

Tuberculosis (TB) Recurrence in British Columbia, Canada over a period of 17 years

Presented by:

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British Columbia, Canada

- BC has a land area of 926,492 sq km and Population of about 3.9 million
- It has the highest incidence of TB among three populous provinces of Canada (Ontario, Quebec & BC)
- Incidence of TB was 7.4 per 100,000 in 2006 (National rate: 5/100,000)
- Centralized TB control system



TB Recurrence

- **Objective:**

- To estimate prevalence and incidence of recurrence in BC
- To identify socio-demographic and clinical risk factors for recurrent TB in this province

- **Rationale:**

- Selected population
- Limited evidence from Canadian setting
- Inadequate control for confounders

- **Implications:**

- Quality of local TB control program
- Improvement of TB control initiatives



Methods

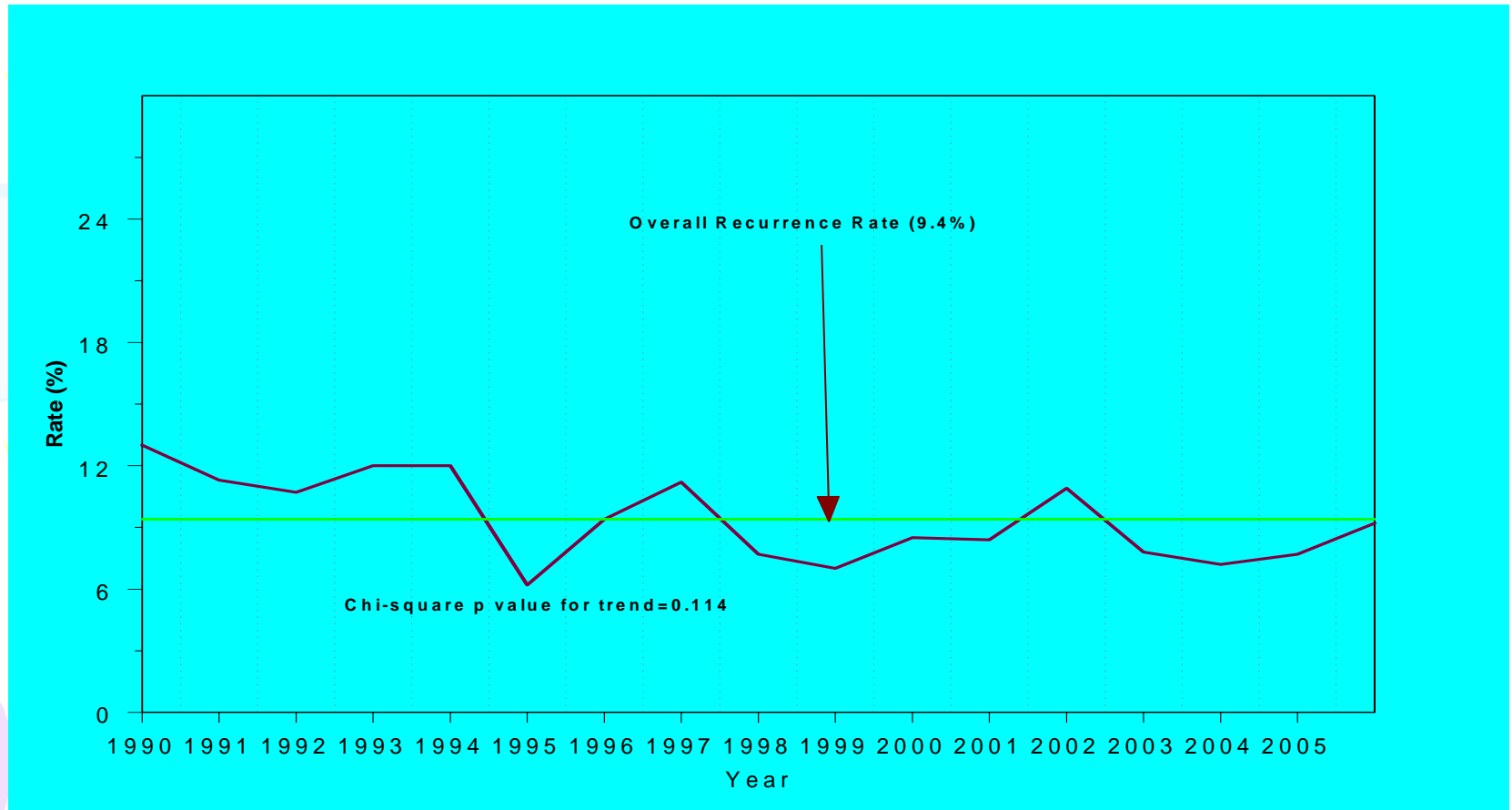
- Retrospective, Population-based
- Study Population: TB cases registered with the Division of TB Control (DTB)
- Study duration: 1990-2006
- Recurrent case:
 - A TB patient with history of previous active TB that became inactive
 - Primary and secondary episode between 90 and 06
- Source of information:
 - Database maintained by DTB at BC CDC



Results

- During the study period, 5430 TB patients were registered with the TB Control Division.
- Among them, the staging information (either new or recurrent case) was available for 5111 patients.
- The overall prevalence of recurrence was 9.4% (95% CI: 8.6%, 10.2%).
- No significant variation in prevalence across calendar years (from 1990 to 2006) was observed.

Figure 1: Trend of recurrent TB in BC (1990-2006)



Comparison of selective socio-demographic characteristics

Variables	TB patients with recurrence (n=480)	TB patients without recurrence (n=4631)	Unadjusted Odds Ratio (95% CI)
	n (%)	n (%)	
Age at diagnosis Mean (SD)	<u>Years</u> 59.0 (18.6)	<u>Years</u> 47.2 (21.8)	1.03 (1.02, 1.03)
Gender Male Female	303 (37) 177 (63)	2471 (53) 2158 (47)	1.50 (1.23, 1.82) Reference
Birth Place Canadian born Foreign-born	143 (30) 331 (70)	1333 (30) 3066 (70)	Reference 1.00 (0.82, 1.24)

Comparison of selective socio-demographic characteristics

Variables	TB patients with recurrence (480 cases) n (%)	TB patients without recurrence (4631 cases) n (%)	Unadjusted Odds Ratio (95% CI)
Ethnicity			
Caucasian	77 (16)	793 (18)	Reference
Aboriginal	86 (18)	569 (13)	1.56 (1.12, 2.16)
Chinese	179 (38)	1054 (23)	1.75 (1.32, 2.32)
South East Asian	40 (8)	745 (17)	0.55 (0.37, 0.82)
Filipino	31 (7)	384 (9)	0.83 (0.54, 1.28)
Vietnamese	18 (4)	277 (6)	0.67 (0.39, 1.14)
Other /unknown	44 (9)	660 (15)	0.69 (0.47, 1.01)
Marital status			
Single	88 (30)	957 (43)	Reference
Not single	209 (70)	1248 (57)	1.82 (1.40, 2.37)
Disease Type			
Pulmonary	336 (70)	3052 (66)	Reference
Extra-pulmonary	116 (24)	1319 (28)	0.80 (0.64, 1.00)
Both	28 (6)	260 (6)	0.98 (0.65, 1.47)



Research in Progress

- Collection of treatment related and other co-morbidity information
- Molecular epidemiology to distinguish relapse from re-infection



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