



Water-Borne Diseases: Issues and Strategies

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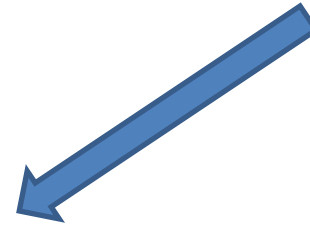
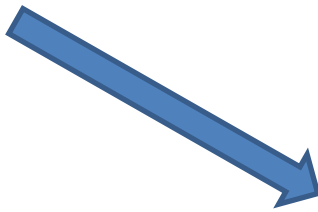
Definition of WBD

Diseases of an infectious or toxic nature caused by agents that enter the body through the consumption of water

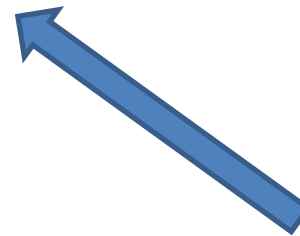
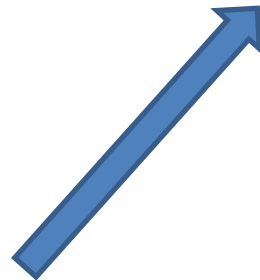
- Diseases
- injuries

Recreational

Food & Drinks



Water-Borne Diseases



Environment

- Climate change
- Pollution
- Pathogens' lifecycle

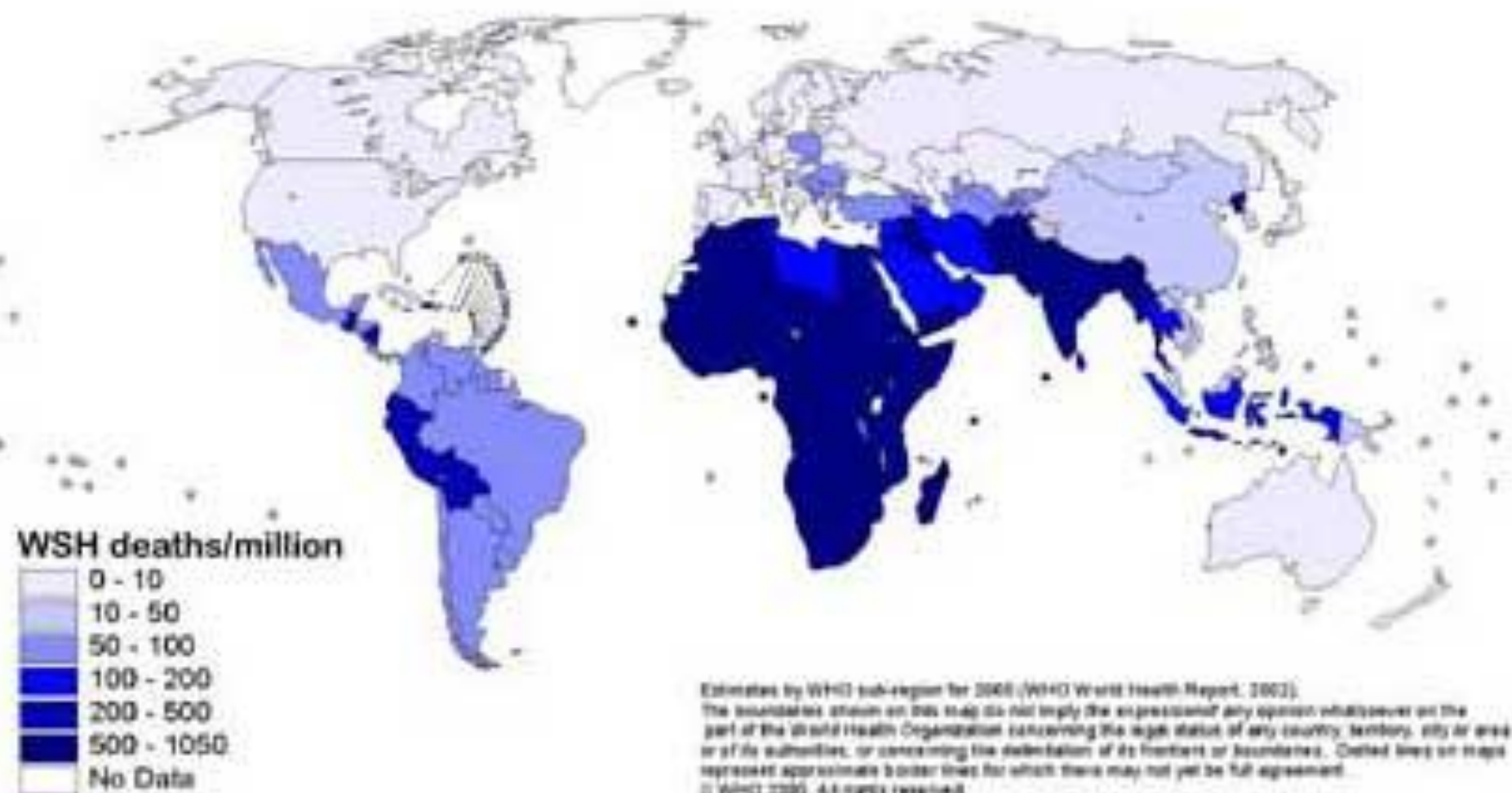
Disaster

- Flood
- Tsunami

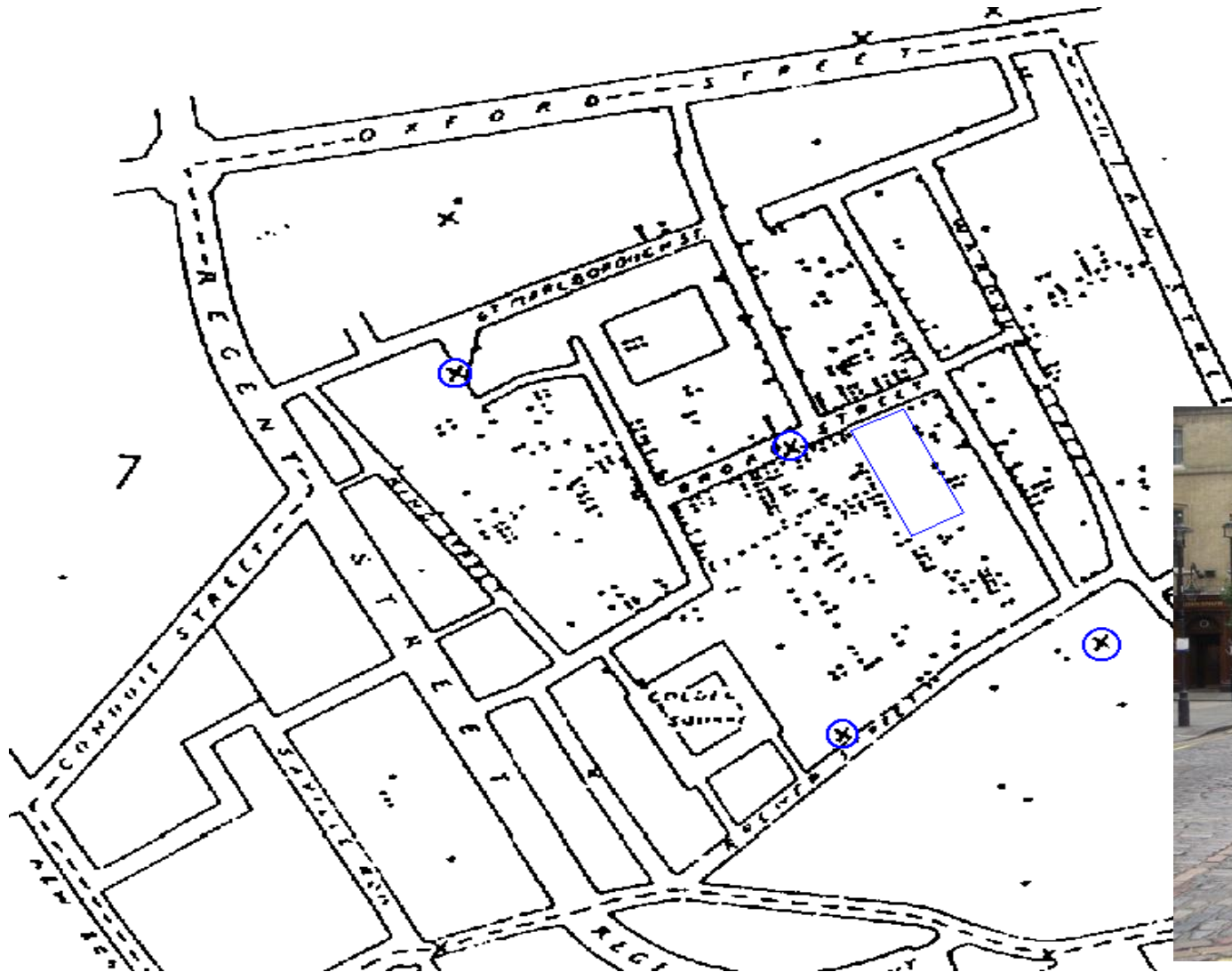
Facts on Water Quality and Health

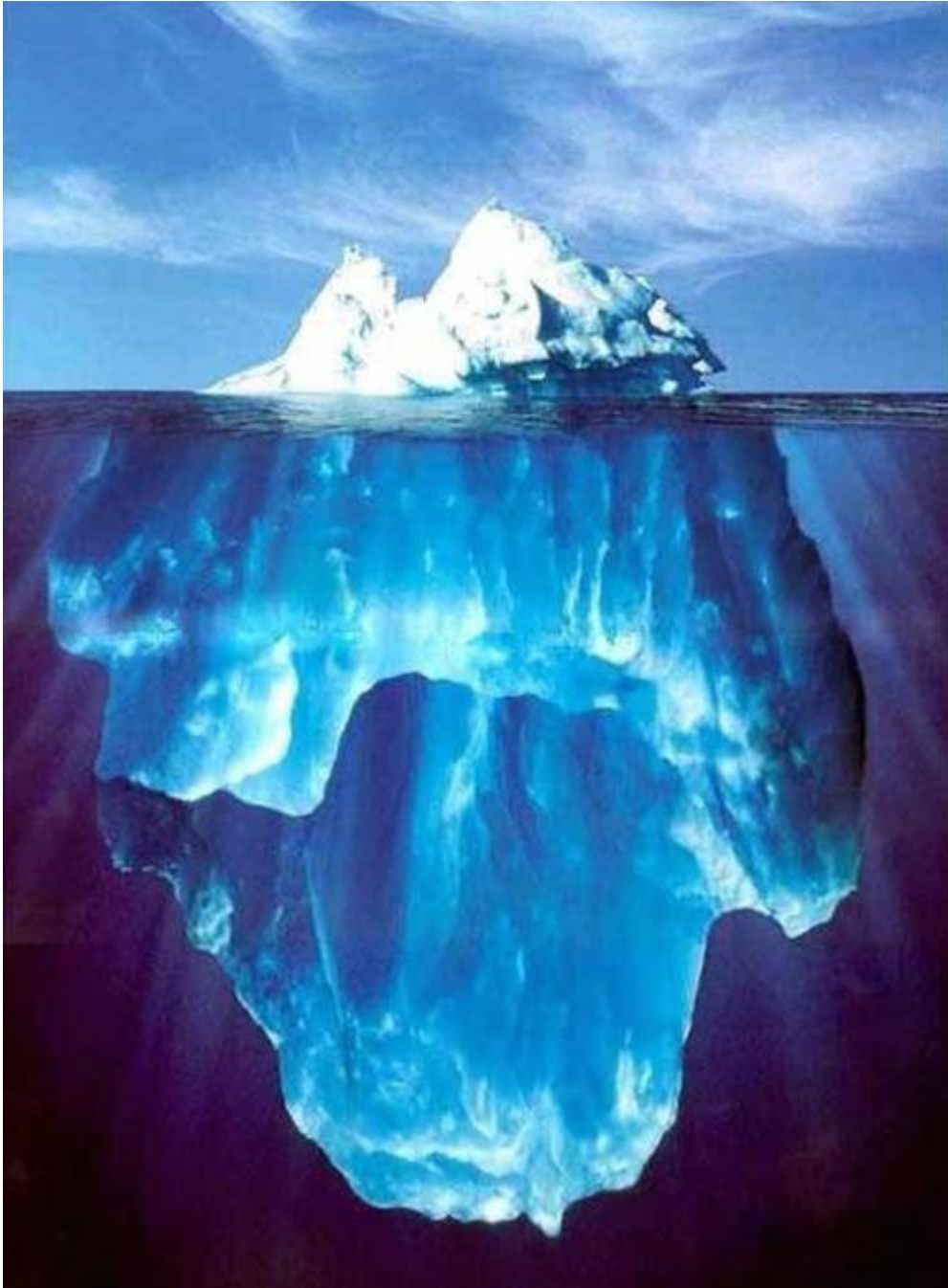
- No safe drinking-water: almost 1 billion people lack access to an improved supply
- Diarrhoeal disease: 1.8 million annual deaths attributable to unsafe water, sanitation and hygiene
- Cholera: more than 50 countries still report cholera to WHO
- Cancer and tooth/skeletal damage: millions exposed to unsafe levels of naturally-occurring arsenic and fluoride
- Schistosomiasis: an estimated 260 million infected
- Emerging challenges: increasing use of wastewater in agriculture is important for livelihood opportunities, but also associated with serious public health risks

