Reviewer's report

Title: Patients’ functioning as predictor of nursing workload in the acute hospital: a multi-centre cohort study.

Version: 1 Date: 18 March 2010

Reviewer: Caitlin Brennan

Reviewer’s report:

Major Compulsory Revisions

On page 4, the authors clearly state that nursing workload is a measure of patients’ individual health status, functional status, need for nursing care, and severity of symptoms, and that the Barthel Index is a predictor of increased workload, in terms of the degree of patients’ functional dependence. However, a stronger argument for use of the ICF instead of the Barthel Index is needed. What are the specific limitations of the Barthel Index that the ICF would improve upon? What is the rationale for testing the ICF, which is another measure of patients’ functioning, rather than testing an instrument that measures another aspect of workload, such as need for nursing care or severity of symptoms? The authors mention that perhaps the ICF could provide a more parsimonious measure of workload than the Barthel, but that argument needs to be more clearly stated by presenting how burdensome the Barthel Index is and how the ICF lowers that burden. Similarly, if the LEP measure of nursing workload explained over 80% of the variation in workload and according to the authors provides a parsimonious estimation of workload, why is testing of the ICF needed?

Why were t-tests assessed for significance at the 0.2 level, rather than the traditional cut-off of 0.05?

On page 19, the face validity of ICF models was mentioned - how did the authors go about obtaining face validity?

In the United States, most hospitals employ unlicensed assistive personnel, who assist patients with ADLs, such as dressing, bathing, ambulating, urinating/defecating, and eating. The authors found that these activities had the most influence on nursing workload, but these activities are not performed by nurses in the United States. Do the hospitals where this study took place employ unlicensed assistive personnel to perform these duties or are they performed by nurses?

On page 22, the authors state "Nevertheless, a sample size of 50 should generally be adequate for estimating linear models with three independent variables." Please include a reference that supports this statement, as typically a larger sample size is needed for models with three independent variables.
All of the adjusted R-squares have non-significant p-values, but this is not addressed in the text.

Minor Essential Revisions
There are several grammatical errors throughout that thorough editing will improve.

Figure 1 is difficult to follow and is duplicated in the document.

Discretionary Revisions
A more thorough explanation of the LASSO technique and a rationale for its use instead of traditional methods would be helpful.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests.