

# PLAGUE OUTBREAK

## Madagascar

### External Situation Report 10



Date of issue: 14 November 2017

#### 1. Situation update

Grade	Cases	Deaths	CFR
2	2 119	171	8%

WHO continues to support the Ministry of Public Health and other national authorities in Madagascar to monitor and respond to the outbreak of plague. From 7 to 10 November 2017, 86 confirmed, probable and suspect cases of plague were reported.

From 1 August to 10 November 2017, a cumulative total of 2 119 confirmed, probable and suspected cases of plague, including 171 deaths (case fatality rate 8%), have been reported from 55 of 114 (48%) districts in Madagascar. Analamanga Region has been the most affected, with 72% of all recorded cases.

Since the beginning of the outbreak, 1 618 (76%) of reported cases have clinically been classified as pulmonary plague, 324 (15%) as bubonic plague, one was septicaemic, and 176 have not yet been classified (further classification of cases is in process). A total of 82 healthcare workers (with no deaths) have been affected.

Of the 1 618 clinical cases of pneumonic plague, 365 (23%) have been confirmed, 573 (35%) are probable and 680 (42%) remain suspected (additional laboratory results are in process). Twenty-five isolates of *Yersinia pestis* have been cultured and are sensitive to all antibiotics recommended by the National Plague Control Program.

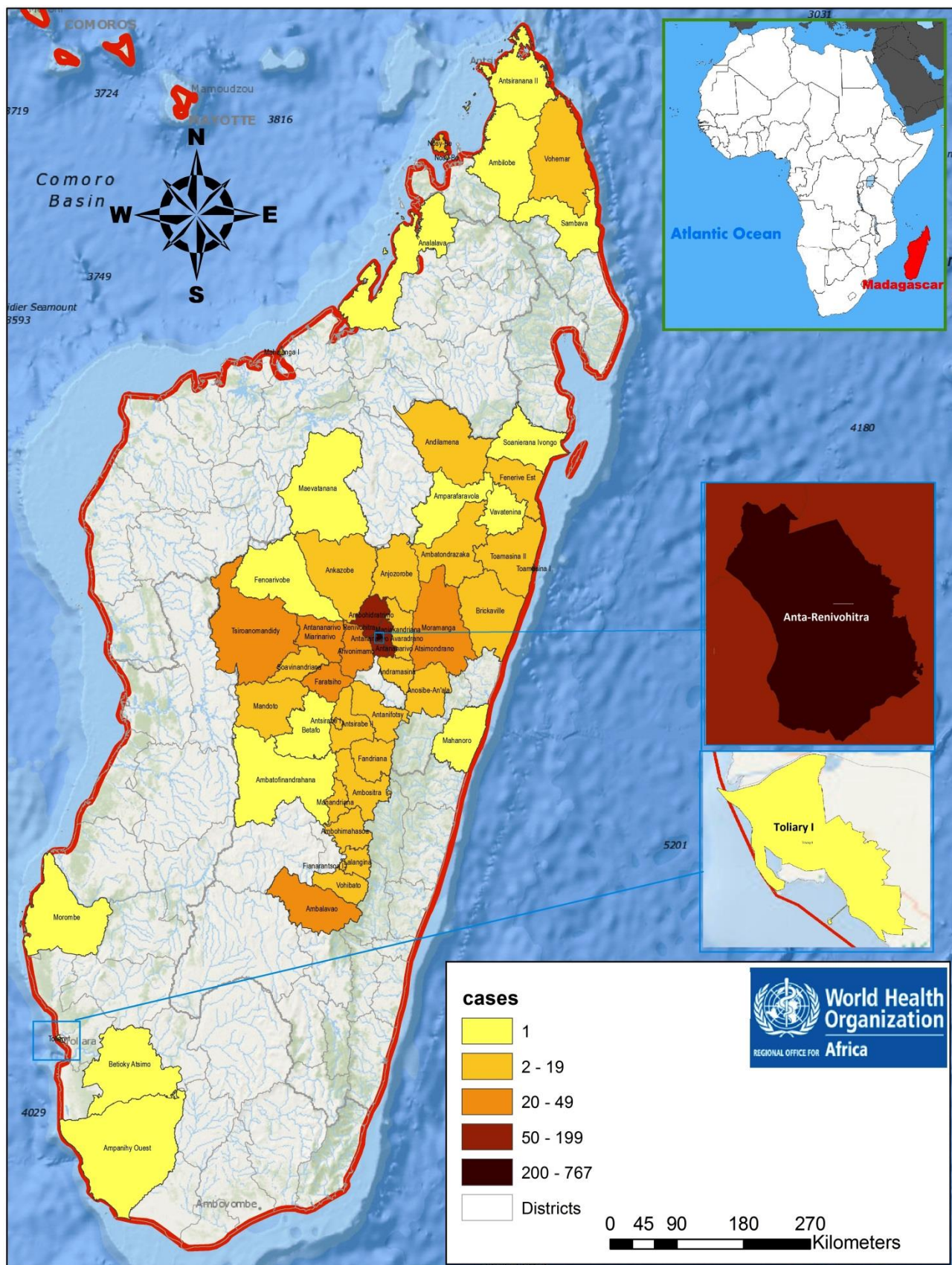
About 95% (6 729) of 7 122 contacts identified thus far have completed their 7-day follow up and a course of prophylactic antibiotics. Since the beginning of the outbreak, a total of eleven contacts developed symptoms and became suspected cases. On 10 November 2017, 218 out of 243 (90%) contacts under follow-up were reached and provided with prophylactic antibiotics.

