

Clinical and Medical Case Reports

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Functional loss and gain in older adults: Insights from data analytics

Mahyar Taghizadeh Nouei, PhD*, **Manaf Zargoush, PhD¹**, **Somayeh Ghazalbash¹**, **Farrokh Alemi, PhD^{2,3}**, **Cari R Levy, MD⁴**¹DeGroote School of Business, McMaster University, Hamilton, Canada²Department of Health Administration and Policy, George Mason University, Fairfax, Virginia³District of Columbia Veterans Administration Medical Center, Washington⁴Veterans Administration Eastern Colorado Health Care System

Very little information is available to guide patients, providers, families and policy makers regarding expectations for the sequence of, likelihood and time to functional loss and recovery of the activities of daily living (ADLs). Moreover, without benchmarks to gauge the time to improvement or decline in the functional abilities, it is difficult to assess the effectiveness of the intervention for recovery of functional loss. Using a combination of various machine learning algorithms and 1.8 million observations which were collected from 300,000 residents of the US Veteran Administrations Community Living Centers, we provide a data-driven analytical model of functional status change for residents in nursing homes. Particularly, we analyze the likelihood, number of days until, and sequence of functional decline, recovery, and death after each ADL. Our cross-validated predictions are very accurate in majority of cases. We have made all the results available to public through our web calculator www.disabilityforecast.com. Establishing such a patient-centric benchmark is vital to ensuring optimal care for persons in nursing home settings. This information here can help in planning for end-of-life disabilities.

Biography

Mahyar Taghizadeh Nouei, was born on December 8, 1973 in Shemiran, Tehran, Iran. He is a Ph.D of Applied Mathematics-optimal control and optimization at Ferdowsi University of Mashhad, Iran. He received his MSc in Engineering of Information Technology from Tarbiat Modares University and his BSc of Mathematics Applied in Computer in Shahid-Beheshti University, Tehran, Iran. He has involved in several national and regional projects as a System Analyst and Team Leader (ie Core Banking Solutions), and He has taught more than 130 courses for students in Payam-e-Noor University of Tehran province faculty of computer.

m.nouei@yahoo.ca

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