Author’s response to reviews
Title: Cognitive medicine - a new approach in health care science

Authors:
Anders Wallin (anders.wallin@neuro.gu.se)
Per Johansson (pmj@gu.se)
Ingibjörg Jonsdottir Jonsdottir (ingibjorg.jonsdottir@vgregion.se)
Petronella Kettunen (Petronella.Kettunen@neuro.gu.se)
Christer Nilsson (christer.nilsson@med.lu.se)
Michael Nilsson (Michael.Nilsson@hmri.org.au)
Arto Nordlund (anrto.nordlund@neuro.gu.se)
Lars Nyberg (lars.nyberg@umu.se)
Katharina Sunnerhagen (Katharina.Sunnerhagen@neuro.gu.se)
Johan Svensson (johan.svensson@medic.gu.se)
Beata Terzis (Beata.Terzis@frosunda.se)
Lars-Olof Wahlund (Lars-Olof.Wahlund@ki.se)
Georg Kuhn (georg.kuhn@neuro.gu.se)

Version: 2 Date: 13 Dec 2017

Author’s response to reviews:
To editor Helen Macpherson BMC Psychiatry

Thank for your valuable input on BPSY-D-17-00290R1 Cognitive medicine – a new approach to health care science. We have rewritten the manuscript taking into account your suggestions. In the abstract-like introduction, cognitive medicine is now more clearly defined. The various sections of the paper are presented shortly or at least are mentioned in the introduction. According to our opinion it means that there are connections between the sections of the paper. More detailed answers to the comments are found below.
I am afraid to tell you that my close colleague and co-author Arto Nordlund, who I expected comments from, was deceased about one month ago. Instead, I have received input on the present version from another of my colleagues, i.e., Marie Eckerström. She is now in the author’s list instead of Arto Nordlund.

I hope you find our contribution worth publishing in BMC Psychiatry.

With my best regards,
Anders Wallin

General comments
Editor comment 1: Overall the paper is improved and the structure is more suited to the arguments posed.
Response from authors: Thank you.

Editor comment 2: However, the paper is still generally lacking in depth and each subsection is poorly linked to other sections, leading to an overall disjointed paper.
Response from authors: Thanks for your comment. To avoid the impression of lack of depth we have tried to explain better in the introductory section ‘cognitive medicine – an emerging field’ the idea of cognitive medicine. To improve the connections between the various sections of the paper, the text under the headings ‘cognitive medicine – an emerging field’, ‘cognitive functions throughout the life course’ and ‘basic research perspective’ have been rewritten.

Editor comment 3: Much of the content provided in the paper is covered thoroughly in the existing literature, however in this paper is presented without detail or context. The authors should strongly consider the arguments they are raising as they are not coming through as clearly as they could be.
Response from authors: Thank you for this crucial question. To avoid the misinterpretation that the content provided in this paper is covered in the literature we have clarified in the introduction that cognitive medicine covers all aspects of cognition across different health conditions and
diseases including also disorders usually not believed to be associated with cognitive decline. Hopefully, the arguments are now better coming through.

Editor comment 4: For instance the argument is raised “Major research tasks in cognitive medicine are to uncover cellular and molecular mechanisms underlying cognitive decline, to determine the prevalence and incidence of cognitive dysfunction in epidemiological populations and patient populations, health-economical evaluations of cognitive impairment, and intervention studies to investigate the effects of medical treatments and lifestyle interventions” - all of this research is underway, however the authors provide no specific descriptions of this work which is already taking place.
Response from authors: As we now refer to the whole spectrum of cognitive functions we do not agree with the opinion that this is already taking place. See also answer to the previous comment.

Editor comment 5: I could understand this paper better if the argument was that more resources are needed to better tackle cognitive decline, or that a more holistic approach to cognitive decline is necessary and should involve primary and allied health physicians, however these are not arguments articulated by the authors.
Response from authors: To attract physicians and other staff and people responsible for resources to the field, the first step, according to our opinion, is to put together knowledge under the umbrella of cognitive medicine. The next step, which would be facilitated by the cognitive medicine umbrella, would be to argue for more for more resources to health condition associated with cognitive decline.

Editor comment 6: The authors should focus on developing a CLEAR, strong and well supported argument and work on linking together sections of the paper.
Response from authors: See answers to comments 2-4.

Minor comments
Editor comment 7, page 4, line 10: Changing ageing pyramid – please add context to this statement
Response from authors: ‘Changing ageing pyramid has been changed to ‘growing number of elderly’.

Response from authors: The six cognitive functions of DSM-5 and the suggested reference by Sachdev al is now inserted in the text (introduction, cognitive function throughout the life course).

Editor comment 9: Tap more basic executive processes - change ‘tap’ to ‘incorporate’.
Response from authors: We have changed ‘tap’ to ‘incorporate’.

Editorial comment 10: The ‘Disability’ section does not talk about economic consequences of disability due to cognitive impairment.
Response from authors: We have added sentences on the economic consequences as well as the reference “World report on disability” from WHO and the World Bank.

Editorial comment 11: The ‘basic research perspective’ is not linked to previous content, there is no mention of Alzheimer’s disease before this or why it could be an issue relevant to cognitive medicine. In fact, this comes after a description of the pathology of AD, when it would be more impactful to come first.
Response from authors: Thank you for your comment. We have added text about other disorders and deleted the paragraph about Alzheimer pathology under the ‘basic research perspective’. Hopefully, the text is now more in agreement with the idea of cognitive medicine.

Editorial comment 12: ‘Integration with existing medical care practice’ – please clarify what is meant in regards to ‘somatic’ disorders.
Response from authors: ‘Somatic’ is ‘non-psychiatric’. The term has been deleted.