Situation monitoring and Surveillance	a. Review and ensure implementation of influenza like illness (ILI) as a reportable disease condition in routine disease surveillance forms. b. Assess burden of normal influenza events in Tonga retrospectively [last 3-5 years] c. Plan for sentinel sites for limited influenza testing. d. Develop feasible early warning systems both for human health and animal health surveillance systems. e. Establish surveillance linkage between that of human health and animal health, and encourage copies of monthly summary form even if it's a negative report.	MOH [Communicable Disease Section (CDS), Health Information System (HIS)] MOH/MAF, ETF	
	f. Plan laboratory services and assessment facilities even developing a test-procedure for possible sending samples for analysis to WHO CC lab (Melbourne) or as PPHSN-LabNet provides. g. Ensure transmission of updated and unusual surveillance findings that PacNet, WHO FluNet or other credible sources disseminate that is of particular threat to Tonga, to relevant authorities eg Minister of Health.	MOH/ETF Chairman ETF, CLO	
Health Care and Emergency Response	a. Develop a Health Emergency Plan: Infectious Diseases.	MOH [Director of Health (DoH)/ETF]	
	b. Special focus on System and Clinical preparedness, challenge of surge capacity to poor resource country, funding and others. c. As part of the desktop simulation or physical testing of the Plan. d. Take stock of health staffs (current & retired) and their expertise, possible volunteer workers, health care facilities, transitional 'hospitals' eg halls; medications, IV fluids, other medical supplies & equipments including PPE. e. Consider planning to secure supplies.	MOH [Physician/ CDS/Med Superintendent] As above MOH [MOH Pandemic subcommittee]	
	f. Develop guidelines for management of patients, prioritization of health care services, staff mobilization and related issues.	MOH, ETF (Sectoral contingency plans)	f&g. Working partners like WHO, AusAID, PPHSN can assist with these issues.
	g. Ensure the legal authority provides the framework for the implementation of prioritization of who to receive antivirals and vaccines. h. g. Explore strategies for availability, and policy on supply of antivirals and vaccines [seasonal flu and pandemic vaccines] with working partners like WHO, AusAID, SPC/PPHSN. i. Set priorities and criterias for subgroups for use of the above medications once available.	MOH, MOJ MOH	h. Especially during pandemic period: The main objectives are to: maintain continuity of provision of essential services; and to buy time for pandemic vaccine development
	j. Training of health care workforce nationally once the Influenza pandemic preparedness plan and response is officially endorsed. Other essential services providers to undergo similar trainings	ETF/MOH/MAF	

	k. Review/update Infection control guidelines	MOH [Infection control committee] /ETF	Functional Infection control committee.
Public Health measures	a. Review the applicability of existing legal framework to allow the proposed public health interventions to be implemented.	ETF/MOJ	Check on 'quarantine law & regulation'
	b. Prepare the strategies to stop or minimize the spread of the infection [border contrd measures – eg travel restrictions; passengers from affected areas - assessment/ confinement/ follow-up, boats inspections; social functions restrictions eg school/ workplace closures, banning of public gatherings etc.]; goods/exports of poultry related goods from affected areas be reviewed with relevant working policy in place…	ETF/CLO MAF/MOJ	WHO will guide decisions on travel restrictions. Advise on food safety can be accessed also from websites: WHO and PacNet
	c. Review logistics and operational needs for possible implementation of pandemic vaccines	MOH	The current Expanded Program of Immunization (EPI) coverage is excellent.
Communication	*Aim 1: To develop operational communication plan between and within agencies.*		
	a. Identify any existing functional channel of communication within agency and capitalize on that. Eg: MOH: pamphlets/newsletter; TV & radio talks; phone lines throughout Tonga; newspaper health columns (Taimi, Talaki); newsletters. b. MAF/Section to animal health should do as in point a, and communicate with updates on the development of bird-flu, and threat of pandemic strains. c. Decide on early warning system mechanism including identifying point of contact for each Sector.	EFT/all stakeholders and respective organisations	Key messages must include: Be aware of pandemic threat; mode of transmission of flu virus; short incubation period, simple protective measures like hand washing, covering of mouth when cough, sneeze etc.[10,11]
	Aim 2: Identify official communication officer		
	a. To nominate focal person(s) to be responsible for the information to be disseminated out to any media, to the public at large, and to Government communication office, PM office.	ETF/Communication /Media team	This person(s) will be responsible to the Chair of ETF, and work in conjunction with CLO.
	Aim 3: To maintain communication with regional/international source of influenza pandemic threat a. Focal point of EpiNet teams should be tasked to circulate updated information on unfolding of bird flu from PacNet and PacVet, and... b. In collaboration with information supplied from the CLO office.	ETF [EpiNet teams/Focal person ETF], CLO.	

