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Short report

Which doctor for primary health care? Quality of care and non-physician clinicians in India

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Abstract

The scarcity of rural physicians in India has resulted in non-physician clinicians (NPC) serving at Primary Health Centers (PHC). This study examines the clinical competence of NPCs and physicians serving at PHCs to treat a range of medical conditions. The study is

set in Chhattisgarh state, where physicians (Medical Officers) and NPCs: Rural Medical Assistants (RMA), and Indian system of medicine physicians (AYUSH Medical Officers) serve at PHCs. Where no clinician is available, Paramedics (pharmacists and nurses) usually provide care. In 2009, PHCs in Chhattisgarh were stratified by type of clinical care provider present. From each stratum a representative sample of PHCs was randomly selected. Clinical vignettes were used to measure provider competency in managing diarrhea, pneumonia, malaria, TB, preeclampsia and diabetes. Prescriptions were analyzed. Overall, the quality of medical care was low. Medical Officers and RMAs had similar average competence scores. AYUSH Medical Officers and Paramedicals had significantly lower average scores compared to Medical Officers. Paramedicals had the lowest competence scores. While 61% of Medical Officer and RMA prescriptions were appropriate for treating the health condition, only 51% of the AYUSH Medical Officer and 33% of the prescriptions met this standard. RMAs are as competent as physicians in primary care settings. This supports the use of RMA-type clinicians for primary care in areas where posting Medical Officers is difficult. AYUSH Medical Officers are less competent and need further clinical training. Overall, the quality of medical care at PHCs needs improvement.

Highlights

► In India 3-year trained clinicians & Indian system of medicine physicians provide primary care as rural physicians are few. ► Clinical competence of 3-year trained clinicians & Indian system of medicine physicians for primary care is unknown. ► 3-Year trained clinicians are equally, and Indian system of medicine physicians less, competent than physicians. ► Overall, the quality of clinical care provided by primary health care providers is poor.

Introduction

In many areas of the world clinical care providers with shorter duration of medical training perform clinical functions normally expected of physicians. Non-physician clinicians (NPC) are now increasingly viewed as a cost effective means of delivering primary health services (Huicho, Scherpbier, Nkowane, & Victora, 2008; Kurti, Rudland, Wilkinson, Dewitt, & Zhang, 2011; Laurant et al., 2005; Lehmann, Van Damme, Barten, & Sanders, 2009; Mullan, 2007). Where physicians are scarce they offer a way to continue clinical services. In several countries, NPCs have become the main providers of primary

care, and in some instances, even provide specialist services (Abegunde et al., 2007; McCord, 2009; Warriner et al., 2011; Wilson et al., 2011).

India has had an uneasy relationship with NPCs. At Independence in 1947 two kinds of allopathic clinicians were present – physicians who had at least five-and-a-half-years of training and Licentiate Medical Practitioners (LMP) who underwent three years training. Nearly two-thirds of the qualified medical practitioners were LMPs and they mostly served in rural areas (GOI, 1946). LMPs were abolished after Independence – India was to produce only one type of clinician, the MBBS graduate. However, the personal and professional expectations of MBBS graduates were not compatible with rural service. Their scarcity in rural India is testimony to this – in 2005, for every 10,000 people, there were around 10 qualified physicians in urban but only 1 in rural areas – a ten-fold difference (Rao, Bhatnagar, & Berman, 2012). Not surprisingly, unqualified practitioners have occupied the rural workforce space: national surveys indicate that up to 63% of clinicians practicing in rural India have inadequate medical training (Rao et al., 2011, Rao et al., 2012).

One response to the rural physician deficit has been to deploy NPCs. Clinicians with three years of training in allopathic medicine currently operate Primary Health Centers (PHC) and sub-centers in the states of Chhattisgarh and Assam, respectively. In Chhattisgarh they are known as Rural Medical Assistants (RMA). The central health ministry recently proposed to extend such cadres nationwide through the Bachelors of Rural Health Care (BRHC) course (Kinra & Ben-Shlomo, 2010). Physicians trained in Indian systems of medicine (ayurveda, yoga, unani, siddha) and homeopathy, commonly known by the acronym AYUSH, serve at PHCs in many states of India. AYUSH Medical Officers are, following national policy, posted at PHCs to mainstream Indian systems of medicine and homeopathy. Often they serve as the primary clinical provider there because no Medical Officers are available (Basu, 2009). There has been much concern in India about NPCs with critics questioning their necessity and clinical ability (Garg, Singh, & Grover, 2011). A former health minister even labeled RMA type of clinicians as ‘qualified quacks’ (Ramadoos, 2010). Yet, this debate continues without any empirical evidence on the performance of NPCs in the Indian context.

