

previously published scales focused on attitudes and beliefs about memory loss and willingness to be screened for MCI. Additionally, six African American respondents participated in semi-structured interviews asking for their perceptions about MCI and willingness to be screened for the condition. All interviews were audio-taped and transcribed. Using inductive content analysis, transcripts were coded by three independent raters, and analyzed for emergent themes. Questionnaire data were summarized as potential barriers to screening, including blame (i.e., blame the person for developing MCI), perception of societal stigma (i.e., perceive societal criticism for developing MCI), support from family and friends for memory screening, and health-related locus of control. These variables were entered into a linear regression model, predicting willingness to be screened for MCI. **Results:** Survey participants ranged in age from 34 to 84 years old; interview participants were between 31 and 85 years old; 57.5% were female. All were African American. A regression analysis of questionnaire data revealed that expectation of societal stigma and lack of support from friends and family for memory screening predicted unwillingness to be screened for MCI ($R^2 = 0.45$, $F(4,67) = 4.17$, $p = 0.004$). Inductive content analysis of transcripts suggested that individuals frequently talked about societal stigma as something others demonstrated. Additionally, participants tended to provide responses about memory loss by giving personal narratives in the context of their relationships with family and friends. **Conclusions:** Efforts to increase African Americans' willingness to be screened for MCI might target social support and stigma related barriers. Findings emphasize the importance of addressing stigma and dispelling stereotypes relating to MCI.

P2-318 **CLOCK DRAWING AS A SCREEN FOR IMPAIRED DRIVING IN AGING AND DEMENTIA: IS IT WORTH THE TIME?**

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Background: Medical and transportation authorities recommend clock drawing as a screening test of driving abilities in older adults. The objective of this study was to assess the usefulness of different clock drawing systems as screening measures of driving performance in healthy and cognitively impaired older drivers. **Methods:** This was a cross-sectional observational study conducted in an academic medical center memory disorders clinic. Participants included 120 older drivers (47 healthy and 75 with cognitive impairment). Clock drawing was measured using 3 different scoring systems, including the 7-point scoring system recommended by the American Medical Association. Driving outcomes included global ratings of safety (safe or unsafe) and the error rate on a standardized on-road test made by a professional driving instructor. **Results:** Clock drawing was significantly correlated with driving score on the road test for each of the scoring systems (r ranged from $-.32$ to $-.23$, $p < .05$). Receiver operator curve analyses, using both upper and lower cut scores for a 7-point clock scoring method, provided confident recommendations regarding the need for formal road testing in only 52% of subjects. **Conclusions:** Although clock drawing performance is associated with driving skills, results from this study indicate that clock drawing has limited utility as a solitary screening measure of driving performance. Consistent with the American Medical Association's recommendation, clock drawing should be used in conjunction with other measures to screen older healthy drivers or drivers with mild cognitive deficits.

P2-319 **COLLECTION OF DATA FOR ELDERLY DRIVERS WITHOUT DEMENTIA DURING SIMULATED DRIVING**

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Background: Cognitive dysfunction caused by some neurodegenerative diseases is associated with an increased risk of traffic accidents. Previous studies have reported inconsistent results for prodromal and early stages of dementia. In the present study, to examine the association between cognitive decline and driving ability in elderly drivers without dementia, driving simulator data were collected from community-dwelling elderly people. **Methods:** The participants were 73 elderly adults including 17 elderly patients who were recruited from the memory clinics. All performed a road-tracking task and a car-following task on a driving simulator (DS) and completed cognitive assessment tasks including measures of general cognitive state, memory, visual attention, and executive function. **Results:** Participant group showed no significant difference on the car-following and road-tracking tasks as compared with the remaining group. However, cognitive performances demonstrated significantly correlated with DS performances. The road-tracking performance was positive correlated with the score on the Trail Making Test-B (TMT-B) and the Stroop Test. The car-following performance was negative correlated with the score on the Mini-Mental State Examination (MMSE) and the Wechsler Adult Intelligence Scale-Third Edition Working Memory Index (WMI). After adjusting by the MMSE or the WMI, the car-following performance was positive correlated with the score on the TMT-B. **Conclusions:** These results indicate that flexibility of visual attention and executive function measured by TMT-B is associated with driving ability in elderly people. As for the car-following ability, differences between individuals with general cognitive impairment and normal elderly adults may mediate this association.

