Reviewer’s report

Title: Current and future perspectives on the management of polypharmacy

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Reviewer: Christiane Muth

Reviewer's report:

Peer review on Molokhia and Majeed "Future perspective on the management of polypharmacy"
BMED-D-16-00859

This manuscript of an opinion paper addresses a topic of major importance. Readers can easily follow the fluently written text. The authors offer an optimistic approach to an issue which is often discussed with a pessimistic or even nihilistic tenor. Readers who are unfamiliar with this topic will find a broad range of aspects related to an issue of utmost public health relevance. The authors propose solutions which seem altogether palatable and easily digestible.

However, some major questions remain:

1. What was the idea of the authors when they suggested 'the use of artificial intelligence technologies and 'deep learning methods' such as those developed by… Google Deep Mind"? Also, the smartphone apps are mentioned but I did not understand from the manuscript how these technologies can improve communication between physicians and patients. What is the expected benefit from the access of patients to their electronic medical record and what are the experiences from their application by physicians and patients and carers? The manuscript has a strong focus on e- and m-health technologies but readers who are less familiar with these technologies may have difficulties to imagine their merits without further explanation.

2. What does the '4P approach' to polypharmacy mean? I am not familiar with this concept and cannot understand from the manuscript what kind of support can be facilitated by 'each individual's unique health experience at different levels (molecular, cellular and organ)' and 'further enhanced through support from 'digital patient communities".

3. The promising title 'Future perspective on the management of polypharmacy' raises expectations about other perspectives than health technologies. I agree with the authors that computerized decision support systems (CDSS) are effective to optimize medication and we now have strong evidence for their potential benefits.1-4 However, we are still facing many problems such as the "alarm" overkill arising from the use of the CDSS. Additionally, we are struggling in our current disease-oriented vertical care strains. What are future
perspectives on structure and organization of health care? What about the role of multidisciplinary teams, the Chronic Care Model, the role of general practitioners, pharmacists and formal caregivers? If the authors prefer to stay focused they might adapt their title.

4. Under the headline "Involving patients", the authors write: 'One negative effect of giving patients 'too much' information however is that that they may then be discouraged from taking a drug because of concerns about its side-effects. Tools to promote shared decision-making can help overcome such concerns and improve patients' adherence to their proposed management.' This statement could be misunderstood as if the authors recommend shared decision making tools with the aim to overrule patients' concerns. Furthermore, patients' involvement - as presented by the authors - is strongly focused on e- and m-health technologies. Is this suitable for patients with polypharmacy who are generally older and who might not always be familiar with or interested in using these technologies? How do these technologies support processes to construct patient preferences, to identify the burden of treatment which overwhelm patients, to facilitate individual management?

5. Why do the authors focus on research from UK? The authors cited in total 28 references, out of which 22 are from UK, among them a relevant proportion of papers from authors affiliated at Imperial College, as well as the authors of the manuscript. Without any doubt, the cited papers are relevant and mirror the successful work at the college. However, readers from abroad may ask whether the results / experiences from a specific healthcare system would be applicable to their context. Furthermore, the case example in the background section strongly reminds me of the one used by Cynthia Boyd and co-workers in their landmark paper, and after the wording "previous research" and "prior research" in the paragraph "Management of side effects" one would expect to find a citation.

Best regards,

Sincerely Yours, Dr. Christiane Muth, MD, MPH

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Reference List


(9) May C, Montori VM, Mair FS. We need minimally disruptive medicine. BMJ 2009; 339:b2803.


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