Deaths from unsafe water, sanitation and hygiene



Cholera in Broad Street, Soho

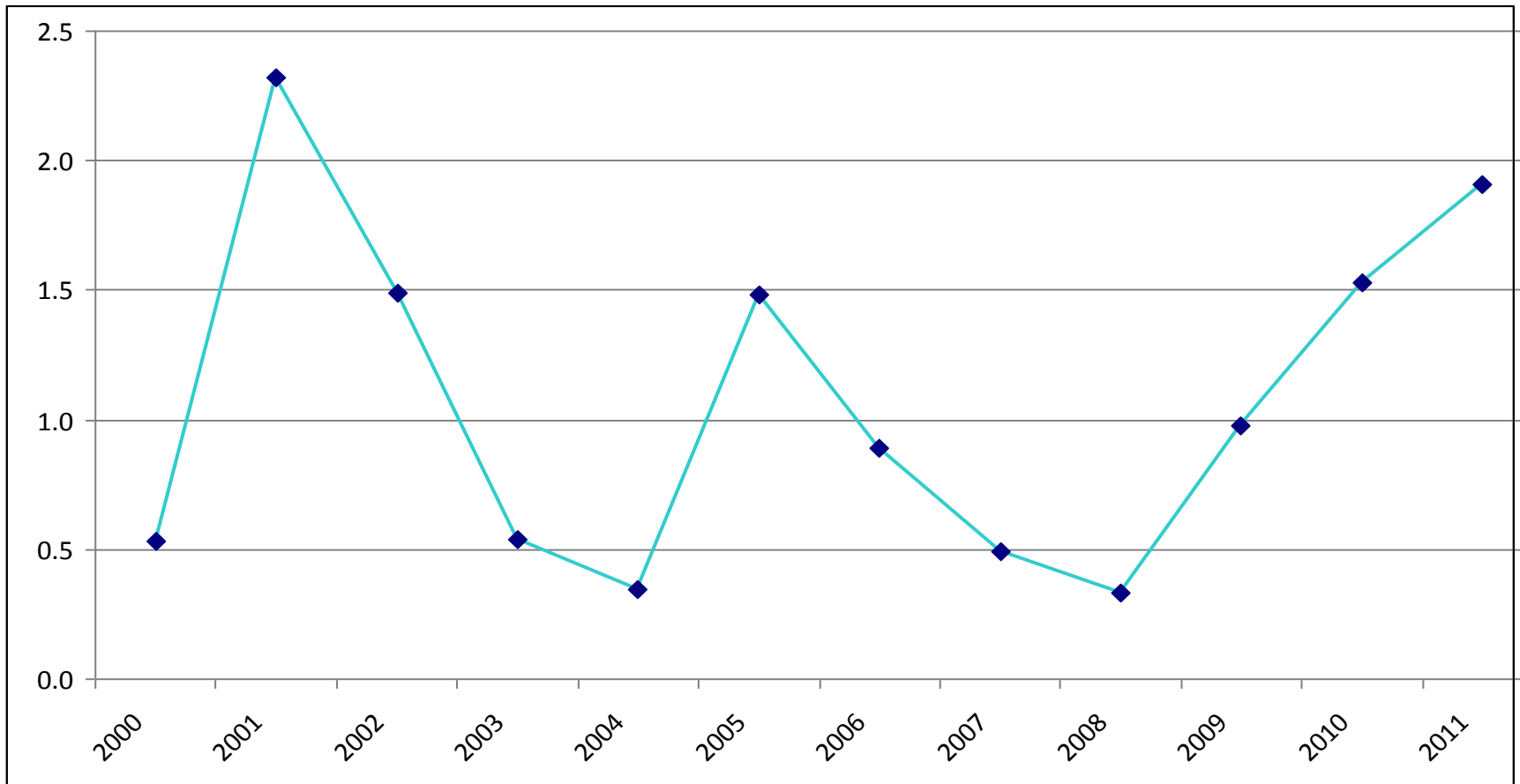




WBD

