

WHO SARS Laboratory Network for Diagnosis and Research

- Established 17 March 2003
 - To identify the causative agent of SARS
 - To test all clinical materials
- Based on WHO Influenza Lab Network
- Agreement to;
 - Public health purpose as the first priority (not research and publication)
 - All information and materials to be shared
 - Agreement by the network to be required for publication and material transfer to others
- Successful identification of a new SARS-CoV as the causative agent of SARS within a month
- Further development of diagnostic systems and supply of standard reagents

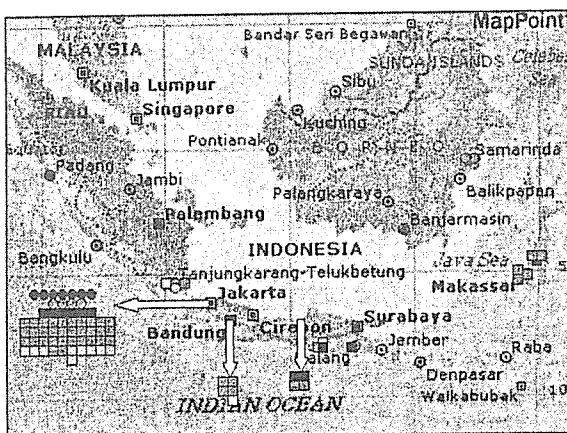
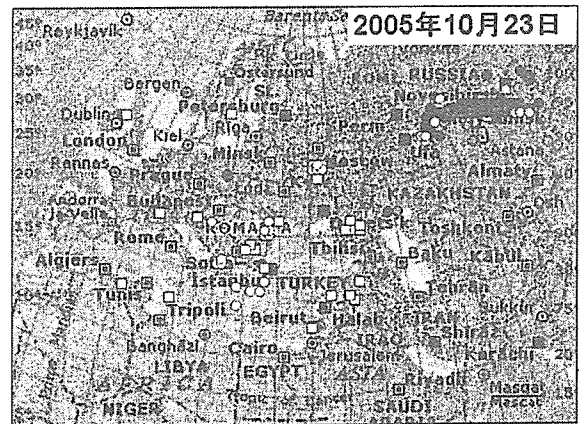
WHO SARS Laboratory Network

- Canada: Natl. Microbiol. Lab., Winnipeg
- France: Pasteur Institute, Paris
- Germany: Bernard Nocht Inst. of Tropical Med., Hamburg (Frankfurt and Marburg Univ.)
- Hong Kong: GVU, HKU, Chinese UHK
- Japan: NIID, Tokyo
- Netherlands: Erasmus Univ., Rotterdam
- Singapore: Virol. Unit, Singapore Gen. Hospital
- UK: PHLS, London
- USA: CDC, Atlanta

- China: Chinese CDC, Beijing and Guangdong CDC

Summary of Influenza A(H5N1) outbreaks in poultry in Asia to Europe, 2003-5

- Multi-country outbreak
 - Rep of Korea, Japan, Viet Nam, Thailand, China, Lao, PDR, Cambodia, Indonesia
 - Mongolia, Russia, Kazakhstan, Iran
 - Turkey, Romania, Croatia and so on
- More than 160 million poultry have died or been culled
- Very highly pathogenic virus causing fatal systemic infections in a variety of bird and mammalian species
- Historically unprecedented outbreak
- Human cases in affected areas with severe systemic infection and high fatality (beyond the general concept of flu)
- Pandemic threat of a highly pathogenic virus
- Economical/agricultural issues
- Insufficient information available



H5N1 outbreak in Indonesia, July 2005-

- Chicken epidemic continues since 2003
- Two human clusters since July 2005
 - High mortality (>75%)
 - Up to 200 suspected cases
 - Only few laboratory-confirmed
- Poor information and diagnostic systems
- Clade 2 A/H5N1 HPAI virus
 - Different from Vietnam and Thailand
- Emergency declared by the Government
- International Concerns about a pandemic

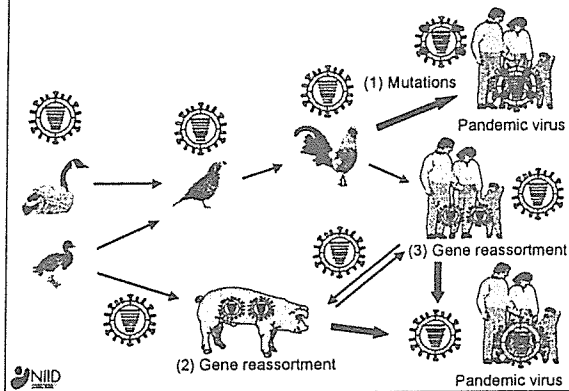
Human Public Health Risk of H5N1 HPAI

- Severe human cases in affected areas
 - Increasing number of confirmed cases
 - Family clusters; human-to-human transmission
 - Less information to assess public health impact
- Emergence of a new H5 influenza virus with pandemic potential
 - Efficient human to human transmission by gene reassortment and mutations
 - Vast majority of people with no immunity to H5
 - Pandemic with huge morbidity and mortality
 - Great health burden and social/economical impact