P2-320 **CHARACTERISTICS ASSOCIATED WITH WILLINGNESS TO PARTICIPATE IN TECHNOLOGY-BASED BEHAVIORAL CLINICAL TRIALS**

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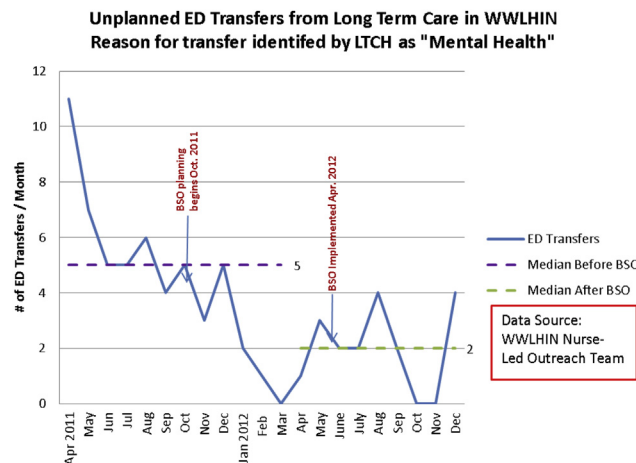
Background: Behavioral prevention clinical trials against cognitive decline could play an important role in reducing incidence of dementia. However, those who volunteer to participate in this type of trial could be high-functioning individuals with very active life styles. This reduces the generalizability of trial results. We conducted a randomized clinical trial where increasing social interactions using computers and webcams could result in improved cognitive functions. Before the trial, we examined characteristics associated with willingness to participate in the trial by distributing surveys in the community as a part of recruitment strategies. **Methods:** 2000 surveys were distributed to retirement communities located in the metropolitan Portland, OR. After a paragraph briefly introducing our behavioral clinical trial, we asked (1) whether the subject is interested in participating in the trial (yes/no), and (2) to provide their contact information (name, address and phone number) if they would like to participate in the trial. Subjects were informed that they could decline to participate any time after hearing about the study. A logistic regression model was run with an outcome indicating those who were interested in the study and provided their contact information. The characteristics associated with likelihood of participating in the trial were examined including basic demographic information, loneliness scale scores, physical activity index, social/cognitive activity index, social network scale, self-rated health, and computer usage. **Results:** Out of 1020 surveys returned (51% response rate), 586 surveys (57%) had complete data for all the variables of interest. Among these, 223 showed interest in the study and of those, 185 also provided contact information. These 185 subjects were more likely to be higher in social/cognitive activity index ($OR = 1.03$, $p = 0.016$), physical activity index ($OR = 1.05$, $p < 0.001$) and current computer user ($OR = 3.07$, $p = 0.021$), compared with those who answered no to both questions. **Conclusions:** In a behavioral clinical trial which encourages social interactions using modern technologies, those who agreed to participate were more likely to be socially and physically

active and be computer users, with the latter in particular showing a strong association. Increasing familiarity with PC and Internet in the community should improve the generalizability of future trials of this type.

