

Disease Surveillance Practice on Zoonosis with Focus on Vectors and Reservoirs in China

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If we neglect this threat, we
will pay a heavy price for it.
Zoonoses





Outline

- Zoonoses: Communicable Diseases
- Legislation
- Surveillance Systems
- Examples
- Other Information



Legislation

- Regulation on the Control of Communicable Diseases, 1956?
- Regulation on the Control of Acute Communicable Disease, 1959
- Law for **Control** and Prevention of Communicable Diseases, 1989
- Amended Law for **Control** and Prevention of Communicable Diseases
 - Approved by National People's Congress in Aug. 28 2004,
 - Implementing in Dec.1, 2004
 - Diseases for notification (3 groups- 37 diseases)
 - Punishment for delinquent reporting

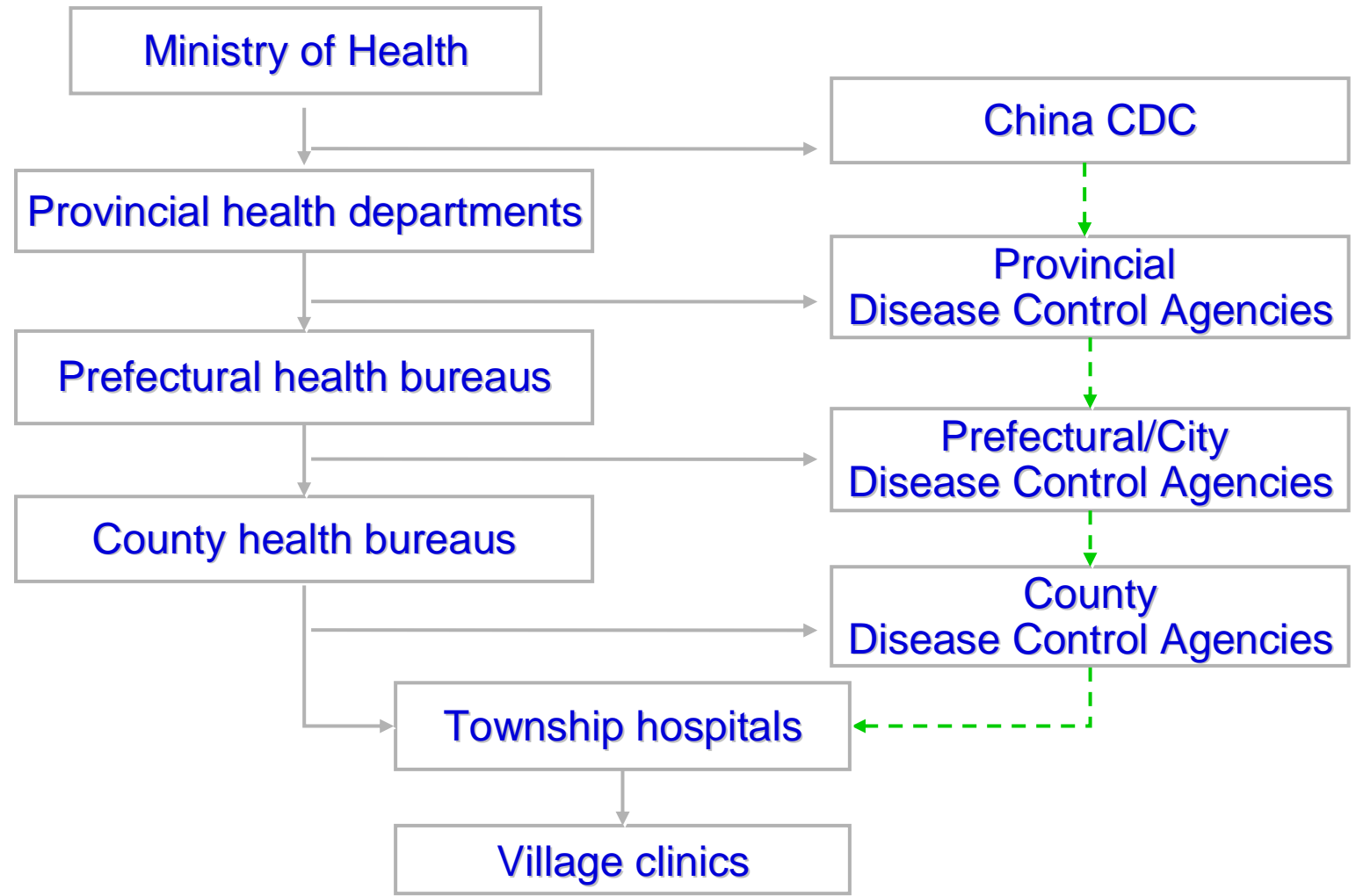


National Statutory Notifiable Communicable Diseases

- **Group A:** Plague, Cholera
- **Group B:** SARS, AIDS, Viral hepatitis, Poliomyelitis, HPAI, Measles, HFRS, Rabies, Japanese encephalitis, Dengue fever, Anthrax, Bacillary & amebic dysentery, TB, Typhoid fever/Paratyphoid fever, Meningococcal Meningitis, Pertussis, Diphtheria, Neonatal Tetanus, Scarlet fever, Brucellosis, Gonorrhoea, Syphilis, Leptospirosis, Schistosomiasis, Malaria
- **Group C:** Influenza, Mumps, Rubella, Acute hemorrhagic Conjunctivitis, Leprosy, Epidemic typhus/Endemic typhus, kala-azar, Echinococcosis, Filariasis, Infectious diarrhea



