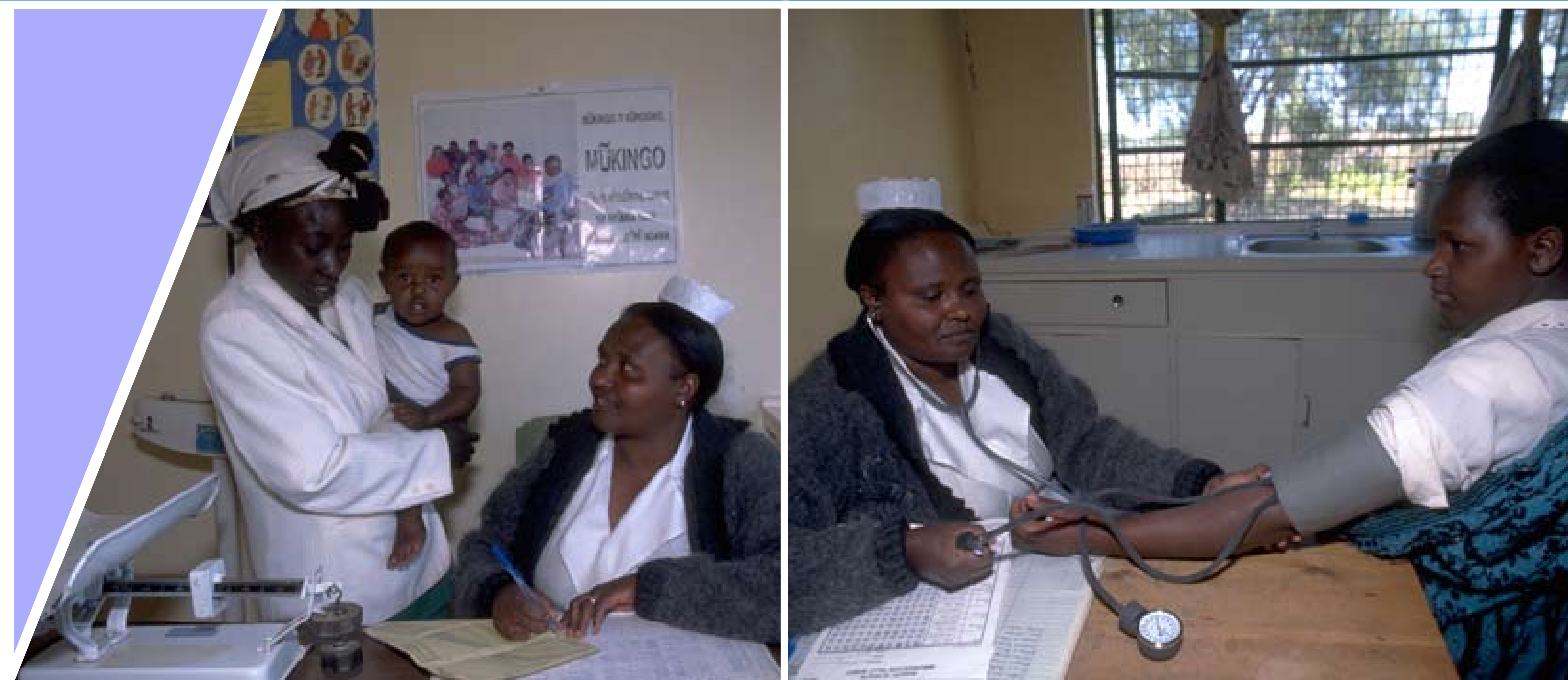
Systematic review

Dual practice regulatory mechanisms in the health sector

A systematic review of approaches and implementation



Kiwanuka SN, Kinengyere AA, Rutebemberwa E, Nalwadda C, Ssengooba F, Olico-Okui and Pariyo GW

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List of abbreviations

DP	Dual practice
HIC	High-income countries
HW	Health workers
LIC	Low-income countries
LMIC	Lower-middle-income countries
UMIC	Upper-middle-income countries
WHO	World Health Organization

1. Background

1.1 Dual practice

Dual job holding has been described by some authors as the holding of more than one job (Eggleston and Bir, 2006; Gonzalez, 2004; Rickman and McGuire, 1999; Roenen, 1997). However, within the health sector, particularly in lower-middle-income countries (LMIC)[1] where it is increasingly documented, this practice encompasses health professionals working within different aspects of health. These may include allopathic medicine combined with traditional medicine or combining health-related activities such as clinical practice with research (Ferrinho, 2004a). In terms of location, dual practice can also refer to health professionals engaged in public and private (health or non-health) related work (Ferrinho, 2004a). Reports of non-health-related dual practice have noted the engagement of health workers in agricultural and other economic activities (Roenen, 1997; Asiimwe et al., 1997). In many LMIC, dual practice among health professionals is an alternative source of income to supplement inadequate salaries, especially in the public sectors (Asiimwe et al., 1997; Roenen, 1997). As a consequence, health workers engaged in dual practice and under government employment have been labelled unproductive, frequently absent, tardy, inefficient and corrupt (Ferrinho 2004a, 2004b). The impact of dual practice on the quality of health services in the public sector in terms of compromising equity and efficiency has been documented (Garcia-Prado and Gonzalez, 2007) thereby making it an important issue to consider, especially in the current crisis relating to global human resources for health. In LMIC countries where multiple job holding is especially prevalent in order for health workers to supplement their earnings, the possibility of engaging in jobs which are not health related so as to acquire additional income is widely accepted. For this reason, in the context of this review, dual practice was limited to those health professionals holding (or preferably engaging in) more than one job which is health-related, whether or not a further non-health-related job is held.

1.1.1 Causes of dual practice

The rise of dual practice has been attributed in part to the mostly unregulated growth of the private health sector (Ferrinho 2004a), and in most developing countries, the inadequate remuneration of staff in the public health sector (Roenen, 1997). In many countries, the private sector plays an increasingly significant role in service delivery, ranging from 14 percent in Thailand to 70 percent in Zimbabwe. 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, 2004a; Jumpa et al., 2007). Indeed, in many circumstances, dual

[1] The World Bank's main criterion for classifying countries is gross national income (GNI) per capita: LICs have a GNI of $995 or less; LMICs $996-$3,945; UMICs $3,946-$12,195; and HICs $12,196 or more.

practice has been seen as a coping strategy for health workers to meet the economic demands they face by supplementing their public sector work with fee-for-service private clientele (Jumpa et al., 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 (Humphrey and Russell, 2004). In other settings, health care reforms have resulted in alterations of employment contracts in terms of employment duration and remuneration (Scott et al., 2000; World Health Organization, 2006) and have also induced dual practice among health workers.

1.1.2 Consequences of dual practice

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 non-systematic international review of literature by Ferrinho (2004a). Among the positive consequences was its ability to generate additional income for health workers. This could also be interpreted as minimising the budgetary burden of the public sector to retain skilled staff, especially given its scarcity of resources (Roenen, 1997). However, in some contexts its negative impacts by far exceed the positive. These include: the rise of predatory behaviour, whereby self-gain drives the health workers to generate 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 clientele to the private sector; and brain drain, whereby the existence of the private sector makes it increasingly hard to attract or retain health workers in the public sector. There is also competition for time and limits to resources, whereby health workers engaged in dual practice are only available for a limited time at public facilities, thereby compromising service delivery. This has in many cases presented as absenteeism, tardiness, inefficiency and lack of motivation among public sector health workers. There is an illegal and unquantifiable outflow of resources whereby public sector resources such as transport, drugs and sundries are diverted to the private sector. Finally, there is a compromising of management ideals, whereby health sector managers are forced to accept dual practice in order to retain their highly skilled employees, sometimes to the detriment of service provision (Ferrinho et al., 2004b).

1.1.3 Addressing the consequences of dual practice

Attempts have been made to address the consequences of dual practice. Garcia-Prado and Gonzalez (2007) conducted a non-systematic review to identify the various methods governments have used worldwide to address this issue. Among the approaches identified were:

1. Complete prohibition: In policy, dual practice is banned in Canada (Flood and Archibald, 2001), China (Bian et al., 2003), India, Indonesia, Kenya and Zambia (Berman and Cuizon, 2004) and Greece (Mossialos et al., 2005). In other countries,

complete prohibition has been attempted at different levels. In Indonesia, for instance, after three years of exclusive public service, health workers can conduct private practice but only after the close of an official work day (Berman and Cuizon, 2004). In Kenya and Zambia only junior doctors in public service are not allowed to practise privately (Berman and Cuizon, 2004). In China, while not officially condoned, dual practice is still practised on a large scale (Bian et al., 2003).

2. Restrictions on private sector earnings: In the UK and France, senior specialists contracted on a full-time basis with NHS are allowed to earn up to 10 percent of their gross income while those on part-time contracts have no restrictions. In France, private earnings are restricted to 30 percent of gross income (Rickman and McGuire, 1999).

3. Providing incentives for exclusive public service: In India, Italy, Portugal, Spain and Thailand public health sector workers are offered exclusive contracts in addition to salary supplements and promotions to curb private practice (Bentes et al., 2004; Oliveira and Pinto, 2005). In Spain for instance, different work contracts are offered with higher salaries for those committing more time to the public sector (Guerrero, 2006), 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). This experiment revealed that increased public sector wages led to an increase in work hours committed to the public sector. In a survey, the majority of doctors in Bangladesh reported that they would give up dual practice if public sector salaries were raised (Gruen et al., 2002).

5. Allowing private practice in public facilities: This is practised in Austria, England, Ireland, Italy and Germany in order to discourage external private practice (Sandier and Polton, 2004). In Italy, public hospitals are required to reserve 6-12 percent of their beds for private patients, while in Austria, doctors can treat privately insured patients in a special section of public hospitals (Jan et al., 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 and Gonzalez, 2007).

