China-FETP and its Good Practice

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Chief Epidemiologist of China-CDC
Founder and Honorary Advisor of China-FETP

Contains

- Developing of China-FETP
- Stories of good epidemiological practice
- Definition of Field Epidemiology

Developing of China-FETP

Two different types of epidemiological investigation

- **The epidemiological investigation for academic research**

  For scientific findings; cultivation of the scientific research ability; selecting topics proactively; adequate argument;

  selecting investigated sites; analysis of the public health academics points.

- **The epidemiological investigation for disease prevention and control**

  receiving emergency missions; building up practical problem-solving ability; being medical detectives; investigating the unknown event; *selecting topics passively; emergency response; rushing to the scene; solving the difficult public health issue quickly.*

Definition of field epidemiology

- The problems is unexpected.
- A timely response may be determined.
- Public health epidemiologists must travel to the field to solve the problem.
- The extend of the investigation is likely to be limited because of the imperative for timely intervention.

Michael B Gregg



The definition of field epidemiology

Field epidemiology is the methodology for solving all kinds of public health problem at field by using epidemiological methods and other scientific methods.

----Guang Zeng

Characteristics of Field Epidemiology

- Philosophical perspective: Not only get to know the world, but also transform the world.
- Methodological perspective: A combination of the epidemiology and other disciplines.
- Team perspective: It is the public health team, not only the epidemiological investigation group.
- Training perspective: Insist on learning by doing. It's different from the single model of classroom teaching or the research model of graduate students.
- Output perspective: To achieve the purpose of disease control, and put forward countermeasures and suggestions.

  It's not for report and academic papers.

Chinese Field Epidemiology Training Program (CFETP)

- Negotiate with WHO in April ,established in Oct 15, 2001
- Learn from EIS model, 2 year training for each cohort
- Response SARS since Dec,2012 in Guangdong and Beijing
- Have the first resident adviser in 2004
- NCD as the second training direction since 2010
- Environmental health as the third direction since 2013
- Great contribution from WHO,UNICEF,US-CDC



2001年10月，中国现场流行病学培训项目正式成立

CFETP Mission

- Training qualified epidemiologists for China CDC and local CDC
- Special team to response important public health events
- Leadership of FETP network in China
- Bridge for epi international cooperation

Eight Competencies

1	Conduct rapid investigation and response to public health events
2	Respond to natural disasters and prevent disease outbreak
3	Conduct surveillance data analysis and evaluation
4	To advocate for public health actions through communications with the community, the media and decision-makers
5	Cooperation and coordination with partners
6	Planning, implementation of an epidemiological study
7	Write reports as scientific paper for peer-reviewed journals, and present at a national or international scientific conference
8	Te be a mentor of field epidemiological training

Four spirits

Dedication: Dedication to public health and serving China

Teamwork: Developing teamwork and partnerships

Exploration: Interest in scientific exploration and problem-solving

Commitment: Commitment to truth and integrity

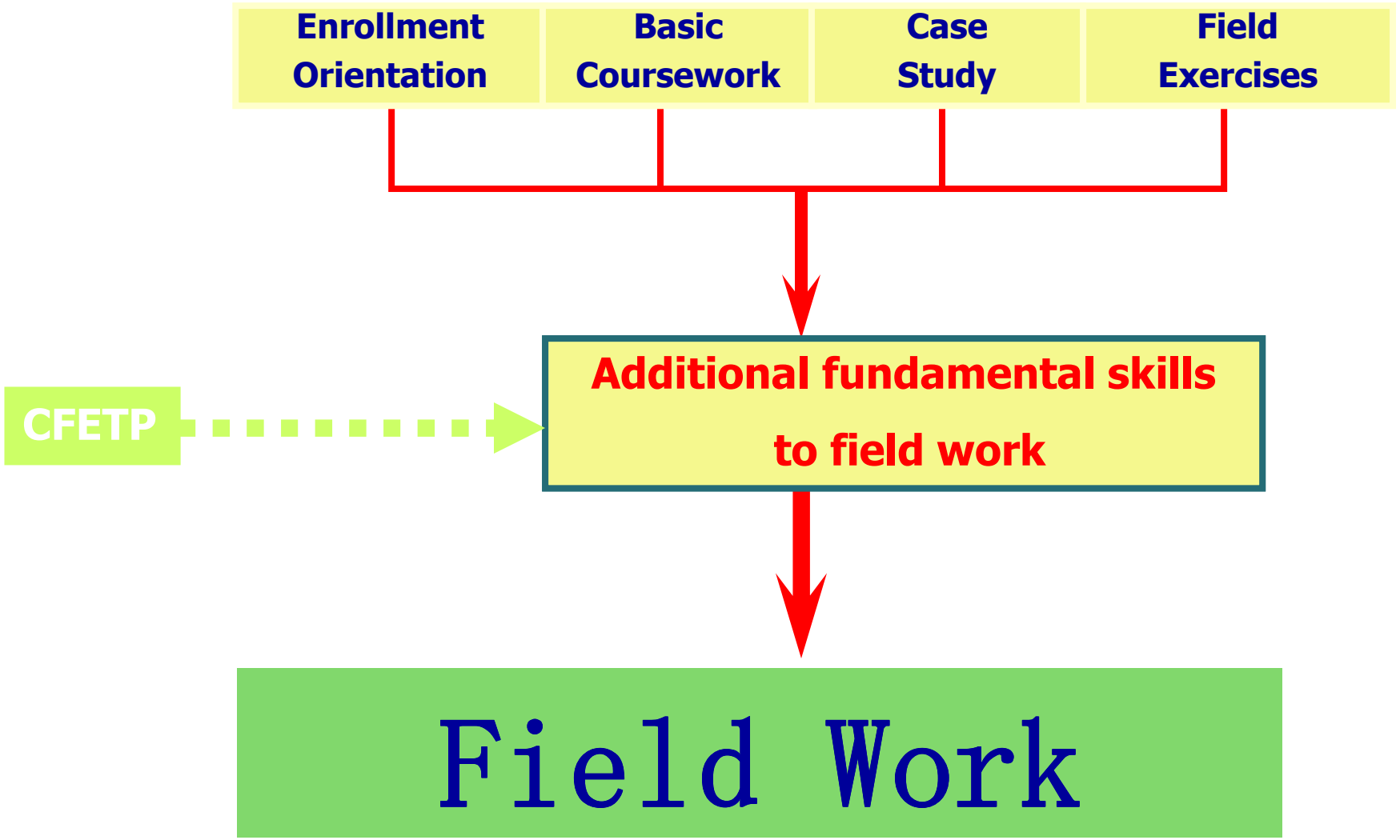
黄埔军校-Whampoa military school



黄埔军校校徽

Learning By Doing

2 Months Course 22 Months Field Work



Training base:

For more opprrtunities ,

Shorten distance to the field

Within one provincial/metropolitan CDC

Training and response collaboration

Trainee as core person to response

Local support and double guidance

21 Local Field training base including 6 new developed



Qualification for certificate

2 full years training involment

4 or more emergent response to public health events,at least 2 were in core part.

