



DIRECTORATE
OF HEALTH

Chief Epidemiologist for Iceland

EPI-ICE

Volume 6. Issue 5. November – December 2010.

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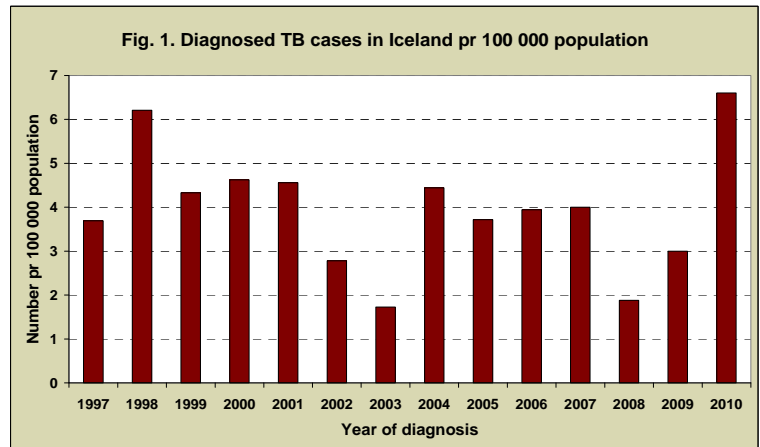
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TUBERCULOSIS IN ICELAND IN 2010

In 2010, the incidence of tuberculosis in Iceland was unusually high compared with preceding years (Fig 1). Of the 21 patients diagnosed with tuberculosis, 16 (71%) were immigrants (Fig. 2). The age range of the patients was 20–70 years with the mean age of 34. Multi-resistant strains of *Mycobacterium tuberculosis*

were not detected. One Icelander was diagnosed with bovine tuberculosis (*Mycobacterium bovis*). The source of this infection remains unclear and *M. bovis* in cattle has not been detected in Iceland recently.

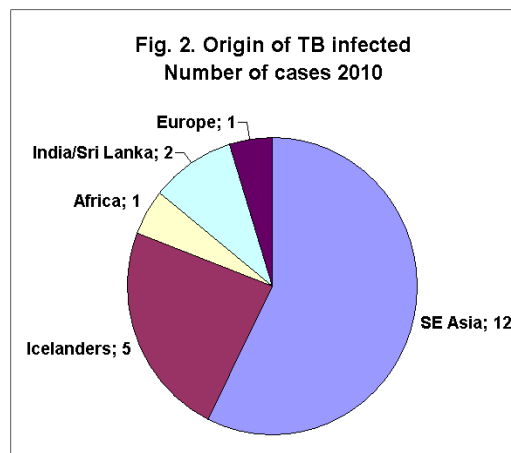
An outbreak of *M. bovis*, which is prevalent in many parts of the world, was last detected in Iceland in 1958. A cowherd from Denmark was suspected of infecting some cows at a certain farm in the North of the country. The outbreak in cattle was detected after a number of humans became infected with *M. bovis* after drinking unpasteurised milk. After culling of all cattle on the farm, Iceland has been free from *M. bovis*.



The tuberculosis epidemic in the last century

The tuberculosis epidemic reached its peak in Iceland in the beginning of the nineteen thirties. Since then, the incidence of the disease has steadily diminished and so has the death rate, especially after drugs against the disease became available. In Iceland, general vaccination against tuberculosis was never applied. The reasons given were the rapid decline in the incidence of the disease, doubts about the protective value of the vaccine and its adverse effects. Furthermore, the tuberculin skin test had proved invaluable for monitoring the spread of the disease and vaccination was considered to hamper the power of the test to detect the disease (1).

The spread of tuberculosis in Iceland was monitored by means of applying the tuberculin skin test to all school children aged 6–16 years. The number of children detected this way with infection with *M. tuberculosis* declined steadily after the Second World War and in the nineteen eighties practically no child in this age group was detected with the disease. Consequently, tuberculin skin testing was abolished, even though the testing still remains valuable in



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detecting infection with *M. tuberculosis* among those living in close contact with patients with tuberculosis (2).

Immigrants constitute another risk group subject to tuberculin skin testing. [Procedures for the Medical Examination of Immigrants to Iceland](#) are in place. Applicants for a residence permit coming from certain non-EEA European countries must undergo a medical examination with respect to infectious diseases. People coming from the EEA (other than Rumania and Bulgaria), Australia, New Zealand, Switzerland, the USA, Canada and Israel do not have to submit a medical certificate. A tuberculin skin test must be performed on applicants 35 years and younger and if the test indicates a tuberculosis infection a lung x-ray should be taken. Those over 35 years of age must have a lung x-ray.

During the last decades the proportion of immigrants diagnosed with tuberculosis has been increasing (3). Now as before, Asians are proportionally most numerous among those with tuberculosis. The frequency of positive tuberculin skin tests is high among immigrants from Africa, Asia and Eastern Europe. It is obvious that not all immigrants are being medically examined on arrival in

Iceland. Therefore, it is vital for the health care service to consider tuberculosis when people seek medical service due to symptoms compatible with tuberculosis.

The outpatient clinic for communicable diseases at the Primary Health Care of the Reykjavík Capital Area has an important part to play as a link to other health care services and for tracing transmission of *M. tuberculosis* in the community when a case of tuberculosis has been diagnosed. All those living in close contact with a patient are traced, they are tested for infection and receive prophylactic treatment if tested positive. In this way the spread of tuberculosis can be contained. It is important to keep in mind that being infected with *M. tuberculosis* does not mean tuberculosis (the disease). It is estimated that 10% of those who become infected will develop the disease.

Haraldur Briem

¹ Sigurðsson S. Tuberculosis in Iceland *Læknablaðið* 1976; 62: 3-50.

² Gunnbjörnsdóttir M et al. Incidence and prevalence of positive tuberculin skin test reaction among schoolchildren. *Læknablaðið* 1996; 82: 690-698.

³ Thorvaldsson S., Blöndal Th, Briem H. Tuberculous infection and tuberculosis in the foreign born in Iceland.

Approximately 30 patients have died in our neighbouring countries due to influenza, most of them under 65 years of age and unvaccinated.

THE FIRST INFLUENZA CASES OF THE YEAR

Towards the end of December 2010, the first three influenza cases of 2010 were diagnosed in Iceland. Two of these were individuals in their thirties, infected with influenza A(H1N1) 2009 (swine-influenza), and one was an elderly patient with the seasonal influenza A(H3N2). So far the number of patients attending the Central GPs' On-call Service or the hospital emergency units has not increased.

It can be assumed that the second wave of the pandemic swine-influenza is emerging in Iceland. Hopefully, this influenza will not be widespread in Iceland since half of the population was vaccinated last winter. The influenza is emerging at present in our neighbouring countries, especially in the UK, where it is causing a lot of morbidity and even mortality. Approximately 30 patients

have died due to the influenza, most of them under 65 years of age and unvaccinated. The Chief Epidemiologist for Iceland recommends that all persons 6 months of age and older who were not vaccinated last winter or did not have confirmed swine influenza should be vaccinated with Pandemrix. It is not deemed necessary for those already vaccinated with Pandemrix to repeat the vaccination. However, it is recommended that all risk groups be vaccinated with the seasonal influenza vaccine, which also protects against swine influenza. These risk groups are people 60 years or older and all those over 6 months who have underlying chronic and malignant diseases, pregnant women, health care workers taking care of these patients and workers at poultry and swine farms.

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