Specificities of the response to natural and intentional disease outbreaks

Working paper presented by France

1. Measures to address an intentional outbreak and measures to address a natural outbreak are often discussed simultaneously. They should, however, clearly be distinguished, as a biological weapon attack would have very specific technical features. These features are derived from what is known of the biological threat. They would impact the capacity of the international community to provide assistance and support to the targeted State. Moreover, the nature of the response would not be the same in both situations.

2. The aim of this non-paper is to explore these specificities, in order to inform the discussions taking place in the context of various proposals presented at the BWC Review Conference (especially proposals relevant to article IV, article VII and article X).

3. The differences are presented into three sets: technical aspects, organizational issues, investigation and response.

I. Technical aspects.

4. The technical features of an intentional outbreak would be different from those of a natural outbreak, and more complex to handle, especially in terms of diagnosis and mitigation measures.

5. In the event of an intentional outbreak, the international community would face a more complex situation in terms of diagnosis and treatment of victims.

6. As regards diagnostic capacities, the biological agents used in the attack could be modified in order to fool detection and diagnosis systems. Non-specific symptoms would delay diagnosis, and consequently the introduction of appropriate treatments. Non-endemic agents could also be employed in order to slow down the identification of the pathogen.

7. As regards the treatment of victims, several defining factors should be taken into account:
(a) A deliberate attack could target a large number of people simultaneously, as opposed to a natural epidemic spreading gradually;

(b) The use of some specific means of dissemination would be a compounding factor. By causing serious and sudden outbreaks of infectious diseases, it could overwhelm the reaction capacity of the public health systems;

(c) Depending on the mean of delivery chosen to spread the pathogen, an intentional outbreak, unlike a natural outbreak, could lead to large-scale contamination of premises and equipment, not only of people;

(d) An intentional outbreak may rely on modified agents. Possible ways to modify agents include:

(i) Making the agent more virulent, thus increasing morbidity and lethality;

(ii) Making the agent more contagious;

(iii) Shortening the incubation period of the agent;

(iv) Toughening the agent so that it becomes resistant to standard treatments (antivirals, antibiotics, vaccines, antibodies).

8. These specific features imply that facing an intentional outbreak and facing a natural event would not create challenges of the same scale and magnitude. Their respective impact on countermeasures and on existing public health systems cannot be compared.

II. Organizational consequences.

9. A natural health crisis is first and foremost a public health issue involving dedicated organizations such as the World Health Organization (WHO) or the OIE. As was observed during the Ebola outbreak, it may also involve many governmental, international or non-governmental agencies, depending on the magnitude and duration of the crisis.

10. An intentional outbreak should be considered first and foremost as an attack. It is therefore likely that the targeted State would take military and security measures in order to ensure its own defense. Such conditions might be less favorable to an international intervention on the domestic territory, even though, as was stated above, the health problem would be more acute because of the use of modified agents.

11. The fact that a biological weapon attack has taken place, or even the suspicion that a biological weapon attack has taken place, would also lead potential assistance providers to take organizational measures in order to be prepared to face such an attack, should it happen on their territory, or should they be affected. The potential pool of capabilities to tackle the intentional outbreak, that is already limited, could therefore be reduced accordingly.

III. Investigation and response

12. If it is suspected that a disease outbreak is intentional, both a national and an international investigation will have to be carried out, primarily, in order to ascertain the facts (whether the outbreak is natural or not), and possibly to try and identify the perpetrators. It is very likely that a fact-finding mission will be deployed to the site of the outbreak. At the international level, the United Nations Secretary-General Mechanism would be the framework of such a fact-finding mission.
13. On top of this international effort to investigate the outbreak, States whose nationals were victims of the involved pathogen will have to launch criminal investigations into the outbreak. For both United Nations Secretary-General Mechanism fact-finding activities and national criminal investigations, forensic capacities and specialized laboratories with state-of-the-art analytical techniques will have to come into play.

14. In case the involved pathogen was modified (which can only be known after thorough analysis in a specialized laboratory), the medical preparation of the response teams, their equipment, the treatments that they will use, and possibly their tactics, techniques and procedures will have to adjust to the threat. The response will therefore definitely not be the same far a natural outbreak as for a biological weapon attack.