Global Capacity for Surveillance and Response to Emerging Infectious Diseases

A threat but also an opportunity for collaborative international science

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Cross-border containment failure

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Policies need to be trans-national to optimise chance of success
Half of the world’s population within the red circle

.............plus >75% of the worlds poultry.
Estimated TB Incidence Rates

- 25 to 49 per 100,000 population
- 50 to 99
- 100 to 299
- < 10
- 10 to 24
- 300 or more
- No Estimate

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

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Estimated number of TB cases by country
Cartograms of Falciparum Malaria

Cartograms of Vivax Malaria
Emerging Infectious Diseases 1940 – 2004

Viruses, Bacteria, Rickettsiae, Vivax, Zoonotic, Vector Borne and Resistance

Zoonotic pathogens from wild life
Zoonotic pathogens from non wild life

Drug resistant pathogens
Vector borne pathogens

Jones et al Nature February 2008
Antimalarial drug resistance
Or...TB, Flu, Typhoid, in the future HIV, EID............

1. Chloroquine
2. Sulfadoxine-pyrimethamine
3. Artemisinin?
Infectious diseases - 25% all deaths

Ward Round HCMC
24 June 2008

Unknown Causes
Severe Respiratory Infection
Diarrhoea
Malaria Falciparum & Vivax
Severe Dengue
TB + HIV + HepB + Hep C
OIs related to HIV
CNS Infections
  Encephalitis
  Pyogenic Meningitis
  TB Meningitis
  Cryptococcal Meningitis

Scrub typhus
Typhoid
HFM Disease
Infectious diseases - 25% all deaths

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...and for all of these.....Asia is
The Champion of the World Series

Burden of existing endemic problems
Drug resistance
Emergence of new pathogens
International sustainable collaborative work must be based close to where the problems are.

Extensive international response... but the local response was also crucial.

Early recognition, & containment of outbreaks will only be achieved by local efforts, supported where necessary by international partners but this needs clinical and scientific capacity where the problems are and a reassessment of the ‘international response’ and placed firmly in a local context...
Best way to deal with (threats from emerging) infectious diseases .........

deal with what is in front of us each morning, shift the centre of gravity, have the capacity, collaborative links and the flexibility to adapt when that changes

(not just when the 'rich' world feels threatened)

Ward Round HCMC
24th June 2008
Globalization and Infectious Diseases

A threat and an opportunity for collaborative international clinical science

Challenge is to develop a new model for international scientific cooperation focused on

Trust Trust Trust (which is only built up over many years and can be lost in an instant)

A centre of gravity where the problems are with strong international links (coffee rooms)
Equitable sharing of work and sharing of all the benefits of the research
Linked Centres of Research Excellence (Power of Small Institutions)
Focus on what is common but with the flexibility to respond to emerging events
Public Health, Clinical Service and Animal Health (danger of parallel systems)
Don’t worry about sustainability at the start, if of real benefit to all partners it will be sustained

Can this be achieved..........?
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Can this be done....... DEFINITELY YES......BUT IT NEEDS A CHANGE IN THE WAY THINGS ARE DONE
There is a tide in the affairs of men
Which, taken at the flood, leads on to fortune:
Omitted, all the voyage of their life
Is bound in shallows and in miseries.
On such a full sea are we now afloat,
And we must take the current when it serves,
Or lose our ventures.

1597

William Shakespeare Julius Cesar IV.ii.269-276
Thank you
VIET NAM
Global Distribution of Falciparum Malaria

Global Distribution of Vivax Malaria