- many unreported

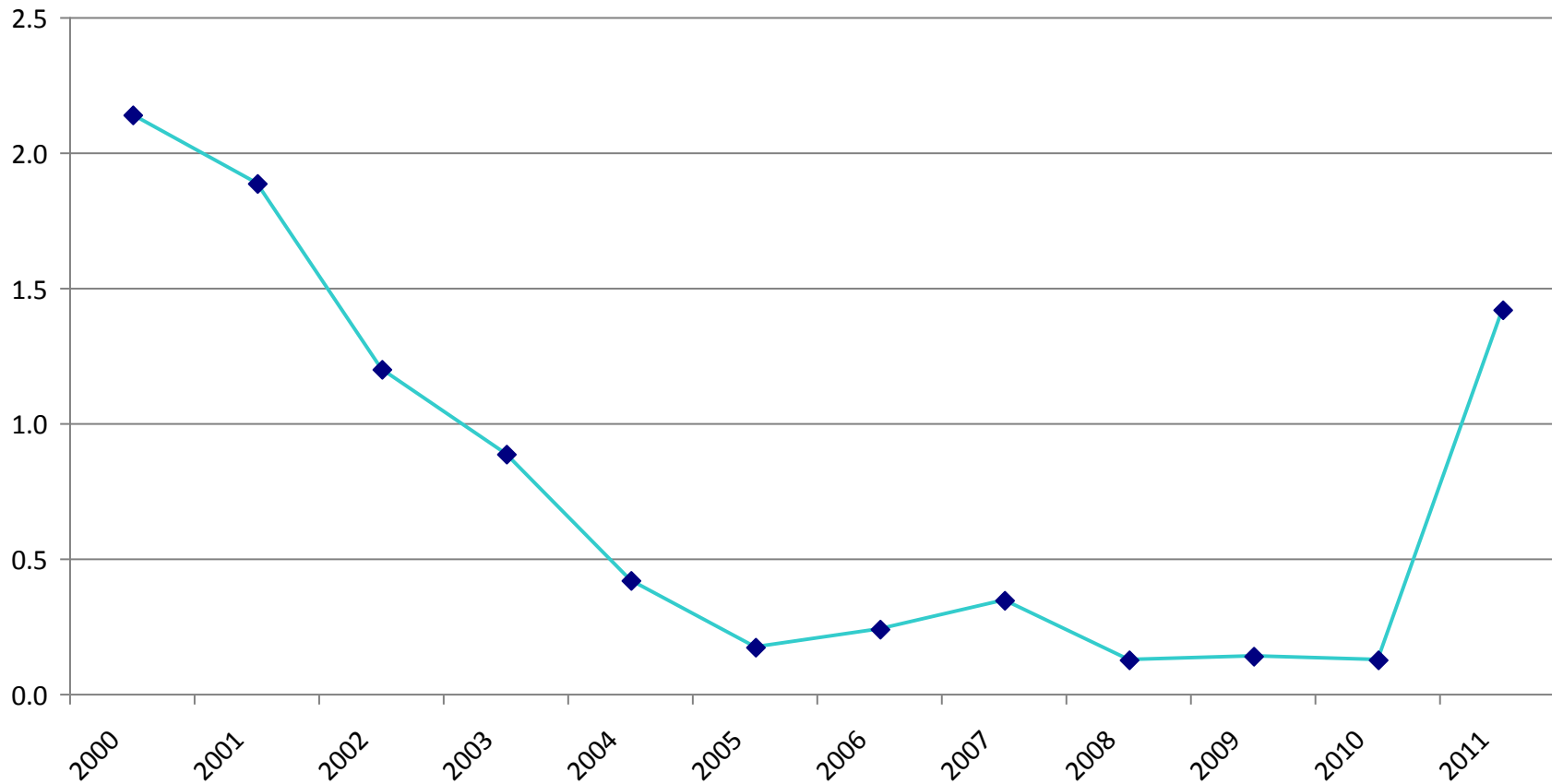
Incidence Rate of Cholera in Malaysia 2000-2011 (per 100,000 population)



