

**Infectious Disease Challenges
following Natural Disasters
among APEC Economies**

Infectious Disease Surveillance and Control after WenChuan Earthquake, China, 2008

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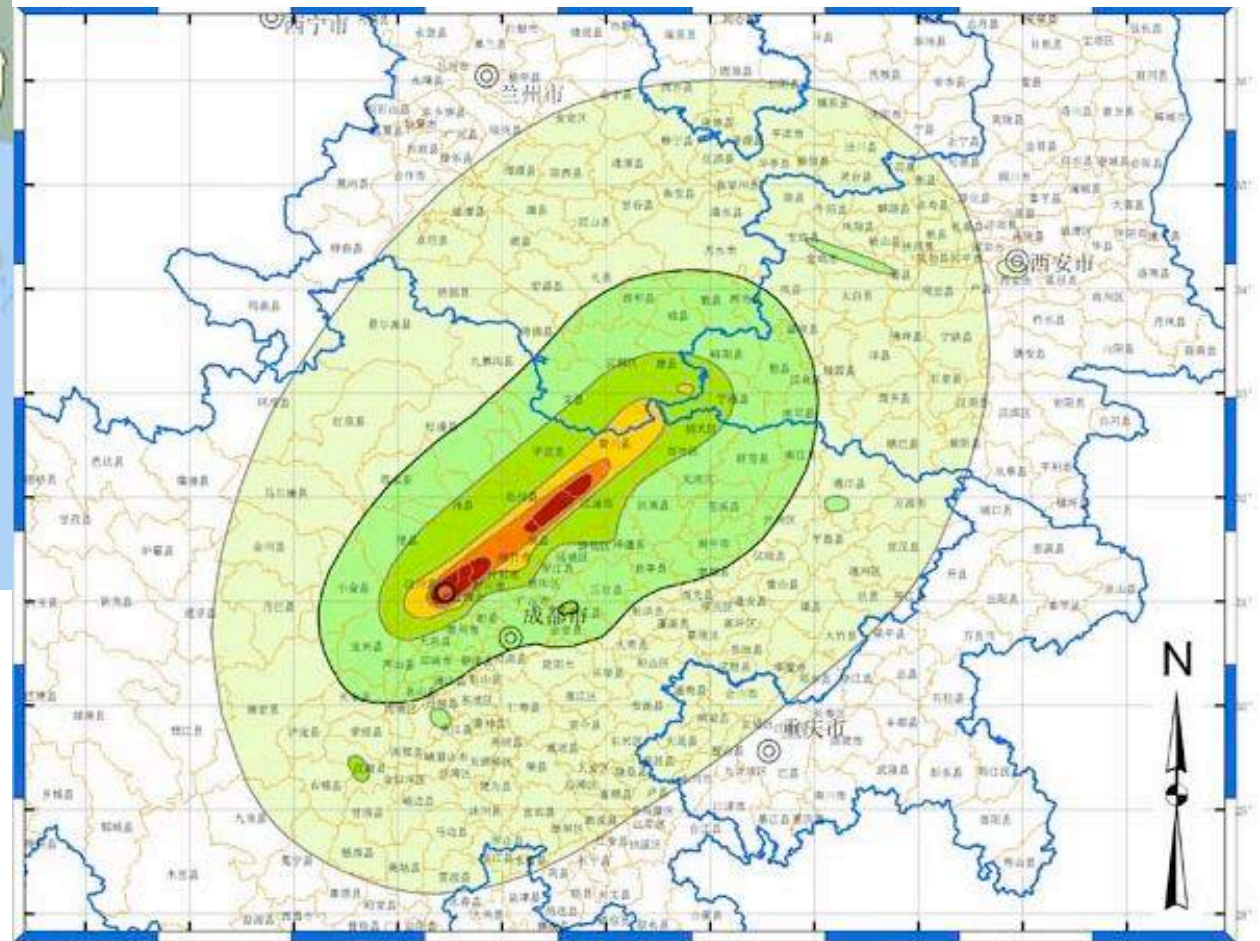
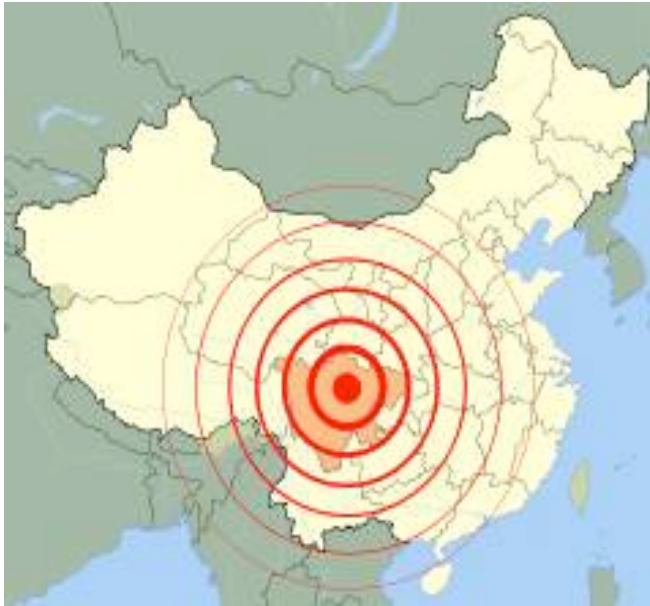
Chinese Center for Disease Control and Prevention

