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**INTERNATIONAL TRADE IN HEALTH SERVICES
ASSESSING THE TRADE AND THE TRADE-OFFS**

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Abstract

International trade in health services has gained momentum – both in terms of increased trade and level of media, political and academic attention – over the past decade. International organisations, non-governmental organisations (NGOs) and academics have all contributed to a literature on the subject covering a wide range of perspectives and conclusions. As trade in services is broadly defined the literature covers aspects of all sides of the ‘triangle’ of economic globalisation: trade, investment and migration.

Based on recent but scattered literature, the aim is to provide an overview of the commercial opportunities from trade in health services for developing countries and the trade-offs these are argued to be associated with. Based on recently published data, the paper estimates the global value of international trade in health services at USD 33 billion in 2005. It concludes that the literature often falls into one of two ‘traps’. It either regards trade as a threat to public health that must be combated or it makes buoyant claims regarding the current and potential commercial opportunities from trade. Neither ‘trap’ is supported by empirical evidence. Achieving data of a quality and depth on trade in health services that is comparable to that available for trade in goods would be a helpful tool for policy makers, researcher and others trying to access the trade and ‘trade offs’ in cross-border health services delivery.

I. Introduction

In the UK, thousands of National Health System (NHS) patients are treated by foreign health professionals in facilities managed by South African healthcare companies; in Thailand, more than a million foreign patients receive medical care every year; and in Dubai, a new Healthcare City is rising from the desert partly financed through foreign direct investment (FDI). All three examples are manifestations of international trade in health services and of how it is reorganising health systems world-wide.

International trade in health services has gained momentum – both in terms of increased trade and level of media, political and academic attention – over the past decade. International organisations, non-governmental organisations (NGOs) and academics have all contributed to a literature on the subject covering a wide range of perspectives and conclusions. Much of the literature has been directly spurred by the creation of the World Trade Organisation (WTO) and its inclusion of services in international trade regulation through the General Agreement on Trade in Services (GATS) in 1995. Set-up to facilitate progressive trade liberalisation, GATS is a system of binding multilateral trade rules.

Much of the literature is concerned with the assumed negative implications of GATS, rather than trade in health services *per se*. The issue of assumed implications from the implementation of GATS, however, will not be pursued here. Instead the function of GATS in this paper will be to provide a framework for defining and understanding trade in health services. As the agreement defines trade in services broadly the literature covers aspects of all sides of the ‘triangle’ of economic globalisation: trade, investment and migration.

Many countries acknowledge a right to basic healthcare in their constitutions and set out official public health goals in which the provision of health services to the general population plays an essential role. At the same time, many countries actively pursue commercial opportunities offered by trade in health services. The literature is divided on the question of whether the two objectives compliment or work against each other. Woodward (2005) identifies two dominating views: a ‘trade’ view and a ‘health system’ view. The ‘trade’ view emphasises the commercial potential for developing countries with limited or optimistic consideration of the impact on domestic health systems. Conversely, the ‘health system’ view sees adverse effects on health systems from trade in health services, while rejecting the idea of health services as tradable commodities on a global healthcare market. In other words, developing countries are argued to face a ‘trade off’ between pursuing commercial opportunities and achieving public health goals.

Based on recent but scattered literature, the main purpose with this paper is to provide an overview of the commercial opportunities from trade in health services for developing countries as emphasised by the 'trade' view. While making no claim of settling the controversy, the paper also presents the possible negative outcomes described by the 'health system' view and assesses the 'trade offs' for developing countries.

As a prelude, the paper provides estimates of the value of international trade in health services based on recently published data by the United Nations. It proceeds as follows. The following section defines the concept of trade in health services. The third section presents the available statistical evidence and provides an estimate of the value of international trade in health services. The fourth section discusses the opportunities for and the implications of trade in health services for developing countries, while the fifth section concludes.

2. What is trade in health services?

Services have traditionally been thought to comprise activities which are not easily customised and therefore require face-to-face contact (or at least direct interaction) between provider and consumer. Moreover, they have been characterised by the *uno acto* principle: because they are intangible and in some cases non-storable, they have to be consumed, *in situ*, simultaneously with their production.

This has often been associated with the assumption that services are non-tradable. Yet, as Bhagwati (1984) argues, services can be embodied in goods, information flows and people. That is, goods, information flows and people can act as 'carriers' of services and since all of these 'carriers' have the ability to cross borders, services can be traded through them as intermediates. Goods 'carrying' services (such as a consultancy report or architectural drawings) have always been both storable and tradable. Likewise, people have always crossed borders to buy services (for example, tourists or patients) and individuals have always crossed borders to provide services (for example, doctors). In recent years, increased computerisation has allowed for a growing range of services to be customised, fragmented and stored more efficiently. Coupled with technological advances within (and falling costs of) telecommunications, this has eased the out-

sourcing and offshoring¹ of service production (such as call centres, back office services and x-ray-readings).

Reflecting this view on tradability, Sampson and Snape (1985) developed the typology of trade in services, which was largely incorporated in GATS. It categorises four different ways in which services can be traded, called *modes of supply* (see table 1).

<i>Mode of supply</i>	<i>Definition</i>	<i>Examples of health services</i>	<i>'Carriers'</i>	<i>EBOPS classification</i>
Mode 1	<i>Cross-border supply:</i> suppliers resident in one country provide services in another country without physical movement of neither supplier nor consumer	Telehealth	Telecommunication networks, regular mail	10.2.2 Health services (code no. 896): approximation of mainly Mode 1 but are in-separate from aspects of Mode 4.
Mode 2	<i>Consumption abroad:</i> consumers resident in one country travel to the country of suppliers to consume a service	Medical Tourism	People or firms	2.2.1 Health-related expenditure in travel (code no. 241): Approximation of Mode 2
Mode 3	<i>Commercial presence:</i> firms (legal persons) moving to the location of consumers through the establishment of a foreign affiliate or branch	Hospitals or clinics	Firms	Not covered
Mode 4	<i>Temporary movement of natural persons:</i> individual suppliers travelling temporarily to the country of the consumers to provide a service	Doctors or nurses working temporarily outside their country of origin.	People	10.2.2 Health services (code no. 896): Contain elements of Mode 4 but mainly covers Mode 1

Sources: WTO (1998, 2006)

¹ Outsourcing and offshoring are often used interchangeably in public discourse despite technical differences. Outsourcing involves the externalization of a business function to another company, which may or may not involve some degree of offshoring. Offshoring is the transfer of a business function to another country, regardless of whether the work is outsourced or stays within the same company (Norwood et al. 2006).

Mode 1 in GATS-speak involves supply of services in which the provider and the buyer remain in their respective locations. Mode 2 services are provided by moving the buyer to the provider. In Mode 3, the provider establishes a commercial presence in another country through foreign direct investment (FDI).² In Mode 4, individual providers temporarily move to the location of the buyer. While trade in services in this way is well-defined, no commonly accepted definition of a service exists. Analyses of services, therefore, typically adopt a pragmatic approach by defining and listing certain products and activities as services. The United Nations Central Product Classifications (CPC) is widely used (e.g. under GATS). It identifies more than 600 service products under five overall headings. GATS uses CPC for identification of service products but classifies them under 12 main categories and some 160 subcategories. The main categories are:

1. Business services (including professional services and computer services)
2. Communication services
3. Construction and related engineering services
4. Distribution services
5. Educational services
6. Environmental services
7. Financial services (including insurance and banking)
8. Health-related and social services
9. Tourism and travel-related services
10. Recreational, cultural and sporting services
11. Transport services
12. Other services not included elsewhere

In GATS, some health-related services are classified under category 8 “Health-related and social services” which cover services provided in settings of companies and organisations (hospitals, clinics, nursing homes, etc). Health services provided by individuals in their own capacity (doctors, nurses, midwives, etc.) are classified under category 1 “Business services (Professional)” (see table 2). Other health-related services include *health insurance* which is classified under category 7

² Foreign direct investment (FDI) is defined as ‘investment made to acquire lasting interest in enterprises operating outside of the economy of the investor.’ The FDI relationship consists of a parent company and a foreign affiliate which together form a transnational corporation (TNC). In order to qualify as FDI the investment must afford the parent company *control* over its foreign affiliate. Control is usually assumed when a company owns 10% or more of the ordinary shares or voting power of an incorporated firm or its equivalent for an unincorporated firm; lower ownership shares are known as portfolio investment (OECD 1996).