Pandemic influenza

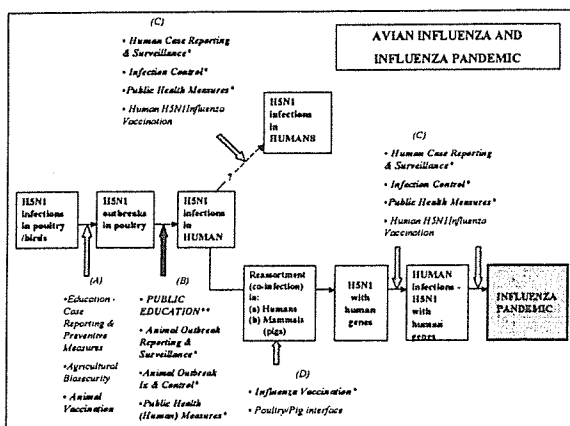
- LPAI virus-derived
 - Pandemic influenza in the past
 - 1918 Spanish Flu (H1N1)
 - 1957 Asian Flu (H2N2)
 - 1968 Hong Kong Flu (H3N2)
 - ILI: infection restricted to respiratory organs
- HPAI virus-derived (?)
 - No record in the past, but with threat currently
 - 1997 Hong Kong (H5N1)
 - 2003 Hong Kong (H5N1), Netherlands (H7N7)
 - 2004-2005 Eastern Asian countries (H5N1)
 - Clinical picture far beyond ILI: ARDS, MOF,

Possible emergence of a pandemic virus from birds



Pandemic influenza

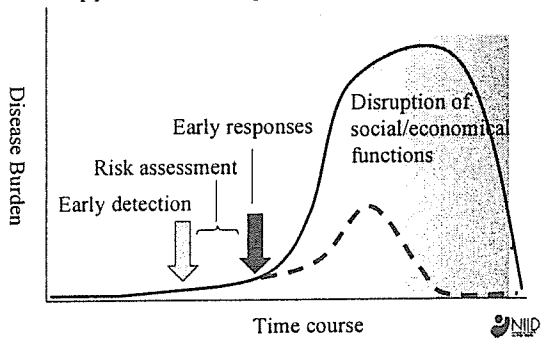
- LPAI virus-derived
 - LPAI virus does not kill birds and will not be recognized until the emergence of pandemic
 - Symptom: ILI & pneumonia
 - HPAI virus-derived (?)
 - HPAI may be recognized beforehand and response actions may be possible
 - Clinical picture far beyond ILI: ARDS, MOF, encephalopathy, systemic infection?
- # Early detection and characterization critical!



Goals of Pandemic Influenza Response

- Decrease the burden of disease
- Minimize social disruption
- Reduce economic impacts

Early detection of and early responses to the appearance of a pandemic

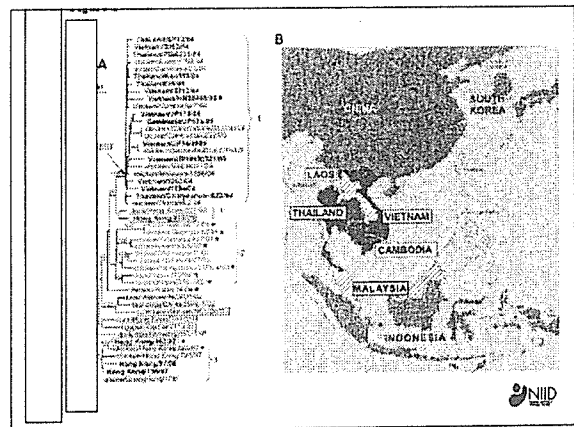


WHO H5N1 Reference Laboratory Network

- Established in January 2004
- WHO CCs:
 - Australia; Melbourne
 - Japan; NIID, Tokyo
 - UK; NIMR, London
 - USA; CDC, Atlanta
 - USA; St. Jude, Memphis (animal influenza)
 - Governmental Virus Unit, HK SAR
 - HKU, HK SAR
 - Pasteur Inst., Paris

WHO H5N1 Reference Laboratory Network

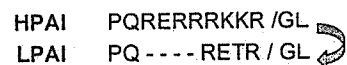
- To receive clinical specimens from NICs
- Diagnosis of H5N1 by RT-PCR, virus isolation and micro-neutralization test
- Characterization of viruses for antigenic, genetic, biological, and pathogenic natures as well as anti-viral drug resistance
- Feed-back the results to the originating labs and sharing among the network
- Development and supply of diagnostic reagents and references
- Development of prototype vaccine viruses
- Technical support and assistance to NICs



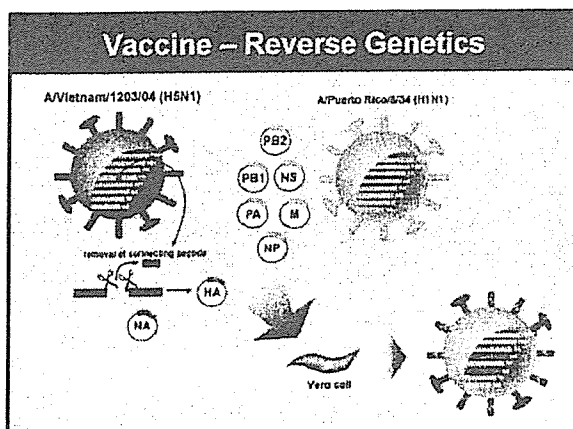
Antigenic diversity among H5N1 viruses

Virus	Ferret serum						Sheep serum	
	HK449	D61g	HK213	NIBRG-12	VV-1203	VV-30321	HK449	HK213
HK/489/97	320	120	<10	<10	<10	<10	≥1280	960
Duck/Sing/97	640	160	10	<10	<10	<10	>1280	640
HK/213/03	640	80	640	120	160	<10	640	≥1280
NIBRG-12	320	160	960	120	120	<10	>1280	>1280
VietN/1194/04	<10	<10	<10	<10	160	<10	160	160
VietN/1203/04	<10	<10	40	20	320	20	320	640
VietN/1204/04	<10	<10	<10	<10	160	<10	160	160
VietN/JP30321/05	<10	<10	<10	<10	20	320	<10	20
Indonesia/5/05	<10	<10	<10	<10	<10	<10	<10	<10

Development of attenuated H5N1 virus by Reverse Genetics Technology
Modification of the cleavage site of HA



NA gene is derived from the original virus
The other 6 genes are derived from human attenuated virus A/PR/8/34



