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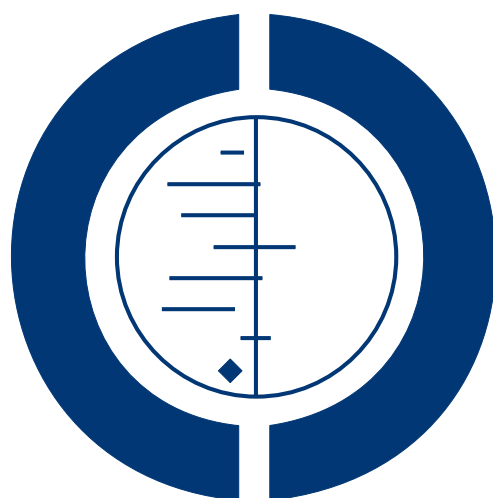
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[Intervention Protocol]

Effects of interventions to manage dual practice

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ABSTRACT

This is the protocol for a review and there is no abstract. The objectives are as follows:

To assess the effects of regulations implemented to manage dual practice.

BACKGROUND

Holding two or more jobs, also referred to as dual practice in the healthcare setting, has been documented as a common practice in both developed and developing countries (Eggleston 2006; González 2004; Rickman 1999; Roenen 1997). The practice refers to the holding of more than one job by a health professional. It may encompass health professionals working within different aspects of health such as allopathic medicine combined with traditional medicine or combining health related activities such as clinical practice with research (Ferrinho 2004). In most low and middle-income countries (LMICs), dual practice refers to health professionals engaged in both public and private (health or non-health) related work (Ferrinho 2004). Non-health related dual practice has been reported as well with the engagement of health workers earning additional income, for example, in agricultural or other economic activities (Assimwe 1997; Roenen 1997).

Description of the condition

In most LMICs, the inadequate remuneration of staff in the public health sector coupled with the growth of the private health sector have been a driving force behind reported increases in dual practice (Roenen 1997). Dual practice has been a coping strategy for health workers to meet the economic demands they face by supplementing their public sector work with patients paying fee-for-service privately (Jumpha 2007). However, non-financial incentives such as status and recognition, strategic influence, control over work and professional opportunities have also been identified as contributory factors (García-Prado 2007; Humphrey 2004). As the private sector plays an increasingly significant role in service delivery ranging from 14% in Thailand to 70% in Zimbabwe the rise of dual practice has been attributed in part to the mostly unregulated growth of the private health sector (Ferrinho 2004). In the face of limited human resources, inadequate pay and poor working conditions in the public sector, this has meant that the private sector can compete favourably with the public sector for health workers (Ferrinho 2004; Jumpha 2007).

The impact of dual practice varies from country to country based on its extent and the presence or absence of regulatory policies. Some of the effects of dual practice were categorised exhaustively in a global review (Ferrinho 2004). Among the positive consequences was its ability to generate additional income for health workers (Assimwe 1997; Ferrinho 2004). This could also be interpreted as minimising the budgetary burden of the public sector to retain skilled staff especially given the scarcity of resources in the public sector (Roenen 1997). Also acknowledged is the increased contribution of the private health sector in the provision of health services.

But the negative impacts of dual practice may by far exceed the positive. These include: the perpetuation of self gain by health workers through generating demand for their own services in the

private sector by over prescribing treatment; conflict of interest, whereby health workers lower the quality of services they provide in the public sector in order to drive patients to the private sector; brain drain, whereby the existence of the private sector makes it increasingly hard to attract and retain health workers in the public sector. Dual practice may be associated with competition for time, since health workers engaged in dual practice are available for less time at public facilities, thereby compromising service delivery. Health workers engaged in dual practice and under government employment are often unproductive, inefficient and corrupt (Ferrinho 1998; Ferrinho 2004).

Absenteeism, tardiness, inefficiency and lack of motivation have frequently been cited as consequences of dual practice among public sector health workers. The illegal and unquantifiable outflows of resources whereby public sector resources such as transport, drugs and sundries are diverted to the private sector are also increasingly documented. The subsidisation of complex procedures such as surgeries for privately enrolled patients by public health workers whereby public facilities and resources are utilised to conduct these surgeries but patients pay privately has been noted in some instances although it is not as well documented (Stepan 2005). Ferrinho 2004 reports that health managers have in some instances been forced to compromise their management ideals by allowing dual practice in order to retain their highly skilled employees, sometimes to the detriment of service provision.

