

PLAGUE OUTBREAK

Madagascar

External Situation Report 14



Date of issue: 4 December 2017

1. Situation update

Grade

2

Cases



2 417

Deaths



209

CFR

9%

Due to concerted national and international response the current and unprecedented outbreak of plague in Madagascar, which started on 1 August 2017, has been contained.

On Monday, 27 November the Ministry of Health of Madagascar officially announced the containment of the acute urban pneumonic plague outbreak. However, because plague is endemic in Madagascar and the plague season lasts from September to April, more cases of bubonic and sporadic pneumonic plague are expected to be reported until April 2018. WHO and other stakeholders will continue to support the Ministry of Health of Madagascar to maintain vigilance and to sustain a strong alert and response system to rapidly detect and respond to new plague cases as they emerge.

From 20 to 26 November 2017, 72 cases of plague (1 confirmed, 6 probable and 65 suspect) were reported to WHO. The date of onset of the last confirmed bubonic case was 18 November 2017 and the date of onset of the last case of secondary pneumonic plague (primary bubonic form) was 19 November 2017.

From 1 August to 26 November 2017, a cumulative total of 2 417 confirmed, probable and suspected cases of plague, including 209 deaths (case fatality rate 9%), have been reported from 57 of 114 (50%) districts in Madagascar. Analamanga Region in central Madagascar has been the most affected, with 68% of all recorded cases. Since the beginning of this outbreak, the vast majority of cases have been treated and have recovered. As of 26 November 2017, only 13 people were hospitalized for plague. There has been no international spread outside the country.

The majority of the reported cases (1 854, 77%) have been clinically classified as pneumonic plague, 355 have been classified as bubonic plague (15%), one was septicaemic, and 207 have not yet been classified (further classification of cases is in process). Eighty-one healthcare workers have had illness compatible with plague, none of whom have died.

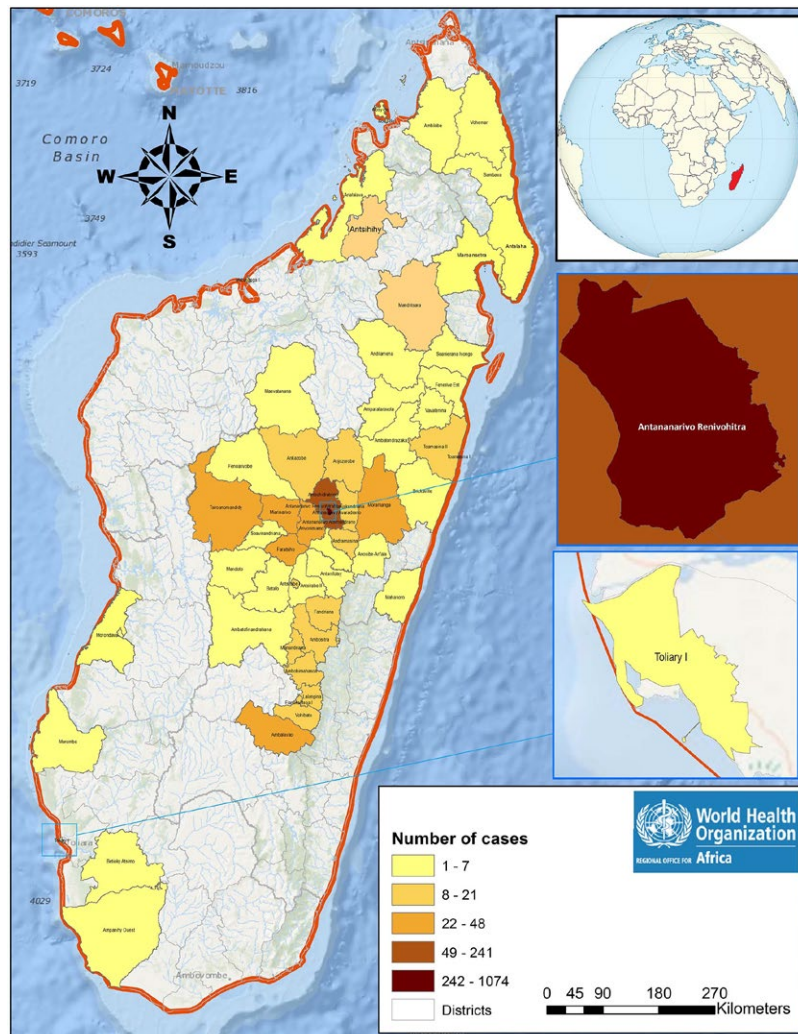
Of the 1 854 clinical pneumonic cases, 390 (21%) have been confirmed, 618 (33%) are probable and 846 (46%) remain suspected (additional laboratory results are in process). Thirty-three isolates of *Yersinia pestis* have been cultured and are sensitive to all antibiotics recommended by the National Plague Control Program.

