

# Rather than screen all immigrants for TB, developed countries could be more focused

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Rather than screen all immigrants for TB, developed countries with large numbers of newcomers could be more focused and efficient, new research by Dr. Kamran Khan of St. Michael's Hospital in Toronto suggests. Credit: St. Michael's Hospital

While Canada screens all immigrants for tuberculosis, the vast majority

of active cases of the disease are found in people arriving from a handful of countries where TB is prevalent, new research suggests.

The findings are relevant to other developed countries with large numbers of immigrants, such as the United States, Australia and some Western European countries, which have TB screening processes similar to Canada's.

"While the pre-immigration chest X-ray identifies active TB in some new immigrants, the risk of disease varies widely by the immigrants' country of origin," said Dr. Kamran Khan, an infectious disease physician at St. Michael's Hospital who specializes in treating TB.

"When we screen every new immigrant in precisely the same way, we unnecessarily consume valuable resources looking for active TB in populations where the probability of disease is essentially zero," said Dr. Khan, who is also a researcher in the hospital's Li Ka Shing Knowledge Institute.

Dr. Khan today published a one-of-a-kind study in the *Canadian Medical Association Journal* that linked the Citizenship and Immigration Canada records of nearly 1 million people who arrived in Ontario between Jan. 2, 2002, and Dec. 31, 2011, with the Ontario Ministry of Health and Long-Term Care's reportable disease database for the same 10 years.

During those 10 years, more than 6,000 cases of TB were diagnosed in Ontario, of which almost 90 per cent were in people born outside of Canada. Dr. Khan said those figures demonstrate why it is so important to have an effective and efficient system to detect TB in new immigrants.

While Citizenship and Immigration Canada requires all immigrants to undergo a chest X-ray to screen for active TB, 87.3 per cent of active TB

cases were found to have come from just six countries, each with a high burden of TB - Afghanistan, China, India, Pakistan, the Philippines and Vietnam.

Conversely, the pre-immigration chest X-ray did not detect a single case of active TB in immigrants from 179 other countries. For this reason, the researchers suggest that immigrants from countries with the lowest rates of TB, such as Australia, New Zealand, the United States and others in Western Europe do not need screening for TB at all.

The paper also suggested the process for referring some immigrants to provincial or territorial authorities for monitoring to see if they might later develop TB was inefficient and needed revision. Such monitoring picked up only one-fortieth of all TB cases in people born outside of Canada and did so on average only 18 days earlier than those who did not have to undergo monitoring.

Dr. Khan said that while the decision to send new immigrants for this secondary medical assessment is based almost entirely on their chest X-rays, several additional factors do a better job collectively of predicting who is most likely to develop active TB after arriving in Canada. Those factors include the [immigrants'](#) birth country, the status of their immune systems and whether they applied for residency from overseas or within Canada.

"To protect Canadians from the growing global threat of TB - including highly drug resistant forms that are becoming virtually untreatable - we need to think about our overall game plan and how our federal, provincial and local strategies are integrated and balanced," said Dr. Khan.

"As a microcosm of the world, we need to strategically invest resources in the prevention and control of TB outside of our borders, revise and

streamline our immigration screening system so that we make smarter decisions to achieve more with fewer resources, and strengthen our domestic health systems to prevent and better manage the cases of active TB that appear in Canada every day."

**More information:** *Canadian Medical Association Journal*,  
[www.cmaj.ca/lookup/doi/10.1503/cmaj.150011](http://www.cmaj.ca/lookup/doi/10.1503/cmaj.150011)

Provided by St. Michael's Hospital

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