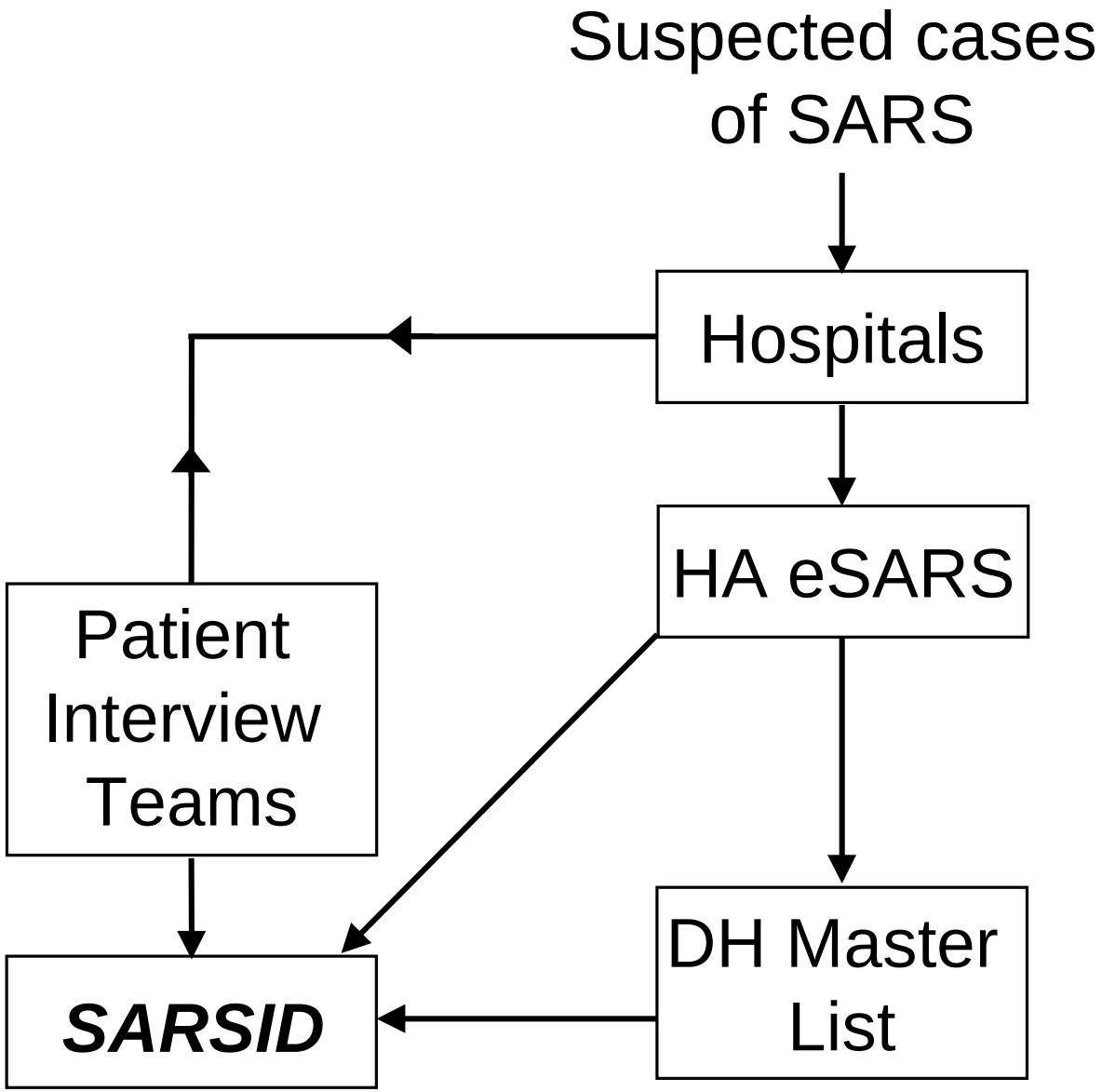
AFTER SARS:
A PUBLIC HEALTH ANALYSIS OF THE EPIDEMIC AND IMPLICATIONS FOR THE FUTURE

Department of Community Medicine
University of Hong Kong
Department of
Community & Family Medicine
Chinese University of Hong Kong
in collaboration with
Imperial College, University of London

July 11, 2003

A newspaper clipping titled “Row looms over transfer of Sars patients to Tai Po” published in SCMP on 28 April 2003.


