

# Life expectancy tool may improve quality of life for patients with dementia

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A mortality prediction model for older adults with dementia may help

clinicians frame discussions with patients and their families relating to end-of-life care, such as at-home support and nursing homes.

Additionally, the model may help physicians determine if the patients should continue with routine cancer screening or discontinue medications, like insulin for those with type 2 diabetes—interventions that may harm more than help.

In their study, publishing in *JAMA Internal Medicine* on Sept. 26, 2022, researchers led by UC San Francisco followed 4,267 participants with probable dementia, who were not residents of nursing homes, in which 81% of them had died by the end of the follow-up period.

A prediction model was developed based on an individual's age, sex, body mass index, [chronic conditions](#), smoking status, ability to walk several blocks and engage in vigorous activity. They also included ability to perform activities of daily living, such as attending to personal care, eating and getting in and out of bed, as well as instrumental activities of daily living, like meal preparation, grocery shopping, managing medications and money. The model proved accurate in determining who lived and who died over a period of up to 10 years in approximately 75% of cases.

The participants, whose average age was 82 and of whom 12% were Black and 69% were female, had been enrolled in the Health and Retirement Study, a nationally representative survey of adults over 50. Their diagnosis of probable dementia was determined by a high accuracy algorithm. Findings were validated in a separate group of individuals enrolled in the National Health and Aging Trends Study.

## **Model may prompt conversations about financial resources, treatment preferences**

The prediction model can help guide discussions about what [financial resources](#) are needed to support the individual with dementia, said first author W. James Deardorff, MD, a geriatrician at UCSF and the San Francisco VA Health Care System.

"An estimate of an individual's prognosis can be an important factor in financial planning for families, particularly as many people with dementia need increased support at home and are ultimately admitted to nursing homes," he said, noting that prior studies have shown the average survival time from time of diagnosis as between three to 12 years.

"Additionally, individuals with limited life expectancy may wish to focus on quality of life and being comfortable, rather than trying to live as long as possible. This may lead them to forego certain interventions, such as cardiopulmonary resuscitation in the event of a cardiac arrest. Information about an individual's prognosis can help inform conversations about certain medical treatment preferences," he said.

Among the factors linked with mortality are older age, male sex, body mass index below 18.5, former or current smoking status, chronic diseases, difficulties walking several blocks, and performing activities of daily living and instrumental activities of daily living.

## **Colonoscopies, insulin may no longer make sense**

Of note, the authors suggest that the model may help guide discussions between physicians and patients and their families about cancer screening, which may flag slower-growing malignancies that might not be life-threatening for 10 to 15 years.

"For individuals with limited life expectancy, cancer screening, such as colonoscopy, may cause more harm—such as pain, bleeding—without living long enough to experience a mortality benefit," said Deardorff.

Patients who also have type 2 diabetes may be advised to reduce or discontinue insulin, said senior author Sei Lee, MD, professor in the Division of Geriatrics at UCSF and senior scholar for the San Francisco VA Quality Scholars fellowship. "In younger patients, tight glycemic control reduces the risk of vision loss and kidney failure 10 years down the road. But in older patients these benefits may not be realized, and the risks of low sugars resulting from too much insulin can be very serious."

In conjunction with the mortality [prediction model](#), the researchers have designed an individualized mortality risk calculator for patients with dementia, available online at ePrognosis. Other mortality calculators and risk-versus-benefit cancer screening calculators are available, together with videos to assist physicians in their conversations with patients about life expectancy and goals of care.

**More information:** W. James Deardorff et al, Development and External Validation of a Mortality Prediction Model for Community-Dwelling Older Adults With Dementia, *JAMA Internal Medicine* (2022). DOI: [10.1001/jamainternmed.2022.4326](https://doi.org/10.1001/jamainternmed.2022.4326)

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