A total of 7 318 contacts identified during this outbreak have been put under a course of prophylactic antibiotics, including 11 contacts who developed symptoms compatible with plague and were classified as suspect cases. On 26 November 2017, 24 of 29 (83%) contacts were followed.

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 than usual. 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 (a port city).

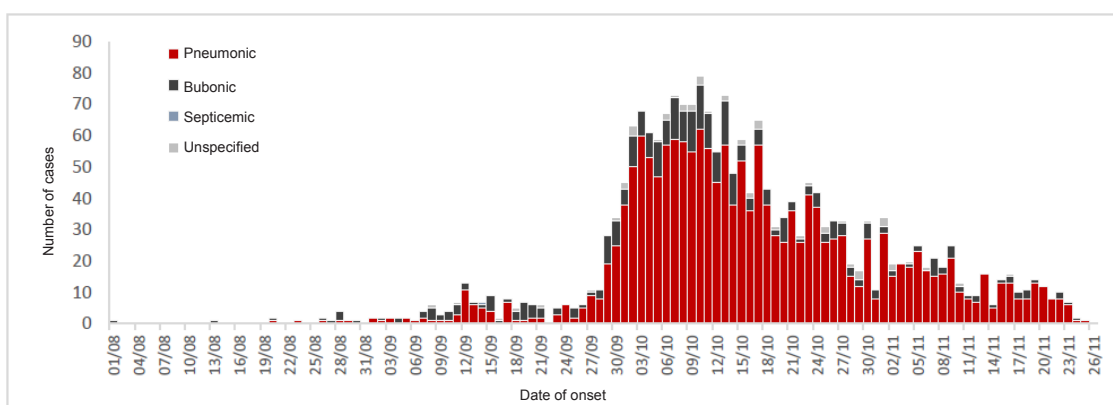
There are three forms of plague, depending on the route of infection: bubonic, septicaemic and pneumonic (for more information, see the link <http://www.who.int/mediacentre/factsheets/fs267/en/>).

Figure 1. Geographical distribution of cases of plague in Madagascar as of 24 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 available information reported by the Ministry of Public Health.

Figure 2. Distribution of pneumonic plague cases reported in Madagascar, 1 August – 26 November 2017



Current risk assessment

The number of new plague cases in Madagascar has steadily declined since mid-October. From 20 to 26 November 2017, 65 of 72 (90%) of reported pneumonic cases have been suspected (not confirmed or probable). The number of bubonic cases has declined since 14 October. The date of onset of the most recently confirmed case of plague was 19 November and, to date, no cases of plague have been reported outside of Madagascar. While the number of new cases and hospitalizations are declining, evidence suggests that the epidemic phase of the acute urban pneumonic plague outbreak is ending. However, WHO anticipates plague cases to be reported until the endemic 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 is moderate. The overall risk at the regional and global level is considered to be low.

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, prophylactic antibiotic administration, 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) strengthening preparedness in priority countries, and (xv) resource mobilization for response.

2. Actions to date

Coordination of the response

- ▶ A high level inter-Ministerial coordination forum, chaired by the Prime Minister, has been established in country 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 updated regularly.
- ▶ 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.
- ▶ A stakeholder's meeting was held on 10 November 2017 to develop short, medium, and long term strategic plans.