Public Health Service Agencies in China





Infrastructures for Communi. Dis. Surveillance

- Central: CCDC
 - Office of Dis. Control & Emer.Res.
 - Center for Public Health Surveillance & Infor. Ser.
 - NIP, TB Center, HIV/AIDS Center
 - **Institute for Communi. Dis. Contr. & Prev.**
 - Institute for Viral Dis. Cont. & Prev.
 - Institute for Food Safety and Public Nutrition
- Provincial CDCs/TB Centers
- Prefecture/Municipal CDCs/TB Centers
- County/District CDCs/TB Centers
- Hospitals, Clinics, Community Health Centers, Blood Banks, Quarantine Agencies



Communicable Disease Surveillance Systems

-Old System

- **National Notifiable Communicable Diseases Report System**
 - Aggregative data reporting monthly level by level
 - too late for Identifying of outbreak
 - too roughly Information for CDCs above County level
- **Diseases Surveillance Points (DSPs) System**
 - Since 1978
 - 145 points selected randomly nationwide
 - Coverage 10 million of Population
 - Birth and death registry and reporting, vital statistics
 - Class A, B and C statutory notifiable infectious dis. Reporting
 - Class C reporting only in the DSPs
 - Conducting health surveys
- **Specific Diseases Surveillance System: TB, HIV/AIDS, STD, plague, VPD,**

Communicable Disease Surveillance Systems

-New Structure



Statutory Notifiable Diseases Reporting System (3 group, 37 diseases)

Enhanced Communicable Disease Surveillance

- **Plaque, Cholera, Rabies, HRFS, Dengue, TB, AIDS/HIV, VPD, Brucellosis, etc..**
- **Case Investigation and/or Lab. Diagnosis**

Sentinel Surveillance

- **Influenza/ILI, STIs/HIV in Population at High Risk**

SARS and Avian Flu. Early Alert Surveillance

- **Cause-unknown pneumonia surveillance based on all levels hospitals.**
- **Infect. dis. related death reporting based on county and above levels hospitals**

Laboratory or environmental surveillance

- **Pulse-net, Food-net**

Disaster related health condition and public health emergency reporting System

- **Disaster related public health and sanitary condition**
- **Dis outbreak, chemical leaking, environmental pollution, food poisoning, etc.**



Reporting System of Statutory Notifiable Communicable Diseases (3 groups-37 dis.)

- Launched since January 2004
- Internet-based real-time (quasi real-time) case reporting system
- Timing of reporting (*new guideline will be issued next month*)
 - Group A and SARS, HPAI, Polio, pulmonary anthrax : within 2 hours
 - Group B and C: within 24 hours
- Method of reporting
 - Online reporting if Internet available
 - For Clinic and hospital which internet unavailable: Fax, mailing cards or telephone reporting to County CDC and input through Internet by County CDC



Reporting System of Statutory Notifiable Communicable Diseases

- Enabling early Detection of outbreak/epidemic
- Detailed case data at each level CDC and HD.
- Real-time online or offline analysis/Statistics and table/graph making
- Feedback and dissemination of surveillance information
 - *(DRNCDA) Daily Report of Notifiable Communicable Disease and Adverse Health Events: to MoH and CCDC subcenter*
 - *(WRNCDA) Weekly Report of Notifiable Communicable Disease and Adverse Health Events: to MoH, CCDC subcenter, Provincial HD and CDC*
 - *(MRNCDA) Monthly Report of Notifiable Communicable Disease and Adverse Health Events: to MoH, CCDC Subcenter, HD and CDC at Each level*
 - *(ARNCDA) Annually Report of Notifiable Communicable Disease and Adverse Health Events: to MoH, CCDC Subcenter, HD and CDC at Each level*



中国疾病预防控制中心信息系统

CHINA INFORMATION SYSTEM FOR DISEASES CONTROL AND PREVENTION

CDC

CDC

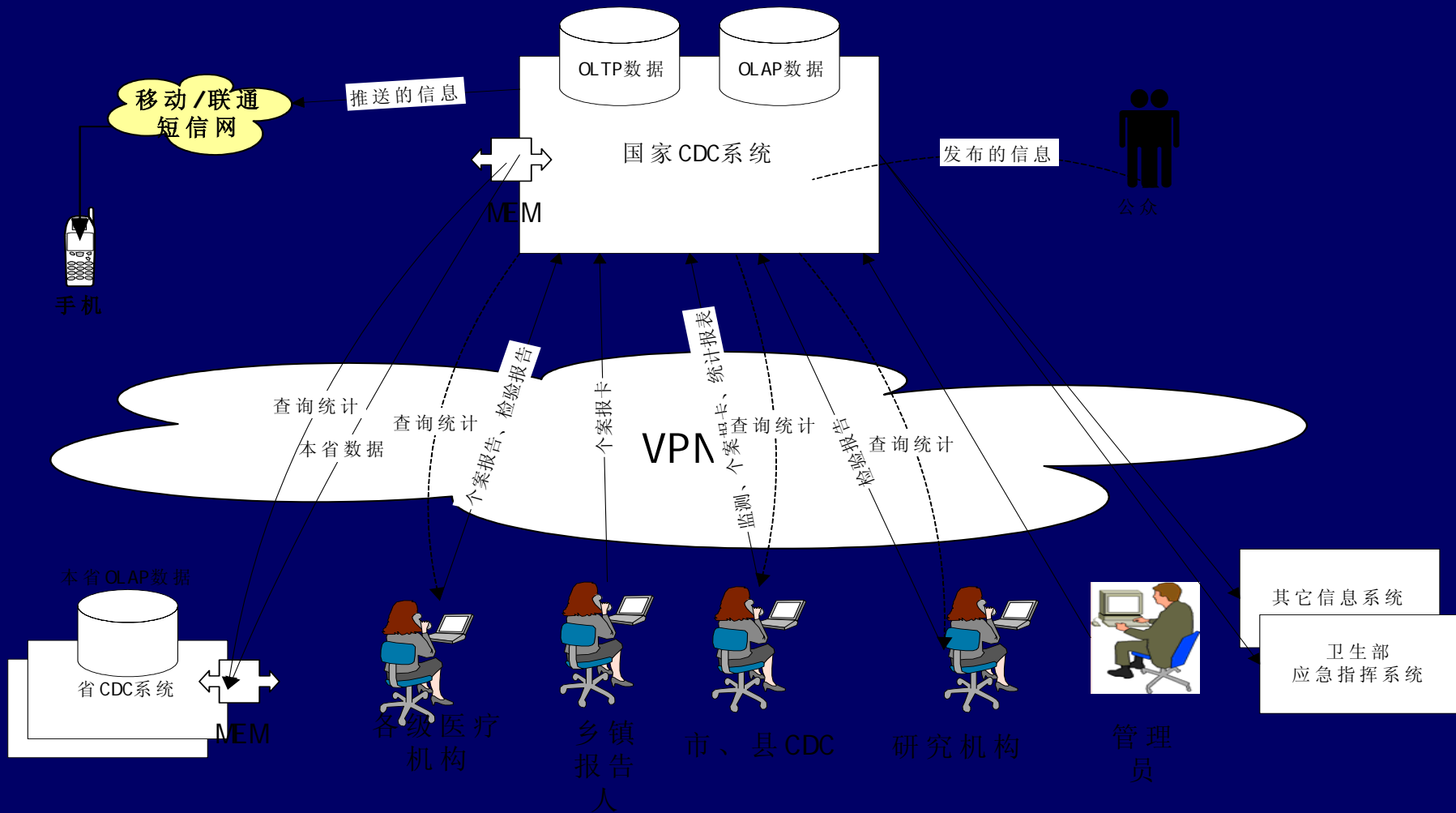
选项:

