



Centre d'Esclerosi
Múltiple de Catalunya

Cambio de siglo en Neurología: del martillo de reflejos a la terapia personalizada

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Fundación España Salud. Cardona, July 2023

Disclaimer

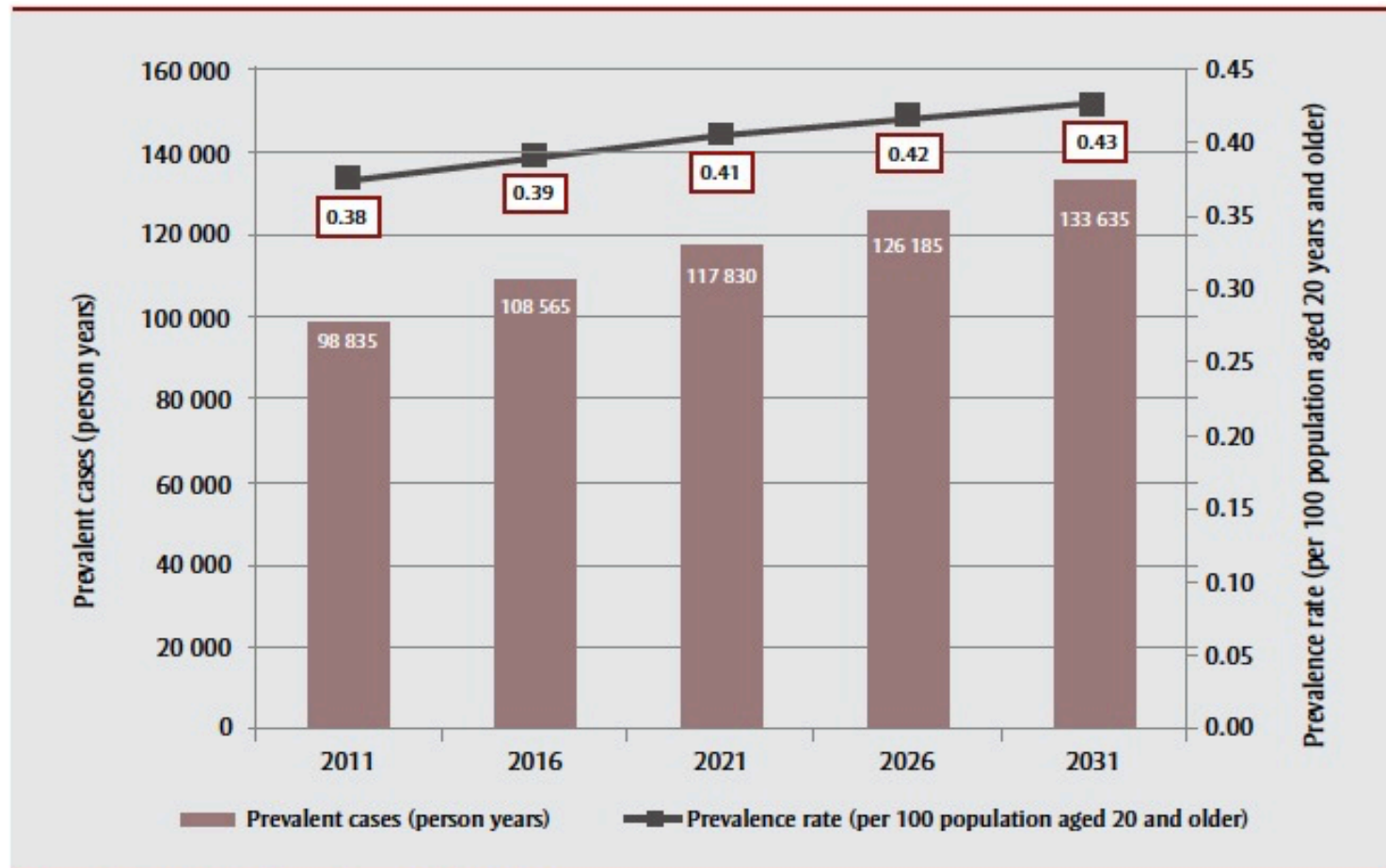
Dr. Montalban has received speaking honoraria and travel expenses for scientific meetings, has been a steering committee member of clinical trials or participated in advisory boards of clinical trials in the past 3 years with Biogen Idec, Merck Serono, Genentech, Genzyme, Novartis, Sanofi-Aventis, Teva Pharmaceuticals, Roche, Celgene, Actelion, Mylan and BMS.