2 or more surveillance evaluation,all were done by himself

1 or more planned project by himself

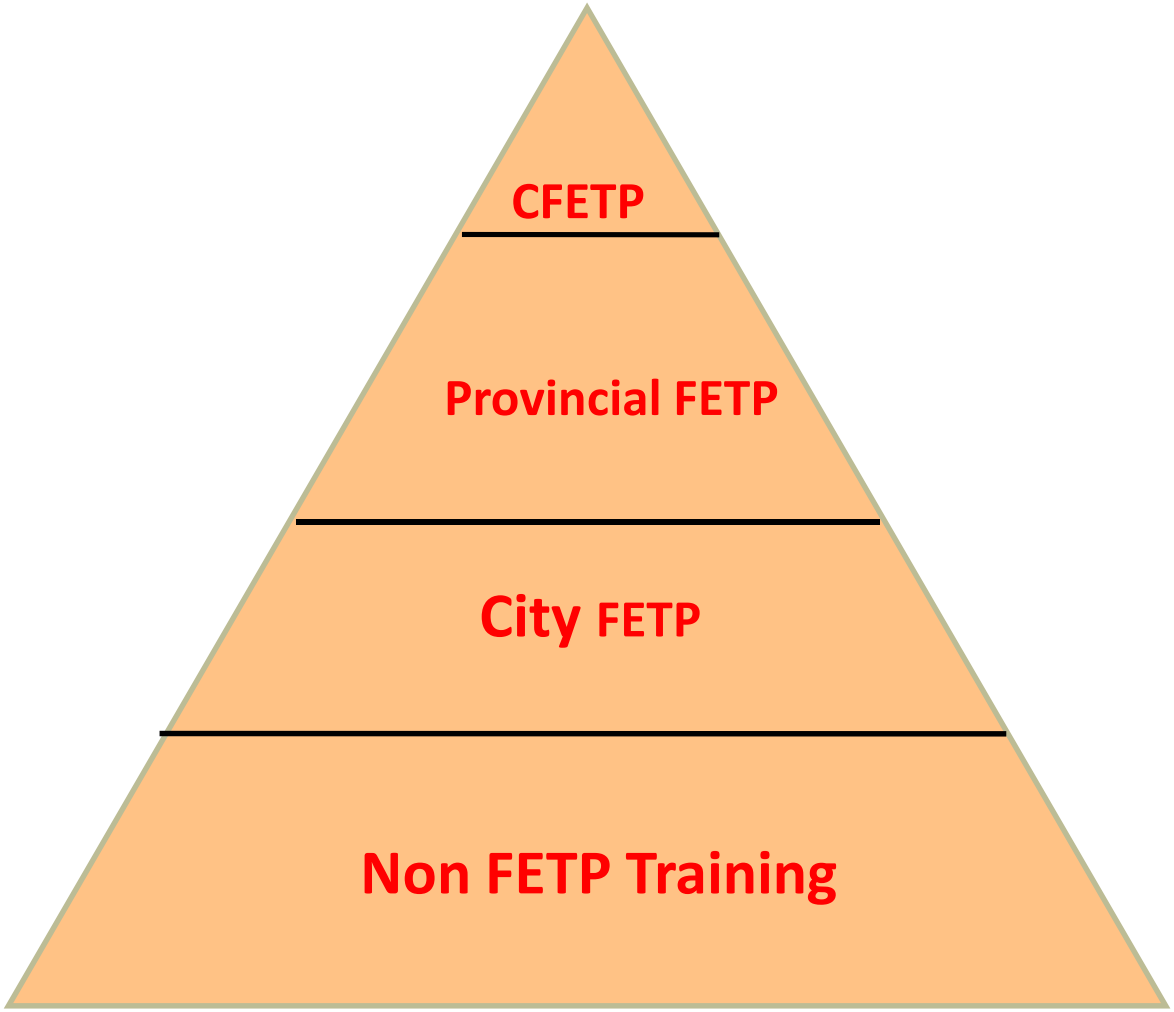
2 topic report report and defence face CFETP committee,1 of the 2 is emergent response