Rumah Atas Air, Sabah

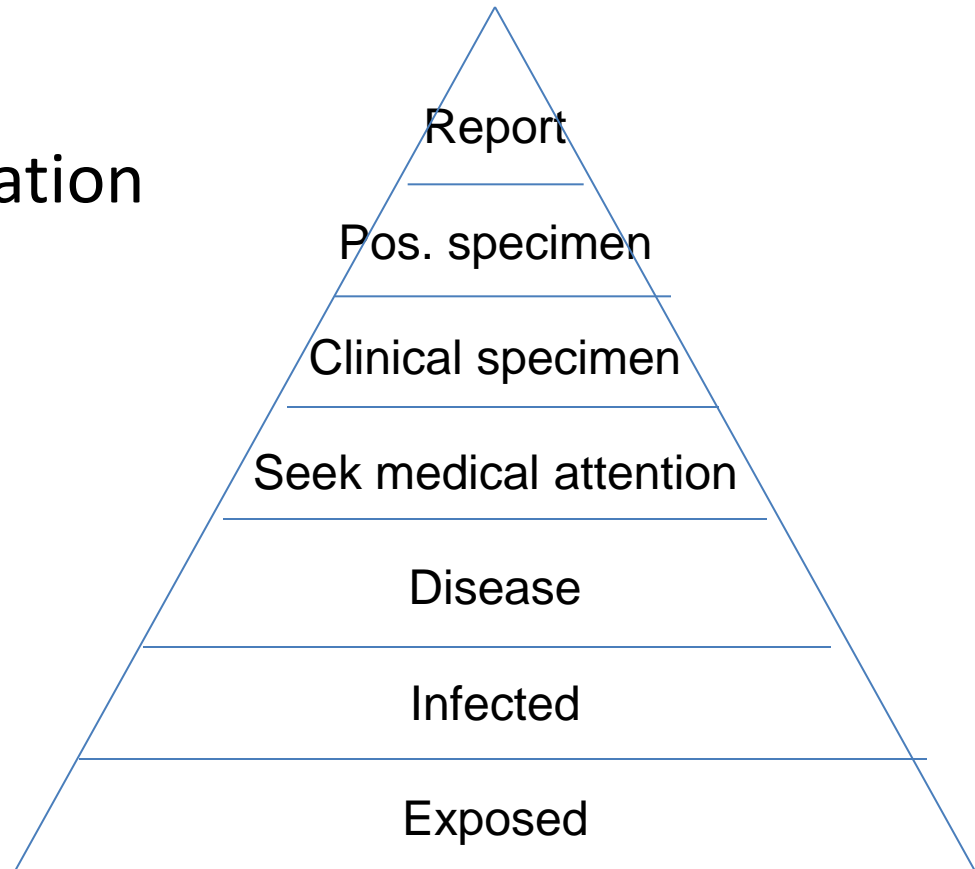


Incidence Rate of Hepatitis A in Malaysia 2000-2011 (per 100,000 population)

