Clinical features, case definition and surveillance

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Clinical features

- **Bubonic**
- **Septicaemic** (Madagascar 2017: 1/ 2414)
- **Pneumonic**
- **Meningeal**
- **Pharyngeal** (Madagascar 2017: 1/ 2414 ?)

- **Asymptomatic / mild** (Leroy 1997, Madagascar: seroprevalence 6 times higher than reported prevalence)
### Suspect case

<table>
<thead>
<tr>
<th>WHO 2006</th>
<th>Madagascar Oct 2017</th>
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<tbody>
<tr>
<td>Compatible clinical presentation;</td>
<td>All clinically-suspected plague cases that meet the clinical and epidemiological criteria (WHO recommendations)</td>
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<td><strong>AND</strong></td>
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<td>Consistent epidemiological features (exposure to infected animals or humans and/or evidence of flea bites and/or residence in or travel to a known endemic focus within the previous 10 days)</td>
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## Probable case

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<td>At least 2 (in putative new or re-emerging focus) or at least 1 (in known endemic focus) of the 4 following tests must be positive:</td>
<td>Clinically suspected cases with:</td>
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<tr>
<td>• Microscopy: material from bubo, blood or sputum contains Gram-negative coccobacilli, bipolar after Wayson or Giemsa staining;</td>
<td>• positive RDT OR positive molecular biology AND</td>
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<td>• F1 antigen detection in bubo aspirate, blood or sputum;</td>
<td>• culture negative or not performed</td>
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<td>• A single anti-F1 serology positive without evidence of previous Y. pestis infection or vaccination;</td>
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<tr>
<td>• PCR detection of Y. Pestis in bubo aspirate, blood or sputum</td>
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* Serology not performed
### Confirmed case

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| - An isolate from a clinical sample identified as *Y. pestis* (colonial morphology and 2 of the 4 following tests must be positive:  
  - phage lysis of cultures at 20–25 °C and 37 °C;  
  - F1 antigen detection;  
  - PCR;  
  - *Y. pestis* biochemical profile;  
  - OR  
  - A 4-fold difference in anti-F1 antibody titer in paired serum samples;  
  - OR  
  - (in endemic areas when no other confirmatory test can be performed) a positive RDT using immunochromatography to detect F1 antigen. | - Clinically-suspected cases with positive RDT AND positive molecular biology  
  - OR  
  - positive culture |

**World Health Organization**

**EMERGENCIES programme**
Challenges and pending questions

- Clinical diagnosis of PP (and rare presentations)
- Asymptomatic /mild forms
- Specimen collection and transport (serology, haemoculture..)
- Which role for the RDT ?
- What is a suspect case ?
- Outbreak context vs Epidemic season