INTERPANDEMIC PERIOD

PHASE 2: ***There is no new subtype of influenza virus detected in humans though there are circulating animal influenza virus subtype poses substantial risk of human infections.***

Main functional area	Activity	Responsible Agent(s)	Comments
Planning, Co-ordination & Reporting	a. As in Phase 1.		
	b. Close monitor of poultry products import from affected areas.	MAF, Quarantine, MOH	
	c. Advice on safety food consumption to be developed and disseminated among main island and the outer islands.		
	If the circulating animal influenza virus subtype is present in Tonga and poses substantial risk of human infections. d. Identify affected areas and increase surveillance both on human and animal.	MOH, MAF, Border control, Environment Dept.	
	e. Plan for deployment of public health interventions to minimize potential exposure of humans to potential pandemic strains, eg: restriction to inter-island traveling; culling of animals in affected areas and within restricted radius.	MOH/ETF, CLO	
	f. Activate mechanism for constant updating and consultation with WHO on technical advise, and channeling other assistance.	ETF, WHO (CLO)	
	g. Review policy of accessibility to antiviral, and if may be available, establish mechanism for immediate deployment when needed.	MOH,WHO	
	h. Draft protocol for antiviral use and how to manage side-effects even resistance cases.	MOH, WHO	
Situation monitoring and surveillance	a. As in Phase 1		
	If the circulating animal influenza virus subtype is present in Tonga and poses substantial risk of human infections. b. Step up existing surveillance both human and animal as in b above.	MOH/MAF	
	c. Enhanced early warning systems.	MOH [CDC]	
	d. Set up an appropriate sentinel site for human-cases of influenza. e. Line up with WHO-Collaborating Lab. (Melbourne) and LabNet L2 laboratories for possible screening of isolates from suspected human infected case(s).		
	f. Report to situation to WHO, & SPC/PPHSN.		
Public Health interventions	a. To ensure the existence and validity of policy or legislation on quarantine.	a. MOH/ETF, MOJ	

	b. Ensure that poultry products from affected areas are being assessed. c. Consider negotiations for seasonal flu vaccines for more at risk group.	b. MOH/ETF, Quarantine dept., Private sector [Chamber of commerce	
	If the circulating animal influenza virus subtype is present in Tonga and poses substantial risk of human infections. d. To activate mechanisms whereby risk of spread of infection to humans is minimized or avoided.	MOH, MAF, Environment dept.	c. Mechanisms may include: enhanced surveillance on early warning systems, sharing appropriate information in most timely manner with stakeholders; restrict visitation to affected areas; personal prevention strategies.
	e. To ensure that there is a disposal plan for slaughtered or dead carcasses, and include training on appropriate disposal methodology; infection control measures.	MAF/Environment dept/MOH	
Health care and emergency response	a. Review and update the national health emergency plan.	MOH/ETF	
	b.Review and prepare criterias for admission of potential ill persons with bird-flu. c. Identify and prepare health care facility for possible isolation d. Review infection control measures and logistics for nursing in hospital eg PPE etc.	MOH MOH MOH	
	If the circulating animal influenza virus subtype is present in Tonga and poses substantial risk of human infections. e. Ready to activate the above planned measures. f. Training to MOH staffs delegated for the management of possible cases including lab staffs and others as required.	MOH/ETF	
	g. Explore possible accessibility to antivirals with working partners eg WHO, SPC, Aust., NZ	MOH/ETF focal point/CDS	
Communication	a. As in Phase 1		
	b. . Regular [biweekly or monthly] updated information should be communicated to the public by the media in collaboration with the communication officer.	ETF/Communication officer	
	If the circulating animal influenza virus subtype is present in Tonga and poses substantial risk of human infections. c. Daily update of situation should be communicated from the animal health section to the Chairman of ETF [and of course, Director of Agriculture]. d. Reports from sentinel sites [hospitals, health centers, GPs] should be daily relayed to office of Chairman of ETF.	MAF [Livestock officer] Respective MOs or HOs.	

	e. Updated information both from animal and human health perspectives should be communicated to Minister of Health.	
	f. Daily media short coverage of current scenarios to the public. g. E-mail updates on the situation to WHO, WPRO and SPC/PPHSN via PacNet/PacVet.	Media, Pandemic communication officer/ CLO

PANDEMIC ALERT PERIOD

PHASE 3: ***Human infection(s) with a new subtype, but no human-to-human spread, or at the most rare instances of spread to a close contact.***

