

**TRAINING FOR IMPROVED PRACTICE:  
Public Health and Nutrition in Emergencies**

**PRINCIPLES AND PRACTICES  
OF  
COMMUNICABLE DISEASE CONTROL  
IN  
EMERGENCY SETTINGS**

**UNICEF Core Corporate Commitments Training**

In collaboration with:

**Feinstein International Famine Center, Tufts University  
Mailman School of Public Health, Columbia University  
International Emergency and Refugee Health Branch,  
Centers for Disease Control**

# Overview of the Session

- Contribution of communicable diseases to morbidity and mortality in emergency-affected populations
- Characteristics of communicable diseases
- Risk factors in emergency settings
- Public health measures for controlling communicable diseases in emergencies

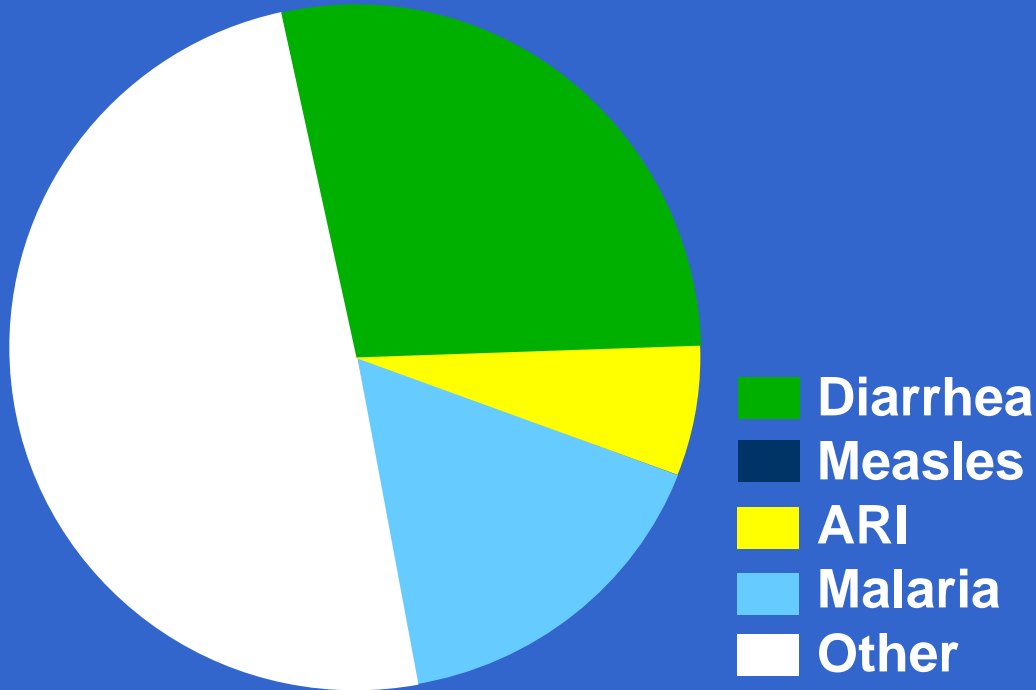
# UNICEF CCC and Communicable Diseases

- Rapid Assessment
  - Health status, health services,
- Coordination
  - Disease control measures across sectors
- Programme Commitments
  - Support for community education & mobilization
  - Support for immunizations & health services
- Operational Commitments
  - Funds, staff, supplies

# Why are we concerned about communicable diseases in emergencies?

## Major Causes of Death in Refugee Populations

Western Ethiopia: Fugnido  
Camp 1989



Malawi: 9 Districts  
July 1990



Source: Centers for Disease Control and Prevention, Famine-Affected, Refugee, and Displaced Populations: Recommendations for Public Health Issues. MMWR, 1992;41(No. RR-13):9.

