

NON-TRAUMATIC SPINAL CORD DYSFUNCTION IN NEW BRUNSWICK: A POPULATION-BASED STUDY

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SUMMARY

- Non-traumatic spinal cord dysfunction (NTSCD) is more common but under-studied compared to traumatic spinal cord injury
- Understanding NTSCD epidemiology is important to support disease management through policy guidance and health system planning
- We used administrative health data to estimate the prevalence of NTSCD in NB and characterize hospitalizations among individuals with NTSCD from fiscal year 2003-2017 at the population level

BACKGROUND

- Non-traumatic spinal cord dysfunction (NTSCD) refers to neurological impairment such as paraplegia and quadriplegia resulting from non-traumatic causes such as degenerative disease, inflammation, and tumors
- NTSCD is under-studied compared to traumatic spinal cord injuries, despite being the more prevalent cause of spinal cord dysfunction
- Further study of the epidemiology of NTSCD is important for health system planning and evidence-informed policymaking to support effective disease management
- Population-level studies are particularly useful for studying prevalence and incidence, and characterizing individuals with NTSCD in an unrestricted sample
- Administrative health data provides a useful means of studying NTSCD at the population level
- Recent studies have described algorithms for identifying NTSCD cases in administrative health data using standard diagnostic codes (ICD-10, RCG)

RESEARCH OBJECTIVE

Estimate the prevalence of NTSCD and characterize NTSCD-related hospitalizations in New Brunswick using administrative health data