- 用户权限管理系统
- 疾病监测信息报告管理系统**
- 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
- 重点控制疾病预警预报信息系统
- 鼠疫防治管理信息系统
- 结核病管理信息系统
- 专病管理系统
- HIV/AIDS专报系统
- 数据分年度管理

地区编码: 用户编码: 密码:

中国疾病预防控制中心, All Rights Reserved.

Topology of Reporting System of Statutory Notifiable Communicable Diseases





疾病监测信息报告管理系统

Diseases Reporting Information System

检索工具条

按照报告地区浏览 -- 国家 上一级 下一级 报告单位
--请选择--

□ Main feature

- If need, add notifiable diseases at any time
- Browse Cases variable at all level CDC
- Web-GIS
- Auto alert

功能菜单

报卡管理

新增报告卡片

分地区统计表

分年龄统计表

分职业统计表

资料分析

根据病种排序

根据地区排序

疾病分类构成

疫情分析报表

高发地区分析

					镇化工	
朱庆行	男	25岁	细菌性痢疾	河北省邯郸市永年县东一村	永年县正西卫生院	
朱庆行	男	25岁	细菌性痢疾	河北省邯郸市永年县东一村	永年县正西卫生院	
高健民	男	42岁	细菌性痢疾	河北省邯郸市永年县永年县名关镇	永年县名关镇卫生院	
李兴科	男	22岁	细菌性痢疾	河北省邯郸市永年县前朱庄村	永年县正西卫生院	
张丁强	男	22岁	细菌性痢疾	河北省邯郸市永年县永年县名关镇	永年县名关镇卫生院	