Always the pioneer to rsponse emerging events

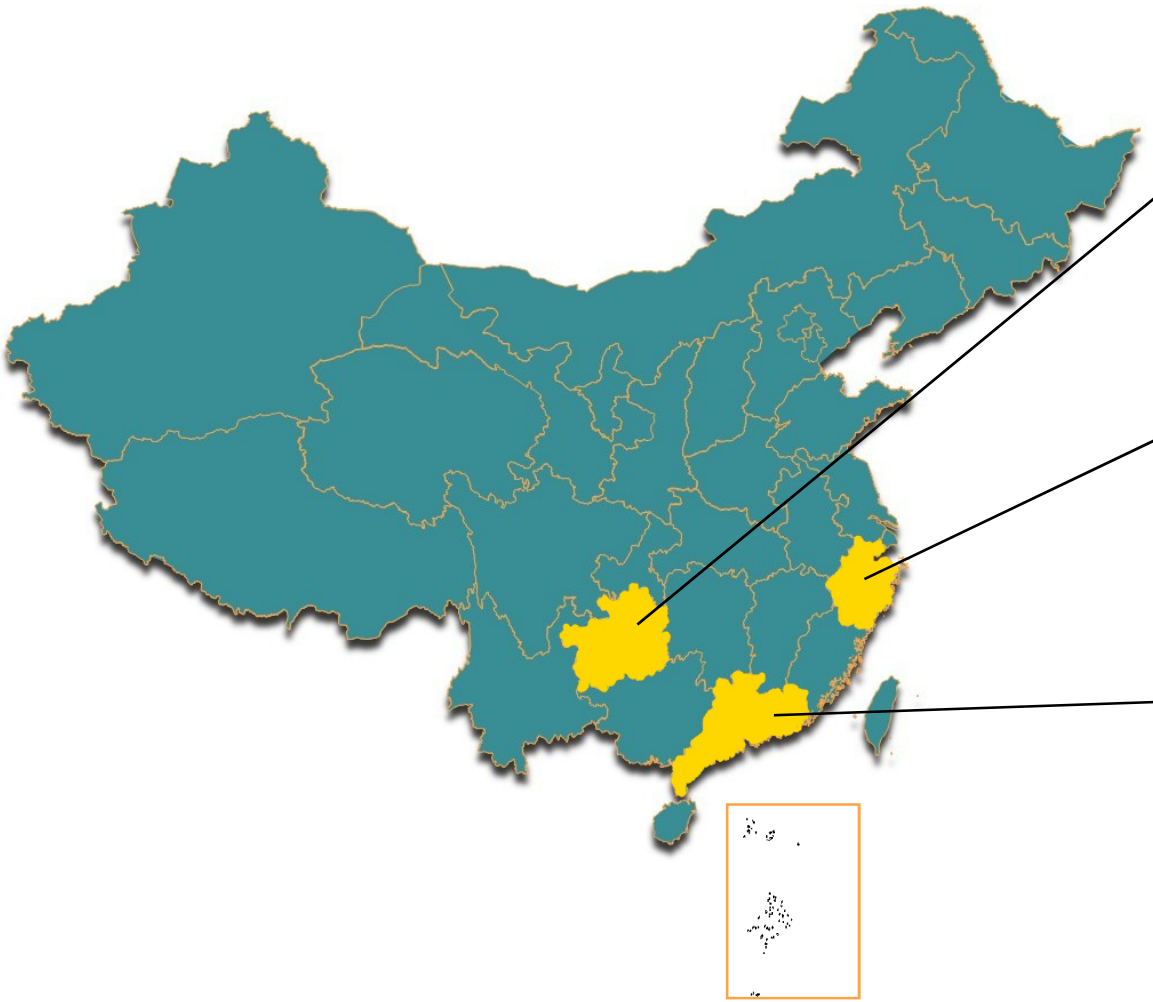
Group efforts

- **Trainee, Monter, Resident adviser**
- **Other department of China-CDC**
- **Local CDC**
- **Clinical doctors**
- **Other contributors**

FETP pyramid in China



3 Examples of Provincial FETP



Guizhou：9 cohorts，133 trainee。 Budget from 250000 (2004) increased to 500000 RMB 2010。

Zhejing：**14 cohorts since** 2004，230 trainee。Year budget :500000RMB 5 City FETP。

Guangdong：8 cohorts since 2004，75trainee, total 4530000 RMB input

Bi-weekly dispatch since 2010 to MOH, all trainee and alumni

中国现场流行病学培训项目
现场报告
Dispatch of the Chinese Field Epidemiology Training Program

2011 年第十四期（总第二十八期）
2011 年 7 月 31 日发行
http://211.167.248.12/cfetp

本期焦点：
湖南某县基层医疗机构退热药和激素使用情况调查

主要发现：对湖南省某县基层医疗机构 2010 年 3-7 月间治疗发热疾病的 3481 张处方（乡镇卫生院 1477 张，村卫生室 2004 张）进行调查，发现乡镇卫生院 40% 、村卫生室 47%的处方中使用复方氨林巴比妥进行退热；村卫生室在低热（37.3℃-38℃）病人和<5 岁发热儿童中使用该药的比例均超过 50%。使用地塞米松作为退热药的比例，乡镇卫生院为 33%，村卫生室为 28%。在高热（≥39.1℃）病人及<5 岁儿童中使用地塞米松的比例，乡镇卫生院均高于村卫生室。退热快、体温高或高热持续不退、价格便宜是医生使用上述药物的主要原因。

公共卫生意义：糖皮质激素可抑制机体的非特异性免疫反应，导致严重感染，不可作为退热药来使用。吡唑酮类药物能导致中性粒细胞减少症、再生障碍性贫血等严重并发症，属应淘汰的退热药。但本调查提示，基层医疗机构广泛使用上述两种药物作为退热药，且医生并未充分认识其副作用和危害。建议有关部门明令禁止将激素作为退热药使用，并全面淘汰吡唑酮类药物，而鼓励医生使用相对安全的退热药（如对乙酰氨基酚和布洛芬）。另外，应加强对基层医生的培训和检查督促，并通过健康教育鼓励公众对医生的用药行为进行监督，从多种途径杜绝这两类药物的滥用，以减少其对公众健康可能造成的危害。

近年来，CFETP 及国外多项流行病学调查均发现，多种重症感染（包括肠道病毒 71 型[1]和流感重症感染[2,3]）均与早期使用糖皮质激素及吡唑酮类药物退热有关联。但是，关于中国医疗机构退热药和激素使用情况的现况调查较少；已有的调查亦未进行科学的抽样设计[4,5]。