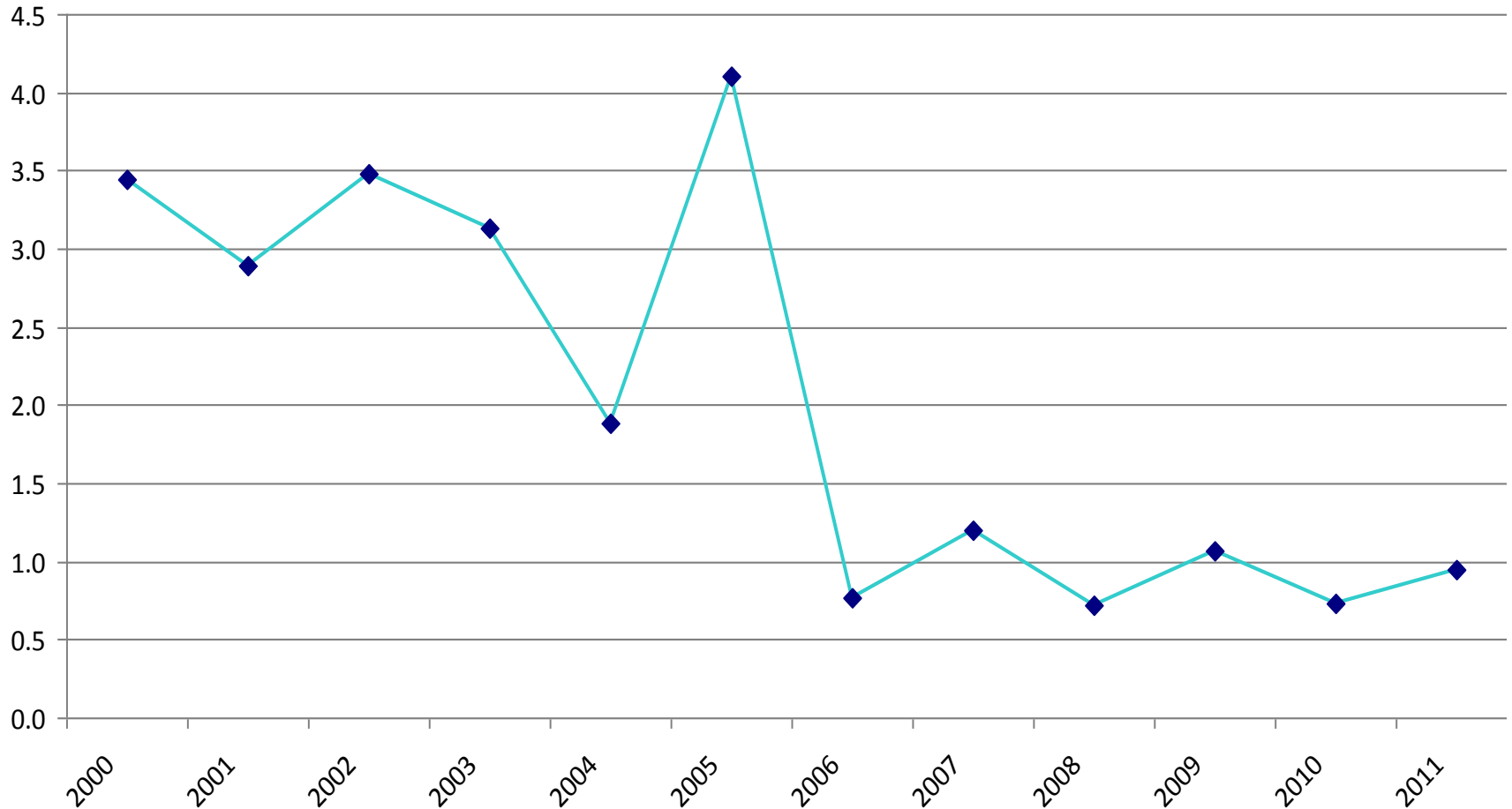


Hepatitis A

- Common among OA
 - Hygiene
 - Water contamination



Incidence Rate of Typhoid in Malaysia 2000-2011 (per 100,000 population)



Typhoid have shown significant improvement but there are still pockets of endemic districts in the country



“Typhoid Well” Bachok
2003

Mamut Copper Mine - Ranau Sabah

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History Of Mamut Copper Mine

Compiled By: J. Paul

In June, 1960, a Regional Survey conducted by the District Survey (Lahat Valley) Project revealed a potential indication of the Mamut area. Following the discovery, further exploratory work, including geophysical survey, zoning and surface structural studies, which were carried out by the Geological Survey of Malaya, revealed the presence of a

central image watermark: www.gemasiblog.com

In July, 1968, geophysical survey and exploration diamond drilling were started by the District Mineral Resources Development Co. Ltd., Japan, by the end of August, 1968, prospecting work for feasibility had been completed.

The feasibility study project, (DMRD Sabah) Report, was established as a joint venture Company between Malaysia and Japanese participants. The planning of construction, including zoning and some preliminary work, was carried out between 1970 and 1971. During the same period of 1971 and early 1972, negotiations were held

between the Federal Government of Malaya and DMRD for the terms and conditions of Copper Development Agreement and Mining Lease. Both of which were signed on Nov. 17, 1972 and Dec. 25, 1972 respectively.

The Mamut Copper Mine then slowly progressed and took shape. Roads were cut through jungle to reach the site and

equipment and trucks were at the Mine to ensure maintenance in order to expose the orebody. Meanwhile, roads and bridges between Ranau, Paitan and Ranau were widened and reconstructed to permit transportation of heavy machinery. During such time, study program was made to cover the Mining Plan to meet the construction of mining equipment.