Suspected cases of SARS
Hospitals
HA eSARS
Patient Interview Teams
DH Master List
SARSID

Generic problems in health information systems

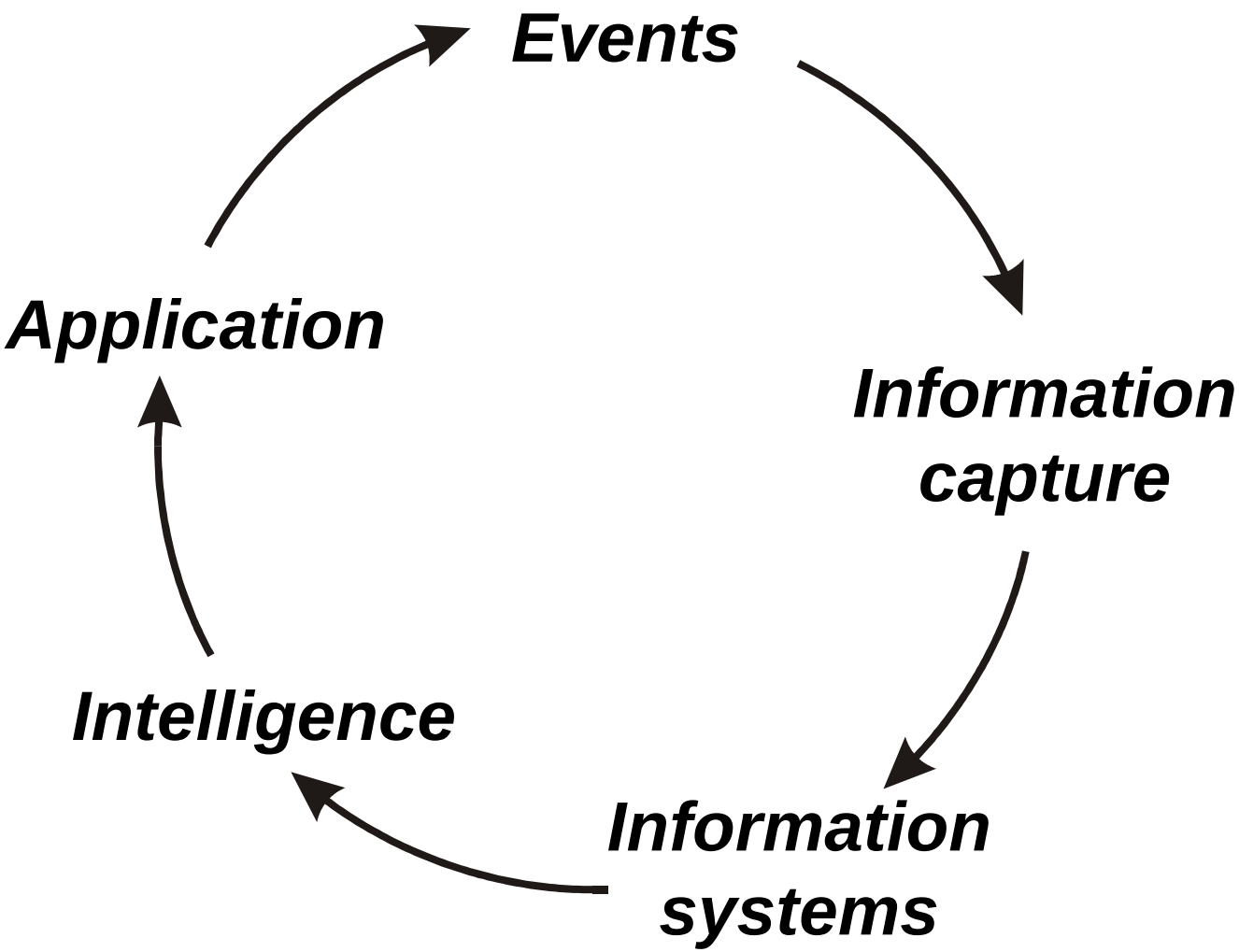
- Variation in information capture
- Lack of documentation and non-standardised protocols for information management procedures
- Delays in transferring and merging information
- Lack of real-time analysis and audit of collected data and of feedback to those responsible for its collection and management