December 3, 2010

Outline

- Background
- Rapid response after the earthquake
- Actions related to disease surveillance and control
- Evaluation of infectious diseases in severely affected area

Wenchuan Earthquake Situation Map



•**Date:** May 12, 2008

•**Time:** 14:28

•**Magnitude:** 8.0

•**Max. Intensity**

•XI – Very Disastrous

震中 ● XI X IX VIII VII VI

0 100 200 Km

Casualties and Damages

- As of September 25, 2008:
 - 69,227 people dead
 - 17,923 people missing
 - 374,643 people injured
 - more than 84,000 hospitalized
- About 5 million buildings collapsed, and more than 21 million buildings were damaged
- About 15 million people displaced, and total affected population 45.61 million

Casualties and Damages

- Many health clinics have been damaged
- Access to public health system severely affected
- Among 580 hospitals in severely affected area, more than 450 were not able report to national web-based disease reporting system

Beichuan People's Hospital, Sichuan, China



Rapid Response

- Rapid response teams
- Past disease information analysis
- Rapid assessment of situation and needs
- Restoring of surveillance system
- Risk assessment
- Prevention and control work

Risk Factors for Infectious Diseases after the Strong Earthquake

- Interruption of access to safe water and sanitation facilities
- Population displacement with overcrowding
- Increased exposure to disease vectors
- Increased population movements
- Increased susceptibility to disease
- Poor access to health services