1973 saw the coming of heavy and oversized machinery, supplied by the Mining Plan. These were transported to Mine Site via Chikar Port (Sibu) by heavy duty trucks

and trucks. Meanwhile, a tree was being felled from the site to make a 1,200 feet piece of land at Lohas was cleared and established to cover areas the mining area. In Malaya, the plan was built to handle export of Mamut copper concentrate.

In 1973, Mamut was set up as a joint venture company between the Federal Government of Malaya and DMRD Sabah. It was incorporated in Japan on 15th November 1973 with a total share of 1,111,000. "Yap, Tai" was the first step to carry Mamut's copper concentrate. It started in June, 1974 and December, 1975. At the beginning, operations were slow and



Exploration drilling to obtain rock sample for examination

and engineering fault were slowly set right for smooth operation and production. On 27th May 1985 the Sabah State Government bought 47% share from the local individual shareholders of DMRD Sabah Bhd. The step was taken in view of the importance of Mamut Copper Mine to the economy of Malaya in general



Challenges

1. Lifestyle of certain groups
 - “Rumah atas air”
 - Mobile population
 - Immigrants
 - Hygiene
2. Contamination of catchment area
 - Plantation
 - Agriculture
3. Sharing of information
 - For remedial action
 - Enhanced disease surveillance

Prevention

- Measures of protection against pathogens:
 - prevention of contamination of water
 - prevention of growth and spread of pathogens
- Vaccination

Strategies

1. Health education
 - Boil water
 - Sanitary
 - Early treatment
2. Safe water supply for all
3. To strengthen the collaborative and coordinative activities of the various agencies

Conclusion

Water-borne diseases still a PH problem in Malaysia.

Safe water supply is the best strategy to overcome it.

Thank you