructure coverage across Samoa and the availability of the National Broadband Highway Network (SNBH) that connects all Government Ministries/Offices, Schools and Hospitals, this solution can leverage on this resilient connectivity and can be deployed and accessed from anywhere/anytime (ubiquitous) in Samoa, with live data feed into the central database at the Ministry of Health Data centre.

To address this issue with regards to data on these forms, it requires digitization. There are various commercial software applications available now that can do this record digitization of all paper records and can populate scanned content into specific fields in a database. There is a need of a whole assessment of the current infrastructure and capacity to deploy such applications, in terms of storage (local data centre or cloud), build on the disaster recovery plan of the Ministry of Health to ensure that the system live at all times, ensure there are incident response/business continuity plan developed, consider cyber risks and mitigation factors, the data/system security, confidentiality and privacy laws is also critical, and so forth.

These digital solutions/systems, will not only maximize the utilization of our SNBH but also form part of our e-Health project overall outcomes, taking into account that we must build these digital solutions on international standards, which at a later stage can be accessible and interoperable with other e-Health initiatives and developments.

This component is crucial to ensure the sustainability and credibility of the information that will be collected. This will require training on the use of the system together with its maintenance. The finer details on skills gaps will be submitted upon successful consideration of this proposal.

COMMUNITY DEVELOPMENT

People targeted

116,000

Financial requirements (USD)

\$1,585,000

Contact information:

Ministry of Women, Community and Social Development

Afamasaga Faauga Mulitalo, CEO - (fmulitalo@mwcsd.gov.ws)

Susan Faoagali, ACEO -(sfaoagali@mwcsd.gov.ws)

Priority activities

1. Community training/ capacity building and hands on workshops in the areas of water and sanitation to improve the standards of households in selected villages.
2. Psycho-social support to the community affected by measles.
3. Develop the ICT capacity to support all work of the Ministry, both Programme, coordination and Planning, policy and research.
4. M & E Support.
5. Communication support to the Ministry to strengthen the Ministry communication plan including Communication with STN/SN, District Committees, General public and NGO partners. Especially for public health and GBV prevention and awareness.

Response strategy

Aiga ma Nuu Manuia Program focuses on primary health care principles and community-based solutions to health promotion, achieve and sustain safe and hygienic living standards at the family / community level. It is a tool which the Ministry utilizes to monitor the state of living environments which include, living areas (homes), kitchens, toilets, disaster risk reduction component as well as assess the state of nutrition in the family such as the establishment of vegetable gardens for healthy sustenance.

Child Protection areas— activities to ensure improved information and awareness of childhood diseases, care and protection of children in all families. Targeting government ministries and corporations, private sector, NGO's, parents, grandparents, extended family, family leaders, community leaders, church leaders, teachers, school principals, children of different ages, church youth groups, sports teams.

ICT- Develop the ICT capacity to support all work of the Ministry, both programme, coordination and Planning, policy and research.

Impact study on the effects of the Measles epidemic on Village communities, using qualitative and quantitative data to measure the economic and social impact of the epidemic, this could be linked to the Vulnerability assessment that the Ministry has carried out.

Qualitative In-depth study on community feedback on the measles epidemic focusing on the reasons for the low immunization rate and how the community sector can assist to improve in this area.

Communication support to the Ministry to strengthen the Ministry communication plan including Communication with STN/SN, District Committees, General public and NGO partners. Especially for public health and GBV prevention and awareness.

EDUCATION

*People targeted***66,000***Financial requirements (USD)***\$1,560,0****Contact information:****Ministry of Education**Afamasaga Dr Karoline Fuatai k.fuatai@mesc.gov.ws and Kovi Aiolupotea k.aiolupotea@mesc.gov.ws***Priority activities***

1. Training of teachers.
2. Increase access for all year 12 and 13 students sitting national assessments to masks and sanitizing liquids during examination times.
3. Awareness on healthy living and healthy eating and as part of the primary Health curriculum to target vulnerable children and their communities.
4. Promotion of measles prevention measures in school activities including lessons.
5. Data collection as part of school census on vaccination.
6. Integrating in school programs vaccination in collaboration with the public health services to ensure healthy and safety learning and teacher environments across the education sector.
7. Awareness on healthy living, healthy eating and healthy practices in all schools.
8. Development of child friendly resources on healthy living/healthy eating/healthy lifestyle messages for young children.

the \mathbb{R}^n is a linear space over \mathbb{R} with the usual addition and scalar multiplication. The inner product is defined by

$$(x, y) = \sum_{i=1}^n x_i y_i \quad (1)$$

where $x = (x_1, \dots, x_n)$ and $y = (y_1, \dots, y_n)$ are vectors in \mathbb{R}^n . The norm of a vector x is defined by

$$\|x\| = \sqrt{(x, x)} = \sqrt{\sum_{i=1}^n x_i^2} \quad (2)$$

and the distance between two vectors x and y is defined by

$$d(x, y) = \|x - y\| = \sqrt{\sum_{i=1}^n (x_i - y_i)^2} \quad (3)$$

It is easy to see that \mathbb{R}^n is a complete metric space with the distance function $d(x, y)$. The set of all vectors x in \mathbb{R}^n such that

$$\|x\| = 1 \quad (4)$$

is called the unit sphere. The set of all vectors x in \mathbb{R}^n such that

$$\|x\| \leq 1 \quad (5)$$

is called the unit ball. The set of all vectors x in \mathbb{R}^n such that

$$\|x\| = r \quad (6)$$

is called the sphere of radius r . The set of all vectors x in \mathbb{R}^n such that

$$\|x\| \leq r \quad (7)$$

is called the ball of radius r . The set of all vectors x in \mathbb{R}^n such that

$$\|x\| = r \quad (8)$$

is called the sphere of radius r . The set of all vectors x in \mathbb{R}^n such that

$$\|x\| \leq r \quad (9)$$

is called the ball of radius r . The set of all vectors x in \mathbb{R}^n such that

$$\|x\| = r \quad (10)$$