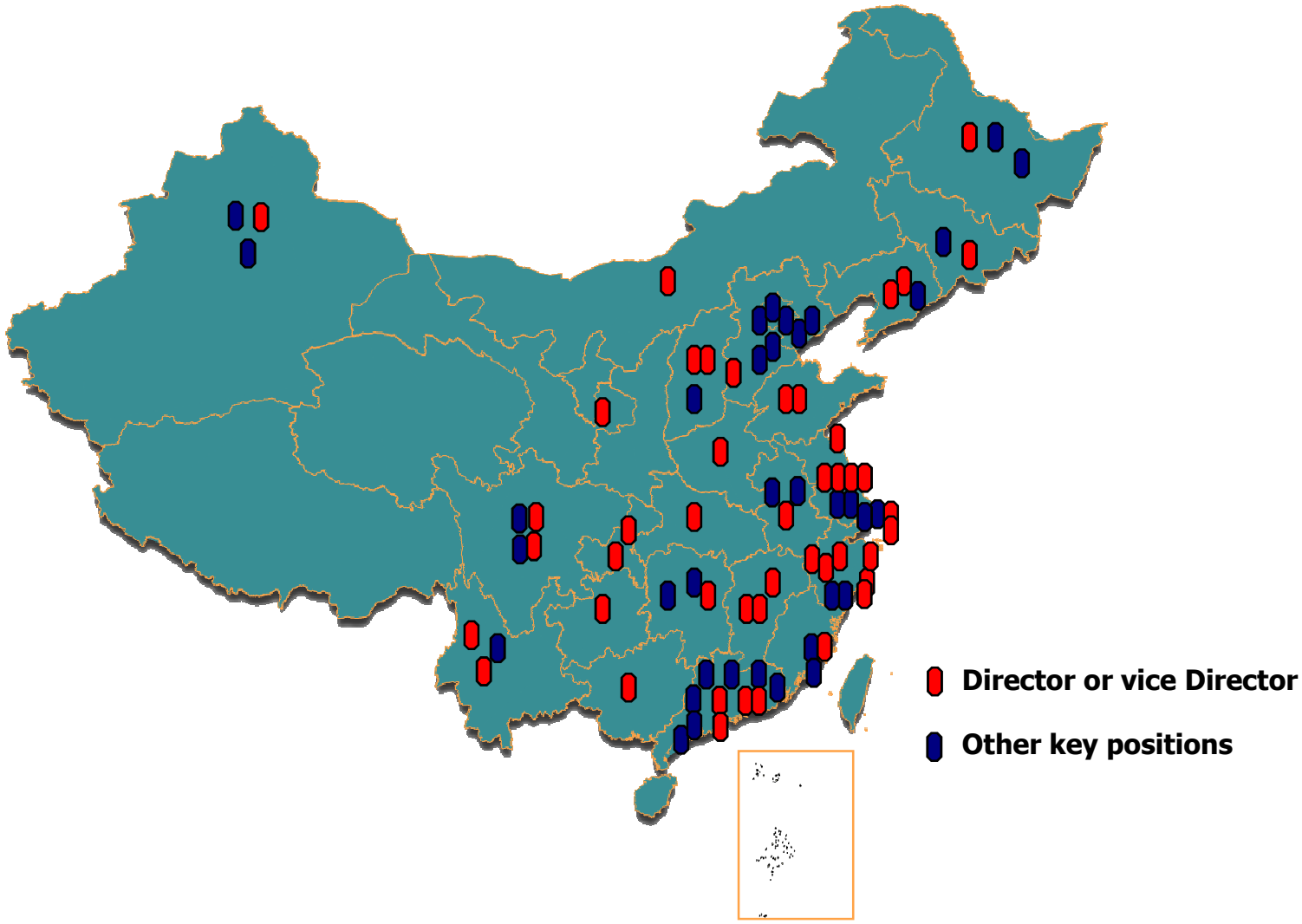
为了了解基层医疗机构在退热药和激素使用中存在的问题，协助卫生行政部门科学、规范地管理退热药物和激素的使用，2010 年 10 月，CFETP 对 2010 年 3-7 月期间在湖南省某县基层医疗机构门诊就诊的发热病人处方进行了抽样调查。

本次调查中，发热性疾病病例（以下简称“发热病例”）包括出现发热的法定传染病病人、门诊日志中诊断为呼吸道感染、感冒、扁桃体炎、肺炎、腹部感染、急性胃肠炎伴发热、或发热待查的病人。

Annual mentor workshop

- Since 2005
- 40-60 trainee for each
  - Mentors and managers from training base
  - Provincial mentors
  - CFETP graduates
- Topics
  - Knowledge needed
  - Management

Graduates in 27 of 31 provinces in 10 years



206* graduates of CFETP in 12 years

	National	Provincial	Local	Total
Graduates	61	71*	74	206
Director or Vice director	12	25	26	63
Key position	41	43	45	129
MOH	1	-	-	1
CFETP	5	-	-	5

***: 1 deceased**

Annual China FETP Conference

Platform

presentation of of important events of past year by trainee of China FETP system

qualification of output: question and comment

introduce new trainee to all

Attendees

Central and local FETP trainee, trainer;

CFETP alumni;CFETPV;

Leaders and mentors; Hong Gong FETP and other guests

FETP night: act by cohort and province

Celebrating 10th anniversary of CFETP in 2011



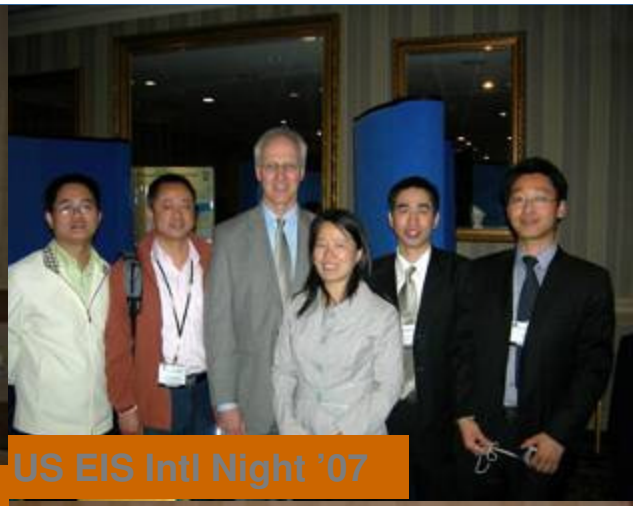
Minimal Estimated Needs of Qualified Epidemiologists in China

Department/Program	National 1.3 billion	Provincial 37 million	Prefecture 4 million	Total
Emergency Response/Surveillance	35	124	666	825
Immunization	15	93	666	774
CFETP	10	-	-	10
Infectious Disease	10	62	333	405
Viral Disease	10	31	333	374
Parasite Disease	7	31	-	38
HIV/AIDS	10	31	333	374
Tuberculosis	10	31	333	374
Chronic Disease	20	93	333	446
Foodborne Disease	15	62	333	410
Environmental Disease	10	31	333	374
Ocupational Disease	10	31	-	41
Others	19	31	333	383
Total	181	651	3996	4828



TEPHINET India '06


US EIS International Night '04


US EIS Intl Night '07

International Scientific Work

- *136 abstracts from 97 officers*
- *109 publications*
- *Foege and Best poster awards*


US EIS International Night '03


Global TEPHINET Spain '03


TEPHINET Philippines '04



Global TEPHINET Brazil '07

Support the development of Mongolian FETP in 2010

- Assign instructor to Mongolia for 2 months
- Instruct MFETP
  - Anthrax outbreak
  - Nosocomial infection, etc.






