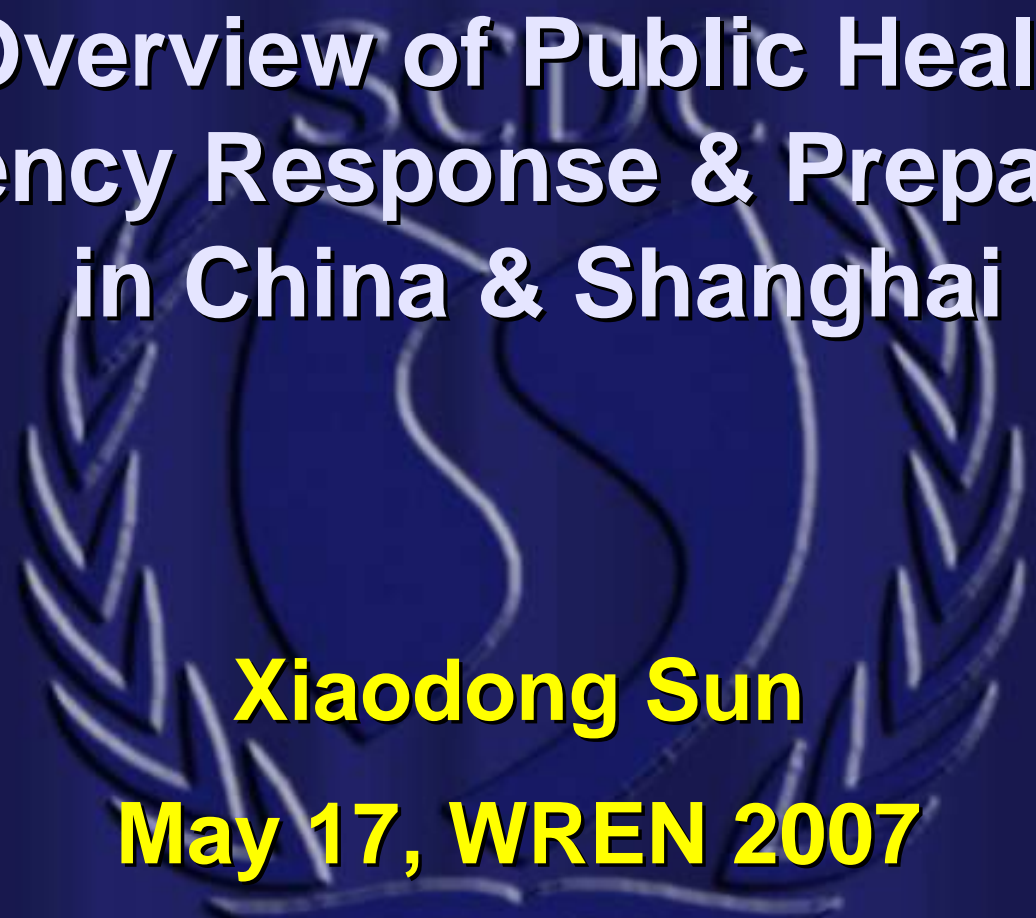


Overview of Public Health Emergency Response & Preparedness in China & Shanghai



Xiaodong Sun

May 17, WREN 2007

Ashland, Oregon



Outline

- **Some Definitions**
- **Public Health Emergency Response and Preparedness in China**
- **Public Health Emergency Response and Preparedness in Shanghai**



Definitions in Public Health Emergency Response and Preparedness Used in China





Public Emergencies

- **Any incident that**
 - **Occurs suddenly**
 - **May causes human injury or illness, and property loss, or environmental harm**
 - **potentially jeopardizes the stability of society and endangers public safety**



Classification

- **Natural Disaster**
- **Accidents**
- **Social safety incidents**
- **Public health incidents**



Natural Disaster



- **Meteorological disaster:**
 - Hurricane (Typhoon),
 - Rain and lightening storms
 - Floods and drought
 - Gales or sand storms
 - Extreme hot or cold
 - Hail, frost and snowstorms
 - Fog, etc



News China Website



Natural Disaster (cont.)

- **Geological disasters**
 - Earthquakes
 - Ground sedimentation
 - Landslides & Mudflows
 - Desertification
- **Ocean disasters: tsunami**
- **Biological disasters: crop loss by pests**
- **Forest & grassland fires**
- **others...**



Natural disaster in China

- Earthquakes occur frequently
- Since 1949
 - Deaths: ~ 300,000
 - Disabilities: ~ 1,000,000
 - Houses collapsed: more than 10,000,000
 - Tangshan earthquake, 1976
 - 7.8 Richter scale magnitude
 - Death: 242,000
 - Disabilities: 164,000



Natural disaster in China (cont.)