P2-321 **LARGE-SYSTEM CHANGE: IMPROVING BEHAVIORAL SERVICES IN ONTARIO**

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Background: Ontario, Canada's most populated province's public health system budget exceeds \$46.0 B. Several commissioned reports recommended strategies to reduce the proportion of persons in 'Alternative Levels of Care (ALC)' to maximize efficient use of acute care beds. Persons with dementia constitute 30% of ALC days and persons with "behavioural needs" use 8 x the ALC days. Associated in-patient hospital care costs \$1.2B. Of 70,000 people in a long-term care, almost 50% exhibit behavioural needs. A large scale intervention (\$44.M) was mounted in 2011 to improve supports for persons with responsive behaviours or those at risk, and their families. The 3-pronged improvement model was evidence and experience-informed and values/principle-based. Knowledge translation and exchange and quality improvement guided system design. Data measurement improved tracking impact over time, along with qualitative data on start-up. **Methods:** System leaders, providers and families contributed to the 3-fold improvement strategy to 1. Improve system coordination 2. Increase and integrate specific services and 3. Improve knowledge and capacity of service providers and families. 14 Local Health Integration Networks covering the whole province guided local planning and investment. A project management office oversaw the project and guided the deployment of KTE and QI resources, as well as practice leader advisors and data measurement. **Results:** 500+ additional staff trained in behavioural support care now work in one of 3 service models: in-house specialist, mobile teams or behavioural transition unit. Several hundred were trained in QA and PDSA techniques to monitor improved care and inform further strategies for individual care and specific care settings. (see table attached). In excess of 1,000 have received added service training. Analytics are in place to continuously track impact on several system dimensions (ALC, ER use, Home Care). **Conclusions:** Successful interventions occurred in each of the 3 pillars coordination, integrated services and capacity development. Data systems are in place to guide both PDSA and large system change overtime. Training has made an impact due to both scale (numbers trained) and quality materials. Sustainability is consciously supported by local plans, learning guides and 6 province-wide collaboratives. Core funds are on-going.



P2-322 **PREVENTING LOSS OF INDEPENDENCE THROUGH EXERCISE (PLIE)**

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Background: Progressive loss of independence is one of the most difficult aspects of Alzheimer's disease and dementia for both affected individuals and caregivers. There is growing evidence that exercise can help individuals with dementia maintain independence, but few studies have examined the effects of alternative exercise traditions. The goal of our study was to develop and pilot-test a novel, integrative exercise program called Preventing Loss of Independence through Exercise (PLIE), which combines elements of yoga, tai chi, and Feldenkrais with physical and occupational therapy to help individuals with dementia maintain independence and function. **Methods:** PLIE was developed with input from experts internationally and involves a series of functional movements that are repeated at each class (to build emotional familiarity and "muscle memory") with progression to more complex movements as function improves. Movements are performed slowly and mindfully in a group setting to promote greater body awareness and enhance social connectedness. An 18-week pilot-test was performed to compare PLIE with usual care in individuals with mild-to-moderate dementia who were attending an adult day program in San Francisco, CA. Our primary outcomes were effect sizes (ES) based on change in standard deviation units (SDs) in physical performance (Short Physical Performance Battery), cognitive function (Alzheimer's Disease Assessment Scale - cognitive subscale) and quality-of-life (Quality of Life Scale in Alzheimer's Disease). **Results:** Ten individuals completed the study (6 PLIE, 4 usual care) and were included in calculation of effect sizes. Effect sizes suggested greater improvement with PLIE than with usual care for physical function (PLIE: 5.2 to 6.2; usual care: 5.7 to 6.0; effect size: 0.30 SDs); cognitive function (lower scores better—PLIE: 27.1 to 22.4; usual care: 19.0 to 22.5; ES: 1.1 SDs) and quality-of-life (PLIE: 40.5 to 46.5; usual care: 40.5 to 43.5; ES: 0.70 SDs). Participants enjoyed the program, and there were no major intervention-related adverse events. **Conclusions:** PLIE is a novel, integrative exercise program that shows promise for improving physical function, cognitive function and quality-of-life in individuals with mild-to-moderate dementia. Larger randomized, controlled trials are warranted.

P2-323 **STRUCTURAL BRAIN CHANGES AFTER ROBOT-ASSISTED COGNITIVE TRAINING IN THE ELDERLY: A SINGLE-BLIND RANDOMIZED CONTROLLED TRIAL**

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Background: Previous studies showed that cognitive training in the elderly improves their cognitive function. Most studies on cognitive training, however, used cognitive tests as an outcome measure without any MRI to measure the structural changes that may be more valid in evaluating effects of cognitive training. The purpose of this study was to demonstrate the effects of our newly developed cognitive training using robots as well as conventional cognitive training programs on the brain structures in the elderly. **Methods:** A single-blind randomized controlled trial was conducted in 85 volunteers aged 60 years or older without significant cognitive impairment.