- ### Issues in pandemic vaccine policy
1. Production of pandemic vaccines
 - Urgent development
Technology, IPR, safety and efficacy, clinical trials, licenses
 - Production capacity
Infrastructure, facilities, supply of eggs, incentive
 2. Access, supply and immunization
 - Short of vaccine supply
 - Priority of vaccination target groups
 - Equitable international supply of limited amount
 - Infrastructure and feasibility of immunization program

- ### Problems with the WHO H5N1 Reference Laboratory Network
- Information sharing not so smoothly
 - Some labs more interested in research and publication rather than public health
 - Some countries hesitating to share information and send specimens
 - International regulations on bioterrorism inhibiting rapid exchange of specimens
 - Conflict and competition with parallel channels of international assistance
 - Lack of resources in affected countries
 - Insufficient leadership by WHO; manpower and resources

- ### Needs for laboratory experts
- Laboratory diagnosis
 - Front-line responses
 - Practical wide knowledge and skills
 - International standards and methods
 - Collaboration with epidemiology
 - Public health-orientation rather than research and publication
 - Sharing information, clinical specimens and pathogens with Network

- ### Laboratory experts
- Main human resources
 - NIID
 - Local public health institutes
 - Veterans from the above
 - Potential human resources
 - Universities, research institutes
 - Commercial diagnostic laboratories

Not always reliable and stable
External evaluations needed
Training and exercise required

- ### Issues concerning academia
- More research-oriented to publish papers and get grants rather than public health contribution
 - Little practical knowledge, skills and experiences
 - Little training and exercise to young people
 - No international standards and methods
 - No QC and GLP, leading to
 - miss-diagnosis
 - miss-interpretation
 - loss of external (international) confidence
 - Useless when working internationally and in fields

Surveillance for potential pandemic viruses

Pre-pandemic Phase (Early detection of a new virus)

- Disease surveillance (All year around)
 - ILI surveillance
 - clusters; ILI, pneumonia, severe cases
 - single case; HPAI-derived, severe cases
- Rapid reporting
- Virologic surveillance
 - animals (chickens, pigs, etc.) and human cases
 - sample collection, transport to diagnostic lab
 - virologic investigation
 - virus isolation and characterization
 - new subtype or un-subtypable viruses
- Shipping viruses and/or clinical specimens to WHO CCs for further characterization and confirmation
- Active surveillance

Virologic Surveillance

- Targets; suspect cases and contacts
- Sampling: timing, procedures
- Transport: procedures, rapid
- Early detection of a novel virus
- BSL-2 with higher precaution or BSL-3 (HPAI)
- Virus isolation and identification using WHO diagnostic kit
- RT-PCR using WHO recommended primers
- Information sharing among WHO network
- Novel subtype or un-subtypable viruses to be shipped to WHO CCs or WHO Network labs
- Sharing & feedback of information


Characterization of a new virus

- Subtyping for a "new" subtype
- Antigenic characterization
- Nucleotide sequencing and phylogenetic analysis
- Avian or mammalian characteristic?
- Gene segment reassortment?
- Drug sensitivity?
- Risk assessment and alert
- Implementation of pandemic preparedness measures
- Development and improvement of diagnostics
- Development of vaccines

Pandemic Potential Strain Surveillance

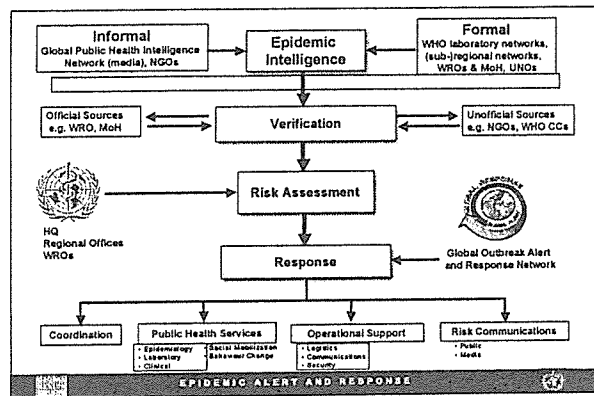
- Depending on annual influenza surveillance activities
 - Establishment of annual surveillance
- Pandemic emerges without seasonality
 - All year around surveillance
- Early detection
 - Sensitive disease surveillance system
- Rapid information sharing nationally & internationally
- Rapid virus isolation and characterization
 - Virus/clinical specimens sharing & exchange timely
- Biosafety and biosecurity concerns
- International collaboration

Outbreak Response in Developing Countries: Obstacles and Difficulties Surrounding Epi Investigation



Epidemic and Pandemic Alert and Response,
World Health Organization
N. Shindo MD, PhD

EPIDEMIC ALERT AND RESPONSE



Your Terms of Reference are most likely...

To assist national/local health authorities by providing technical support in epidemiologic investigation under WHO coordination.

EPIDEMIC ALERT AND RESPONSE

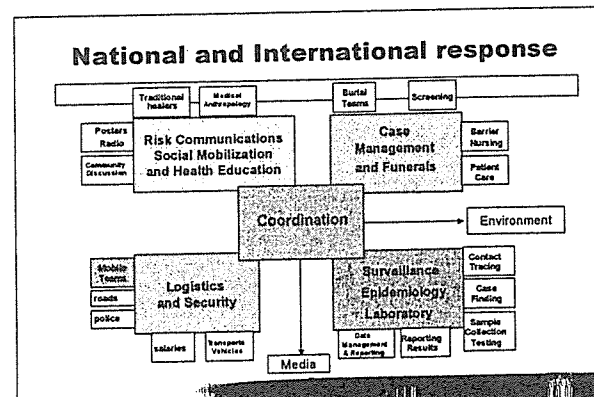
Ideally, You work as an epidemiologist to:

- Identify source of infection and transmission route to stop the disease spread.
- Characterize outbreak by:
 - Demographic and geographic distribution,
 - Attack rate and case fatality ratio,
 - Incubation period,
 - Infectious period,
 - Clinical presentation, risk factors, efficacy of treatment, etc.

