

## Predicting Disability and Death After the ICU



Although an increasing number of older adults are surviving visits to hospital intensive care units (ICUs), many emerge with disabilities such as impaired walking and poor overall function. Interestingly, a Yale School of Medicine study has shown that the level of disability the year before an ICU visit can predict post-ICU disability and death.

Researchers found that there were three distinct functional trajectories (or levels of disability) in the year before and after ICU admission. They determined the probability of an older person transitioning to a worse functional trajectory after an ICU admission, and also identified factors associated with death within one year of being admitted to the ICU.

"We calculated the probability of an older person transitioning to a worse functional trajectory in the ICU setting," said first author Dr. Lauren Ferrante, a senior fellow in the Pulmonary, Critical Care, and Sleep Medicine programme at Yale. "We found that more than half of older persons transition to a worse functional trajectory or die within 30 days of admission." The findings are published online in *JAMA Internal Medicine*.

Dr. Ferrante and colleagues examined 291 participants who were admitted to an ICU during the 14+ years of the larger Precipitating Events Project (PEP) longitudinal study of adults aged 70 and older in Greater New Haven, Connecticut (USA). All study participants had monthly assessments of function, during which they were asked if they needed help to complete activities of daily living, such as bathing and dressing; instrumental activities of daily living, such as meal preparation and taking medications; and mobility activities, such as walking a quarter mile.

The Yale researchers noted that the pre-ICU functional trajectories of mild-to-moderate and severe disability were associated with more than double and triple the risk of death within one year of ICU admission, respectively, compared to those with minimal disability.

The results indicate the need for a focus on maintaining function in older adults in the ICU and after discharge, and for new rehabilitation strategies for these patients, particularly those who have transitioned to a worse functional trajectory, according to Dr. Ferrante, who is also a research fellow in the Geriatric Clinical Epidemiology and Aging-Related Research programme at Yale. "Our results also suggest that older adults with severe disability in the year before ICU admission may want to consider a palliative approach while in the ICU."

Co-authors of the study are Dr. Margaret Pisani, Dr. Thomas Gill, Terrence Murphy, Dr. Evelyne Gahbauer, and Linda Leo-Summers. The research was conducted at the Yale Pepper Center/Program on Aging.

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