Multiple sclerosis is an uncommon disease

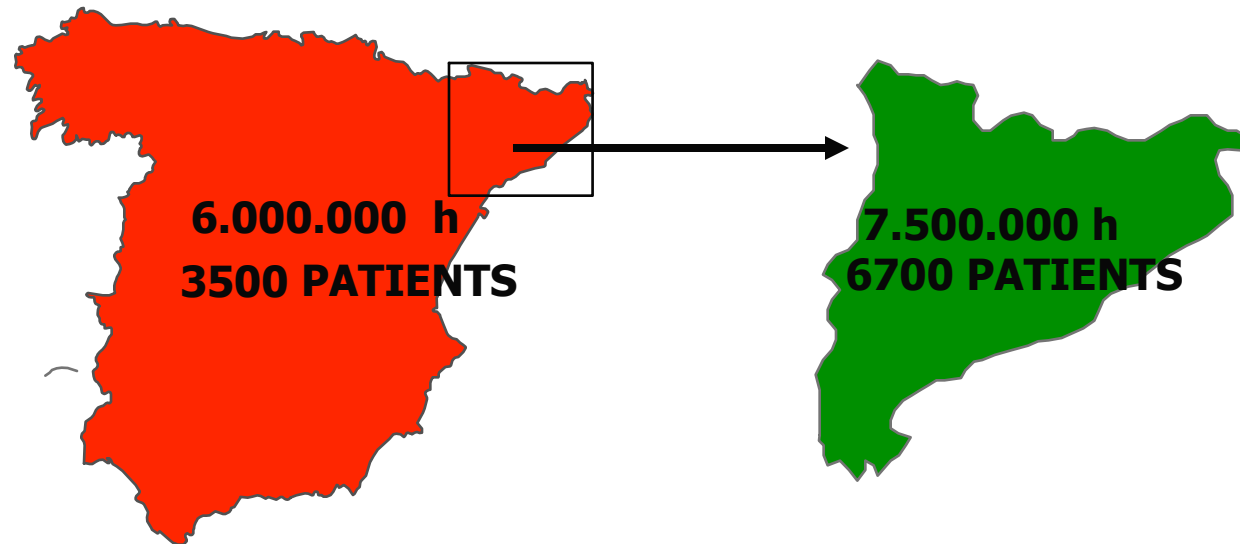


POHEM-Neurological projected multiple sclerosis prevalence count (person years) and rate, population aged 20 years and older, both sexes, Canada, 2011–2031



Abbreviation: POHEM, Population Health Model.

