## P27: From Development to Implementation: A Novel Clinical Post-Fall Assessment Tool in Long-Term Care

**Author:** Diana Cruz Santiago

**Objectives:** The study aims to: (i) develop a clinical post-fall assessment tool for older adults in long-term care (LTC) settings; (ii) validate the tool's effectiveness and usability; and (iii) assess the practical application and impact of the tool within LTC units.

**Methods:** The three-phase study employed a sequential exploratory mixed-Methods framework. Phase I: Tool development comprised a comprehensive literature review and a qualitative study of semi-structured interviews with nine healthcare professionals. Phase II: Validation adopted an embedded design, where qualitative perceptions from 18 professionals through two focus groups informed iterative improvements and a quantitative questionnaire (a Likert scale and open-ended questions) assessed the tool's effectiveness and user experience. Phase III: Implementation encompassed a retrospective and prospective longitudinal study, focusing on fall incidence, communication efficacy, and usability, to gauge the tool's real-world impact.

**Results:** From Phase I, a mnemonic checklist was developed and structured into five sections: patient characteristics, fall description, primary and secondary assessments, and post-fall management—selected for clinical practicality. In Phase II, focus group insights prompted refinements to the tool, while follow-up questionnaires indicated the tool's substantial utility in enhancing practice (65%), communication (69%), usability (71%), and satisfaction (76%). Responses highlighted key challenges such as resistance to change and workload, contrasting with facilitators like availability and uniformity. The need for training and a period of adaptation were viewed as factors that could compromise use. In Phase III, the tool showed greater utility for identifying fall-related complications and managing falls, with a notable preference among all nurses, regardless of experience level, particularly those with less than 5 years of experience.

Moreover, a comparison of falls over two three-month periods—one without the tool and one with it—revealed that the tool enhanced communication between doctors and nurses. This improvement led to quicker notification of doctors and more efficient transfers of patients to the emergency room when necessary.

**Conclusions:** Our tool aims to improve comprehensive post-fall assessments for older adults in LTC settings, facilitating improved communication and decision-making among healthcare professionals. With its usability and practical design, this mnemonic checklist shows great potential for wide adoption in enhancing patient care practices.

## P28: Promoting Caregiver Wellbeing through Caregiver Literacy

**Author:** Elaine Jurkowski

**Objectives:** Caregiving can be a daunting and isolating experience, especially when supporting a loved one with Dementia The Objectives of this intervention was to provide a series of educational sessions available to caregivers to help educate them on strategies to enhance their well-being and interactions with a loved one living with dementia.

**Methods:** The Caregiver Literacy Series is a compilation of 18 webinar sessions with therapeutic workbooks

designed to help caregivers understand the nature of specific dementia-related issues and designed to help the caregiver build some personal strategy to help better manage their caregiving role. Based upon a Framework that uses the Perceived Self-Efficacy Theory, each webinar provides educational materials, and resources and is designed to help build an action plan for the caregiver. Topics include "What is Caregiving?", "Caregiving and Compassion Fatigue and Self-Care" and topics address coping and communication strategies. The webinar sessions were administered monthly and semi-monthly to consumers through a local Alzheimer's Association network in the rural Midwest of the United States.

**Results:** Feedback from consumers who have used the materials suggest that the materials have provided some measure of information and helpful educational materials. The workbooks have also been an effective tool to help guide and empower the caregivers.

**Conclusions:** The Caregiver Literacy Series provides some effective and needed materials to help equip caregivers living with a loved one that has Dementia or Alzheimer's disease with some measure of health literacy and empowers them to feel some sense of empowerment and comfort in the process.

## P29: Exploring aging trajectories using neurocognitive age

**Authors:** Élise Roger[1,2], Olivier Potvin[3], Simon Duchesne[3], Yves Joanette[1,2]

1. Research Center of the Montreal Institute of Geriatrics, Montreal, Quebec, Canada
2. School of Speech-Language Pathology and Audiology, Faculty of Medicine, Montreal University, Montreal, Quebec, Canada
3. Department of Radiology and Nuclear Medicine, Faculty of Medicine, Laval University, Quebec City, Quebec, Canada

**Summary:** The aging of the population poses significant challenges in healthcare, necessitating innovative approaches. Advancements in brain imaging and artificial intelligence now allow for characterizing an individual's state through their brain age,'' derived from observable brain features. Exploring an individual's biological age'' rather than chronological age is becoming crucial to identify relevant clinical indicators and refine risk models for age-related diseases. However, traditional brain age measurement has limitations, focusing solely on brain structure assessment while neglecting functional efficiency.

Our study focuses on developing neurocognitive ages'' specific to cognitive systems to enhance the precision of decline estimation. Leveraging international (NKI2, ADNI) and Canadian (CIMA- Q, COMPASS-ND) databases with neuroimaging and neuropsychological data from older adults [control subjects with no cognitive impairment (CON): n = 1811; people living with mild cognitive impairment (MCI): n = 1341; with Alzheimer's disease (AD): n = 513], we predicted individual brain ages within groups. These estimations were enriched with neuropsychological data to generate specific neurocognitive ages. We used longitudinal statistical models to map evolutionary trajectories. Comparing the accuracy of neurocognitive ages to traditional brain ages involved statistical learning techniques and precision measures.

The results demonstrated that neurocognitive age enhances the prediction of individual brain and cognition change trajectories related to aging and dementia. This promising approach could strengthen diagnostic reliability, facilitate early detection of at-risk profiles, and contribute to the emergence of precision gerontology/geriatrics.

**Keywords:** Aging population, brain age, biological age, neurocognitive age, neuroimaging, neuropsychological data, artificial intelligence, cognitive decline, aging trajectories, dementia, geriatrics, precision medicine, longitudinal study, risk assessment, diagnostic reliability