EPIDEMIC ALERT AND RESPONSE

Your Role in Reality...

- Searching for corpses in the bush and bury them,
- Taking samples from deceased,
- Site visiting to remote & isolated villages,
- Updating database,
- Cleaning hospital ward,
or sitting in an office in vain...



Coordination of Response

- Epidemiology
- Laboratory science
- Clinical Management
- Infection Control
- Environmental health
- Media Relations
- Social Mobilization
- Health education
- Medical anthropology
- Risk communication
- Logistics
- Others...

EPIDEMIC ALERT AND RESPONSE

No single institution has all the capacity

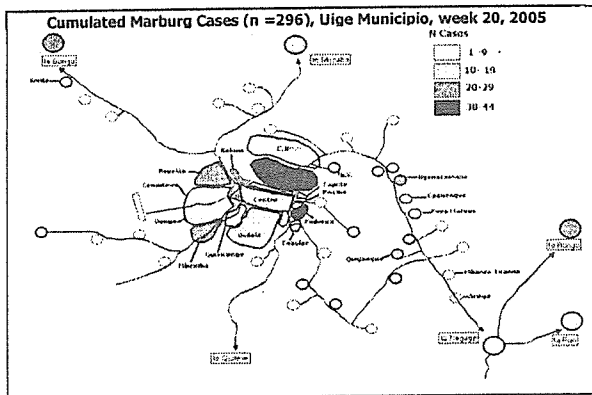
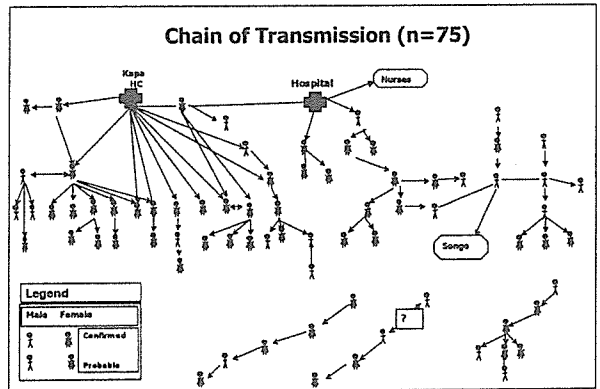
WHO brings partners together!

EPIDEMIC ALERT AND RESPONSE

DHF outbreak in Timor Leste

- Coordinator
- Epidemiologist
- Laboratory specialist (virologist)
- Clinician
- Entomologist
- Logistician
- Communication specialist

EPIDEMIC ALERT AND RESPONSE



Risk Communication

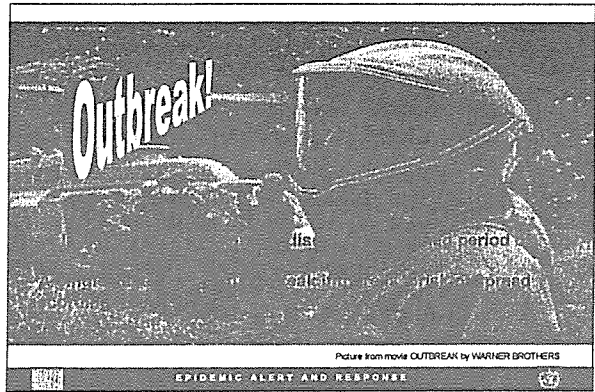
Key to the Successful Intervention

EPIDEMIC ALERT AND RESPONSE

Obstacles

- Lack of coordination,
- Limited access to information/data
- Communication gaps
- Misunderstanding by cultural, religious, or behavioral differences
- Science vs. Public health actions
- Ideal vs. Reality

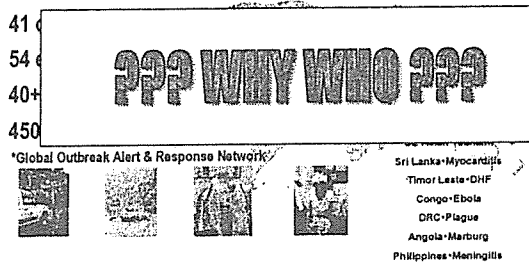
EPIDEMIC ALERT AND RESPONSE



Picture from movie OUTBREAK by WARNER BROTHERS

EPIDEMIC ALERT AND RESPONSE

WHO lead outbreaks responses, 2000–2005



EPIDEMIC ALERT AND RESPONSE

Characteristics of Infectious Diseases in the Modern World

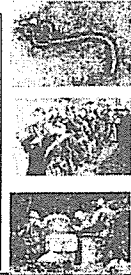
Emerging of new pathogens

Avian influenza, Ebola, Marburg,
Nipha, SARS....

Re-emergence of epidemic-prone diseases

Cholera, Dengue, Measles, Shigella,
Yellow Fever

Deliberate or accidental release of dangerous pathogens



EPIDEMIC ALERT AND RESPONSE

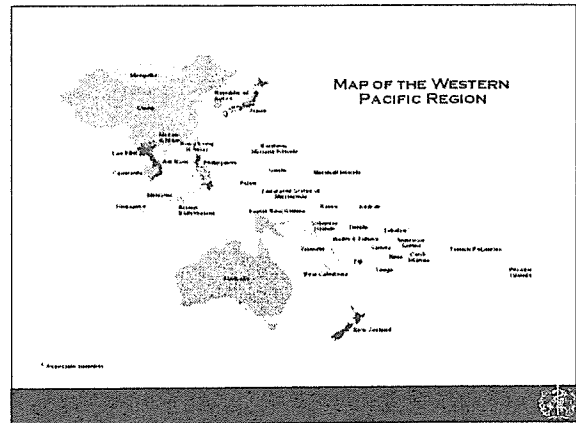
Thank You



Present situation of influenza type A/H5 diagnostic capacity in developing countries and their issues