Planning, co-ordination & reporting	a. a. Declaration of the pandemic alert period.	MOH/ETF, WHO/CLO.
	b. Consider establishing individual pandemic sub-committee per island group, that is, Vava'u, Ha'apai, 'Eua and the Niuas.	ETF/MOH [CMOs]
	Human infection(s) with a new subtype in Tonga, but no human-to-human spread, or at the most rare instances of spread to a close contact. c. Ongoing assessment of preparedness status through regular meeting of stakeholders and ETF. d. Co-ordinate and share information with relevant stakeholders including civil society, and other pandemic sub-committees in the outer islands.	 ETF and respective organisations ETF focal person/communi-cation officer
	e. Ensure that information sharing and co-ordination with regional/international working partners eg WHO, SPC//PPHSN.	As above
Situation monitoring and Surveillance	As in above Phases, and in addition: a. Implement data collection and epidemiological analysis on suspect(s) coming/returning from affected areas.	ETF/Border control.
	b. Monitor passive reporting of clusters of ILI cases or acute respiratory illness in community. ***Human infection(s) with a new subtype in Tonga, but no human-to-human spread, or at the most rare instances of spread to a close contact.*** c. As above, plus Investigate any reports of suspect ILI especially if coming from affected area within 24 hours of notice.	MOH [CD section & CMO outer island] MOH
	d. Consider possible specimen collection/isolates to be sent to WHO-CC lab (Melbourne) or to Institute Pasteur (New Caledonia) to assist with identification of a novel virus, and vaccine development.	MOH/WHO[CLO]
	e. WHO is to be consulted on these activities	ETF focal person, CLO
	f. Consider strengthening border control screening & restriction	ETF, Border control team
Health Care and Emergency Response	As in above Phases plus:	

	a. Review plan for health care delivery and emergency response at all levels of community: stock of availability of personnel; sites for temporary influenza center; supplies; equipment. b. Review treatment protocols; infection control; education materials/sessions with staffs.	MOH {Med Superintendents, CMOs, SMOCD}/EpiNet teams As above	
	c. Ensure availability of supplies and materials for clinical care and infection control measures. d. Consider vaccination and antiviral policy for accessibility of these agents to those providing essential services.	As above As above	
	Human infection(s) with a new subtype in Tonga, but no human-to-human spread, or at the most rare instances of spread to a close contact.		
	e. Disseminate and implement activities planned above including detection and clinical care guidelines for patients, and monitor contacts through education within the Units and through multimedia.	As above, ETF	
Public Health measures			
Non-pharmacological measures	As in above Phases, plus a. Accelerate preparedness plan to completion and possible tested. b. Prepare to invoke quarantine powers when situation arises. c. Ensure strategies are set for prevention of spread to Tonga.	 ETF ETF/MOJ ETF	
Pharmacological measures	a. Consider negotiations with Government and working donor/partners to avail antivirals to Health care workers (HCW) who may be the most likely to be exposed. b. If antivirals will be available, keep a record of everyone who was given dosages; clinical response etc.	ETF/MOH MOH	
	c. Promote seasonal flu vaccines to the most at risk group.	MOH	Most at risk groups include those with chronic underlying disease conditions, young children, the immuno-suppressed
	Human infection(s) with a new subtype in Tonga, but no human-to-human spread, or at the most rare instances of spread to a close contact. Both non-pharmacological and pharmacological activities mentioned above can be deployed whenever indicated.	MOH/ETF and other stakeholders	
Communication	As in above Phases: that is: a. Making sure that channels of communication is clearly laid out both inter- and intra-agencies; b. Focal person(s) for communication are identified in respective organizations/groups/; c. Official communication officer is identified.	ETF/Communication officer	
	d. Communicate with other stakeholders to ensure that their respective pandemic preparedness and response plans are complete.	ETF focal person/communication officer	

	Human infection(s) with a new subtype in Tonga, but no human-to-human spread, or at the most rare instances of spread to a close contact.		
	a. e. Inform Government; all hospitals, health centers, GPs, and all other stakeholders of the presence of this new subtype in Tonga.	Minister of Health, MAF, ETF	
	b. f. Accelerate preparation of communication and media team members for daily updating of the public, other health care facilities, other essential services on the situation. c. g. Maintain linkages with international/regional health authorities like WHO, SPC/PPHSN, Aust., NZ, on the development in Tonga, and the neighboring PICTs.	ETF [communication team] ETF focal person/CLO	
PANDEMIC ALERT PERIOD **PHASE 4:** ***Small cluster(s) with limited human-to-human transmission but spread is highly localized; suggesting that delay the virus is not well adapted to humans.***			
Planning, co-ordination & reporting	a. Alert Government, ETF members and all stakeholders of the situation occurring overseas. b. Review pandemic preparedness and response plan, and identify any significant gaps to address according to *WHO Checklist for influenza pandemic preparedness planning.*[4]	Minister of Health, ETF. ETF/CLO	
	c. Obtain funding support from Government, working partners to fund some of the activities in the Plan.	Health Minister and ETF	
	Small cluster(s) with limited human-to-human transmission in Tonga but spread is highly localized; suggesting that delay the virus is not well adapted to humans. a. Declaration of national disaster threat by Government	Minister of Health	
	b. Obtain reassurance that highest political commitments with legal backup are obtained for likely implementation of countermeasures that are considered appropriate by the ETF/MOH/MAF.	ETF/MOH/MAF	
	c. Ensure information are appropriately shared, and the response is well co-ordinated from the Centre (Vaiola Hospital, MOH) d. Maintain consultative process with WHO.	ETF, MOH ETF focal person/CLO	
Situation monitoring and Surveillance	As in above Phases: plus		
	a. a. Identify and investigate any suspect case with an epidemiological link to affected areas, within first 24 hours of being reported.	MOH [CD, Clinicians. Lab.]	
	b. b. Consider border control screening possibilities, especially those traveling from declared affected areas by WHO c. Enhance surveillance both on epidemiological and laboratory possibilities.	ETF/CLO, Border control team EpiNet teams/SMOCD/ Lab officer in charge	Some of the electronic thermo-scans that were bought for SARS are still in stock & good status.