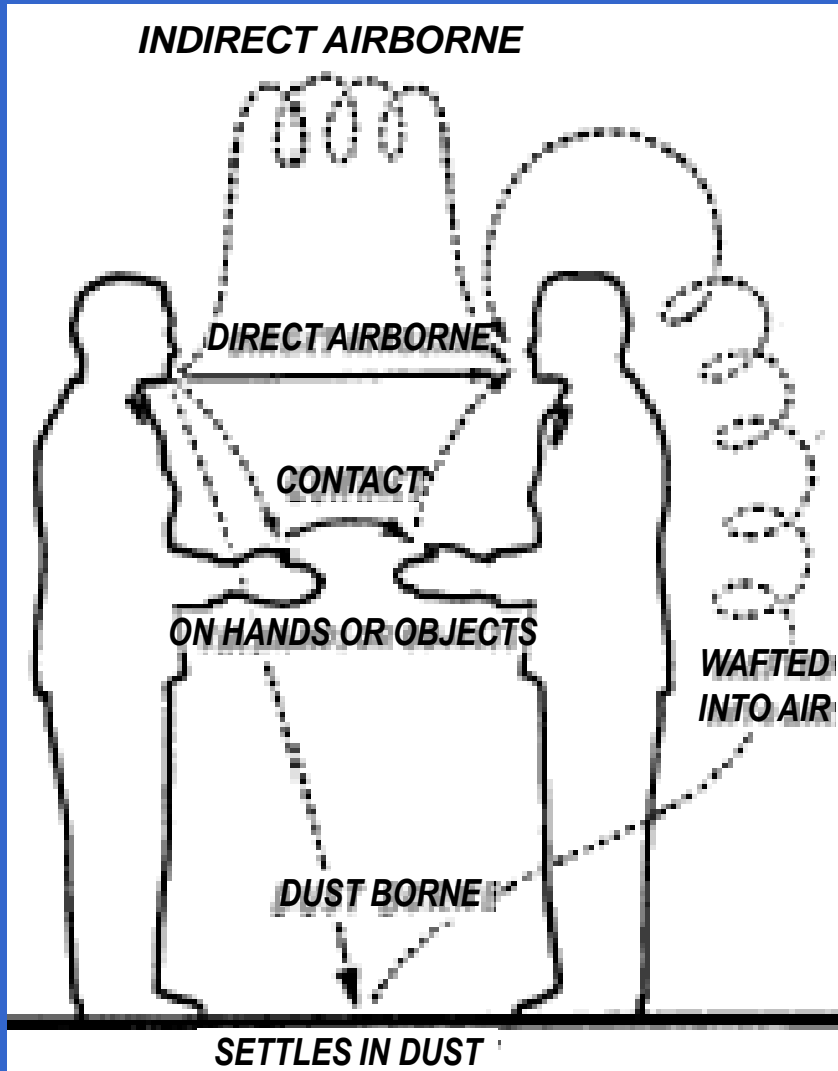


# However, not all epidemics are communicable diseases

- **How does one define an epidemic?**
  - an unexpected or unusually high number of cases
- **Communicable disease or not?**