2013年 亚洲FETP培训班



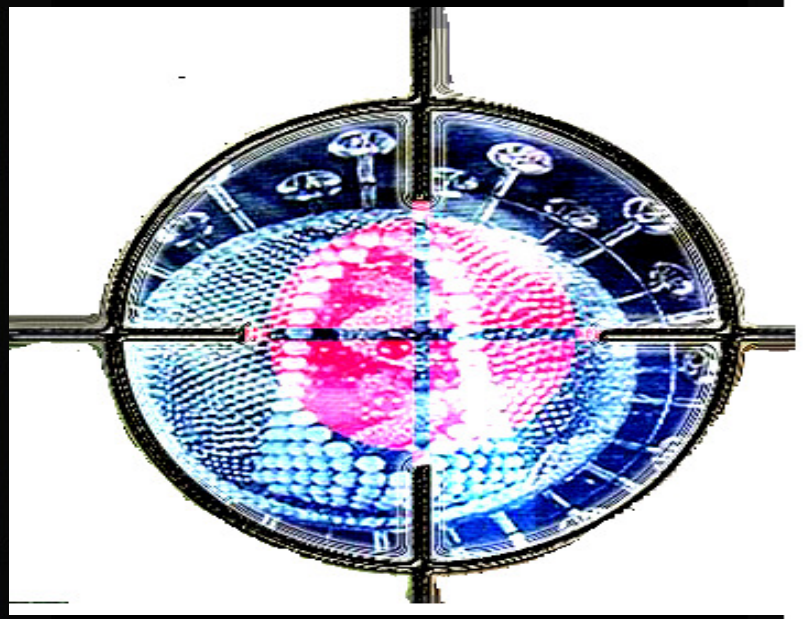


Story 1: Response to SARS Outbreak



SARS 2003: A Global Microbial Threat





SARS response and survey



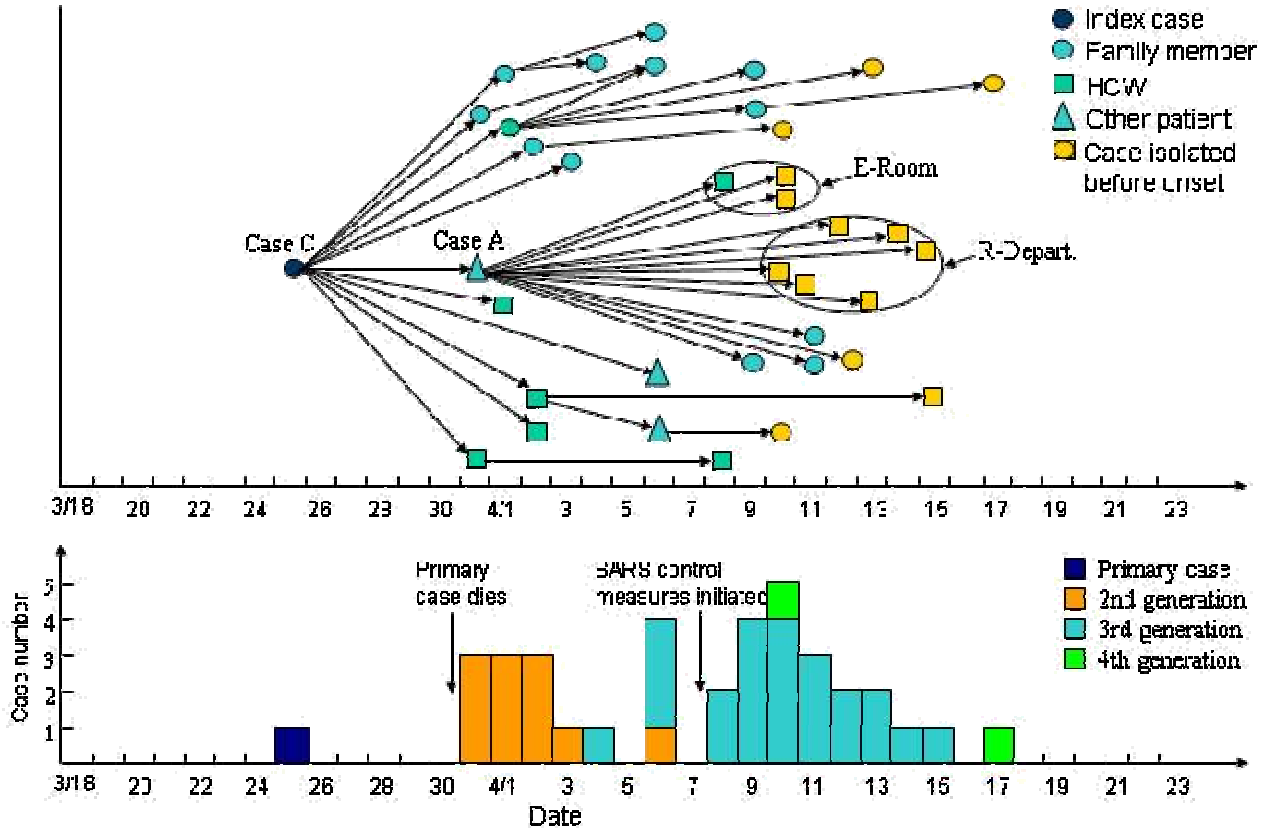






CFETP was fully involved in the SARS Investigation 2003

Figure 1 Transmission of the SARS outbreak in Beijing, China, April, 2003




北京大学人民医院
PEKING UNIVERSITY PEOPLE'S HOSPITAL
北京大学第二临床医学院
PEKING UNIVERSITY SECOND SCHOOL OF CLINICAL MEDICINE
门 诊
OUTPATIENT

Ren Min Hospital(RMH) in 2003

- Affiliated to a very famous university in Beijing
- One Door just face to MOH
- Large amount of patients compared to smaller campus
- Be tasked to admit SARS patients
- SARS in-patients were resided in such temporary wards including laundry and boiler rooms
- More and more out-patients and doctors/nurses were infected
- Hospital was strongly ordered to control hospital infection as soon as possible, but the situation got worse and worse


