

Abstract

Over the last 25 years, the health care systems of most high-income countries have experienced extensive - usually market-based – organisational and financial reforms. The impact of these system changes on health equity has been hotly debated. Examining evidence from systematic reviews of the effects of health care system organisational and financial reforms will add empirical information to this debate, identify any evidence gaps and help policy development. Systematic review methodology was used to locate and evaluate published systematic reviews of quantitative intervention studies (experimental and observational) of the effects on equity in health care access and/or health status of health care system organisational and financial reforms (system financing, funding allocations, direct purchasing arrangements, organisation of service provision, and health and social care system integration) in high-income countries. Nine systematic reviews were identified. Private insurance and out-of-pocket payments as well as the marketisation and privatisation of services have either negative or inconclusive equity effects. The evidence base on the health equity effects of managed care programmes or integrated partnerships between health and social services is inconclusive. There were no relevant studies located that related to resource allocation reforms. The systematic review-level evidence base suggests that financial and organisational health care system reforms have had either inconclusive or negative impacts on health equity both in terms of access relative to need and in terms of health outcomes.

Introduction

Over the last 25 years, the health care systems of most high-income countries have experienced extensive - usually market-based – organisational and financial reforms. These changes have been remarkably consistent in different countries and under successive governments regardless of their political affiliation. The emphasis has unswervingly been on promoting choice, competition and the role of markets in health care ostensibly to drive up quality, stimulate innovation and promote greater equity. England is a strong example of this process where successive “reforms”, from the internal market in 1989 through to the Health and Social Care Act of 2012, have been justified on these grounds. Critics of reform have consistently rejected these claims. Examining evidence of the effects of previous health care system organisational and financial reforms will add empirical information to this heated debate, identify any evidence gaps and help policy development. This article therefore

synthesises systematic reviews on the effects on health equity of health care reforms. A companion paper does the same with respect to quality of care.

Methods

The objective of this study was to review existing evidence on the effects of organisational and financial health system interventions on equity of health care. An 'umbrella review' of systematic reviews was carried out, using systematic review methodology to identify relevant reviews.

Inclusion Criteria

Inclusion criteria for the review were determined a priori in terms of population, intervention, context, outcomes and study design, and the review protocol was registered with PROSPERO (No. CRD42013004363). The population was defined as adults and children of all ages. Health equity is defined in terms of socio-economic status inequalities (SES) in health care access and utilisation, health outcomes (e.g. self-rated health, mortality rates, disease prevalence etc) or income. In keeping with other equity focused reviews, SES inequalities are here defined in terms of differences in outcomes by SES (income, education, occupational class) or outcomes for the most vulnerable or deprived groups (e.g. unemployed, lone parents, deprived areas, etc)^{1,2}. Though any selection of countries would, to some extent, be arbitrary, for external consistency we limited the review to the health systems of 15 high income countries used by the Commonwealth Fund in their international work (Australia, Canada, Denmark, France, Germany, Iceland, Italy, Japan, the Netherlands, New Zealand, Norway, Sweden, Switzerland, United Kingdom and the United States). This selection covers all the main types of health systems in high-income countries, including different revenue collection mechanisms (tax-financing, social health insurance, private health insurance), pooling mechanisms, purchasing mechanisms (single payer, multiple payers, competing and non-competing payers) and types of provision (public, private for-profit, private non-profit).

As previously noted, we included only systematic reviews in our analysis. Reviews had to include intervention studies with quantitative outcomes. Reviews were defined as 'systematic' if they met the two mandatory criteria of Database of Abstracts of Reviews of Effects (DARE): (1) that there is a defined review question (with definition of at least two of, the interventions, participants, outcomes or

study designs), and (2) that the search strategy included at least one named database, in conjunction with either reference checking, hand-searching, citation searching or contact with authors in the field. Reviews were defined as 'partially systematic' if two or more of these components of the review question could be inferred from the title or text and the search criteria were fulfilled.

Search Strategy

Five specialist systematic review electronic databases were searched: the Cochrane Database of Systematic Reviews (CDSR), the Database of Abstracts of Reviews of Effects (DARE), the Campbell Collaboration Database, PROSPERO and the EPPI-Centre database of health promotion and public health studies. In addition, two general databases were searched: the Applied Social Sciences Index and Abstracts (ASSIA) and Medline (which includes Web of Science and Medline). All databases were searched from start date to January 2013. The combination of intervention, outcome and study design terms provided the keywords for the search (as detailed by database in Appendix 1). Citation follow-up was conducted on the bibliographies of included studies. We included all publications in English that met the inclusion criteria.