	Small cluster(s) with limited human-to-human transmission in Tonga but spread is highly localized; suggesting that delay the virus is not well adapted to humans.	
	d. Record details of clinical findings/symptoms, epidemiological information of all suspected cases with ILI or acute respiratory illness.	SMOCD/EpiNet teams, MOH pandemic subcommittee
	e. Share information on suspected cases with WHO, SPC/PPHSN even CDC for international surveillance purposes.	As above +CLO
	f. Consider sending isolates from suspected cases to assist with case monitoring and management, and international laboratory research and vaccine development. .	As above
	g. Strengthen surge capacity for surveillance.	As above
Health Care and Emergency Response	As in above Phases, plus:	
	a. Review Health care and emergency response plan, and ascertain that there is reasonably enough capacity to implement it.	MOH Pandemic Subcommittee [MOHSC]
	Small cluster(s) with limited human-to-human transmission in Tonga but spread is highly localized; suggesting that delay the virus is not well adapted to humans.	
	b. Focus training and provision of medical supplies including PPE etc for infection control measures, where the cases (cluster) were identified.	As above
	c. In other areas of Tonga, health care facilities should be alerted to the possibility of ILI in any person with fever, myalgia, sorethroat or cough.	As above
	d. Definition of ILI need to be reviewed.	As above/ETF
	e. Promotion of antiviral therapy for the HCWs.	ETF/MOHSC
	f. Mortuary services and spaces need to be addressed.	MOH [Med Superintendent, CMOs]
Public Health measures		
- Non-pharmacological measures	As in above Phases; plus	
	a. Consider border screening of passengers from any affected areas as declared by WHO.	ETF/Border control team
	b. Restrict domestic traveling if clusters identified in Tonga.	As above
	Small cluster(s) with limited human-to-human transmission in Tonga but spread is highly localized; suggesting that delay the virus is not well adapted to humans.	
-	c. Identify geographical spread of location of identified suspected influenza cases.	ETF/MOH
	d. Discourage traveling/visiting areas with identified suspected clusters within Tonga.	ETF/Immigration
	e. Consider doing exit screening for domestic travelers traveling to non-affected islands.	As above
Pharmacological measures	As in section of the above Phases . ***Small cluster(s) with limited human-to-human transmission in Tonga but spread is highly localized; suggesting that delay the virus is not well adapted to humans.***	

	a. a. Possible administration of antivirals to health care workers, border control workers, the exposed and the cases.	MOH
	b. b. Maintain records of all those that receive antivirals, their responses and side-effects.	MOH [charge nurses]
Communication	As in similar section of the above Phases; plus:	
	a. Risk communication with health care workers is enforced.	
	b. Sessions with hospital, clinic and health center staffs, to remind and re-visit important issues like infection control measures; pandemic event will overwhelm the services. c. Establish a network of existing counselors/social workers to be accessed by any of the staffs whenever needed.	ETF/CMOs MOH Epidemic/pandemic subcommittee
	Small cluster(s) with limited human-to-human transmission in Tonga but spread is highly localized; suggesting that delay the virus is not well adapted to humans.	
	d. Establish a 24-hour mean of communication as 'Hotline', between key health personnel and the hospital/clinic/health center staffs. e. Similar 24-hour communication set up to be available to the members of the community for consultation.	ETF/MOH, TCC As above
	f. The public should be updated daily by the communication officer(s).	ETF/communication officer(s)
	g. The Government should be informed on daily basis with the progress of the human-to-human transmission and the national situation. h. h. The copy of the same report to the Government should be transmitted to WHO.	Minister of Health MOH/CLO

PANDEMIC ALERT PERIOD

PHASE 5: ***Large cluster(s) of between 25-50 persons identified, but human to human transmission is still localized; suggesting that the virus is becoming increasingly better adapted to humans but may not yet by fully transmissible (substantial pandemic risk)***

Planning, Co-ordination & Reporting	As contained in similar section in Phases above; and plus:	Minister of Health
	a. Regular updates of Government officials (like the Cabinet) on strategies set out to address the likely pandemic event that is brewing	ETF focal person
	b. Alert the nation through relevant stakeholders of pending pandemic event.	ETF/official communication officer.
	c. Assess legal framework to support enhanced surveillance, border control management, public health interventions, treatment priorities and others. ***When the larger cluster(s) are occurring in one of the island groups of Tonga.*** d. Activate appropriate sections/parts of the pandemic preparedness and response plan. e. Review response plan for pandemic influenza event, and address any identified gaps.	ETF,MOJ ETF,MOH ETF
	f. Request for assistance from WHO or SPC/PPHSN.	ETF focal person/CLO
	g. Consider changing strategy from containment to maintaining essential services.	ETF

