

# Young Onset Dementia in Singapore - Projecting its Prevalence and Cost

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## ABSTRACT

**Background and Purpose** – This study will be the first to project the prevalence and cost of Young Onset Dementia (YOD) in Singapore, in the hopes that the outcome and results published here can be employed by the relevant authorities to formulate new medical treatments and policies aimed towards reducing the burden of disease on YOD patients and society.

**Methods** – A model of the population and cost of YOD was developed using System Dynamics.

**Results** – The total number of YOD patients was projected to increase 129% by 2040. Considering the changes in YOD by severity, the number of severe YOD patients saw the biggest increase in population of 430% from 2010 to 2040. By 2040, under the base-case scenario, the cost of YOD is projected to increase 296% to SGD\$18.7 million. The introduction of an incidence policy will reduce the

incidence rate (progression from intact to mild dementia) by 15%. Correspondingly, the total number of YOD patients is projected to decrease 5.9% by 2040. The cost of YOD, under the influence of the policy is also projected to decrease 5.3% from SGD\$18.7 million to SGD\$17.7 million by 2040. The implementation of a combined policy that aims to reduce both the incidence rate and progression rate, the total number of YOD patients is projected to decrease 5.9% in 2040. Significant results are seen for the cost of YOD - the cost of YOD is projected to decrease 6.6% by 2040.

**Conclusion** – The robust projections with uncertainty bounds placed around the projections will help policymakers to make more informed plans within a reliable boundary and avoid the likelihood of over or under-building health and social care services for YOD patients and their caregivers.