USE AND ABUSE OF COGNITIVE FUNCTION TESTS

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"Competent research and experimentation with conceptualisation first, technique last and professional judgement always." Ida Hoos, *Systems Analysis and Public Policy-a critique*, University of California Press, 1972.

My main credentials for speaking on this topic are my age and having been subjected to two cognitive function tests in three months, the first for a torn meniscus; the second for a herniated L4/5 disc. The tear in my knee cartilage happened out of surgery hours and the locum called an ambulance to the nearest emergency centre. After X-ray, MRI, and aspiration of fluid and blood, I still could not stand so was admitted into the "assess and dispatch" ward. Admission involved a cognitive assessment test. I was on strong pain relief, had not slept for thirty three hours nor had anything to eat or drink for eighteen hours. There was no explanation of the reasons for giving the test and no comment on the results. No report was sent to my GP. The test for the herniated lumbar disc was given by an occupational therapy student shortly before I was due for discharge from the rehabilitation centre to which I had been referred for hydrotherapy. As I was well and ready to go home, I did not understand the purpose of the test, and later asked to see the senior occupational therapist who could not give a reasonable explanation.

I was surprised at my reactions to the first test. I found myself doubting my capacity. It seemed to be taking me longer to select the right words and remember names and I was unwontedly depressed. I did not know whether my reaction was idiosyncratic and I raised the topic of cognitive function testing with some golfing friends. They were comparing tests and practicing. Most of those who had been subjected to tests found them embarrassingly easy and felt demeaned but had been too polite to object. This raised my curiosity about the use of cognitive assessment testing in our health care system and I began to explore the copious and diverse literature. This paper is an

exploration attempting to make sense of my experiences and cannot claim to be a systematic literature review.

Concerns about the ageing of the post war baby boom is leading to the planning and development of a range of government initiatives to address dementia identification and care (National Framework for Action on Dementia 2013-2017). http://www.health.gov.au/internet/main/publishing.nsf/content/dementia-nfad2013-2017 Two major collaborative research centres are supported by government:- the Dementia Collaboration and Research Centres (DCRC) www.dementia.unsw.edu.au http://www.dementia.unsw.edu.au/images/dcrc/output-files/278-digp1.pdf and the Commonwealth Scientific and Industrial Research Organisation (CSIRO) Australian Imaging and Lifestyle Flagstaff Study of Ageing (AIBL). http://www.aibl.csiro.au . Both concentrate on effective dissemination of their findings as well as research.

There is a very extensive literature on testing for dementia. Reviews of the wide range of tests are readily accessible, as are the results of the various "consensus studies" that provide expert practitioners evaluation of the tests and advice about appropriate use. (Pond, D., Paterson, N., Swan, J. et al. 2012) www.dementia-assessment.com.au .

It is more difficult to find information about the experience of those undergoing cognitive assessment tests. An account of the development of the General Practitioner Assessment of Cognition (GPCOG) states that the subjects were asked about their reaction to the test, which was generally seen as acceptable. (Brodaty et al., 2002) www.med.unisw.edu.au . Some accounts of the other tests stated that they were well tolerated by patients but provided no information to indicate the basis of this conclusion.

I found only two studies that specifically explored patients' experience of being tested. Lai et al. (2008) publicaccess.nih.gov used a questionnaire asking patients to assess their level of distress after testing. Their subjects were 154 patients with mild to moderate AD and 62 who were judged as cognitively intact. Seventy per cent of the Alzheimer's patients and forty per cent of the cognitively intact reported some level of distress. Krohne et al. (2011) onlinelibrary.wylie.com interviewed 18 elderly patients using guided open ended questions to explore response to cognitive testing. The patients, who had been in hospital following conditions such as mild stroke or transient

ischaemic attack, were working with occupational therapists towards rehabilitation and discharge planning. Even in this relatively safe environment enough of the patients found the test stressful to raise the researchers' concern about the challenge to their dignity.