METHODS

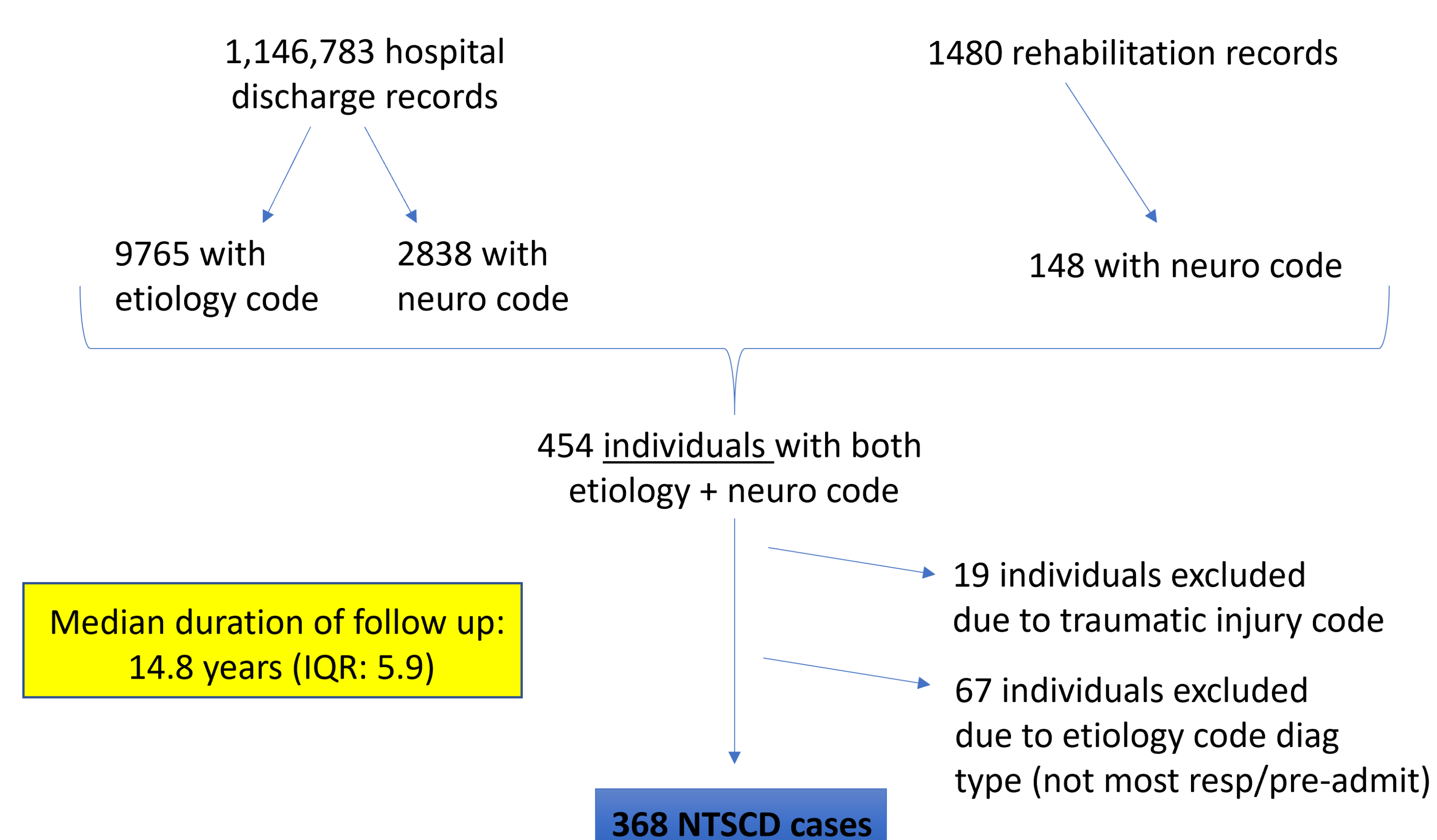
Study Design

- Retrospective analysis using administrative health data accessed within the NB-IRDT secure data facility at UNB