“Financial (insurance and banking) services”; *medical education* (category 5); medical back-office services such as *medical transcription* (category 1); and *research and experimental development services in medical sciences and pharmacy* (category 1). Additionally, environmental services (category 6), such as sanitation, sewage and refuse disposal are strongly related to health. For the sake of brevity, focus here will be on health services included in table 2.

Table 2: Classification of health services	
<i>GATS Sectoral Classification</i>	<i>CPC Definition</i>
1. Business services	
A. Professional services	
a. Medical and dental services	Services chiefly aimed at preventing, diagnosing and treating illness through consultation by individual patients without institutional nursing
b. Services provided by midwives, nurses, physio-therapists and paramedical personnel	Services such as supervision during pregnancy and child-birth...nursing (without admission) care, advice and prevention for patients at home.
8. Health Related and Social Services	
A. Hospital services	Services delivered under the direction of medical doctors chiefly to in-patients aimed at curing , reactivating and/or maintaining health status
B. Other human health services	Ambulance services; residential health facilities services other than hospital services; and other human health services (pathology, virology, blood collection etc.)

Source: WTO (1998)

3. What do international statistics tell us?

In 2006, global cross-border trade in services stood at USD 2.7 trillion, which was a 347% increase on 1990 and 743% increase on 1980. Despite the increase, services trade’s share of total trade has remained constant at about 20% since the early 1990s.³ In part, this is because growth in merchandise trade has been equally dynamic and in part it reflects the fact that, despite technological advance, many services remain ‘sticky’ in a geographical sense. The latter also explains why services, while comprising almost 70% of world economic activity, remain less traded than merchandise. Another reason for this anomaly is likely to be an underestimation of service trade, particular Mode 3 trade (see below).

³ Data from the WTO website (<http://stat.wto.org/>)

Generally, trade in services represents a major challenge to trade statisticians. Relative to the statistical data available for trade in goods and agricultural products, data on trade in services is limited and of poor quality. While the former is compiled in much detail from declaration forms when passing through customs, the latter has historically been reported as balance-of-payments (BOP) statistics in only three categories – transportation, travel and other commercial services – on the basis of using proxies rather than direct returns. In addition to the low level of aggregation, BOP statistics on trade in services largely excludes FDI-related (Mode 3) trade.

As a response, the *Manual on Statistics of International Trade in Services* (MSITS) (United Nations et al. 2002) was produced to improve data. The manual sets out guidelines on how to use and develop sources to measure trade in services. It has two ‘building blocks’ – BOP statistics and Foreign Affiliate Trade in Services (FATS) statistics. In relation to BOP statistics, it introduces a more detailed classification of trade in services (the Extended Balance of Payments Services Classification – EBOPS). FATS was introduced to capture Mode 3 trade and is a novel approach within trade statistics. Both of the ‘building blocks’ are in their infancy and lack of data reliability remains almost a general rule (WTO 2006).

The best FATS data are collected by the US. They show that Mode 3 is the most important flow of export and import of services to and from the US. Mode 3 exports were worth USD 529 billion, while cross-border exports (BOP) stood at USD 368 billion in 2005. In 2006, the global stock of FDI was some USD 12.5 trillion, of which about 60% was in services. Updating Hoekman (2006) this suggests, if extrapolated to global trade flows, that total global FATS could be around USD 2.5 trillion,⁴ which would be additional to the above mentioned USD 2.7 trillion of international trade in services (from BOP statistics) (see Table 3).

Table 3: Estimated global mode 3 exports (FATS)	
US mode 3 exports	USD 529 billion
US outward FDI in services	USD 1.6 trillion
Mode 3 (sales)/FDI (stock) ratio (529 billion/1.6 trillion)	0,33
Global FDI in services	USD 7.5 trillion
Estimated global mode 3 exports (0.33 * 7.5 trillion)	USD 2.5 trillion
Global services exports (BOP statistics, excluding mode 3)	USD 2.7 trillion

Sources: UNCTAD (2007), Bureau of Economic Analysis

⁴ US outward FDI stock in 2006 was some USD 2.1 trillion, of which some USD 1.6 trillion was in services (UNCTAD 2007). Given FATS of USD 529 billion in 2006, this gives a sales/stock ratio of 0.33. Assuming some USD 7.5 trillion global FDI in services, this would give a FATS estimate of USD 2.5 trillion.

If international statistics on trade in services are inadequate at an aggregated level, they are largely non-existent at a disaggregated level. In principle, EBOPS and FATS both cover health-related services. EBOPS has two classification categories specifically for health-related services covering 'health-related expenditure in travel' and 'health services'. The first provide an approximation of mode 2 trade, while the latter cover Modes 1 and 4. FATS has a category called 'health and social work', which, broken into subcategories related to hospital, medical and dental, and other human health activities, provides an approximate of Mode 3 trade. If countries collected this data as thoroughly as they collect data on merchandise trade, we would have a good approximation of international trade in health services. Unfortunately, they do not and international trade in health-related services is close to a 'data free' area; particularly for FATS data.

The United Nations recently launched the database UN ServiceTrade.⁵ The database aspires to process, store and disseminate statistics of international trade in services in accordance with the MSITS. It is, however, limited to EBOPS data and do not include FATS data. Not surprisingly, the available data on health-related services is limited. For the seven-year period 2000-2006, a total of 87 countries reported to the database. Of these, 37 reported data on 'health-related expenditure in travel'; while 13 reported data on 'health services'. On average, in 2005, 'health-related expenditure in travel' made-up 0.53% of the 25 reporting countries' total exports of services. Using the 25 reporters as a proxy for the world, total global trade in that category can be roughly estimated at USD 13.3 billion.⁶ In the same year, 'health services' on average made-up 0.13% of the 13 reporting countries' total exports of services, which leads to a rough estimate of global trade of 'health services' at USD 3.2 billion.⁷

Consequently, global trade in Mode 1, 2 and 4 trade of health services can be estimated at USD 16.5 billion in 2005. If Mode 3 trade in health-related services follows the general pattern of trade in services, it makes-up around 50% of total trade in health-related services. A rough estimate of total global trade in health-related services based on available international trade statistics is thus USD 33 billion in 2005 or 1.3% of total global trade in services (see table 4).

⁵ Free access available at <http://unstats.un.org/unsd/servicetrade/default.aspx>.

⁶ Total global trade in services was USD 2,46 billion in 2005 of which 0.54% represent some USD 13.3 billion

⁷ 0.13% of total global trade in services in 2005 would represent around USD 3.2 billion.

