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Review Response

Is There More to Subjective Cognitive Impairment than Meets the Eye? Obligations and Opportunities

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The focus of Tales et al. [1] is that there is an ethical imperative to recognize the burden of disability inherent in subjective cognitive impairment (SCI) and to characterize this entity using novel measures which may be more sensitive than standard clinical neuropsychological assessment. Currently applied classifications of preclinical Alzheimer's disease (AD), notably mild cognitive impairment (MCI), that define decline in mental processes in terms of formal neuropsychological assessments have limitations that can be addressed by novel measures of behavior and brain functioning. Furthermore, they suggest that limiting the study of older adults to those with additional biomarkers suggestive of insipient AD leads to the neglect of disability from SCI which is real and burdensome.

The authors suggest several benefits of studying SCI with novel measures. The links between existing neuropsychological measures and real world activities in patients with subtle difficulties are weak either due to a failure to measure functions related to these activities or insensitivity to subtle declines. Cross-sectional studies using novel measures demonstrate consistency between MCI and AD and imply that these measures tap the same underlying degenerative process. The hypothesis is that they could thus potentially discriminate SCI which is due to insipient AD from SCI due to other causes. Finally, SCI exerts a burden on patients that is not adequately detected by neuropsychological measures and which needs to be captured to mitigate this burden with therapies and assistive devices.

Whereas these are important arguments for expanding evaluation of older adults with cognitive complaints, relying on subjective judgment raises several issues. Sometimes the older adults' subjective judgment conflicts with that of family members. For example in frontotemporal dementia, close family members often detect early declines in patients where lack of insight is an early symptom. Alternatively some family members who do not have the older adults' best interests in mind, such as in the case of a contested will, could use the SCI classification to discredit the older adult. In those cases, objective test results are a crucial protection. There are thus compelling reasons why existing neuropsychological measures are insensitive to SCI. Since the consequences of telling patients they have AD or preclinical dementia are grave, the focus is on specificity rather than sensitivity to subtle dysfunction. Clinical neuropsychological measures are thus conservative and highly predictive of brain pathology in many prospective, longitudinal studies. To expand SCI, an entity with a heterogeneous etiology, to be a

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target of evaluation and therapy, there needs to be careful delineation of when the benefits outweigh the risks (e.g., societal stigma, emotional distress).

Other ethical concerns involve the measures themselves in terms of feasibility of implementation and interpretation. For example, neuropsychological measures can be administered at patients' bedsides or in their homes. The same is not true for resting state functional MRI. Moving novel assessments into clinical care often requires industry support which raises issues around protection from conflicts of interest. Since elderly with SCI are not dependent on healthcare providers for health related information, it is likely that there will be direct to consumer advertisement with unrealistic claims that the measures predict or prevent AD or some real world consequence such as driving accidents. As Tales et al. [1] suggest, objective, longitudinal, prospective research is critical to verify these claims but there must also be a mechanism to inform the public about the best use of the measures if the healthcare providers are not the gatekeepers.

To embrace the idea behind SCI, that older adults have variable degrees of cognitive decline of which they study, adapt to, and improve, opens a world of opportunities. Brainhealthregistry.org is collecting longitudinal data in community dwelling people's homes using a combination of experimental and clinical measures with a goal of studying subgroups of people who demonstrate declines over time and recruiting these people into prevention clinical trials. Organizations such as Aging 2.0 (http://www.aging2.com) are bringing together innovators and are calling for guidance from clinicians and scientists knowledgeable about age-related decline. Driving is a great example of a successful manner in which sensitive evaluation and training can protect older adults. Sensitive measures of age-related functional decrements can provide useful information which elderly can use to minimize risk [2]. The concept behind the useful field of view [3] was extended to a similar product (www.Drivesharp.com) with the American Automobile Association to prevent accidents in older drivers. The google driverless car is seen as a way of improving driving safety and delaying the need to take the car keys from disabled drivers (e.g., http://googleblog.blogspot.com/2010/10/what-were-driving-at.html#!/2010/10/what-were-driving-at.html, http://www.aarp.org/home-family/getting-around/info-05-2012/google-autonomous-car.html). The opportunity to detect and mitigate these subtle declines will be lost if fears around ethical issues around detection of disability stop technology from addressing them.

In sum, we agree with Tales et al. [1] that researchers and clinicians should study SCI and acknowledge the new opportunities to apply technology to describe and treat cognitive dysfunction. We further suggest that there be community education to ensure the entity is not interpreted as preclinical AD without strong longitudinal data.

DISCLOSURE STATEMENT

The author's disclosure is available online (http://www.j-alz.com/disclosures/view.php?id=2393).

REFERENCES

[1] Tales A, Wilcock GK, Phillips JE, Bayer A (2014) Is there more to subjective cognitive impairment than meets the eye? A perspective. *J Alzheimers Dis* **41**(3), 663-664.

[2] Owsley C, McGwin G Jr, Phillips JM, McNeal SF, Stalvey BT (2004) Impact of an educational program on the safety of high-risk, visually impaired, older drivers. *Am J Prev Med* **26**, 222-229.

[3] Wood JM, Owsley C (2014) Useful field of view test. *Gerontology* **60**. doi: 10.1159-000356753