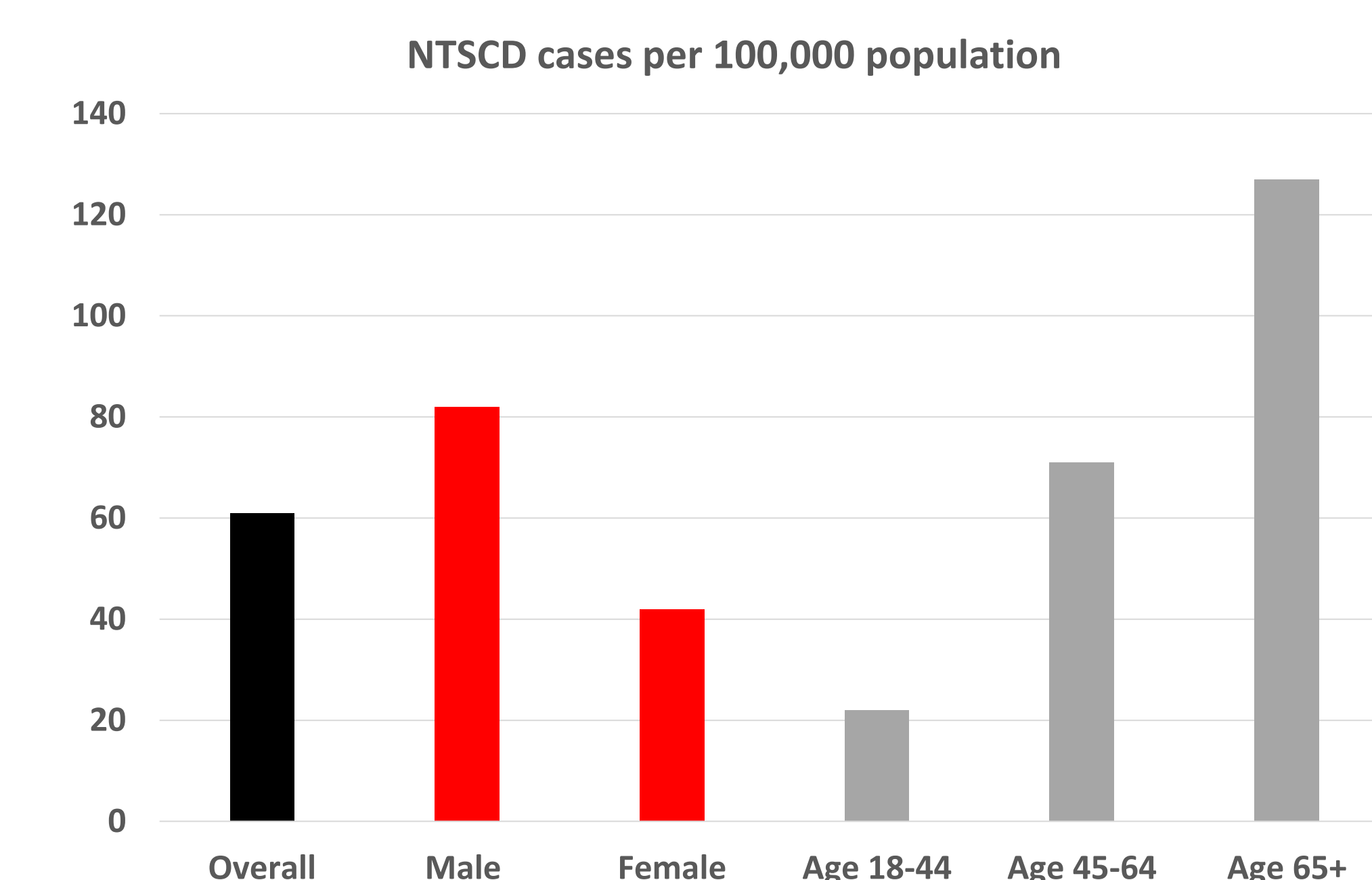
Case Identification

- NB hospital discharge and rehabilitation facility records from FY 2003-2017 screened for cases using algorithm described previously (*Guilcher et al 2017 Top Spi Cord Inj Rehabil 23(4):343-52*)
- NTSCD cases defined by diagnostic codes in health records over the 15-year window. An NTSCD case has at least one code indicating neurological impairment AND at least one code indicating NTSCD etiology AND no codes indicating traumatic spinal cord injury AND must be age 18+
- Hospitalization data obtained from discharge abstracts

NTSCD case identification: New Brunswick April 1 2003 – Mar 31 2018



Prevalence of NTSCD in New Brunswick FY 2003-2017



NB Period Prevalence (cases per 100,000 pop)	
2003-2007	28
2008-2012	39
2013-2017	43
2003-2017	61