Surveillance, contact identification and follow-up

- ▶ An investigation of the most recent confirmed case of secondary pneumonic plague, who died on 21 November, is being conducted by WHO epidemiologists and the Ministry of Public Health of Ankazobe.

- Response activities are being strengthened in Ankazobe district, and telephones and a thermoflash thermometer were provided to the district to strengthen active surveillance.
- Active case finding is ongoing in 66 public and private healthcare facilities in the Analamanga region.
- There is an ongoing exercise to classify unspecified cases in the database, aimed to provide a clear epidemiological picture of the outbreak.
- Nineteen members of district and regional management teams have been trained in case investigation and the training of healthcare providers in contact tracing is ongoing in the Itasy region.
- 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 de Madagascar (IPM) 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. All the samples collected are analysed at IPM and the results are shared regularly.
- A new sample transportation system has been established to facilitate timely delivery of samples to IPM and provide rapid feedback of results to the health facilities.

Clinical management of patients

- The case management committee validated a new patient screening guideline, which was disseminated to all triage and plague treatment centres.
- 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

- Information products (posters on hand hygiene and use of antibacterial solution) was provided to the Ministry of Public Health as a part of its Nutrition Days event.
- All schools were disinfected and a watch committee set up in each school prior to the reopening of public primary and secondary schools on 6 November 2017.
- 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.
- Fifty-seven healthcare providers were trained in IPC at the university hospital (Centre Hospitalier Universitaire) in Befelatanana on 14 and 15 November 2017.

- Providers at private healthcare facilities have been identified for participation in IPC trainings and training materials are being prepared for private healthcare facilities in the Analamanga region.
- A workshop was held to harmonize a Trainer's Guide for the training of trainers in IPC. To date, 30 IPC trainers have been trained by the Ministry of Public Health and WHO in the Analamanga region.
- 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.
- A field visit to plague treatment centres in Ambohimandra and Befelatanana was conducted to monitor IPC activities.

Social mobilization, community engagement and risk communications

- A meeting was held to review community risk communication activities to date, with the goal of developing a plan of action for the coming months of the plague season.
- A teleconference was held between the Ministry of Health and WHO (headquarters and the African regional office) to discuss the status of risk communication and community engagement activities during the outbreak, including strengths, lessons learned, and recommendations for the future.
- A total of 8 000 community leaders have been trained to conduct community-based surveillance, counter rumours and fears, and respond to information needs related to the plague in communities. A strategy for response to rumours based on their seriousness and spread has also been updated.
- Mapping of plague-related communication interventions and community mobilization since the beginning of the outbreak is ongoing.
- As part of the national polio vaccination campaign that began on 22 November 2017, preventive messages for plague were integrated with polio vaccination messages.
- A meeting to reinforce the training of media professionals in plague, polio, and Mother and Child Health Week was held at 11 sites.
- The capabilities of potential multi-sectorial communication commissions in the Antsirabe, Fianarantsoa, Ambalavao, and Toamasina regions have been strengthened. A total of 2 500 community mobilizers have been trained to strengthen the community engagement activities in these four regions.
- Key public health messages are being developed for use at ports and airports and 5 televisions have been installed at the international airport in Antananarivo and 2 have been installed at the international airport in Nosy Be to disseminate plague-related messages.
- Additional information products (video clips, posters) to disseminate information about plague prevention are being developed for use at the Points of Entry in Madagascar.
- 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 Antananarivo and 548 volunteers and 137 supervisors in Tamatave will be trained.
- Community mobilization activities are ongoing in Antananarivo Renivohitra, Antsirabe I, and Toamasina I districts.
- A musical clip about the plague produced by a group of local Malagasy artists has been disseminated.
- 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. By ensuring the burials are dignified and socially acceptable, implementation of this protocol will help encourage communities to report all suspected cases and deaths and will help ensure plague victims are buried safely. 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 in how to 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.
- Plague intervention kits have been prepositioned in 22 regions to facilitate clinical management of 5 cases for 1 week.
- A contingency stock of plague response materials has been prepositioned in Antananarivo.
- The logistical support needed to support vector control in Mahajanga has been evaluated.
- 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.