Table 4: Estimated trade in health services, 2005

	<i>Total trade in services (exports) (in million USD)</i>	<i>Health-related travel (exports) (in million USD)</i>	<i>Share (%)</i>	<i>Health services (exports) (in million USD)*</i>	<i>Share (%)</i>
Armenia	331.760.000	8.050.000	2,43		
Belgium	55.870.865.995	534.428.895	0,96		
Bulgaria	4.303.170.970	7.055.798	0,16		
Canada	53.623.308.022	90.789.039	0,17		
Costa Rica	2.621.243.503	2.212.440	0,08		
Croatia	10.020.794.670	88.385.071	0,88		
Cyprus	6.501.777.225	4.902.046	0,08	7.580.419	0,12
Czech Rep.	10.791.847.252	166.150.082	1,54	25.716.120	0,24
Denmark	42.614.590.211			25.577.842	0,06
El Salvador	1.127.844.830	6.146.196	0,54		
Estonia	3.171.692.230	4.811.106	0,15		
Georgia	698.401.079	199.085	0,03		
Greece	34.332.210.517	61.054.453	0,18		
Hungary	12.847.995.778	221.403.053	1,72	2.204.986	0,02
Iceland	2.042.882.441	143.068	0,01		
Italy	90.324.712.030	156.965.130	0,17	37.372.650	0,04
Kazakhstan	2.228.439.086	2.136.678	0,10		
Lithuania	3.117.785.920			7.316.319	0,23
Luxembourg	40.746.414.903	12.872.386	0,03	1.339.187	0,00
Malta	1.589.249.518			3.094.455	0,19
Pakistan	3.318.140.000	1.850.000	0,06		
Panama	3.144.400.000	300.000	0,01		
Poland	16.290.498.950			12.386.542	0,08
Romania	5.112.578.520			8.720.285	0,17
Senegal	775.571.814	220.301	0,03		
Slovakia	4.398.382.758			11.100.960	0,25
Slovenia	3.999.427.911	11.181.897	0,28	10.089.370	0,25
Swaziland	320.266.823	584.354	0,18		
Switzerland	47.489.895.220	897.857.340	1,89		
Turkey	25.891.396.948	402.534.584	1,55		
United Kingdom	203.436.273.726	125.705.400	0,06	21.861.754	0,01
Average share			0,53		0,13
Total global trade in services (in trillion USD)					2.46
Estimated global health-related travel expenses (billion USD) (0,53% of USD2.46 trillion)					13.3
Estimated global health services expenses (billion USD) (0,13% of USD2,46 trillion)					3.2
Estimated global trade in health services (USD billions)**					33

* EBOPS classification, not GATS

** FATS assumed to make-up 50% of total trade in health services

Data from UN ServiceTrade

The small fraction of total trade made-up by health services is in contrast to the economic importance of the health sector in most countries. In 2005, the average share of GDP that OECD countries used on health spending (goods and services) reached 9%. However, this share varied considerably across OECD countries, ranging from around 6% in Korea, Poland and Mexico up to 15.3% of GDP in the case of the US (OECD 2007). In 2004, low income countries spent 5% of GDP on average on health; lower-middle income countries used 5% and upper-middle income countries 10%. In the same year, the World spent 10% of GDP on health.⁸

As the next section will show, the existence of a number of barriers explain this anomaly but in some areas the barriers are being reduced and trade in health services is growing. As Chanda (2001: 2) argues, ‘although trade in health services is modest at present, given the rapidly growing global health care industry and the likely removal of some of the regulatory barriers to such trade at the regional, multilateral, and the national levels, trade in health services is likely to take on greater importance in the future’.

4. What are the opportunities for and implications of trade in health services for developing countries?

As mentioned in the introduction the literature on trade in health services is divided between a ‘health system’ perspective and a ‘trade’ perspective. Table 5 summarises the arguments of two perspectives and the rest of this section provides an overview of the issues – mode by mode; perspective by perspective.

⁸ Data from the World Bank database HNPStats. Available at: <http://go.worldbank.org/N2N84RDV00>. The World Bank country groups are based on GNI per capita: low income, USD 905 or less; lower middle income, USD 906 - USD 3,595; and upper middle income, USD 3,596 - USD 11,115.

Table 5: The Trade and the Health System Perspectives

<i>Mode of supply</i>	<i>Trade perspective</i>	<i>Health system perspective</i>
Cross-border supply (mode 1)	<p><i>Export:</i></p> <ul style="list-style-type: none"> • Commercial opportunities from tele-medicine • <i>Import:</i> • Cost effective provision of health services through imports of tele-medicine • Alleviation of human resource shortages 	<p><i>Export:</i></p> <ul style="list-style-type: none"> • Diversion of funds, infrastructure and human resources away from the provision of primary health care services. <p><i>Import:</i></p> <ul style="list-style-type: none"> • Diversion of funds away from the provision of primary health care services and building up of local capacity.
Consumption abroad (mode 2)	<p><i>Export:</i></p> <ul style="list-style-type: none"> • Potential growth area for developing countries, particularly in the event of greater cross-border insurance portability. • A source for export earnings that could be allocated to expand and/or upgrade health services targeted at the domestic population. • Creates domestic employment opportunities for health professionals discouraging out-migration <p><i>Import:</i></p> <ul style="list-style-type: none"> • Alleviation of stretched health sectors if affluent patients seek treatment abroad • Cost effective way of providing some sophisticated health services. 	<p><i>Export:</i></p> <ul style="list-style-type: none"> • Requires high quality services offered at competitive prices excluding most developing countries. • ‘Crowding out’ of domestic patients. • Diversion of funds away from the provision of basic health services. • ‘Internal brain drain’ of health professionals from rural to urban and from public to private. • Transfer of income from services to foreign patients to the benefit of domestic patients is unlikely. <p><i>Import:</i></p> <ul style="list-style-type: none"> • Imported services are likely to benefit only the affluent.
Commercial presence (mode 3)	<p><i>Export:</i></p> <ul style="list-style-type: none"> • Increased income <p><i>Import:</i></p> <ul style="list-style-type: none"> • Inflow of foreign investment to the domestic health care sector could free public sector resources for the provision of basic health care. • Facilitation of transfer of knowledge and technology to improve the quality, efficiency and range of services. • A larger cast of players in the health care market would lead to increased efficiency and falling costs. 	<p><i>Export:</i></p> <ul style="list-style-type: none"> • Outflow of potential funds for investment in the domestic health sector. <p><i>Import:</i></p> <ul style="list-style-type: none"> • ‘Internal brain drain’ from the public to the private sector and from rural to urban • The health system may develop into, or be reinforced as, a two-tier system: a private for the affluent with high quality care and a public for the poor with low quality care.
Temporary movement of natural persons (mode 4)	<p><i>Export:</i></p> <ul style="list-style-type: none"> • As the migration is temporary, it does not lead to a ‘brain drain’. • Health personnel represent a source of income from either remittances or invested savings. • Temporary migration could provide health personnel with experience and skills, they would not otherwise have acquired. <p><i>Import:</i></p> <ul style="list-style-type: none"> • Alleviation of national shortages of health professionals. 	<p><i>Export:</i></p> <ul style="list-style-type: none"> • A contributing factor to the ‘medical brain drain’. Education of health personnel in most countries is either funded or heavily subsidised by the public. Each departing individual then represents a loss of public investment, which is unlikely to be offset by remittances. • Health personnel are unlikely to acquire any valuable new skills from migrating and if so these will tend to be within areas that are less relevant in a developing country setting. <p><i>Import:</i></p> <ul style="list-style-type: none"> • An immoral exploitation of other countries’ scarce human resources.

Source: compiled by author from various sources

4.1 MODE 1: CROSS-BORDER TRADE

A range of different health-related services are traded through mode 1. Previously, ‘traditional’ channels, such as ‘snail’ mail and telephone, provided limited possibilities of trade through this mode (such as shipment of laboratory samples or consultation over the phone). Today, however, the rise of information and telecommunications technology has greatly expanded the feasibility of trade through this mode. E-health, telemedicine, telehealth and telematics are just a few of the terms used to capture the different types of health-related services in the literature; no generally agreed upon terminology seems to exist. Here, the term ‘telemedicine’ will be used as an umbrella descriptor for activities that encompass a wide range of health services.

The ‘trade’ perspective

Telemedicine refers to the application of information and telecommunication technology to deliver clinical care such as diagnosing, treating or following up with a patient at a distance. It contemplates a variety of services; from teleconsultations to robotic surgery. The often cited example of cross-border telemedicine is teleradiology. It involves electronic transfers of digital radiographic images (such as x-ray-images) from one location to another. McLean (2006) describes two models used in the US: the ‘nighthawk’ and the ‘Indian’ model. With the ‘nighthawk model’, companies provide teleradiology services for US hospitals; in particular during the third shift (23:00-07:00) for which it is hard to find qualified personnel. The companies follow the sun-shift by deploying US physicians in e.g. Barcelona, Spain and Sydney, Australia as well as in the US and can thus provide ‘night-time’ services to US hospitals from ‘daytime-awake’ physicians. With the ‘Indian’ model, companies based in India provide the same type of teleradiology services using physicians of Indian or other nationalities that are US-certified.