Situation monitoring and surveillance	a. As in similar section in the Phases above when situation occurs overseas. : plus b. Maintain routine surveillance, and conduct data collection and epidemiological analysis on any suspect cases.	MOH [CDS/HIS]
	c. Border control management: screening of passengers from declared affected areas.	ETF, Border control team
	When the larger cluster(s) are occurring in any of the island groups of Tonga. d. Enhanced epidemiological and hospital surveillance on patients, HCWs, contacts. e. Review definition of Influenza like Illness (ILI).	 MOH [CD, HIS]
	f. Ensure whether laboratory is prepared to take influenza virus isolates from cases, suspected, and contacts.	EpiNet teams + Lab
	g. Activate relevant portions of the Pandemic preparedness and response Plan h. Exit screening on domestic flights/vessels to outer islands especially if cluster(s) are in main island of Tongatapu.	ETF ETF/Border teams
	i. Assess effectiveness of containment measures.	ETF
	j. Report to WHO, SPC/PPHSN & report to Government via Minister of Health k. Note: must continue animal health surveillance	ETF/MOH/MAF ETF/MAF
Health care and emergency response	a. As in similar section in above Phases, plus: b. a. Update and reinforce alert messages to all health care facilities. c. Update and ascertain management of surge capacity in all aspects of response as indicated in the Pandemic preparedness and response plan. d. c. Update case definition, and disseminate together with protocols for case-findings and their management, infection control guidelines [in line with WHO guidelines] and surveillance.	 MOH/ETF As above
	When the larger cluster(s) are occurring in any of the island groups of Tonga. e. Full mobilization of health care services especially at the location of cluster(s). f. Deployment of HCWs, and to make arrangement for additional personnel for the work-force. g. Update case definition; protocols for case-findings and surveillance; implementation of infection control measures eg: PPE and others.	 MOH/ETF
Public health interventions	h. Activate morgue management	MOH/Ministry of Works
Non-pharmacological interventions	As in similar section in above Phases; plus a. As appropriate, implement travel advisories or restrictions to those coming from declared affected areas.	
	c. Review quarantine regulation d. Consider using quarantine measures as part of border management	ETF, MOJ, Quarantine team
	When the larger cluster(s) are occurring in any of the island groups of Tonga. e. Implement strategies to enhance social distancing eg: school & work closures; banning public gatherings etc., f. Restrict mobilization to affected island(s),	 ETF/MOH, MOE, other stakeholders ETF
	g. Discourage visiting sick relatives and friends.	ETF

Pharmacological interventions	a. As in similar section in above Phases; plus b. Revisit issues on availability of antivirals for HCWs, border management teams, and contacts. Others like those with chronic underlying medical conditions.	MOH, MOJ
	c. Explore availability of pandemic vaccines.	MOH, WHO/CLO
	When the larger cluster(s) are occurring in any of the island groups of Tonga. d. Initiate and record all those who are on antiviral therapy. e. Continue pursuing possibility of pandemic vaccine being available.	 MOH [Charge nurses] MOH
Communication	As in similar section in above Phases; plus: ***When the larger cluster(s) are occurring in any of the island groups of Tonga***. a. Regular update of health care workers and other stakeholders including regional and international working partners on situation that is unfolding in Tonga	 MOH/Communication officer
	b. Daily session with HCWs especially at the location where clusters are identified.	MOH[CMO Clinical, SMOCD]/ETF/communication officer(s)
	c. Activate and expand 'hotline' services - d. Multimedia dissemination of updated situation of the pandemic on daily basis.	ETF, Telecom office Communication officer(s)
	e. May need to redefine key messages as the pandemic progresses as the main focus is to decrease social disruption and maintain essential services	ETF/MOH
	f. Daily updates to Minister of Health, WHO, SPC/PPHSN	ETF [Chair/ Comm.officer/ CLO]

PANDEMIC PERIOD

PHASE 6: ***There is increased and sustained transmission in the general population***

Note: (a) When this phase occurs overseas, the pandemic risk is imminent to all countries worldwide. But Tonga's response will determine the impact of the pandemic threat or event in Tonga.

