Mathematical Biology Seminar

Monday, October 26, 2009
3 pm – 657 CAB

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Is Change Possible? Tuberculosis Incidence Among Immigrant Arrivals in Canada, 1986 to 2002

Tuberculosis (TB) is a leading infectious disease globally, with the World Health Organization estimating that one-third of the world's population is infected with *Mycobacterium tuberculosis*. Despite long-standing overseas pre-immigration medical screening practices, nearly 67% of the national TB caseload in Canada is comprised of foreign-born TB cases, the majority of which are reactivation of latent TB infection (LTBI). Of particular importance is the lack of an appreciable change in the number of foreign-born TB cases in Canada for the past several decades.

Clearly, TB within Canada's foreign-born population must be addressed if Canada is to make significant movements toward TB elimination targets. Although routine LTBI screening and treatment among immigrants has previously been discouraged due to poor cost-effectiveness, the advent of interferon-gamma release assays and short-course LTBI treatment regimens is anticipated to make this TB control strategy a high priority and more cost-effective reality in the near future. The key question that needs to be addressed is "could targeted LTBI screening and treatment among recently arrived immigrants significantly reduce foreign-born TB cases and, by extension, Canada's national TB incidence rate?"

I will present the key findings of our analyses of national immigration and TB data related to the years 1986 through 2002, with particular emphasis on the immigrant subpopulation deemed to be both at greatest risk for TB infection and most appropriate for LTBI treatment. I would like to explore the possibility of extending our analyses by using mathematical modelling to determine the potential reduction in foreign-born TB incidence that might have been achieved if LTBI screening and treatment scenarios had been targeted to this 'high-risk' immigrant subgroup, with a mind to guiding future TB control strategies.

Join us for refreshments in CAB 549 immediately following the Seminar

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