分地区统计表 隐藏 ×

选择 2004 年 从 2004-3-29 到 2004-4-4

地区 年统计表
季统计表
月统计表
旬统计表
周统计表
日统计表

发病率/死亡率

疾病分类

□ Main function

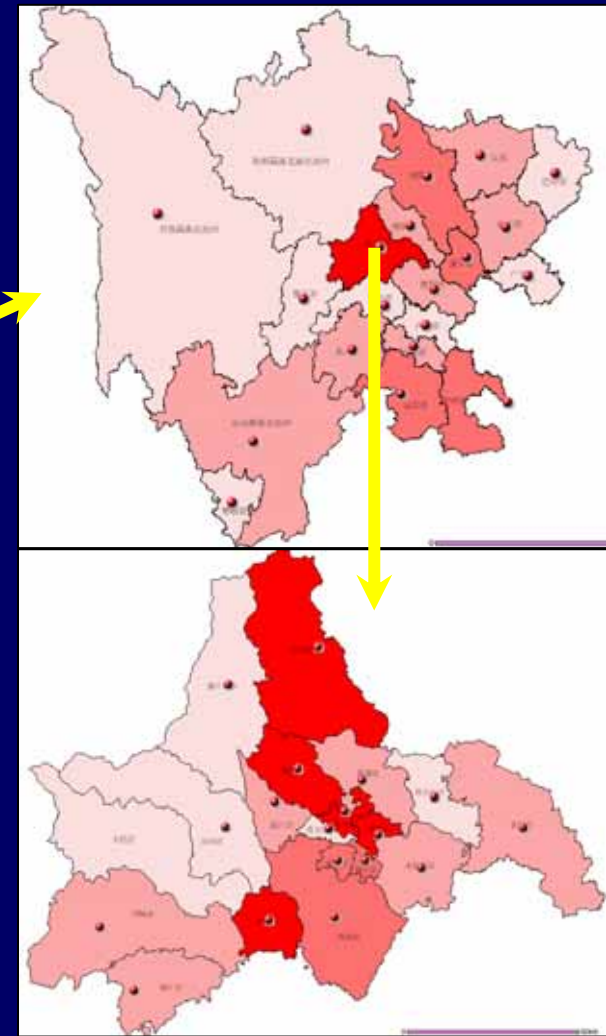
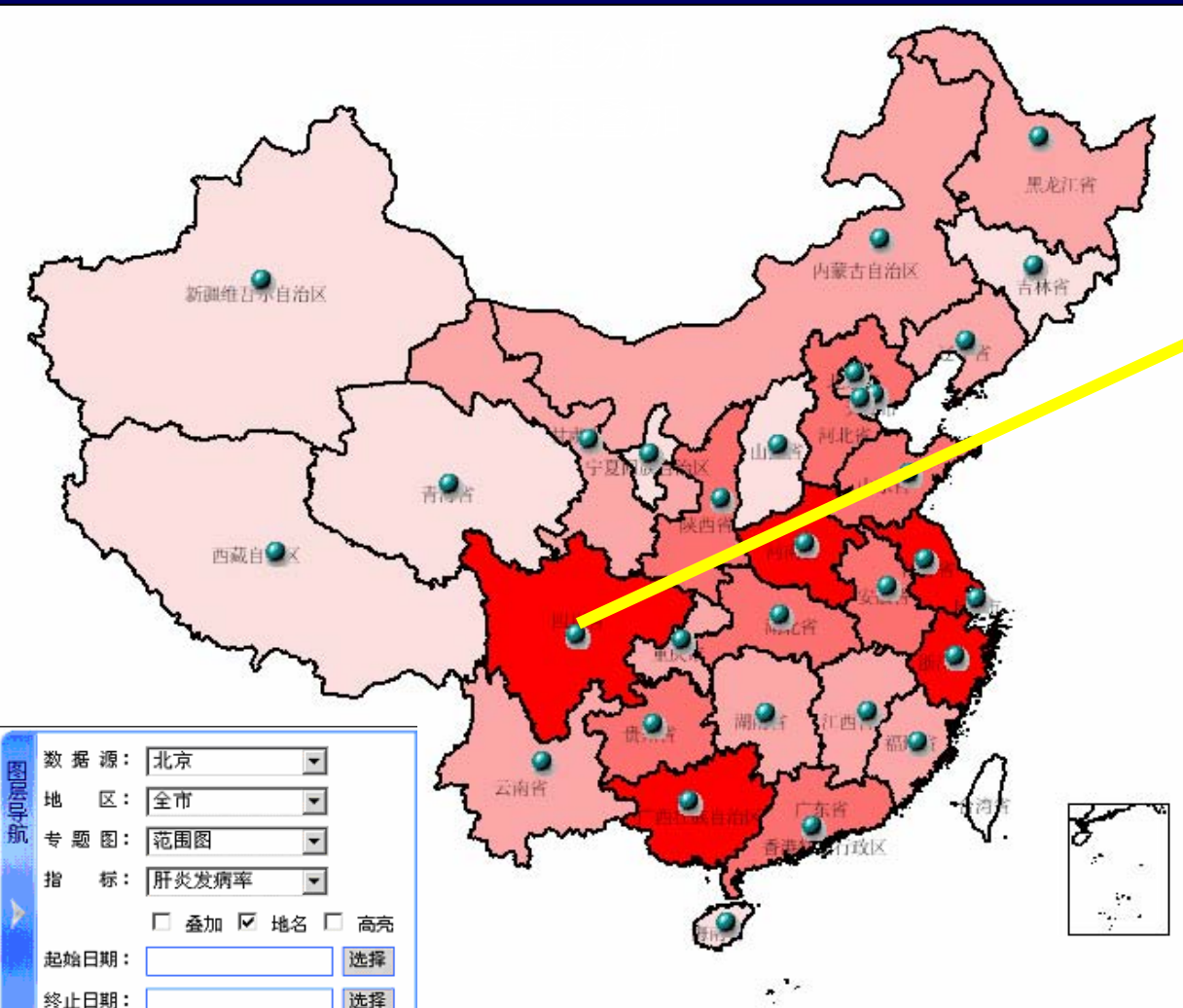
- CASE query
- Real time online or offline analysis/Statistics and table/graph making
 - Analysis on daily, weekly, monthly and yearly basis
- Dictionary management

地区	分	数	发病
国家		1	50
北京市		-	
天津市		-	
河北省		3117	2
山西省		1174	1
内蒙古		1303	-
辽宁省		1756	2
吉林省		1491	-
黑龙江		2436	3
上海市		991	17
江苏省		3077	4
浙江省		3020	-

Web-GIS Platform



-Display Case Incidence from National to Township Level



全国传染病与突发公共卫生事件 监测周报

(第 39 周)

中国疾病预防控制中心

2004 年 9 月 27 日 - 10 月 3 日

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□ *Weekly Report of Notifiable
Communicable Disease and
Adverse Health Events*

