VERSION 1

Managing Yellow fever epidemics

World Health Organization

WHO/WHE/IHM/2019.11

© World Health Organization 2019

Some rights reserved. This work is available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; *https://creativecommons.org/licenses/by-nc-sa/3.0/igo*).

Under the terms of this licence, you may copy, redistribute and adapt the work for non-commercial purposes, provided the work is appropriately cited, as indicated below. In any use of this work, there should be no suggestion that WHO endorses any specific organization, products or services. The use of the WHO logo is not permitted. If you adapt the work, then you must license your work under the same or equivalent Creative Commons licence. If you create a translation of this work, you should add the following disclaimer along with the suggested citation: "This translation was not created by the World Health Organization (WHO). WHO is not responsible for the content or accuracy of this translation. The original English edition shall be the binding and authentic edition".

Any mediation relating to disputes arising under the licence shall be conducted in accordance with the mediation rules of the World Intellectual Property Organization.

Suggested citation. Managing Yellow fever epidemics. Geneva: World Health Organization; 2019 (WHO/WHE/IHM/2019.11). Licence: *CC BY-NC-SA 3.0 IGO*.

Cataloguing-in-Publication (CIP) data. CIP data are available at *http://apps.who.int/iris*.

Sales, rights and licensing. To purchase WHO publications, see *http://apps.who.int/bookorders*. To submit requests for commercial use and queries on rights and licensing, see *http://www.who.int/about/licensing*.

Third-party materials. If you wish to reuse material from this work that is attributed to a third party, such as tables, figures or images, it is your responsibility to determine whether permission is needed for that reuse and to obtain permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

General disclaimers. The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by WHO in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by WHO to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall WHO be liable for damages arising from its use.

Managing Yellow fever epidemics

World Health Organization

Contents

Introduction **5**

Response tips and checklists **6**
- Coordinating responders 7
- Health Information 7
- Communicating risk 8
- Health Interventions 9

Yellow fever – 10 things you should know **11**
- 10 things you should know 11
- Yellow fever response tips 12
- More information about Yellow fever 23

Introduction

The 21st century has already been marked by major epidemics. Old diseases – Cholera, Plague and Yellow fever – have returned, and new ones have emerged - SARS, Pandemic Influenza, MERS, Ebola and Zika. These epidemics and their impact on global public health have convinced the world's governments of the need for a collective and coordinated defense against emerging public health threats and accelerated the revision of the International Health Regulations (2005), entered into force in 2007.

Another Ebola epidemic, another Plague epidemic or a new Influenza pandemic are not mere probabilities, the threat is real. Whether transmitted by contaminated water, mosquitoes, other insects, via contact with animals or person-to-person, the only major uncertainty is when and where they, or a new, but equally lethal epidemic, will emerge. These diseases all have the potential to spread internationally highlighting the importance of immediate and coordinated response.

This manual is an excerpt from the ***Managing epidemics: Key facts about major deadly diseases*** handbook. Although originally developed as guidance for WHO officials, this publication is available to a wide readership including all frontline responders - communities, government officials, non-State actors and public health professionals – who need to respond rapidly and effectively when an outbreak is detected.

Response tips and checklists

A comprehensive outbreak response is always complex, comprising many elements that should be harmoniously coordinated.

The following response tips are used to organize ideas, to make sure no important point is overlooked and keep focus on essential elements of outbreak response. They are organized into four main blocks:

- **Coordinating responders (C)**
- **Health Information (HI)**
- **Communicating risk (C)**
- **Health Interventions (HI)**

The checklists will help you assess what is important and necessary for the response. The outbreak response varies depending on the disease. For some diseases treatment is essential; for other diseases, vaccination is vital.

C

Coordinating responders

HI

Health Information

C

Communicating risk

HI

Health Interventions

Note: Although Communicating risk (C) is part of Health Interventions (HI); it is seen here as a separate component in order to underscore the importance of risk communications.