Data Extraction and Quality Appraisal

The identified titles and abstracts were screened for relevance. Full paper manuscripts of papers considered relevant were obtained and studies meeting all aspects of the inclusion criteria were data extracted and included in the synthesis. Data extraction and quality appraisal of included studies was carried out by two independent reviewers. The methodological quality of each systematic review was appraised using adapted DARE criteria (<http://www.crd.york.ac.uk/CRDWeb/AboutDare.asp>) as previously used in umbrella reviews. The criteria were as follows: (1) is there a well-defined question; (2) is there a defined search strategy; (3) are inclusion/exclusion criteria stated; (4) are study designs and number of studies clearly stated; (5) have the primary studies been quality assessed; (6) have the studies been appropriately synthesised; (7) has more than one author been involved in each stage of the review process. Reviews were categorised as low (met 0-3 criteria), medium (4-5) or high (6-7) quality.

Results

Overview

The literature searches and citation follow ups identified a total of 1283 studies (Table 1). 1254 of these studies were excluded at the title and abstract screening stage (including duplicates) with 29 full manuscripts examined. Nine of these met all aspects of the inclusion criteria and were included in the synthesis. A list of the twenty excluded papers (with reasons for exclusion) is provided in Appendix 2. The included studies were selected, data extracted and quality appraised by two reviewers. The results are synthesised by intervention type below. The findings are also summarised in Tables 2-5. In terms of intervention type, no reviews examined the effects of funding allocation reforms on health equity outcomes for the 15 Commonwealth Fund countries (although Gelorimo et al. 2011³ included this intervention type, the three studies they included related only to the non-Commonwealth Fund countries of Spain and Ireland). However, all of the other intervention types were covered with one of the reviews examining multiple types of intervention³. Four reviews contained data on general system financing, one covered direct purchasing arrangements, and there were three on the provision of services and two on health and social care system integration. The quality of the reviews was very variable with three high quality, one moderate quality and five low quality. Relevant studies in the reviews were from the following Commonwealth Fund countries: France, Italy, Netherlands, Sweden, UK, USA.

General system financing

Four reviews included studies of general system financing interventions. These interventions varied considerably and included: an increase in the use of private insurance (included in the Gelormino et al. 2011³ review), an increase in free care programmes (in the review by Gepkens and Gunning-Schepers 1996)⁴, as well as rather USA-specific interventions comparing fee-for-service with managed care (Steiner and Robinson 1998⁵; Chaix-Couturier et al. 2000)⁶. Increased use of private insurance had negative health equity impacts in terms of access, whereas free care programmes had positive health equity outcomes. The two reviews comparing fee-for-service compared to managed care were inconclusive (detailed findings are summarised in Table 2). The low quality, only partially-systematic review (8) synthesised eleven studies of financial interventions from the USA. The authors found that structural interventions (e.g. managed care private insurance systems which provided free

care once patients were enrolled versus managed care private insurance systems which still required co-payment; or public insurance managed care systems such as Medicare and Medicaid) which aim to increase the financial accessibility of health services were effective in reducing socio-economic health inequalities or improving the health of the poorest.

The moderate quality, fully-systematic, review by Gelormino et al. (2011)³ included one French study (Bellanger and Mosse, 2005)¹³ which examined increases in the role of private insurance. The results for health equity were negative as the study found that between 1980 and 2003, as the public share of health care expenditure decreased and private insurance increased, social and spatial inequalities in access increased particularly in relation to preventative, perinatal and sexual health services. The low quality, only partially-systematic, review of managed care organisation services compared to fee-for-service based provision in the USA (Steiner and Robinson 1998)⁵ included four relevant studies. Little detail was provided in the review and the results were mixed: for low income women, managed care seemed to offer comparable or better access to preventive screening services, but poorer access to maternity care. The findings of the low quality - but fully-systematic - review by Chaix-Couturier et al (2000)⁶ were also mixed as the three relevant USA studies which it included found that managed care decreased service provision by physicians, or did not produce better outcomes. A randomized study by Davidson *et al.* (1992)⁸ of fee-for-service versus capitation for the children's Medicaid programme found capitation significantly decreased the number of physicians' visits and hospitalisations, whereas provision of services increased when the fee was increased. A study by Ware et al. (1996)⁹ found that poor or elderly patients treated in fee-for-services practice had better outcomes than those treated in managed care organisations. A randomised trial conducted by Lurie et al. (1994)¹⁰ reported that the access to or quality of care and patient satisfaction did not differ between prepaid and fee-for-service physicians groups.

Direct purchasing

Only one moderate quality, fully-systematic, review by Gelormino and colleagues (2011)³ examined direct purchasing reforms. It included two studies from Sweden and Italy which both examined the equity impacts of increased user fees and out of pocket payments. Both studies found a negative impact on health equity. The Swedish study (Burstrom et al., 2002)¹¹ found that the increase in user

fees as a result of the early 1990s health care reforms led to an increase in the proportion of lower income groups reporting that they had “needed but not sought medical care” after the reforms (1996-97) than before (1988-89). This was accompanied by an increased utilisation of emergency care by lower income groups. The Italian study (Donia Sofio, 2006)¹² found that an increase in the role of out of pocket payments for health services in the 2000s led to the impoverishment of 1.3 percent of Italian households. This negative impact on income distribution was largely as a result of pharmaceutical, specialist and dental services.