Planning, & Co-ordination	Declaration of the pandemic by WHO, and the Government is informed immediately.	Minister of Health
	Activation of National disaster plan; Pandemic preparedness and response plan and other stakeholders' disaster contingency plans. Ensure funding is obtained to fund the pandemic response	Respective organizations, committees, groups. Government with ETF
	There is increased and sustained transmission in the general population in one group of islands a. Declare state of emergency, and threat to the rest of the country.	 Prime Minister/ Minister of Health
	b. Maintain each island's pandemic sub-committees with the aims of minimizing morbidity and mortality, maintaining social stability and obtain economic support.	MOH/ETF and various stakeholders

	c. Implement all relevant portions from the pandemic plan	All stakeholders
	d. Assess and consult WHO, SPC/PPHSN for possible assistants	MOH/CLO
	There is increased and sustained transmission in the general population throughout Tonga	
	e. Maintain aims as mentioned above, especially now that all systems and workforce may be overwhelmed.	MOH, All other stakeholders
	f. Frequent meetings of ETF	
	g. Activate relevant components of pandemic response plan, and contingency plan of each of essential services, eg Police, Fire, Education, Private sectors etc.	All stakeholders
	End of first wave of pandemic with decreasing number of cases *[though there may be still increased and sustained transmission in the general population]*	
	h. Assess the impact of the pandemic, and quickly try to address gaps in preparation for the next possible wave.	ETF
	i. Continue co-ordinating response from the Centre [Vaiola Hospital]	ETF/MOH
Situation monitoring and surveillance	a. Maintain routine surveillance but review ILI definition used in the surveillance.	MOH
	b. Review possibility of enhanced laboratory surveillance for sending isolates to WHO CC lab (Melbourne) or Institute Pasteur (New Caledonia).	MOH
	c. Border control measures: Review: border entry screening on international airports and seaports.	ETF/border control team
	There is increased and sustained transmission in the general population in one group of islands	
	d. As above, plus: enhanced surveillance for case findings, possible contact identification, and track movement in geographical location.	MOH
	e. The rest of the nation continues to be vigilant in their surveillance and border control measures.	ETF/Communication team
	f. ***There is increased and sustained transmission in the general population throughout Tonga***	
	g. Maintain routine and hospital surveillance.	
	h. Aim at collecting detailed relevant surveillance information for assessment of the impact of the situation. [morbidity, mortality, risk groups, health care personnels, supplies, alternate 'hospitals', mortuary capacity etc]	
	i. Review possibility of sending isolates to WHO for analysis and for vaccine development.	MOH/CLO
	j. Ongoing report/updates to Government, others like WHO.	As above
	End of first wave of pandemic with decreasing number of cases *[though there may be still increased and sustained transmission in the general population]*	
	k. Assess the gaps in the surveillance systems and address them according to lesson learned, and be ready for the next wave.	ETF
	l. Adjust surveillance case definition as indicated.	ETF/MOH/WHO/ CLO
	m. Gather any findings from lab isolates, if any, review vaccine and antiviral policy.	As above
Health care and emergency response	a. Ensure capacity to address health emergency response plan is adequate.	MOH
	There is increased and sustained transmission in the general population in one group of islands	

	b. Activate components of the health emergency response plan.	MOH/ETF	
	c. May request assistance from the Centre (Vaiola Hospital) if outer island is affected OR Vaiola will request further deployment of staffs from outer islands.	As above	
	d. Promote use of antivirals for HCWs, cases, contacts. ***There is increased and sustained transmission in the general population throughout Tonga***	MOH/CLO	
	e. Implement b,c,d as above.	All	
	f. ***End of first wave of pandemic with decreasing number of cases*** *[though there may be still increased and sustained transmission in the general population]* g. Assess impact of the event, identify gaps, and explore resources to address those gaps before the next wave.	ETF	May request for expert assistance from WHO/PPHSN
	h. Alert all HCWs of situations overall.	MOH/ETF	
	i. Update and disseminate guidelines for clinical care of patients and contacts [in hospitals and in community], and infection control. j. Assess effects of antiviral (if available).	As above As above	
	k. Share experience via PacNet (SPC/PPHSN) with other PICTs and internationally.	EpiNet teams	
Public health interventions	.		
Non-pharmacological interventions	a. a. Ensure legal framework is in place for implementation of planned interventions when situation arises, including quarantine regulation.	ETF/MOJ	
	b. b. Border screening of arrivals from affected areas. c. ***There is increased and sustained transmission in the general population in one group of islands***	Border control team (civil aviation, port authority)	
	d. c. Promote social distancing to minimize transmission [school closure, banning mass gatherings, workplace closure etc.]	All stakeholders	
	e. d. Discourage movement between affected island and the rest of the group or vice versa. f. e. Promote other simple prevention measures eg masks, cover mouth when cough/sneeze, avoid visiting homes where there are ill persons.	As above As above	
	g. ***There is increased and sustained transmission in the general population throughout Tonga***		
	h. f. Intensify implementation of b-e. i.	As above	
	j. ***End of first wave of pandemic with decreasing number of cases*** *[though there may be still increased and sustained transmission in the general population]*		
	k. g. Assess impacts of implemented interventions, and to address gaps from lesson learnt.	ETF/EpiNet teams	
Pharmacological interventions	a. Review policy on antiviral use on priority groups. b. Ensure adequate supply is at hand.	MOH/ETF/MOJ MOH/ETF	
	There is increased and sustained transmission in the general population in one group of islands OR all of Tonga.		