PREVALENCE OF MS



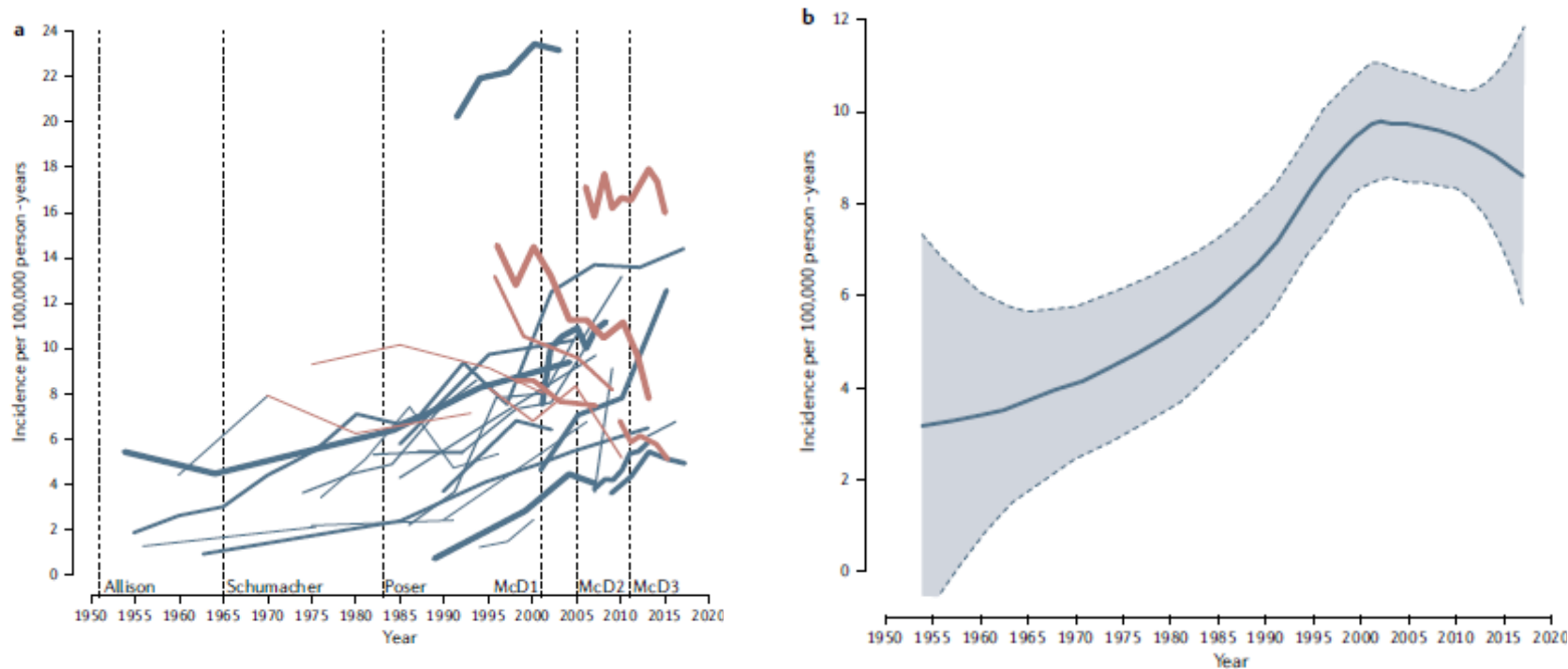
* Bofill et al. JNNP 1995: 58 /100.000

* Otero , Bofill et al. MSJ 2012: 91/100.000

↑
80%

Increasing MS incidence?