In 2005, ‘nighthawk’ services were being used by some 1000 US hospitals – about 20% of the total.⁹ The US radiology market thus presents an obvious entry-point for offshore providers of telemedicine and at least two Indian companies have attempted to enter, with mixed success – only about 15 doctors in India were reading US images in 2005 (Levy and Yu 2006). Levy and Yu (Ibid.) provide two main reasons for this. First, in contrast to the type of services that are successfully offshored, such as software development, radiology is not easily codified but is rather a series of special cases which require skills based on tacit knowledge and pattern recognition and years of training and experience to analyse. This makes offshoring problematic as the quality of

⁹ The 20% figure spurred extensive media coverage in the US as observers mistakenly assumed that it entailed the offshoring of US-jobs to low-wage countries. In reality, all ‘nighthawking’ is done by US-doctors earning US salaries and, for the most part, within the US.

the output is not easily assessed and monitored. Second, radiology is subject to substantive government regulation, which makes barriers to market entry high. A radiologist must have completed a US medical residency program and passed US medical board exams in order to be legally allowed to read images generated in the US. Also, medical insurance programs will typically not reimburse for procedures done outside the US. Levy and Yu conclude that these barriers mean that teleradiology is not 'garden variety offshoring'. Moreover, the barriers are likely to extend to all aspects of telemedicine.

Nonetheless, some outsourcing from the US does take place and Indian companies have succeeded in entering the UK and the Singapore markets. In both cases as a response to capacity constraints in the public sector, i.e. the Indian companies in effect deliver public-funded services. However, the companies experienced the same types of barriers here as in the US. Entrance to the UK market, for example, required the Indian company to establish a branch office in the UK and use only UK-registered radiologists, in effect mode 3 trade (Ibid).

In addition to the commercial gains, the trade perspective identifies a range of ways that developing countries can use cross-border telemedicine to improve their health systems and achieve public health goals. The import of some types of medical services through telemedicine may be a more cost-effective way of providing these services than maintaining domestic capacity, especially in remote and underserved areas. Likewise, telemedicine could be a tool for the alleviation of human resource shortages by freeing capacity through import of medical services. It could also help improve the quality of diagnosis and treatment (Chanda 2001).

The 'health system' perspective

The health 'perspective' focuses not so much on the commercial opportunities from telehealth, but more on negative outcomes from both import and export of such services. Given the lack of proper infrastructure such as telecommunication and power-supply in many developing countries, especially in remote rural and poor urban areas, telemedicine imports to these countries will primarily be targeted at the urban upper and middleclass rather than the provision of basic health services to the poor in general and the rural poor in particular. Mode 1 trade thus risks diverting funds and human resources away from the poor. Outsourcing and offshoring from developed countries will only accelerate this development further as human resources are diverted into serving export markets. Moreover, mode 1 trade raises complex ethical, liability and confidentiality issues (Timmermans 2004; Vellinga 2001).

Assessment

On the surface, the potential of telemedicine is intriguing. Teleradiology appear to be at the forefront of the spread of cross-border telemedicine, but other services have telemedical potential – teleradiology, telepathology, teledermatology, telepsychiatry etc. In fact, McLean (2005, 2006) argues that virtually all medical services can be outsourced and offshored as telemedicine gains momentum and therefore ‘in the future it is likely that the only persons purchasing health care under Mode 2 [medical tourism] will be those travelling abroad on business or holiday that have the misfortune of becoming ill (McLean 2006: 487)’. Indeed, the rise of information and telecommunications technology is eliminating or at least minimising geographical barriers. However, other effective barriers to trade remain. Not least legal and regulatory but also barriers related to cultural differences, socio-political conditions (public vs. private health provision), lack of human resources, and technologic and infrastructural limitations. These are all barriers that seem to make high-volume cross-border telemedicine a distant prospect at best. This is particularly the case in respect of a developing country perspective, as most developing countries suffer from severe lack of medical professionals and proper infrastructure. The ‘trade’ literature’s buoyant account of the potential for future cross-border telemedicine seems overstated. Conversely, the ‘health system’ literature’s concerns appear to be targeted more at telemedicine as such than at *cross-border* telemedicine specifically. That is, the perceived negative implications are outcomes of telemedicine, not the trade aspects of it *per se*.

4.2 MODE 2: CONSUMPTION ABROAD

This mode involves patients who travel abroad for medical treatment – so-called medical tourism. Medical tourism comes in different shapes. One patient flow is from developed countries to other developed countries. Another is affluent patients travelling from developing countries to developed or other developing countries for medical treatments that are inadequate or unavailable in their home-countries. A variant that has caused concern in developed countries, particularly the UK, is inflows of people in need of healthcare from developing countries who seek to take advantage of the free public health systems (which in principle cannot turn them away). Medical tourism has, however, mostly been associated with patients from developed countries seeking affordable healthcare in developing countries.

The ‘trade’ perspective

Many developing countries are joining or planning to join the medical tourism provision bandwagon by encouraging investment in new hospitals and clinics to facilitate foreign patients. Their competitive advantage is simple: first world healthcare at third world prices. In other words, high quality at a low-cost. Table 6 provides an overview of costs savings.

<i>Procedure</i>	<i>US retail price</i>	<i>US insurers' cost</i>	<i>India</i>	<i>Thailand</i>	<i>Singapore</i>
Angioplasty	98,618	44,268	11,000	13,000	13,000
Heart bypass	210,842	94,277	10,000	12,000	20,000
Heart-valve replacement (single)	274,395	122,969	9,500	10,500	13,000
Hip replacement	75,399	31,485	9,000	12,000	12,000
Knee replacement	69,991	30,358	8,500	10,000	13,000
Gastric bypass	82,646	47,735	11,000	15,000	15,000
Spinal fusion	108,127	43,576	5,500	7,000	9,000
Mastectomy	40,832	16,833	7,500	9,000	12,400

Note: U.S. rates include at least one day of hospitalization; international rates include airfare, hospital and hotel.

Source: Herrick (2007)

To assure quality of care, an increasing number of hospitals and clinics seek certification from international accreditation agencies. The Joint Commission International (JCI) is the 'gold standard' and has accredited more than 120 hospitals world-wide. Some countries already receive large numbers of foreign patients. Thailand, Singapore and, to a lesser extent, India have emerged as 'medical hubs' attracting almost 2 million foreign patients combined (see table 7). Traditionally, the US, Switzerland and the UK (mostly London) have attracted foreign patients in large numbers and they continue to do so. The question is whether these destinations have 'a lock' on the market or whether there is room for more entrants.

Above, I roughly estimated global trade in medical tourism at USD 13.3 billion in 2005 using data from the UN ServiceTrade database. Data from the same database show that UK imports of medical tourism (expenses of UK patients travelling abroad) in 2005 stood at USD 107 million. Of this, 61% was from countries within the European Union; 13.6% was from NAFTA countries; 8.5% was from Asia, while Africa and Oceania accounted for 5% each. In the same year, Germany's total import of medical tourism represented USD 1 billion. Of this, 78% was from other EU countries; 10% was from Switzerland and 5% was from Asia.

This confirms what seems to be a general trend in medical tourism: it primarily takes the form of regional trade (see also table 7). That is, most medical tourists remain within their region and only a minority cross continents to obtain healthcare.

<i>Country and year of estimate</i>	<i>Estimated number of foreigners visiting specifically for health care</i>	<i>Estimated revenue generated from foreign patients</i>	<i>Official government targets for revenue generation (year)</i>	<i>Main countries and regions of origin</i>
Thailand (2004)	1 103 095	USD 660 million	USD 2 billion (2010)	Japan (22%), USA (11%), South Asia (10%), the UK (9%), ASEAN (8%). In 2006, Bumrungrad Hospital (Bangkok) treated 430 000 foreign patients (54% of total patients). The top three revenue contributors by country were the United Arab Emirates, the United States and Oman.
Singapore (2006)	410 000	N/a	USD 3 billion (2012)	Indonesians and Malaysians account for 70-85% of patients.
Malaysia (2003)	75 000	USD 40 million	USD 1 billion (2010)	Indonesia (60%), Brunei, Vietnam, Singapore
India (2005)	150 000	USD 350 million	USD 2.2 billion (2012)	Middle East, Bangladesh, Nepal, Sri Lanka. Apollo Group: 30 000 (2004) of which 'tiny' number from the UK and US. Wockhardt Hospitals: 1400 foreign patients (2006)
Jordan (2006)	120 000	USD 650 million	USD 1 billion (2010)	Yemen, Sudan, Saudi Arabia, Bahrain, Palestine (Israel), Iraq
South Africa (2004)	8 000	USD 16 million	N/a	Africa, the UK

Sources: Mattoo and Rathindran (2005); Arunanondchai and Fink (2007); Hindi (2007); Dacanay and Rodulfo (2005)

No reliable estimate exists of the total number of medical tourists and their origin. Woodman (2007) estimates that 'more than 150 000 Americans, Canadians and Europeans (p. 5)' went abroad for medical treatment in 2006 and that 'at least 28 countries on four continents cater to the international health traveller with more than a million patients visiting hospitals and clinics in countries other than their own (p. 5)'. Other estimates are less conservative. One predicts that 750 000 Americans will have gone offshore for medical services in 2007, with this number projected to rise to 6 million in 2010 (Horowitz et al. 2007). Another claims medical tourism to be a USD 60 billion industry at present and forecasts it will be worth USD 100 billion by 2012 (Herrick 2007).

Governments and healthcare providers in a number of developing countries are actively promoting medical tourism as source for foreign income generation. Governments in Thailand, India, Malaysia and Singapore have set targets for the future number of patients and revenue generation

from medical tourism. They have implemented a range of policies such as marketing strategies and encouragement of private investment in healthcare facilities. In Thailand, the policy titled 'Thailand: Centre of Excellent Health Care of Asia' targeted at achieving revenues of USD 2 billion by 2010 was approved in 2003. The Ministry of Public Health, the Ministry of Commerce and the Private Hospitals Association are the main implementers. Road shows have been carried out in targeted countries and tax incentives are given to domestic and foreign investors for investment in new healthcare facilities for foreign patients (Pachanee and Wibulpolprasert 2006). Singapore has set-up *SingaporeMedicine*, a multi-agency government initiative, to promote the country as a leading medical tourism destination.¹⁰ In India's National Health Policy, treatment of foreign patients is deemed an 'export' and eligible for all fiscal incentives extended to export earnings (Ministry of Health and Family Welfare 2002). India has also introduced a medical visa, which is valid for a year and allows for multiple entrances (Chinai and Goswami 2007).

To meet the set targets, the countries are relying on significant growth in regional and global markets. The regional market in Asia is driven by patients from primarily Japan and Indonesia. Japan is characterized by the typical developed country attributes, such as spiralling healthcare costs and an ageing population, both factors that promise continuous growth. Indonesia has a large population coupled with the virtual absence of domestic-based quality healthcare. The development of this market will depend on the country's ability (or inability) to sustain economic growth and to establish an adequate domestic supply base.

The Middle East is characterised by countries that are largely incapable of meeting the healthcare needs of their populations – even the affluent. The United Arab Emirates, for example, allegedly imports health services to the value of USD 2 billion per year (Al Deen 2007). The tightening of visa requirements to enter the US after the terrorist attacks on 11 September 2001 seems to have redirected Middle East medical tourist flows to Asia. One hospital in Thailand, for example, saw an almost 20-fold rise in patients from the Middle East from 5 000 in 2001 to 93 000 in 2006 (MacReady 2007). As in the case of Indonesia, the growth prospect of the Middle East market will depend on the region's ability to establish domestic supply-bases. Several countries in the region have seen significant investment in their healthcare industries and virtually all have ambitions to become major hubs for medical tourism (see later).

US demand is argued to have great potential for future growth. Several factors are said to substantiate this. About 47 million Americans have no medical insurance and 130 million are without

¹⁰ See <http://www.singaporemedicine.com>

dental insurance potentially, making medical tourism attractive as a low-cost alternative to them. As with Japan and most other developed countries, the US is experiencing high and growing healthcare costs and has an ageing population which is driving up demand. The funding of US health system is based on different types of insurance plan. At present, the majority of these plans do not cover non-emergency treatment abroad. Furthermore, it is argued that the US market may even be moving from a medical tourism model to one more accurately named 'medical outsourcing'. Under this model, insurance carriers (including the public-funded Medicare and Medicaid) are envisioned to cover medical treatment for US insured patients obtained at medical establishments outside the US that can provide healthcare at lower costs while guaranteeing international quality standards (MacReady 2007). The model would cut the insurance carriers' costs by introducing low-cost healthcare solutions and by increasing competition domestically in the US. Mattoo and Rathindran (2006) find through an international cost comparison that extending insurance plan coverage to treatment obtained outside the US for 15 low-risk procedures could produce savings of around USD 1.4 billion, if one in ten US patients choose to undergo treatment abroad.

Some insurance carriers have started to implement elements of the medical outsourcing model. Three Californian insurance carriers pay for US residents to obtain medical care in Mexico. These plans offer lower premiums and deductibles than plans that use only US providers. West Virginia legislators have proposed a bill that would give state public employees incentives to seek treatment abroad. Such incentives would be to waive employees' co-payments and deductibles, covering travel expenses for the employee and one companion, and paying up to 20% of the cost savings to the employee (Cortez 2008). These early adaptors could set a precedent for other US insurance carriers. However, Edelheit (2007) argues that high expectations of many international hospitals and medical tourism companies about the US insurance carriers' imminent intentions to approve treatment abroad, thereby 'opening the floodgates to swarms of Americans going overseas (p. 42)', are exaggerated. The insurance carriers' primary concerns are with quality and litigation; in the event of malpractice an American patient is unlikely to feel satisfied by the liability systems in destination countries. In Thailand, for instance, doctors do not carry liability insurance and punitive damages are not a part of the legal system (MacReady 2007).

Consequently, insurance carriers are concerned with the liability involved in sending patients abroad and particularly in providing incentives to do so. Likewise, US-based doctors are unwilling to refer patients to foreign hospitals for the same reason. Thus, the massive increase in medical tourists with full medical insurance from the US projected by some is an unlikely prospect. Conversely, a large pool of ageing Americans has either no or 'spotty' medical insurance with high copayments and deductibles. When hospitalised in the US, they risk their home equity, pension

and other financial assets. If full medical insurance remain out of reach for this segment, it should indeed provide a growing pool of potential medical tourists.

The European market is dominated by national health systems which provide universal coverage and are heavily subsidised. This leaves little room for out-of-pocket medical tourism. A UK survey¹¹ estimates that a total of 50 500 UK patients travelled abroad in 2006. According to the survey, a continuation of existing trends could see this number grow to 200 000 by 2010. The 2006 estimate breaks down to 22 000 dental patients, 14 500 cosmetic surgery patients, 9 000 for other surgery (such as orthopaedic) and 5000 for fertility treatment. The survey suggests that most medical tourists from the UK travel to obtain procedures that are not adequately provided by the NHS.¹² Thus, dental and cosmetic surgery (including cosmetic dental work) account for the bulk of medical tourism from the UK and most likely other European countries. As shown above the bulk of European medical tourists remain within Europe.

Within the EU, a number of European Court of Justice cases have developed the following principles in relation cross-border patient mobility:

- Any non-hospital care to which a person is entitled in their EU country may also be sought in any other EU country without prior authorisation, and be reimbursed up to the level of reimbursement provided by their own system.
- Any hospital care to which a person is entitled in their EU country they may also be sought in any other member state provided they first have the authorisation of their own system. This authorisation must be given if their system cannot provide them care within a medically acceptable time limit considering their condition. They will be reimbursed up to at least the level of reimbursement provided by their own system.

The Court has established that these principles also apply to member states with integrated public funding and provision of healthcare and that these can be required to make adjustment to their systems to comply with the principles for cross-border patient mobility (EU Commission 2006).

¹¹ Available at <http://www.treatmentabroad.com/medical-tourism/medical-tourism-facts>

¹² It is frequently reported in the literature that a significant number of UK patients are being treated abroad at the expense of the NHS. While such schemes have been contemplated by the NHS, they have never materialized. Thus, only 357 patients were referred to treatment abroad by the NHS in 2006. Of these 269 were expectant mothers who took advantage of a European Union scheme allowing them to give birth in the European country of their choice (IMTJ 2007).

