Self assessment of health and social care needs by older people: a multi-method systematic review of practices, accuracy, effectiveness and experience

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CRD summary
This review evaluated self assessment by older people in management and identification of health and social care needs and concluded that most evaluated tools showed modest sensitivity and specificity and may have failed to identify many older people with problems in a screening setting. Given the diversity and unknown quality of the included evidence, these cautious conclusions appear broadly appropriate.

Authors’ objectives
To consider evidence on self assessment by older people in managing and identifying health and social care needs. This abstract focused on the systematic review of accuracy of self-assessments.

Searching
Nineteen electronic databases were searched up to March 2004 (MEDLINE, EMBASE, PsycINFO and Social Sciences Citation Index were included). Search terms were reported. References of retrieved studies were examined. Authors were contacted where necessary.

Study selection
Blinded studies that compared self-assessment with an independently conducted reference standard test in a consecutive (or random) sample were eligible for inclusion. The reference standard was required to be a full diagnostic assessment. All eligible studies had to include a sample with a mean age of over 65 years or at least 50% aged over 60 years.

Selected studies provided evidence on accuracy of self assessment tools for depression, dementia, nutrition and oral health, osteoporosis, endocrine disorders, hearing, vision, mobility and general health care.

Two reviewers independently selected studies for inclusion. Disagreements were resolved by discussion or consultation with a third reviewer.

Assessment of study quality
It was unclear whether the validity of included studies was assessed.

Data extraction
Sensitivity (sn), specificity (sp), positive likelihood ratio (+LR) and negative likelihood ratio (-LR) values were extracted from the included studies. If not reported by study authors, where possible these values were calculated.

One reviewer performed data extraction, with validation by a second reviewer.

Methods of synthesis
Studies were combined in a narrative synthesis grouped by condition.

Results of the review
A total of 26 studies (n=unclear) were included in the review.

**Depression:** Sixteen studies evaluated seven different assessment tools for depression, which included Beck Depression Inventory and Hospital Anxiety and Depression Scale. Sensitivity ranged from 70% to 100% and specificity from 53% to 98%. Positive likelihood ratios ranged from 1.91 to 38.5. Negative likelihood ratios ranged from 0.05 to 0.37.

**Dementia:** One study evaluated the Dementia Diagnostic Screening Questionnaire (DDSQ) and reported positive likelihood ratios of 18.41 to 85.70 and negative likelihood ratios of 0.03 to 0.25 for a variety of dementias. DDSQ was...
highly specific, but sensitivity varied between conditions. A second study reported a positive likelihood ratio of 2.16 and negative likelihood ratio of 0.48 for the Clock Completion Test for detection of Alzheimer's disease.

**Nutrition and oral health**: One study reported high correlation, but high variability in the agreement between self-reported and nurse-measured weight. One study reported modest agreement between a self-report questionnaire and a diet history interview. Three studies evaluated oral health questionnaires with inconsistent results.

**Osteoporosis**: Three studies evaluated self-assessment of osteoporosis tools. Reported sensitivities ranged from 62% to 93% and reported specificities ranged from 40% to 66%.

**Endocrine disorders**: One study evaluated home self-testing for post-prandial glycosuria (sn 89%, sp 67%, +LR 2.7, -LR 0.16) and a second evaluated a testosterone deficiency questionnaire (sn 76%, sp 49%, +LR 1.5, -LR 0.50).

**Hearing**: Five studies evaluated the Hearing Handicap Inventory for the Elderly-Screening questionnaire. Three used a threshold score of ≤10 (sn 63% to 81%, sp 67 to 75%, +LR 1.8 to 2.52, -LR 0.26 to 0.49). Other thresholds were evaluated in the other studies.

**Vision**: One study reported the accuracy of vision self-assessment questionnaire (sn 40%, sp 94%, +LR 6.93, -LR 0.63).

**Mobility**: One study evaluated the Mobility Control Subscale of the short version of the Sickness Impact Profile (sn 91%, sp 59%, +LR 2.2, -LR 0.15).

**General health care**: Five studies evaluated five different general health postal questionnaires (sn 51% to 95%, sp 23% to 98%, +LR 1.1 to 26.0, -LR 0.07 to 0.65)

**Authors' conclusions**
Although the proposed use of most evaluated self-assessment tools was as a screening tool, most showed modest sensitivity and specificity and thus failed to identify many older people who had problems.

**CRD commentary**
The review question was broadly defined in terms of the participants, interventions, reference standards and study designs of interest. Attempts were made to identify relevant evidence from a range of sources. Efforts were made to minimise bias and errors in selection and subsequent data extraction of studies. Use of a narrative synthesis appeared appropriate given the clear variability between studies in terms of evaluated interventions. It appeared that no attempt was made to differentiate between the included studies in terms of methodological quality.

Given the diversity and unknown quality of the included evidence, the authors' cautious conclusions appear broadly appropriate.

**Implications of the review for practice and research**

**Practice**: The authors made several recommendations for practice. These included having professionals be involved in self-assessment and a need to consider issues of design, ease of use and access.

**Research**: The authors made several recommendations for further research. These included more studies of assessments of functional status in practice, the impact of self-assessment on behavioural change, older people's experiences of self-assessment and further research specific to the UK context.

**Funding**
NHS Service Delivery and Organisation R&D (NCCSDO).

**Bibliographic details**
Griffiths P, Ullman R, Harris R. Self assessment of health and social care needs by older people: a multi-method systematic review of practices, accuracy, effectiveness and experience. London: London School of Hygiene and
Tropical Medicine, National Co-ordinating Centre for NHS Service Delivery and Organisation R&D (NCCSDO). 2005

Original Paper URL
method-systematic-review-of-practices-accuracy-effectiveness-and-experience/r/a11G00000017r8cIAA

Indexing Status
Subject indexing assigned by CRD

MeSH
Aged; Attitude to Health; Health Services for the Aged; Health Services Needs and Demand; Surveys and
Questionnaires; Self Assessment (Psychology)

AccessionNumber
12006008132

Date bibliographic record published
21/01/2008

Date abstract record published
20/10/2010

Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract
contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on
the reliability of the review and the conclusions drawn.