Health Care Reform: the impact on practice, outcomes and costs of New roles for health professionals (MUNROS)

Project Scientific Session at ECHE Dublin 2014

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Population ageing leads to a large increase in health care expenditure which poses a substantial threat to the financial sustainability of health care systems worldwide. Therefore, different approaches for cost-containment have been implemented in Europe in order to tackle this challenge. One way in which many European governments are seeking to improve the efficiency of the health care sector is by redesigning the health service to contain health service labour costs. Health service redesign is an efficiency improvement policy, covering a range of approaches with varying degrees of emphasis and eclectic use of tools and frameworks. An increasingly popular approach in European countries is to achieve health service redesign by changing the skill-mix of health care professionals. Changing skill-mix can be either achieved by new professionals roles allocating tasks that were traditionally delivered by medical specialists and general practitioners to other health care providers or new health care professionals. New professional roles include a) extended roles of traditional health care professionals (e.g. specialized nurses, midwives), b) technical professions that act under the supervision of physicians (e.g. radiotherapy technician and orthopaedic technician), and c) advanced roles of traditional professionals focusing on new health services (e.g. case manager nurse). New professionals incorporate new groups of health care practitioners who take over clinical tasks from physicians (e.g. physician assistant and advanced nurse practitioner).

This session will present research which reports the results of three studies about the characteristics of health care systems that are related to the skill-mix change and the impact of skill-mix change on practice, outcomes and costs. The first presentation will elaborate on the health care delivery systems within European Union and Associate Countries, highlight key differences, and discuss their relation with skill-mix change. The second presentation, will present a systematic literature
review of studies that have evaluated empirically the outcomes and costs of skill-mix change. The assumption that skill-mix change increases efficiency in health care delivery will be discussed based on the findings from the literature review. The first two presentations are based on a broader research conducted for the MUNROS project (EU-FP7 program). The third presentation is a practical example of an evaluation of a change in skill mix in the treatment of Epilepsy in Ireland. The study aims to identify the role and cost-effectiveness of specialist nurses in the treatment of epilepsy in Ireland. Preliminary results on the cost of care for those treated with and without an Epilepsy Specialist Nurse will be presented, along with data collected on patient outcomes, which is available at the time of the presentation.

The last presentation is work from the SENSE study and it is funded by the Health Research Board and Epilepsy Ireland.

The discussion following each presentation will focus on the economic aspects of new roles for health professionals.

Theme: 9

Key Terms: Skill-Mix Change, New Professional Roles, Evaluation, Costs, Outcomes, MUNROS Project, SENSE study

Presentations (3)

1. **Identifying the Drivers of New Professional Roles in European Health Systems**

**Presenter:** Daryll Archibald (University of Aberdeen. Centre of Academic Primary Care/Health Economics Research Unit)

**Abstract**

Following the recent financial crisis public finances are under pressure in most European countries. Expenditure on health care is the largest item of public spend in all European Union states. However, demand on health services is increasing as a result of changing demography and changing treatment paradigms. Workforce costs represent the largest component of expenditure on health, and in most EU states the labour supply of doctors is declining whilst available hours of work have fallen due to the implementation of working time legislation. To counteract this, certain countries have introduced innovative changes in the development of health workforce skills. New health professions and enhanced roles for established professions have been created. These ‘new professional roles’ have potential to contribute to reduced fragmentation and to enhance the integration of care. Funded by the EU-FP7 Programme, The MUNROS project undertakes a systematic evaluation of the impact of ‘new professional roles’ on practice, outcomes and costs in a range of different health care settings within nine European Union and Associate Countries (Czech Republic, England, Germany, Italy, Poland, Netherlands, Norway, Scotland, and Turkey). This paper reports on the first phase of the research, which aimed to detail the key features of health delivery systems in Europe in order to identify factors that may be driving the development of new professional roles.
A rigorous multi-stage process was undertaken. Firstly, a questionnaire was administered to researchers in partner countries that covered pre-specified data collection goals for the first phase of the MUNROS research. Follow-up interviews were conducted to explore points of interest that emerged from the questionnaires. A further stage involved undertaking a review of literature reporting on the key features of the health delivery systems in EU countries. Lastly, each MUNROS partner compiled a report for their own country which included locally published peer reviewed and grey literature. A narrative thematic synthesis was carried out using each of these data sources.

The analysis highlighted central themes that are driving changes in workforce composition. For example, workforce shortages have stimulated innovation in certain countries, thus new roles have been developed and introduced to fill gaps. In addition, downward financial pressures on costs have induced substitution of lower cost professions. Financial innovation can also drive the development of new professional roles. For example, new ways of funding hospitals or general practices may incentivise employment of new professional roles. Furthermore, changing medical technology may require either a more or less skilled workforce which can therefore generate demand for new professional roles. However, the research also highlighted issues that act as potential barriers to changes in the composition of the health workforce. For example, the established health professions are powerful and may resist change due to the possibility of fewer jobs being available. Furthermore there are also concerns over perceived transaction costs of change resulting in the view that reorganisation of the health workforce is too costly.

This research undertook a novel and comprehensive approach to detailing the drivers of new professional roles in Europe.