1.2 Aims and objectives

1.2.1 Rationale for the review

In some settings, dual practice poses a threat to the efficiency of health service provision, and in many African countries, with inadequate numbers of health workers, it may amplify already existing inequalities as well as inequities. The poor performance of health workers in the public sector has been partly attributed to or associated with dual practice. Countries have attempted to limit its negative consequences through prohibition, restriction and regulation. A synthesis of the strategies used to manage dual practice and any challenges associated with enforcing these regulations could provide important guidance for policy-makers and health planners in low- and middle-income countries.

1.2.2 Review objectives

The objective of this review was to summarise the dual practice regulatory mechanisms proposed and implemented worldwide and to document factors key to their implementation, either barriers or facilitators.

The scope of the review included literature describing a range of strategies on dual practice regulatory mechanisms. It also identified and described factors influencing (barriers or facilitators) the implementation these mechanisms.

1.3 Concepts and definitions

The key concepts in the review are:

Health workers: All people whose main activities are aimed at enhancing health. They include the people who provide health services such as doctors, nurses, pharmacists and laboratory technicians, as well as management and support workers such as financial officers, cooks, drivers and cleaners (World Health Organization, 2006). However, this review restricted its definition of health workers to the people directly involved with treating patients. Study findings on dual practice regulations for support workers were not included.

Dual practice: This is defined as the holding of more than one job directly related to treating patients. This includes additional jobs held both within the health facility and outside it.

Regulatory mechanisms: All policies, laws, rules and regulations imposed by governments and professional associations seeking to restrict, eliminate or package dual practice in such a way as to maximise health worker performance.

1.3.1 Conceptual framework

Figure 1.1 shows the data sources and the conceptual framework of analyses adopted in this review, the range of regulatory mechanisms, their implementation and potential outcomes.

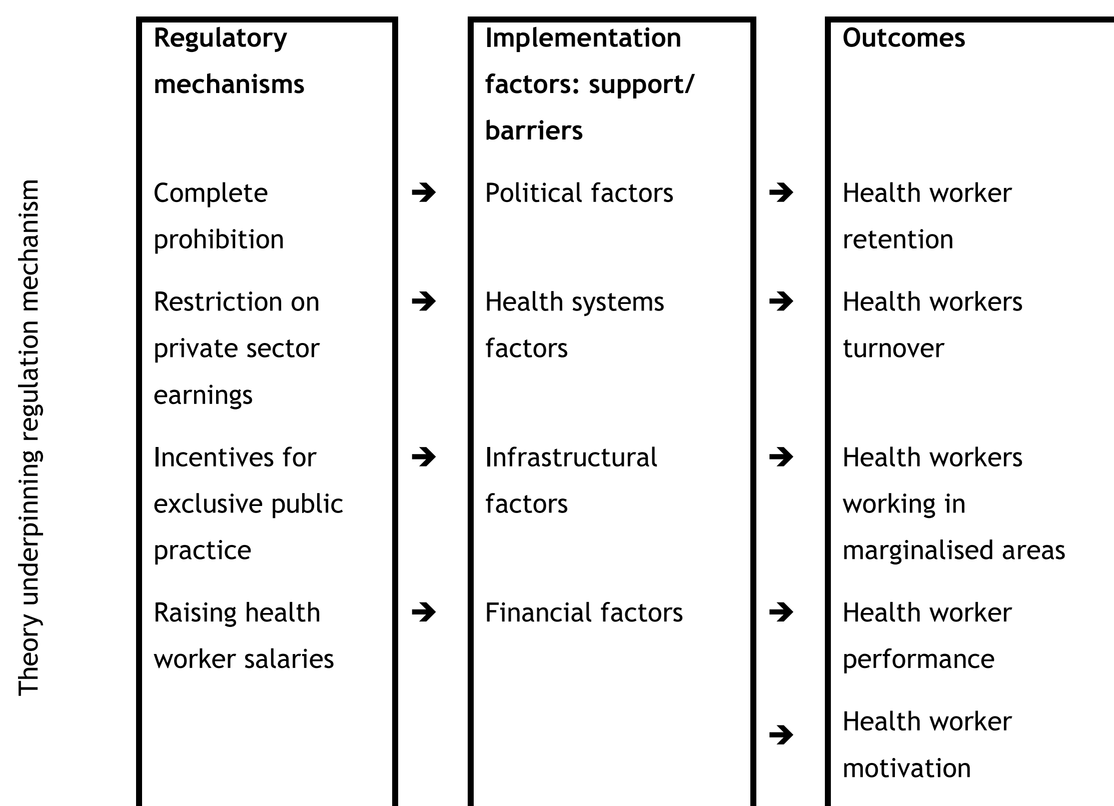
It also shows potential sources of data for learning about the mechanisms, implementation and outcomes and how these may be described in a map of the regulatory mechanism that includes policy documents, implementation studies and outcome evaluations and is informed by policy-makers. Lastly it shows the methods appropriate for synthesising the different types of knowledge.

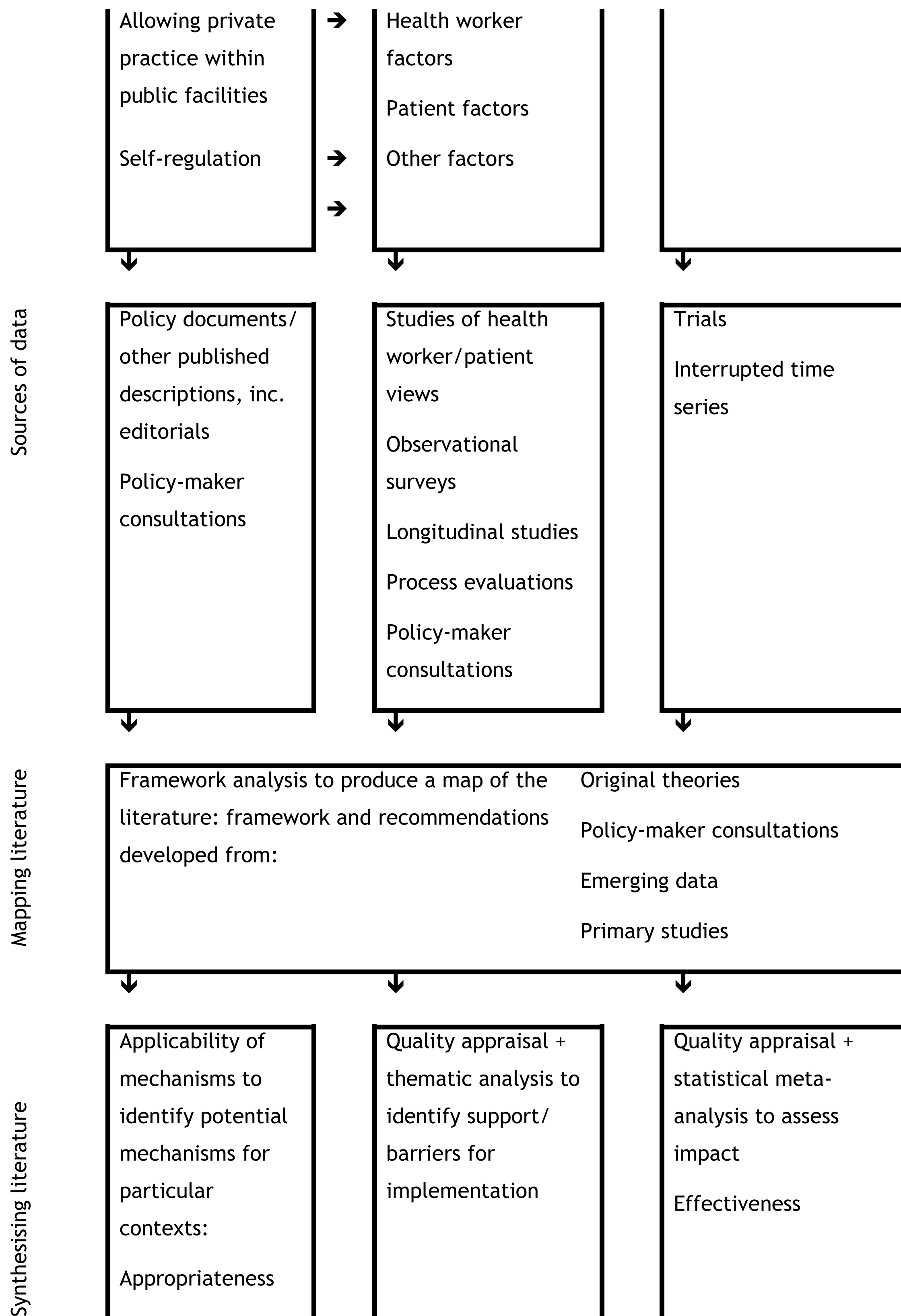
Figure 1.1 lists on the left-hand side the range of mechanisms available for regulating dual practice. Descriptions and reflections can be found in policy documents and other published material, including editorials, and from consulting policy-makers directly. Policy-makers referring to this literature need to consider the applicability and appropriateness of such mechanisms for their own area of responsibility. This approach provided the basis of an informed consultation with policy-makers.

Implementation studies were chosen as appropriate for identifying factors that support or present barriers to regulatory mechanisms (listed in the central column of Figure 1.1). An appraisal and synthesis of the findings about acceptability and implementation would make an important contribution to understanding how regulatory mechanisms work.

Outcomes of health worker performance (listed on the right-hand side) are being addressed by studies included in a systematic review of effectiveness prepared for the Cochrane Effective Practice and Organisation of Care Review Group.