A new approach to information systems: setting targets

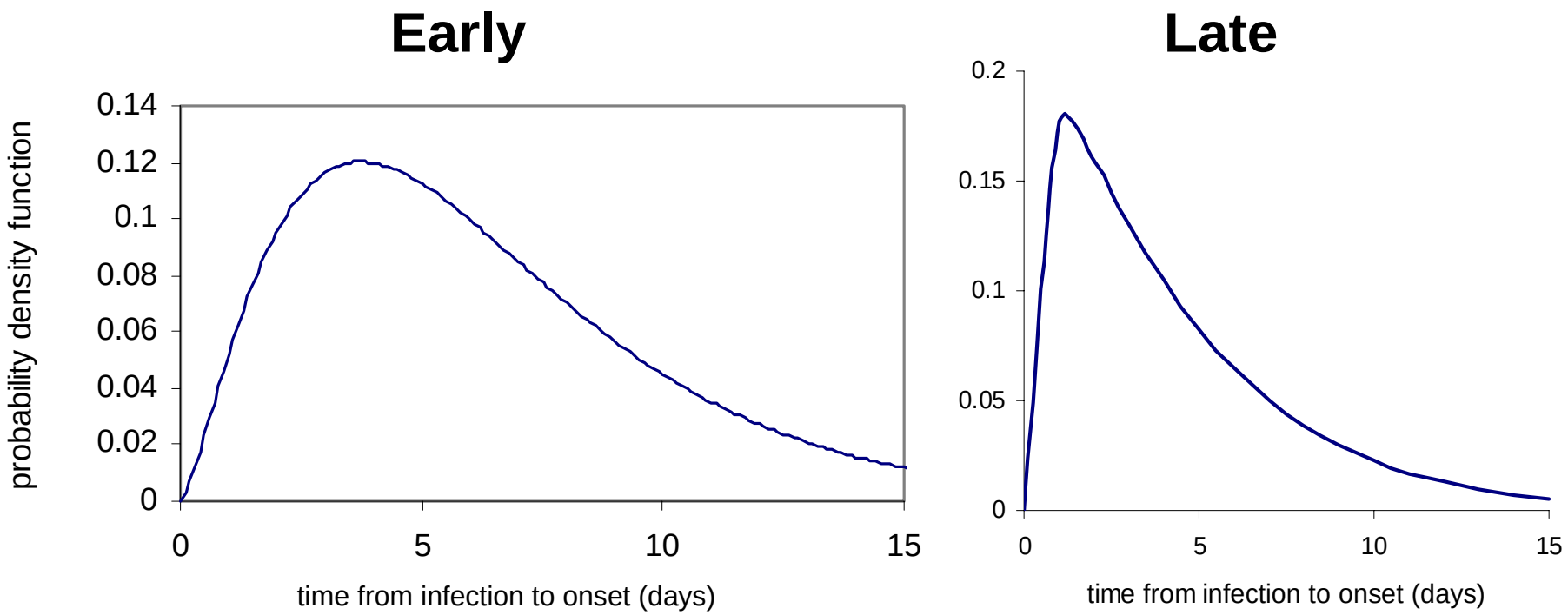
Health information must be:

- Valid (Measures what is needed)
- Complete (Minimize missing values)
- Accurate (Rigorous standards)
- Reliable (Maintain quality, no drift)
- Timely (No delays)

