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GLOBAL ERADICATION OF POLIO

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According to the WHO, only about 3500 cases of poliomyelitis were reported world-wide during the year 2000. In comparison, there were 7141 reported cases in 1999 and an estimated 350,000 cases in 1988, when the WHO began its campaign to eradicate polio. There has thus been a reduction of about 99% in the annual number of polio cases over this period. The aim is to be able to declare the world free from polio in 2005.

The number of countries in which wild poliovirus is circulating has been reduced from 125 in 1988 to just 20 countries in 2000, and transmission is very low in 11 of these. Polio is now almost exclusively confined to southern Asia and sub-Saharan Africa. The last case of polio originating in Denmark was in 1976, and the latest case so far in the WHO European region occurred in November 1998. However, the WHO has just reported a case of poliomyelitis due to wild poliovirus type 1 in a 13-month-old child from Burgas in Bulgaria. Provisional genetic studies suggest that the virus was imported from northern India. This case illustrates the importance of vaccinating all children. Mass vaccination campaigns are still in progress in the countries where polio is continuing to occur. Last year 550 million children were OPV vaccinated in these campaigns, 152 million of these in India alone.

Before a WHO region can be certified as polio-free, it must be free from circulating poliovirus for 3 years, and individual countries must also fulfill certain tracing and surveillance requirements. Current Danish measures in the certification process are described below.

(P. Andersen, Dept. of Epidemiol.)

Tracing and registration of poliovirus

Transmission of wild-type poliovirus is expected to be brought to a halt throughout the world within the next few years. Thereafter wild-type poliovirus will only exist in a number of laboratories in the world. Escapes from these will be the only source of reintroduction of the virus. It is therefore necessary to ensure that all laboratory material that could contain wild-type poliovirus is identified

and securely stored. If not, such material will constitute a future health threat of global dimensions. Any future escape when polio vaccinations have ceased could infect many thousands of people and spread across the continents before the accident is detected. This means that a global eradication campaign would have to be started afresh. As in other countries, a scrutiny is to be undertaken in Denmark to identify all laboratories that might hold material that could contain infectious wild-type poliovirus. This does not only apply to virology laboratories known to work with poliovirus or holding patient specimens from known or suspected cases of poliomyelitis. There is a risk that certain specimen categories, collected for completely different purposes, could contain wild-type poliovirus. This applies to stool specimens and airways secretions, as well as to sewage water and sludge samples, if these were collected from areas in which poliomyelitis could occur at the time in question. In the case of Denmark, this has been defined as the period before 1977. In the next few months a long list of medical and various biological laboratories will thus be subject to an inquiry about specimens of this type. The great majority of these laboratories will probably find it easy to respond. Other laboratories will need to initiate a thorough investigation. If individual laboratories should in future wish to keep specimens that could contain infectious wild-type poliovirus, they must already now fulfil the safety requirements corresponding to Bio Safety Level (BSL)-2/polio, and must be prepared for upgrading to BSL-3/polio and subsequently to BSL-4/polio in future years. Alternatively, the specimen material can be transferred to a depot designated by the WHO. Completion of this tracing of polio-virus and registration of those laboratories that will continue to hold material that could contain infectious wild-type poliovirus is a prerequisite for certifying Denmark as polio-free. (K. Bro-Jørgensen, Dept. of Medicine)

Enterovirus surveillance

The WHO's standard method of certifying an area's polio-free status

has been the surveillance and virological investigation of acute flaccid paralysis (AFP) in children under 15 years. In countries such as Denmark that have been polio-free for many years, it has proved difficult to reach an adequate acceptance and thus sensitivity of AFP surveillance. An intensified surveillance of enteroviruses, including poliovirus, has therefore been set up in Denmark, based on specimens sent in for enterovirus determination to the Department of Virology at Statens Serum Institut and the Department of Clinical Microbiology at Aarhus Municipal Hospital. All specimens found to contain enterovirus will be further investigated for typing of the virus, which is the only way of excluding poliovirus. There is often insufficient material in the original specimen for typing, and in these cases a faecal specimen from the patient will be requested. All physicians or hospital departments sending in specimens for enterovirus determination will be asked to give further clinical details of the patient. This applies to both positive and negative specimens. The purpose is to provide the WHO with documentation that the surveillance in Denmark gives a high level of security that any imported poliovirus will be rapidly detected. In addition, the surveillance can be used to provide a more detailed description of the occurrence of enterovirus infections in Denmark. (P. Andersen, T. Rønne, Dept. of Epidemiology, B. Böttiger, Dept. of Virology)

Tick-borne encephalitis vaccination

There have been inquiries about a lower age limit for tick-borne encephalitis (TBE) vaccination, EPI-NEWS 17/01. For practical purposes it can be decided to vaccinate only from the age of 7 years or more, in circumstances in which TBE vaccination is otherwise thought to be indicated. Side effects of the vaccine are more frequent in smaller children and the risk of serious TBE is very low. Vaccination of children under the age of 7 years is not, however, contraindicated.

(T. Rønne, Dept. of Epidemiology, K. Bro-Jørgensen, Dept. of Medicine, K. Kristiansen, MOH, Bornholm)

16 May 2001

Patients with confirmed *Listeria monocytogenes* infection

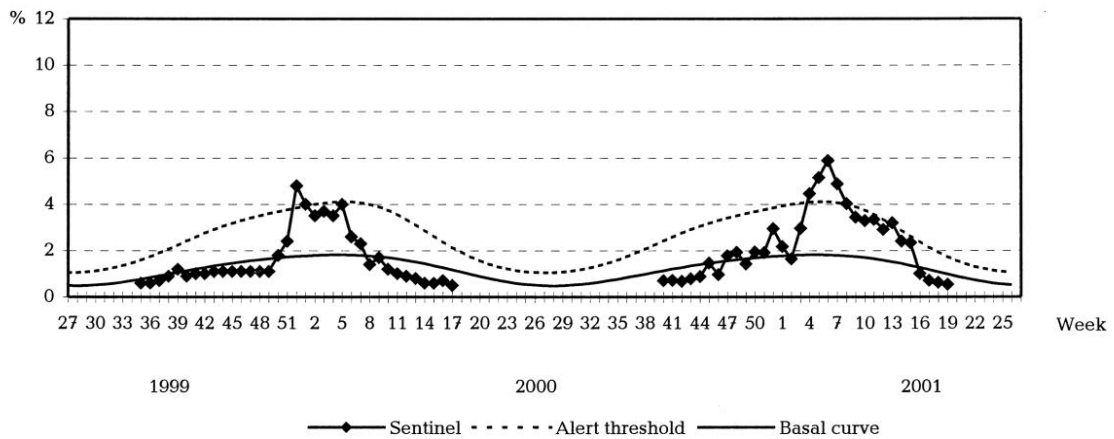
1st quarter of 2001 compared with 2000

	1st quarter 2001	1st quarter 2000	Whole year 2000
Mother/child infection	1	3	7
Septicaemia	6	3	24
Meningitis	1	5	8
Other	0	0	0
Total	8	11	39

(Dept. of Gastrointestinal Infections)

Sentinel surveillance of influenza activity

Weekly percentage of consultations, 1999/2000/2001



- Sentinel:** Influenza consultations as % of total consultations
- Basal curve:** Expected frequency of influenza consultations under non-epidemic conditions
- Alert threshold:** Possible incipient epidemic

(Dept. of Epidemiology)