Health Policy 119 (2015) 1176–1187

Contents lists available at ScienceDirect

Health Policy

journal homepage: www.elsevier.com/locate/healthpol

Costs and effects of new professional roles: Evidence from a literature review

A. Tsiachristas[a,*,1], I. Wallenburg[b], C.M. Bond[c], R.F. Elliot[d], R. Busse[e], J. van Exel[b], M.P. Rutten-van Mölken[b], A. de Bont[b], the MUNROS team

[a] Health Economics Research Centre, Nuffield Department of Population Health, University of Oxford, Oxford, England, UK
[b] Institute of Health Policy and Management, Erasmus University Rotterdam, Rotterdam, The Netherlands
[c] Centre of Academic Primary Care, Division of Applied Health Sciences, University of Aberdeen, Aberdeen, Scotland, UK
[d] Health Economics Research Unit, University of Aberdeen, Aberdeen, Scotland, UK
[e] Department of Healthcare Management, Technische Universität Berlin, Berlin, Germany

ARTICLE INFO

Article history:
Received 21 June 2014
Received in revised form 30 March 2015
Accepted 1 April 2015

Keywords:
New professional roles
Skill-mix
Health service redesign
Costs
Effects
Impact

ABSTRACT

One way in which governments are seeking to improve the efficiency of the health care sector is by redesigning health services to contain labour costs. The aim of this study was to investigate the impact of new professional roles on a wide range of health service outcomes and costs.

A systematic literature review was performed by searching in different databases for evaluation papers of new professional roles (published 1985–2013). The PRISMA checklist was used to conduct and report the systematic literature review and the EPHPP-Quality Assessment Tool to assess the quality of the studies.

Forty-one studies of specialist nurses (SNs) and advanced nurse practitioners (ANPs) were selected for data extraction and analysis. The 25 SN studies evaluated most often quality of life (10 studies), clinical outcomes (8), and costs (8). Significant advantages were seen most frequently regarding health care utilization (in 3 of 3 studies), patient information (5 of 6), and patient satisfaction (4 of 6). The 16 ANP studies evaluated most often patient satisfaction (8), clinical outcomes (5), and costs (5). Significant advantages were seen most frequently regarding clinical outcomes (5 of 5), patient information (3 of 4), and patient satisfaction (5 of 8).

Promoting new professional roles may help improve health care delivery and possibly contain costs. Exploring the optimal skill-mix deserves further attention from health care professionals, researchers and policy makers.

1. Introduction

Expenditure on health care is increasing in many high-income countries, posing a threat to financial stability of health care systems. Therefore, different approaches for cost-containment have been implemented in order to tackle this challenge. One way in which many governments are seeking to improve the efficiency of the health care sector is by redesigning health services to contain labour costs.

* Corresponding author. Tel.: +44 1865 289272.
E-mail address: apostolos.tsiachristas@dph.ox.ac.uk (A. Tsiachristas).
[1] Affiliated to Institute of Health Policy and Management, Erasmus University Rotterdam, The Netherlands at the time the research was conducted.

http://dx.doi.org/10.1016/j.healthpol.2015.04.001
0168-8510/

Health service redesign is a long-term efficiency improvement policy, covering a range of approaches with varying degrees of emphasis and eclectic use of tools and frameworks [1]. An increasingly popular approach to health service redesign is changing the skill-mix of health care professionals. Changing the skill-mix can be achieved in two ways. The first is by allowing non-medical health care professionals to undertake tasks that were traditionally delivered by medically qualified personnel (e.g. medical specialists and GPs). This is defined as new roles of existing professionals (e.g. specialist nurses, midwives, physiotherapists, dieticians, pharmacists, radiotherapy technicians) within predefined clinical areas. The second way is by introducing new health care professionals (e.g. advanced nurse practitioners and physician assistants). Hereafter both of these are referred to as new professional roles.

