Low socioeconomic status is associated with a higher mortality risk in MS

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INTRODUCTION

- Low socioeconomic status (SES) is associated with higher mortality risk in the general population.
- However, little is known about this relationship among persons with multiple sclerosis (MS).

OBJECTIVE

We investigated whether SES was associated with mortality risk in the MS population.

METHODOLOGY

- We used linked health administrative data in British Columbia, Canada.
- Incident onset MS cases (≥3 hospital or physician-related MS diagnostic codes or ≥1 MS disease modifying treatment(s) [DMT]) with a first demyelinating event (the index date) from 1-January-1994 onwards were identified.
- Follow-up was to the earliest of death, emigration or 31-December-2017.
- DMT prescriptions filled were described between 1996-2017.

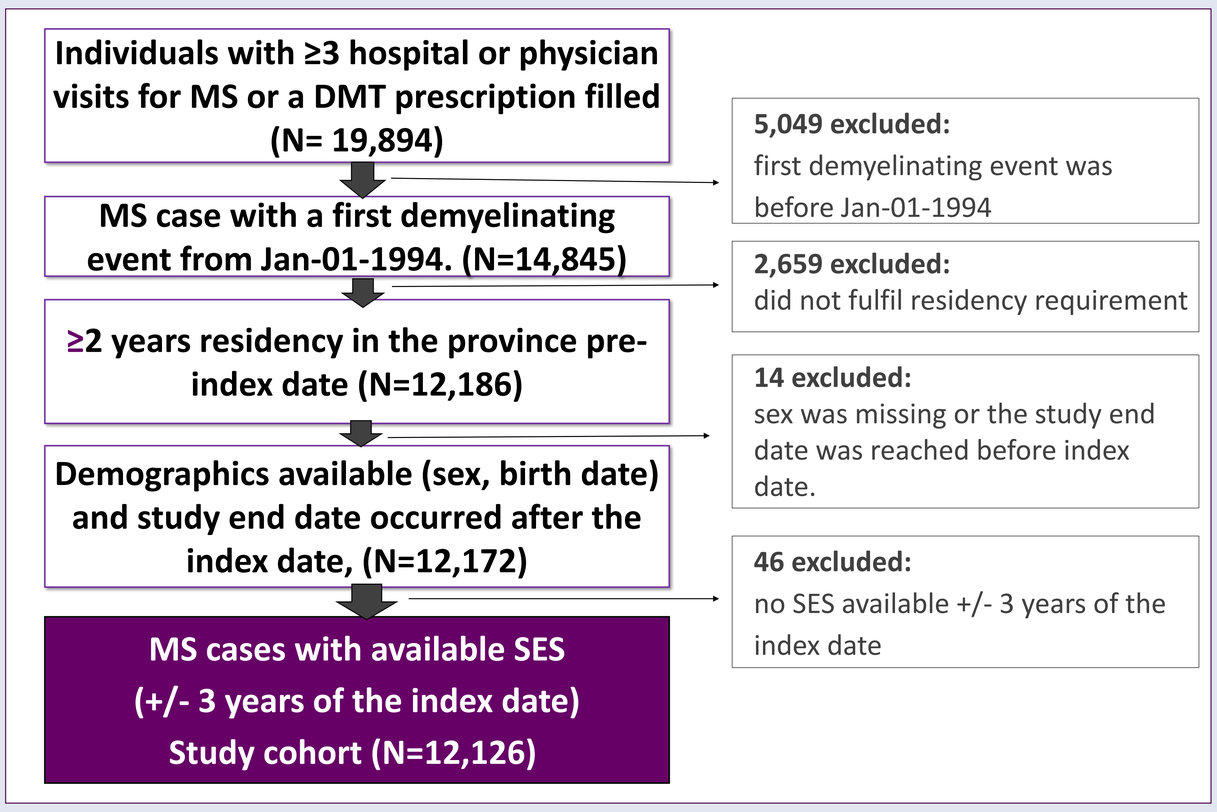


Figure 1 : Flowchart of study cohort with selection criteria.