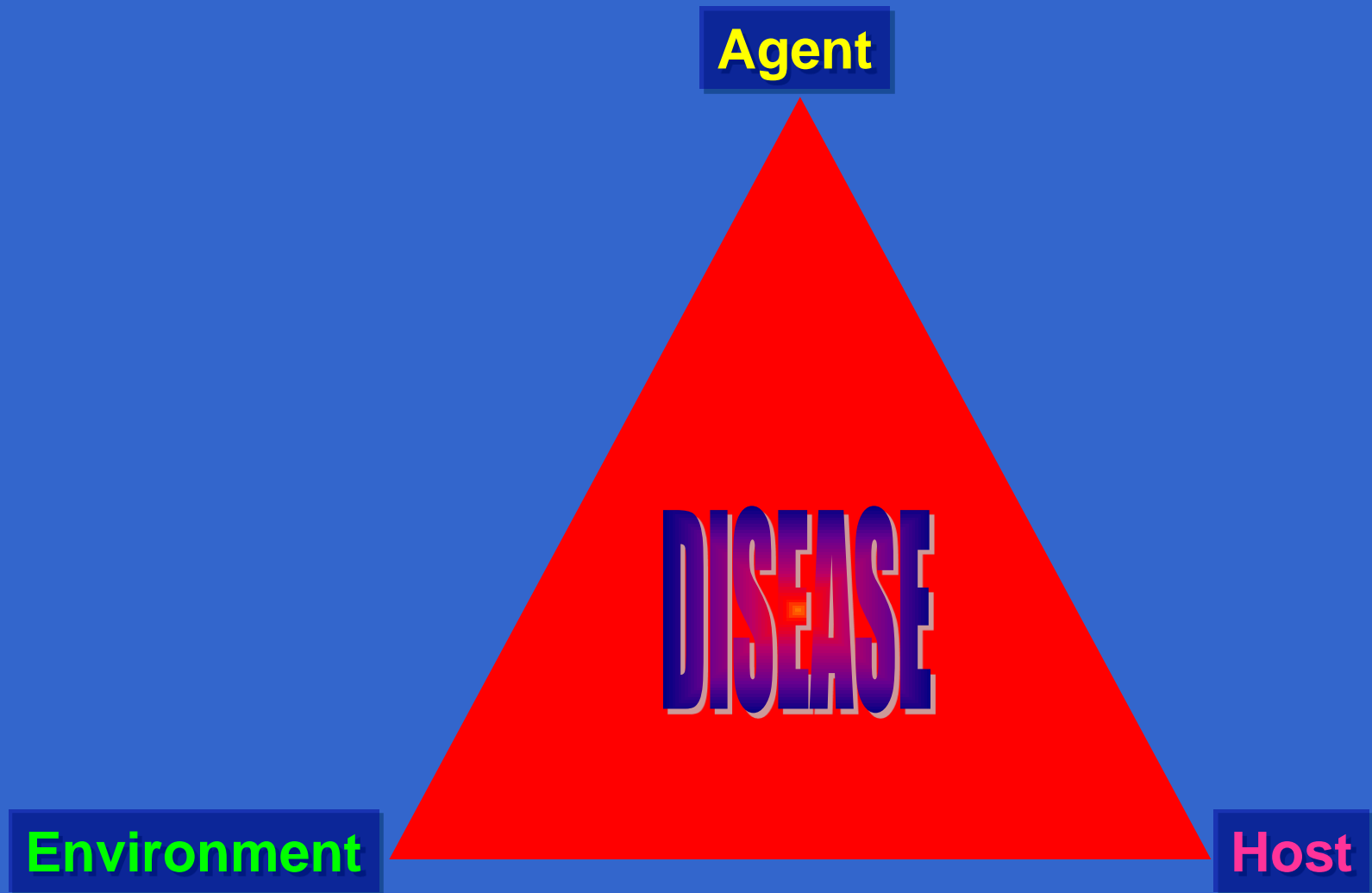
– Scurvy	No
– Pellagra	No
– Typhoid	Yes
– Measles	Yes

# What is a communicable disease?



- A Communicable Disease is a disease that can be transmitted by an infectious organism from one host to another.

# Factors in communicable disease transmission





**Agent**

Pathogenicity  
Infectivity  
Virulence  
Immunogenicity  
Survival – mutation / vector

