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Review

Which Triple Aim related measures are being used to evaluate population management initiatives? An international comparative analysis

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ABSTRACT

Introduction: Population management (PM) initiatives are introduced in order to create sustainable health care systems. These initiatives should focus on the continuum of health and well-being of a population by introducing interventions that integrate various services. To be successful they should pursue the Triple Aim, i.e. simultaneously improve population health and quality of care while reducing costs per capita. This study explores how PM initiatives measure the Triple Aim in practice.
Method: An exploratory search was combined with expert consultations to identify relevant PM initiatives. These were analyzed based on general characteristics, utilized measures and related selection criteria.
Results: In total 865 measures were used by 20 PM initiatives. All quality of care domains were included by at least 11 PM initiatives, while most domains of population health and costs were included by less than 7 PM initiatives. Although their goals showed substantial overlap, the measures applied showed few similarities between PM initiatives and were predominantly selected based on local priority areas and data availability.
Conclusion: Most PM initiatives do not measure the full scope of the Triple Aim. Additionally, variety between measures limits comparability between PM initiatives. Consensus on the coverage of Triple Aim domains and a set of standardized measures could further both the inclusion of the various domains as well as the comparability between PM initiatives.

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1. Introduction

Health care systems around the world are being challenged to reform by rising costs and disparities in the provided quality of care [1]. In order to realize sustainable and higher quality health care systems, so-called population (health) management (PM) initiatives are being introduced. These initiatives aim to achieve this goal by focusing on the health needs of a specified population across the continuum of health and well-being by introducing multiple interventions that integrate services related to health and social care, as well as prevention and welfare [2]. This approach addresses the current need for preventing or postponing chronic diseases as well as the push away from fee-for-service toward accountable care [3]. In order to realize sustainable and higher quality health care systems, PM initiatives should pursue the Triple Aim, i.e. simultaneously strive to improve population health and quality of care while reducing cost growth [4]. Hence, evaluations of the Triple Aim dimensions (population health, quality of care and cost) are needed to adapt and improve PM initiatives.

Evaluating the three dimensions of the Triple Aim appears to be difficult in practice since the concepts of (population) health, quality of care and costs are not unanimously defined and measures for these concepts are under construction [5–10]. For example, Kindig and Stoddart [11] define population health as "the health outcomes of a group of individuals, including the distribution of such outcomes within the group", while Young [12] regards population health as "a conceptual framework for thinking about why some people are healthier than others and the policy development, research agenda and resource allocation that flow from this". Further adding to this complexity is the introduction of new concepts regarding health and quality of care [13,14] as well as the rise of new types of measures, such as patient reported outcome measures (PROMs) and patient reported experience measures (PREMs) [15]. Several papers provide guidance on how to measure population health, quality of care and costs [2,16–18]. Frameworks suggested by these papers provide many possible measures, potentially implying a large measurement burden and lack of comparability between PM initiatives. To explore how to best deal with the many possibilities, it is of interest to have insight into the currently applied measures for evaluating PM initiatives. Recently, an overview of applied health and health care performance measures was given by the Institute of Medicine (IOM) [18]. The IOM studied current measures used in the United States and found that a large number of various measures are utilized to evaluate health and health care. However, it is unclear whether these results are in line with the applied measures used in PM initiatives in and outside the United States. This is due to the IOM's focus on general health care rather than PM and the differences between the United States and other OECD countries in health care performance and organization [19–21].

As a result, insight into how PM initiatives measure the Triple Aim in practice is still needed. This study aimed to create this insight for PM initiatives that focus on the general population, as these are most likely to integrate multiple domains and entail the continuum of health and well-being [22,23]. Hence, this study explored which measures are used in practice to evaluate PM outcomes within the general population reflecting population health, quality of care and costs, and looked for emerging patterns and outliers.

2. Material and methods

2.1. Search strategy

Initially, literature searches were performed in order to explore the value of a systematic review (Appendix 1). This showed that current PM initiatives' evaluations were not (yet) published in Medline. Therefore, PM initiatives were identified using a two-step exploratory search strategy that was performed during the period March to August 2015. The first step was to consult websites of research institutions involved in PM research (such as King's Fund, Commonwealth Fund, Nuffield Trust, World Health Organization and the Institute of Health care Improvement (IHI)) for publications related to PM and the Triple Aim. Next, a manual search on the Internet was performed using the search terms 'population health', 'population health management', 'population management' and 'integrated care'. A list of relevant PM initiatives was compiled, which was subsequently evaluated by all authors in order to add missing known PM initiatives.

In the second step, the list of PM initiatives was sent to eight experts in the field of PM. These experts were asked to review the list to see if any relevant PM initiatives were missing. The suggestions provided by five experts (Appendix 2) were explored to create the final list of potential PM initiatives before scoring.

For analysis, information of included PM initiatives was collected by consulting websites of associated institutions and organizations. All available information related to the selected PM initiatives was screened, including documents, articles, webpages and presentations. If this did not provide the necessary information, published papers were searched using search terms related to the PM initiative (e.g. affiliated authors). Initiatives that did not publicly provide all information needed for scoring were asked to provide additional information by email. Finally, the quality of the initiatives' (public) reporting was assessed based on the standards created by Nothacker et al. [24]. The found sources of each initiative were searched for the presence of the following seven standards: description of the measures development process, measures appraisal, measures specification, description of the intended use of the measures, measures testing/validation, measures review/re-evaluation, and composition of the measures developmental team.

2.2. Inclusion criteria

PM initiatives were included in the study if they met the following six criteria. First, PM initiatives had to focus on a general, non-disease-specific population. Second, the initiatives had to either (a) use interventions that covered at least two areas of care (prevention, health care, social care