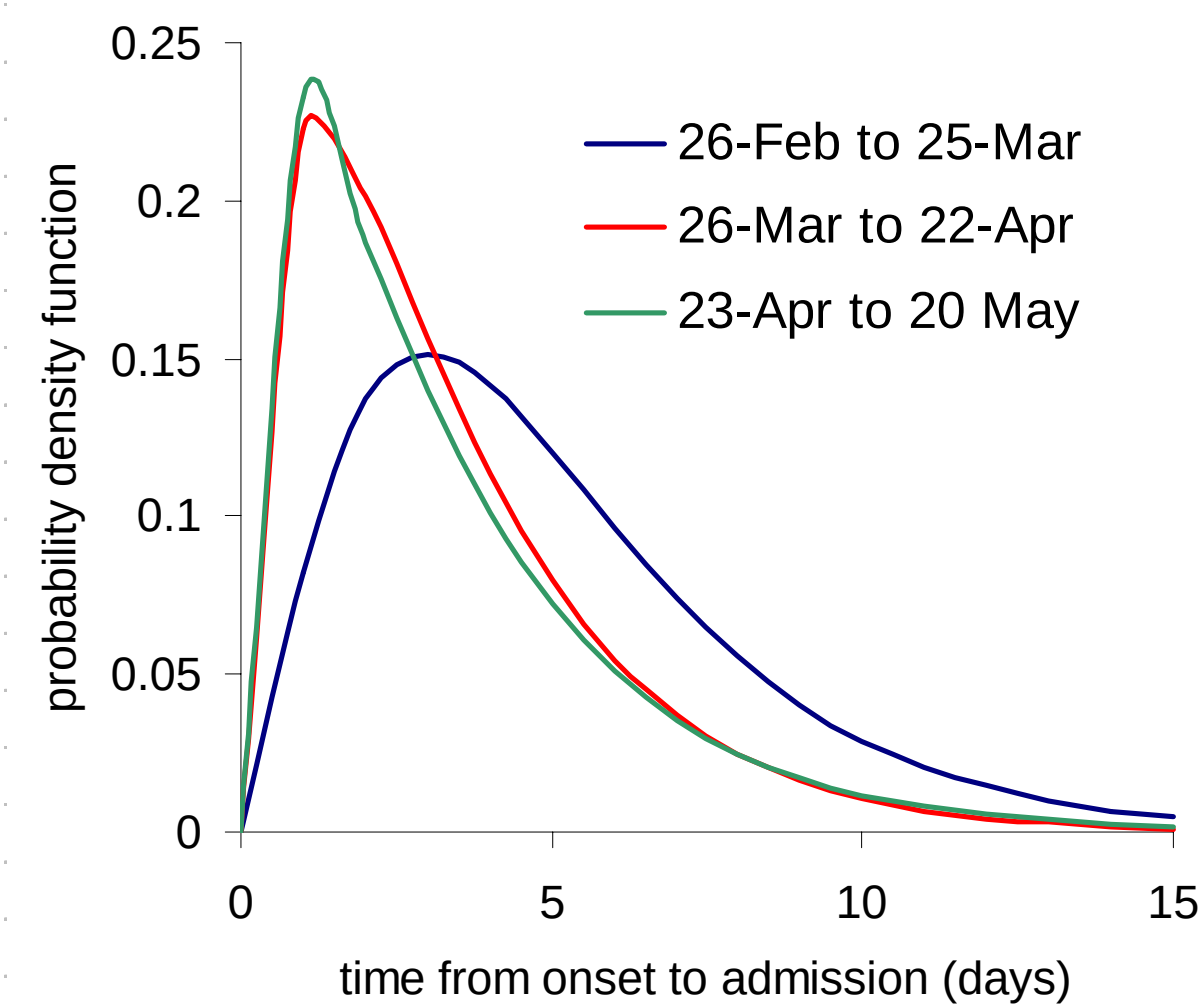
The information cycle



Incubation Period for SARS in Hong Kong