**Factors  
in  
communicable  
disease  
transmission**

Housing  
Geography  
Air / Water quality  
Health services

**Environment**

Immunity  
Genotype  
Health / Nutritional  
status

**Host**

# Key Concepts for Understanding Communicable Diseases

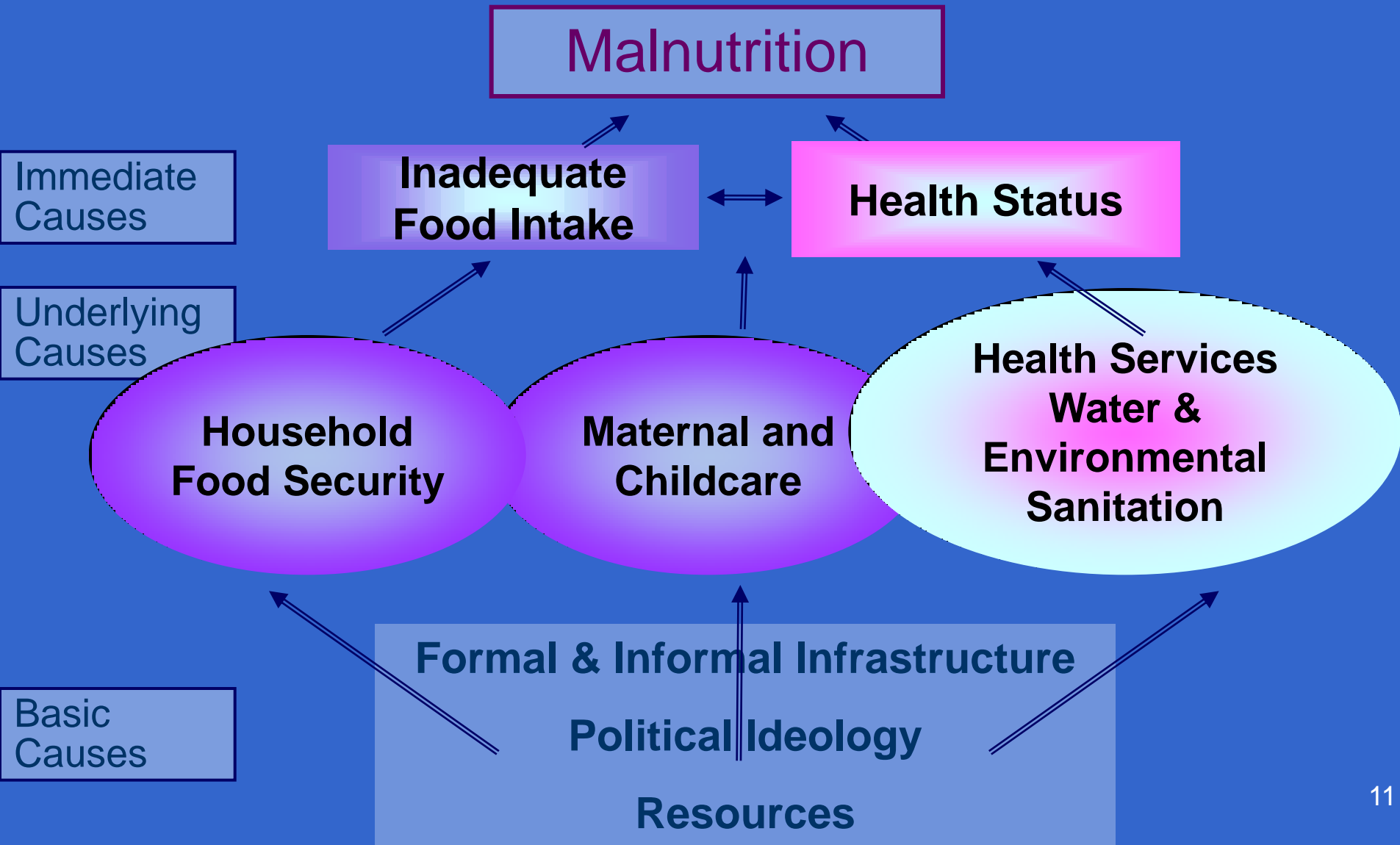


Typhoid Mary

- Reservoir of infection
- Latency
- Period of infectivity
- Carrier state
- Route of transmission

# Analysis

A Conceptual Framework of Causes of:



# Risk Factors for Communicable Diseases in Emergency Settings

Environment

Host

# Risk Factors for Communicable Diseases in Emergency Settings






## Environment

- Crowding
- Lack of adequate water & sanitation
- Presence of vectors
- Exposure to different pathogens
- Lack of adequate health services

## Host

- Low immunity
  - children
  - undernutrition
  - HIV infection
  - pregnancy
  - unvaccinated

