



**MINISTRY OF HEALTH**  
GOVERNMENT OF TONGA

P.O. Box 59  
Nuku'alofa, Tonga  
Phone: (00676) 23-200, 28-233  
Fax: (00676) 24-291

## **SITUATION REPORT**

### **Tonga Measles Outbreak 2019**

**SITREP Number: 7**  
**Date of Issue 27/11/2019**

#### **1. Summary of Situation**

##### **Background**

The outbreak of measles in Tonga began in early October 2019, following the return of a squad of Tongan rugby players from New Zealand. The first rugby player developed measles in New Zealand. Subsequently a further 12 players developed laboratory-confirmed measles after returning to Tonga. The outbreak has involved mainly teenagers from schools on Tongatapu, as well as students from Vava'u High School. Cases on Vava'u appear to be slowing, with the most recent case reported last Thursday. However, cases are now being seen more widely in other age groups and other geographic locations, including the islands of 'Eua, Niuatoputapu and Ha'apai. An inter-disciplinary Ministry of Health Epidemic Task Force meets weekly to advise on management of the outbreak. In addition to routine outbreak response activities, a time-limited vaccination program targeting secondary school students has been completed on Tongatapu and has now started on other islands.

**Note: Refer to earlier SITREPS for further detail of the initial cases and response.**

#### **2. Current Situation**

As at 26 November 2019, 394 cases of confirmed or suspected measles have been identified in Tonga. 344 (87%) of cases have occurred on the main island of Tongatapu, where the outbreak began. The smaller outbreak on Vava'u has a total of 44 (11%) cases. Additionally, 5 cases of rash illness have occurred in children on the island of 'Eua, while a single case of rash illness has occurred in a child on the island of Ha'apai. Note that details of the case on Ha'apai are not yet available and data for this case has not been included in the analysis below.

Eight admissions to hospital have occurred among measles cases in this outbreak, with no deaths. The significant majority of cases have been managed in home isolation.

Figure 1 (below) shows the epidemic curve for the current outbreak in Tonga and is consistent with a propagated outbreak matching the incubation period for measles. The significant majority of cases (blue) occurred on the island of Tongatapu, while those in orange/ red indicate cases reported on Vava'u (all of which relate to the return of two rugby players with measles). Figure 2 demonstrates the breakdown of cases by sex. Consistent with transmission through boarding schools, most cases are among males, while case numbers have increased among females as the outbreak has progressed. A total of 49 cases have occurred in children aged less than 5 years, an increase on the 34 cases for this age group in SITREP6. Cases among adolescents and young people continue to form the majority of cases in this outbreak, with 325 (82%) cases occurring in people aged 10 to 24 years (Table 1 and Figure 3). This effect is particularly marked in males, where 249 of 282 cases (88%) have occurred in the 10 to 24-year-old age group. Consistent with previous SITREPs, the predominant symptom report was rash in 387/394 cases (98%) and fever in 340/396 (86%).

A look-back at paper records has been undertaken to examine vaccination histories. Of the 380 notified cases, 145 have documented vaccination histories, with the remaining 235 cases awaiting verification. Of the 145 cases with documentation, 119 (82%) have been fully vaccinated with at least 2 doses of measles-containing vaccine (MCV), while 26 (18%) have a single documented dose of MCV and 3 have no documented vaccination records. Note that only 17 additional vaccination records have been accessed since SITREP6 due to operational constraints and difficulty accessing paper records for these cases.