The court rulings have not yet been implemented but the European Commission is in the process of developing a system for how the principles can work in practise. When implemented, it should inevitably lead to growing patient mobility within the EU (depending on the final design of the scheme). Governments could then be tempted to make agreements with low-cost providers in India, Thailand or elsewhere for referral of patients, rather than refer patients to other high-cost EU countries.

Sub-Saharan Africa receives few medical tourists. Generally, consumer demand for private healthcare is unmet in most of Sub-Saharan Africa (except South Africa), leading to an outflow of medical tourists. For example, 18 500 wealthy Nigerians are reported to seek healthcare abroad every year (IFC 2007). Although South Africa is an oft-mentioned destination for medical tourism, the country's share of the global market is negligible (see table 6). This most likely reflects the fact that medical tourism is dominated by regional markets and that the regional market of Sub-Saharan Africa is small and skewed toward Europe, the Middle East and Asia.¹³

The 'health system' perspective

The 'health system' perspective points that services must be of good quality and offered at competitive prices in order for countries to become exporters of medical tourism, which excludes a great majority of developing countries. In fact, many developing countries are importers of medical tourism as the affluent in these countries frequently seek medical treatment abroad (Chanda 2001). Should a country succeed in becoming a major destination for medical tourism then a number of risks would need attention. First, a substantial number of foreign patients could result in the 'crowding out' of domestic patients. Also, large scale medical tourism could lead to a diversion of funds away from provision of basic health services. Likewise, an internal 'brain drain' of health personnel from rural to urban areas and from public to private sector is a risk, which again will primarily harm access to health services for the poor, particular in rural areas. Additionally, there is little overlap between the services provided to foreign patients and those provided to domestic patients, since foreign patients are likely to be concentrated in the private sector receiving predominately cosmetic, plastic and reconstructive surgery – services the majority of domestic patients do not have access to. As a result the opportunities for spill-over effects from mode 2 exports to the advantage of domestic patients are marginal. Moreover, if the facilities for medical tourism are publicly funded – directly or indirectly – this represent a further diversion of resources away from public health needs (Hilary 2001; Wordward 2005).

¹³ In fact a recent start-up in South Africa promotes medical tourism to India.

Assessment

A wide array of developing countries has expressed ambitions to become destinations for medical tourism.¹⁴ A recent editorial in a medical tourism industry journal worries that ‘the current expansion of the medical travel industry will lead to an oversupply of facilities all hoping to become centres of excellence (IMTJ 2007b)’. Countries and investors risk building medical facilities in places that currently lack the patients to fill them and the health professionals to staff them. Sound estimates of the market and, not least, its future potential based on international standards for data collection are needed to provide a proper assessment of the potential for developing countries from medical tourism. Three factors sanction a cautious approach. First, most estimates of the optimistic estimates of current market size and future growth potential of medical tourism are not coupled with a description of the methodology and seem overly exaggerated. Second, a healthcare system that can accommodate a large number medical tourists will first and foremost depend on a sufficient domestic base of both patients and health professionals. Third, geography matters as medical tourism depends on the regional market; proximity to major markets is key.

The ‘health system’ literature rightly points that the majority of developing countries are excluded from exploiting the medical tourism market successfully. Medical tourism is particularly irrelevant to Sub-Saharan Africa, where not even South Africa has secured a place in the market. Other ‘health system’ literature concerns are only marginally associated with trade but are associated with factors related to domestic structures of inequality. The ‘crowding out’ argument is based on the spurious assumption that in the absence of medical tourism the resources and facilities taken-up by foreign patients would be allocated to domestic patients in need of healthcare. Generally, private healthcare sectors everywhere in the world are dependent on a base of local patients with medical tourists making-up a small minority.

‘Internal brain drain’ is experienced in most, if not all, countries (developed as well as developing) and is not caused by medical tourism as such. Even in Thailand, which sees the highest number of foreign patients in Asia, only 11% of the additional demand for physicians required by the private health sector in 2003 was caused by the influx of foreign patients; the remaining 89% was caused by an increasing number of Thais seeking private healthcare (Pachanee and Wipulpolprasert 2006). The problem is not the little overlap between services provided to foreign and local patients respectively; the problem is the little overlap between services provided to affluent

¹⁴ The on-line news section of the International Medical Travel Journal mentions countries such as Yemen, Bahrain, Philippines, Kuwait, Egypt, China, Sri Lanka, Vietnam, Israel, Panama, and Taiwan as having taken steps to enter the market during 2007.

domestic patients and those provided to the majority of patients, who are incapable of affording private healthcare.

Overall, a determining factor for the future development of medical tourism markets is whether they will remain dependent on out-of-pocket patients or whether medical insurance carriers and government funders will start to cover costs for medical treatment obtained abroad. Another will be the medical tourism provider's ability to attract and retain well-qualified medical personnel. Entering the market is associated with high initial costs and fierce competition for both patients and personnel from incumbents.

4.3 MODE 3: COMMERCIAL PRESENCE

This mode involves foreign direct investment in hospitals, clinics and other healthcare facilities as well as the establishment of representative commercial presence (such as a sales office). FDI in service industries make-up some 60% of all FDI flows. However, it is not FDI that constitutes the trade flow but the *sales* of the foreign affiliate that have been established through FDI. As mentioned, mode 3 trade is statistically called 'Foreign affiliates trade in services' (FATS) and data in it is only collected by a few countries. Above, I estimated total FATS at USD 2.5 trillion or almost 50% of total trade in services. Whether this trend extends to trade in health services is an open question. Blouin et al. (2006) argue that literature on mode 3 trade in health services is based on theory, assumption, experience in other sectors, or conjecture rather than 'hard data', as it is a largely 'data free' area. Below I describe the dominant trends within mode 3 trade.

Table 8 provides an overview of recent FDI transactions within the healthcare industry involving non-OECD countries. One trend stands out: the flow is primarily from non-OECD countries to either other non-OECD countries or OECD countries. The trend is parallel to a general trend within FDI flows: multinational companies based in emerging markets are increasingly setting-up or investing in companies in developed or other developing countries (Economist 2008). It is also evident from Table 8 that FDI flows in health services seek out already existing markets or, as in the case of the United Arab Emirates, emerging markets with substantial government support.

Table 8: Recent acquisitions of healthcare providers involving non-OECD countries						
<i>Year</i>	<i>Investor</i>	<i>Subsidiary</i>	<i>Exporting country</i>	<i>Importing country</i>	<i>Value of investment</i>	<i>Nature of investment</i>
2006	Netcare	General Healthcare	South Africa	The UK	GBP 2.2bn	52.6% stake
2007	Mediclinic	Emirate Healthcare Holdings	South Africa	United Arab Emirates	USD 46.4m	49% stake
2007	Mediclinic	Hirslanden	South Africa	Switzerland	USD 2.4bn	100% stake
2005	Bumrungrad International	Asian Hospitals	Thailand	Philippines		45.5% stake
2006	Bumrungrad International	Bumrungrad Hospital Dubai	Thailand	United Arab Emirates		49% stake (Joint Venture with Istithmar)
2007	Bumrungrad International	Asia Renal Care	Thailand	Singapore (operates clinics in 6 Asian Countries)	USD 75m	100% stake
2005	Apollo Hospitals	Apollo Hospitals Dhaka	India	Bangladesh	USD 35m	100% stake
2005	Parkway Healthcare	Pantai Hospitals	Singapore	Malaysia	USD 139m	31% stake
2008	Siemens and Asklepios Kliniken	Sino-German Friendship Hospital	Germany	China	USD 145m	Public-Private Partnership with Tongji University, Shanghai

Sources: Mortensen (2008), International Herald Tribune, Apollo Hospitals, Bumrungrad International and Parkway Healthcare

Another form of mode 3 trade is contract-based management of hospitals or clinics. India's Apollo Hospital Group has such contracts with hospitals and clinics in Kuwait, Malaysia, Mauritius, Nepal, Nigeria, Oman, Sri Lanka and United Arab Emirates. Several US-based universities have similar contractual relationships with partners in developing countries. Harvard Medical International is, for example, contracted to assist the government of the United Arab Emirates in the planning and implementation of Dubai Healthcare City and advises hospitals in Bahrain, China, India and Saudi Arabia. Likewise, Johns Hopkins International advises hospitals in Chile, India, Lebanon and United Arab Emirates.