Plague is endemic on the Plateaux of Madagascar, including Ankazobe District, where the current outbreak originated. A seasonal upsurge, predominantly of the bubonic form, usually occurs yearly between September and April. This year, the plague season began earlier and the current outbreak is predominantly pneumonic and is affecting both endemic and non-endemic areas, including major urban centres such as Antananarivo (the capital city) and Toamasina (the port city).

There are three forms of plague, depending on the route of infection: bubonic, septicaemic and pneumonic (for more information, see the link

<http://www.who.int/mediacentre/factsheets/fs267/en/>).

Figure 1. Geographical distribution of cases of plague in Madagascar as of 10 November 2017



NB: The figures in the External Situation report are subject to change due to continuous data consolidation, cleaning and reclassification, and ongoing laboratory investigations. The data reported are based on best available information reported by the Ministry of Public Health.

## Current risk assessment

The number of new cases of pneumonic plague has steadily declined since mid-October. From 7 to 10 November 2017, 73 pneumonic and 9 bubonic cases of plague have been reported to WHO. While the number of new cases and hospitalizations of patients due to plague is declining in Madagascar, WHO anticipates additional cases to be reported until the typical plague season ends in April 2018.

Based on available information and response measures implemented to date, the potential risk of further spread of plague at national level remains high. The risk of international spread is mitigated by the short incubation period of pneumonic plague, implementation of exit screening measures and advice to traveller to Madagascar, and scaling up of preparedness and operational readiness activities in neighbouring Indian Ocean islands and other southern and east African countries. The overall global risk is considered to be low.

WHO is re-evaluating the risk assessment based on the evolution of the outbreak and information from response activities.

## Strategic approach to the prevention, detection and control of plague

WHO recommends the implementation of proven strategies for the prevention and control of plague. These strategies include (i) coordination of the response, (ii) enhanced surveillance, (iii) laboratory confirmation, (iv) contact identification and follow-up, (v) case management, (vi) infection prevention and control, (vii) safe and dignified burials, (viii) social mobilization and community engagement, (ix) logistics, (x) risk communication, (xi) vector control, (xii) partner engagement, (xiii) research and (xiv) resource mobilization.

## 2. Actions to date

### Coordination of the response

- A high level inter-Ministerial coordination forum, chaired by the Prime Minister, has been established to provide strategic and policy directions to the plague outbreak response. Similarly, the Country Humanitarian Team of the United Nations System established a strategic coordination platform for partners, chaired by the Resident Coordinator.
- The health response is coordinated by the Ministry of Public Health, co-led by WHO and supported by agencies and partners directly involved in the health response. The health sector response is organized into four major committees: (i) surveillance, (ii) community engagement and education, (iii) case management, and (v) communication; with the logistics committee crosscutting all committees.
- Coordination of partners in the Health cluster has been strengthened to ensure effectiveness, avoid duplication in the field and ensure efficient coverage of the affected areas. The Health cluster is having weekly meetings, with some partners participating in the national coordination platforms. The 4W matrix is being updated.
- Cross sectoral non-Health actors (media, transport, defence, education, etc.) are being coordinated by the National Risk and Disaster Management Office (BNGRC).
- Since the declaration of the outbreak, WHO (Country Office, Regional Office for Africa (AFRO) and Headquarters (HQ) are providing direct technical and operational support to the country, and collaborating closely with partners, including partners in the Global Outbreak Alert and Response Network (GOARN) to ensure rapid and effective international assistance to this outbreak response.
- WHO has classified the event as a Grade 2 emergency, based on its internal Emergency Response Framework. Accordingly, WHO has established its Incident Management System (IMS), and has repurposed internal resources and mobilized external resources.
- The regional emergency operations centres (EOC) are fully operational in five hotspots areas, including Antananarivo, Tamatave, Mahajunga, Fionarantsoa, and Fenerive. Other sub-national coordination capacities are being assessed, and will be implemented and strengthened based on the epidemiological situation.

