

## **Schonberg index to Predict up to 9-year Mortality of Community-Dwelling Adults Aged 65 and Older - Validation for use with Electronic Medical Records in Israel**

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Some medical interventions such as cancer screening, statins for prevention of cardiovascular disease, and intensive glycemic control have a time lag before patients may experience benefit. Patients with limited predicted life expectancy will probably not live long enough to experience the life-prolonging benefits of these interventions, but they are still at risk for the harms of these interventions. Estimating life expectancy is important for tailoring appropriate treatment, both during the clinical encounter, and also to prevent overdiagnosis and overtreatment when applying quality measures.

Clalit Health Services (CHS) insures and provides healthcare to 52% of Israel's population (more than 4,300,000 beneficiaries). The CHS information system is comprehensive, comprising socio-demographic data; information on health care services utilization, drug purchases, laboratory and imaging tests, and an extensive, systematically validated, registry of chronic diagnoses.

Aiming to estimate cancer overscreening in CHS members with limited predicted life expectancy, we used a modified version of the validated Schonberg mortality index, originally developed using self-reported data from the US National Health Interview Survey. Adults with >50% risk of mortality within 10 years, based on their health score, are considered to have an estimated life expectancy <10 years. The index includes 11 items, 8 of which were directly extracted from the CHS data warehouse (age, sex, BMI, hospitalizations, smoking status, history of COPD, diabetes and cancer). Subjective questions were proxied by available data: "difficulty walking several blocks" was replaced by a positive Get up and Go test, a Norton score >16, or need for support at home. "Need help handling routine chores" was replaced by elderly nursing eligibility, or history of a functional limitation. Perceived health was replaced by the Charlson score, which has been previously shown to correlate with perceived health.

Using the modified index, we found that 11.6% of adults 65-74 have <10 years life expectancy. This is consistent with US data that found that 15.5% of adults 65-74 have <10 year life expectancy.

In order to validate the modified Schonberg Index, and as the complete data set described above is only available since 2013, three year mortality trends will be compared to those of the original cohort. Further modifications of the index will be made, utilizing available data since 2007, where one half of the population will be used as a model, and the other for validation of 10 year mortality rates.