■ Landslides & Mudflows

- Annual deaths: ~ 1000

■ Desertification

- Desertification area: 2,620,000 km² (country area 9,600,000)
- Sand prone area: expanding at 2,460 km²/year
- Water and soil erosion: over 1,800,000 km²



Natural disaster in China (cont.)

- **Biological disasters**
 - Over 1,400 species of rats and other pests
 - Annual crop loss: 50,000,000 tons; cotton crop loss >1,000,000 tons
 - Forest & Grassland area affected by rats & pest: more than 8,000,000 & 20,000,000 hectares/year
- **Tropical cyclone: can trigger deadly landslides and floods**
 - Loss: more than \$1.3 billions yearly



Accidents

■ Nine types of man-made calamities

■ Transportation

- Motor vehicle accidents
- Railway
- Subway
- Civil aviation
- Marine rescue

■ Industrial accidents

■ Large-scale power failure

■ Nuclear

■ Chemical release

Thur., Mar. 15, 2007: A bus with 36 on board veered off the highway and plunged into the Baohe Reservoir in the city, 300 kilometers southwest of Xi'an. 22 people were confirmed dead.



News China Website



Social Safety Incidents

- Large scale national incidents that endanger public safety and health such as war, terrorism, or political unrest

News China Website





Public Health Incidents

■ Definition:

- Any acute incident that causes serious injury or illness in the public
 - Major communicable disease (CD) epidemics
 - Cluster cases of an unknown illness
 - Food intoxication
 - Occupational exposure illness
 - Other health related events



Severity Ranking of Public Health Incidents

- According to the type of event, severity, area of involvement
 - Class I (most serious)
 - Class II (serious)
 - Class III (relatively serious)
 - Class IV (ordinary)



Class I (most serious)

- Expanding epidemic of SARS, Highly Pathogenic Avian Influenza (HPAI)
- Expanding epidemic of newly emerging or imported or reemerging CD
-



Class II (serious)

- Expanding epidemic of an unknown illness...
- Hospital Acquired Infection (HAI)...
- Adverse Event Following Immunization (AEFI)...
- Food intoxication...
- **Acute occupational exposure illness, cases ≥ 50 , or deaths ≥ 5**
- ...



Class III (relatively serious)

- Expanding epidemic of an unknown illness
- AEFI
- Food intoxication
- Acute occupational exposure illness, cases 10 ~ 49, or deaths ≤ 4
- ...



Class IV (ordinary)

- CD...
- Food intoxication...
- **Acute occupational exposure illness,
cases ≤ 9 , and no death**
- ...



Public Health Emergency Response and Preparedness in China





Definition of Public Health Emergency Response and Preparedness in China

- **In the event of public health emergencies, any measures taken related to surveillance, public notification, field response, logistics, etc. These measures should include prevention, control implementation and medical response to reduce harmful effects to public health as well as political and economic stability.**