Key Terms: MUNROS Project, European Health Systems, Skill-Mix Change, New Professional Roles

Authors (3): Daryll Archibald (University of Aberdeen. Centre of Academic Primary Care/Health Economics Research Unit) , Christine Bond (University of Aberdeen. Applied Health Sciences) and Robert Elliott (University of Aberdeen. Health Economics Research Unit)

Funding Sources:
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2. Costs and effects of health service redesign: evidence from a literature review

Presenter: Apostolos Tsiachristas (Erasmus University Rotterdam. Institute for Health Policy and Management)

Abstract
Background: Expenditures on health care are increasing tremendously throughout Europe and in many countries pose a threat to financial stability. Therefore, different approaches for cost-containment have been implemented in Europe in order to tackle this challenge. One way in which many European governments are seeking to improve the efficiency of the health care sector is by redesigning the health service to contain health service labour costs.

Aim: The aim of this systematic literature review was to report the impact of health service redesign, focusing in particular on task substitution by specialized nurses and advanced practitioners, on a wide range of outcomes and costs.

Methods: A systematic literature review was performed by searching in the PubMed-Medline and EMBASE databases as well as the Cochrane library. Potentially relevant studies were retrieved from the electronic databases and identified by two reviewers based on predetermined inclusion criteria in a two-step procedure: 1) title, keywords, and abstract, 2) a brief screening of the full text. When disagreement of the two researchers could not be resolved by discussion, a third reviewer was consulted to reach consensus. All databases were searched in December 2013. We used the PRISMA checklist to conduct and report the systematic literature review and the EPHPP-Quality Assessment Tool to assess the quality of the selected studies.

Results: One thousand and forty eight study titles were identified which after screening against the inclusion criteria for eligibility yielded 93 studies for full text retrieval. After further screening, 45 studies were selected for full data extraction and analysis. The most frequent reason for exclusion in both selection steps was that the studies did not evaluate skill-mix change. Concerning specialized nurses, the majority of the evaluation studies reported improvements in quality of care (57%) and patient satisfaction (80%) as well as reduction (60%) in health care utilization. Concerning the relation of advanced nurse practitioners, most studies reported improvements in clinical outcomes (67%), patient information (86%), and patient satisfaction (57%). With regards to cost-effectiveness of advance nurse practitioners, two studies reported improvements in outcomes and reduction in costs, one study reduction in outcomes and costs, and 3 studies improvement in outcomes and higher costs. Combining the results, we found that there were relatively more studies that found improvements in patient satisfaction (80% vs 57%), quality of life (40% vs 9%), quality of care (57% vs 0%), and mortality (50% vs 0%) when evaluating nurse practitioners than when evaluating advanced nurse practitioners. In all other outcomes, the two professions had the same relative performance.

Conclusions: This review provides evidence to policy makers in European countries that skill-mix change in health care improve health care delivery and patient related outcomes without increasing health care costs. Very few health technologies can achieve this and therefore, they should be promoted even further, expanded in all disease areas and optimised in order to achieve an optimal skill-mix in health care that delivers high quality of care and in the long term, it might slow down the growth of health care expenditure.

Key Terms: Health service redesign, skill-mix, costs, outcomes, MUNROS Project

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3. An evaluation of the role and cost-effectiveness of the Epilepsy Specialist Nurse in Ireland and the impact on patient quality of life

Presenter: Ella Tyrrell (Trinity College Dublin. Department of Health Policy and Management)

Abstract

Epilepsy is one of the most common serious brain disorders, with prevalence of approximately 9 per 1,000 in Ireland (Linehan et al 2009). It is widely noted that nurses are now providing advanced practice in many nursing specialities. Various models of service provision have been developed internationally for the management of epilepsy, one of which includes the development of the Epilepsy Specialist Nurse role (ESN). However, few studies have formally evaluated the effectiveness of ESNs, and even fewer have examined their role in the treatment of Epilepsy. The available research suggests that ESNs can significantly improve patients’ knowledge about epilepsy, drug management, and satisfaction and are valued for education and supportive roles (Bradley & Lindsey, 2009). The Specialist Epilepsy NurSe Evaluation (SENSE study) aims to identify the role and cost-effectiveness of the ESN in Ireland. This study will determine if there is a difference in patient quality of life, experiences and satisfaction for a cohort of new patients with epilepsy over the first year of attending specialist services, compared with a similar cohort cared for without an ESN. It will also evaluate these outcome measures for patients who receive care from an ESN for more than 12 months, compared to those receiving care from services without an ESN. Using a case study methodology, the role of the ESN in the delivery of patient care within the multidisciplinary healthcare team in Ireland will be evaluated. This study will also measure the costs to the health service of caring for people with epilepsy in the community by considering the use of hospital, primary and community health services and wider costs arising from the impact on patients and their families.

Analysis: Here we explain what the study aims to evaluate and provide preliminary evidence on the changes in patient experience and the comparative costs. The comparison of costs of clinical activity for hospitals with experienced ESNs in Ireland will be highlighted. This will
assess the efficiency of each site in terms of the production of services, and will put into context the assessments of patient-centered outcomes. We will report the outcomes in terms of cost and patient experience that are available to date.

Key Terms: Epilepsy Specialist Nurse, Quality of life, Evaluation, Epilepsy

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