Description of the intervention

Initiatives that have been implemented to prevent or manage dual practice include the following (adapted from analysis by García-Prado 2007).

1. *Complete prohibition*; has been employed as a regulatory mechanism in Canada (Flood 2001), China (Bian 2003), India (Berman 2004) and Greece (Mossialos, 2005). In other countries complete prohibition has been enforced for a period of time for instance in Indonesia, after three years of exclusive public service, health workers can conduct private practice but only after the close of an official work day (Berman 2004). In Kenya and Zambia only junior doctors in public service are not allowed to practice privately (Berman 2004) and in China dual practice is not officially condoned but it is still practiced on a large scale (Bian 2003).

2. *Restrictions on private sector earnings*: In the UK senior specialists contracted on a full time basis are allowed to earn up to 10% of their gross income while those on part time contract have no restrictions but have to remit almost 10% of their public salary (Europe Observatory on Health System Policies 2004). In France private earnings are restricted to 30% of their gross income (Rickman 1999).

3. *Providing incentives for exclusive public service*: In Spain, Portugal, Thailand, India and Italy public health sector workers are offered exclusive contracts in addition to salary supplements and promotions to curb private practice (Bentes 2004; Oliveira

2005). In Spain, for instance, different work contracts are offered with higher salaries for those committing more time to the public sector, while in Italy promotions are only given to those in exclusive public service.

4. *Raising health worker salaries:* The use of competitive public sector salaries to discourage private practice has been tested using a discrete choice model in Norway (Saether 2003); i.e. a survey using hypothetical scenarios. This experiment revealed that increased public sector wages led to an increase in work hours committed to the public sector. A survey in Bangladesh suggested that the majority of doctors would give up dual practice if public sector salaries were raised (Gruen 2002).

5. *Allowing private practice in public facilities:* This is practiced in Italy, Austria, Germany England and Ireland in order to discourage external private practice (Sandier 2004). In Italy public hospitals are required to reserve 6% to 12% of their beds for private patients while in Austria doctors can treat privately insured patients in a special section of public hospitals (Stepan 2005). In Spain and Portugal attempts to ban dual practice through pilot projects have been unsuccessful and have not been implemented nationwide.

6. *Self-regulation:* The possibility of this approach has been recognised especially in high-income settings where the regulation of medical staff is conducted by professional organisations. It is argued that professional culture and ethics could act to discourage undesirable practices associated with dual practice and thereby guarantee sufficient professional performance and quality of care (Garcia-Prado 2007).

How the intervention might work

Personal compliance, adequate financing of the health sector and capacity of public health facilities would contribute to the success of the interventions. Other components necessary are the capacity to enforce regulations and monitor them.

The support of the health workers themselves is necessary to effect complete prohibition, reporting percentage of income from public or private sector and being regulated by the professional bodies. In addition, where incentives depend on income statistics of individual health workers, one would need honesty on the part of the health workers in declaring their income especially where much of the economy is informal.

Without adequate financing of the health sector, one cannot adequately provide incentives for exclusive public service or raise health workers' salaries. Unless the public health workers feel that their staying in the public sector is better than going to the private sector, health workers may opt to go completely private.

On the other hand restricting private sector earning might work if fee ceilings are set thereby reducing the gains made by dual practitioners in the private sector.

Public facilities would be able to support private practice if there was capacity to handle the latter in terms of infrastructure and personnel otherwise a situation would be created where the public

service will be suffocated if it does not remunerate the health workers like the private sector.

With regard to self regulation, strong professional bodies and empowered civil society organisations would be necessary to keep the health workers in line by reporting abuses of the system.

Once the regulations are in place, the government should have the capacity to enforce the regulations, do close monitoring and make any adjustments to the implementation process. Sometimes, the interventions do not work as expected and such challenges need to be handled with openness.

Why it is important to do this review

Dual practice has consequences for equity, efficiency and quality of health care, making it an important issue to consider especially in the current global human resources for health crisis (Garcia-Prado 2007; World Health Organisation 2006). No systematic reviews of the effects of interventions to reduce dual practice or its consequences are currently available.

OBJECTIVES

To assess the effects of regulations implemented to manage dual practice.