Organisation of service provision

Three reviews included studies of organisation of service provision interventions. One examined the effects on equity of privatisation of services (private provision of services), with two examining the effects of marketisation (increased competition within a publicly funded system). Two reviews found that such reforms were universally negative for health equity, whilst the other review was inconclusive. The low quality, partially systematic, review by Braithwaite et al (2011)¹³ and the high quality, fully systematic, review by Hanratty et al (2007)¹⁴ of the privatisation and marketisation of health care services in the USA and Sweden respectively found increased inequalities in access and utilisation. In contrast, the low quality, partially systematic, review of marketisation in England via “patient choice” by Fotaki et al. (2008)¹⁵ was inconclusive (detailed in Table 4).

A low quality, only partially-systematic, review by Braithwaite et al (2011)¹³ examined the impacts on health care access of hospital privatisation. The review lacked detail but described one US study, by Schlesinger et al. (1987)¹⁶, which analysed the effects of the increased dominance of for-profit providers and large corporations on equity. They concluded that this dominance had been a primary cause of reduced access to health care for the poor and uninsured.

The low quality, partially-systematic, review by Fotaki et al. (2008)¹⁵ which focused on marketization in the form of increased “patient choice”, included three relevant studies – all from England. Overall the findings were inconclusive. One study of the internal market in primary care in England (GP fund holding) found negative impacts on equity of access (Mannion et al. 2005)¹⁷. However, another study (of the London Patient Choice Project) found no impact on inequalities in access (Coulter et al.

2005¹⁸; Dawson et al. 2004)¹⁹ with reductions in waiting times reported for all patients (Dawson et al. 2004)¹⁹. However, the Coulter et al. (2005)¹⁸ study also found that lower educated and low income groups were less likely to exercise choice and select an alternative hospital.

The high quality, fully-systematic, review by Hanratty and colleagues (2007)²⁰ included two studies of the effects of marketization on health care utilisation and access in Sweden. A longitudinal study by Whitehead et al. (1997)²¹ found very little difference in the use of health care services by socioeconomic status in 1984-85 and 1990-91, however, by 1993-94 (after a period of - unspecified - market-based reforms in the Swedish nationalised system), manual workers were less likely to access health care services relative to need. In a follow-up longitudinal study, Burstrom et al (2002)¹¹ found that by 1996-97, the lowest income groups in Sweden were also more likely to report not seeking care for which they perceived a need. This had not been the case prior to the reforms in 1988–89 (Burstrom et al 2002)¹¹. This Burstrom study¹¹ is also detailed as it was included in the Gelormino and colleagues (2011)³ review in relation to direct purchasing reforms.

Health and social care system integration

Two high quality, fully-systematic reviews addressed the integration of health and social care systems in the form of public health partnerships^{22, 23}. Area based partnership interventions in deprived areas of England were found to have either no effect or a slightly positive effect by Smith et al. (2009)²². Similar results were noted by Hayes et al (2012)²³ in relation to multi-agency partnerships in the USA and the Netherlands.

Four prospective studies were included in the high quality systematic review by Smith et al. (2009)²². These all examined partnership based local area interventions to improve health in the most deprived areas of England. These partnerships were typically between health services (in the form of public health and primary care) with local authorities (social services). Two studies evaluated the New Deal for Communities partnerships^{24, 25} and neither study found an intervention effect. There was no evidence that New Deal for Communities areas were improving their relative position with regard to mortality rates or hospital admissions (CRESR 2005)²⁴. Similarly, the study by Stafford et al. (2008)²⁵ found no consistent differences between New Deal for Communities and comparator areas in the

pattern of health-related outcomes for different demographic groups. One study by Hills et al. (2007)²⁶ suggested that regular attendance at Healthy Living Centres was associated with beneficial outcomes relating to smoking, activity, and fruit/vegetable consumption. Deterioration in physical and mental health experienced by non-regular users was not found among regular users. A study by Bauld et al. (2005)²⁷ of Health Action Zones found that they made no greater improvements to population health than comparison areas (although there were some decreases in coronary heart disease related mortality).

