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LETTER TO THE EDITOR

ORGANIZING HUMAN FUNCTIONING AND REHABILITATION RESEARCH INTO DISTINCT SCIENTIFIC FIELDS

Sir,

We read with great interest the special issue of *Journal of Rehabilitation Medicine* on the International Classification of Functioning, Disability and Health (ICF), and were particularly inspired by the article by Stucki & Grimby (1) (and a related follow-up article (2)) that argued for the importance of defining and then organizing new fields of study as a way to facilitate rehabilitation research.

There is much that is communicated in these 2 articles that we agree with. First, we believe that the existing "silos" of scientific research, as organized by traditional focused (i.e. non-integrative) departments in universities and medical schools have both strengths and limitations. Their strength is their focus, which makes it possible to study and understand a single issue or question in great depth. Their greatest weakness is their inconsistency with how we know people work, especially with regard to functioning. Many factors (biological, psychological, social and environmental) interact to effect a persons' functioning. Current biopsychosocial models of functioning, including the World Health Organization's integrative model (see Fig. 1 in (2)) articulate this understanding. Research that focuses on a single factor – whether it be biological, psychological, social or environmental – or that ignores how different factors interact to effect functioning, severely limit our understanding. Highly focused research is an inevitable outcome of focused scientific disciplines. In order to facilitate research that is consistent with integrative models, we need scientific disciplines that are themselves integrated.

We also agree with the authors of these articles that the domain of study of rehabilitation science is extremely large, extending from the cell to society, as well as from the basic through the applied sciences and to the professional sciences. A truly integrative and complete model must take into account a very large terrain. Yet, at the same time, and if we are to advance our understanding of human functioning, it is imperative to organize this vast territory into understandable sub-domains or fields. Stucki and colleagues have shown great courage, wisdom and understanding in their first attempt to describe the field of human functioning, and to express interest in feedback about their efforts.

Here is the primary issue with their model that we quibble with: it is too complex. We do not believe that our field will be advanced by the promotion of 5 new fields. We may eventually reach a point when some or all of the distinct fields of human functioning they propose are officially recognized (e.g. by the existence of a "Department of Human Functioning" in universities, and a "Department of Integrative Rehabilitation Sciences" that is distinct from a "Department of Biomedical Rehabilitation Sciences and Engineering" in medical schools). However, encouraging the development of these as unique disciplines or fields may not be the best approach at this time.

Rather, we believe that, if our goal is to facilitate rehabilitation research that is truly integrative, it would be more efficient and effective at this time to define a *single* new discipline or field, and then work towards developing that field further. In our department (Department of Rehabilitation Medicine at the University of Washington in Seattle, USA), we have chosen to label this field simply "Rehabilitation Science". Our integrative, interdisciplinary approach to doctoral education is consistent with the call of *Enabling America* (3).

We define Rehabilitation Science as "… an interdisciplinary field that focuses on human function and disability," and currently offer a PhD in this field. The goal of our program is "…to prepare researchers, educators, and leaders in the area of rehabilitation science to contribute to the development of rehabilitation practice, research, and policy." We would welcome, into our PhD program, students from any of a large number of diverse backgrounds (biological sciences, nursing, occupational medicine, physical medicine, psychology, engineering, architecture, economics, prosthetics and orthotics, among many others) who are interested in being "…prepared as researchers, educators, and leaders in the field of rehabilitation science, who will work in academic institutions, service delivery systems (e.g. hospitals, public schools), government agencies, and the private sector… to address research, education, service delivery, and policy challenges requiring an interdisciplinary perspective."

In short, we wholeheartedly agree with Stucki and colleagues that we should spend time examining, discussing and defining a field of study that is truly comprehensive and integrative. This discussion should result in a general consensus of what should be included and excluded in this field of study, and ultimately result in one or more defined disciplines that can then have a physical presence in the form of a new academic department (e.g. "Human Functioning Sciences") or academic division within an existing department (e.g. "Rehabilitation Science" division within an established Department of Physical Medicine, as it currently exists in the University of Washington). However, we believe that we will make more progress in the short run, and ultimately have a greater beneficial impact in the long run, if we focus our efforts on creating one new discipline rather than 5. In our setting, we have chosen to label this field "Rehabilitation Science" (and have had some success in obtaining federal funding for training pre- and post-doctoral researchers using this label, supporting its potential efficacy at least in one important domain of recognition).

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