31 Oct 2005

Futoshi Hasebe (ADB Consultant)
WHO Western Pacific Regional Office (WPRO)



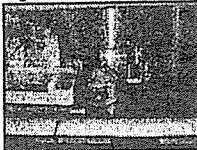
National Influenza Centers (NIC) & National Influenza laboratories (NIL)

- Cambodia : Pasteur Institute Phnom Penh
- China : China CDC, Government virus unit (Hong Kong)
- Lao-PDR : National Center for Laboratory and Epidemiology (NCLE)
- Malaysia : Institute for Medical Research (IMR), University Malaya, National Public Health Laboratory
- Mongolia : National Center for Communicable Diseases (NCCD)
- Philippines : Research Institute for Tropical Medicine (RITM)
- Viet Nam : National Institute of Hygiene and Epidemiology (NIHE)
Pasteur Institute of Ho Chi Minh
- Pacific Islands : Pasteur Institute Noumea (New Caledonia)
Mataika House Suva (Fiji Islands)

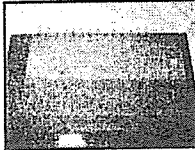
Present laboratory situations and influenza diagnostic capacity

Country	Virus isolation	RT-PCR	BSL-3
Cambodia	y	y	n
China	y	y	y
Lao-PDR	n	n	n
Malaysia	y	y	y
Mongolia	y	y	n
Philippines	y	y	n
Viet Nam	y	y	y
New Caledonia	y	y	n
Fiji Islands	n	n	n

Ag detection ELISA



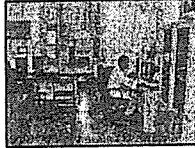
Misinterpretation



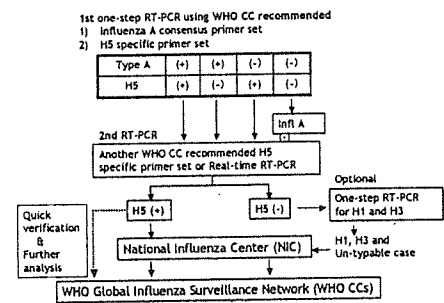
Real Time RT PCR

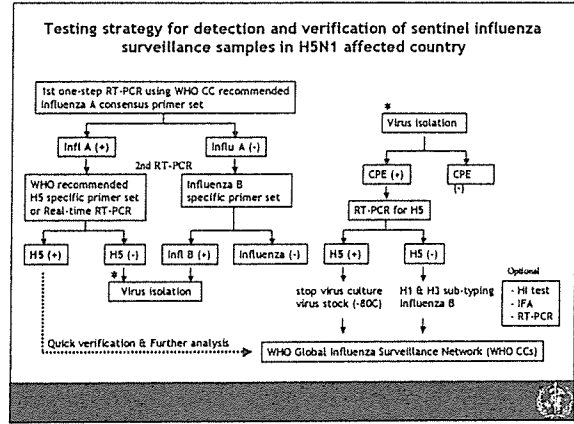
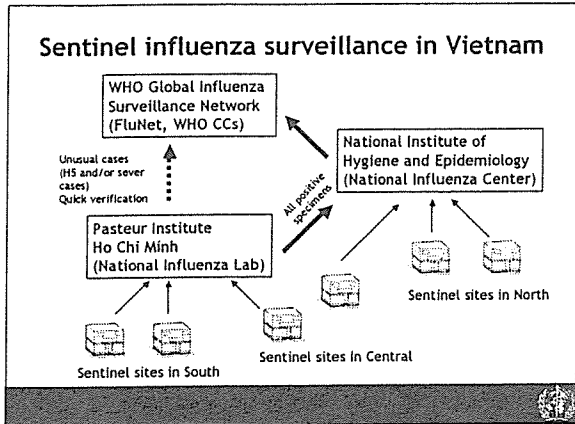


Sequencing



Testing strategy for detection and verification of influenza A/H5 for clinical samples





External verification

- 4 WHO CCs (Japan, Australia, UK and USA)
- 112 NICs in 83 countries

- Problems -

- No dry ice
- No CO2 gas or different standard
- No permission from MoH
- No permission from air company

An instance of Lao-PDR case

Chronology

- 17 Sept 14 yrs boy admitted hospital
- 19 Sept Severe respiratory symptom
- 23 Sept NGO reported WR/WPRO Sample and information collection (NCLE)
- 28 Sept WPRO requested NIID for H5 tests
- 29 Sept Arrangement for Shipment (World Courier)
- 07 Oct Sample arrived at NIID
- 13 Oct Feedback the result from NIID

Increasing number of BSL-3 laboratories

Xiamen CDC

China CDC

Guliyang CDC

NIHE (Viet Nam)

New BSL-3 lab plans

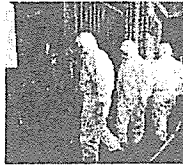
Viet Nam "NIHE Annex"

Solomon Islands "National Analytical Lab"

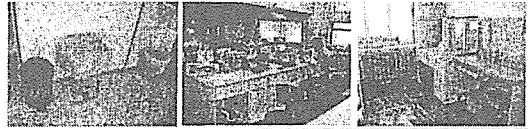
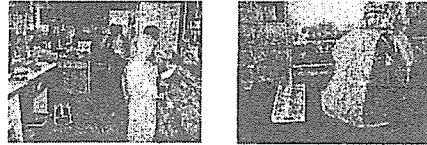
Biosafety issues

- Bad practice in laboratory management
- Poor supervision of less experienced professionals
- A lack of accountability for occupational health and safety
- A lack of biosafety policy
- A lack of biosafety procedures and staff training in biosafety practice

China CDC (2004)

