Editorial

Technology and Dementia: The Future Is Now

In 2003, the US Alzheimer's Association launched the Everyday Technologies in Alzheimer Care (ETAC) funding program in partnership with Intel. The three aims of ETAC were to "explore new ways to help delay the onset of disabling symptoms; compensate for functional impairments; and postpone and/or prevent placement in residential care settings." Between 2004 and 2014, ETAC funded 32 projects from around the world variously applying technology to deliver prompting (5), assessment or treatment (4), intervention (4), activity monitoring (4), other monitoring (3), supporting independence (2), supporting caregiving (2), technology adoption (2), wayfinding (1), maintenance of functioning (1), speech therapy (1), continence (1), fall detection (1), and personal coaching (1). Looking at these now, these issues highlight many of the areas globally where technology has been applied to the challenges posed by dementia, with robotics, autonomous vehicles, and big data/modelling also emerging in recent years.

From among the ETAC investigators, the Alzheimer's Association Working Group on Technology was formed to advance research into technology for dementia, including deployment and implementation. The WGT became the Technology Professional Interest Area in 2009, the second PIA to be formed as part of ISTAART. In 2013, the TPIA launched its pre-conference to the Alzheimer's Association International Conference (AAIC), and this special issue is based on the 2018 TPIA Pre-Conference held in Chicago on July 21, 2018.

The history of technology in dementia is provided in an overview paper developed by members of the TPIA responsible for organising and hosting the pre-conference. This paper summarises the major areas of technology development and application in dementia over the past 30 years to contextualise five papers selected from the conference presentations. If there is a theme, it is that all are addressing real-world issues in dementia in real-world settings. The work by Cruz-Sandoval and Favela on developing and implementing social robots in dementia care environments addresses technical, practical, and social challenges not just of creating technological interventions but also getting them into the intended environments. The paper by Helal and Bull considers the challenges and benefits of developing assistive

smart homes using Internet of Things for supporting individuals with dementia. Two papers examine methodologies for engaging individuals with dementia as co-producers of technology. Kort, Steunenberg and van Hoof describe the development and utilization of a wide range of techniques and approaches to working with individuals with dementia and family caregivers in technology development, evaluation, and deployment. Leorin and colleagues present a co-creation summer school program as a practical case study of bringing researchers and developers together with individuals who are living with dementia as partners in technology creation. Finally, Thomas, Lindauer and Kaye address the methodological challenges of assessing the impact of technological interventions in individuals' homes. Together these articles present a snapshot of current and emerging technologies and methodological approaches for working with individuals with dementia, formal and informal caregivers, and organisations in the places where they live.

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