In both of these studies, the subjects came from one organisation and the manner and circumstances of the administration of the tests were standardised. Therefore, variations in the patients' reaction reflect differences between patients but not between testing rationales or procedures. These studies can provide neither adequate evidence nor guidance about the effects of testing but they ring loud alarm bells.

The argument for early detection of dementia, and so for cognitive assessment tests, is widely supported and convincing. (Phillips, J., Pond, D., Goode, S. et al. (2011) www.fightdementia.org.au. The ample information about the reliability and validity of various tests is, however, not sufficiently encouraging to support the idea of general population screening. (Pond, D., Paterson, N., Swain, N. et al. (2012) http://www.dementia.unsw.edu.au/images/dcrc/output-files/278-digo1.pdf The pass/fail view inherent in the tests does not reflect the complex nature of cognitive impairment. Kipps and Hodges (2005 http://jnnp.bmj.com/content/76/suppl_1/i22.long) and Woodford and George http://www.ncbi.nlm.nih.gov/pubmed/1756600 (2007) provide more extensive information about the specific issues that the tests can indicate and set the use of tests as part of clinical assessment and Hare, M., Wynaden, D., McGowan, S., & Speed, G. (2008) provide guidance particularly for nurses diagnosing delirium nursing in emergency services. http://www.ncbi.nlm.nih.gov/pubmed/18519057

A problem for patients and practitioners is the difficulty in distinguishing between the benign and the malign changes in memory and thinking. This exacerbated by the still inadequate understanding of progression from impairment to dementia. (Reid, L. M., & Maclullich, A. M. J. (2006). http://www.ncbi.nlm.nih.gov/pubmed/17047326 Mitchell, A J. (2008) http://www.ncbi.nlm.nih.gov/pubmed/18500688 . The medical problem is the likelihood of SMC (subjective memory complaints) and MCI (mild cognitive impairment) progressing to dementia. Older people can dismiss the professional argot. Their questions belong in that sensitive time between when the "senior moment" gives rise to shared laughter and when it is greeted with a silent "Oh! No!"

The arguments for early diagnosis are convincing but this is not necessarily satisfactory explanation for some testing practices. It is possible that my first experience was due to the chance that staff were having a bad day or that I had shown some signs of confusion that might indicate delirium and gave staff the idea that testing had priority over a drink of water. A more believable explanation is that rehabilitation facilities may not admit older patients without testing for cognitive impairment. This could only hold true for the second test if the records needed to be corrected.

Failure to explain the purpose or to discuss the tests before administering them implies an assumption that the patients are demented. This is too implausibly contradictory to accept as an explanation. I have speculated on other possible explanations.

Tests may be used to address the disconnections in health services and manage transitions in care. Grimmer et al. (2002) http://www.health.gov.au/internet/main/publishing.nsf/Content/665F2ED12A7D4331CA2572B3000C4483/$File/Assessment%20and%20Transition%20Practices%20Cover.pdf who studied a sample of 23 hospitals in city, metropolitan, rural remote areas provide a very sobering account of assessment and transition practices. More recently detailed proposals for a comprehensive approach for assessment and transition between services has been developed. (Runge, C., Sansoni J., Samsa P., et al., 2012) http://www.aihw.gov.au/publication-detail/?id=6442468216/.

The consultation paper on the proposed National Framework for Action on Dementia emphasises the crucial role of primary health care "General practice (GP) plays a key role in the initial assessment, diagnosis and management of dementia. More than 90% of people nominate their GP as the first point of contact when worried about their memory." http://www.health.gov.au/internet/main/publishing.nsf/content/dementia-nfad2013-2017

Another reasonable conclusion is that the rite of testing provides a boundary marker between competing allied health professions. There seems to be a range of slightly different tests in the text books of various professions and it is at the boundaries where the health professions clash that tests are needed. Testing patients can be

reassuring to staff. In the inevitably uncertain world of human services, tests provide specific, if at times misleading, information and do not demand that staff acknowledge the reality of the person with whom they are dealing. Sometimes testing will be quicker and easier than asking the patient but it takes professional judgement to recognise whether it is appropriate that the tests should be used.

