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## New technology and illness self-management: Potential relevance for resource-poor populations in Asia



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#### ABSTRACT

Advances in technology have made it possible for many standard diagnostic and health monitoring procedures, traditionally carried out by qualified personnel within medical facilities, to be reliably undertaken by patients or carers in their own homes with a minimum of basic training. There has also been a dramatic increase in the number and diversity of both sources of information on health issues and the possibilities for sharing information and experiences over ICT-based social networks. It has been suggested that these developments have the potential to 'empower' patients, reducing their dependence on providers and possibly improving their quality of care by increasing the volume and timeliness of diagnostic data and encouraging active self-management of their condition, for example through lifestyle changes. Perhaps more significantly, it is also seen by many economies with ageing populations as a way to contain high and ever rising healthcare costs.

It has also been suggested that a move to greater self-management supported by expert networks and smart phone technology could improve the treatment of many millions of patients with chronic diseases in low and middle income economies that are also confronting the potential cost implications of epidemiological and demographic transitions, combined with the higher expectations of a more educated and knowledgeable population. There is now limited evidence that some fairly basic e- and mHealth interventions, for example in the areas of MNCH, malaria and HIV/AIDS can have a positive impact, even in resource-poor contexts. The aim here is to explore the extent to which further investment in technology could play a role in the development of an effective and affordable health sector strategy for at least some developing economies. It is suggested that the effectiveness of the approach may be highly dependent on the specific health conditions addressed, the nature of existing health systems and the overall socio-economic and cultural context.

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#### 1. Introduction

Medical advances are continually providing new possibilities for extending life, sometimes by curing but more often by managing serious illness. These advances are however typically associated with an ever increasing cost of care, and there is considerable concern, even in some of the richest economies, as to how these costs will be met. If technological developments are contributing to the problem of healthcare funding, it seems reasonable to ask if they can contribute to a solution. One superficially attractive proposition which has attracted increasing attention over recent years is that using advances in ICTs to provide patients with the knowledge and equipment required to play a greater role their own treatment could not only prove beneficial in health terms (McDermott and While, 2013; King et al., 2012) but also in terms of

reducing the cost of care by limiting their reliance on expensive professional providers (Lindberg et al., 2013).

This approach is often set in the broader context of patient *empowerment*, a term which from a heath care perspective is typically used to indicate the extent to which patients play an active role in decision-making in relation to their treatment. A literature review by Holmström and Röing (2010) indicates the wide range of possible interpretations of this concept, which extend from a basic willingness of medical practitioners to provide information and engage patients in discussion of possible treatment options, sometimes with the very traditional aims of encouraging compliance and adherence (Bissell et al., 2004), to full 'self-management', in which patients take the lead and "the health professional will take on the role of a consultant, a resource person who offers treatment suggestions" (Kober and Van Damme, 2006:9). There is general agreement that empowerment should be seen as a process, with power being transferred to a greater or lesser extent from provider

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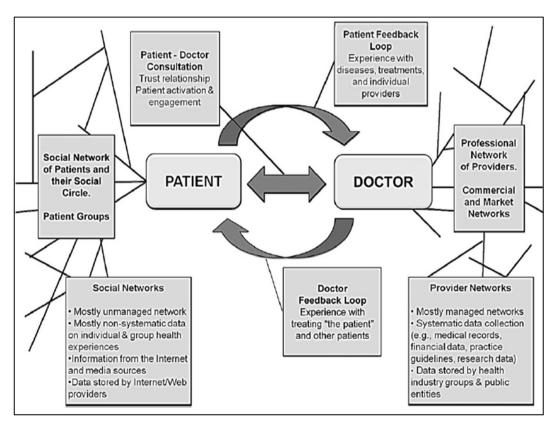
to patient. That process is often conceived as one initiated and managed by well-intentioned providers: "the impression gained is of a normative perspective driven by professionals" (Thompson, 2007). But there may also be situations, particularly where medical services are perceived to be failing patients, in which self-empowerment is seen as the most effective healthcare seeking strategy (Kober and Van Damme, 2006:16).

A number of authors have voiced concerns at the level of enthusiasm for patient empowerment among some advocates of radical health sector reforms. They suggest that it is by no means obvious that this process is always welcomed: "whilst many commentators ... may believe that increased consumer/patient responsibility for health is the way forward, some patients are clearly not yet convinced" (Henwood et al., 2003). To state the obvious, most patients would rather be cured than empowered. The responsibility of being involved in treatment decisions may be seen as just one more burden, especially for those with a serious illness: "Many patients in palliative cancer treatment have no desire to take part in decision making as their condition progressively worsens" (Holmström and Röing, 2010:171). In such cases, some have gone so far as to argue that empowerment may be "popular with staff because it removes a responsibility for their patients' pain that is practically and emotionally burdensome" (Salmon and Hall, 2003:55).

There are also suggestions that some providers may use the language of empowerment simply as a means of persuading patients to comply with proposed treatments (Henwood et al., 2003:591). In practice the 'choices' that a patient can make may often be strictly limited by resource constraints, either their own or those imposed by third-party payers. Salmon and Hall (2003) argue that in addition many patients tend to impose their own limits on

the range of possible treatment options. For them, "treatment decision-making simply meant coming to terms with the disease and acquiescing to the recommendations of the doctor" (p53). Enthusiasm for patient empowerment among some policy-makers has also been linked to their promotion of a consumerist approach to healthcare (McDonald et al., 2007). A major concern here is that patients who have been persuaded that they are 'rational decisionmakers', able to assess the potential benefits, costs and risks associated with a given course of treatment, may be readily deceived by the extravagant claims of private providers, pharmaceutical companies and quacks. Here again, such concerns may be most relevant in cases of serious illness, where patients are anxiously hoping for a 'magic bullet' cure. A recent article (Will and Weiner, 2015) argues that the behaviour of patients may vary substantially depending on the specific type of health concern and that "sociologists should be cautious about assuming there will be demand for new medicines ... even in burgeoning health markets" (p9).

Alternative interpretations of the implications of recent developments in ICT for patient empowerment are illustrated in Figs. 1 and 2. In Fig. 1 (Griffiths et al., 2012:p2237) the traditional patient—doctor relationship takes centre stage. Both parties bring to this relationship their own, possibly overlapping, networks. On the provider, 'supply', side will be a range of expert networks including other health providers, managers and administrators, public agencies and medical technology and pharmaceutical companies, with access to massive commercial and public sector databases containing patient records, practice guidelines, research publications, data on drug trials, etc. It can be argued that the essential nature of these networks has not changed radically over recent years, the main impact of ICT developments being to make personal communications and access to data faster and more



**Fig. 1.** Centrality of the patient—doctor relationship. Source: Griffiths et al., 2012, p2237.

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