Risk Assessment of Main Infectious Diseases

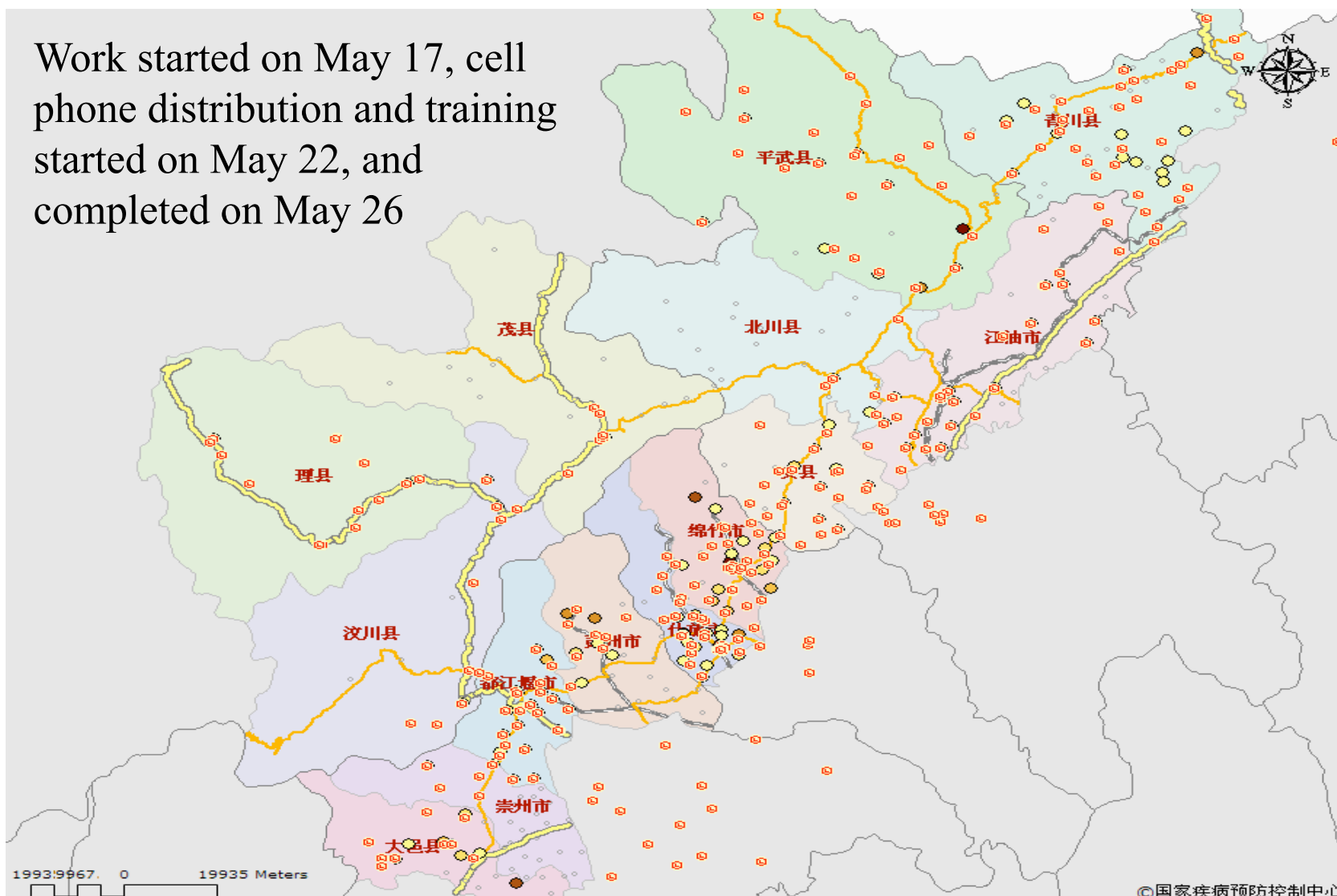
Type of disease	Level of risk	Type of disease	Level of risk
Bacillary dysentery	++++	Malaria	+~++
Infectious diarrhea	++++	Plague	+
Cholera	+++	Hepatitis B	+
Hepatitis A	+++	Japanese Encephalitis	+
Typhoid and paratyphoid	+++	Leptospirosis	+
Tuberculosis	+++	Dengue	+
Acute upper respiratory tract infection	+++	Rabies	+
Rubella	+++	Schistosomiasis	+
Mumps	+++	Streptococcus suis	+
Acute hemorrhagic conjunctivitis	+++	Avian influenza/H5N1	+
Chicken pox	+++	Syphilis /gonorrhoea	+
Measles	++	SARS	-~+
Meningococcal meningitis	++		
HFMD	++		
Anthrax	++		
Kala-azar	++		
Hemorrhagic fever with renal syndrome	++		
Tetanus	++		

Cell-phone-based Reporting System

- 400 donated cell-phones
- Solar-energy supported
- Pre-installed surveillance system
 - Notifiable disease reporting
 - Syndromic surveillance system
 - 1. Fever with respiratory illness 2. Fever with rash 3. Watery diarrhea 4. Diarrhea with blood 5. Acute jaundice 6. Encephalitis or meningitis 7. Other febrile disease 8. Food poisoning
 - Text message report for other outbreaks or emergency events
- Training conducted

Cell-phone-based Reporting System

Work started on May 17, cell phone distribution and training started on May 22, and completed on May 26