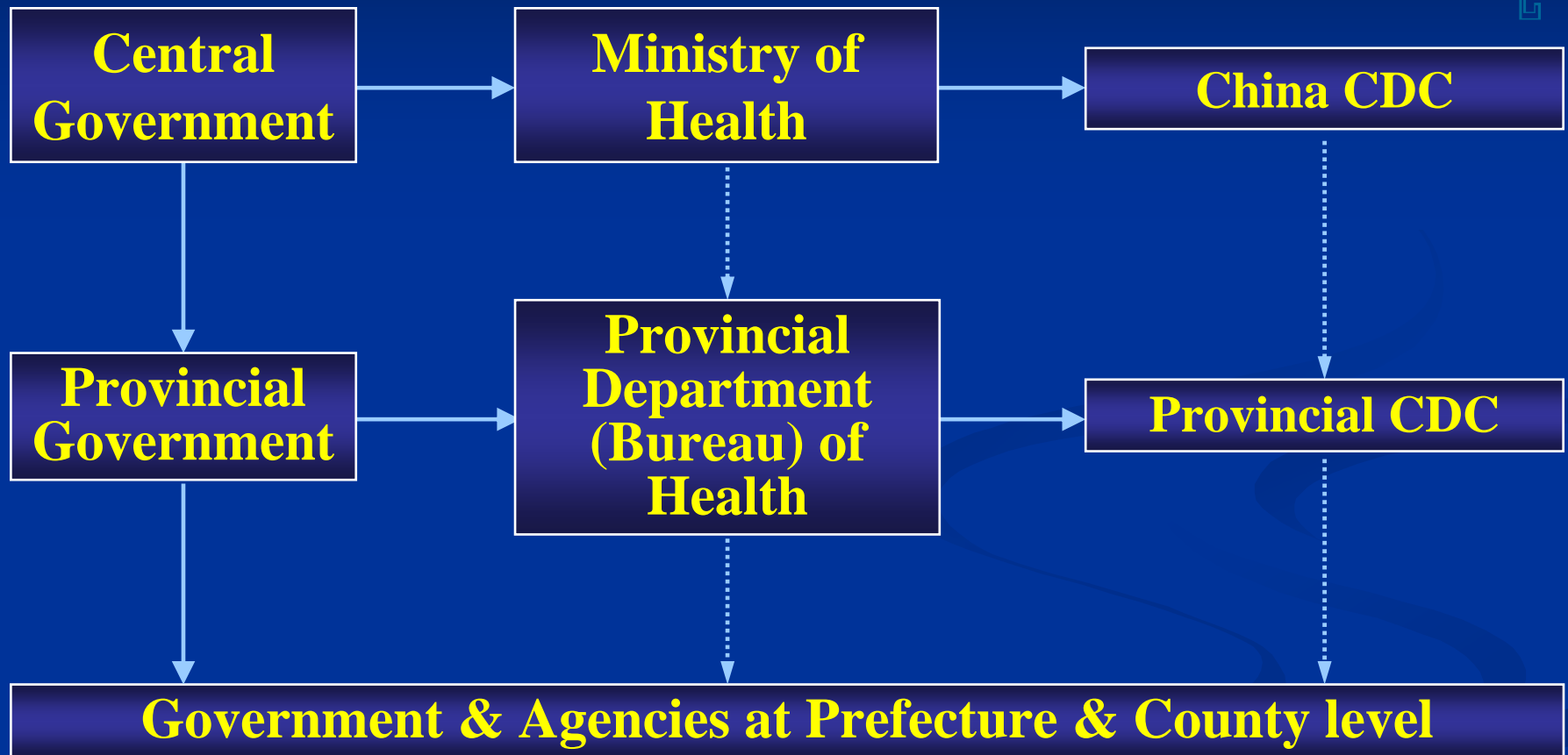


Great attention on Emergency Response

- Governments at all levels were called on to improve emergency management
- Top agency of emergency management was set up



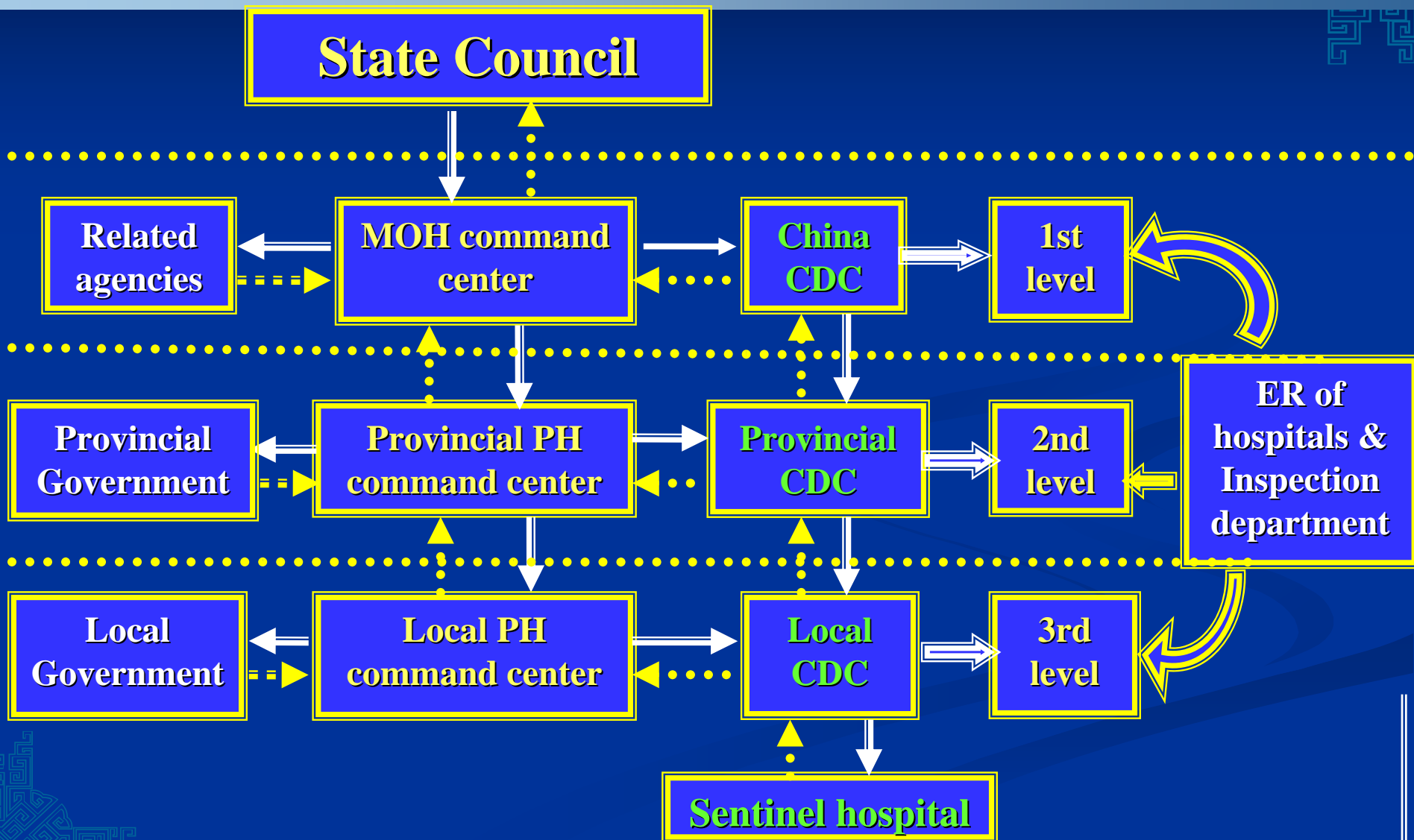
System of Disease Control & Prevention in China