	c. Antivirals [and possible pandemic vaccines] distributed among the priority groups identified.	MOH/ETF
	d. Maintain register of all those that are being provided with antivirals [and vaccines]; effects and side-effects etc..	MOH – Charge nurses
	End of first wave of pandemic with decreasing number of cases *[though there may be still increased and sustained transmission in the general population]* e. Assess records of those given the antivirals [and vaccines].	MOH, ETF
	f. Ensure supply will be available if need is indicated.	As above
Communication	a. Inform Government and all health care facilities and other stakeholders of the pandemic strain.	Minister of Health/ETF
	b. Keep the public informed through the multimedia. May need to redefine messages to alleviate fear, anxiety, grief, and to alert public of the need to comply with public health measures that will be enforced. ***There is increased and sustained transmission in the general population in one group of islands OR all of Tonga.*** c. Implement a daily news release as in a and b above.	ETF/Communication officer, media counterpart All
	d. Daily communication with all health care facilities for update of situation and for consultation.	Physicians/SMO CD/Communication officer(s)
	e. Maintain communication with the regional/international agencies like WHO, SPC/PPHSN(PacNet) by receiving and imparting information from Tonga. f. Acknowledgement of efforts in general, limitation of what the Government can offer should be communicated to the public at large.	ETF/EpiNet teams ETF/communication officer
	End of first wave of pandemic with decreasing number of cases *[though there may be still increased and sustained transmission in the general population]* g. Inform the public with the likelihood of the pandemic wave subsiding, and the possible yet unpredictable beginning of the next wave sometimes. h. Evaluate status of communication during the above phases, and address gaps as identified	ETF/MOH, communication team ETF/Communication team
	i. Formal debriefing with all the stakeholders.	ETF

Note:

1. Pandemic influenza events usually come in waves (3) but time interval for the next Phase to occur varies.
2. 2. Also, some of the activities per Phase mentioned in this Plan, may be ongoing to be included in the following Phases but each Phase, there are activities that need to be carried out.

7 FUNDING

The development of a national influenza pandemic preparedness and response plan for Tonga is now complete, bearing in mind the importance of the Plan to be simple, plausible, contextual and affordable for implementation. However, considering that Tonga is among the category of developing countries with limited resources, and in addition to the current challenging economic situation of the nation, it is most crucial that the Plan should be good, relevant and updated, to attract potential donors and working partners to contribute to its funding.

Political endorsement and commitment from the highest level is of utmost important to be obtained, and so does to commitment of all stakeholders involved in the development of the Tonga national Influenza pandemic preparedness and response plan. The support and assistance from the international health organizations like WHO, SPC, and working partners like AusAID and NZAID, should always be part of the plan in view of identifying various source of funding or in kind.

Despite various monetary needs from stakeholders to implement different services as considered essential at times like an event of pandemic threat or an event, there are crucial elements of the Plan, like the purchase of medication including antivirals, antibiotics, medical supplies, and border control measures, to mention a few, that will need priority attention, and priority allocation.

Every stakeholder should assess their own situations, identifying possible sources of funding mainly for surge capacity, and proposed a respective budget. It must be born in mind that budget proposals should be close to reality as much as possible, and contribution from each stakeholders' existing inbuilt resources should not be part of each stakeholders' respective proposal.

8 ACKNOWLEDGEMENT

The members of the Epidemic/Pandemic Taskforce would like to thank the Minister of Health for his great interest and influence to get the Influenza Pandemic preparedness and response Plan for Tonga developed and completed. Dr Seini Kupu developed the Plan and in consultation with the National Epidemic/Pandemic Taskforce.

Congratulation is extended from the author to all the members of the Taskforce, and the MOH pandemic subcommittee for their inputs and support towards the completion of this Plan.

Malo 'aupito

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1 Tomkins, S.M., The Influenza Epidemic of 1918-1919 in Western Samoa. The Journal of Pacific History, 27:2, 1992 p.181-197.

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5 WHO Global Influenza Pandemic Preparedness Plan (WHO/CDS/CSR/GIP/2005.5) http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_5/en/index.html

6 Australian Government Ministry of Health and Ageing, Australian Management Plan for Pandemic Influenza http://www.health.gov.au/internet/wcms/publiching.nsf/Content/phd-pandemic-plan.htm

7 Republic of Palau Pandemic Influenza Response Plan, 2005.

8 Infection Control Manual: www.who.int/entity/csr/disease/influenza/en/influenza.pdf

9 Avian influenza: food safety issues: http://www.who.int/foodsafety/micro/avian/en/index.html

10 CDC: Respiratory hygiene, cough etiquette in health care setting guidelines: http://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene/htm

11 Guidelines for standard precautions including droplet precaution: www.cdc.gov/incidod/hip/ISOLAT/std_prec_excerpt.htm

FOR EXTRA INFORMATION

- WHO website on Influenza Pandemic Preparedness: http://www.who.int/csr/disease/influenza/pandemic/en/