Figure 1.1 Regulatory mechanisms addressing dual practice: data sources and synthesis options




Allowing private practice within public facilities
Self-regulation
Health worker factors
Patient factors
Other factors
Sources of data
Policy documents/ other published descriptions, inc. editorials
Policy-maker consultations
Studies of health worker/patient views
Observational surveys
Longitudinal studies
Process evaluations
Policy-maker consultations
Trials
Interrupted time series
Mapping literature
Framework analysis to produce a map of the literature: framework and recommendations developed from:
Original theories
Policy-maker consultations
Emerging data
Primary studies
Synthesising literature
Applicability of mechanisms to identify potential mechanisms for particular contexts:
Appropriateness
Quality appraisal + thematic analysis to identify support/ barriers for implementation
Quality appraisal + statistical meta-analysis to assess impact
Effectiveness

1.4 Review questions

This review will address these questions:

1. What mechanisms have been used to regulate or manage dual practice among health workers?
2. What challenges arise or may be anticipated to emerge from existing or proposed mechanisms to regulate dual practice?
3. What factors may enhance existing or proposed mechanisms to regulate practice?

2. Methods of the review

2.1 User involvement

In order for this systematic review to have policy and practice relevance, potential users were involved in the two key stages of the review. Initially two national policy-makers were consulted about the conceptual framework for the analysis of studies to be included in this review. Their views provided additional input on the final framework. Details of user involvement methods are described in Appendix 1.

After reviewing included studies and obtaining a framework of approaches to dual practice regulations, the reviewers again contacted national and international policy-makers and health managers regarding their opinion on possible implementation of regulatory mechanisms, necessary prerequisites and possible challenges likely to emerge from the implementation of the regulations within their settings. To enable their input, a summary of the findings on possible dual practice regulatory mechanisms was presented to policy-makers in July 2009 through an interactive workshop in Uganda and a mailed summary of findings with a questionnaire attached was sent out internationally. Issues identified as important from the workshop and the mail survey provided a way of contextualising the regulations and challenges in implementing regulations. This process informed our approach to recommending which dual practice regulatory mechanisms may be feasible in some settings but not in others.

2.2. Identifying and describing studies

2.2.1 Defining relevant studies: inclusion and exclusion criteria

This review sought to:

- describe regulatory mechanisms, whether hypothetical, planned or implemented, and the related learning which may be found in journal articles, reports, editorials, working papers and reviews.
- review studies of mechanisms and their implementation, including:
    - studies assessing statistical association such as surveys and case-controlled studies
    - process evaluations of implementation of dual practice regulatory mechanisms, whether or not these were an integral part of outcome evaluations
    - opinion surveys involving regulators and health providers about the actual or potential influence of regulatory mechanisms
    - studies of the views of health workers or patients.

Studies were excluded if:

- they were not reported in English
- they did not describe dual practice regulatory mechanisms
- they did not include professional health workers.

Outcome evaluations such as randomised controlled trials, controlled trials, interrupted time series, and before and after studies, are to be included in a Cochrane review of effectiveness.

2.2.2 Identification of potential studies: search strategy

Studies were identified from the following sources:

- Citation searches of key authors
- Reference lists of key papers
- Commercially available and specialised electronic databases: MEDLINE, EMBASE, ERIC, Social Science Citation Index, CINAHL
- Freely available internet search engines: Google Scholar, Google
- Specialist databases: EPPI-Centre's BiblioMap and the Cochrane Library
- Relevant websites related to health policy and health administration, including the Health Management Information Consortium (HMIC), WHOLIS (the WHO library database), the World Bank and Human Resources for Health.
- The African Index Medicus, to obtain publications from the African region.

The search strategy (see Appendix 2) combined controlled vocabulary terms and free text in order to obtain a high number of relevant articles and was conducted from the starting date of each database to the current date.

Personal contacts were established with key researchers and policy-makers in the field of human resource management and policy to facilitate identification of further studies or policy documents. Reference lists of all relevant articles were searched. The search was applied to English-based websites and a Spanish adaptation of the search strategy was applied to LILACs (Literatura Latino Americana e do Caribe em Ciências da Saúde).

2.2.3 Screening studies: applying inclusion and exclusion criteria

Inclusion and exclusion criteria were applied successively to (i) titles and abstracts and (ii) full reports. Full reports were obtained for those studies that appeared to meet the criteria or where we had insufficient information to be sure. These reports were entered into a second database. The inclusion and exclusion criteria were reapplied to the full reports and those that did not meet these initial criteria were excluded.

2.2.4 Characterising and mapping included studies

A list of regulatory mechanisms was compiled from all documents identified. Policy-makers were also asked to comment on the possible applicability of the identified regulatory mechanisms. These two sources were combined to construct a list of broad types of regulatory mechanisms, their variations and their possible application in different settings. Studies were described in terms of context, types of regulatory mechanism, types of providers targeted, implementation factors described and study design (see the screening tool in Appendix 3).

2.2.5 Identifying and describing studies: quality assurance process

Application of the inclusion and exclusion criteria and the coding was conducted by two review group members (SNK and AK) working independently and then comparing their decisions and coming to a consensus. In cases where the two reviewers could not reach consensus about a study, a third reviewer (GWP) made the final decision. The inclusion criteria were piloted and modified before being applied to the retrieved search hits.

2.2.6 Data management

All relevant studies identified through electronic searches were retrieved and uploaded to the Reference Manager software. After inclusion and exclusion criteria were applied, all included studies were uploaded to EPPI-Reviewer for coding. Codes included among others, study design, setting, study population, main findings and type of regulation. All included studies were used in the descriptive mapping of dual practice regulations.

2.3 Synthesis

2.3.1 Assessing study quality

No quality assessment criteria were applied to descriptions of regulatory mechanisms. Rather, the reviewers relied heavily on the judgements and learning of the authors of these reports, an appropriate approach for an area which does not yet have a well-developed academic literature. A subset of criteria were adapted from Harden et al. (2004) to appraise studies of the acceptability and implementation of interventions. These criteria focused on the clarity of the description of the context, the population and the methods used to collect and analyse data.

2.3.2 Synthesis of evidence

We conducted a framework synthesis (Oliver et al. 2008) employing a conceptual framework built on our initial understanding of problems arising from dual practice and the regulatory mechanisms for addressing them (Figure 1.1). The framework was constructed with concepts highlighted in the background literature and study designs for assessing correlations (e.g. cohort studies, surveys, views studies); it was refined to combine concepts apparent to researchers working in this area (from the literature), concepts

relevant to policy-makers (consulted within Uganda), and concepts that emerged from the literature as the review progressed. Studies evaluating, describing or surveying dual practice regulatory mechanisms planned or implemented were coded within this conceptual framework.

3. What research was found?

The extent to which various dual practice regulatory mechanisms have been studied and reported in different settings is described in Table 3.1. The majority of studies identified from both high-income countries (HIC) and lower-middle-income countries (LMIC) were policy analyses, country case studies, cross-sectional surveys and economic models. No studies on evaluations of the impact of interventions or their acceptability were identified from the literature. Two reviews studies were also included. All studies focused on managing dual practice for health workers whose primary station of employment was the public sector (public/private). None of the studies identified focused on assessing the impact of regulatory mechanisms on dual practice.

Table 3.1 Studies documenting dual practice regulatory mechanisms in different contexts

Regulatory Mechanisms*	**Author(s)**	**Context/Setting** **Region: Rural/Urban**	**Public/Private**	**Study Design**
Banning/complete prohibition	Berman and Cuizon (2004)	LMIC	Public/Private	Country case study
	Mossialos et al. (2005)	HIC	Public/Private	Policy analysis**
	Oliveira and Pinto (2005)	LMIC	Public/Private	Policy analysis
Dual practice allowed with restrictions **1. Financial restrictions**				
Restrictions on private sector earnings	Gonzalez (2004)	HIC	Public/Private	Economic modelling
Incentives and contracts to work in public sectors	Prakongsai et al. (2003	HIC	Public/Private	Cross-sectional survey
Flexible contracts for DP	Humphrey and Russell (2004)	HIC	Public/Private	Cross-sectional survey
Salary increase for public sector workers	Rickman and McGuire (1999)	HIC	Public/Private	Economic modelling
Performance-based remuneration	Garcia-Prado and Gonzalez (2007)	HIC/LMIC	Public/Private	Review

Regulatory Mechanisms*	Author(s)	Context/Setting Region: Rural/Urban	Public/Private	Study Design
	Prakongsai et al. (2003)	HIC	Public/Private	Policy analysis
	Oliveira and Pinto (2005)	HIC	Public/Private	Policy analysis
2. Licensure restrictions				
Mandatory license for private practice	Macq et al. (2001)	LMIC	Public/Private	Cross sectional survey
	Ferrinho et al. (2004a)	LMIC	Public/Private	Hypothetical
Restrict private practice to senior physicians	Jan et al. (2005)	LMIC	Public/Private	Policy analysis
	Urbach (1994)	LMIC	Public/Private	Policy analysis
Restriction of time allocated to private practice	Kaji and Stevens (2002)	HIC	Public/Private	Review (USA studies)
	Culler and Bazzoli (1985)	HIC	Public/Private	Policy analysis
Allow minimal private practice within public facilities	Mainiero and Woodfield (2008)	LMIC	Public/Private	Case studies
	Berman and Cuizon(2004)	LMIC	Public/Private	Systems analysis
	Hongoro and Kumaranayake (2000)	LIC	Public/Private	Case studies
	Berman and Cuizon (2004)	HIC	Public/Private	Case study (Kenya/Zambia)
	Sandier and Polton (2004)	HIC	Public/Private	Policy analysis
	Jan et al. (2005)	HIC	Public Private	Policy analysis
3. Status/recognition incentives				
Career growth incentive	Garcia-Prado and Gonzalez (2007)	HIC	Public/Private	Policy analysis

Regulatory Mechanisms*	Author(s)	Context/Setting Region: Rural/Urban Public/Private		Study Design
4. Dual practice allowed without restrictions: DP accepted and routine	Rickman and McGuire(1999)	HIC	Public/Private	Policy analysis
	Gruen et al.(2002)	LMIC	Public/Private	Cross-sectional survey
	Jumpa et al. (2007)	LMIC	Public/Private	Cross-sectional survey
	Ferrinho et al. (2004a)	LMIC	Public/Private	Cross-sectional survey
	Jan et al. (2005)	LMIC	Public/Private	Cross-sectional survey
5. Self-regulation Use professional ethics to regulate DP	Delay (2004)	LMIC	Not reported	Case study
6. Regulate private practice Limit type of services offered by private sector	Flood(2001)	HIC	Public/Private	Policy analysis
Impose ceiling on prices charged in the private sector	Hongoro and Kumaranayake (2000)	LMIC	Public/Private	Policy analysis
Impose limitations on services that can be insured privately	Sandier and Polton (2004)	HIC	Public/Private	Policy analysis
	Flood (2001)	HIC	Public/Private	Policy analysis
	Biglaiser and Ma (2007)	HIC	Public/Private	Policy analysis
	Flood (2001)	HIC	Public/Private	Policy analysis

*Regulations adapted from Garcia-Prado and Gonzalez (2007)

**Policy analysis refers to studies describing the content and assessing the implementation of policies within countries/organisations.