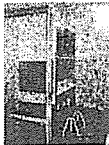


Biosafety situations in BSL-1 & 2



Other Biosafety issues

- There are many labs that are not under MoH responsibility, e.g. agriculture, military, environment, commercial labs etc.
- No bio-safety practices in hospital labs



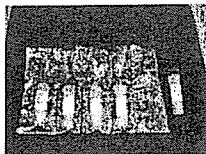
Influenza lab staff in Vietnam

NIHE influenza lab staff	Responsible work	PI influenza lab staff	Responsible work
Dr. Lo Thi Quynh Mai	Head	Dr Phan Van Tu	Head, supervision
Ms. Nguyen Lo Khanh Hang	RT-PCR, Sequencing (H5)	Dr Nguyen Thanh Long	RT-PCR diagnosis
Dr. Dinh Tuan Duc	Virus isolation	Mr Tran Ngoc Phuong	RT-PCR diagnosis
Ms. Tran Thi Nguyen Hoa	Real Time RT-PCR	Ms Nguyen Thu Ngoc	RNA extraction
Mr. Nguyen Viet Hoang	Sample collection	Ms Nguyen Thi Nhung	Preparation of master mix
Ms. Hoang Vu Mai Phuong	RT-PCR (seasonal influenza)		
Ms. Tran Thi Thu Huong	Culture cell maintenance		
Ms. Pham Thi Hien	Serology (HI)		
Mr. Nguyen Kim Tan	Electrophoresis		

Need to recruit long term experts. Lack of influenza expert who can diagnose A/H5N1 properly.

External Quality Assessment Programme for the detection of H5 RNA by RT-PCR

- Pilot study (Vietnam & Cambodia)
- Educational purpose (qualitative & quantitative)
- Serially diluted dried RNA extract (stable & low cost for shipment)
- Deliver 2 panels / year
- In cooperation with the Public Health Laboratory Centre in Hong Kong



Problems of bi-lateral program

- Overlap training programme
- Different methods & materials
- No information sharing
- Difficult to track specimens and test results



Requirement for Lab expert

- To assess AI diagnosis capacity and tested results including biosafety situation
- To perform and guide proper AI diagnosis
- Long term (3 – 6 month)
- Proficient in English

Thank you!



Workshop on network building for the international support for outbreak management

Infection Control as part of epidemic preparedness and response: needs and realities

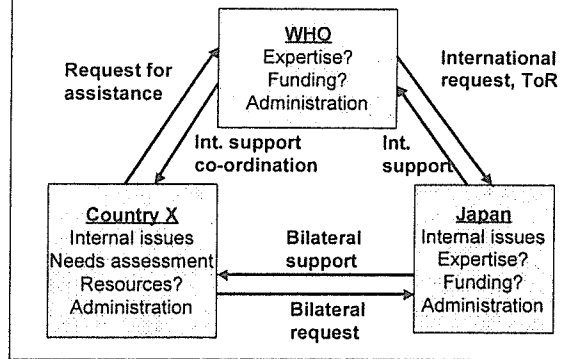
Challenges for Infection Control in developing countries



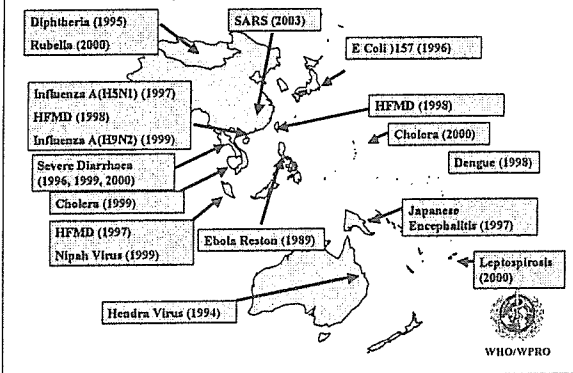
Gerald Dziekan, MD, MSc



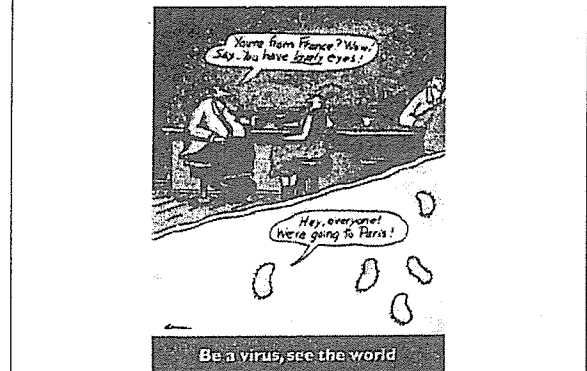
International Support



Major Outbreaks in WPR



Globalisation



Infection control

Policies, procedures, activities, which aim to prevent or minimize the risk of transmission of infectious diseases.

Healthcare Delivery, Healthcare Associated Infections (HAI)

Public Health Infections of public health importance (Intern. Health Regulation)

Crosscutting, multidisciplinary activity



Getting the perspective right

SARS (Nov 2002 – July 2003)

8098 cases, 774 deaths globally

Avian Influenza (Dec 2003 to 24 Oct 2005)

121 cases, 62 deaths globally (but potential Pandemic)

Global burden of HAI

300 million people hospitalised per year

Conservative estimation

- 5% - 10% HAI (15 – 30 million patients with HAI)
- Average mortality rate of 10%
- 1.5 – 3 million deaths/year due to HAI

HIV/AIDS 3 million deaths/year (2003)



Unprecedented high infection rate among HCW during SARS Outbreak

- China: 20% of cases in HCW
 - App. 90% early in the outbreak
- High risk procedures: spread of droplets, aerosolization of virus containing particles
- HK: 240 (14%) / 1755 infected were HCW
- "Super-spreader": immunosuppressed patients with high viral loads
- Haemodialysis patients: clusters in HK, Singapore, Toronto



Unknown number of patient-to-patient transmission (magnitude of proliferation in hospitals?)