Coordinating responders

An outbreak is by definition an exceptional event which often requires extra human and financial resources and may also rely on additional partners, agencies and other sectors. Strong coordination is essential at all times to ensure that all those resources and partners are working effectively together to control the outbreak. WHO is often expected to lead the international response to support national health authorities.

Effective coordination requires a **dedicated physical space** (usually an emergency operation centre); **various tools to ensure optimal organization of meetings** and filing of documentation (such as a list of contacts, and a meetings tracking system); **a joint plan of action** regularly updated as the situation evolves, to describe the interventions needed and the distribution of roles and responsibilities among stakeholders; and finally **tools to ensure communication between the various stakeholders** engaged in the response (phone numbers, a dashboard, maps, and a directory).

Coordinating responders checklist

- ✔ What are characteristics of the event that describe it as a crisis?
- ✔ Who are the people, groups and organizations who should work for the response?
- ✔ What should they do? (terms of reference, functions)
- ✔ Where can responders meet? (emergency operation centre)
- ✔ How do they share information? (sharepoint, telephone numbers, generic email)

For more information about coordinating responders:

- Public Health Emergency Operations Centre Network (EOC-NET) *http://www.who.int/ihr/eoc_net/en/*
- WHO Emergency Response Framework (ERF) *http://www.who.int/hac/about/erf/en/*

Health Information

In every event, information is necessary to monitor it, measure the impact of interventions and to guide decision-making throughout the crisis. There are two particular types of information: **surveillance of the disease**, and **information on the interventions** (process and output indicators), which shows the coverage and impact of the interventions being performed. Surveillance provides information on the number of cases and deaths by period and place (people, time, and place). Information on the interventions enables knowing which ones are performed and what is their coverage and impact.

Health Information checklist

Surveillance

- ✔ Is there a case definition shared by all stakeholders?
- ✔ Which laboratories are involved in the testing / confirmation of cases and deaths, and where are they situated?
- ✔ Is there an updated epidemiological curve and mapping of cases and deaths?
- ✔ Which are risk groups, by gender and age?

Interventions

- ✔ What is the target population?
- ✔ What material and human resources are needed and how much?
- ✔ What are the indicators of success? (e.g. vaccine coverage, households targeted, number of people treated)

Communicating risk

During the evolution of any major outbreak, cases and deaths will inevitably increase. An epidemic is the rapid spread of infectious disease to a large number of people in a given population within a short period of time. Similarly, there may well be another kind of epidemic – the rapid spread of information of all kinds, including rumours, gossip and unreliable information. We describe this phenomenon as an "**infodemic**".

Infodemics, like epidemics, can be managed. Field epidemiology is an important part of outbreak response. It encompasses three main areas: **(1)** monitoring and identifying health threats, **(2)** outbreaks investigation, and **(3)** actions for mitigation and control. Similarly, successful management of infodemics will be based on **(1)** monitoring and identifying them, **(2)** analysis of them, and **(3)** control and mitigation measures[1].

Risk communication is an essential intervention in any response to disease outbreaks, and is equally necessary to manage infodemics. Communicating risk in epidemics involves two-way communication that is dynamic and evolving as the outbreak develops.

Outbreak risk communication involves three main strands that must work together.

1. **Talk.** Authorities, experts and response teams must quickly relay information on the nature of the event and the protective measures that people can take. We can use mass media including television, radio, newspapers and internet; social media and text-messaging; community radio; and leaflets and posters. We can use social mobilizers and frontline responders; encourage community engagement; as well as face-to-face communication via trusted interlocutors such as community leaders, religious figures and community health workers. We must use translational communication approaches to develop messages that are appropriate for the target populations in terms of language, educational level and cultural contexts.

2. **Listen.** Responders, experts and authorities must quickly assess and understand the fears,

预览已结束，完整报告链接和二维码如下：
https://www.yunbaogao.cn/report/index/report?reportId=5_25421