— Administrative relationship

..... Professional relationship

Co-operation Command Sys of Emergency





Agencies mainly involved

- **Ministry of Agriculture**
- **Ministry of Railways**
- **Ministry of Communication**
- **General Bureau of Civil Aviation**
- **General Bureau of Quality Inspection**
- **Ministry of Education**
- **Taiwan, Hong Kong, Macau**
- **Several provincial health departments**

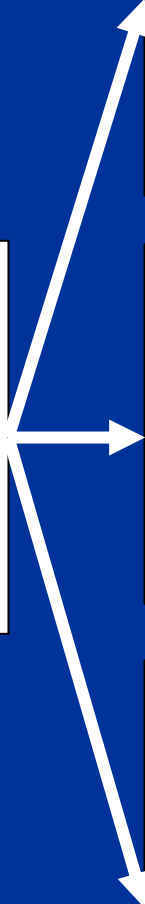
Emergency System of Public Health

**Emergency
Command
System**

**Disease Control and
Prevention system**

**Emergency medical
services**

**Administrative
Enforcement System
of Health**





Plan System

- **National General Plan**
- **National Professional Plan**
- **National Dept. (Agency) Plan**
- **Local Plan**



Contents of Plan

- **General principles**
- **Structure**
- **Mechanism**
- **Logistics**
- **Supervision & management**
- **Supplementary articles**



Surveillance System



中国疾病预防控制中心信息系统

CHINA INFORMATION SYSTEM FOR DISEASES CONTROL AND PREVENTION

- 用户权限管理系统
- 疾病监测信息管理系统
- 突发公共卫生事件报告管理信息系统
- 健康危害因素监测信息系统
- 疾病预防控制中心基本信息系统
- 鼠疫防治管理信息系统
- 结核病管理信息系统
- 艾滋病网络直报信息系统
- 平台配置工具
- 重点传染病监测自动预警信息系统
- 专病/单病监测信息报告管理系统
- 中国流感/霍乱监测信息系统
- 突发传染病信息报告系统
- 死因登记报告信息系统
- 儿童预防接种信息管理系统