In 2000, the UK opened for private sector participation in the provision of public NHS clinical services to, *inter alia*, increase domestic capacity through the participation of foreign suppliers (Mortensen 2008). Subsequently, two South African hospital groups, Life (former Afrox Healthcare) and Netcare, was contracted to deliver various NHS clinical services. Life has a 50% stake

in the joint venture group Partnership Health Group UK. The group has four five-year contracts to manage NHS treatment centres in England. The contracts are valued at around GBP 55 million per year (Citigroup 2007). In 2001, Netcare established a presence in the UK to win NHS contracts. In addition to four initial contracts to supply 'overseas clinical teams' (see next section), Netcare was, in 2003, contracted to run a mobile ophthalmic chain using mobile theatres to provide some 45 000 cataract procedures throughout England for a five-year period. A second five-year contract to run a NHS treatment centre in Manchester was awarded in 2005. In 2007, Netcare opened two NHS Commuter Walk-in-centres; one in Leeds and one in London, and the first privately run NHS treatment centre in Scotland (in Stracathro). In 2006, total revenue from Netcare's NHS contracts was GBP 21 million (Netcare 2006).

Private healthcare sectors in Sub-Saharan Africa see little foreign commercial involvement. The South African private healthcare sector is by far the biggest and most advanced on the continent. It is also a major Mode 3 exporter of health services. In fact, the sector sees no inward FDI in health services, while it is aggressively expanding in the UK, Switzerland and the United Arab Emirates. It also owns and operates hospitals in Namibia and Botswana (Mortensen 2008). A recent report, however, names the healthcare sector as one of the top five sectors for investment in Africa emphasising, *inter alia*, the opportunities international donors provide for investors in healthcare (Bernstein and Rasco 2007). International Finance Corporation (the private sector arm of the World Bank Group), for example, plans to mobilise USD 1 billion to support investment in the private healthcare sector in Sub-Saharan Africa over the next five years (IFC 2007).

The 'trade' perspective

Generally, from a 'trade' perspective, mode 3 represents a positive transfer of resources to the benefit of public health directly as well as indirectly (Adlung & Carzaniga, 2001). Directly this occurs through inflows of additional investment to the domestic health care sector. The benefit is especially great if such investment is targeted at expanding healthcare infrastructure. which could free up public sector resources for the provision of basic healthcare. Additionally, inward investment could facilitate transfer of knowledge and technology to improve the quality, efficiency and range of services. A larger cast of players in the health care market could also lead to increased efficiency and falling costs (Chanda, 2001; Timmermans, 2004). Indirectly, liberalisation of mode 3 trade could benefit public health through increased economic activity not only in the health care sector but also through spill-over effects into other sectors, which again could lead to improved public health indicators.

The 'health system' perspective

As FDI in the health sector by definition will be targeted at the private sector, the 'health system' perspective is concerned that FDI will lead to an increased role of the private sector vis-à-vis the public. The health system may then develop into, or be reproduced as, a two-tier system: one for the affluent with high quality care and one for the poor with low quality care (Pollock & Price, 2000). As with medical tourism, a two-tiered health system may also result in an 'internal brain drain' of health personnel from the public to the private sector and from rural to urban areas, as private sector hospitals and clinics typically offer better pay and working conditions than the public sector and are placed in urban areas. 'Cherry picking', whereby the private sector 'picks' the profitable patients (those with low-risk complications and/or the ability to pay – the 'cherries') and 'dumps' the unprofitable patients (those with complicated high-risk complications and/or an inability to pay) on the public sector (with corresponding increases in the unit costs of public treatment), is also argued to be a likely outcome of increased FDI in the health sector (Chanda 2001).

Assessment

The actual trend of outward FDI flows from developing countries is in contrast to the dominant view in the literature which maintain that mode 3 exports in health services are of minimal interest to developing countries (e.g. Woodward 2005) and that FDI will most likely flow from developed 'saturated' markets to new profitable opportunities away from these (e.g. Smith 2004; Chanda 2001). Another trend which the literature fails to capture is the opening of public sector activities for private sector providers and the opportunities this has created for developing country providers. Mostly, the literature sees a sharp divide between the public sector and the private sector both in terms of funding and in terms of patient-base: the public sector serves (primarily) the poor using public means, while the private sector serves the affluent and depends on private means (medical insurance and out-of-pocket payments). This is rarely a true picture of health systems; the boundaries between public and private are usually more blurred. In Ethiopia, Kenya, Nigeria and Uganda, for example, more than 40% of people in the lowest economic quintile receive healthcare from private, for-profit providers, while in Uganda and Tanzania, one-third of public spending benefits the richest quintile and just 12-17% of public spending goes to the poorest quintile (IFC 2007).

As with medical tourism, most of the concerns raised by the 'health system' perspective pertain to existing structures of a country's domestic sector. Smith (2004) concludes from a review of the literature on mode 3 trade in health services that "the extent to which a national health system is commercialised *per se* is of more significance [for its sustainability] than whether investment in it is foreign or domestic" (Smith 2004: 2320). Likewise, a private market in health services provi-

sion and finance must exist before significant mode 3 trade (FDI) can take place and a country's regulatory 'strength' before significant mode 3 trade takes place will determine the economic and health impact of such trade.

In the absence of data it is of course impossible to establish whether mode 3 within health services follow the overall pattern of mode 3 trade in services, i.e. that it makes-up around 50% of total trade in services. However, the trends described above may indicate that it may well do, with the caveat that mode 2 (medical tourism) is likely to be of more importance to trade in health services than services in general.

4.4 MODE 4: TEMPORARY MIGRATION OF MEDICAL PROFESSIONALS

A common misunderstanding in the literature on Mode 4 trade in health services is that it includes all foreign medical professionals working temporarily in another country than their own. Some of the literature even forgets or chooses to ignore the word temporary and discusses all types of employment-related migration under a mode 4 trade headline (for example, Chanda 2001; Waeger 2007). To be clear, mode 4 covers medical professionals that:

- provide services where a foreign service supplier obtains a contract to supply services to the host country company and sends its employees to provide those services (e.g. a South African company sends physicians to the UK to fulfil a contract with the NHS)
- independently provide a service abroad – individuals selling services to a host country company or to an individual (e.g. a physician temporarily works abroad on a self-employed basis for a lump sum)
- are working temporarily abroad for the 'same' company as they work for domestically – inter-corporate transferees (e.g. a South African nurse is temporarily transferred from the South African part of a company to an affiliate in the United Arab Emirates) (Mamdouh 2004)

By this definition, health professionals who enter another country than their own with the purpose of seeking employment ('getting on the payroll') are not covered by mode 4 – even if they then work on temporary short-term contracts.

This tight definition of mode 4 probably reflects two things, both related to the trade negotiations under GATS. First, a broader definition which, for example, included all forms of cross-border temporary employment-related migration could provoke anti-immigration lobbies in receiving countries and undermine liberalisation efforts. Second, mode 4 has mainly been used as

an ‘enabler’ for mode 3 trade by easing the cross-border transfer of MNC employees at the specialist and managerial level (ensuring that companies can send specialists and managers to foreign subsidiaries if necessary). The definition also excludes the majority of health professionals working abroad from the mode 4 debate.

The ‘trade’ perspective

‘Hard data’ on mode 4 trade within health services does not exist. However, some anecdotal examples can help to illustrate the nature of mode 4 trade. One example is the above mentioned ‘clinical teams’ contracts awarded to the South African hospital group Netcare between 2002 and 2004. Netcare won four such contracts. These covered 929 cataract operations performed in Morecombe Bay; around 12,000 ear, nose and throat procedures in London; 338 hip and knee joint replacements in Southport; and 1000 orthopaedic operations in Portsmouth. All procedures were conducted in NHS facilities by South African personnel. Overall, a total of around 200 South Africans participated travelling to the UK on a rotational basis (Netcare 2005).