## Surveillance, contact identification and follow-up

- Training modules for field investigators, community agents and supervisors have been updated and distributed to all the regions. Training of investigators, community agents and their supervisors has been completed in Vakinankaratra and Atsinanana Regions.
- An emergency and death alert system, known as Emergency PESTE 910, has been set up, with the support of UNICEF, PSI and WHO.
- The Ministry of Public Health, in close collaboration with the Institut Pasteur Madagascar and WHO, continues with collection, compilation, updating, and cleaning of the plague database, and preparation of situation and epidemiological reports.
- An automated data collection tool (VOOZANOO), which transmits district data to the central level, is being implemented in all relevant regions.
- A total of 1 800 community health workers in Antananarivo and 2 632 from other affected regions are carrying out contact tracing activities. These activities have been supervised by 340 medical doctors and students.

## Laboratory

- Diagnostic capacity for plague is provided at the Institut Pasteur de Madagascar (IPM). All the samples collected are analysed at IPM and the results are shared regularly.

## Clinical management of patients

- The International Federation of Red Cross (IFRC), in association with the Malagasy Red Cross, opened its plague treatment centre at Andohatapenake Hospital, with an initial capacity of 10 beds.
- Nine plague treatment centres have been established, of which six are in Antananarivo. The treatment centres are supported by IFRC, MSF, MdM, UNICEF, and WHO.
- USAID has provided six mobile clinics to transport patients to hospitals within Antananarivo.

## Infection prevention and control

- A total of 346 healthcare providers have been trained on infection prevention and control measures at various health facilities, including the three plague treatment centres in Ambalavao, Antsirabe and Fianarantsoa. Thirty of the participants were from Haute Matsitra Region.
- The partners supporting water, sanitation and hygiene (WASH) and infection prevention and control (IPC) activities during the plague outbreak include UNICEF, WHO, ACF, MSF, USAID RANOWASH, CDC, OCHA, and others.
- UNICEF supported distribution of WASH and IPC supplies, materials and equipment to three new treatment centres in Ambalavao, Antsirabe and Fianarantsoa. Some of the materials include handwash facilities, garbage cans, laundry soap, chlorine powder, hydroalcoholic solutions, sprays, and personal protective equipment.
- Action Against Hunger installed a bladder tank.
- A total of 198 staff made up of hygienists, guards, launderers, coordinators, and logisticians have been hired in the six treatment centres in Antananarivo and 70 additional staff have been hired for treatment centres in Tamatave and Fenerive East.

## Social mobilization, community engagement and risk communications

- Social mobilization and community engagement training modules in French and Malagasy have been developed. Training of trainers using the new modules started on 30 October 2017 in Tamatave and Antananarivo. Eventually, a total of 768 volunteers and 192 Fonkontany leaders in Tana and 548 volunteers and 137 supervisors in Tamatave will be trained.
- Training of hospital receptionists, intended to improve communication with and provide a cordial welcome to patients, medical staff and families of patients, has been planned.

- The dignified and safe burial protocol has been finalized and submitted to the national authorities for validation. Implementation of this protocol is expected to reduce reluctance and encourage communities to report all cases of deaths. A report of pre-tests of the protocol conducted in Antananarivo Ville and Tamatave shows that 90% of the population consulted were in favour of the measures proposed in the protocol.
- A series of recommendations have been developed to guide medical staff handle patients and their families in care centres and hospitals in a sensitive manner.
- The WHO risk communication team are managing a message bank to ensure that the technical content of all messages is appropriate and validated by specialists from each pillar. The message bank allows harmonization of all messages used by the various communication media. The messages are reviewed by the national teams in Antananarivo and Tamatave to facilitate customization to the regional context.
- UNICEF supported production of field-tested public awareness/education materials (posters, brochures, radio/television spots). A total of 69 000 posters and brochures have been produced and distributed, including to partners in the Ministries of Transport and Tourism, church groups and other key influencers.
- IFRC Malagasy Red Cross has provided training in plague education, vector control, community sensitization, and other topics via a training of trainers course in Antananarivo from 20 October to 11 November benefitting 10 coordinators and 35 supervisors. Additional training activities have occurred in 10 districts where plague cases have been reported.