选项： 疾病监测信息管理系统

地区编码：

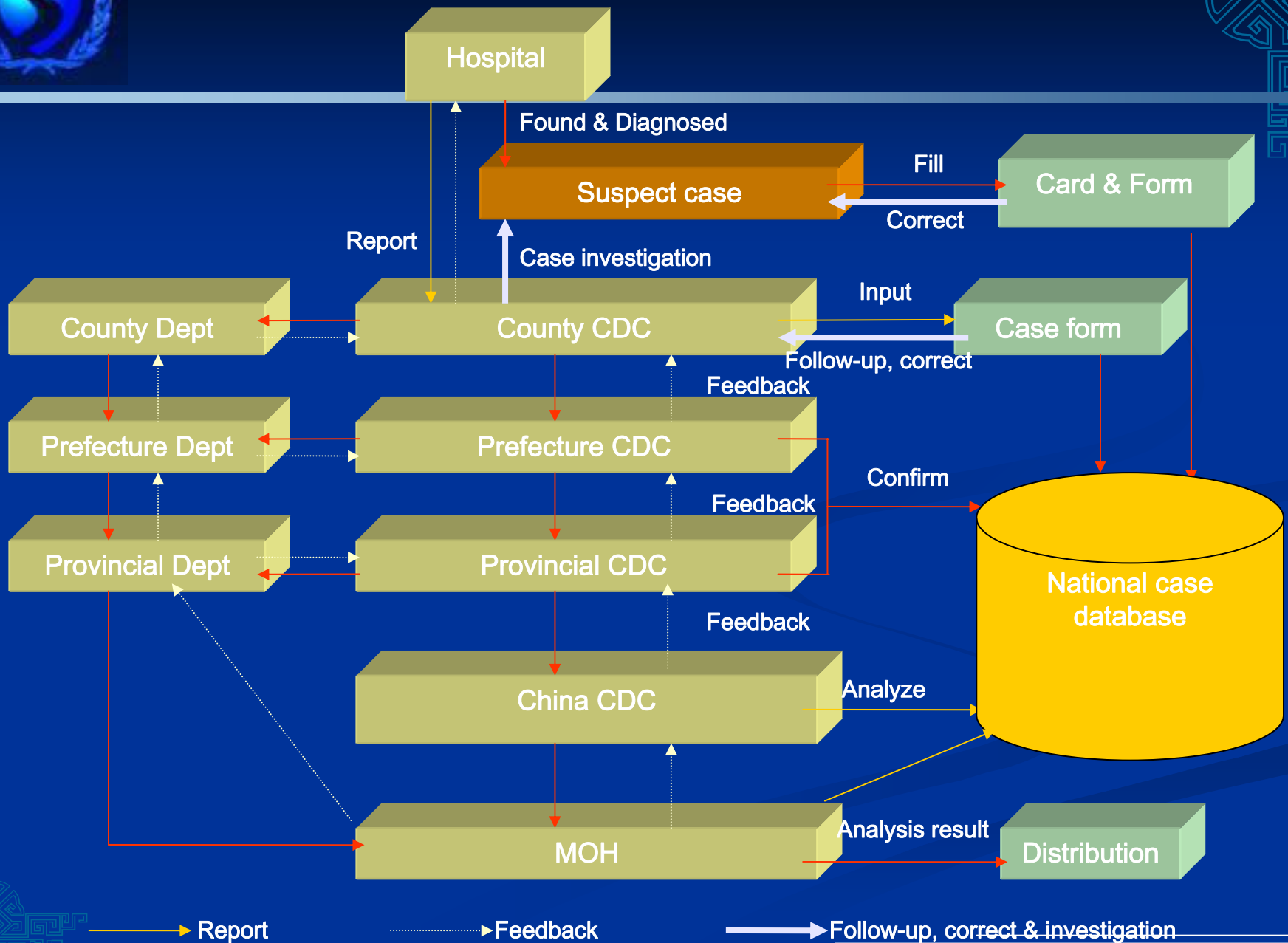
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Internet based Reporting System





Preparedness

- **National Advisory Committee for Public Health Emergencies**
- **Database of consultants in public health emergency response and of response team members**
- **Logistics**
- **Drills and exercises**



Major events in 2005

- **Epidemics**
 - Plague
 - HPAI in animals and human
 - Outbreaks of the pig-human transmission of the *Streptococcus suis* bacteria
 - Fever of unknown cause
 - AEFI
- **Tsunami rescue: 4 teams from China**



Problems

- **Law**
- **Measures**
- **Management**
- **Information**
- **Response**
- **System**

Ecological crisis



China Foto Press



The first ecological crisis happened in the city of China

- **Nov., 2005, a chemical plant explosion occurred in Jilin province**
- **Hundreds tons of toxic benzene, including nitrobenzene were dumped into the Songhua River**
- **The length of pollution zone: 80~200km**
- **Concentration: 108 times the safety level**
- **The threat on the coastwise cities, including the city of Russia**



Songhua River



■ 1900km

■ Drainage area:

545,600km²



The course of emergency event

- Nov. 13, explosion occurred in Jilin
- Before Nov. 18, the Govt. of Jilin denied River pollution result from the explosion
- Nov. 18, Jilin notified Harbin of the possibility of pollution of Songhua River
- Nov. 21, Govt. of Harbin issued a notification on the cease of water supply, not telling the public the truth at the same time, which caused panic



Finale

- The polluted water passed by Harbin
- Nov. 24, General Bureau of Environmental Protection notified Russia the pollution of the major environmental pollution incident which could bring to the Russian people downstream
- Dec. 3, Chief of General Bureau of Environmental Protection of China resigned



Problems & Lessons

- **Slow response to the disaster**
- **Delaying disclosure to the public**
- **The decision to allow construction of a plant handling such dangerous materials near important water supplies**
- **Pressure from neighboring Russia and the United Nations to release more information about the spill**