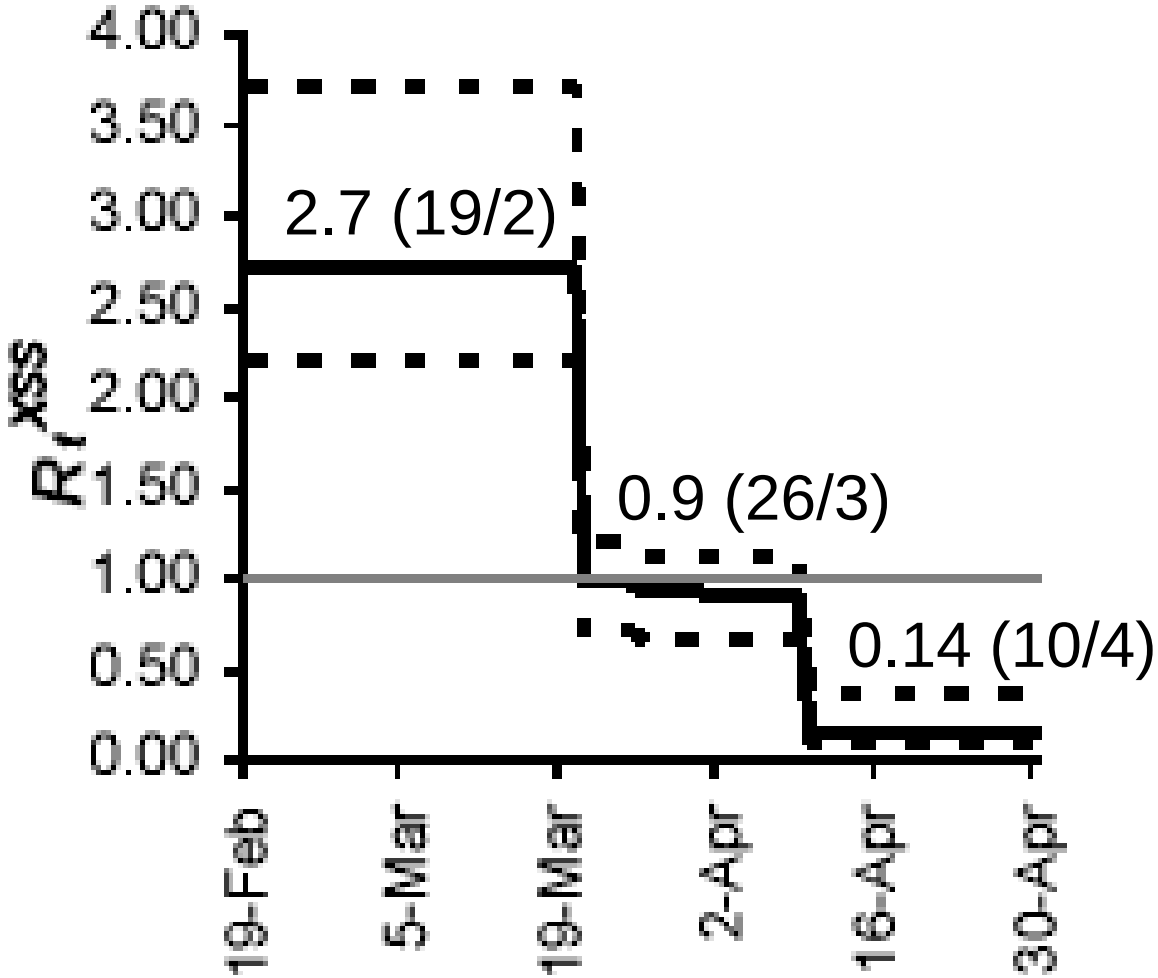
Onset-to-admission interval: a measure of effectiveness in public health and clinical care