## Logistics

- The Logistics Committee is conducting regular meetings to improve supply management chain.
- UNICEF donated 23 tents, 50 beds, 150 adult body bags, 64 children's mortuary bags, 300 boxes of 100 pairs of gloves, 12 000 surgical masks, 400 masks, and three inter-agency emergency health kits.
- A total of 1.2 million doses of antibiotics donated by WHO have been delivered to the national authorities in the country.
- USAID has donated 18 000 respirator masks, 100 000 simple masks and 10 vehicles to support operations of the Department of Public Health.

## Resource mobilization

- The joint response plan between the Government of Madagascar and its partners has been adjusted to US\$ 9.5 million, in view of the multisectoral response to the urban plague outbreak. As of 19 October 2017, only 26% of the US\$ 9.5 million joint response plan budget had been funded.
- To date, WHO has provided US\$ 1.5 million, UNICEF US\$ 500 000, the International Federation of the Red Cross US\$ 250 000, UNDP US\$ 300 000, and UNFPA US\$ 331 000. In addition, other organizations have provided assistance in kind: China has provided medicines worth US\$ 200 000. The funds received to date, have been largely consumed.
- Contributions from the private sector are increasing: the Oilers Group donated US\$ 16 000, Canal+ offered free message broadcasting, DHL offered storage facilities, and Ambatovy, the Orange Solidarity of Madagascar Foundation and the BFV Bank - Société Générale have donated personal protective equipment (PPE).
- The IFRC Malagasy Red Cross has contributed over CHF 2 million to date.

## Partnership

- On 31 October 2017, a delegation of experts from China held discussions with the national authorities and WHO in Antananarivo with the main objective of defining the areas of collaboration and the support to the response.
- In support of the Ministry of Public Health and the other national authorities, WHO and the GOARN partners deployed emergency response teams. By 6 November 2017, a total of 135 experts (85 from the WHO Country Office in Madagascar, 35 through the WHO Headquarters and 15 from the WHO Regional Office for Africa) were deployed to support the response in various fields. Additional 16 experts were deployed through the GOARN partners.

To date, no cases of plague have been reported outside of Madagascar.

- Nine countries and overseas territories have been identified as priority countries in the African region for plague preparedness and readiness by virtue of having trade and travel links to Madagascar. These countries and overseas territories include Comoros, Ethiopia, Kenya, Mauritius, Mozambique, La Réunion (France), Seychelles, South Africa, and Tanzania.
- The key readiness actions being implemented in each priority country, in coordination and collaboration with major partners (UNICEF, CDC, ECDC, Red Cross/Red Crescent Societies etc.), include:
  - Increasing public awareness of plague and enhancing surveillance for the disease, particularly at points of entry, such as air and sea ports;
  - Conducting specific contingency planning with all health sector partners;
  - Prepositioning of equipment and supplies, including PPE, antibiotics, and other equipment required to safely identify and manage potential plague cases.
  - Providing in-country technical assistance in a range of areas, including surveillance, training on case detection, contact tracing, social mobilisation and risk communication.
- WHO has prepositioned equipment and supplies, including PPE, antibiotics and other equipment required to safely identify plague cases, in Comoros, Mauritius, Mozambique, Seychelles, and Tanzania.

## IHR travel measures

- Based on the available information to date, the risk of international spread of plague appears very low. WHO advises against any restriction on travel or trade on Madagascar. To date, there are no reported cases related to travel.
- The risk of international spread is mitigated by the short incubation period of pneumonic plague, implementation of exit screening measures, advice to travellers to Madagascar, and scaling up of preparedness and operational readiness activities in neighbouring Indian Ocean islands and other southern and east African countries.
- The measures put in place since 8 October 2017 by WHO and Ministry of Public Health of Madagascar to mitigate international spread of the disease are still in place at the International Airport in Antananarivo. These measures include: completing a departure form at the airport (to identify passengers at risk); temperature screening of departing passengers and referring passengers with fever to airport physicians for further consultation; passengers with symptoms compatible with pneumonic plague are immediately isolated at the airport and investigated via rapid diagnostic test, and notified under standard alert protocol. Symptomatic individuals are not allowed to travel. A WHO GOARN team (CDC and INVS/SPF) has provided technical support at the airport to finalize the exit screen protocol with the airport and Points of Entry authorities, and to implement an evaluation of the protocol.
- WHO continues to monitor travel measures being implemented at points of entry; a summary as of 13 November 2017 is below:
  - Significant interference with international traffic: Travel ban to and from Madagascar by Air Seychelles since 8 October 2017, denial of entry for foreign passengers coming from Madagascar to Seychelles since 11 October 2017 and isolation of travellers coming from Madagascar to Seychelles since 11 October 2017. Public health rationale received from Seychelles health authorities on 2 November in relation to the suspension of travel by Air Seychelles.
  - No interference with international traffic (media signals only):
    - Travel advice to exercise a high degree of caution: Australia, Ireland, Portugal, South Africa, UK, and USA.
    - Avoid unnecessary travel to Madagascar: Kenya, Mauritius, Seychelles, and United Arab Emirates.
    - Accelerate preparedness at airports/ports: China, Comoros, Hong Kong, Kenya, Mauritius, Mozambique, Reunion, and South Africa.
    - Entry screening: Hong Kong (temperature screening), China, Kuwait (health inspection report), and Mozambique.
- In a press release on 3 November 2017, following a visit by the Secretary General of the World Tourism Organization (UNWTO), the UN body expresses confidence in tourism in Madagascar and is echoing the WHO advice against any travel or trade restrictions against Madagascar.