Infection Control - Identified Gaps / Needs during SARS

- Infection Control not effectively used as rapid alert / early warning system
 - Initially no link to surveillance system in community
 - spread to community
- Infection control measures inconsistent and often not evidence based
 - Either lacking, inappropriate or unnecessarily excessive
- Prevention and control measures effective but often resource intensive
- Inadequate national and regional capacity
- Inadequate surge capacity
 - Need for strengthening capacity
 - International resource mobilisation



Successful Infection Control Measures during the SARS epidemic

- Development of guidelines
- Isolation of suspected and confirmed cases (quarantine)
- Protection of Health Care Workers (use of PPE)
- Decontamination of patient's environment
- Designated hospitals as contingency plan

Recognition and implementation of Infection Control as crucial intervention to prevent spread from hospitals to community



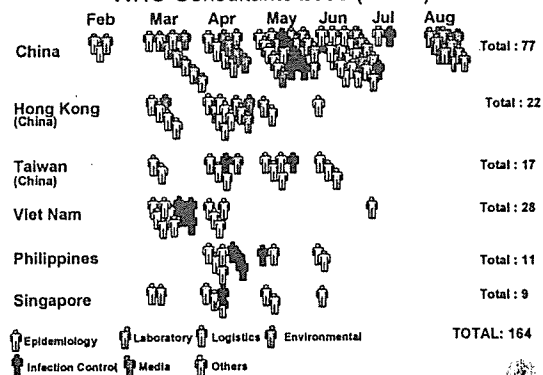
Guidelines and Training Tools

Interim guidelines for national SARS preparedness

Interim assessment protocol for national SARS preparedness

Video and CD ROM

WHO Consultants 2003 (SARS)



Lessons learned from SARS Infection Control for Public Health Emergency Preparedness

Infection Control is the basis for emergency preparedness in healthcare facilities

- Early detection and early prevention of epidemics / PH-emergencies
 - Safe hospital environment (stop amplification)
 - Safe community environment
- Protection of healthcare workers / return of investment



State of the World of Infections Current challenges and future perspectives for Infection Control – developing countries (WPR)

- Resource constraints
- Resource constraints
- Resource constraints
- Lack of expertise
- Lack of national IC-programmes (recognition)
- Lack of education and professional development
- Lack of secure supply
- Lack of surveillance of HAI
- Lack of emergency preparedness
- Lack of coordination
- Limited political support



Response / Needs

- Make IC a national programme
- Estimate health and economic burden
- Study incentive structures in HC financing system
- Demonstrate IC interventions with greatest outcome
- Conduct accredited education programme (professional development)
- Build professional networks
- Encourage local production of IC material (PPE, AHR)

System problems require system solutions



Be realistic ...

- Infection control cannot stop a community driven epidemic (e.g. pandemic influenza)
- Aim of infection control
 - Slow down transmission in healthcare facilities
 - ... to buy time (for pandemic vaccine production)
 - Healthcare worker protection in times of highest risk and high demand



No “quick fix”

- Relative success for IC during SARS does not mean HCF are prepared for other epidemics
- Community driven epidemics (H5N1) different from HC driven epidemics (SARS)
- Sustainable IC solutions only by HC-system development
 - Upgrading of HCF
- Cultural change
- Long-term solutions for long-term problems (behaviour modification)
- System problems require system solutions



No “One Size Fits All” approach

- IC needs to be flexible
- Adapted to different transmission routes:
 - Contact
 - Droplet
 - Droplet nuclei (airborne)



- Most HAI: Contact > Droplet > Airborne
- Unknown pathogen: assume airborne, de-escalate when more knowledge exists



No "One Size Fits All" e.g., Masks/Respirators

- SARS: N95 respirators, "unknown"
- H5N1
 - Sporadic human cases of AI A/H5N1: N95 respirators
 - Pandemic influenza: surgical masks, N95 for risk-procedures
- Wrong reflex: N95 for all respiratory diseases, wastage of scarce resources
- Unclear transmission route
 - H5N1: droplet>contact>aerosol
- Financial implications (reality)



No "One Size Fits All" approach

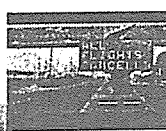
- IC needs to be flexible
- Adapted to different "traditional" perceptions:
 - "Air"-disinfection (fogging)
 - Spraying of disinfectant
 - UV-light disinfection



Media attention



Irrational behaviour



Fear

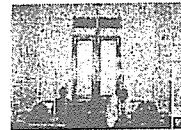


Wrong sense of security



Requests for ...

- Situation analysis / risk assessment
 - Expertise (IC specialists, consultants)
 - National policy, infrastructure assessments, facility assessments (tools)
 - Progress analysis
 - Coordination (policy development, crisis management)
 - Cost-effectiveness of interventions



Requests for ...

- Emergency preparedness
 - Coordination (guidelines, reporting system)
 - Integration of HCF- and public health-crisis management
- Surveillance
 - Detection of unusual clusters, reporting system
 - Development of surveillance system for HAI (internal QA-system)
 - Benchmarking, Accreditation



Requests for ...