Global Incidence trends in MS

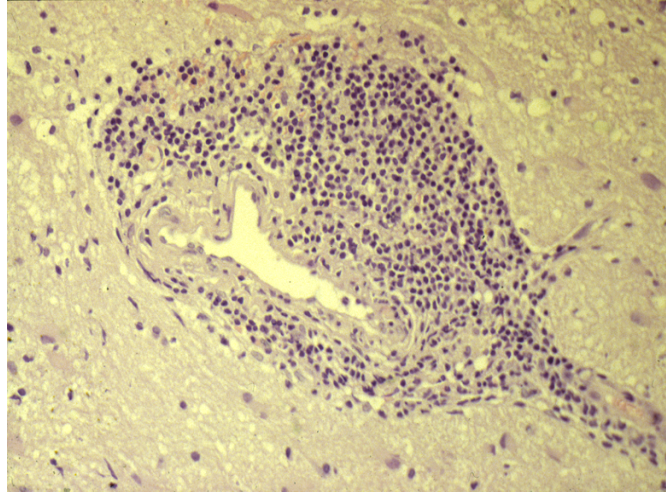


Increase in incidence from the mid-1950s up to year 2000 and stable after

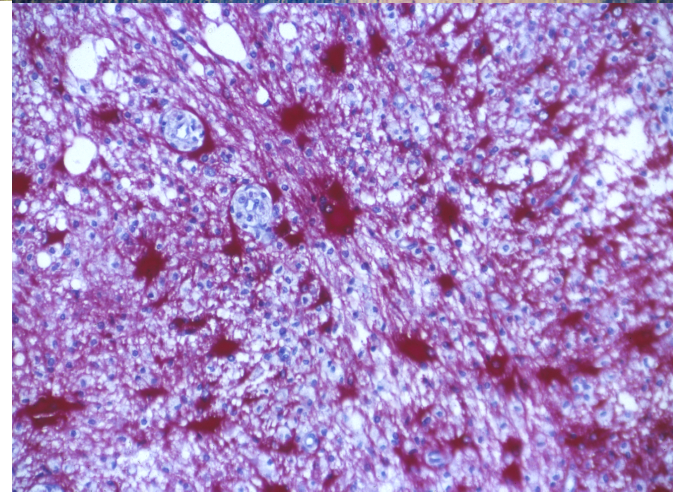
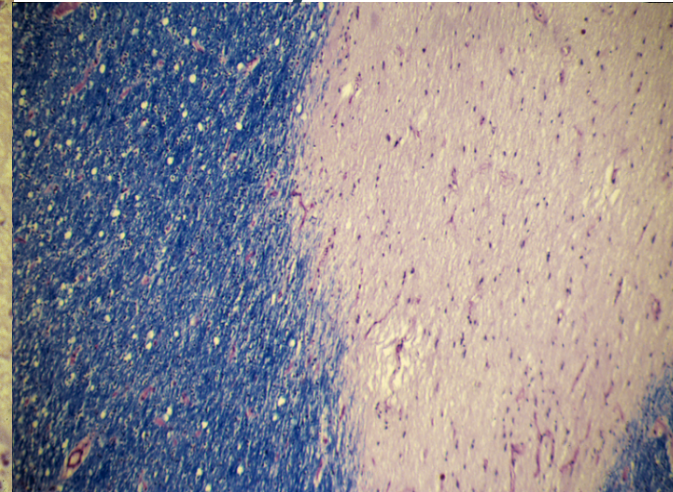
Multiple sclerosis is a pure demyelinating
disease without axonal injury