‘Clinical teams’ contracts are no longer offered by the NHS. Instead Netcare and Life have, as mentioned, succeeded in winning contracts to run various NHS treatment centres in England and Scotland. In the initial phase of the latter contracts, reliance was placed on South African nursing personnel. However, given the staffing shortages experienced within South Africa, efforts were made to reduce this and employ staff from Europe and elsewhere. This has greatly diminished the quantum of South African staff required (Ibid.).

The governments of the Philippines and India actively ‘market’ their health professionals internationally to promote out-migration and harvest the foreign exchange earnings from remittances (Martin et al. 2006). Many of these professionals take jobs in the Middle Eastern Gulf countries which depend on foreign health professionals. Most inward migration to the Gulf countries is temporary but whether it can be classified as trade depends on the contractual relationship between the individual health professional and the employer, in addition to the status of the employer. Most likely the majority of this migration fall outside the definition of mode 4 trade.

te Welde and Grimm (2005) argue that if developed countries developed and implemented temporary worker schemes, mode 4 type trade could make migration a ‘win-win’ proposition for developed and developing countries alike – even within the health sector. Their argument is three-

fold. First, temporary migration fosters skill upgrading, increases remittances¹⁵ and investment flows from migrants back into developing countries. Second, it makes economic sense for developed countries to invest in training in developing countries as educating health professionals in such countries is cheaper. The authors suggest that developed countries' health systems could fund training of nurses in developing countries directly. Thirdly, ensuring that the migration is temporary through multi- and bilateral agreements between countries would then increase the number of medical professionals in developed and developing countries alike.

The 'health system' perspective

The 'health system' perspective literature almost exclusively considers the effects of non-mode 4 related migration – in fact the majority of this literature discusses *permanent* migration of health professionals in the context of 'brain drain' with a strong emphasis on negative outcomes for developing countries. A discussion which is outside the scope of this paper.

Assessment

Mode 4 trade in health services is not significant. This is in line with the general trend within trade in services. World Bank (2005), for example, estimates overall mode 4 trade at 1-1.5% of total trade in services. The 'trade' literature generally sees much potential from mode 4 but emphasises the political resistance to migration in receiving countries as a forceful barrier to such trade. It also dismisses the 'brain drain' argument by pointing that the migration is only temporary, i.e. return migration is guaranteed. In fact, the literature lists a number of positive outcomes from temporary migration vis-à-vis permanent (see table 4).

5. Conclusion

This paper has provided an assessment of the trade and the trade-offs associated with trade in health services. Based on data from the UN database ServiceTrade, international trade in health services was estimated at USD 33 billion in 2005. Of this, mode 1 trade (telehealth) and mode 4 (temporary migration) accounted for USD 3.2 billion (with the majority being mode 1), while

¹⁵ The importance of remittances as a source of foreign exchange for developing countries is reflected in the fact that remittances in 2004 – some USD160 billion – were twice as high as official development assistance (ODA) – USD79 billion (World Bank 2005).

Mode 2 (medical tourism) stood at USD 13.3 billion. Mode 3 was assumed to constitute 50% of total trade in health services, i.e. USD 16.5 billion. The assumption was partly justified by estimates of overall trade in services showing this pattern and partly by trends in mode 3 trade in health services.

What is the overall assessment of the 'trade-off' for developing countries between pursuing commercial opportunities from trade in health services and achieving public health goals? The answers from the literature differ. The concern for 'trade' literature is with barriers to trade, not negative outcomes of trade. As Zarilli (2002: 74-5) argues in a good summarise of the 'trade' view and its concerns:

trade liberalization of the health sector can lead to improved health systems in developing countries by providing additional financial resources, exposing health professionals from developing countries to new techniques, and providing them access to higher qualifications (...) Nevertheless, there are obstacles that need to be removed to reach those results. Some of these are constraints for the foreign ownership of health facilities and foreign equity participation. Developing country markets have to be made more attractive for foreign companies (...) There are other obstacles that limit the ability of developing countries to export their health services. The most important is the nonportability of health insurance, which curtails the possibility for patients to be treated abroad (...) Another problem is the temporary movement of personnel. Health services are labor-intensive and based on universal scientific knowledge. So it is, in principle, a sector where people should be allowed to move from one country to another.

Conversely, the 'health' literature has little regard for the commercial opportunities but is much concerned with the impact on public health. Woodward (2005: 530) exemplifies this:

The net economic benefits of trade in health services are at best limited, strongly skewed towards the better off, and come at a high cost in terms of the health of the majority of the population. Given the importance of population health, both in absolute terms and relative to the economic interests of the small minority who may benefit from trade in health services, this represents a strong case against further liberalization [of trade in health services].

The evidence presented in this paper suggests that commercial opportunities are real but exaggerated in the literature. Technical barriers to telemedicine have been reduced by technological

advance but other barriers such as government regulation remain. Telemedicine, exemplified by teleradiology, may lend itself poorly to offshoring as it is not easily codified, making quality assessments and monitoring of the offshored services difficult. Moreover, lack of health professionals with the proper skills and experience in virtually all developing countries further limits the capacity for offshoring of telemedicine.

While medical tourism (mode 2) was shown to be growing, its growth potential is, however, grossly overstated by most estimates. A range of developing countries have expressed an ambition to become major hubs for medical tourism and some, not least in the Middle East, have invested or are about to invest heavily in hospitals and other healthcare facilities. Where the patients and, perhaps more importantly, the health professionals will come from remains unclear. Meanwhile, hospitals and even 'healthcare cities' are built or planned in the hope of attracting medical tourists from developed countries, in particular the US, on a mass-scale. This was shown to be an elusive prospect as it would require cross-border medical insurance portability, which is not offered by insurance carriers in the US or public health systems in Europe at present. In the US, the insurance carriers have thus far refrained from introducing such insurance plans from fear of litigation, while EU countries are reluctant to introduce cross-border patient mobility internally in the EU.

The literature on trade in health services has conventionally predicted that mode 3-related FDI in health services would flow from developed countries to developing countries. However, this paper revealed that where it involves developing countries, FDI in health services primarily flows from non-OECD countries to other non-OECD countries or to OECD countries. This is because FDI seeks already established markets or emerging markets with substantial government support. Also, the increasing involvement of private providers in the British NHS has created commercial opportunities for developing country healthcare providers.

Most of the literature on trade in health services applies an inappropriate broad definition in relation to mode 4. By including all temporary migration (and even permanent), the brain drain issue has been given an unwarranted significance in relation to trade. The paper presents examples of mode 4 trade in health services but most of the discussion in the literature pertains to migration issues outside the scope of definition of mode 4-related trade.

All in all, this points toward a positive-leaning view of trade in health services with caveats in regard to buoyant accounts of commercial opportunities for developing countries. Chanda (2001: 112-3) concludes in a study for WHO Commission on Macroeconomics and Health that:

Overall, the study makes clear that trade in health services raises a variety of difficult questions. The answers to these questions cannot be generalized. They depend very much on country-specific circumstances and the policy environment. However, one of the main points highlighted by this study is that it is possible to enhance the gains from trade in health services and to mitigate the associated negative consequences through well-conceived policies and initiatives at the national, regional, and multi-lateral levels.

The 'health system' literature falls into what Smith (2006) has called a common public health 'trap' of regarding trade as a threat to public health that must be combated. As this paper has shown, most of the negative outcomes the 'health system' literature attributes to trade in health services are in fact outcomes of domestic structures of inequality typical for developing countries. Likewise, most of the 'health system' arguments are about the assumed effects of private health-care provision, rather than trade in health services as such. Moreover, not only is accurate trade data absent, but there is a lack of empirical studies demonstrating the supposed advantages or disadvantages claimed by either side of the debate. Achieving data of a quality and depth on trade in health services that is comparable to that available for trade in goods would be a helpful tool for policy makers, researcher and others trying to access the trade and 'trade offs' in cross-border health services delivery.

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