□ Disseminated to MOH, CCDC
institutes and subcenters/
Provincial HD&CDC

□ **Summary**

□ **Disease outbreak/epidemic**

□ **Other aberration detected**

□ **Adverse Health Events**

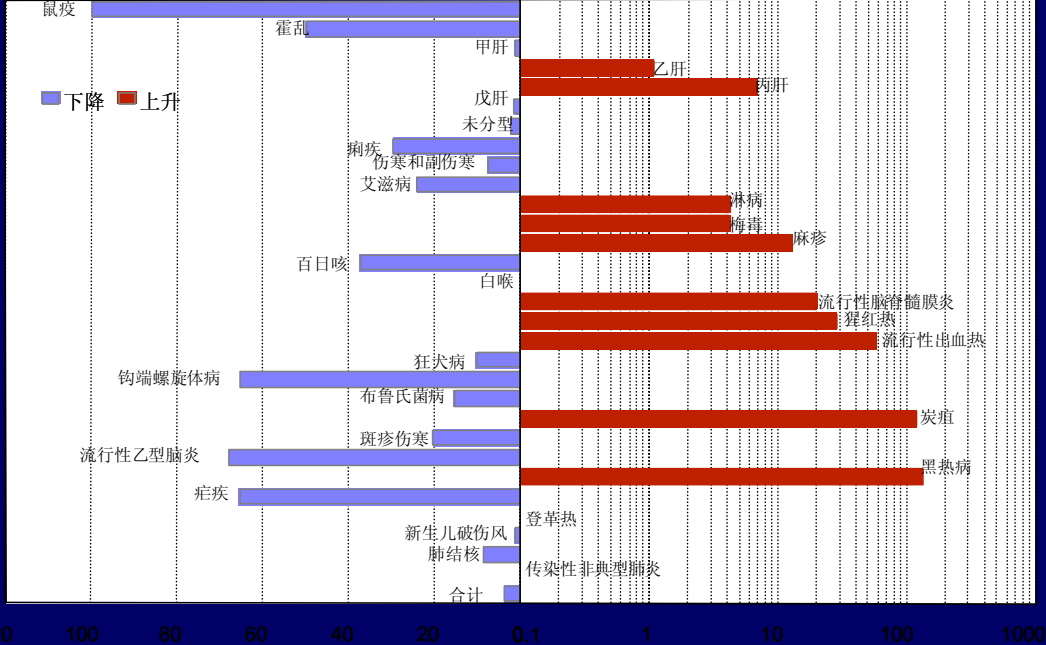
• **International outbreak news**

• **important implication**

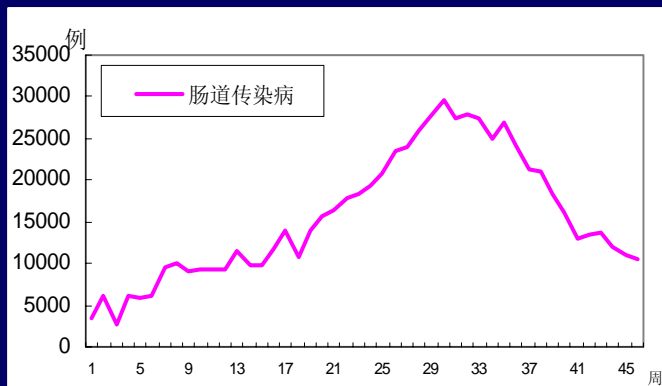




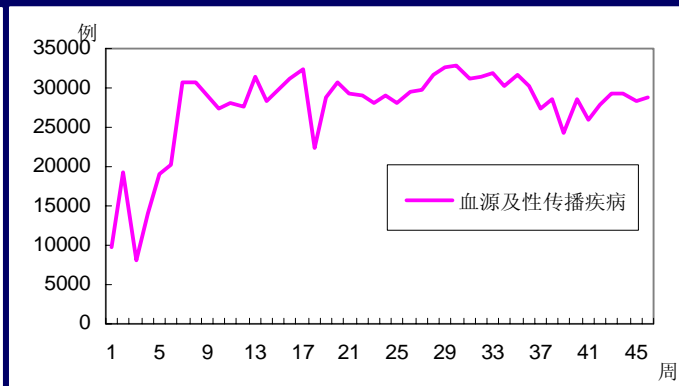
图2 2004年第46周全国甲、乙类传染病报告发病数与前五周中位数比较(%)



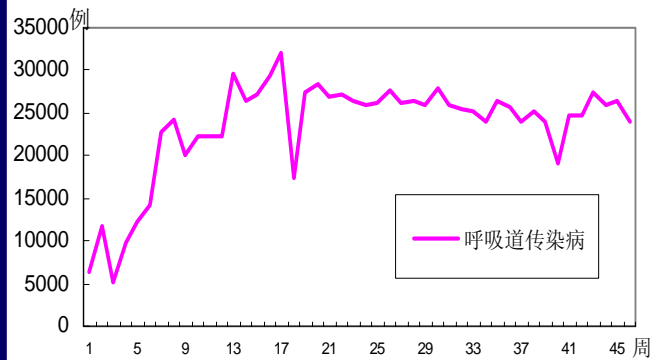
Enteric diseases



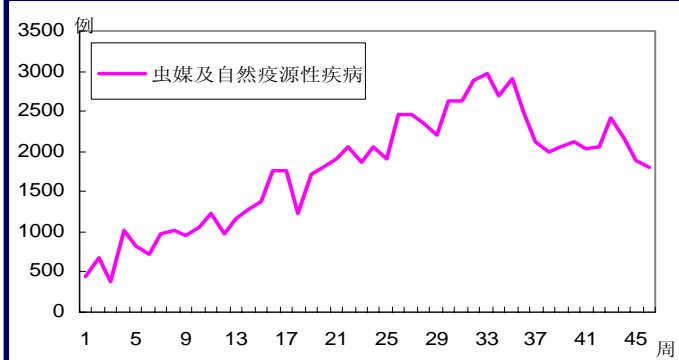
Hematic & STD



Respiratory Diseases



VBD





Enhanced Disease Surveillance

- **Plague, Cholera, Rabies, HRFS, Dengue, etc.**
- **EPI-target diseases**
- **Character and feature**
 - **Based on statutory reporting of cases**
 - **Case investigation and sample collection**
 - **Lab diagnosis**
 - **Active surveillance for some diseases**
 - **Environmental and risk factor surveillance for some diseases**



Disease with Related Animal Surveillance

- Plague:
- Rabies
- HRFS
- Dengue
- Malaria
- Japanese encephalitis
- Anthrax
- Leptospirosis
- kala-azar
- Echinococcosis
- Filariasis
- Schistosomiasis
- SARS
- HPAI
- Brucellosis
- TB
- Epidemic typhus/Endemic typhus