METHODS

Criteria for considering studies for this review

Types of studies

We will consider randomised controlled trials and non-randomised controlled trials for inclusion. We will consider controlled before-after studies if there are at least two clusters in each comparison group, pre- and post- intervention periods for study and control groups are the same and the choice of control site is appropriate. We will consider interrupted time series analyses if the point in time when the intervention occurred is clearly defined and there are at least three or more data points before and after the intervention.

Types of participants

Health professionals including physicians, nurses, midwives, nursing assistants, pharmacists, physiotherapists, occupational therapists, dentists, dental assistants, laboratory technicians, dispensers, medical assistants/clinical officers and radiographers and relevant

support staff such as health managers. We will exclude non-professional (lay) health workers, nurse aides and community or village health workers.

Types of interventions

Garcia-Prado 2007, in a traditional review documented the various methods governments have used worldwide to address the issue of dual practice. Among the approaches identified were:

1. *Complete prohibition*
2. *Restrictions on private sector earnings*
3. *Providing incentives for exclusive public service*
4. *Raising health worker salaries*
5. *Allowing private practice in public facilities*
6. *Self-regulation*
7. *Regulation of the private sector*

Types of outcome measures

Primary outcomes

As a result of compliance with regulations some of the primary outcomes might be increased working hours by health workers in public facilities, reduced patient waiting times, longer working hours, reduced absenteeism.

Unintended outcomes may include: Health worker migration from public sector, increase in unofficial payments, reduced motivation, competition between private and public practice, increased illegal dual practice.

Secondary outcomes

These might include reduction in number of private sector licences issued, reduction in private earning, reduced job satisfaction.

Search methods for identification of studies

Electronic searches

The databases and/or sources to be searched are listed below by category.

I. Bibliographic databases: We will search MEDLINE, EMBASE, CINAHL, LILACS, HDA Evidence Base, BiblioMap (EPPI-Centre's bibliographic database) and *The Cochrane Library*. A pilot search in PubMed enabled us to identify relevant MeSH terms and text words. This search strategy will be adapted to other databases and will combine controlled vocabulary terms and free text in order to obtain a high number of relevant articles. A methodology filter will be applied to the search strategy to eliminate studies that do not meet our inclusion criteria. MEDLINE,

Ovid will be searched from 1950 to date. The search strategy will include the following terms:

1. Health workers
2. Exp Health professionals
3. Nurses
4. Doctors
5. Dentists
6. Midwives
7. Pharmacists
8. Clinicians
9. Clinical officers
10. Medical officers
11. Medical assistants
12. Dental officers
13. Medical specialists
14. Surgeons
15. Dentists
16. Radiologists
17. Radiographers
18. Laboratory Technicians
19. exp Health Personnel/
20. ((health or health care or healthcare or medical) adj (staff or personnel or provider? or professional?)) tw.
21. ((health or health care or healthcare or medical or nurs\$) tw.
22. Dual practice
23. Dual job holding
24. Moonlighting
25. Multiple jobs
26. Public sector job
27. Private sector job
28. *Career Mobility
29. Health
30. Manpower/*legislation
31. Jurisprudence
32. *health personnel
33. Health Policy
34. Health services
35. Accessibility
36. Humans
37. *Public sector
38. Quality of health care
39. Employment/*legislation and jurisprudence
40. *government regulation
41. *Health care sector
42. Physicians/*economics
43. *policy making
44. Private sector
45. *Continuity of patient care
46. Private practice/*economics/statistics and numerical data
47. Public health
48. Administration/manpower/*statistics
49. Salaries and fringe benefits

50. Regulations
51. Restrictions
52. Rules
53. Guidelines
54. Prohibitions
55. Incentives
56. Polic\$
57. Ban\$

Searching other resources

II. We will search the following topic related databases: HMIS-Healthcare Management Information System and Sociological Abstracts

III. We will search grey literature in order to identify unpublished evaluations of dual practice regulatory mechanisms. Other searches will include, WHOLIS, World Bank, Google Scholar and relevant websites such as

www.hrhresources.org, www.human-resources-health.com, www.hrsa.org, <http://erc.msh.org>, www.globalhealthtrust.org, <http://www.euro.who.int/observatory>.

