# Impact of COVID-19 pandemic on latent and active TB treatment registrations in Montreal, Canada: a retrospective study at the Montreal Chest Institute

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## Background

In March 2020, COVID-19 incidence began sharply increasing in Canada. On March 14, 2020, Quebec declared a state of health emergency. A massive curtailing of out-patient hospital services was amongst the measures implemented to mitigate COVID-19 transmission in Quebec. As Montreal has emerged as the city with the highest number of COVID cases, incidence, and mortality rate in Canada, **we sought to assess the effect of the COVID-19 pandemic on registrations for treatment of latent tuberculosis infection (LTBI) or active TB at the Montreal Chest Institute (MCI), a specialized tuberculosis referral center in Montreal**

## Methods

We used data from the MCI Tuberculosis Clinic E-Chart, a tertiary referral center for TB from November 26, 2005 to June 23, 2020. We divided the data into 2 periods: the **COVID era** (from week 11, 2020 and above) and **the Pre-COVID era** (prior to week 11, 2020). Separately for LTBI and active TB, we **compared the number of people being newly registered for treatment *per week* between periods.** Poisson regression was done to estimate rate ratios comparing registrations per week in the COVID era to the pre-COVID era, adjusted for year and week. Amongst those initiating treatment for LTBI, we performed a subgroup analysis restricted to individuals considered to be at high risk.
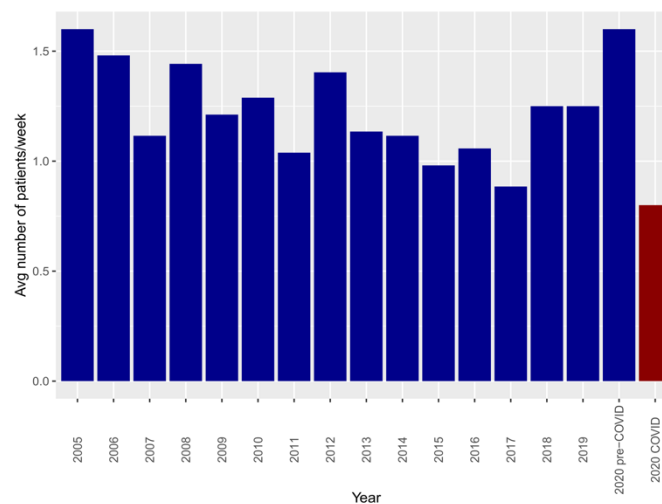
## Results- LTBI

**Figure 1a: Average number of individuals registered per week in the LTBI treatment registry of the Montreal Chest Institute, by year.** Blue: pre-COVID era, Red: COVID era
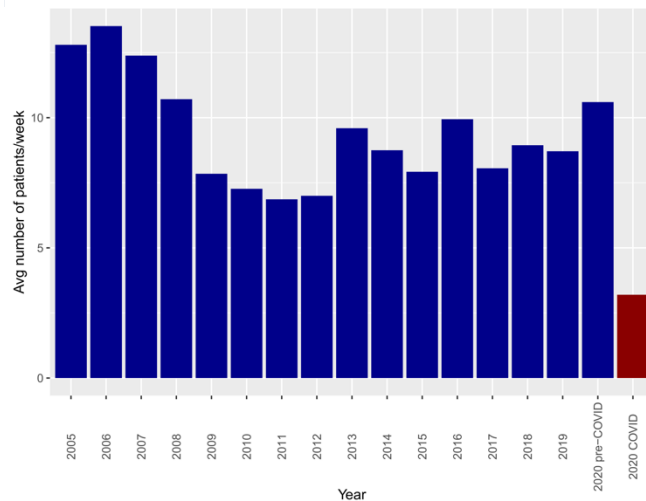


We registered 6849 patients for LTBI treatment (6801 pre-COVID, 48 COVID era). Compared to pre-COVID, there was a 59% reduction in the registration rate for LTBI treatment during the COVID era (rate ratio=0.41 p<0.001).

## Results- Active TB

**Figure 1b: Average number of individuals registered per week in the Active TB treatment registry of the Montreal Chest Institute, by year.** Blue: pre-COVID era, Red: COVID era



We registered 902 patients for active TB treatment (890 pre-COVID, 12 COVID era). Compared to pre-COVID, there was a 24% reduction for active TB treatment (rate ratio=0.76, p=0.37).

## Results- Contact or High-Risk Screening

**Figure 2: Average number of individuals registered per week in the LTBI treatment registry of the Montreal Chest Institute, by year, among contact or high-risk screening referrals.** Blue: pre-COVID era, Red: COVID era
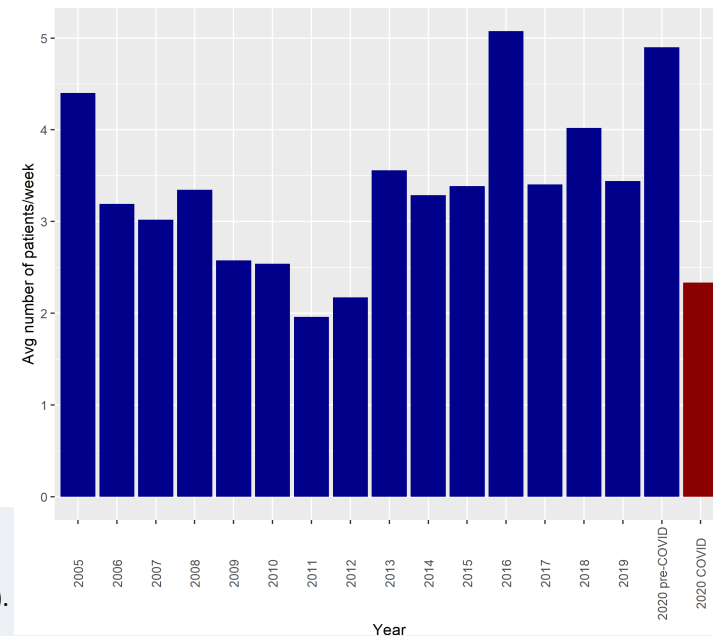


We registered 2445 high-risk individuals for LTBI treatment (2410 pre-COVID, 35 COVID era). The proportion of high-risk patients was higher during COVID (74% vs 40% pre-COVID). Compared to pre-COVID, there was a 43% reduction in the LTBI treatment registration rate (rate ratio= 0.57, p=0.001).

## Conclusion

**Treatment of LTBI is an important measure for maintaining the low incidence of tuberculosis in Canada. With COVID-19 threatening such measures, there is an urgent need to implement strategies to mitigate the negative impact that the COVID-19 pandemic is having on LTBI and active TB management in Montreal, Canada.**