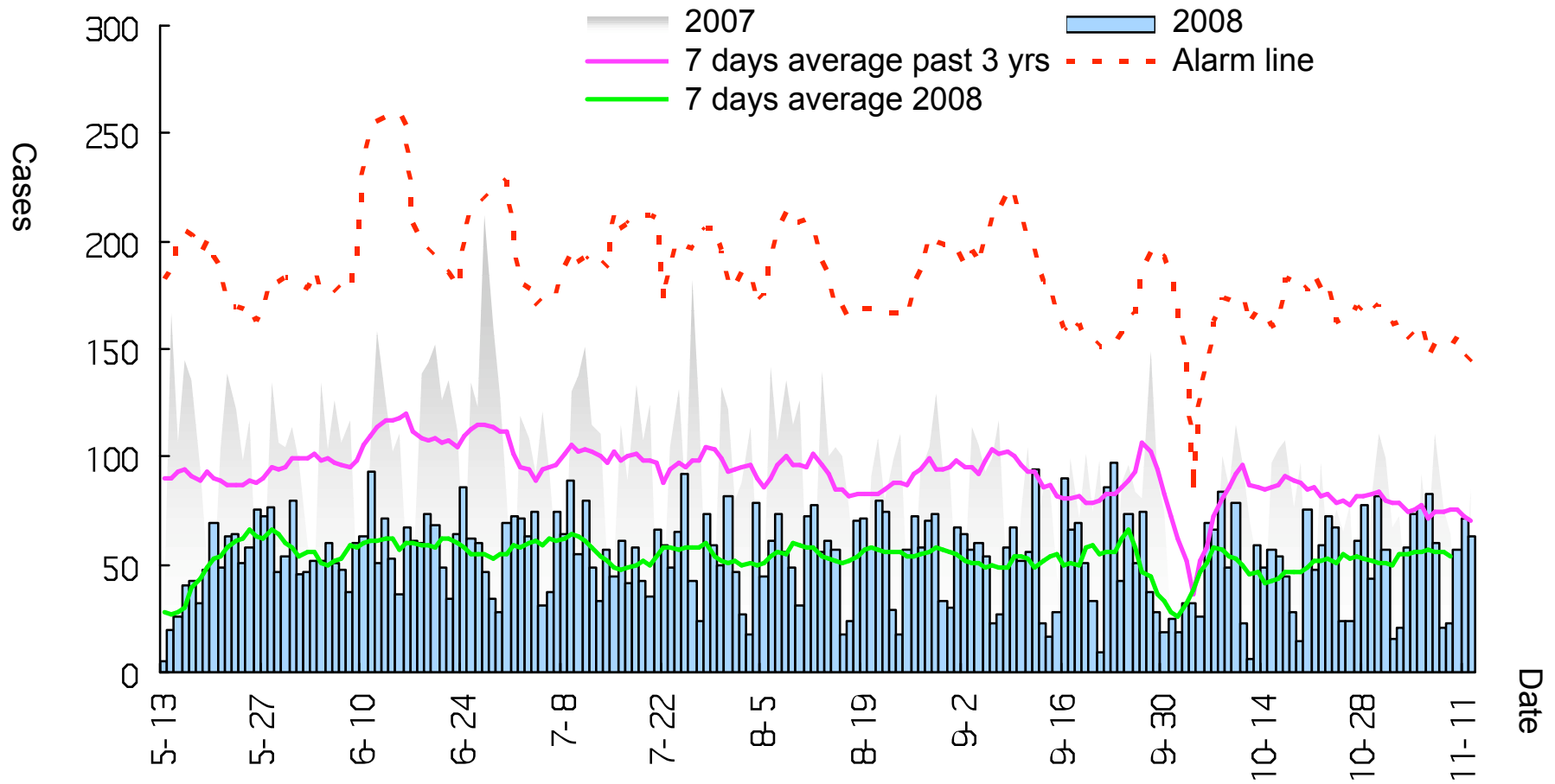
Post-earthquake Disease Control Practices

- Strengthen the protection of water sources and ensure water safety
- Maintain adequate food supply and ensure food safety
- Shelter planning and assessment
- Strengthen the monitoring and control of vectors
- Strengthen health education
- Enhance the disease surveillance and investigation
- Revitalize the basic public health service
- Strengthen case management