#### **Key events/ issues since last SITREP**

- Vaccination efforts are targeting groups at greatest risk of measles infection, as well as those at greatest risk of severe illness, including:
  - Infants aged 6 to 11 months, who are being offered a 'zero dose'
  - Extended family contacts of suspected and confirmed cases
  - Adolescents and young adults aged 10 to 24 years, not already picked up in the school-based program, without documentation of 2 doses of MCV
  - Travellers
- The total number of vaccinations administered, as at 22/11/2019 is 11,869 (see Table 2):
  - School-based vaccination: 8,432 (clinics now completed at all secondary schools on Tongatapu and started at schools on other islands)
  - Other: 3,437
- Increasing number of cases are seen outside the predominant age group (10 to 19 years) and risk category e.g. children, infants
- Cases of rash illness have been identified on three islands outside the two islands of Tongatapu and Vava'u, where the outbreak was focused in its early phases. These cases have been classified as suspected measles
  - 'Eua: 5 cases
  - Ha'apai: Single case in a child with an epidemiologic link to Tongatapu, but no new cases in over a week
  - Niuatoputapu Island: Single suspected case, but no new cases for over a week
  - No specimens have yet been taken to confirm measles in any of the above cases. Viral swabs are being sent to these locations
- Vaccine supplies of measles-rubella (MR) vaccine have been depleted by immunisation initiatives directed at the priority groups listed above. The Tongan Ministry of Health wrote to UNICEF requesting 13,000 additional doses of MR vaccine and 7,000 doses of MR vaccine arrived in Tonga on 22/11/2019. The remaining 6,000 vaccines are being sourced by UNICEF. Excluding vaccine being held on other islands, the vaccine supply on the main island of Tongatapu is down to 1,400 doses remaining. A letter will be provided to overseas travellers asking them to postpone vaccination until early next week, when the next consignment of vaccine is expected to arrive
- The Minister of Education closed all primary schools on 14/11/2019. A decision has been made to continue the closure until the end of the year, although students will return on 28/11/2019 to receive their reports. Middle school students will attend briefly on 27/11/2019 to receive their reports
- Secondary school final exams finished last week. Secondary schools remain open for the final weeks of term. Planned graduation ceremonies will continue, although schools have agreed to hold smaller events for each school rather than church denomination-wide combined events. Ongoing discussions are being held between the Ministry of Health and organisers of school graduation ceremonies, to minimise the spread of measles at these events
- A week-long gathering of around 5,000 Roman Catholic Church youth members from around the Pacific was planned for the coming week. However, the Ministry of Health has held talks with organisers of this event and the event has now been cancelled
- Approximately 1,000 seasonal workers will be leaving Tonga to work in agricultural roles in Australia and New Zealand in coming months. While this is acknowledged as an important group for vaccination, current efforts are prioritising infants aged 6 to 11 months for 'zero dose' and contacts of cases
- There is currently an adequate supply of personal protective equipment (PPE) and 2,000 N95 masks have recently been received from New Zealand. However, this amount is sufficient only to meet short-term needs and more PPE will be required in the near future. Additional stocks of N95 masks and hand gel are expected to arrive from WHO in the coming week
- 100 additional viral swabs arrived in Tonga on 25/11/2019 from WHO DPS

**Actions Taken:**

- In all locations where suspected cases have been identified, Doctors, Health Officers and District Health Nurses are continuing to follow-up cases and contacts at home and complete details of case investigations and vaccination histories
- The inter-disciplinary Epidemic Task Force (ETF) continues to meet weekly to discuss the measles outbreak response
- IEC materials on measles have been translated and printed:
  - Airport banners in Tongan and English have been created and are being distributed to all airports that cater for international flights, including Vava'u (flights to/ from Samoa and Fiji)
  - Posters in Tongan and English for display in public places and hospital waiting areas
  - Pamphlets for distribution
- Additional IEC written materials are being considered for further printing and distribution
- 19 respiratory swabs and 12 serum samples taken from suspected cases who meet the criteria for diagnostic testing, including those with serious illness and suspected new lines of transmission, have been sent to the Victorian Infectious Disease Reference Laboratory (VIDRL) for analysis. Specimens from 32 earlier suspected cases had previously returned 22 positive results by nucleic acid testing (NAT/ PCR)

**Actions to be Completed:**

- Weekly meetings of Epidemic Task Force to continue
- Work with WHO and other partners to source adequate PPE supplies, as well as vitamin A and normal human immunoglobulin (NHIG)
- Continue discussions with VIDRL regarding interpretation of serology results in cases known to have previously been vaccinated for measles and await results of recent specimens sent to VIDRL for testing
- Continue to work with representatives of churches and other organisations to try to postpone mass gatherings wherever possible
- Await arrival of 6,000 additional MR vaccine doses from UNICEF (expected arrival in Nadi, Fiji: 30/11/2019)
- Further actions to ensure that travellers and touring sporting teams/ groups as well as seasonal workers are vaccinated for measles as necessary before departure
- Continue contact tracing and post-exposure MR vaccination of extended family contacts of cases as part of intensive case follow up
- Complete verification of measles immunisation records for cases and their contacts
- Continue with enhanced surveillance activities, including completion of minimal case report form (CRF) by outpatient clinic staff