Plague Surveillance and Alert System



鼠疫监测预警预报信息系统

Rat Epidemic Disease Forecasting Information System

鼠疫防治管理信息系统

- 鼠疫监测报告
 - 动物间监测报告
 - 点区监测
 - 面区监测
- 统计
- 人员信息维护
- 操作手册下载
- 退出

按疫源地 选择疫源地

选择方法 选择生境

报表类型 年

地区

检验类型 **Reservoirs, Rodents** 类型

选择鼠种

选择媒介 **Vectors, Fleas**

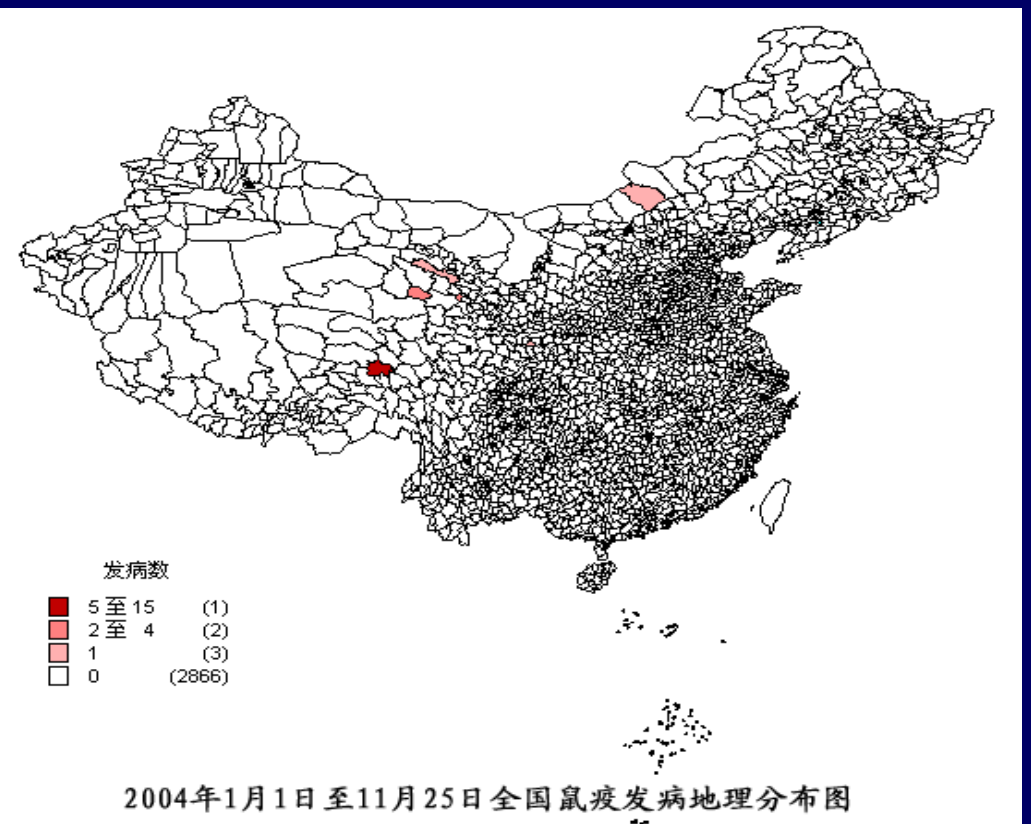
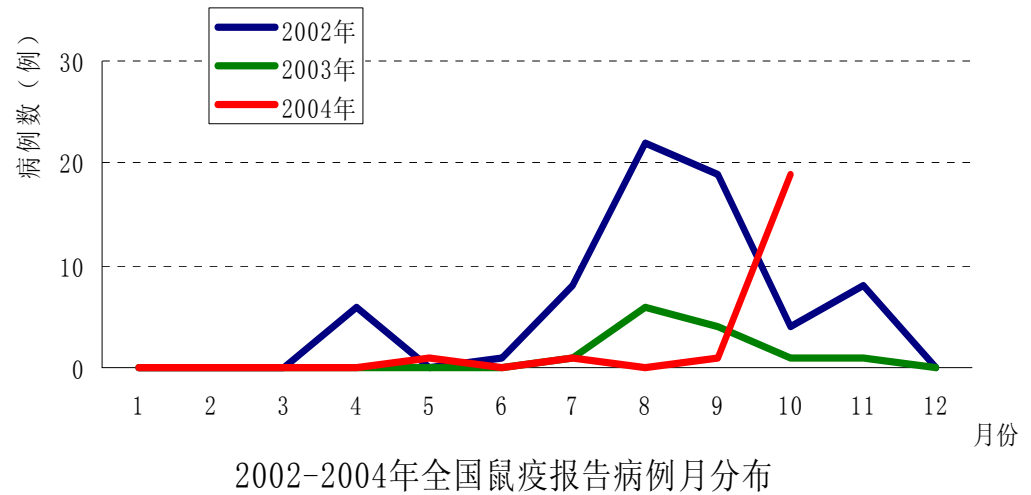
数量/密度(捕鼠率/蚤指数)

•Animal & Human Surveillance

- Control activities/process management and monitoring
- Real time analysis/Statistics and table/graph making
- Analysis on daily, weekly, monthly and yearly basis
- Real-time Alert

