

Survival time tool to guide care planning in people with dementia

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Study objective and summary result

The present study aimed to develop survival prediction tables for patients newly diagnosed with dementia. The product were tables that predicted 3-year survival with good accuracy.

What is known and what this paper adds

When a patient is diagnosed with dementia, clinicians can assist the patient and the patient's family through discussions about the prognosis. This study resulted in a simple tool that can facilitate such discussions by providing accurate survival predictions.

Participants and setting

The investigators used data from 50,076 individuals with dementia diagnoses (59.4% female; median age at diagnosis, 81.6 years; interquartile range, 76.5–86.0 years) who were added to the Swedish Dementia Registry between May 2007 and December 2015. These individuals were drawn from 829 clinics throughout Sweden.

Design, size, and duration

The Swedish Death Registry was accessed for the dates of death of individuals who had died by August 28, 2016. Various Swedish medical registers were accessed to obtain data concerning patient demographics, comorbidity burdens, and medication usage. Cox proportional hazards models were used to identify variables associated with mortality, and the results were used to construct risk tables that predicted 3-year survival probabilities. Harrell's c-index was calculated to assess the tables for discriminative utility.

Primary outcome measures

The primary outcomes were the c-index values for the survival prediction tables.

Main results and the role of chance

By August 2016, 20,828 cohort members (41.6%) had died. The predictors of mortality included older ages, male sex, greater comorbidity burdens, lower baseline cognitive function scores, non-Alzheimer dementia, living alone, and using more medications. The c-index values for the survival

Figure Example survival prediction table for women diagnosed in primary care settings

Women		Charlson Comorbidity Index		
Age	MMSE	0	3	6
Age 85	MMSE = 15	0.69	0.71	0.73
	MMSE = 20	0.70	0.72	0.74
	MMSE = 25	0.71	0.73	0.75
Age 75	MMSE = 15	0.70	0.72	0.74
	MMSE = 20	0.71	0.73	0.75
	MMSE = 25	0.72	0.74	0.76
Age 65	MMSE = 15	0.71	0.73	0.75
	MMSE = 20	0.72	0.74	0.76
	MMSE = 25	0.73	0.75	0.77

MMSE = Mini-Mental State Examination.

prediction tables ranged from 0.70 (95% confidence interval, 0.69–0.71) to 0.72 (95% confidence interval, 0.71–0.73).

Bias, confounding, and other reasons for caution

The Swedish Dementia Registry is estimated to include only 38% of the patients with dementia in Sweden. Some potentially relevant data, such as comorbidity severity data, were unavailable.

Generalizability to other populations

The present study's reliance on data from Sweden may limit the international generalizability of the results.

Study funding/potential competing interests

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