- Education and professional development
 - Training modules, ToT (national guidelines), pre-service and in-service training
 - Career path, development
- IC material, supply
 - Securing funding for supply
 - Technical expertise, selection, local production



Greatest IC needs

- IC expertise at HCF and MoH level, WHO, NGOs
- Building national IC programmes
- Emergency preparedness of HC facilities
- Education of HCW, professional sub-specialisation



- Clear messages
- Evidence based recommendation
- Practical, workable and sustainable solutions



EPIDEMIOLOGY

前提

- WHOを通して、GOARNの一員として出動
- STC等のWHOの職員として派遣
- 背景状況をinformしてもらい、リスク情報等を把握してからでない、「日本人専門家の派遣」を検討できない。国としてのリスクアセスメント。
- JICA派遣かWHOかで、補償や支援などが異なる。
 - 条件によって判断
 - Coordinationやノウハウの蓄積
 - WHOでも、West Timorのデングの時やSARSの時のように、WHOがどの程度までするか

派遣チーム・専門家に求められる役割

- MultiでもBiでも、状況によって変わるが、Coordinationは望ましい。
 - 日本関係部局(JICAや大使館)に話しを通しておくと良いのでは
- Flexibleな役割変更に対して、チームとして働く
- チーム構成を事前確認
 - チームリーダー、カウンターパート

派遣の組織

- 感染研が現在は窓口
 - 所長、副所長、情報センターからなるboarding members
 - 将来的には外部への拡大も視野に入れて
 - JDRを参考に
- 専門家リスト、SOP
- 日本としての戦略に基づく派遣
- 派遣前、派遣後のリスク評価とケア
 - 派遣前の支援:安全情報、キット(ワクチン、薬、、、)
 - 健康観察、改善に繋がるデブリーフィング・フィードバック
- WHOのツールキットが参考になる
 - 派遣先、ミッションで異なる

派遣者のリクルート

- 身分
 - 自治体...自治体の人は国際的な案件に関わるべきなのか?
 - 東京都でも直ぐには判断できない。
 - 大学...身分としては動きやすい、研究と公衆衛生のバランス
 - 感染研が派遣になる理由:skillとして間違いない、通常から業務をしている、直ぐに出せるシステムの三拍子そろっている。
- Skill...Qualification
- JDRの例
 - 最初の頃:リストを作ってリクルートするところから始める。

Decision Makingの仕組み

- 責任者が不在の時、誰が受けるか?
 - GOARNはsteering committeeとOST
 - 日本ではどうするか?
- 日本としての戦略に基づく派遣
- チーム構成
 - チームリーダー、カウンターパート

Recommendations from Laboratory Expert Group

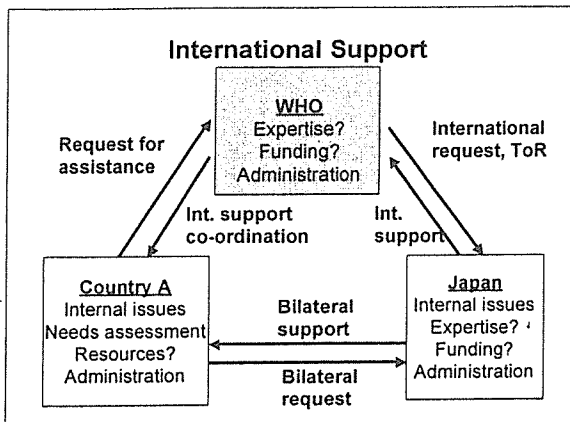
Scenario

- Requests for epidemiological information
- Confirm results
 - Quality control of the local lab
- Seeming positive
 - Verification of results at international labs
 - Virus isolation
 - Antigenic and genetic analysis
 - Preparation of vaccine strains
 - Sensitivity tests to antiviral agents
- Collect samples, epidemiological and clinical information from patients, families, and other community members.
 - Outbreak in other areas?
- Feedback of results to originating countries
 - Recommendation for clinicians on antiviral use.
- False positive
 - Find other causative agents

Discussion points

- Lack of human resource (skilled expertise)
 - > Utilization and mobilization of existing human resources
- *Expertise in NIID and local public health laboratories
 - > Limited availability
- *Universities -> potential capacity
 - Standardizing training necessary
 - Public health or research oriented?
- *Human side
 - Influenza Researcher Network
- * Animal side
 - Hokkaido University Research Center for Zoonosis Control

- *Public health oriented projects
 - Training programs for experts
 - Evaluation systems
- *Coordination and information sharing among research groups /donating parties / international agencies
 - MOH
 - MOE
 - "Overseas research collaborative centers for emerging and re-emerging diseases"
 - JICA
 - Bilateral ↔ WHO
- *Emerging disease control and management team*



TOR
Infection Control

- To conduct risk assessment in affected HCF
- To develop / adapt IC guidelines
- To coordinate IC activities in HCF to prevent HCW infection
- To develop training material
- To conduct ToT seminar / other training for HCW
- To identify supply of IC material (PPE)
- Identify additional issues / needs

Problem Identification

- The developing country A has a capacity for RT-PCR, but probably not for neutralizing assay or virus isolation
- 41 alive cases: 5 cases of RT-PCR+ for H5 and 31 cases of RT-PCR- for H5
- These cases are admitted and being treated in several hospitals in the suburban area of B city

Summary of IC group

- 1) Requirement for IC specialists
 - One ID physician for 2 weeks and one ICP for one month
 - Safety for IC specialists (Immunization will be done and prophylactic antiviral will be prepared)
- 2) Risk assessment
 - Evaluate the IC activities at different administration levels, MOH, province, etc.
 - Evaluate the IC activities in each HCF using check sheets for IC practice, and investigate person to person transmission and level of exposure.
 - If possible, isolate a possible case in a single room and implement the preventive measures for droplet nuclei, when transmission route is unknown
 - Downgrade IC recommendations, when more information become available.

- 3) IC guidelines
 - If the IC activities are poorly organized in the HCF, Training to Trainer seminar/ other training for HCW will be conducted.
 - If PPE materials is required, locally produced materials should be used.
 - Alcohol hand rub is especially recommended
- 4) Training of ICP in Japan
 - Training course for ICP will be regularly conducted in Japan.

General recommendations

- 1) Set up the coordinating office for registration of the possible IC specialists from from ID physicians, ICP and the public health specialists who are belonging to the institutes, universities, public health organizations and hospitals in Japan.
- 2) The coordinating office will get an agreement with head of each institution to send the registered IC specialists for the activities of international outbreak responses.