Dual practice regulatory mechanisms identified from the included reports were initially described according to their setting (context), population, variation in approach and outcomes (see Table 3.2).

Table 3.2 Dual practice regulatory mechanisms, variation in their application in different settings

Dual practice regulatory mechanisms	Context (High-income/low-income country; Rural urban; Private/public)	Study population	Variation in application of regulatory mechanism	Outcomes
Complete ban or prohibition				
	LMIC - India	All health workers	DP was banned in some states	Opposition by professional groups and individuals Migration of experienced physicians to private sector
	HIC - Greece	All health workers	Mandatory exclusive full-time status in public sector	Migration of senior physicians to private sector Unofficial payments for health services escalated

Dual practice regulatory mechanisms	Context (High-income/low-income country; Rural urban; Private/public)	Study population	Variation in application of regulatory mechanism	Outcomes
Permitted dual practice with restrictions				
1. Financial restrictions				
Restrictions on private sector earnings	HIC -UK	Physicians/ consultants	NHS contracts stipulate that earning from private sector should not exceed 10% of NHS salary	Can improve public service quality by reducing adverse behavioural reactions of public providers
Incentives and contracts to work in public sector	HIC - Greece LMIC - India HIC - Italy UMIC - Peru HIC - Portugal HIC - Spain LMIC -Thailand	Physicians	Higher pay for those who do not engage in DP or Exclusive Ministry of Health contracts	Costly for government Difficult to implement May not work if premiums do not offset losses in private sector earnings Differential treatment of health workers (HW) caused resentment DP still prevalent because of weak enforcement
Flexible contracts for DP	HIC - Portugal	Physicians	Contracts of full-time, part-time, extended full-time or exclusive NHS offered to physicians	Few doctors chose full-time or exclusive contracts DP is high No control of public/ private activity Physicians maximise earnings from both sectors

Dual practice regulatory mechanisms	Context (High-income/low-income country; Rural urban; Private/public)	Study population	Variation in application of regulatory mechanism	Outcomes
Salary increase for public sector workers	HIC - Portugal	Physicians	Physicians' salaries were increased to promote exclusive public sector work	Higher salaries did not alter physicians' private sector activities
Performance-based remuneration in public sector	Hypothetical Proposed by authors	All health workers	Private sector work is remunerated on a fee for service basis. It is fitting to apply the same approach to public sector work as opposed to salaries	HWs might lose motivation if remuneration for public work remains constant or even less under performance-based pay
	HIC - Austria	Physicians	Private providers are contracted to provide services in the public sector on pay for performance basis	Inspires competition between public and private providers
2. Licensure restrictions				
Mandatory license required for private practice	LIC - Kenya LMIC - Indonesia LIC - Zimbabwe	Physicians	Kenya – Registration by medical council, 3 years experience and private practice license required 3 years conscription to public practice before licensure (Zimbabwe) Mandatory license for senior practitioners (all countries)	Migration of HW from public to private sector Monitoring of contracts is weak Supply of fresh graduates overwhelms limited government jobs, no preference for underserved areas Nurses and junior physicians run private practice some under 'licences' from senior

Dual practice regulatory mechanisms	Context (High-income/low-income country; Rural urban; Private/public)	Study population	Variation in application of regulatory mechanism	Outcomes
				practitioners
Private practice restricted to senior physicians	LIC - Zambia	Physicians	Junior doctors prohibited	Admission of private patients into public facilities/informal payments
Restriction of time allocated to private sector	LMIC - Indonesia	Physicians	Private sector work only allowed after close of public sector work day	Violations of regulation reported
	HIC - USA	Residents	Restriction of hours of private practice	Residents violate restrictions
Allow minimal DP within public facilities	HIC - Austria	Physicians	Private beds must not exceed 25% of all beds	Doctors' earnings exorbitant Hospital administration keen on increasing overall numbers of beds so as to have more private patients
	HIC - France	Physicians	Part of revenue from private beds remitted to hospital Public physicians can operate privately but not benefit from social health insurance Part time and full time physicians earnings should not exceed 30% of total	Supervision and monitoring of DP easier Challenges in prioritising between public and private patients arise Practice within public facilities is a source

Dual practice regulatory mechanisms	Context (High-income/low-income country; Rural urban; Private/public)	Study population	Variation in application of regulatory mechanism	Outcomes
			income.	of controversy Bed numbers controlled by state in French hospitals
3. Status/recognition incentives for public sector work				
Career incentives	HIC - Italy	All HW	Promotion extended exclusively to full-time public sector workers	
Permitted without restrictions				
DP accepted and routine	LMIC - Egypt LIC - Bangladesh UMIC - Mexico	All HW	DP thought to improve economic incentives, quality of care, employment opportunities and/or better health coverage, and is therefore accepted	High competition among private practitioners in urban areas Infiltration and abuse by unqualified practitioners hence quality of care is compromised Patients are diverted from public to private sector Bangladesh tries to attract private practitioners to rural areas
Self-regulation				
Use professional ethics to regulate DP	LMIC - South Africa	Pharmacists	Restricted informal/illegal drug retailing	Promoted and maintained professional standards

Dual practice regulatory mechanisms	Context (High-income/low-income country; Rural urban; Private/public)	Study population	Variation in application of regulatory mechanism	Outcomes
activities				
Regulate private practice activity				
Limit type of services offered by private sector	HIC - Canada (some states)	All	Limit private sector services to those not covered by public sector	Most of the population use public sector and doctors are not motivated to open private facilities
Impose ceilings on prices charged within private sector	HIC - Canada (some states) HIC - France	All	Impose limitation on prices that can be charged in private sector to make them close or similar to prices in public sector	Financial incentives within the private sector are reduced
Impose limitations on services that can be insured privately	HIC - Canada (some states)	Physicians	All services which can be insured publicly cannot be insured by private insurance	All users accessing private sector services have to pay for themselves

From the literature, some factors were identified as being key to the success or failure of these interventions. These included among other things:

- the existence of a well-organised health financing system (including sources of funding such as taxes, public and private insurance) (Ferrinho et al., 2004a; Flood, 2001; Gonzalez, 2004; Jan et al., 2005).
- the existence of systems to monitor finances and regulate them (Garcia-Prado and Gonzalez, 2007; Humphrey and Russell, 2004; Jan et al., 2005; Prakongsai et al., 2003; Rickman and McGuire, 1999).
- strong professional boards to monitor and regulate providers, (Bian et al., 2003; Ferrinho et al., 2004a; Hongoro and Kumaranayake, 2000; Jan et al., 2005; Jumpa et al., 2007).

- well-established civil society groups to provide feedback and to curtail loss of quality in private and public services, (Ferrinho et al., 2004a; Delay et al., 2004).
- political commitment to action as well as professional commitment to ethics. (Garcia-Prado and Gonzalez, 2007).
- A well-regulated private sector to regulate and monitor the prices, services and quality of the private sector (Ferrinho et al., 2004a; Flood, 2001; Hongoro and Kumaranayake, 2000; Sandier and Polton, 2004).

Some authors noted that in some countries dual practice is not acknowledged and therefore not amenable to regulation, thereby making the practice even more potentially detrimental to the health systems. Factors seen as key to the implementation of each of these regulatory mechanisms, whether supportive factors or barriers, are tabulated in Table 3.3 as identified from the literature.

Table 3.3 Factors influencing successful implementation of dual practice regulatory mechanisms

Dual practice regulatory mechanism	Variation of application	Factors influencing success
Complete ban or prohibition		
	Complete banning or mandatory exclusive full-time status in public sector	Adequate financing for public sector (may include tax-based or insurance) Good working environment for public sector Financial monitoring mechanisms Structures to enforce and monitor
Permit dual practice with restrictions		
Financial restrictions	Restrictions on private sector earnings - contracts that stipulate maximum allowable private sector earnings Incentives and contracts to work in public sector with higher pay for those who shun private sector work	Sufficient funds to compensate public service Structures to enforce and monitor

Dual practice regulatory mechanism	Variation of application	Factors influencing success
	Flexible contracts for DP Salary increase for public sector workers Performance-based remuneration in public sector	Adequate financing for public sector Well-functioning transparent bureaucracy
Licensure restrictions		
	Mandatory license required for private practice Private practice restricted to senior physicians Restriction of time allocated to private sector Allow minimal DP within public facilities	Structures to enforce and monitor
Status/recognition incentives for public sector work		
	Career growth incentives	None mentioned
Permitted dual practice without restrictions		
	DP accepted as routine or necessary	Accepting dual practice as routine seems to thrive in countries which have an excess of physicians who cannot be fully absorbed by the public sector
Self-regulation		
	Use professional ethics to regulate DP activities	Strong civil society/consumer organisations to respond to abuse in the system and strong professional regulatory bodies
Regulate private practice activity		

Dual practice regulatory mechanism	Variation of application	Factors influencing success
	Limit type of services offered by private sector Impose ceilings on prices charged within private sector Impose limitations on services that can be insured privately	Requires strong well-resourced public sector Strong financial systems to track payments Requires universal public health insurance Structures to enforce and monitor
Dual practice not acknowledged		
	Extent of dual practice and consequences thereof remain unknown as the practice is allowed to proliferate without control	

Policy-makers, health managers and health care providers were consulted about the likelihood of the above regulations succeeding in their settings. This was done nationally (through a one-day consultative workshop) and internationally through an emailed survey (see Appendix 1). None of the 14 policy-makers contacted internationally responded to the survey. The recommendations provided were therefore based on the views of policy-makers and healthcare managers in Uganda.