Pathology of multiple sclerosis

Inflammation

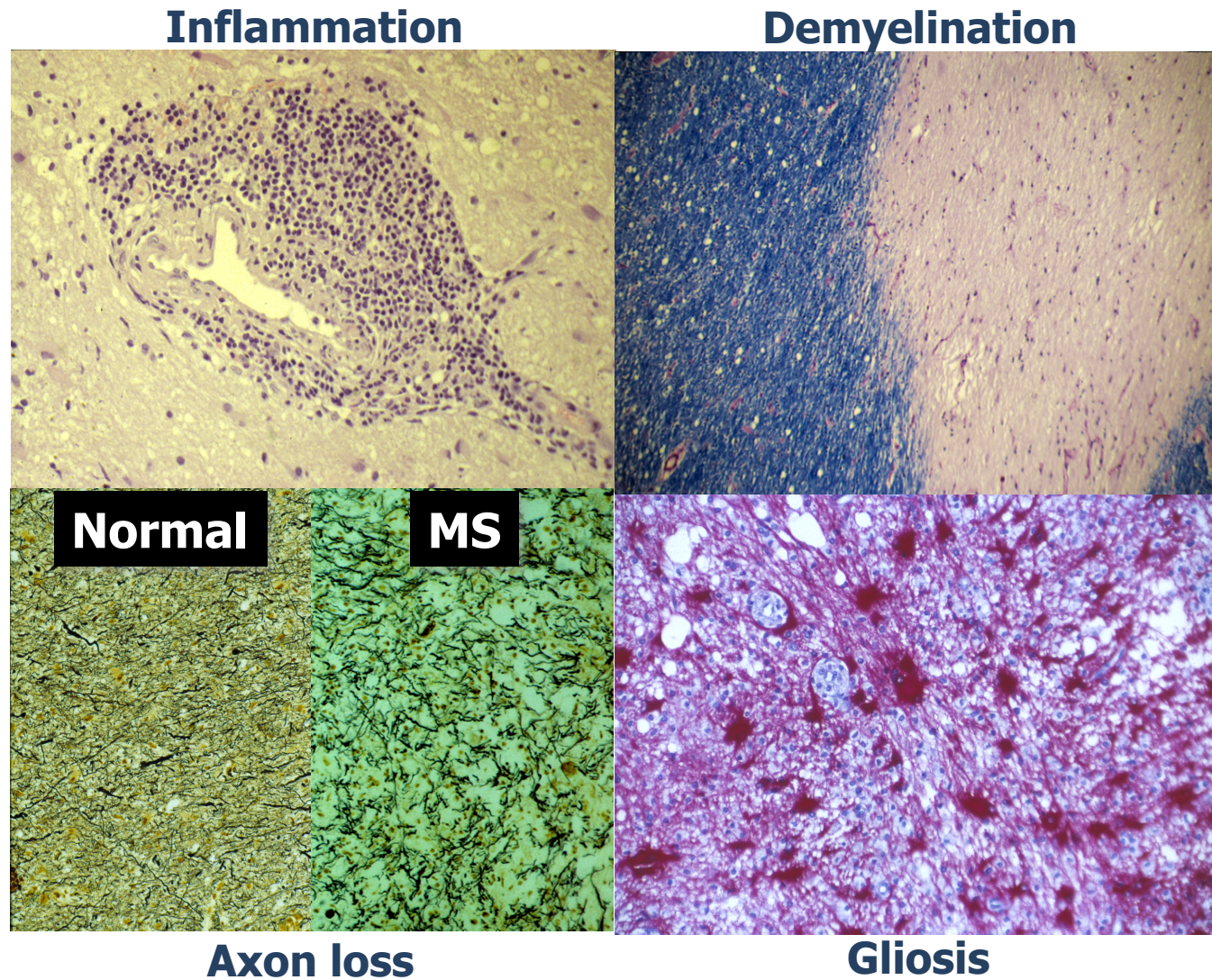


Demyelination

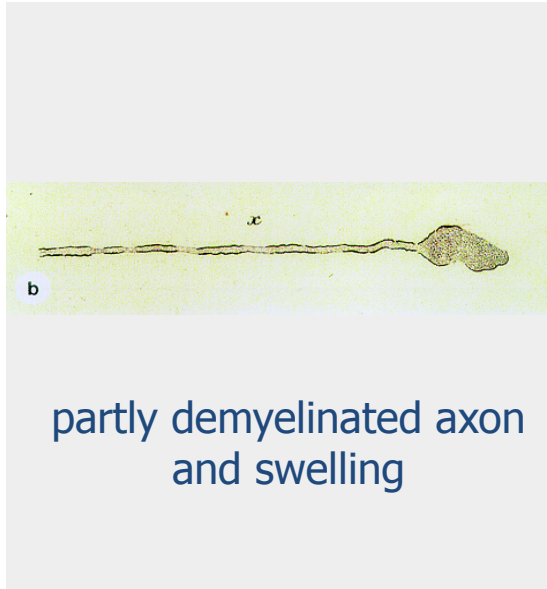


Gliosis

Pathology of multiple sclerosis



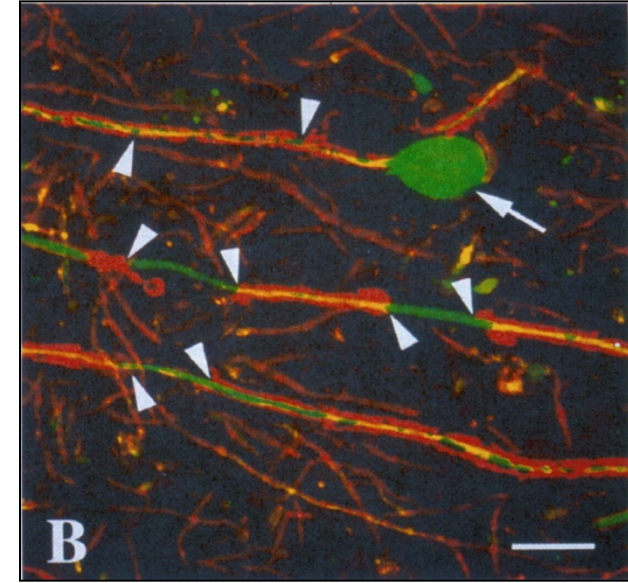
Irreversible axonal damage occurs early in MS