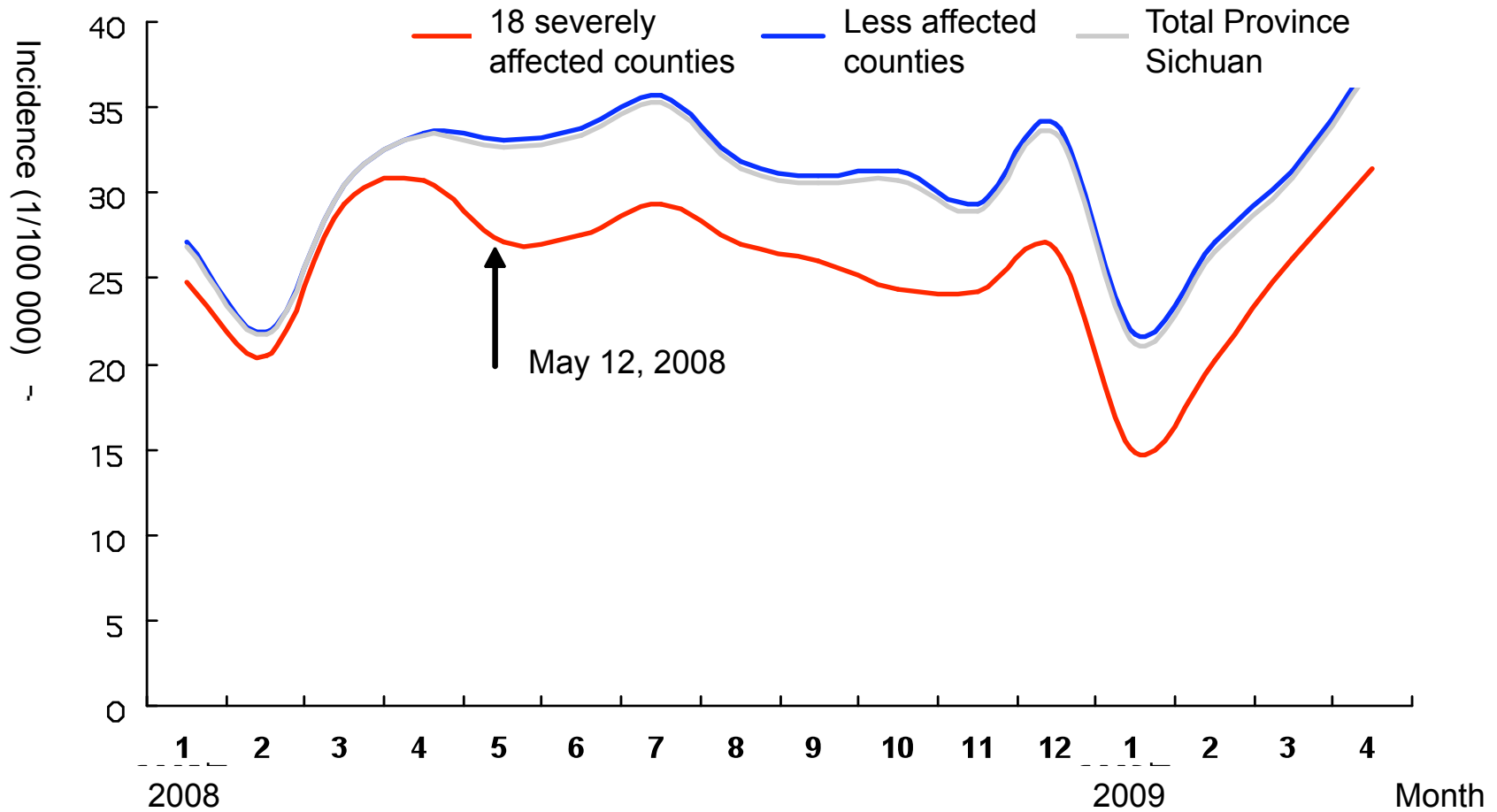
Top 15 Infectious Disease in 18 Counties, Sichuan Province, May 13 - Nov. 12, 2008

Disease	Cases of 2008 (0513-1112)	Total cases of last 3 years	Compared with average cases of last 3 years(%)
Total cases	9797	50551	-42
<hr style="border-top: 1px dashed black;"/>			
1 Tuberculosis	2668	10921	-27
2 Infectious Diarrhea	2114	9276	-32
3 Hepatitis B	1930	16280	-64
4 Bacillary Dysentery	1103	4989	-34
5 Mumps	646	2462	-21
6 Syphilis	456	977	40
7 Rubella	162	1346	-64
8 Hepatitis A	154	993	-53
9 Gonorrhoea	131	424	-7
10 Unspecified Hepatitis	109	449	-27
11 Hepatitis C	98	367	-20
12 Acute hemorrhagic conjunctivitis	67	298	-33
13 Measles	41	984	-88
14 Hepatitis E	18	27	100
15 AIDS	17	20	155

Notifiable Infectious Diseases Reported in 18 Counties, Sichuan Province, May 13 - Nov. 12, 2008



Notifiable Infectious Diseases Reported in 18 Counties, Sichuan Province, January 2008 - April 2009



Summary

- Infectious disease situations remain stable in the seriously affected counties of Sichuan Province
- No major disease outbreak or public health emergency happened
- After-earthquake surveillance and control work are effective

Thank you !