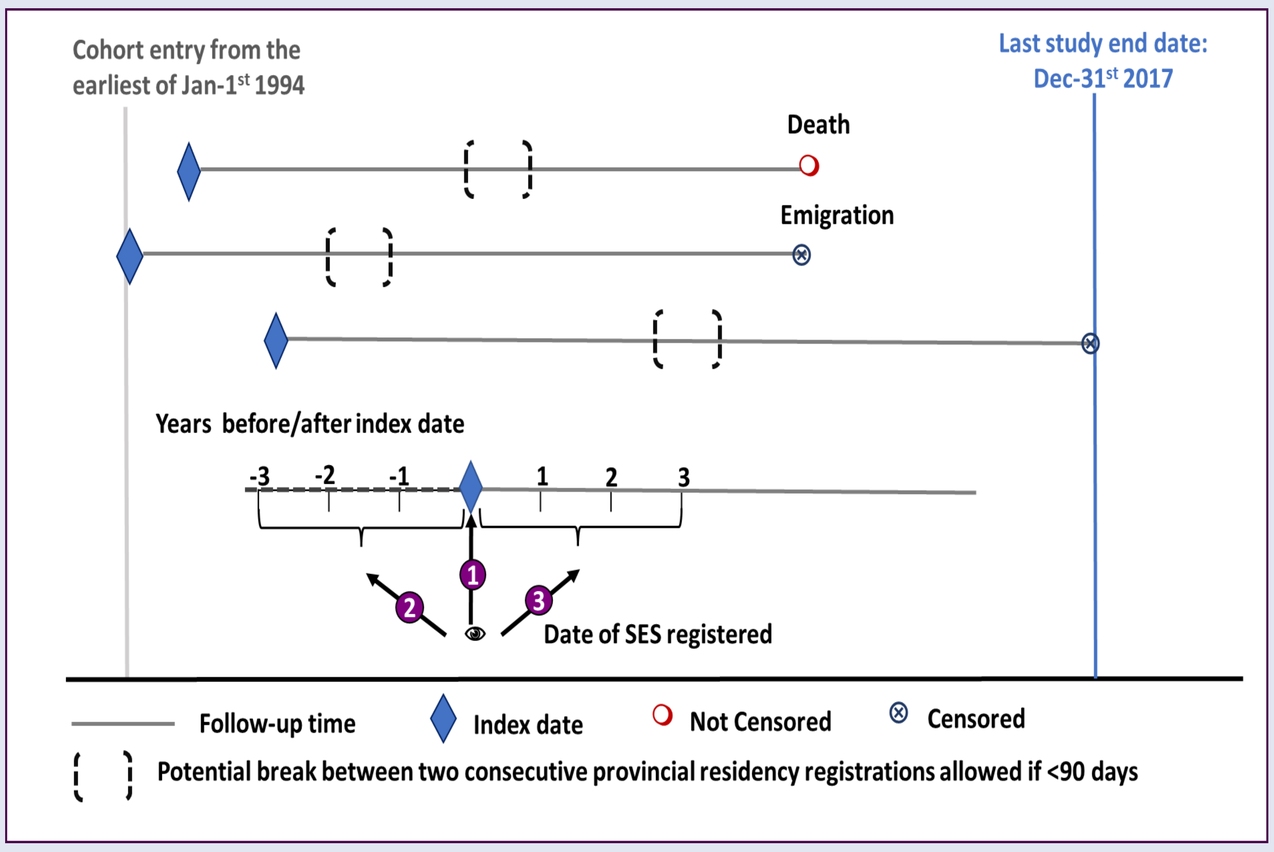


Figure 2 : Overview of the Study Design and Follow-up time.

- SES within +/-3 years of the index date using postal codes linked to census information to estimate neighbourhood-level average household income.
- Cox proportional hazards regression was used to assess the association of SES-quintiles with all-cause mortality, adjusted for: sex, age and calendar year at the index date, and the Charlson Comorbidity Index (based on the year pre-index date).

RESULTS

Table: Characteristics of the study cohort including incident onset MS cases in British Columbia, Canada (1994-2017).

	Total (N=12,126)
Sex, n (%)	
Women	8,803 (72.6)
Age at index date, years, mean (SD)	43.8 (13.8)
Index calendar year, n (%)	
1994-1999	3,252 (26.8)
2000-2005	3,235 (26.7)
2006-2011	3,064 (25.3)
2012-2017	2,575 (21.2)
Follow-up from the index date to study end, years, mean (SD)	10.8 (6.7)
Charlson comorbidities Index, n (%)	
0	9,015 (74.3)
1	2,112 (17.4)
≥2	999 (8.2)
Filled a DMT prescription (1996-2017), n (%)	3,175 (26.2)
SES at the index date, quintiles, n (%)	
1 Lowest (most deprived)	2,232 (18.4)
2	2,339 (19.3)
3	2,540 (20.9)
4	2,633 (21.7)
5 Highest (least deprived)	2,382 (19.6)

Figure 3 : SES and others factors associated with mortality risk in MS.