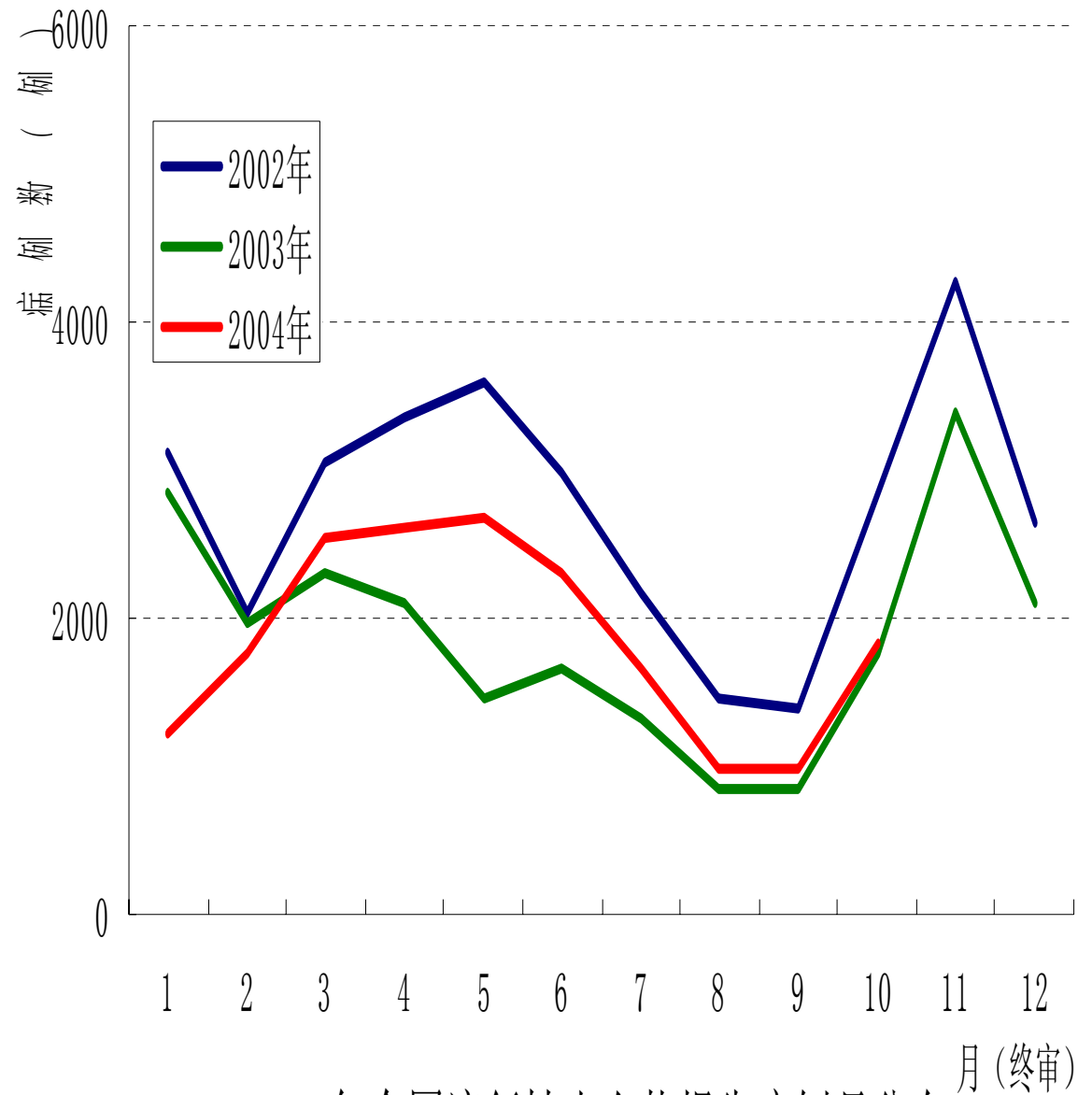
Plaque

By Nov 25, 2004,
22 plaque cases were
reported from Qinghai(20) ,
Gansu(1) and Neimenggu(1)



Hemorrhagic Fever with Renal Syndrome (HFRS)

- Jan,1 – Nov,14, 21539 cases, and 183 deaths.
- Number of cases in 5 Provinces take 70% of total cases (LN, SD, HeB,HLJ, JL)
- Animals: Rodents



