

## THE FIRST 10 YEARS WITH MULTIPLE SCLEROSIS

### The longitudinal course of daily functioning

Heleen Beckerman, Jiska Kempen, Dirk Knol, Chris Polman,  
Guus Lankhorst, Vincent de Groot

Department of Rehabilitation Medicine  
VU University Medical Center, Amsterdam



## The 10-year course of daily functioning

### Aim

to determine the 10-year course of daily functioning and  
the rate of change in an incident cohort of 156 patients with MS

© Randy Hatzenberg  
ghatzenberg.com



"All day long, I have to be polite to my boss, coworkers  
and customers. If you really love me, you'll let me be rude to you!"

### Domains of interest

neurological deficits  
physical functioning  
cognitive functioning  
mental health  
social functioning



## MS cohort

### Participants

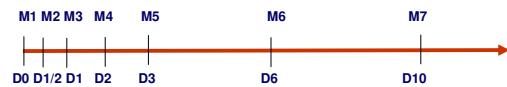
- 156 patients with definite MS
- recruitment period 1998-2000
- definite diagnosis according to Poser criteria
- recent diagnosis (< 3 months)
- incidence cohort of all consecutive adult patients

Age	37.1 (29.6-45.2)
Females	64.7%
EDSS	2.5 (2.0-3.0)
Relapse Onset	82.1%

Median, IQ

## Study design

Ongoing longitudinal cohort study FuPro-MS



M= follow-up measure; D = definite MS (in years)

de Groot V et al, Mult Scler 2005



## The 10-year course of daily functioning

### Daily Functioning Outcome Measures

neurological deficits  
physical functioning  
cognitive functioning  
mental health  
social functioning

EDSS (0-10)

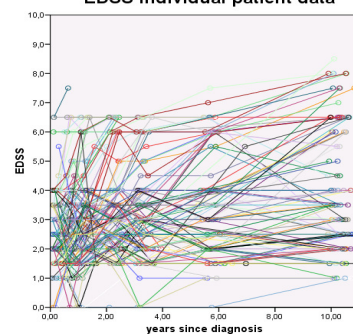
SF36 (0-100)

FIM (0-100)

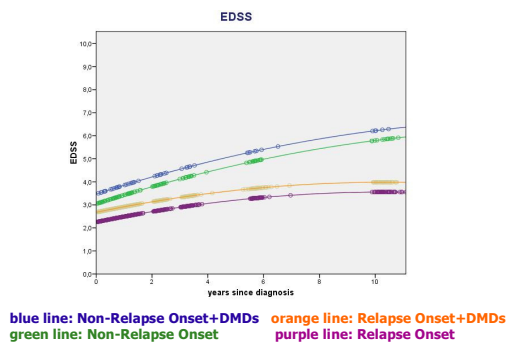


## neurological deficits

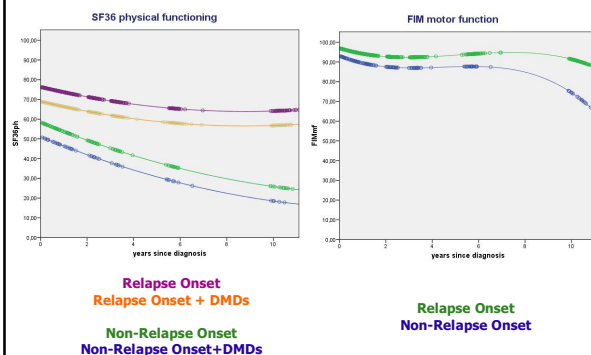
### EDSS individual patient data



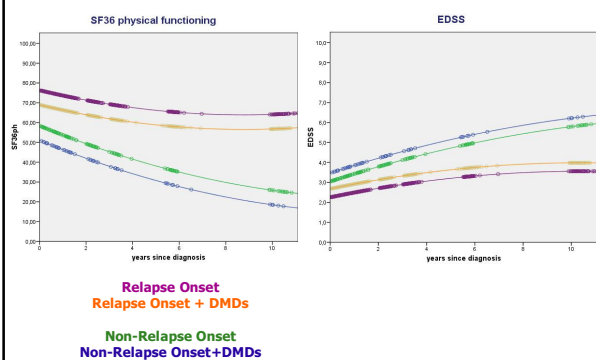
## neurological deficits



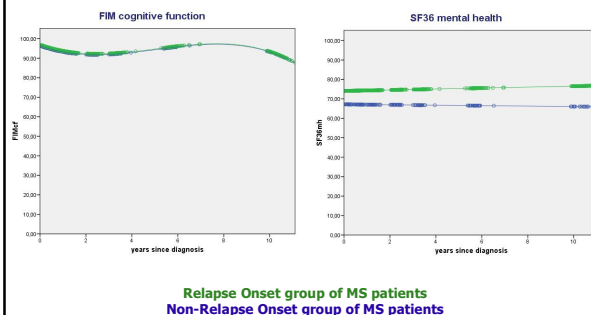
## physical functioning



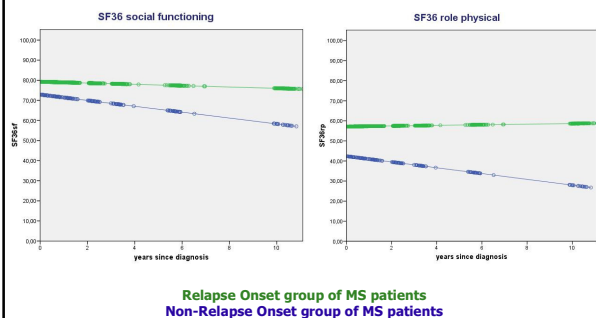
## neurological disability and physical functioning



## cognitive functioning and mental health



## social functioning



## The 10-year course of daily functioning Conclusions

- More **pronounced declines** in **physical functioning** than in cognitive and social functioning
- **Non-linear** worsening of neurological disability and physical functioning, dependent on type of MS.
- **Cognitive and social functioning** worsened significantly over time with the same accelerated rate of change in RO and NRO groups
- Influence of **DMDs** on the time course of daily functioning could not be demonstrated

## Acknowledgements

The FUPRO-MS project 'Long-term prognosis of functional outcome in neurological disorders', was supported by

*Dutch MS Research Foundation (05-570 MS)*

Netherlands Organisation for Health Research and Development (ZonMw 1435.0020)

*Netherlands Organisation for Scientific Research (NWO 940-33-009)*

Fonds NutsOhra (SNO 0601-68)

**Correspondence to**  
h.beckerman@vumc.nl

**FuPro**  
CVA MS RTI

stichting  research

 **ZonMw**

 **fonds NutsOhra**  
SNO 0601-68

**VUmc**  VU University  
Medical Center  
Amsterdam

 **MS Center Amsterdam**

## The 10-year course of daily functioning

**VUmc**  VU University  
Medical Center  
Amsterdam