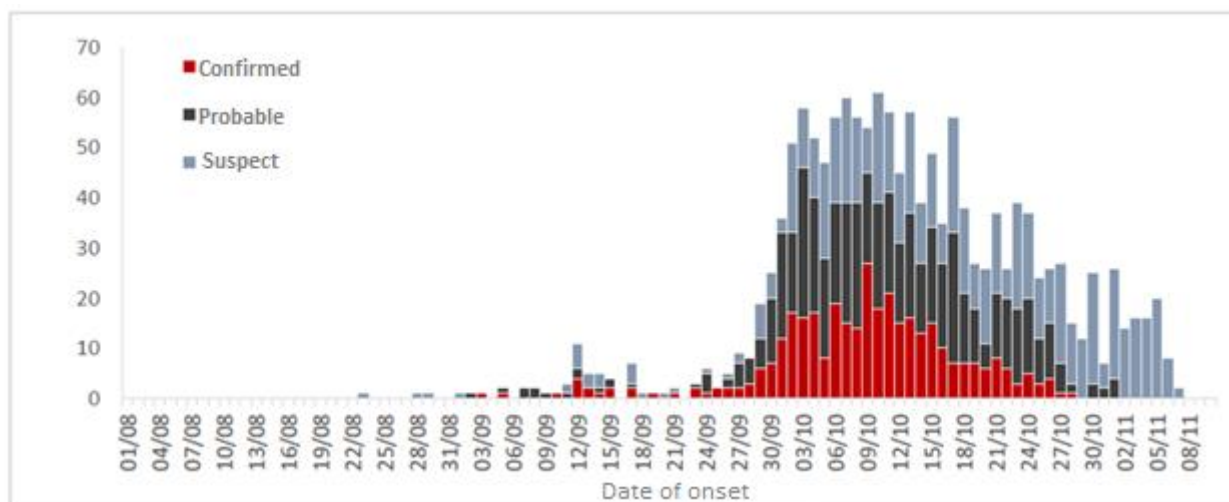
### 3. Summary of public health risks, needs and gaps

In spite of the declining incidence of pneumonic plague and overall reduction in hospitalizations of patients due to plague infection, sustaining ongoing operations, including active case finding and treatment, comprehensive contact identification, follow-up and antibiotic treatment, rodent and flea control, and safe and dignified burials is crucial during the outbreak and through the plague season as it is critical to minimize bubonic plague infections and human-to-human transmission of pneumonic plague.

Proposed ways forward include:

- Improve timely flow and analysis of surveillance data in order to monitor the evolution of the outbreak and provide evidence for effective response operations.
- Fast-track approval of the dignified and safe burial protocol and initiate its implementation in the communities
- Improve timely shipment of laboratory specimens from remote and distant districts to the capital.
- Strengthen animal and vector surveillance and control interventions
- Increase funding of the national response plan to enable the national authorities and partners to effectively contain the outbreak and put in place additional measures until the end of the epidemic season in April 2018.
- Continue strengthening response operations at the community level, especially case detection and referral.
- Continue to provide adequate supplies of personal protective equipment and rapid diagnostic test kits at operational level.
- Continue to strengthen community-based surveillance systems to facilitate early detection of cases.
- Enhance and sustain risk communication and social mobilization through the various communication channels. Continue to strengthen preparedness and readiness activities in priority countries.

**Figure 2. Distribution of pulmonary plague cases reported in Madagascar, 1 August – 10 November 2017.**



# Annex 1: Timeline of reported events during the plague outbreak in Madagascar, 11 September - 2 November 2017