**Next SITREP due to be issued at: 04/12/2019**

**Approved by:** Dr Siale 'Akau'ola, Chief Executive Officer MOH

**Date:** 27/11/2019

**Abbreviations:**

DPS	WHO Division of Pacific Technical Support
HCW	Health care worker
IEC	Information Education Communication
MCV	Measles containing vaccine
MFAT	New Zealand Ministry of Foreign Affairs and Trade
MOH	Ministry of Health
MR	Measles rubella vaccine
NFP	National Focal Point
PEP	Post exposure prophylaxis

RT-PCR	Polymerase chain reaction
TCT	Tupou College Toloa
THS	Tonga High School
TCA	Tonga College 'Atele
SIA	Supplementary Immunisation Activities
VIDRL	Victorian Infectious Diseases Reference Laboratory
WHO	World Health Organization
WPRO	WHO Regional Office for the Western Pacific
UNICEF	United Nations Children's Fund

Charts  
Figure 1

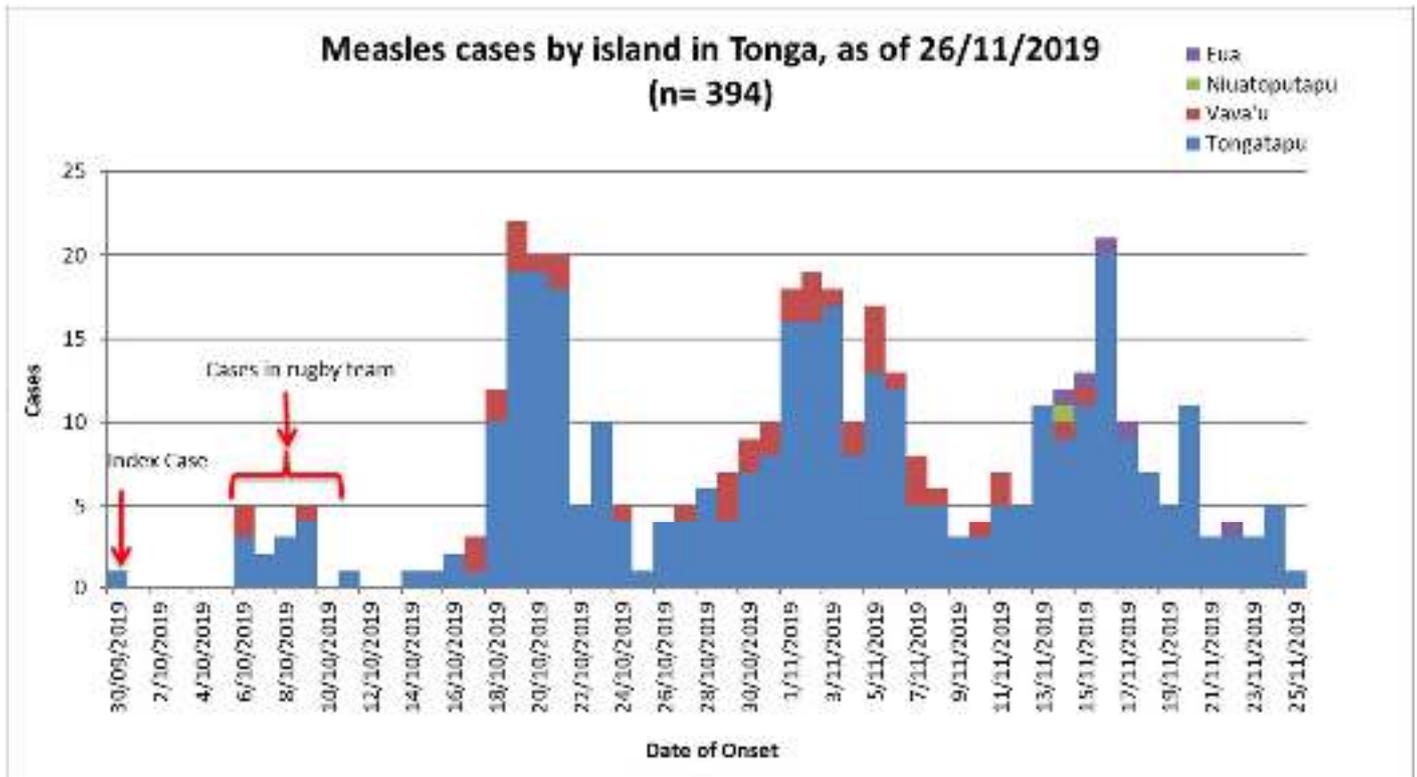
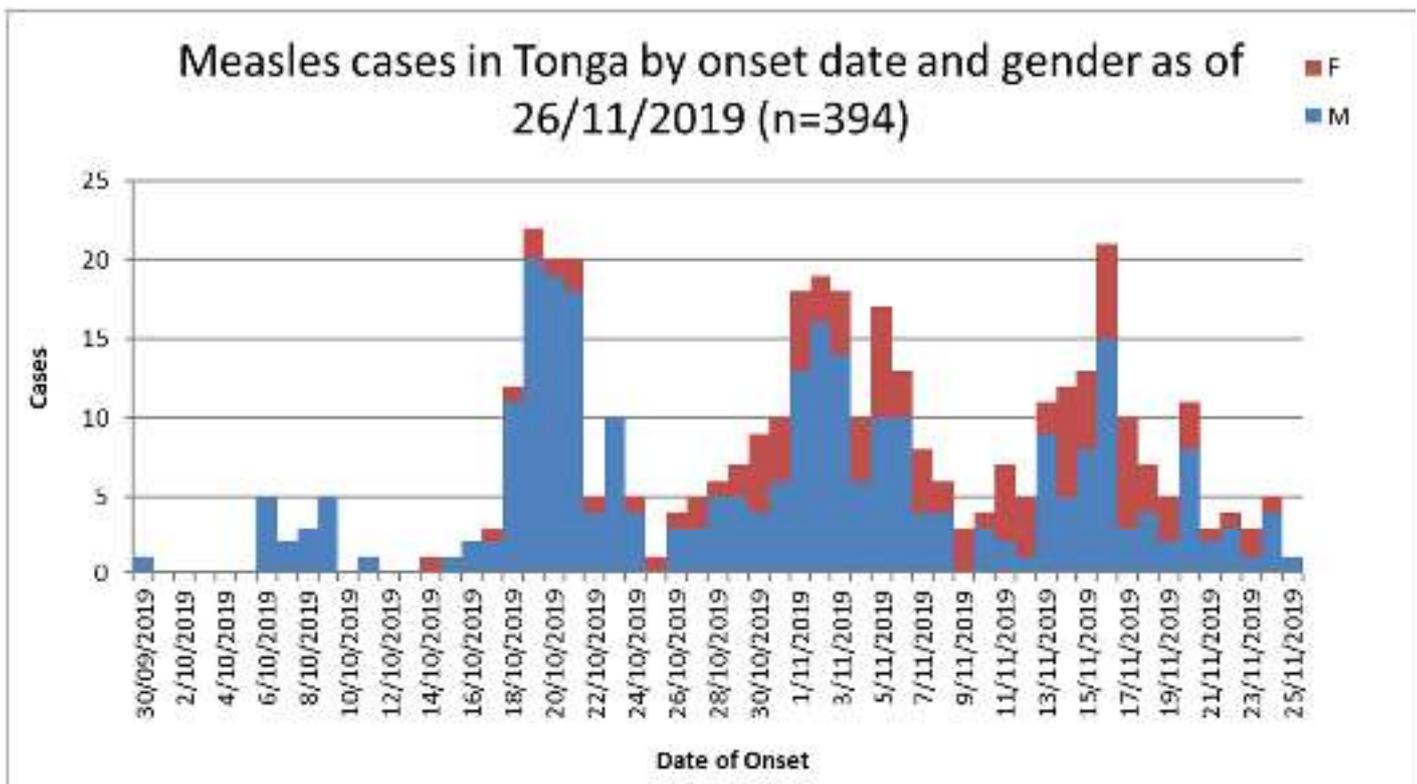
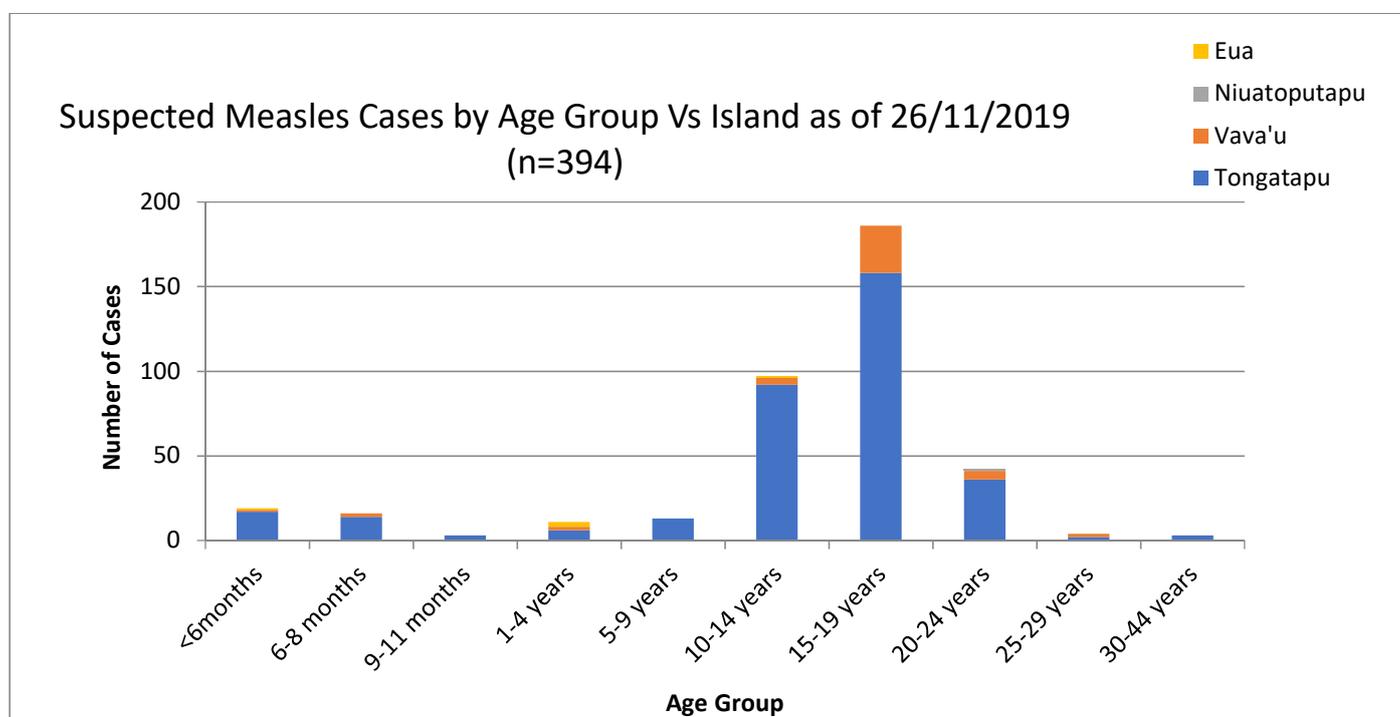


Figure 2



**Table 1: Age distribution of cases in measles outbreak, Tonga, 25 November 2019**

Age	Male	Female	Total
Less than 6 months	8	11	19
6 to 11 months	7	12	19
1 to 4 years	5	6	11
5 to 9 years	10	3	13
10 to 14 years	84	13	97
15 to 19 years	144	42	186
20 to 24 years	21	21	42
25 to 29 years	2	2	4
30 years and over	1	2	3
<b>Total</b>	<b>282</b>	<b>112</b>	<b>394</b>

**Figure 3: Age distribution of cases by island in measles outbreak, Tonga 2019****Table 2: Vaccine doses administered in measles outbreak, Tonga, as at 22/11/2019**

Location	Program type	MR doses administered
Tongatapu	School	5,074
	Other	2,826
Vava'u	School	1,893
	Other	449
Ha'apai	School	782
	Other	68
Eua	School	559
	Other	60
Niuatoputapu	School	124
	Other	34
Total	School	8,432
	Other	3,437
<b>Grand total</b>		<b>11,869</b>