A more likely explanation of abuse is management mandated testing. This introduces the confusion associated with the use of clinical tools for management purposes. In the human service professions there is an inherent contradiction between the information needed for management and the information needed for practice. Management needs to aggregate the particular to establish the general; the practitioner needs to use the general to enhance understanding of the particular. Management needs a limited number of sharply defined variables but the practitioner has to be sensitive to multiple variables, often ill defined, and too subtle for certainty. In management the need is for actuarial prediction based on common characteristics whereas in practice it is for understanding of multiple, unique and individual differences. For example, management requires categorisation of the results of tests on many patients to obtain a picture of the organisation's health and needs. The practitioner needs the results of an individual test in the context of professional knowledge of the implications and personal knowledge of the patient to obtain a picture of the patient's health and needs.

My experiences seemed to indicate that the tests were being used to satisfy administrative requirements. Evidence for this explanation came when I found that the Council on Health Care Standards in Australia uses, as a criteria for assessment of emergency centres, the proportion of patients sixty five years old and over who are given MMSE or the abbreviated version AMTS (Australian Council for Health Care Standards, 2012; www.ochs.org.au , National Quality Measures Clearing House, www.hhs.gov).

The case for early diagnosis of dementia is strong but there is a question as to whether the concentration on short tests is coming at the cost of the still reasonably intact. There is adequate information about appropriate conditions for giving cognitive functions tests but this comes from the testers rather than the subjects. The result of my

casual conversations is enough to know that, at least some well elderly are embarrassed and demeaned. One friend's depiction of a patronising nurse suggests that the best treatment for older subjects may be a skit at the Christmas party. The level of the tasks and the fail/pass approach to the examination can be a very disturbing threat of things to come.

In the urgency of need to develop better diagnoses and services to dementia patients, the problems of reasonably well elderly fade. Yet their attitudes are vital to their early recognition of and willingness to consult about problems. Abusive testing is likely to deter the expressions of concern that may provide for either early diagnosis or, as importantly, reassurance. I do not imply that short tests are necessarily abusive but that the literature does not generally attempt to consider the subjects or distinguish between the use and abuse of short tests. Abusive tests do not allow for professional judgement and are directed towards the needs of the organisation. The clearest distinction is whether the purpose of the test is to manage the organisation or understand the patient.

There are some simple common sense strategies which may both lessen abusive testing and contribute to early diagnosis. The first is to find out whether abusive testing is an anomaly or a significant characteristic of some aspects of health services.

The second is to collect information about the proportion of the patients tested in emergency services where testing can be justified or whether most tests are performed to meet the quota of assessed pensioners.

A more sophisticated study is needed to explore the effect of cognitive function testing on apparently well older people, to identify the circumstances that increase distress, and to consider the balance between the risk of damage to the well elderly and the need (and resources available) for further assessment and treatment for those showing signs of impairment. The consultation paper for the National Framework for Action on Dementia 2013-2017 recognises concerns which cannot be clouded by the usual generalities of advocating for change in attitudes to ageing. The value of providing clear

information at the right time and places means considering the needs of older people while they are well. There is valuable information in the Alzheimer's web sites but the anxious people are not likely to go in that direction. It might help if some of the reasons for early diagnosis and some information about resources available were provided in a range of relevant publications.

Use and abuse of short cognitive function tests may not be a problem when the baby boom dementia hits. Already the clock face is disappearing behind the digital time pieces. It will not be long before the effect of the new maths fashion will make subtraction a test of educational history rather than dementia. Perhaps practicable biomarkers will be found even before clock faces disappear. (CSIRO. (2012). www.aibl.csiro.au . In the meanwhile it would help if health workers listened to their elders first.

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