The policy-makers consulted felt that clarifying the definition of dual practice in any country or setting is the crucial first step in removing all ambiguities attached to the practice. They argued that since in some cases job descriptions and organisations may require some aspects of dual practice, the practice to be regulated should be clearly defined to allow for better legal and professional interpretation. They argued that the definition as used by this review ('the holding of more than one job directly related to treating patients; these included additional jobs held within the health facility and outside of it') may actually fall short of capturing some of the health workers who are engaged in non-health-related dual practice while at the same time penalising those whose job requires them to extend their services to other organisations, such as doctors and other clinicians conducting research and teaching. However, they gave their opinions regarding the regulations identified in the review as summarised below.

With regard to the banning of dual practice, policy-makers and health workers agreed with the authors that more effective management systems to enforce and monitor were crucial in addition to improved remuneration of existing staff. However, they felt that this approach to managing dual practice could not succeed in the presence of gross shortages of human resources for health. They noted that clients or patients might actually find the practice favourable in that it enabled the extension of services beyond the public sector (as a result of extra hours of work put in by health workers engaged in dual practice) and opined that clients' opinions should be sought with regard to dual practice regulation.

Financial restrictions were not favoured in the absence of strong monitoring systems and the prevailing inadequate capacity of LMICs like Uganda to improve health worker remuneration. It was argued that the prevailing economic factors, standard of living, cultural expectations (the presumed or expected higher standard of living for medical personnel) and lack of bureaucratic transparency would by themselves defeat any attempts to manage dual practice through the application of financial restrictions.

Licensure restrictions tended to draw more favour from policy-makers, especially if accompanied by strengthened health professional and civil society organisations and augmented by strict management practices and clear employment contracts with clauses on dual practice.

Unrestricted dual practice was favourable for health workers, who felt it was their right to practise their profession under unhindered conditions, especially since it not only contributed to their income but enabled them to provide more services as a result of the extension of their working hours. Policy-makers felt that dual practice would be abused if unrestricted and felt it crucial to have legal frameworks and laws to govern health professional bodies with regard to dual practice.

Regulating private practice services and activities was deemed unlikely to succeed, especially given the inadequacy of public services. It was noted that indeed some services not provided in the public sector can only be accessed in the private sector; besides, it would be unethical to restrict the skills of the few existing specialists to the public sector. Policy-makers felt that perhaps having an obligatory universal health insurance would enable the provision of better public sector services, which would hopefully make private services less attractive.

4. Discussion and conclusions

4.1 Regulating dual practice in the health sector

The debate on whether to regulate dual practice or not remains a prominent issue of discussion for many governments. Literature abounds on arguments both for and against regulation (Berman and Cuizon, 2004; Bian et al., 2003; Ferrinho et al., 2004; Jan et al., 2005; Jumpa et al., 2007; Macq et al., 2001). However, most authors in the field agree that it is of paramount importance that governments acknowledge the existence of dual practice and commission studies on its extent and potential impact on service quality, because ignoring the practice or pretending it does not exist will not make it go away (Berman and Cuizon, 2004; Ferrinho et al., 2004; Jan et al., 2005; Jumpa et al., 2007; Macq et al., 2001). Jan et al. (2005) argue that without acknowledging the practice, policy-makers cannot incorporate it within bounds of regulatory practice and policy jurisdiction. Some authors also tend to agree that dual practice should be regulated and put forth arguments as to why. Jumpa et al. (2007) note that regulation encourages certain norms of behaviour which cannot be achieved spontaneously through individual co-operation; they also help to define parameters of professional conduct. Berman and Cuizon (2004) posit that for resource-constrained settings where dual practice can result in both positive and negative effects, better regulated dual practice might be more efficient economically than widespread unregulated services.

4.2 Models of DP regulations

The regulatory mechanisms that have been employed across countries can be divided into three categories: those that advocate for total banning of DP, those that allow it with restrictions and those that allow it without restriction.

Countries that attempted total banning of dual practice, as in Portugal and Greece, could not easily stamp it out. DP continued to exist on a wide scale in Portugal until the ban was lifted in 1993 (Oliveira and Pinto, 2005). Similarly, the ban in Greece from 1983 to 2002 did not prevent public doctors from practising privately (Mossialos et al., 2005). Efforts to ban dual practice failed because of lack of capacity to enforce it. The resources needed to enforce it may not be commensurate with the benefits a country gets from banning it. Moreover, banning dual practice has in some countries been associated with the migration of health workers, especially specialists, from the public to the private sector as well as an international brain drain (Buchan and Sochalski, 2004; Mossialos et al., 2005). In LMIC settings where health workers are underpaid and members of the general population are willing to pay for more convenient and possibly better services, this option might not be viewed as legitimate or even feasible.

The second category is allowing dual practice with restrictions. This was the most frequent approach used by countries. Financial and licensure restrictions as well as promotional incentives were employed. Financial restrictions included limiting private sector earnings, providing incentives to limit private sector activities, salary increases for public sector workers and performance-based payments. All financial restrictions intrinsically require well-established and adequate health financing systems to fund and monitor public and private sector activity. A combination of tax-based public financing, mandatory health insurance and private insurance might be necessary to counter the financial resource demands of this approach, while supervision, monitoring systems and transparent bureaucracies would be necessary to ensure that private sector activities and earnings are indeed limited and payments are matched by performance. Restricting private sector earnings can potentially improve public service quality by reducing the adverse behavioural reactions of public providers, but financial systems to enforce this do not exist in most LMICs since systems to monitor private sector payments are non-existent. Flexible contracts allowing degrees of dual practice reveal that public providers tended to favour higher degrees (more time) of private sector activity as opposed to lower degrees (less time). In short, when offered the possibility of engaging in dual practice, providers maximise earnings from both sectors (Oliveira and Pinto, 2005). In most LMICs where health sector budgets are small and salaries are very low, raising public sector salaries could be impossible.

Financial restrictions have been used successfully in Canada, which managed to reduce DP by making private practice unappealing to public providers. This was done by restricting the type of services offered in the private sector to those not offered in the public sector, placing restrictions on private sector charges, restricting services insurable in the private sector only to those not covered by the universal insurance and by restricting private provider access to public funding. These measures also reduced the financial incentives driving DP. These approaches have been facilitated by Canada's well-resourced health sector, universal insurance coverage and well established financial monitoring systems; it might not succeed in LMICs.

Licensure restrictions have been implemented in Kenya, Indonesia, Zambia and Zimbabwe (Ferrinho et al., 2004; Jan et al., 2005; Macq et al., 2001).They focused on the need for mandatory licences to engage in dual practice, restriction of dual practice to more experienced senior practitioners, restriction of time spent on private sector activities and allowing minimal DP within public facilities. Violation of all of these regulations has been reported in the form of nurses and junior health workers running private practices under licences from senior practitioners, or practitioners spending more time in the private sector than they report. With weak regulatory systems, this may not be the best format in LMICs.

Promotional incentives by offering career or recognition incentives were attempted in Italy, where job promotions were extended exclusively to full-time public sector workers. This

approach might not work in situations where the principal driver of dual practice is economic gain, as is the case in most resource-constrained settings. However, it is worth considering, especially since public sector workers tend to retain their primary jobs, implying that recognition and security other than earnings could also be used to regulate DP.

Allowing DP without restrictions was noted in countries like Indonesia and Egypt, where DP is routine and accepted. An interesting point to note is that in both countries, the productivity of physicians far exceeded the capacity of the public sector to employ them. Because of the low salaries offered in the public sector, physicians are allowed to supplement their incomes with private sector earnings. This approach is unlikely to be feasible in countries with health worker shortages.

Considering the three options of total ban, allowing dual practice with restrictions and allowing it without restrictions, the most feasible for the LMICs is allowing it with restrictions. With health workers who are underpaid, in short supply and working in areas with a high burden of disease, they will scarcely be able to satisfy the demands of the public or the private sector alone. However, even with restrictions, the LMICs have a small ambit to manoeuvre in, without robust financial systems to monitor financial restrictions; the more feasible options would be to ensure a minimum performance of work in public facilities and let the health workers offer service in private facilities, since the public sector will be unable to sufficiently financially motivate the health workers to offer this service in the public sector yet the clients are there. This may not be a permanent solution, however. The underlying causes of scarce human resources, weak financial systems and high burden of disease need to be addressed if high performance of the available human resources is to be offered. The effect of increasing human resources, instituting financial restrictions and reducing the disease burden on the performance of health workers is the subject of other reviews.

5. References

Studies included in the map/synthesis

Bentes M, Dias CM, Sakellarides C, Bankauskaite V (2004) *Health care systems in transition: Portugal*. Copenhagen: WHO Regional Office for Europe on Behalf of European Observatory on Health Systems and Policies.

Berman P, Cuizon D (2004) *Multiple public-private jobholding of health care providers in developing countries*. London: DFID Health Systems Resource Center.

Bian Y, Sun Q, Jan S, Yu J, Meng Q (2003) *Dual practice by public health providers in Shandong and Sichuan Province, China*. London: Health Economics and Financing Programme, London School of Hygiene and Tropical Medicine.

Biglaiser G, Ma CTA (2007) Moonlighting: public service and private practice. *Rand Journal of Economics* 38(4): 1113-1133.