*Counting only individuals alive at start of period

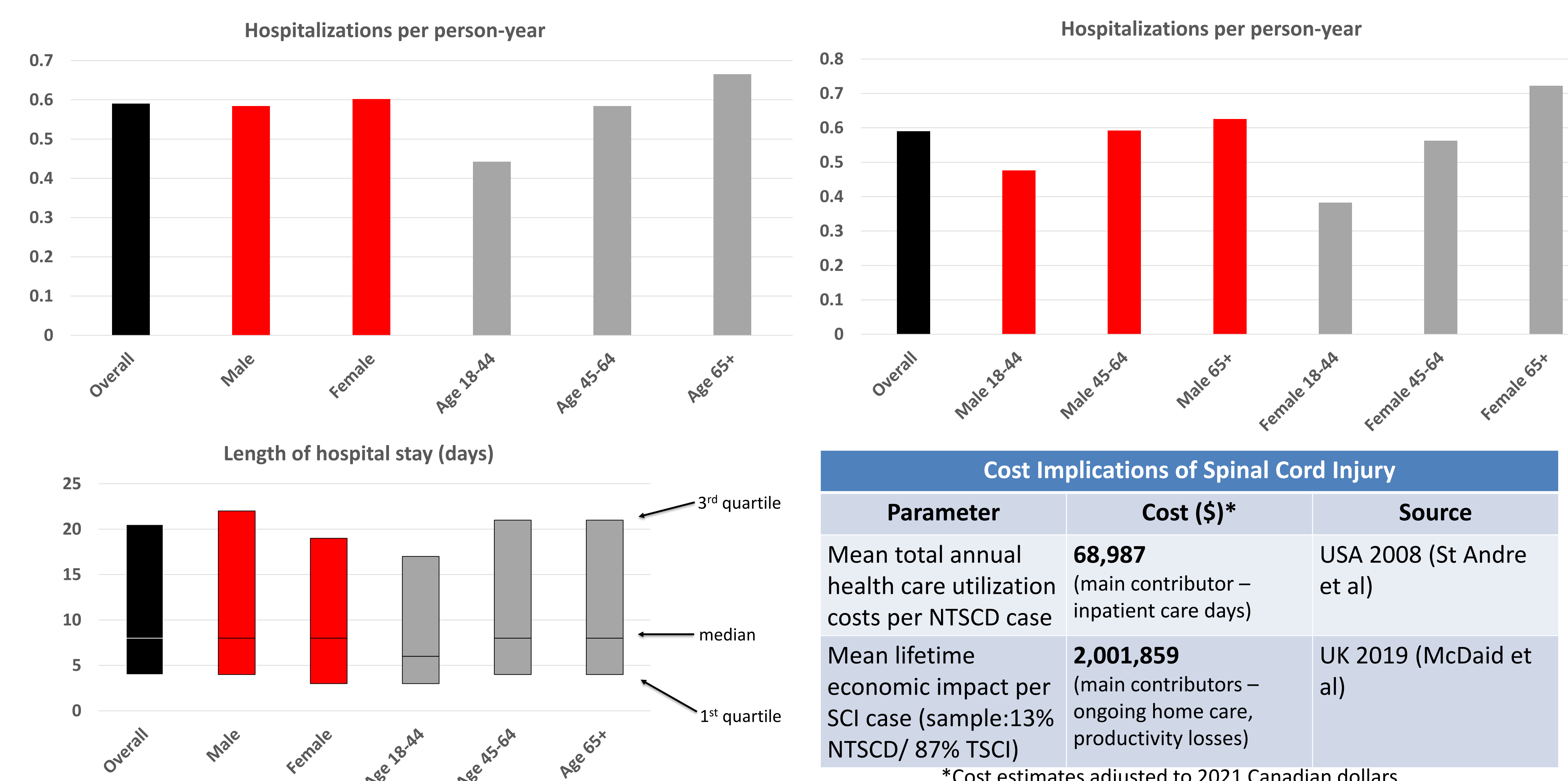


Canada (excl Quebec) Period Prevalence	
2004-2011	25

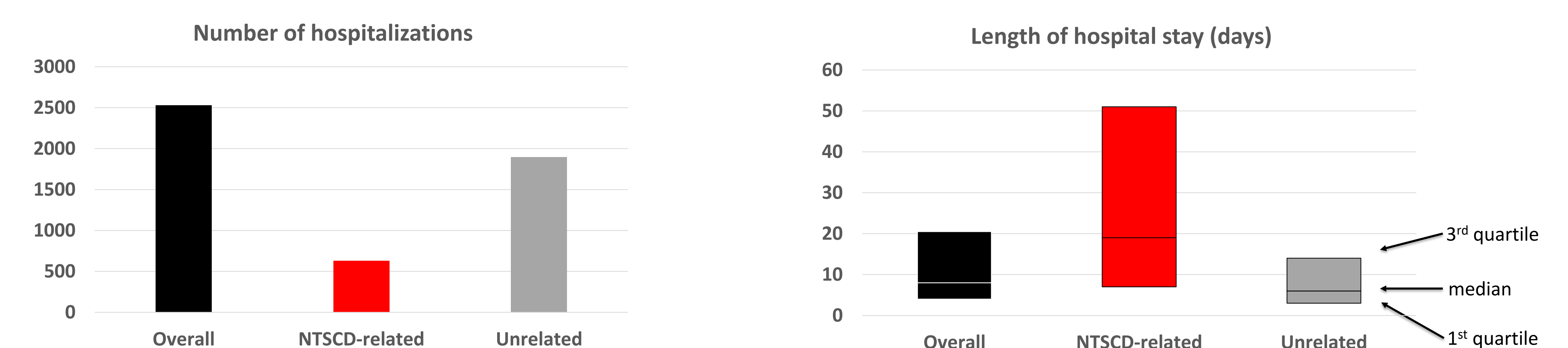
(derived from Guilcher et al, using same methodology for case identification)

Hospitalizations among NTSCD cases in NB FY 2003-2017

2528 total hospitalizations among cases during observation window



Hospitalizations among NTSCD cases by type: Related to NTSCD vs Unrelated to NTSCD



RESULTS AND DISCUSSION

- 368 NTSCD cases identified in NB administrative health data between FY 2003 and 2017
- NTSCD prevalence of 61 cases per 100,000 pop; prevalence higher in males, increases with age
- Individuals with NTSCD were hospitalized 0.59 times/person-year; rate increases with age. Highest observed rate was among older females; lowest among younger females.
- Hospitalizations for NTSCD-related reasons occur less frequently but result in longer stays compared to hospitalizations unrelated to NTSCD