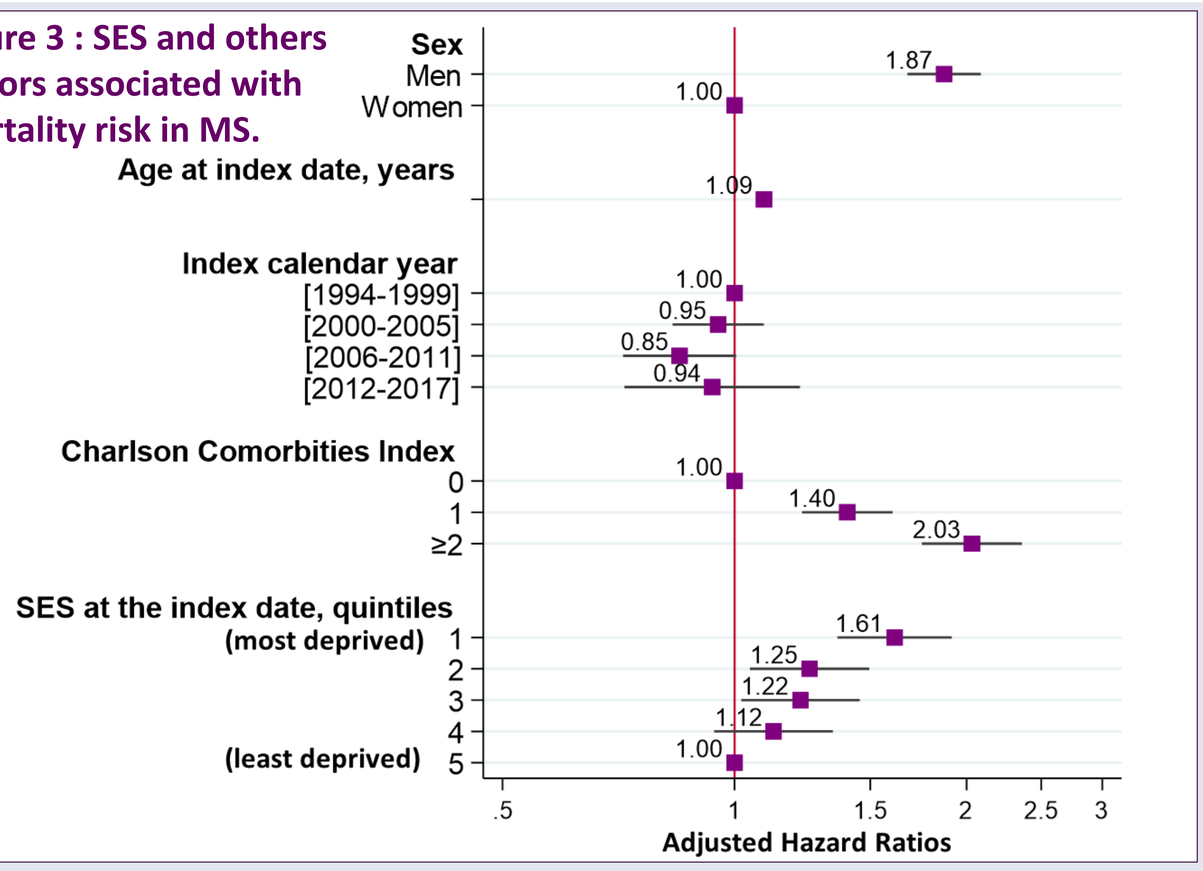
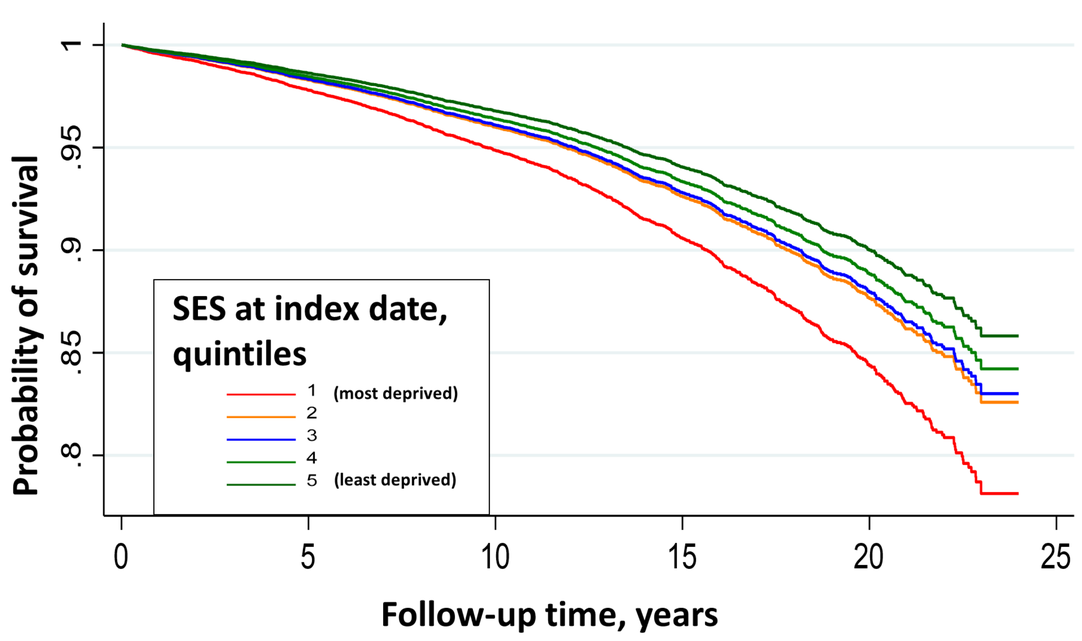


Figure 4: Kaplan-Meier curves: Association between SES and mortality risk in MS (from adjusted multivariate Cox proportional model).



CONCLUSION

- A lower SES was associated with higher mortality risk in MS.
- The all-cause mortality hazard also exhibited a clear gradient across SES quintiles.
- Further studies are needed to understand this association including the impact of specific comorbidities and DMT exposure.

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