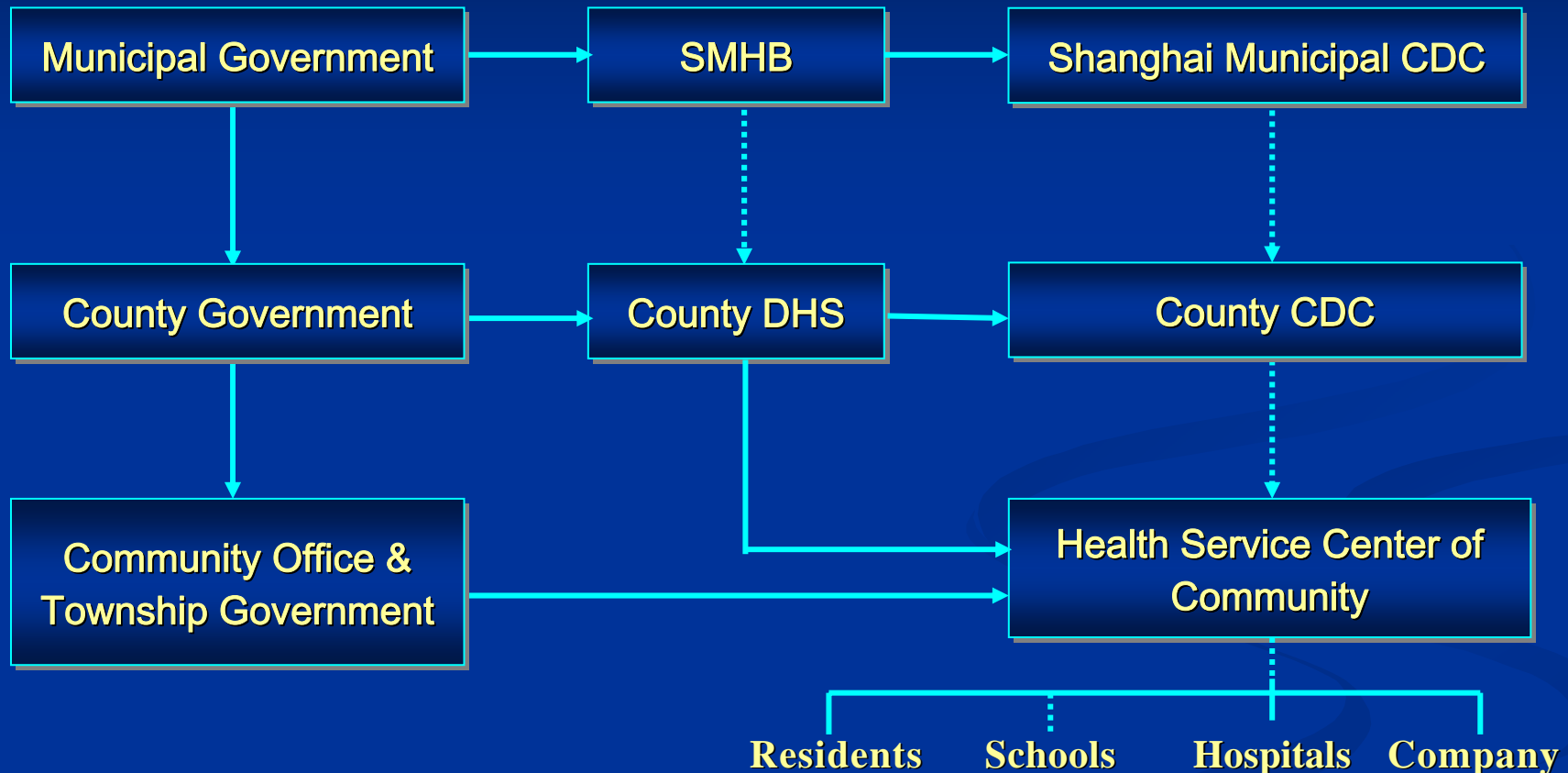


Public Health Emergency Response and Preparedness in Shanghai





Sys. of disease control & prevention in Shanghai

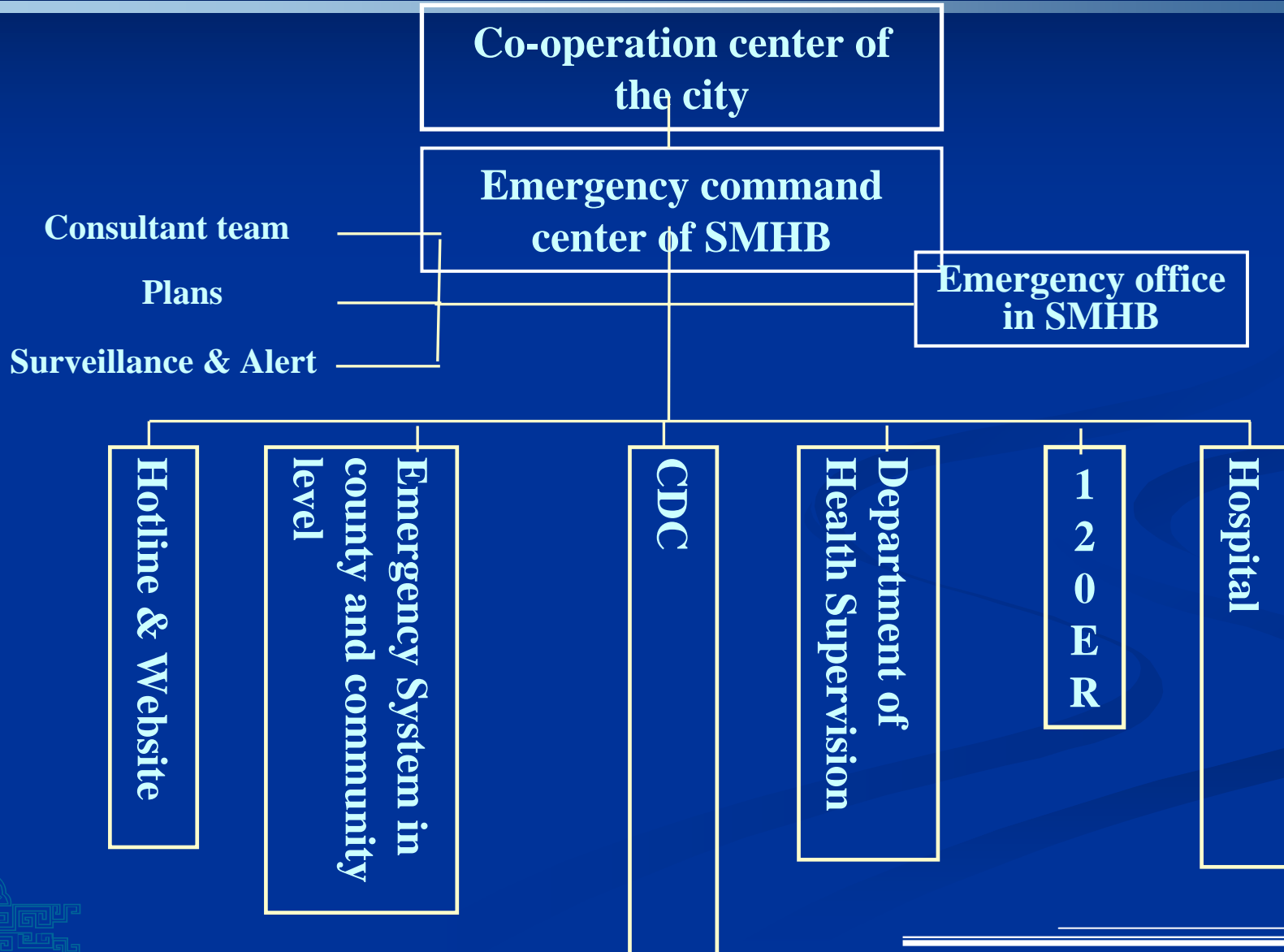


——Administrative relationship

.....Professional relationship



Public Health Emergency System in Shanghai



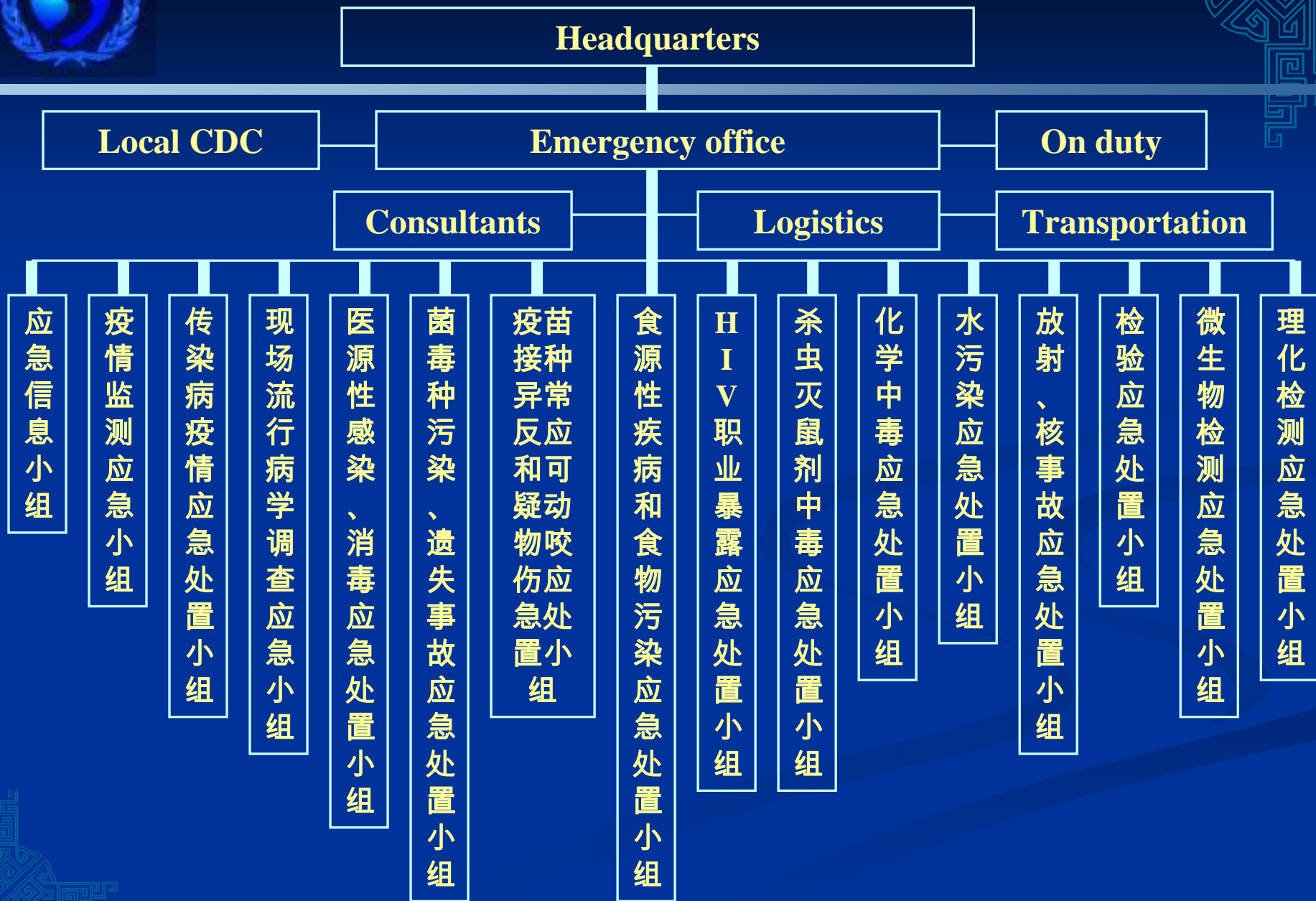


Public Health Emergency System in Shanghai Municipal CDC

- Headquarters
- Emergency office
- Response teams
 - Consultant team: 1
 - Surveillance teams: 2
 - Field response teams: 11