Frommann, 1878



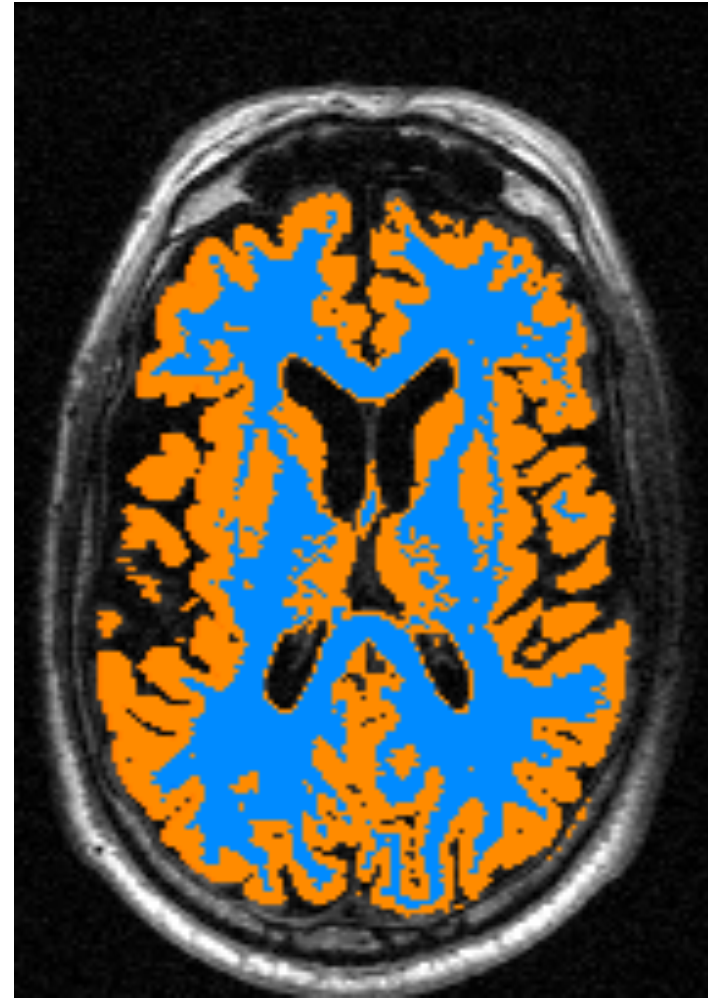
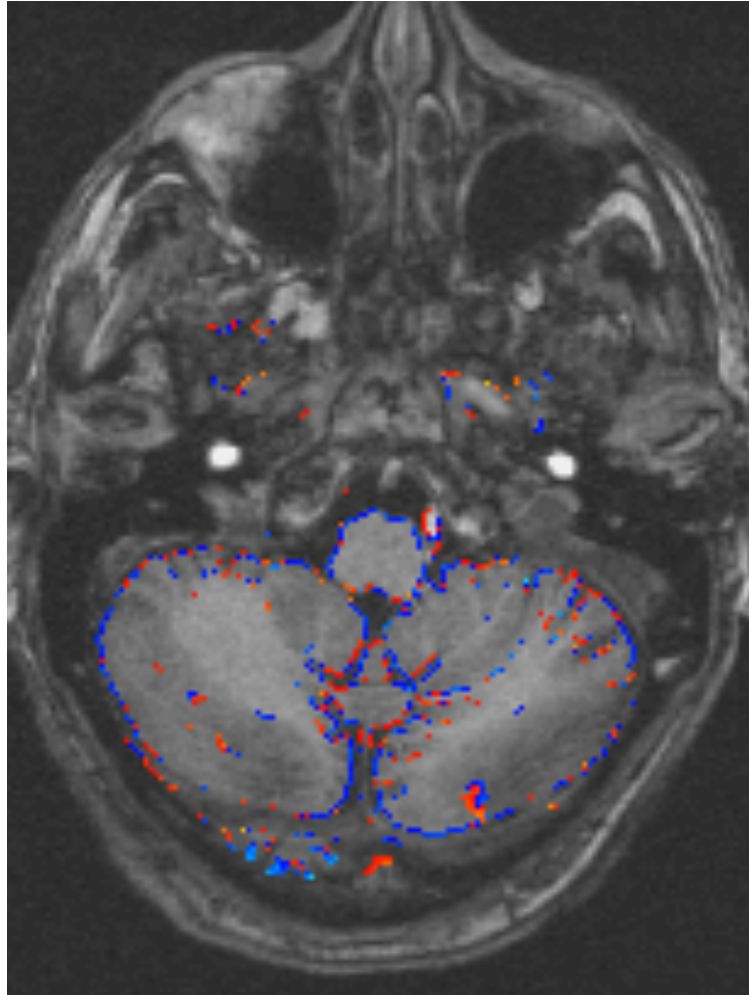
Doinikow, 1915