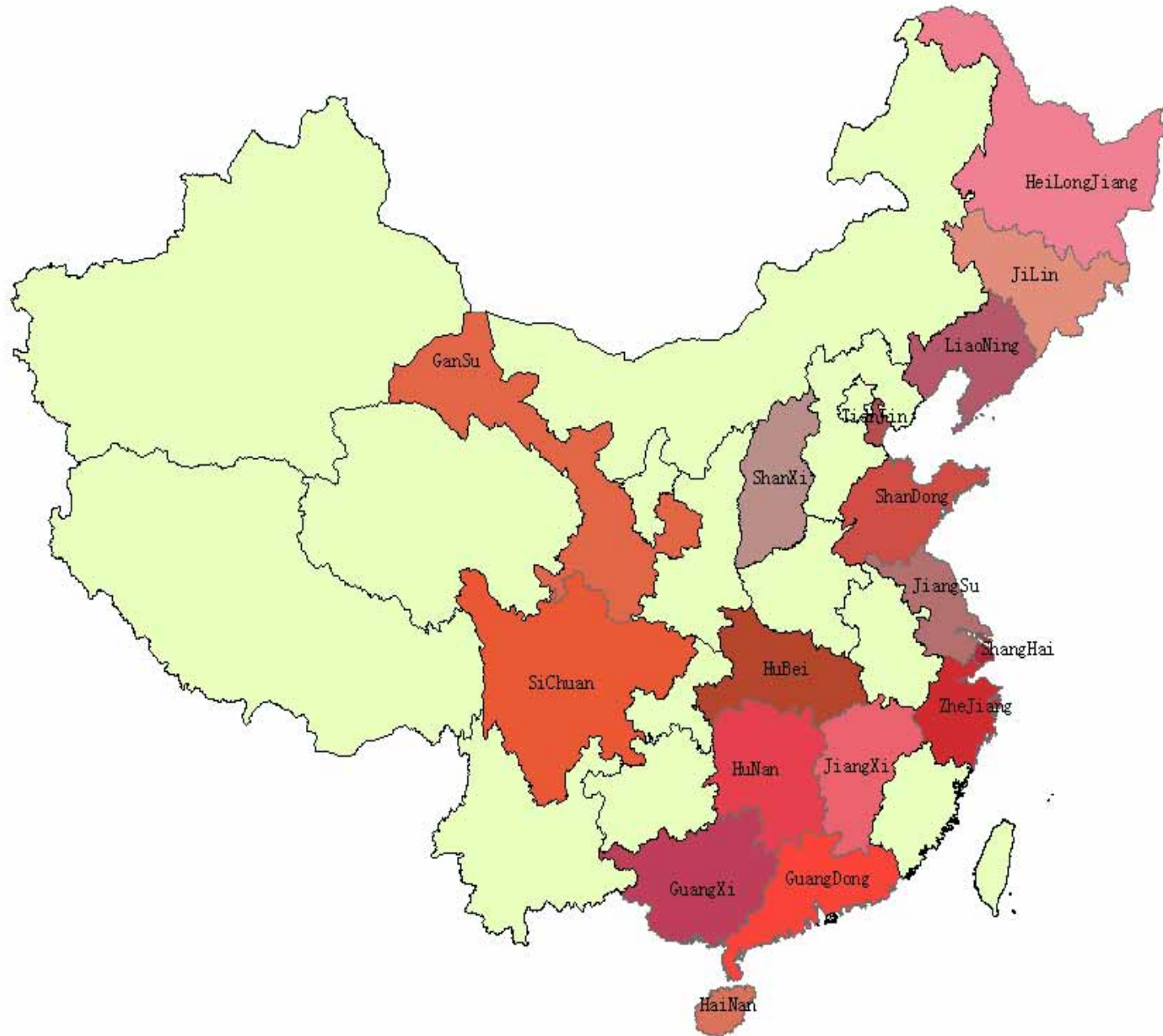
2002-2004年全国流行性出血热报告病例月分布



A New Comprehensive Vector Surveillance System in China

- **Launched in 2005**
- **New protocols**
- **Program management**
- **The targeted vectors: mosquitoes, flies, cockroaches, rodents**
- **The pilot provinces: 17 provinces**
- **The scenarios: 40 cities**

The Distribution of Surveillance System





Challenge

- Weak designing and evaluation of surveillance system
- Analysis, interpretation of surveillance data need being improved
- Lack of methodology and technique to use information to facilitate decision-making
- Low capability to detecting and identifying emerging infection
- Laboratory surveillance very weak

媒介生物可持续控制国际论坛
International Forum For
Sustainable Management Of
Disease Vectors

21st-23rd April, 2006, Beijing
Central Garden Hotel 中苑宾馆



媒介生物可持续控制国际论坛 组织机构 Organization



主办：中华预防医学会

Organizer: Chinese Preventive Medicine Association

承办：中华预防医学会媒介生物及控制分会

Sponsor: Society for Vector Biology & Control, CPMA

协办：中华预防医学会医学寄生虫学分会

Co-sponsor: Society for Medical Parasitology, CPMA

中华预防医学会铁路分会

Society for Railway Health, CPMA



组织机构 Organization

- 国际顾问委员会：Duane J. Gubler, Brian Herbert Kay等
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- 秘书长：刘起勇 LIU Qiyong (兼)



会议主题及议题

会议主题：媒介生物可持续控制

- 主要议题：

- 1. 新发和再度爆发的媒介生物性疾病
- 2. 媒介生物监测及控制方法和策略
- 3. 媒介生物抗药性的治理
- 4. 媒介生物入侵的防御和管理
- 5. 媒介生物及媒介生物性疾病的风险评估
- 6. 大型活动媒介生物控制保障

- 会议期间同时进行国际媒介生物控制技术及产品展示



The Theme: Sustainable Management of Disease Vectors

Topic Themes:

- Emerging and re-emerging vector-borne diseases.
- Updates for techniques and strategies on vector surveillance and control.
- Management of resistance of disease vectors to pesticides.
- Strategy and technique for managing disease vector invasions.
- Risk assessment on vector and vector borne diseases for civil engineering
- Pest management for wellbeing of big events

Exhibitions of Techniques and Products for Vector Management
During the Forum



论坛网址website:

www.Chinavbc.cn/forum

媒介生物可持续控制国际论坛

INTERNATIONAL FORUM FOR SUSTAINABLE MANAGEMENT OF DISEASE VECTORS



中国·北京
BEIJING CHINA
2006

【 中文 English 】

主办单位：中国预防医学会

承办单位：中华预防医学会媒介生物及控制分会

魅力北京



媒介生物可持续控制国际论坛

中文 | English

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会议主题和议题

大会报告

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重要起止日期

大会注册

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论文要求

论文提交

赞助方案

联系方式

中国 · 北京

2006年4月21—23日

主办单位：

中华预防医学会

承办单位：

中华预防医学会媒介生物及控制分会

协办单位：

中华预防医学会医学寄生虫学分会

中华预防医学会铁路分会

协办媒体：

中国媒介生物学及控制杂志

中国媒介生物控制网



Hotel Location

中苑宾馆

中苑宾馆地理位置优越，著名的古刹五塔寺、大钟寺，以及体现首都现代文明的动物园、紫竹院公园、首都体育馆、北京展览馆、中央民族大学、北京交通大学。西侧的白颐路直达颐和园、圆明园、香山，门前的高粱桥斜街直通西直门桥、联想桥，径入二、三环、四环线。



中苑宾馆环境



外部环境



内部环境



中苑宾馆大堂



insect1 中苑宾馆大堂采用透明屋顶的设计，阳光充足，大堂多采用朱红、明黄的、黑色、金色的装修主色调，由显最高贵典雅、金碧辉煌。

在中苑大堂中各个服务设施分布其中，总台、会议报道台、大堂吧、商务中心、商场、邮局、航空公司、保险室等，随时为您提供方便、快捷的服务。

设在大堂西侧的总台率先采用坐式服务，使客人更加轻松的办理各项手续，体现了以人为本的管理方式。

meijie, 10/26/2005



会议住宿



豪华单人间



标准双人间



ICDC