 - Laboratory teams: 3
 - Logistics teams: 2 (transportation, equipment)



Emergency Response Teams





Obligations of Emergency Office in SCDC

- Principle tasks: Organizing, co-operating, coordinating, implementing, supervising, instructing
- Technical support provided
 - Plan
 - Surveillance & notification, information collecting
 - Consultant team
 - Training, drills, evaluating, educating and communicating
- Logistics support
 - Equipment



Public Health Incidents in Shanghai from 2004 to 2006

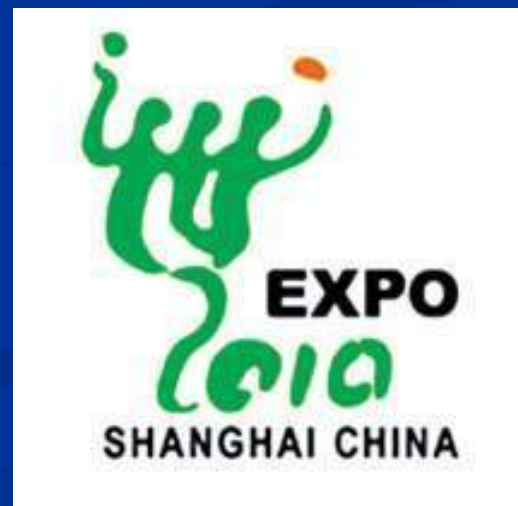
- Percentage of different kind in total
 - Food intoxicication: >50%
 - Major communicable disease: 24%
 - Occupational exposure illness: 15%
 - ...





Plan

- **General plan**
- **Plans for special events**
 - Summits
 - Olympic games
 - World Expo
- **Technical plans**
 - Communicable diseases
 - Food intoxication
 - Environmental health
 - Occupational health
 - Radiation accidents
 - ...





Technical Support

- Specialists group
- Training
- Drills







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