There is literature suggesting that new professional roles in health care help increase patient satisfaction and quality of care [2] as well as cost-effectiveness of care [3]. However, the bulk of the existing evidence is inconclusive about the effects of new professional roles on quality of care, health outcomes and costs [4–6]. An illustrative example is a recent review of 33 literature reviews of the impact of expanding the role of community pharmacists [7]. Whilst some reviews, for example, showed benefits of providing smoking cessation services, overall the authors concluded that there is inconclusive evidence about the expanded role of community pharmacists and therefore, policy making cannot be supported. The inconclusive evidence about the impact of new professional roles on health care delivery raises questions among policy makers about the adequacy of this strategy to reduce the growth of health care expenditure and asks for stronger evidence [3,8,9].

The inconclusive evidence about new professional roles may be explained by the methodological drawbacks of evaluation studies (e.g. inappropriate outcome measurements, weak study design) [4,7]. Another reason may be that the successful introduction of new professional roles in health service depends on features of the health care system, such as the presence of financial incentives to compensate for the turnover that is lost due to substitution of tasks to lower educated professionals. It is likely that its impact on outcomes and costs will only be realized in the longer term, when the new professional role has become a solid part of the skill-mix and is fully operational [6]. A third reason may be that several studies evaluated a new professional role in the provision of a new health service, of which the added value was not yet fully clear. Therefore, it was not clear to which extent the reported outcomes and costs in these evaluation studies were attributed to new professional roles and to which extent to the new health service (such as self-management and tele-care).

The aim of this systematic literature review was to describe the impact of new professional roles on a wide range of health service outcomes and costs. Considering the reasons for inconclusive evidence from previous studies mentioned above, the current review aimed to contribute to insight in the impact of new professional roles by focusing on: (1) the quality of the included evaluation studies; (2) specialist nurses (SNs), advanced nurse practitioners (ANPs), and physician assistants (PAs) because the size of the workforce for these professions is one of the largest compared to other professions with new roles; (3) new professional roles in the provision of an existing health service.

2. Methods

A systematic literature review was performed by searching in the PubMed-Medline and EMBASE databases as well as the Cochrane library. The inclusion criteria for selecting relevant studies were:

(1) Evaluation of SNs, ANPs, and PAs in health care.
(2) The new role or new professional was allocated to perform a previously existing health service.
(3) Studies reported at least one clinical, process, or economic outcome.
(4) English, German, French or Dutch language.
(5) Empirical studies of any design except for literature reviews (which were only used to go back to original publications).
(6) Published later than 1985.
(7) Conducted in Western Europe, North America, New Zealand, or Australia.

We focused our search on these health care systems because their similarity on major characteristics could provide us with more conclusive findings. We used the PRISMA checklist to conduct and report the systematic literature review [10]. For the selection of the search terms we inspected the search terms used in previous literature reviews and the keywords of leading papers on the topic of new professional roles [2,4–6,11]. The search strategy included targeted general terms of health service redesign (e.g. task allocation, skill mix, new professions, new professional roles, task substitution), targeted terms to new professional roles (i.e. SN, ANP, and PA), and terms relevant to outcomes (i.e. effects, cost(s) and types of economic evaluation). The complete search strategy can be found in Appendix 1. Additional studies were sought by hand searching the reference lists of previous reviews of literature on new professional roles.

Potentially relevant studies were retrieved from the electronic databases and identified by two reviewers (AT and IW) based on predetermined inclusion criteria in a two-step procedure: (1) title, keywords, and abstract, (2) a brief screening of the full text. These two reviewers have complementary expertise in this area (AT has expertise in economic evaluation of process changes in health care; IW has expertise in studies of new professional roles) and have previous experience of conducting systematic literature reviews. When disagreement of the two researchers could not be resolved by discussion, a third reviewer (AB) was consulted to reach consensus. All databases were searched in December 2013.

For analytical purposes, the intervention group of an evaluation study was defined as the sample of respondents that had received care from an existing professional undertaking a new role or from a new professional. The comparator or control group was defined as the sample