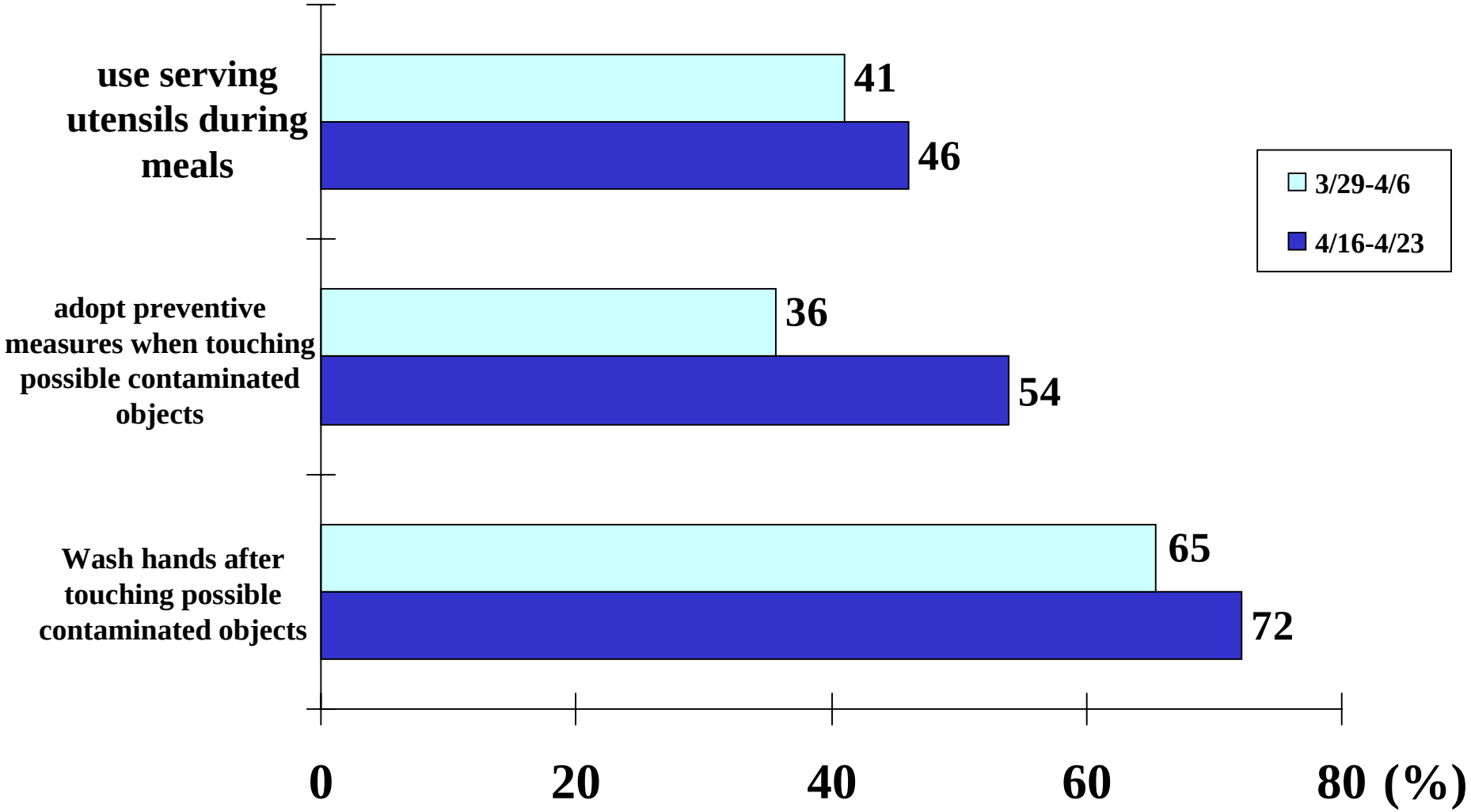
Rate of spread of an epidemic

- R_t Effective reproduction number
  - ***number of infections caused by each new case occurring at time, t***

