

Reviewer's report

Title: The global pharmacy workforce : a systematic review of the literature

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Reviewer: Billy BF Futter

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The global pharmacy workforce: a systematic review of the literature

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Reviewer. Billy Futter

This article is a well thought out, comprehensive analysis of an extremely important issue. The revisions are minor or discretionary.

General comments

An impressive piece of research that will significantly influence the agenda of those involved in pharmacy workforce planning. It will also be very useful for others involved in planning all categories of the health workforce.

Discussion

The way in which the first sentence is phrased is a conclusion and would be more appropriate under that heading. i.e. 'This review adds significantly to the current understanding of the international pharmacy workforce by bringing together and evaluating the relevant literature from around the world'.

Limitations

By virtue of the limitations placed on the scope of the articles reviewed, the focus has been on the pharmacy workforce in English speaking, developed countries. Although this does limit its generalizability, it does not devalue its usefulness. On the contrary, it provides several comparators for additional research in the excluded countries. More should be made of this point.

I found very little mention of the capacity of the training institutions to cope with the demands of training a competency directed/ needs based workforce. There were a few mentions of the number of students wanting to register for post graduate degrees but it was not clear whether this would threaten or increase the size of the academic staff.

Data bases researched

I was not sure to what extent the review took into consideration reports by government bodies of relevant NGOs (check references) and give example Health Systems Trust

By the very nature of its purpose as a systematic review, the major focus is on research that has been published in peer reviewed journals.

A few comments about developing nations and the pharmacy workforce:

1. Migration is being accelerated by workforce shortages. When there are shortages, those pharmacists who have to get the work done are pushed back into the dispensaries and away clients and the rest of the health care team. Pharmaceutical care and medicine management roles that are being taught during undergraduate training are rendered meaningless. The relevance of CPD courses are questionable because of the lack of capacity to integrate new knowledge and skills into the work place. These circumstance accelerate the move from public to private sector, and from emigration to immigration.

2. The situations differ between developing countries. The nature of the health, education and economic infrastructures differ. Even where they are similar, there are different reasons to explain similarities. E.g. comparisons between India, China, Cuba and South Africa Understanding reasons for the differences is essential if meaningful interventions are to be developed.

3. A personal theory of mine is that in developing countries, pharmacy has been seen as a route for combining enterprise with professional standing. This route has been explored by minorities for a period of time, until appropriate status has been achieved and then other careers are pursued. E.g. in South Africa we have had waves of Jews, Greeks and Indians moving through pharmacy. These are people with a reputation for trading. As they move through the training institutions, first the males no longer pursue it as a career and then the minority leaves almost completely. With the rise of chain pharmacies, this series of events may no longer happen. i.e. another source of recruiting potential pharmacists is lost.

It is a limitation of this research that whilst it developed an excellent framework for analysis and explanation, more research is required to develop meaningful interventions, especially in the countries for which valid and reliable data was lacking. This point was made in the limitations. However, I bring this up in the context of the specific objective to "explore the methods used to expand the workforce." It may be that this emphasis could be reconsidered and more appropriately phrased.

Grammar

There were a few problems with :

1. Tense (e.g. using 'were' and 'was', "is" and "appropriately).
2. Length of sentences – many sentences were very long which made reading and understanding difficult.
3. Need for more comma's – this increased the length of sentences. Typical was the lack of a coma or a full stop before the word 'however'.

4. Repetition – see Methods, first paragraph; ‘AND pharmacy’ appears twice.
5. Words / phrases not defined explicitly – e.g. “key informants”. What was the purpose of using key informants? To explain, identify, verify, validate reports? Were key informants sought from developing and developed countries?

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.