

# OVERVIEW OF COMMUNICABLE DISEASES SITUATION

In Singapore, the incidence of infectious diseases is monitored systematically through various surveillance systems. The Communicable Diseases Surveillance Branch (CD-Surveillance) at the Ministry of Health (MOH) implements and administers surveillance systems for human infectious diseases. Complementing the efforts of MOH are partner agencies, the Agri-Food and Veterinary Authority (AVA) and the National Environment Agency (NEA), which are responsible for animal and food surveillance, and environmental surveillance respectively.

MOH collects epidemiological information on human infectious diseases via:

- Mandatory notifications
- Administratively-required notifications
- Active sentinel surveillance (via polyclinics)
- Anecdotal reporting
- Laboratory surveillance
- Seroepidemiological surveillance

In 2003, CD-Surveillance implemented several measures to improve on the timeliness, completeness, accuracy and representativeness of epidemiological data collated on infectious diseases of public health importance. Lessons learnt from the global SARS epidemic have also been applied to enhance disease surveillance and outbreak response for endemic, as well as emerging and re-emerging infectious diseases.

Various communication channels have also been established to provide timely information to medical practitioners, who play a vital role in the national surveillance of infectious diseases. These include:

- MOH MedAlert (for alerts on disease outbreaks)
- MOH Weekly Infectious Disease Bulletin (providing weekly data on infectious diseases)  
<http://www.moh.gov.sg/corp/publications/idbulletin>
- Epidemiological News Bulletin (quarterly bulletin on epidemiological trends)  
<http://www.moh.gov.sg/corp/publications/enb>
- Communicable Diseases Surveillance Annual Report  
<http://www.moh.gov.sg/corp/publications/CDS2003>

In this issue of the communicable diseases surveillance report, all notifications of infectious diseases received during the year 2003 have been included. However, notifications of cases seeking medical treatment in Singapore for infectious diseases have been excluded from selected morbidity statistics which reflect the status in Singapore citizens, Singapore permanent residents and foreigners residing in Singapore (i.e. non-citizens who have not been granted permanent residence status).

## Air-/Droplet-borne Diseases

In 2003, chickenpox and hand, foot and mouth disease (HFMD) continued to contribute significantly to the burden of air-/droplet-borne diseases, although their incidence was lower compared to the year 2002. In 2003, 15,265 cases (364.7 per 100,000 population) of chickenpox and 5,603 cases (133.9 per 100,000 population) of HFMD were notified. No case fatality was reported.

The incidence of vaccine preventable air-/droplet-borne diseases such as measles and rubella also continued to decline in 2003. As a result, the elimination of measles in Singapore is becoming an achievable target and the development of a national plan is underway. In 2003, 88 rubella cases (2.1 per 100,000 population) were notified. None of these involved a pregnant woman or a newborn. The surge of mumps due to primary vaccine failures associated with Rubini strain-containing vaccines in 1999–2000 has been curbed. The incidence of mumps has declined from 6,384 cases (198.4 per 100,000 population) in 1999 to 878 cases (21.0 per 100,000 population) in 2003.

Eleven sporadic cases of meningococcal infections were also reported. There was no further transmission.

## Vector-borne/Zoonotic Diseases

Since the year 2000, when the annual dengue incidence was 673 cases (16.8 per 100,000 population), there has been a steady increase in notifications of Dengue Fever/Dengue Haemorrhagic Fever (DF/DHF). In 2003, 4,788 DF/DHF cases were notified, including six deaths. Majority of the cases (94.8%) were infected locally. DEN-2 was the predominant circulating strain in 2003.

As for Malaria, the majority (95.8%) of 118 malaria cases notified in 2003 were acquired

overseas. No case of Japanese Encephalitis (JE) was reported. All vector-borne diseases were thoroughly investigated on notification, followed by multi-agency response and intervention. Intensive vector control remained the main strategy for the prevention and control of vector-borne diseases.

## Food-/Water-borne Diseases

There was a sharp decline in the incidence of Hepatitis A notifications in 2003, compared to 2002 (236 cases in 2002 vs 55 cases in 2003). Similarly, the incidence of enteric fevers (typhoid and paratyphoid fevers) also declined from 74 cases in 2002 to 41 cases in 2003. Campylobacteriosis and non-typhoidal salmonellosis contributed significantly to the morbidity caused by food-borne diseases, with a slight increase in incidence observed for both diseases in 2003.

Although most cases were sporadic in nature, strict measures were implemented to ensure that a high standard of food and environmental hygiene was maintained. These measures were carried out by MOH, in close collaboration with NEA and AVA. The rapid containment of the norovirus outbreak caused by imported half-shelled oysters in 2003 highlighted the importance of multi-agency collaboration in infectious disease prevention and control.

## Environment-related Diseases

In 2003, 46 cases of legionellosis and 44 cases of melioidosis were notified giving both an annual incidence rate of 1.1 per 100,000 population. There were six deaths from melioidosis, giving an overall case fatality rate of 13.6%, which was higher than that reported in 2002 (5.6%).

The annual statistics on infectious disease notifications and deaths are presented in the following table. Detailed updates on individual diseases are provided in the respective chapters of the report.

## Infectious disease notifications and deaths in 2003

Diseases	No. of notified cases	No. of Deaths <sup>+</sup>	Morbidity rate*	Mortality rate*
<b>Air-/Droplet-Borne Diseases</b>				
Chickenpox	15,265	0	364.7	0.0
Hand, Foot and Mouth Disease	5,603	0	133.9	0.0
Measles	33	0	0.8	0.0
Meningococcal Infection	11	2	0.3	0.1
Mumps	878	0	21.0	0.0
Rubella	88	0	2.1	0.0
Severe Acute Respiratory Syndrome	238	33	5.7	0.8
<b>Vector-Borne/Zoonotic Diseases</b>				
Dengue fever/Dengue haemorrhagic fever	4,788	6	114.4	0.1
Malaria	118	0	2.8	0.0
<b>Food-/Water-Borne Diseases</b>				
Campylobacteriosis	144	0	3.4	0.0
Cholera	2	0	0.1	0.0
Hepatitis A	55	1	1.3	0.02
Hepatitis E	17	5	0.4	0.1
Listeriosis	2	0	0.1	0.0
Paratyphoid	9	0	0.2	0.0
Salmonella enteritidis infection	97	0	2.3	0.0
Shigellosis	4	0	0.1	0.0
Typhoid	32	0	0.8	0.0
<b>Blood-Borne Diseases</b>				
Hepatitis B	64	20	1.5	0.5
<b>Environment-Related Diseases</b>				
Legionellosis	46	0	1.1	0.0
Leptospirosis	29	0	0.7	0.0
Melioidosis	44	6	1.1	0.1
Murine typhus	16	0	0.4	0.0

\*Rates per 100,000 population, based on estimated mid-year total population, 2003 (Source: Singapore Department of Statistics)

+ Source : Registry of Births & Deaths