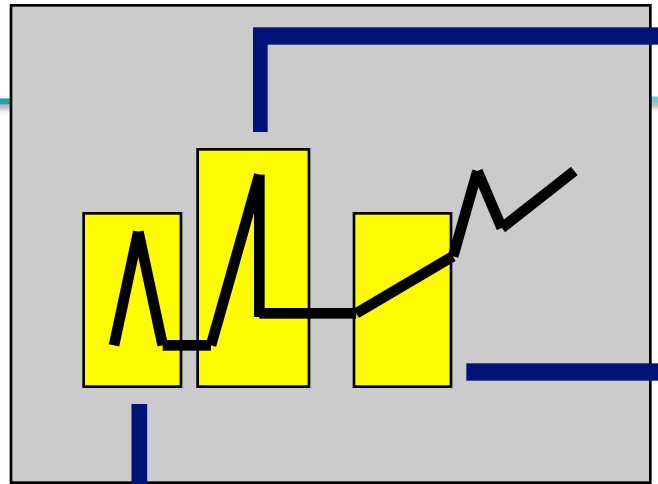


Trapp, 1998

Frommann, 1878 (With courtesy of Prof. W. Brück); Doinikow B. D Zeitschr Nervenheilkunde 1915; Trapp BD. NEJM 1998