北京大学人民医院
北京大学人民医院
让
出口

April 22,2003,CFETP' survey in RMH

- CFETP actively asked to do a field survey assignment in RMH and soon authorized by the Beijing Government
- A Joined team was led by the director of CFETP
- Survey in RMH started at 8:00 am in the morning
- CFETP director and one trainee went around out-patient and in-patient area under the help of a guide
- Survey finished in 3 hours
- Conclusion were made in the noon time and immediately communicated with hospital





Results

- All the suggestions were adopted by Beijing Government:

  In two days RMH was quarantined

  In seven days a new famous hospital ,“Xiaotangshan Hospital ”, was established

  Epidemic of terror to SARS in Beijing went down

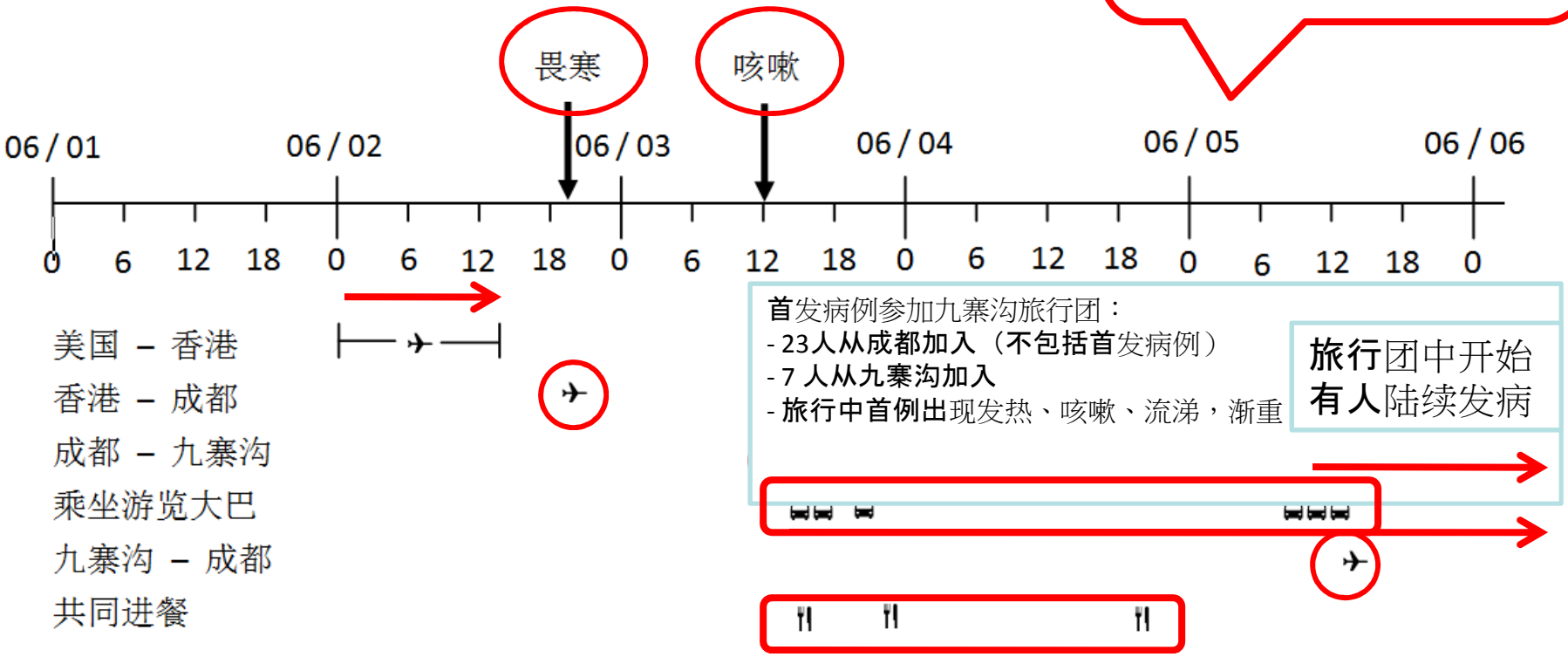
  Epidemic of SARS in Beijing went down

- National strategy against SARS was determined

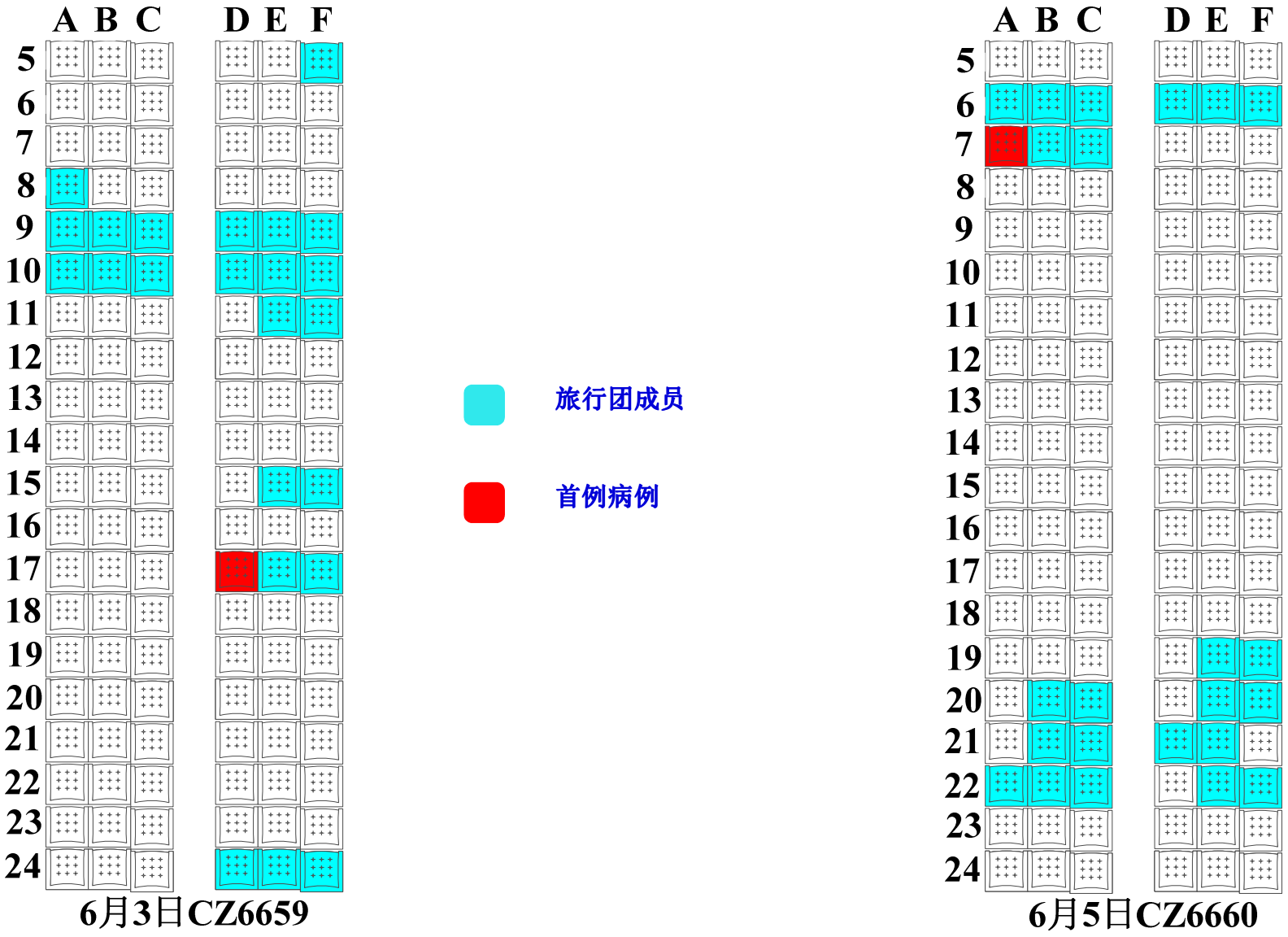


Story2: Response to novel HIN1 pandemic,2009

6.5，**成都三院收治一例疑似H1N1感染病例**：
- **女**，40岁，美籍华人，收银员

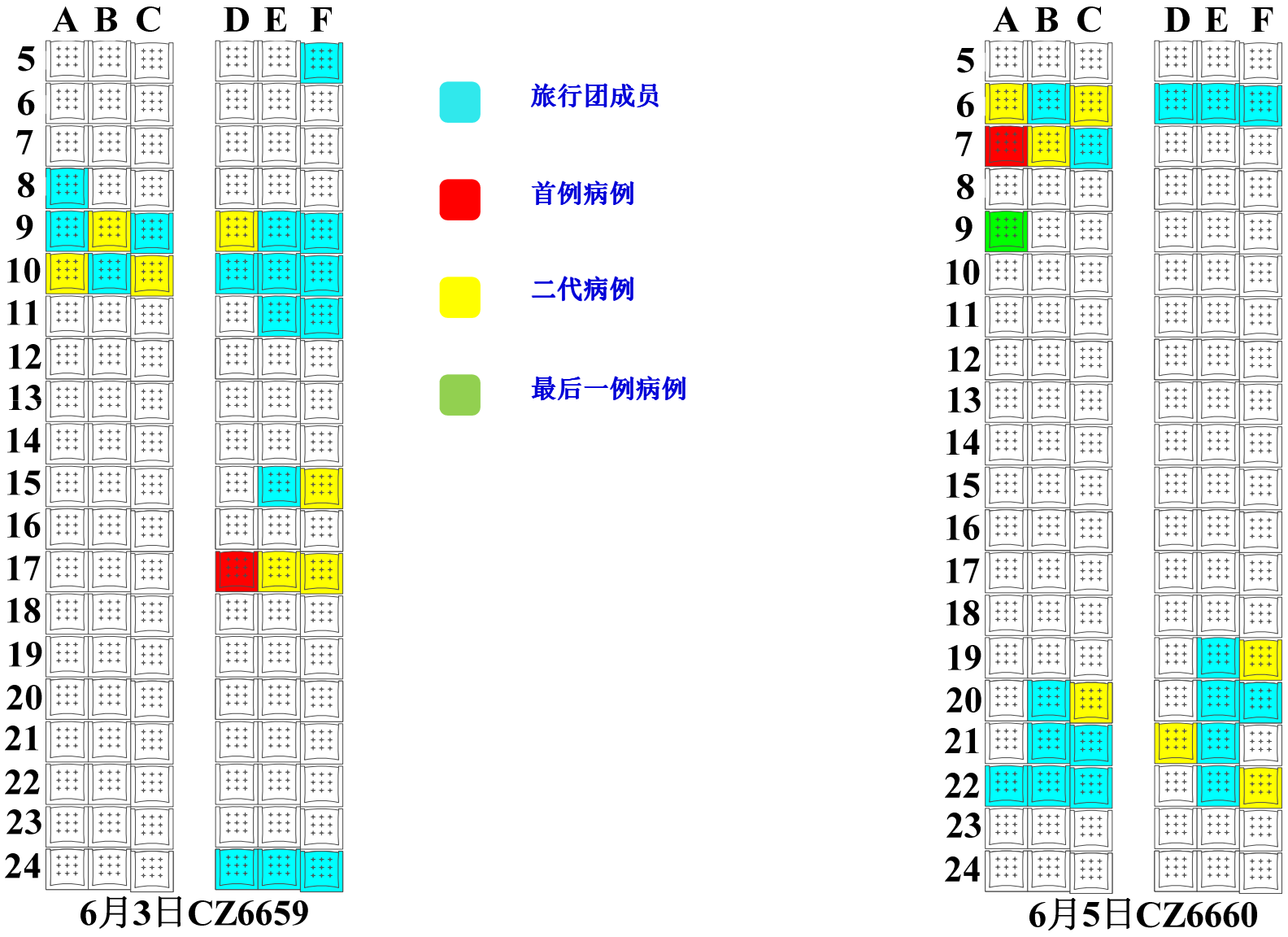


旅行团成员在两个航班上所乘坐的区域



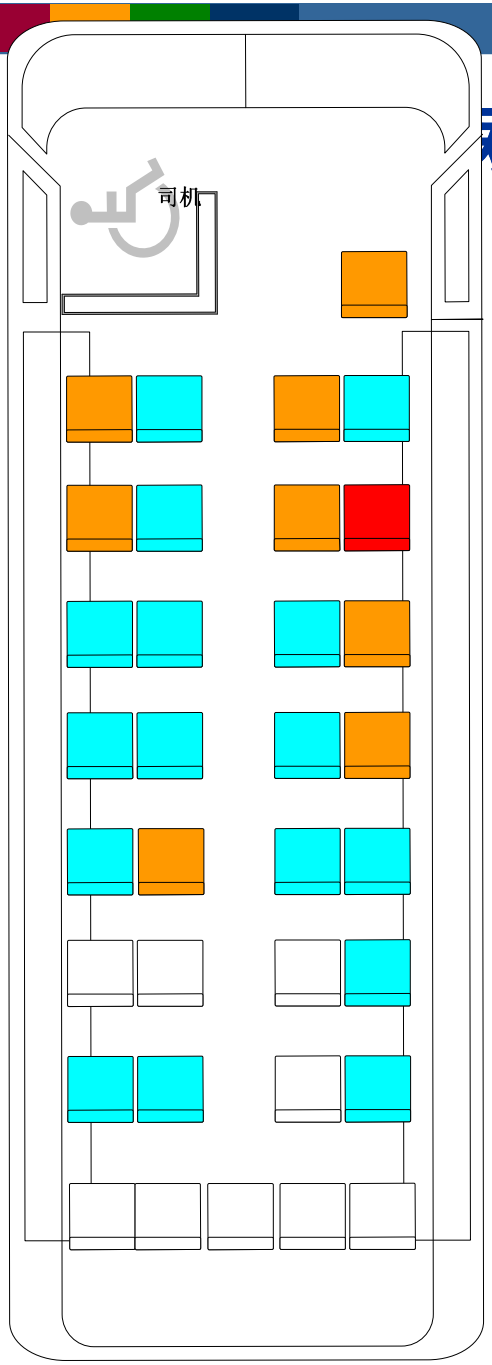
6月3日CZ6659　　6月5日CZ6660

二代病例集中在旅行团成员所乘坐的区域



6月3日CZ6659　　6月5日CZ6660

病例分布情况



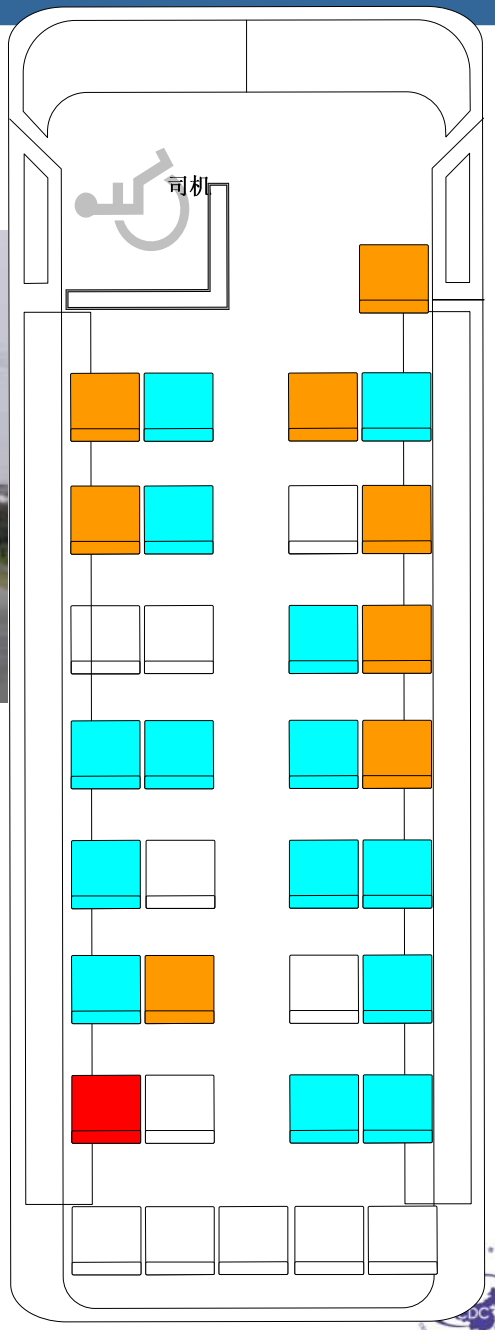
6月3日13-16时大巴