Buchan J, Sochalski J. (2004). The Migration of nurses: trends and policies. *Bulletin of the World Health Organization* 82: 587-594.

Culler S Bazzoli G (1985) The moonlighting decisions of resident physicians. *Journal of Health Economics* 4: 283-292.

Delay S, Gilson L, Hemson D, Lewin KM, Motimele M, Scott R, Wadee H (2004) *South Africa: study of non-state providers of basic services*. Birmingham: International Development Department, University of Birmingham.

Eggleston K, Bir A (2006) Physician dual practice. *Health Policy* 78(2-3): 157-166.

Ferrinho P, Van Lerberghe W, Fronteira I, Hipólito F, Biscaia A (2004a). Dual practice in the health sector: review of the evidence. *Human Resources for Health* 2(1): 14.

Ferrinho P, Omar MC, Fernandes MJ, Blaise P, Bugalho AM, Van Lerberghe W (2004b). Pilfering for survival: How health workers use access to drugs as a coping strategy. Human Resources for Health 2 (4).

Flood CM, Archibald T (2001) The illegality of private health care in Canada. *Canadian Medical Association Journal* 164: 825-830.

García-Prado A, González P (2007) Policy and regulatory responses to dual practice in the health sector. *Health Policy* 84(2-3): 142-152.

Gonzalez, P (2004) Should physicians' dual practice be limited? An incentive approach. *Health Economics* 13(6): 505-524.

Gruen R, Anwar R, Begum T, Killingsworth J, Normand C (2002) Dual job holding practitioners in Bangladesh: an exploration. *Social Science and Medicine* 54(2): 267-279.

Guerrero A (2006) Medical incompatibilities (in Spanish). *La Voz De Galicia* 8 May.

Hongoro C, Kumaranayake L (2000) Do they work? Regulating for-profit providers in Zimbabwe. *Health Policy and Planning* 15(4): 368-377.

Humphrey C, Russell J (2004) Motivation and values of hospital consultants in South East England who work in the National Health Services and do private practice. *Social Science and Medicine* 59: 1241-1250.

Jan S, Bian Y, Jumpa M, Meng Q, Nyazema N, Prakongsai P (2005) Dual job holding by public sector health professionals in highly resource-constrained settings: problem or solution? *Bulletin of the World Health Organization* 83, 771-776.

Jumpa M, Jan S, Mills A (2007) The role of regulation in influencing income-generating activities among public sector doctors in Peru. *Human Resources for Health* 5(5).

Kaji A, Stevens C (2002) Moonlighting and the emergency medicine resident. *Annals of Emergency Medicine* 40(1): 63-66.

Macq J, Ferrinho P, De Brouwere V, Van Lerberghe W (2001) Managing health services in developing countries: between the ethics of the civil servant and the need for moonlighting: Managing and moonlighting. *Human Resources for Health Development Journal* 5(1-3): 17-24.

Mainiero MB, Woodfield CA (2008) Resident moonlighting in radiology. *Journal of the American College of Radiology* 5: 766-769.

Mossialos E, Allan S, Davaki K (2005) Analysing the Greek health system: a tale of fragmentation and inertia. *Health Economics* 14:151-168.

Oliveira MD, Pinto CG (2005) Health care reform in Portugal: an evaluation of the NHS experience. *Health Economics* 14(S1): S203-S220.

Prakongsai P, Chindawatana W, Tantivess S, Mugem S, Tangcharoensathien V (2003) *Dual practice among public medical doctors in Thailand*. London: Health Economics and Financing Programme, London School of Hygiene and Tropical Medicine.

Rickman N, McGuire A (1999) Regulating providers' reimbursement in a mixed market for health care. *Scottish Journal of Political Economy* 40(1): 53-71.

Roenen C (1997) How African doctors make ends meet: an exploration. *Tropical Medicine and International Health* 2(2): 127-135.

Saether EM (2003) *A discrete choice analysis of Norwegian physicians' labour supply and sector choice*, Working Paper 19. Oslo: University of Oslo.

Sandier SV, Polton D (2004) *Heath care systems in transition: France*. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies.

Wang S, Moss JR, Hiller JE (2006) Applicability and transferability of interventions in evidence-based public health. *Health Promotion International* 21(1): 76-83

Urbach JR (1994) Resident moonlighting: toward an equitable balance. *Southern Medical Journal* 87(8): 794-800.

References used in the text of the report

Asiimwe D, McPake B, Mwesigye F, Ofoumbi M, Streefland P, Turinde A (1997) The private sector activities of public sector health workers in Uganda. In: Bennett S, McPake B, Mill A (eds) *Private health providers in developing countries: serving the public interest?* London and New Jersey: Zed Books, pages 140-157.

Harden A, Garcia J, Oliver S, Rees R, Shepherd J, Brunton G, Oakley A (2004) Applying systematic review methods to studies of people's views: an example from public health research. *Journal of Epidemiology and Community Health* 58: 794–800.

Oliver SR, Rees RW, Clarke-Jones L, Milne R, Oakley AR, Gabbay J, Stein K, Buchanan P, Gyte G (2008) A multidimensional conceptual framework for analysing public involvement in health services research. *Health Expectations* 11(1): 72-84

Scott CM, Horne T, Thurston WE (2000) *The differential impact of health care privatization on women in Alberta*. Winnipeg: Prairie Women's Health Centre of Excellence http://www.pwhce.ca/pdf/alta.pdf (accessed 18 March 2010).

World Health Organization (2006) World health report: working together for health. http://www.who.int/hrh/whr06/en/index.html (accessed 28 March 2010).

Appendices

Appendix 1: User involvement methods and tools

Nationally two policy-makers were selected to inform our conceptual framework of analyses of included studies. These policy-makers were selected based on their expertise in human resources planning and management. Below is the tool that was used to interact with these policy-makers.

Tool A1.1: Policy-makers, health managers and providers at national and international level

Dual practice consultation questionnaire aimed at policy-makers

Preamble

Dual job holding is a common practice in both developed and developing countries. Within the health sector, particularly in Low- and middle-income countries (LMICs) where it is increasingly documented it may entail 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 or even engaged in public and private (health or non-health) related work (Ferrinho, 2004a). Reports of non-health related dual practice have noted the engagement of health workers in agricultural and other economic activities (Roenen, 1997; Asiimwe, 1997). Dual practice is mostly an alternative source of income to supplement inadequate salaries especially in the public sectors (Roenen, 1997; Asiimwe, 1997). As a consequence, health workers engaged in dual practice and under government employment have been labelled unproductive, frequently absent, tardy, inefficient and corrupt (Ferrinho 2004a; Ferrinho, 2004b). The impact of dual practice in the quality of health services in the public sector in terms of compromising equity and efficiency has been documented (Garcia-Prado, 2007) thereby making it an important issue to consider especially in the current global human resources for health crisis. This brief survey is an attempt to understand and document how various strategies worldwide that have been implemented to either encourage or discourage dual practice could succeed or fail in your setting. We request you to kindly fill in your opinions regarding these regulations in the template provided. This information will feed into our systematic review on this practice. Your contribution to this work is invaluable.

Dual practice regulation: international stakeholders' consultative template

A) Name ……………………………………… Email contact ……………………………………. Affiliation/organization ………………………………………………………..

B) Please kindly provide us with the definition of dual practice in your setting……………………………………………………………………………………………….

………

Interventions for dual practice	**What would make this fail? (constraining factors)**	**What would make this work? (supporting factors)**	**How should it be done in your setting?**
1. Banning Dual Practice **Disallow it all together**			
2. Financial restrictions **Private sector earnings (UK)**			

Interventions for dual practice	**What would make this fail? (constraining factors)**	**What would make this work? (supporting factors)**	**How should it be done in your setting?**
2. Financial restrictions **Incentives/Full contract**			
2. Financial restrictions **Flexible Contracts (Portugal)**			
2. Financial restrictions **Salary increase (Portugal)**			

Interventions for dual practice	**What would make this fail? (constraining factors)**	**What would make this work? (supporting factors)**	**How should it be done in your setting?**
2. Financial restrictions **Performance-based remuneration (Austria)**			
3. Licensure restriction **Mandatory license required for private practice**			
3. Licensure restriction **Restriction of time allocated**			

Interventions for dual practice	**What would make this fail? (constraining factors)**	**What would make this work? (supporting factors)**	**How should it be done in your setting?**
to private sector			
3. Licensure restriction **Allow minimal DP within government facilities**			
4. Use incentives **Restrict promotions or recognition for those in DP (Italy)**			

Interventions for dual practice	**What would make this fail? (constraining factors)**	**What would make this work? (supporting factors)**	**How should it be done in your setting?**
5. Permit DP without restrictions **Accept DP as routine**			
6. Use self-regulation **Use professional ethics to regulate DP activities**			
7. Regulate private practice activities **Limit type of services**			

Interventions for dual practice	**What would make this fail? (constraining factors)**	**What would make this work? (supporting factors)**	**How should it be done in your setting?**
offered in DPs/private sector			
7. Regulate private practice activities **Impose ceilings on price charged in DPs/private sector**			

Interventions for dual practice	**What would make this fail? (constraining factors)**	**What would make this work? (supporting factors)**	**How should it be done in your setting?**
7. Regulate private practice activities **Impose limitation on Insurance for DPs/private services**			

Please provide us with contact of any international person you know who can give us information regarding dual practice.

Name ……………..……………..……………………………………… Country …………………………………………………………… Organization ……………..….………………………………… Email/phone……………………..………………………………	Name ……………..……………..……………………………………… Country …………………………………………………………… Organization ……………..….………………………………… Email/phone……………………..………………………………	Name ……………..……………..……………………………………… Country …………………………………………………………… Organization ……………..….………………………………… Email/phone……………………..………………………………

THANK YOU

Appendix 2: Search strategy

ASSIA: Applied Social Sciences Index and Abstracts

Interface: CSA Illumina
Searcher: Claire Stansfield
Date:19.3.09
Records: 99

This used the dual practice and health concepts without regulatory concept.

