Technology and Aging: The Need and Role of "Smart" Technologies

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The needs of older adults are complex, and are even more so in the face of specific impairments and diseases.

More often than not, an understanding of these users’ needs is not part of a project.

There has been a “silo” mentality in this field that has resulted in poor outcomes.
It’s a moving target

Older adults (and their caregivers) are becoming more tech savvy

There are growing expectations on the integration of technologies into their daily lives
We need NEW WAYS OF THINKING & NEW WAYS OF DOING
Promising Solutions in the Home

New approaches are leading to new promising areas of research and leading edge technologies in the home

Smart Homes  Robotics  Big Data
Smart Homes

Support through daily activities (e.g. prompting systems)

Monitoring of activity levels and patterns of living

Measuring health parameters (e.g. physiological data)
Social and Supportive Robots

Social Robots

Cognitive Robots
Big Data in the Home

- Actigraphy devices
- Bed sensors
- Physiological sensors
- Phone sensors
- Activity sensors
- Walking sensors
- Localization sensors
- Cell phone as a prompting device and for location tracking
- User PC: Experience sampling; cognitive testing; social engagement; coaching
- Door sensors
- Medication tracking device
Big Data – Patterns of Living

Sensor Events
Residential Facility

Kaye et al. (OHSU)
Predicting Changes in Wellness

Changes in state of chronic conditions, like congestive heart failure or diabetes

Adverse events, like falls and other medical conditions

Prevention of dangerous behaviours, like agitation and aggression

Changes in cognition, and onset of dementia
Designing
for our
FUTURE SELVES
The current landscape needs to change in order for these new innovations to make it to the marketplace.
The Technology is not enough...

We have to examine issues around service delivery, practice, & policy
New Delivery Models?

The majority of new technologies to support older adults are NOT medical devices

They are being developed as consumer products that could be purchased directly by the consumer
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A Service Delivery Problem?

“The self-driving car — a godsend for older Americans — is now on the horizon”
– AARP (2015)
Where do we fit into the tech & aging landscape?
How do we stay relevant?

If Amazon is integrating healthcare into its offerings, why should geriatrics not be next? It seems cutting edge.

By SUSAN SCHAYES

3 Comments / Mar 15
Within 5 years we will no longer be developing technologies

Source: My opinion (2020)
Where can we have impact?

We are the experts....

In understanding the needs of older adults and caregivers

In being able to bring together a diverse group of researchers and stakeholders working on common goals

In ensuring that new solutions are tested and implemented through rigorous methodologies and approaches

In understanding how new solutions can fit into existing service delivery models (or developing brand new ones)
But perhaps most importantly...

We should be the window into the future of innovation.
Going Forward

The time is now - being incremental in this field is no longer acceptable

We need to re-consider our traditional models and approaches in the design and delivery of future systems

We must be prepared to re-think our own roles in moving the field forward
For More Information

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