

# Taking multiple medicines could send older Australians into 'spiral of decline'

February 2 2016

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Using multiple medications is an unfortunate reality for many older Australians, however a new Monash University study has found that polypharmacy, which is the simultaneous use of five or more medications, can trigger a decline into frailty and death.

With nearly half of [older people](#) taking one or more unnecessary medications, understanding the health implications of polypharmacy is a vital step in the quest to improve health outcomes for the older community, and geriatric health management practices.

The research, led by Monash's Centre for Medicine Use and Safety, in collaboration with the University of Sydney, followed the wellbeing of a cohort of community-dwelling men aged 70 years and over. Increases in the Drug Burden Index (DBI), which measures exposure to sedative and anticholinergic medications, were associated with a greater risk of mortality.

Additionally, higher DBI exposure was also linked with transitions from a robust state, to various stages of [frailty](#), and finally death.

Frailty, which the study defines as a condition characterised by a "limited ability to respond to stressors resulting from cumulative decline across multiple systems", occurs in a number of stages, ranging from robust, to pre-frailty to frailty. This research is among the first to assess the impact of polypharmacy on frailty and death in older men across three time points.

Co-author Associate Professor Simon Bell described frailty as a dynamic process, which can lead to a "spiral of decline" if the causes remain unaddressed.

"The development of frailty puts people at greater risk of additional health problems and worsening disability. This decline can lead to additional medications being prescribed, which perpetuates the spiral," Associate Professor Bell said.

By assessing the necessity of prescriptions, researchers are hopeful that reducing or deprescribing DBI related medications will lead to greater quality of life and fewer hospitalisations for older Australians, who might otherwise be at risk of transitioning into one of the stages of frailty.

"Our findings highlight the importance of weighing up the risks and

benefits of taking multiple medications. Unlike many other factors that can play a role in frailty, medication use is potentially modifiable" Associate Professor Bell said.

Co-author Dr Danijela Gnjdjic of the Faculty of Pharmacy, University of Sydney said the findings are significant given the high numbers of older people who take multiple medications.

"It's especially important to note that a higher drug burden at baseline was associated with increasing risk of frailty among high-functioning men within just two years," Dr Gnjdjic said.

The study, which was funded by the National Health and Medical Research Council Cognitive Decline Partnership Centre and published in *Journal of the American Geriatrics Society*, found that each additional medication was associated with a 22 per cent greater risk of transitioning from a robust state to death.

**More information:** Kris M. Jansen et al. Effects of Changes in Number of Medications and Drug Burden Index Exposure on Transitions Between Frailty States and Death: The Concord Health and Ageing in Men Project Cohort Study, *Journal of the American Geriatrics Society* (2016). [DOI: 10.1111/jgs.13877](https://doi.org/10.1111/jgs.13877)

Provided by Monash University

Citation: Taking multiple medicines could send older Australians into 'spiral of decline' (2016, February 2) retrieved 6 May 2024 from <https://medicalxpress.com/news/2016-02-multiple-medicines-older-australians-spiral.html>

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