A high quality Cochrane systematic review by Hayes et al. (2012)²³ included two studies from the Netherlands and the USA. In the Netherlands, Kloek et al. (2006)²⁸ aimed to improve health-related behaviours measured through self-reported diet, exercise, smoking and alcohol behaviours in a deprived community. They delivered a range of health-behaviour activities in schools, small community groups and public events. The intervention failed to show any health benefit arising from a wide ranging community intervention apart from a minimal increase in self-reported fruit consumption. The American study (Bruzzese et al. 2006)²⁹ targeted kindergarten children with asthma in a deprived community in New York. They established Preventive Care Networks for each intervention school and delivered training for health and educational professionals. However, Bruzzese et al. (2006)²⁹ found no health benefits for patients or their carers.

Discussion

This review has identified only a small and generally poor quality systematic review-level evidence base. Only three of the nine reviews were of a high quality and only four were considered to be fully systematic. Many of the reviews failed to adequately describe the results of their included primary studies, the interventions under evaluation or relied on very broad and vague descriptions such as “marketization” reforms. Equity was seldom the main focus of the reviews. In addition, the studies related to only a small range of countries and many of the studies related to interventions in the US system. Their applicability to the UK and wider European health care context is highly questionable (e.g. fee-for-service vs. managed care is not relevant to the UK situation where for any introduction of managed care the comparator would be free care). There were also notable evidence gaps around some interventions, most notably on changes to resource allocation systems.

The results of the umbrella review are inconclusive or negative which ought to make governments even more wary and cautious about subjecting complex health care systems (such as the English NHS) to such far-reaching and untested changes whose consequences are both hard to identify and often unpredictable in their impact. Of course, evidence, will only ever be one factor in reaching decisions and not necessarily or always the most significant one. But unless driven purely by blind ideology or values that have no basis in social justice, then it is surely incumbent upon a government to proceed cautiously and on the basis of an equity impact assessment of risk³⁰. This is perhaps even more essential when the financial squeeze on public services is exacerbating issues around equity and access to provision.

However, the existing evidence is not all weak or inconclusive. It is stronger and less equivocal in some areas than others and it is important to acknowledge this and to challenge governments for their selective and partial use of evidence in support of choice and competition to justify changes. The organisation of services component of the review bears out what is a strong conclusion emerging from the literature, namely, that the market-style reforms are bad for health equity. Furthermore, in other areas, just because the research base is inconclusive does not mean that the policy is working or should be defended. It could be because of problems in the research design which failed to pick up the changes. It is also the case that in a complex system when there is a lot happening in terms of policy initiatives and other changes, it becomes almost impossible to establish cause and effect or to attribute causation to a particular policy. Finally, researching the softer aspects of change, like culture, working practices and assumptive worlds, knowledge and the distribution of power and influence are often quite nebulous and difficult to research. But all of this is to emphasise the point made above that given these complexities and difficulties, governments need to exercise particular caution in making changes which may over time have unintended consequences – if indeed, they are unintended. The problem with health care reforms is that they are more faith-based than evidence-based.

Summary of findings

Overall, this umbrella review has identified only very small and generally poor quality systematic review-level evidence base on the health equity effects of financial and organisational health care system reforms in high-income countries.

- *General system financing:* The four systematic reviews identified suggest that increased use of private insurance has negative health equity impacts. In contrast, there is evidence from the USA that increased use of free-care programmes has positive health equity outcomes. The effects of US managed care programmes are inconclusive and of little applicability to European context.
- *Direct purchasing:* The single review of increased user fees and out of pocket payments found a negative impact on health equity.
- *Organisation of services:* In terms of the marketisation and privatisation of health care services, two of the three relevant reviews (including the better quality one) found that such reforms were negative for health equity, whilst the other review was inconclusive.
- *Health and social care integration:* The evidence on the equity effects of integrated partnerships between health and social services is inconclusive.
- *Resource allocation:* There were no relevant studies located that related to resource allocation reforms.

Overall, the evidence summarised here suggests that financial and organisational health care system reforms have had either inconclusive or negative impacts on health equity both in terms of access relative to need and in terms of health outcomes.

Limitations

The main limitation was simply that there were too few systematic reviews of interventions conducted. It was also a challenge to locate the relevant systematic reviews that had been conducted. Searching for studies on health inequalities is difficult and time-consuming, and the searches can often suffer from a lack of sensitivity and a lack of specificity¹. This paper is, by definition, limited to existing systematic reviews. The searches covered only five databases, and it is possible that a broader

search strategy would locate more relevant studies – though there would be a trade off in terms of researcher time. It should be noted that the search strategy used here is comparable to other published umbrella reviews of health equity^{1, 31}.

Conclusion

There is only a very partial and poor quality systematic review-level evidence base on the health equity effects of financial and organisational health care system reforms in high-income countries. Overall though, the evidence summarised here suggests that financial and organisational health care system reforms have had either inconclusive or negative impacts on health equity both in terms of access relative to need and in terms of health outcomes. There is a clear need for a high quality systematic review of intervention-level evidence in this area, especially one that makes its findings relevant to the UK and European context.

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