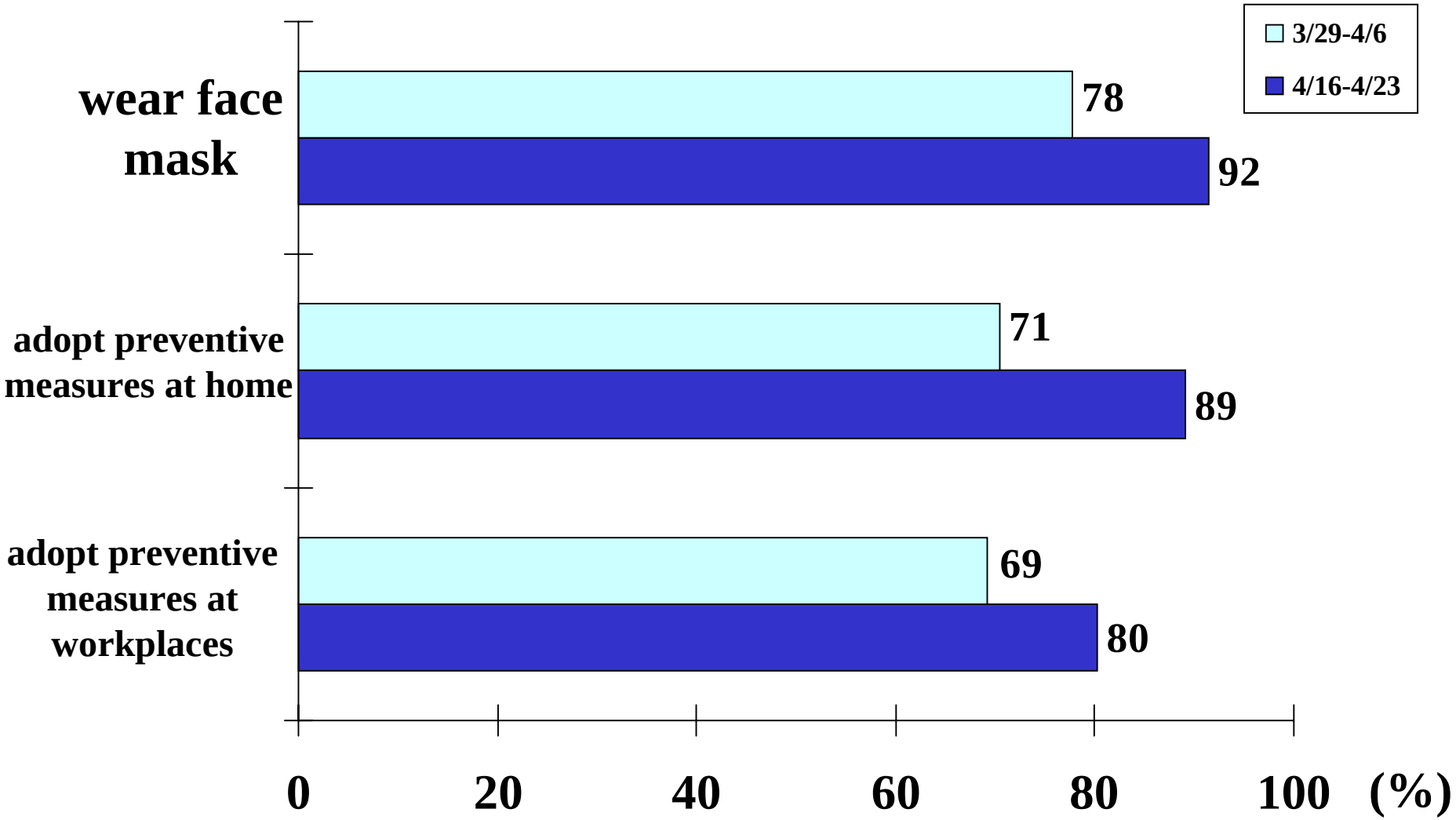
Estimates of reproduction rate during the Hong Kong outbreak