未发病旅行团成员

首例病例

二代病例



6月3日19-22时大巴

Challenges during the investigation

- More than 300 close contacts concerned durning 3 days tours.
- Large amount of information need to be collected
- The primary case uncooperative
- Multi-departmental collaboration
- Interviewed 1-2 hours for each contact

Conclusion

- This outbreak was apparently caused by droplet transmission during coughing or talking.
- Airborne transmission was not a factor is supported.
- This investigation highlighted the need to prevent transmission by droplets and fomites during a pandemic.

Published in Emerging Infectious Disease, Vol.15 No.10 Oct 2009

RESEARCH

Lack of Airborne Transmission during Outbreak of Pandemic (H1N1) 2009 among Tour Group Members, China, June 2009

Ke Han,[1] Xiaoping Zhu,[1] Fan He,[1] Lunguang Liu, Lijie Zhang, Huilai Ma, Xinyu Tang, Ting Huang, Guang Zeng, and Bao-Ping Zhu

During June 2–8, 2009, an outbreak of influenza A pandemic (H1N1) 2009 occurred among 31 members of a tour group in China. To identify the mode of transmission and risk factors, we conducted a retrospective cohort investigation. The index case-patient was a female tourist from the United States. Secondary cases developed in 9 (30%) tour group members who had talked with the index case-patient and in 1 airline passenger (not a tour group member) who had sat within 2 rows of her. None of the 14 tour group members who had not talked with the index case-patient became ill. This outbreak was apparently caused by droplet transmission during coughing or talking. That airborne transmission

start of the 2009 influenza pandemic (*4*). Investigations of transmission chains early in the pandemic will add to our understanding of the special characteristics of this new virus, including whether its mode of transmission differs from that of seasonal influenza viruses. This information will be useful for effective control of the spread of this virus.

In the People's Republic of China, the early response strategy has been containment, which includes temperature screening and administration of health questionnaires at international ports of entry, isolation of infected travelers, and quarantine of close contacts of infected persons. Dur-

Finance and Collaboration

- Financial support from MOS and MOM
- Collaboration with
  - epidemiologists at local
  - clinical doctors
  - microbiologists
  - environmental experts
  - geologists
  - other specialists

THANKS