This study aims to evaluate the clinical competence of physicians and NPCs serving at PHCs in India. We measure their knowledge of (i.e. how much they know) treating conditions commonly seen in primary care settings. Our study is set in the central Indian state of Chhattisgarh which has a population of 26 million, of which, 78% live in rural areas. In response to the shortage of rural physicians, the state government deployed the

following types of clinicians at PHCs – physicians (Medical Officer), AYUSH physicians (AYUSH Medical Officer) and clinicians with three years allopathic training (RMA). At many PHCs, paramedicals (nurses and pharmacists) provide clinical services because no clinician is present. However, they are neither trained nor expected to perform this job. In this study the term physician refers to a medical doctor or a Medical Officer i.e. those with a graduate (MBBS degree) or higher degree in allopathic medicine. We use the term 'non-physician clinician' (NPC) to denote clinical care providers who have undergone shorter duration training (relative to physicians) in allopathic medicine. Here, RMAs and AYUSH physicians are considered NPCs.

The state of Chhattisgarh started training of RMAs in 2001. RMAs experience three and a half years of training followed by a year of internship. In contrast, physicians possessing an MBBS undergo five-and-a-half-years of training including a year of internship. The RMA curriculum is essentially a compressed MBBS program (Raha, Bossert, & Vujicic, 2010). However, their internship prepares them for rural service; RMAs spend one month at a sub-center, three months at a PHC, four months at a sub-district hospital, and four months at a district hospital where they were rotated through different departments. They receive a Diploma in Modern and Holistic Medicine on completing their training. RMAs can serve only at PHCs and they perform all the clinical, public health and administrative duties expected of a Medical Officer (except for post-mortems and medico-legal cases).

AYUSH physicians in this study were ayurvedic physicians. They possessed a Bachelor of Ayurvedic Medicine & Surgery (BAMS) degree, which has the same duration as the MBBS degree. They receive some exposure to allopathic medicine during training, and when in government service, they are trained to manage conditions related to a range of national disease control programs like malaria and TB. Available evidence indicates that it is common for AYUSH physicians to engage in 'mixed practice' and prescribe allopathic medicines, though the legality of this is ambiguous (Kumar, 1997; Press Information Bureau, 2007; Verma, Sharma, Gupta, Gupta, & Kapoor, 2007).

Section snippets

Study design

The study uses a cross-sectional design in which PHCs in Chhattisgarh were first stratified by the primary clinical care provider (Medical Officer, AYUSH Medical Officer, RMA, Paramedicals) present. A random sample of PHCs was drawn from each stratum to select a representative sample. Exiting patients and surrounding households from selected PHCs were also sampled – Appendix A details the sampling plan and findings from the patient and household survey. Data for the study was collected between…

Results

Around 30% of the PHCs in Chhattisgarh had a Medical Officer present. The sample size achieved (target) was 146 (160) PHCs. In 91% of the target PHCs the selected clinical provider was available and the remaining PHCs lost to non-response.

PHCs headed by AYUSH Medical Officers (74%) were mostly in tribal areas (Table 1). PHCs in the AYUSH Medical Officer and Paramedical groups were more remotely located. Pharmacists comprised 83% of the Paramedical sample. The majority of sampled clinical…

Discussion

In many countries, particularly in areas where physicians are scarce, clinicians with shorter duration of medical training deliver basic clinical services. This study presents evidence on the clinical competence of NPCs and physicians at PHCs in India. It is the first study to specifically evaluate how well NPCs in India can manage conditions commonly seen in primary care settings. Since the study measures competence across a range of primary care providers it also provides an assessment of the …

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> patients to address several shortcomings of quality measurement from direct clinical observations, and since then this technique has also been used – again in select samples from Madhya Pradesh, Bihar, Maharashtra, West Bengal and Delhi (Das et al., 2016a; Das et al., 2016b; Das et al., 2015; Kwan et al., 2018; Mohanan et al., 2015)....

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