Measurement of atrophy





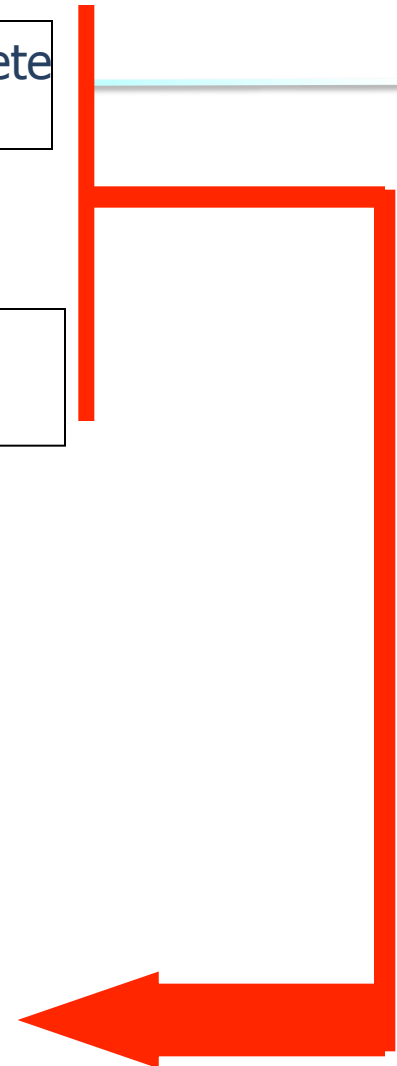
Relapse with incomplete recovery

Progression without relapses

Relapse with complete recovery



50% are unable to walk unaided at 15 years

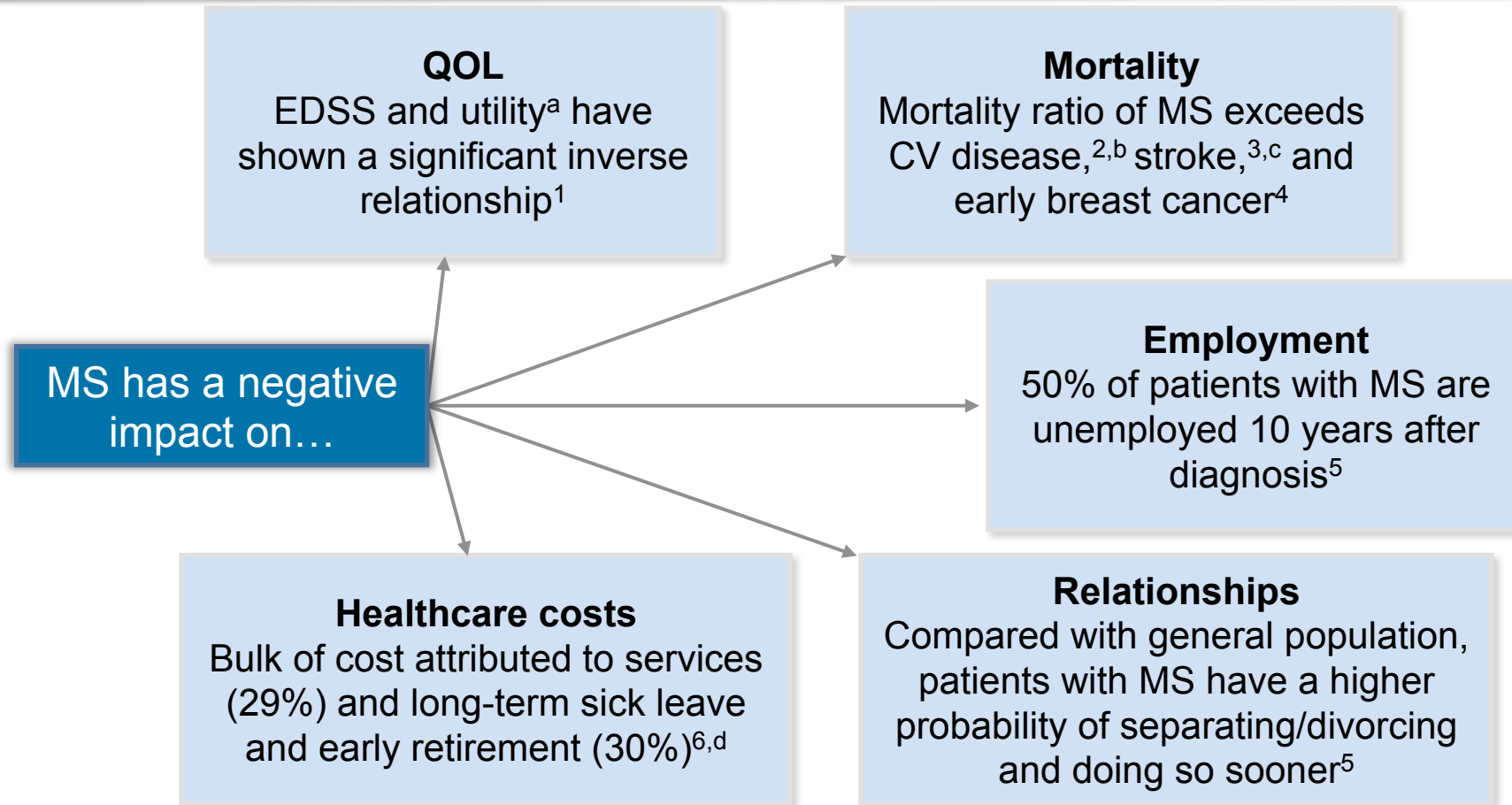


Multiple sclerosis is one of the most frequent causes of neurological disability in early to middle adulthood

2 million affected individuals



MS is a disabling disease...



CV=cardiovascular; EQ-5D=EQ-5D=EuroQol 5-Dimension questionnaire.

1. Orme M et al. *Value Health*. 2007;10:54-60.
2. De Marco R et al. *Diabetes Care*. 1999;22:756-761.
3. Petty DW et al. *Mayo Clin Proc*. 2005;80:1001-1008.
4. Hoening MJ et al. *Int J Radiat Oncol Biol Phys*. 2006;64:1081-1091.
5. Pflieger CC et al. *Mult Scler*. 2010;16:121-126.
6. Berg J et al. *Eur J Health Econ*. 2006;7 (suppl 2):S75-S85.

- a. Utility measures derived from EQ-5D
- b. In patients with type 2 diabetes
- c. In patients with valvular heart disease in Olmsted County, Minnesota
- d. MS patients with EDSS ≥ 6.0