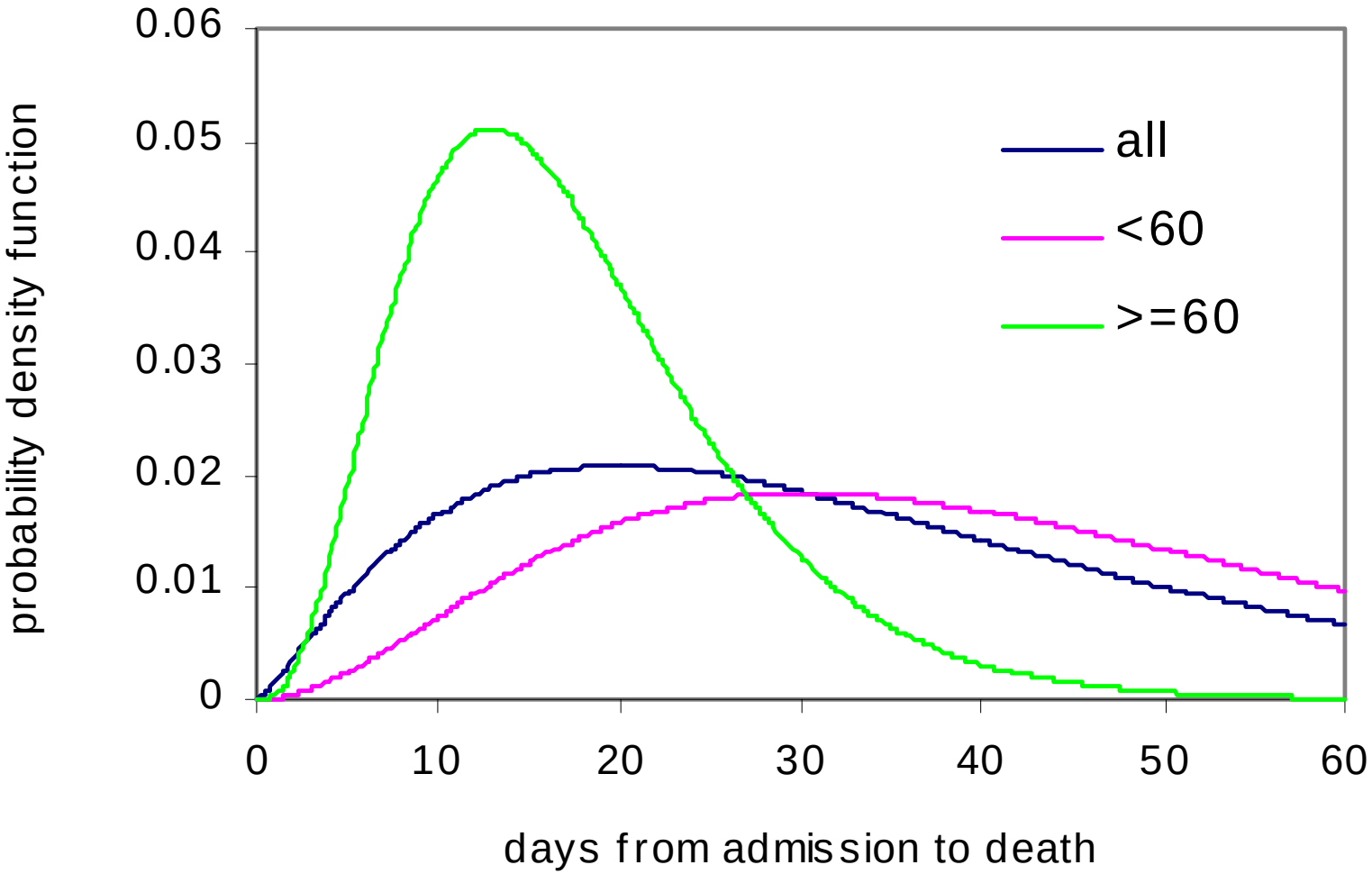
Preventive measures adopted (always or most of the time) in the past three days



Preventive measures adopted in the past three days



Admission-to-death interval: a measure of susceptibility



Case Fatality Rate: a warning system for virulence or treatment outcomes?

Point estimate (%) by age (years)

25-29	30-34	35-44	45-59	60-74	75+
7.0	***11.6***	***14.7***	***28.0***	***44.1***	***73.3***

Conclusions

- Hong Kong has the best documented and analyzed public health data base on SARS
- Hong Kong has the best estimates of epidemiological parameters to measure the effect and control of SARS
- ***The R_t value shows that official interventions and self-imposed restrictions by the public lowered the reproduction rate very rapidly***

The way forward

Hong Kong needs:

- a new kind of information system for communicable disease control - as a permanent infrastructure
- closer collaboration between academic and service providers on new developments in communicable disease control
- a greater emphasis on *health protection* in resource allocation

A newspaper clipping titled “WHO raises the spectre of a flu pandemic” published in SCMP on 20 May 2003.

The Public Health Function (PHF)

The PHF needs:

- greater autonomy
- more resources to underpin infrastructure
- better science
- improved opportunity to deal with the unexpected – like SARS