IV. We will scan reference lists of key papers for additional articles.

V. We will contact key experts, relevant authors and relevant government officials for other relevant articles.

Data collection and analysis

Search results, including abstracts when available, will be entered into Reference Manager. Two review authors (SNK and CN) will screen the titles and abstracts of all articles obtained from the search.

Selection of studies

We will retrieve full copies of all potentially relevant articles selected by either of the review authors. The two review authors will then independently determine if studies meet the inclusion criteria. Studies that initially appear to meet the inclusion criteria but are later excluded will be listed in the “table for excluded studies” with reasons for their exclusion. Disagreements between the two review authors will be resolved through discussion with a third review author (GWP). Potentially relevant studies in languages other than English will be translated by collaborators within the group in order to be considered for inclusion.

Data extraction and management

Two review authors (SNK and CN) will extract data from the included studies using a data extraction form based on an adaptation of those used by EPOC. We will extract information on study design, type of intervention, duration of intervention, intensity of the intervention (e.g. the extent to which restrictions are monitored and enforced and the magnitude of penalties or rewards),

characteristics of the participants (including the types of health professionals, types of patients (e.g. outpatient or inpatient) and numbers of participants), context or setting (including the country or region within the country, World Bank classification as a low-, middle- or high-income country, available baseline characteristics such as the amount of dual practice, salary levels, and availability of health professionals). We will contact the corresponding authors of included studies to obtain any missing data.

Assessment of risk of bias in included studies

We will summarise information on allocation concealment of intervention assignment and methods for generation of the sequence of allocations along with any judgements concerning the risk of bias that may arise from the methods used.

We will give a summary of who was blinded during the running and analysis of the trial. We will summarise blinding of outcome assessment for each main outcome. We will also summarise judgements concerning the risk of bias associated with blinding.

We will report on the completeness of data for each of the main outcomes, as well as any concerns over the exclusion of participants and excessive (or differential) drop-out.

We will summarise any concerns over the selective availability of data, including evidence of selective reporting of outcomes, time-points, subgroups or analyses.

We will also summarise any other potential concerns.

Dealing with missing data

We will contact the authors of included studies for missing data and we will assess findings for inclusion into the analyses.

Assessment of heterogeneity

We will prepare tables and box plots comparing effect sizes of studies grouped according to potential effect modifiers. These will include:

- 1.Type of health professional.
- 2.Type of intervention.
- 3.Duration of education/intervention.
- 4.Outcomes of intervention.
- 5.Setting and contextual factors: public/private school, full time/ distance education.
- 6.Study design (e.g. randomised controlled trial, controlled clinical trial, controlled before and after study, interrupted time series study).
- 7.Methodological quality of studies.

We expect to find substantial variation in the study results due to differences in types of interventions, the type of healthcare professional (targeted population), the design of the intervention, duration of the intervention and the context in which the intervention is implemented. We plan to conduct sub-group analyses based on type of intervention, type of health professional and study setting

if we find two or more studies considering the same outcomes or using the same intervention in a similar population.

Data synthesis

For each study meeting our inclusion criteria we will report the main results in natural units and calculate the change data if it is not reported.

The results for all comparisons will be presented using a standard method of presentation where possible. We will prepare tables and box plots comparing effect sizes of studies grouped according to potential effect modifiers. The type of intervention is the most likely effect modifier. In cases where there is banning of dual practice, more effects are expected to be seen as opposed to cases of self regulation. Effects will also vary based on the intensity of monitoring and penalties imposed as a result of violating the interventions. Other effect modifiers will include: type of health professional duration and level of intervention, with those interventions at organisational level expected to be more effective than those at government level.

Subgroup analysis and investigation of heterogeneity

We expect to find substantial variation in the study results due to differences in the type of intervention, the type of healthcare

professional (targeted population), the design of the intervention, the duration of the intervention and the context in which the intervention is implemented. We will group studies based on the type of intervention and summarise the results together with the key explanatory factors in tables. The results will be summarised in natural units, as reported by the investigators. If there is more than one study of the same intervention reporting similar outcomes, we will attempt to standardise those outcomes (e.g. as relative percentage change from baseline) and we will qualitatively explore the extent of heterogeneity and the extent to which the above factors might explain any important differences in results.

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* Indicates the major publication for the study

HISTORY

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DECLARATIONS OF INTEREST

None known.