ANNEX 1: LIST OF MEMBERS OF THE TONGA NATIONAL EPIDEMIC/PANDEMIC TASKFORCE

Chairperson: Dr Litili 'Ofanoa, Director of Health
Vice chair: Dr M. 'Ake, Chief Medical Officer, Public Health & Chair to MOH Pandemic Subcommittee
Focal point of contact: Dr Seini Kupu, Senior Medical Officer Communicable Disease Control & Prevention Section & EpiNet team focal point.
Legal Adviser: Mrs 'Alisi Taumoepeau, Attorney General

Members:

1. Mr Va'inga Tone, A/Secretary, Foreign Affairs (Immigration Dept. is an auspice)
2. Mr Haniteli Fa'anunu (or rep) – Director of Ministry of Agriculture and Food
3. Mr Viliami Ma'ake, A/Secretary of Civil Aviation
4. Mr Falefehi Moala, Senior Executive officer (SEO), Livestock Section, Ministry of Agriculture and Food
5. Mr Sione Foliaki, SEO, Quarantine Dept.
6. Mr Lupeti Vi, Chairman Port Authority
7. Dr Siale 'Akau'ola – Medical Superintendent, Vaiola Hospital
8. Sr Lata Malu – Chief Nursing Officer
9. Mr Maliu Takai, National Disaster Committee & A/Director Ministry of Works.
10. Mr 'Aisake Eke (or rep) – Secretary, Ministry of Finance
11. Mr Uilou Samani (or rep) – Director of Environment Dept.
12. Mrs 'Elenoa 'Amanaki (or rep) – Manager, A3Z Radio Broadcasting and TV Tonga
13. Mr Feleti Tu'ihalamaka – Tonga Chronicle Newspaper
14. Mr 'Alani Falevai – Assistant Deputy Police Commander, Police Dept.
15. Mr Sione Taumoefolau – Tonga Red Cross.
16. Mrs 'Eseata Fusitu'a – Chief Secretary and Secretary to Cabinet, PM Office [Rep. for Town and District Officers]

ANNEX 2: BUDGET PROPOSAL FOR VARIOUS COMPONENTS OF THE NATIONAL INFLUENZA PANDEMIC MANAGEMENT AND RESPONSE PLAN

Background:
There were three significant influenza pandemics In the past 20th century: the 1918 Spanish flu; Asian flu in 1957, and Hong Kong flu in 1968-69, and of these the 1918 affected the world the most with up to 50 million deaths, and the Pacific was hit the hardest with some Pacific islands, like Samoa and Tahiti losing about 25% of their total population, and Tonga lost 16%. [PPHSN Influenza guidelines, 2004]

Preparedness Plan is one of the important key factors for combating large scale threats or event of the level of an influenza pandemic. Tonga, through a National multisectoral Epidemic/Pandemic Taskforce had prepared a National Influenza pandemic preparedness and response plan, which is to be submitted for His Majesty's Cabinet for endorsement and for Legislative approval.

This budget proposal is aimed at facilitating the smooth implementation of planned services as provided in the National Influenza Pandemic Management and Response Plan. Even though Tonga's economic situation is in a critical status as of now, it is only more pertinent that Tonga should be prepared to defend the safety of its people the best it can with what it has, and seek support from its friends, internal and external, to make up for the gaps.

The budget proposed:
All stakeholders within the Taskforce were asked to develop their own contingency plan, mapping out activities as per pandemic periods and phases. It is anticipated that some of these activities may not need some budget allocation while some Plans as of the Ministry of Health, Agriculture, Border control team, even NGO like Red Cross, may have more monetary needs than others.

The Health budget includes stockpile of limited amount of antiviral, namely Tamiflu (Oseltamivir caps) for 20% of the population; other medical supplies like medication ike antibiotics; paracetamol and IV fluids can be provided through the Ministry's current budget. However, Personal Protective Equipment (PPE) is among the priority supplies that the MOH needs. Since the nature of this threat or event of a national scale is a health condition, the health budget makes up the most, while other stakeholders add on their respective needs. It was understood that much of the budgets given are to address surge capacity issues.

Members of the taskforce understood that there are activities that will be supported from their existing inbuilt resources. There are also some budgeted items like training, media & communication matters and few others are to be addressed collectively through co-ordinated mechanism by the taskforce members.

The budget lines:

Table A: Estimated budget for the Health component of the National Pandemic Preparedness and Response Plan.

Item no.	Items	Quantity	Cost (T$ otherwise stated)	Total cost
Ministry of Health				
1	Neuraminidase Inhibitors (eg Oseltamivir [tamiflu] and Zanamivir [relenza)	20,000 courses	Tamiflu = AUS$40/course	AUS$800,000 [Exch.rate: AUS$1=TON$1.45] $1,160,000
5	PPE [Masks, gloves, goggles]	50,000		$45,000-00
6	Communication- Multimedia awareness program (radio & TV, IEC materials)			$21,600-00
7	Training HCWs, community outreach, school interventions (including outer islands)			$18,600-00
8	Influenza reagents for rapid tests	50	30/test	$1500-00
			Total	**TOP$1,246,700-00**

Note: Other essential services' stakeholders are reviewing their respective priority budgetary needs for their respective plans.