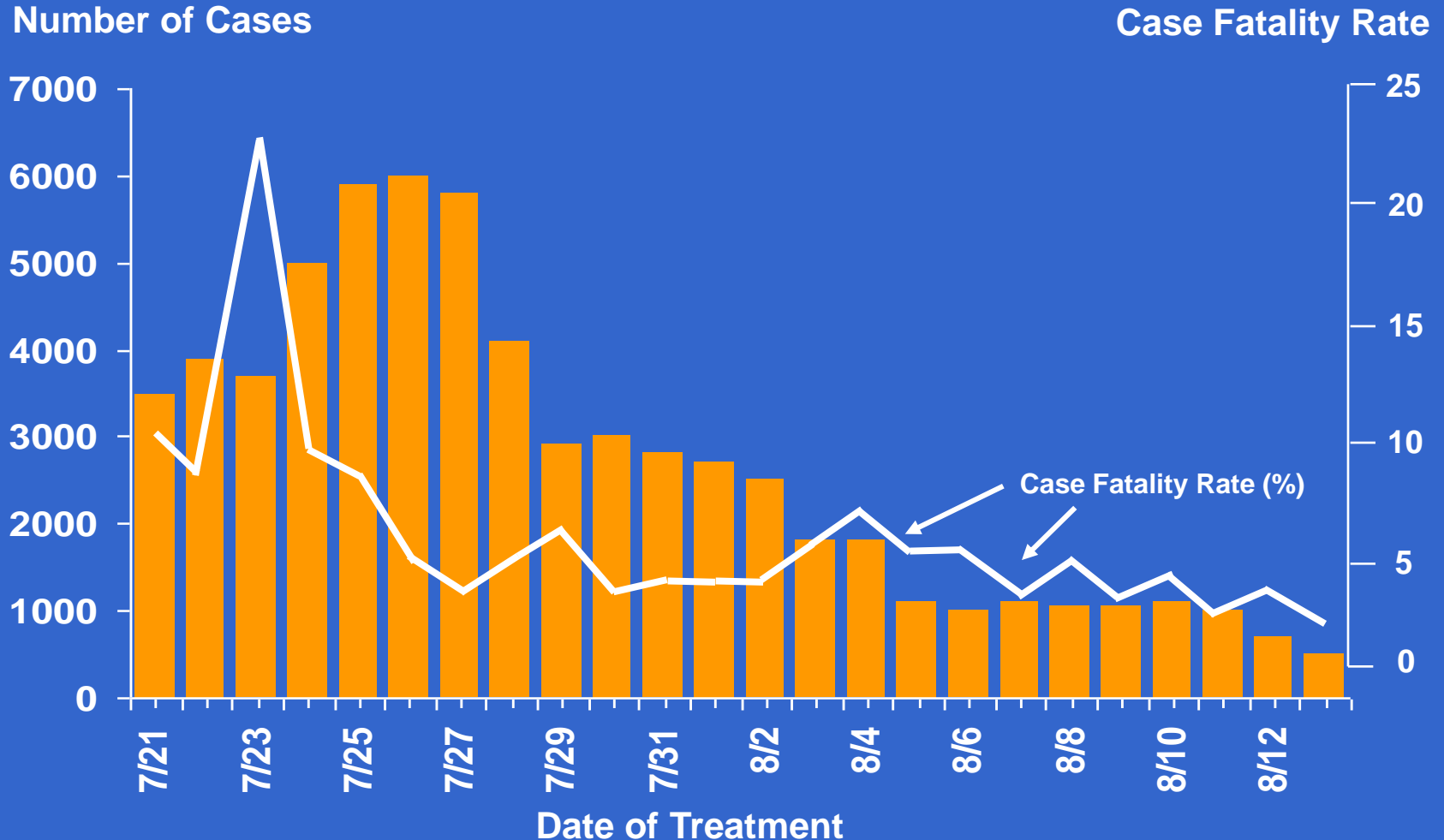
# Woody's Points re: CD in Emergencies

-  Pathogen needs to be present in area
-  Transmission more likely if wat/san facilities inadequate
-  Outbreaks commonly occur with population displacement and camps
-  Most common diseases: diarrheal diseases, ARI, measles, malaria, meningitis
-  Interaction between malnutrition and infectious diseases

# Diseases Associated with Water

<u>Water-Borne Disease</u>	contaminated by human, animal or chemical wastes (such as nitrates and pesticides)	Cholera Typhoid Shigellosis Polio Infectious hepatitis
<u>Water-Related Vector-Borne Diseases</u>	transmitted by insects and other animals that breed and live in or near water	Malaria Yellow Fever Filariasis Riverblindness Sleeping Sickness
<u>Water-Based Diseases</u>	parasites spend part of their life cycle in water	Guinea worm Schistosomiasis
<u>Water-Scarce (or Water-Washed) Diseases</u>	transmitted when too little water is available for washing hands and for personal hygiene	Trachoma Leprosy Tetanus Diphtheria