KW = title, abstract and descriptors (controlled terms)

((KW="Additional income" or "Moonlighting" or "dual job*" or "dual workers" or "dual employment" or "working practice*" or "public sector employment" or "private sector employment" or "private sector job" or "private sector jobs" or "public sector job" or "public sector jobs" or "public sector job*" or "dual job*" or "dual practice" or "multiple job*" or "dual working" or "multiple employmen*") or(KW=(private practice* OR public practice* OR private sector OR public sector OR Working practice* OR workforce)and KW=(incentive OR reward)))

and

((KW=(health worker* or health professional* or nurse* or doctor or doctors or physician* or dentist* or midwi* or pharmacist* or clinician* or clinical officer* or medical officer* or dental officer* or medical specialist* or surgeon* or radiologist* or radiographer* or laboratory technician* or health personnel)) or(DE=("medical professionals" or "anaesthetists" or "cardiologists" or "community paediatricians" or "consultant doctors" or "dentists" or "doctors" or "clinical directors" or "foreign doctors" or "general practitioners" or "house officers" or "preregistration house officers" or "senior house officers" or "medical directors" or "psychiatrists" or "child psychiatrists" or "forensic psychiatrists" or "geriatric psychiatrists" or "registrars" or "geriatricians" or "gynaecologists" or "health professionals" or "allied health professionals" or "dental hygienists" or "dietitians" or "occupational therapists" or "pharmacists" or "community pharmacists" or "physiotherapists" or "radiographers" or "radiologists" or "speech therapists" or "community health workers" or "health officers" or "mental health professionals" or "community mental health professionals" or "multiskilled health professionals" or "primary health care professionals" or "transplant clinician s assistants" or "neonatologists" or "neurologists" or "nurses" or "agency nurses" or "associate nurses" or "bank nurses" or "charge nurses" or "chief nursing officers" or "children s nurses" or "clinical nurse consultants" or "community learning disability nurses" or "community nurses" or "parish nurses" or "consultant nurses" or "continence advisers" or "disabled nurses" or "district nurses" or "enrolled nurses" or "flying nurses" or "former nurses" or "health visitors" or "infection control nurses" or "learning disability nurses" or "liaison nurses" or "liaison psychiatric nurses" or "macmillan nurses" or "marie curie nurses" or "matrons" or "midwives" or "community midwives" or "consultant midwives" or "direct entry midwives" or "independent midwives" or "liaison midwives" or "nurse midwives" or "traditional birth attendants" or "military nurses" or "named nurses" or "night nurses" or "night nurse practitioners" or "nurse facilitators" or "nurse managers" or "practice nurse managers" or "nurse officers" or "nurse practitioners" or "advanced nurse practitioners" or "emergency nurse practitioners" or "neonatal nurse practitioners" or "nurse anaesthetists" or "nurse specialists" or "clinical nurse specialists" or "oncology nurse

specialists" or "community oncology nurse specialists" or "community nurse specialists" or "nursery nurses" or "nursing auxiliaries" or "obstetric nurses" or "occupational health nurses" or "paediatric nurses" or "community paediatric nurses" or "plunket nurses" or "practice nurses" or "advanced practice nurses" or "primary nurses" or "psychiatric nurses" or "community psychiatric nurses" or "forensic psychiatric nurses" or "community forensic psychiatric nurses" or "public health nurses" or "research nurses" or "school nurses" or "sexual and reproductive health nurses" or "staff nurses" or "psychiatric staff nurses" or "theatre nurses" or "tracker nurses" or "ward sisters" or "obstetricians" or "oncologists" or "operating department practitioners" or "orthotists" or "paediatricians" or "podiatrists" or "prosthetists" or "psychoanalysts" or "social work psychoanalysts" or "rheumatologists" or "surgeons" or "orthopaedic surgeons" or "police surgeons" or "consultant doctors" or "doctors" or "clinical directors" or "consultant doctors" or "foreign doctors" or "general practitioners" or "house officers" or "preregistration house officers" or "senior house officers" or "medical directors" or "psychiatrists" or "child psychiatrists" or "forensic psychiatrists" or "geriatric psychiatrists" or "registrars" or "general practitioners" or "psychiatrists" or "child psychiatrists" or "forensic psychiatrists" or "geriatric psychiatrists" or "clinical directors" or "foreign doctors" or "house officers" or "preregistration house officers" or "senior house officers" or "medical directors" or "registrars")) or(KW=(staff or personnel or provider or professional) and KW=(health or healthcare or health care or medical)))

EMBASE

Database date: <1980 to 2009 Week 07>
Interface: OVID SP
Searcher: Claire Stansfield
Hits: 689

Search Strategy:

437 hits from search A and 252 hits from search B -
Search = A or B where:

A

2 dual practice.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (9)
3 dual employment.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (1)
4 dual working.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (15)
5 dual worke$.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (1)
6 moonlighting.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (128)
7 multiple job-holding.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (1)
8 multiple jo$.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (553)
9 multiple employment.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (3)

11 additional income.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (31)
12 Career mobility/ (350)
13 working practic$.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (331)
14 (public sector adj5 employment).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (14)
15 (public sector adj5 jo$).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (15)
16 (private sector adj5 jo$).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (24)
17 (private sector adj5 employment).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (8)
20 6 or 11 or 3 or 7 or 9 or 17 or 12 or 2 or 15 or 14 or 8 or 4 or 16 or 13 or 5 (1476)
21 job market/ (91)
22 21 or 20 (1559)
23 autoregulation/ (5746)
24 job performance policy/ (0)
25 health care policy/ (58123)
26 health care manpower/ or health care utilization/ or health care personnel management/ (23894)
27 manpower/ (1968)
28 health care planning/ or manpower planning/ or policy/ (41717)
29 Health Service/ (39888)
30 jurisprudence/ or health care facility/ or health service/ or elderly care/ or health care delivery/ (103199)
31 management/ or personnel management/ or organization/ (32090)
32 Economics/ or Health Economics/ (16175)
33 law/ (39523)
34 legal aspect/ (42986)
35 (Manpower or regulat$ or legislat$ or restrict$ or code$ or Rules or guidelines or guidance or Prohibi$ or incentive$ or polic$ or ban or banning or banned).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (1334182)
36 35 or 27 or 25 or 33 or 32 or 28 or 26 or 34 or 24 or 30 or 23 or 31 or 29 (1513932)
37 22 and 36 (399)
41 job performance/ (10008)
42 22 and 41 (62)
43 42 or 37 (437)

OR

B

1 reward/ (6510)
2 "incentive*".mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (7555)
4 "private practic*".mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (5948)
5 "public practice*".mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (36)

6 "private sector*".mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (2623)
7 "workforce".mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (3526)
8 "working practice*".mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer name] (330)
9 8 or 6 or 4 or 7 or 5 (12174)
10 1 or 2 (13609)
11 10 and 9 (252)

HMIC Health Management Information Consortium < March 2009 >

Interface: Ovid SP
Searcher: Claire Stansfield
Database date: March 2009 (no date limits employed)
Search date: 20.3.09
Search Strategy: Results saved from #16 and from #68 = 698 records

----
1 exp BLACK ECONOMY/ (9)
2 "dual practice".mp. [mp=title, other title, abstract, heading words] (6)
3 "dual employment".mp. [mp=title, other title, abstract, heading words] (0)
4 "dual job*".mp. [mp=title, other title, abstract, heading words] (1)
5 "dual working".mp. [mp=title, other title, abstract, heading words] (0)
6 "dual workers".mp. [mp=title, other title, abstract, heading words] (0)
7 "moonlighting".mp. [mp=title, other title, abstract, heading words] (6)
8 "multiple job*".mp. [mp=title, other title, abstract, heading words] (0)
9 "multiple employment".mp. [mp=title, other title, abstract, heading words] (0)
10 "public sector job*".mp. [mp=title, other title, abstract, heading words] (2)
11 "public sector employment".mp. [mp=title, other title, abstract, heading words] (5)
12 "private sector job*".mp. [mp=title, other title, abstract, heading words] (0)
13 "private sector employment".mp. [mp=title, other title, abstract, heading words] (1)
14 "additional income".mp. [mp=title, other title, abstract, heading words] (8)
15 "working practice*".mp. [mp=title, other title, abstract, heading words] (454)
16 6 or 11 or 3 or 7 or 9 or 12 or 2 or 14 or 8 or 1 or 4 or 13 or 10 or 5 (34)

19 "working practice*".mp. [mp=title, other title, abstract, heading words] (454)
20 "incentive*".mp. [mp=title, other title, abstract, heading words] (1949)
21 ("reward" or "rewards").mp. [mp=title, other title, abstract, heading words] (597)
22 "private practice*".mp. [mp=title, other title, abstract, heading words] (198)
23 "public practice*".mp. [mp=title, other title, abstract, heading words] (8)
24 "private sector".mp. [mp=title, other title, abstract, heading words] (2282)
25 "public sector".mp. [mp=title, other title, abstract, heading words] (1965)
26 "workforce".mp. [mp=title, other title, abstract, heading words] (4351)
27 25 or 22 or 24 or 26 or 23 or 19 (8665)
28 21 or 20 (2438)
30 public sector/ (1032)
31 private sector/ (1154)
32 private practices/ (53)