Partnership

- Partners in the Global Outbreak Alert and Response Network (GOARN), in coordination with WHO, continue to monitor the evolution of the outbreak and deploy experts and technical assistance to support various aspects of the outbreak response and affected communities.
- 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. An additional 16 experts were deployed through the GOARN partners.
- China CDC bilaterally deployed a team of experts to Madagascar.

Resources 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.
- Financial contributions from partners include: WHO US\$ 1.5 million, UNICEF US\$ 500 000, the International Federation of the Red Cross (IFRC) US\$ 250 000, UNDP \$US 200 000, and UNFPA \$US 331 000. The IFRC Malagasy Red Cross has contributed over CHF 2 million to date.
- The US government provided \$1 million through USAID to support response efforts of partners in Madagascar, including USAID Mikolo, Mahefa Miaraka and Institut Pasteur Madagascar; and in-kind contributions of personal protective equipment (PPE). ECHO has provided US\$ 300 000 to support IFRC and UNICEF response activities. Switzerland supported the response through a CHF 200 000 contribution to Action Contre la Faim (ACF).

- In addition, other organizations have provided assistance bilaterally: China has provided medicines worth US\$ 200 000. France provided 255 000 pairs of gloves. Morocco sent medical aid in the form of 34 tons of medicines, medical material and protective equipment. Japan provided masks, blankets, and thermometers. Support from the private sector has been increasing, amounting to a financial contribution of US\$ 16 000 and in-kind contributions, including storage facilities.
- Notwithstanding the financial support and contributions from partners, WHO urgently requires an additional US\$ 4 million to sustain response operations in the next 3 months of the plague outbreak in Madagascar. This funding is needed to interrupt ongoing transmission, provide care for those affected by the disease, reduce the risk of international spread, and provide effective coordination and operations support. To date, WHO has provided US\$ 1.5 million from its Contingency Emergency Funds (CFE) for the immediate outbreak response activities and has received US \$1.23 million from Norway and US\$ 117 000 (EUR 100 000) from Italy.
- WHO thanks all partners and donors for their vital support to the plague response in Madagascar and for the contributions to the Contingency Fund for Emergencies, which allowed efficient and timely joint response to the outbreak.
- While progress has been made in response to the plague outbreak in Madagascar, WHO remains vigilant, and cannot rule out the possibility of future flare-ups. More support is urgently needed to sustain the response until the end of the usual plague season in April 2018.

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 Madagascar¹. To date, there are no reported cases related to international travel.
- WHO continues to monitor travel measures being implemented at points of entry. No new signals related to travel measures have been detected since 3 November.
- On 2 November, Seychelles provided WHO the public health rationale on the suspension of Air Seychelles flights to and from Madagascar. WHO and public health authorities are discussing the need to review current measures in light of the evolution of the outbreak.
- A joint statement by Madagascar, Mauritius, and Seychelles was issued at the World Travel Market in London on 7 November to express a common message of confidence in the measures being taken by Madagascar to overcome the plague outbreak. Ministers of tourism of these countries “recalled that all countries are taking the measures recommended by the World Health Organization (WHO), and expressed their confidence that these are going on the right direction”².
- Information on the plague situation in Madagascar is published weekly and is available at <http://www.afro.who.int/health-topics/plague/plague-outbreak-situation-reports>

Preparedness/operational readiness

- 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.

¹ Plague – Madagascar, Information for international travellers, 3 October 2017, <http://www.who.int/ith/updates/20171003/en/>

² <http://travelcommunication.net/madagascar-mauritius-and-seychelles-issue-statement/>

- 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.
- 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. Plague control measures have been implemented at the international airports in Antananarivo and in Nosy Be. A passenger screening system and visual surveillance system has been implemented at designated points of entry such as Toamasina, Mahajanga, Sainte Marie, Toliary, Taolangnaro, and Antsiranana.

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 a period
- Improve timely shipment of laboratory specimens from remote and distant districts to the capital
- Strengthen animal and vector surveillance and control interventions a period
- 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.

Annex 1: Timeline of reported events during the plague outbreak in Madagascar, 11 September - 21 November 2017