# Cases of Diarrhea and Case Fatality Rate Reported from Treatment Centers North Kivu, Zaire, July 21 - August 13 1994

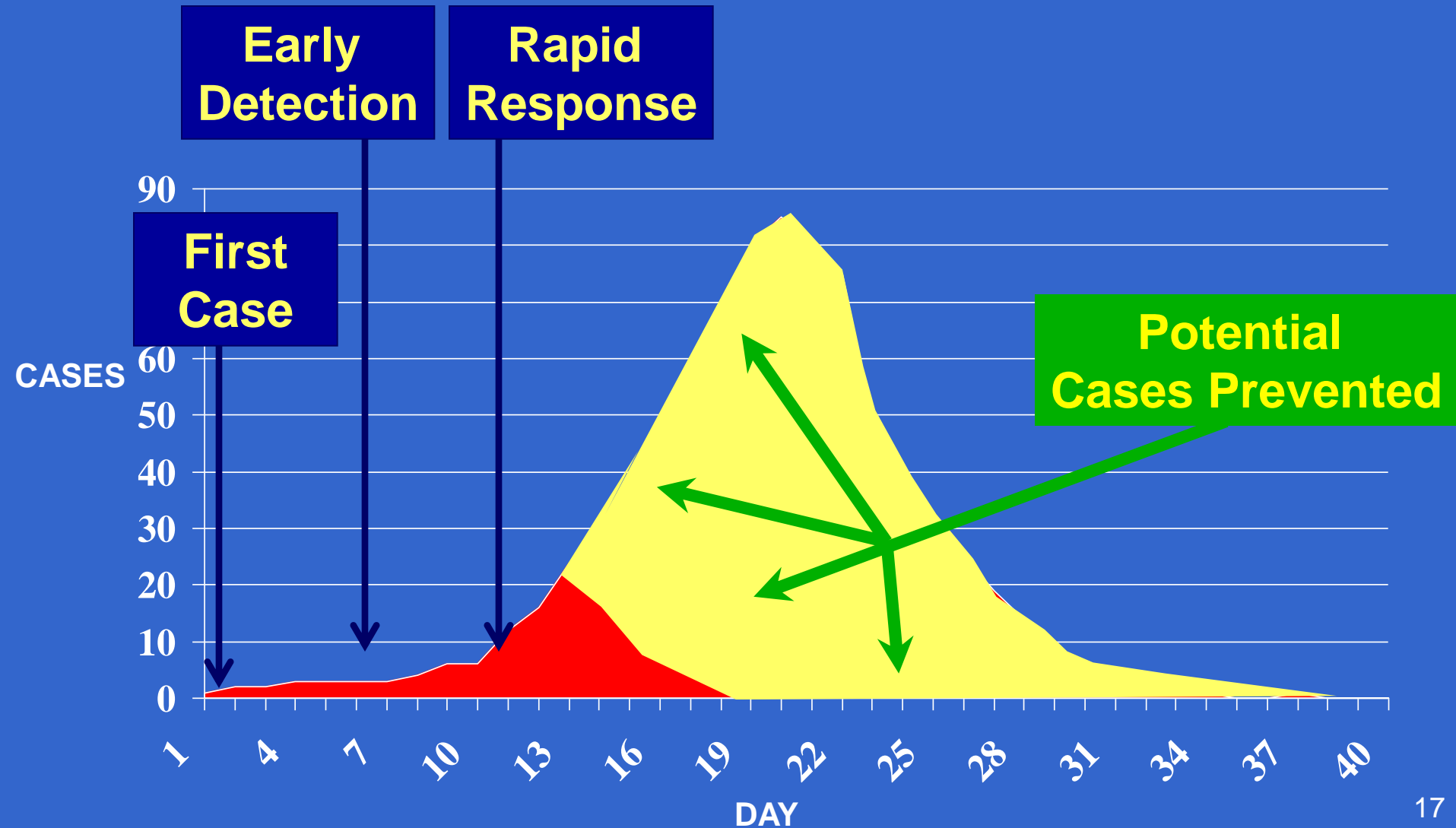


Source: Les Roberts, WHO.



# Outbreak Detection and Response

## With Preparedness and Rapid Public Health Interventions



# Recognizing Communicable Diseases in Emergency Settings

- High index of suspicion for leading communicable causes of M&M
- Sentinel surveillance
- Clear case definitions
  - suspect
  - probable
  - confirmed
    - role of the laboratory

# Communicable Disease Prevention in Emergency Settings

- Primary –avoid calamities –prevent war
- Secondary –preparedness
  - Contingency planning / coordination with national government
  - Training health workers
  - Sentinel surveillance for early detection
- Tertiary –avoid excess M&M
  - Adequate relief measures
  - Control endemic infectious diseases
  - Epidemic preparedness and response

# Response to disease outbreak

- Mothers are first-level health workers. They can identify suspected cases.
- CHWs can be teachers, health workers or others. They can do outreach, immunization, case finding and health education.
- Health centers staffed with doctors, nurses, or CHWs can record and treat probable cases.