33 exp INCENTIVES/ or exp FINANCIAL INCENTIVES/ (337)
34 27 or 32 or 30 or 31 (8665)
35 33 or 28 (2450)
36 35 and 34 (219)
37 Regulat*.mp. [mp=title, other title, abstract, heading words] (8044)
38 from 36 keep 1-219 (219)
39 working environment/ (571)
40 "STAFF RETENTION"/ (1147)
41 38 or 39 (788)
42 39 or 40 or 15 (2133)
43 "legislat*".mp. [mp=title, other title, abstract, heading words] (6587)
45 "prohibit*".mp. [mp=title, other title, abstract, heading words] (243)
46 "regulat*".mp. [mp=title, other title, abstract, heading words] (8044)
47 "restrict*".mp. [mp=title, other title, abstract, heading words] (2051)
48 "banning".mp. [mp=title, other title, abstract, heading words] (57)
49 "ban".mp. [mp=title, other title, abstract, heading words] (226)
50 "banned".mp. [mp=title, other title, abstract, heading words] (54)
51 "intiative*".mp. [mp=title, other title, abstract, heading words] (14)
52 "incentive*".mp. [mp=title, other title, abstract, heading words] (1949)
53 "policy".mp. [mp=title, other title, abstract, heading words] (25713)
54 "policies".mp. [mp=title, other title, abstract, heading words] (5970)
55 "code*".mp. [mp=title, other title, abstract, heading words] (2888)
56 "mechanism*".mp. [mp=title, other title, abstract, heading words] (2601)
57 "jurisprudence".mp. [mp=title, other title, abstract, heading words] (19)
58 50 or 53 or 57 or 51 or 48 or 47 or 52 or 56 or 46 or 49 or 45 or 43 or 55 or 54 (47563)
60 regulation/ or regulations/ (2948)
61 60 or 58 (47563)
63 36 or 61 (47595)
67 42 or 41 (2331)
68 67 and 63 (647)

International Bibliography of the Social Sciences (IBSS)

Interface: EBSCO HOST
Date: 16.3.09
Searcher: Claire Stansfield
No. of records: 525

Strategy:

DE "Moonlighting" or DE "Dual job holding" or DE "Employment" or DE "Public employment"
OR
(incentives OR reward*) and (DE "Employment")
OR
(incentives OR reward*) and (private practice* OR public practice* OR private sector OR public sector OR Working practice* OR workforce)
OR
"workforce" or "Working practice*" or "public sector" or "private sector"or "public practice*" or "Additional income" or "Moonlighting" or "dual job*" or "dual workers" or "dual employment" or "working practice*" or "public sector employment" or "private sector

employment" or "private sector job" or "private sector jobs" or "public sector job" or "public sector jobs" or "public sector job*" or "dual job*" or "dual practice" or "multiple job*" or "dual working" or "multiple employmen*"

AND

(health or healthcare or health care or medical) and (staff or personnel or provider or professional)
OR
health worker* or health professional* or nurse* or doctor or doctors or physician* or dentist* or midwi* or pharmacist* or clinician* or clinical officer* or medical officer* or dental officer* or medical specialist* or surgeon* or radiologist* or radiographer* or laboratory technician* or health personnel
OR
DE "Doctors" or DE "Professional workers" or DE "Medical occupations" or DE "Pediatricians" or DE "Health services" or DE "Nurses" or DE "Dentists" or DE "Medical personnel" or DE "Midwives" or DE "Paramedical personnel"

AND

Legislation OR prohib* OR incentive* OR policy OR policies OR codes OR policy making OR "government regulation" OR legislation OR jurisprudence OR regulations OR regulatory OR legislative OR restricted OR restrictive OR restrictions OR rules OR guidelines OR ban OR banning OR banned OR practice code* OR legislate OR "government regulations" OR models OR mechanisms
OR
DE "Economics" or DE "Regulation" or DE "Regulatory policy" or DE "Legislation" or DE "Social legislation" or DE "Directives" or DE "Policy implementation" or DE "Policy making" or DE "Restriction" or DE "Prohibition"

AND NOT DE "Smoking" or smoking or metabolism

The MEDLINE search strategy included the following terms:

workplace/organization and administration[mh] OR workplace/legislation and jurisprudence[mh] OR dual job-holding[tw] OR multiple job*[tw] OR multiple employment OR public sector job OR public sector jobs OR private sector job OR private sector jobs OR private sector employment OR public sector employment OR working practice* OR Dual practice[tw] OR Dual employment[tw] OR Dual working[tw] OR Dual workers[tw] OR Dual job holding[tw] OR Moonlighting[tw] OR Multiple jobs[tw] OR Additional income[tw]OR(Salaries and Fringe Benefits[mh:noexp] OR incentives OR reward*) AND private practice* OR public practice* OR private sector OR public sector OR Working practice* OR workforce [tw] AND Legislation OR prohib*[tw] OR incentive*[tw] OR policy[tw] OR policies[tw] OR codes[tiab] OR policy making[tw] OR government regulation[tw] OR legislation[tw] OR jurisprudence[tw] OR regulations[tw] OR regulatory[tw] OR legislative[tw] OR restricted[tw] OR restrictive[tw] OR restrictions[tw] OR rules[tw] OR guidelines[tw] OR ban[tw] OR banning[tw] OR banned[tw] OR practice code*[tw] OR

legislate[tw] OR government regulations[tw]NOT metabolism[mh] OR smoking[mh]

Science Citation Index Expanded (SCI-EXPANDED)--1970-present Social Sciences Citation Index (SSCI)--1970-present Arts & Humanities Citation Index (A&HCI)--1975-present

Interface: ISI Web of Knowledge
Searcher: Claire Stansfield
Date: 17.3.09
No. of records: 264
Notes: TS covers the Abstract, Title or Keywords. There is no thesaurus

A and B and C where:

A:

TS=("Additional income" or "Moonlighting" or "dual job*" or "dual workers" or "dual employment" or "working practice*" or "public sector employment" or "private sector employment" or "private sector job" or "private sector jobs" or "public sector job" or "public sector jobs" or "public sector job*" OR "dual practice" OR "dual job*" OR "multiple job*" OR "multiple employment" OR "dual employment" OR moonlighting OR "dual working")

OR

TS=("workforce" or "Working practice*" or "public sector" or "private sector"or "public practice*") AND TS=(incentives OR reward* OR reimbursement*)

B:

TS=(Legislation OR prohib* OR incentive* OR policy OR policies OR codes OR "government regulation" OR jurisprudence OR regulations OR regulatory OR legislative OR restricted OR restrictive OR restrictions OR rules OR guidelines OR ban OR banning OR banned OR practice code* OR legislate OR models OR mechanisms OR economics OR control OR initiatives OR retention)

C:

TS=(health worker* or health professional* or nurse* or doctor or doctors or physician* or dentist* or midwi* or pharmacist* or clinician* or clinical officer* or medical officer* or dental officer* or medical specialist* or surgeon* or radiologist* or radiographer* or laboratory technician* or "health personnel")

OR

TS=((staff or personnel or provider or professional) SAME (health or healthcare or health care or medical))

Sociological Abstracts

Interface: CSA
Searcher: Claire Stansfield
Date searched 16.03.09

No of records 197

((DE=("regulation" or "government policy" or "government regulation" or "jurisprudence" or "law" or "legislation" or "public sector private sector relations")) or(DE=("constraints" or "economics")) or(TI=(Legislation OR prohib* OR incentive* OR policy OR policies OR codes OR policy making OR "government regulation" OR legislation OR jurisprudence OR regulations OR regulatory OR legislative OR restricted OR restrictive OR restrictions OR rules OR guidelines OR ban OR banning OR banned OR practice code* OR legislate OR "government regulations" OR models OR mechanisms) or AB=(Legislation OR prohib* OR incentive* OR policy OR policies OR codes OR policy making OR "government regulation" OR legislation OR jurisprudence OR regulations OR regulatory OR legislative OR restricted OR restrictive OR restrictions OR rules OR guidelines OR ban OR banning OR banned OR practice code* OR legislate OR "government regulations" OR models OR mechanisms))) and((KW=(health worker* or health professional* or nurse* or doctor or doctors or physician* or dentist* or midwi* or pharmacist* or clinician* or clinical officer* or medical officer* or dental officer* or medical specialist* or surgeon* or radiologist* or radiographer* or laboratory technician* or health personnel)) or(TI=(staff or personnel or provider or professional) and TI=(health or healthcare or health care or medical)) or(AB=(staff or personnel or provider or professional) and AB=(health or healthcare or health care or medical)) or(DE=("health professions" or "chiropractors" or "dentists" or "nurses" or "pharmacists" or "physicians" or "psychiatrists" or "psychologists" or "therapists"))) and((KW=("workforce" or "Working practice*" or "public sector" or "private sector"or "public practice*" or "Additional income" or "Moonlighting" or "dual job*" or "dual workers" or "dual employment" or "working practice*" or "public sector employment" or "private sector employment" or "private sector job" or "private sector jobs" or "public sector job" or "public sector jobs" or "public sector job*" or "dual job*" or "dual practice" or "multiple job*" or "dual working" or "multiple employmen*")) or(KW=("dual employment" or "dual job*" or "dual practice" or "multiple job*" or "dual working" or "multiple employmen*")) or(DE=("employment" or "multiple jobholding")) or(DE=("incentives" or "profit motive" or "rewards")) or(DE="private practice") or(TI=(private practice* OR public practice* OR private sector OR public sector OR Working practice* OR workforce) and TI=(incentives OR reward)) or(AB=(private practice* OR public practice* OR private sector OR public sector OR Working practice* OR workforce) and AB=(incentives OR reward)))

Appendix 3: Screening tool

A short screening tool will be used to exclude studies which are not eligible for inclusion in the review as shown below.

Exclude 1: Not reported in English

Exclude 2: Does not report on dual practice regulatory mechanisms

Exclude 3: Does not report on or have a sample which includes professional health workers (fully or partially)

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Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre)
Social Science Research Unit
Institute of Education, University of London
18 Woburn Square
London WC1H 0NR

Tel: +44 (0)20 7612 6367
http://eppi.ioe.ac.uk
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The Alliance for Health Policy and Systems Research
20 avenue Appia, 1211 Geneva, Switzerland
Tel.: +41 22 791 2973
Fax: +41 22 791 4817
Email: alliancehpsr@who.int
http://www.who.int/alliance-hpsr/en/

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