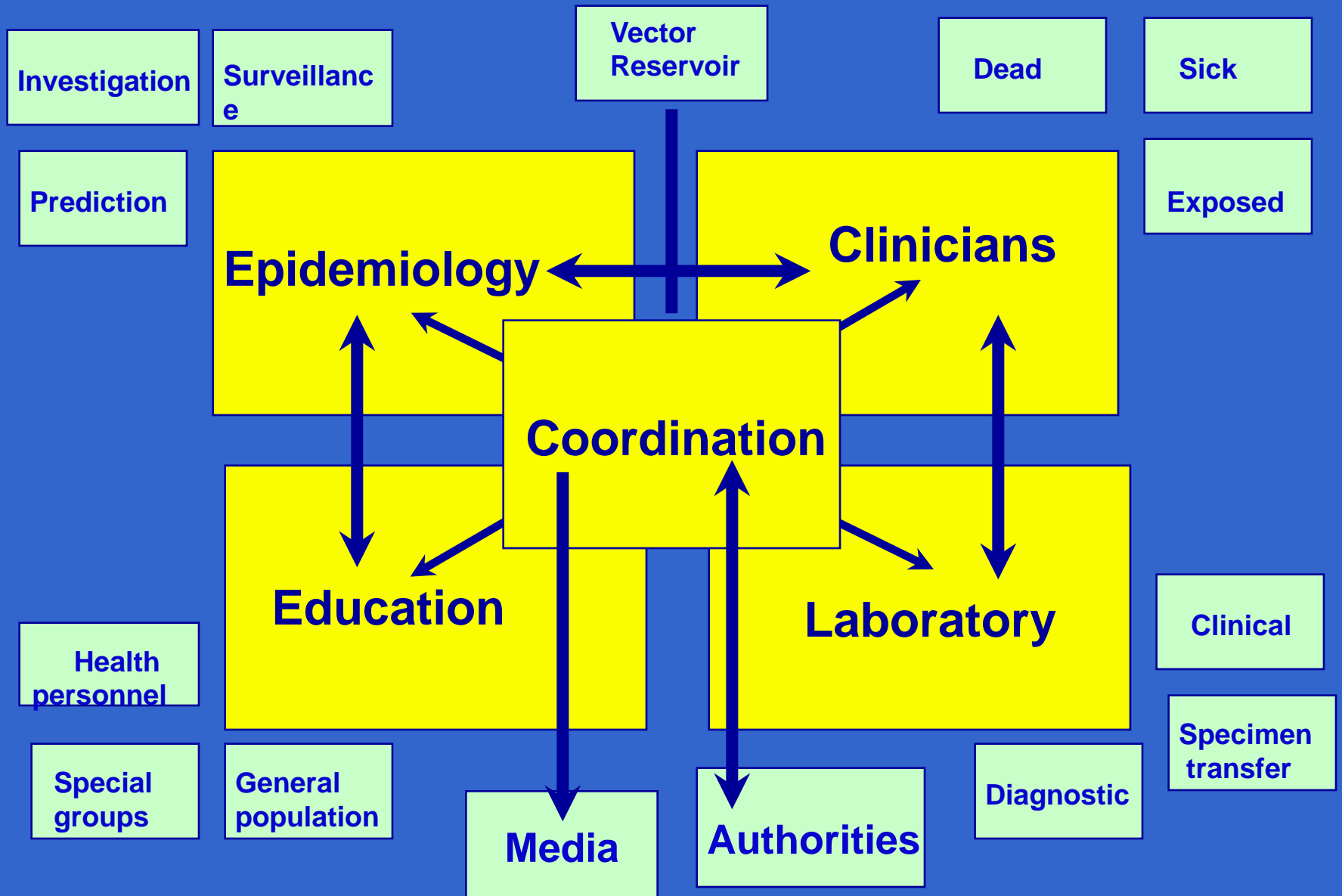
# COMMUNICABLE DISEASE TOOLKIT FOR THE IRAQ CRISIS

<http://www.who.int/infectious-disease-news/IDdocs/whocds200317/index.htm>

The purpose of the Communicable Disease Toolkit is to provide health professionals in UN agencies, NGOs, donor agencies and local authorities working on the Iraq crisis with up-to-date guidelines and standards for controlling communicable diseases.

It comprises:

- Contents and Acknowledgements
- Communicable Disease Profile for Iraq
- Health Survey - Sample forms
- Guidelines for the use of Health Surveillance Forms
- Health Surveillance
- Case Definitions
- Guidelines for Outbreak Control
- Case Management of Epidemic-prone Diseases
- Guidelines for the Collection of Specimens for Laboratory Tests



# What should UNICEF do?

# What should UNICEF do?

- ➡ Health education & social mobilization
- ➡ Support for training of health workers
- ➡ Support for transportation and distribution of priority materials and personnel
- ➡ Laboratory supplies
- ➡ Essential drugs, especially ORS
- ➡ ...