

**Impact, regulation and health policy implications of physician migration:
a perspective from OECD member countries**

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Abstract

Background

In the face of rising demand for medical services due to ageing populations, physician migration flows are increasingly affecting the stock of physicians in OECD member countries. This paper offers an integrated perspective on the impact of physician migration on home and host countries and discusses international regulation and policy approaches governing physician migration.

Methods

Information about migration flows, international regulation and policies governing physician migration were derived from two questionnaires sent to OECD member countries, a secondary analysis of EUROSTAT Labour Force Surveys, a literature review and official policy documents of OECD member countries.

Results

OECD member countries increasingly perceive immigration of foreign physicians as a way of sustaining their medical workforce. As a result, countries have entered into international agreements regulating physician migration, although their success has been limited due to the imposition of licensing requirements and the protection of vested interests by domestic physicians. OECD member countries have therefore adopted specific policies designed to stimulate the immigration of foreign physicians, whilst minimising its negative impact on the home country. Measures promoting immigration have included international recruitment campaigns, less strict immigration requirements and arrangements that foster shared learning between health care systems. Policies restricting the societal costs of physician emigration from developing countries such as good

practice guidelines and taxes on host countries have not yet produced their expected effect or in some cases have not been established at all.

Conclusions

Although OECD member countries generally favour long-term policies of national self-sufficiency to sustain their medical workforce, such policies usually co-exist with short-term or medium-term policies to attract foreign physicians. As this is likely to continue, there is a need to create a global framework that enforces ethical policies governing the temporary migration of physicians. However, in the long-term, OECD member countries need to put in place appropriate education and training policies rather than rely on physician migration to address their future needs.

1. Background

Migration of physicians has become a prominent issue as a result of the increasing globalisation of the medical workforce. The establishment of regional labour markets has provided a new legal framework governing the international movements of individuals. Such a framework may foster the free movement of physicians, particularly through the harmonisation and recognition of qualifications and diplomas across countries. Foreign physicians also play an important role in compensating for an inadequate domestic supply in many countries of the Organisation for Economic Co-operation and Development (OECD).

However, the increasing flows of physicians might generate unintended consequences. The permanent departure of skilled labour might deplete the human capital of home countries, thus reducing the possibility for economic growth and raising the level of inequalities and poverty in those countries. Moreover, increasing concerns in host countries about the safety and quality of health care provision by foreign physicians has created barriers to migration and, in some cases, discrimination against foreign physicians.

This paper presents a comprehensive study of international migration of physicians by documenting migration flows in OECD member countries and by analysing impact, regulation, and health policy implications of physician migration. The empirical evidence on the contribution of foreign physicians to the medical workforce of OECD member countries is briefly reviewed. A societal perspective is then adopted to analyse the benefits and costs of physician migration on

both home and host countries. International regulation governing physician migration and its impact on migration flows are examined in the subsequent section. Finally, policies that OECD member countries have implemented to attract foreign physicians in order to sustain their domestic medical workforce are discussed.

2. Methods

Data on physician migration flows in OECD member countries were collected using three approaches. The Secretariat sent one quantitative questionnaire and one qualitative questionnaire to national correspondents of participating OECD member countries. Questionnaires were designed by the Secretariat and approved by national correspondents during an expert meeting dedicated to the data collection exercise in April 2001. Questionnaires were sent to the 22 OECD member countries that expressed a wish to participate in the study during Autumn 2002, with 17 countries returning at least one of the two questionnaires¹. This was supplemented by a secondary analysis of data on physician migration flows from the EUROSTAT Labour Force Survey. The Secretariat also carried out a desk review, covering the academic literature (articles published in scholarly journals and monographs), the grey literature (working papers and unpublished material) and official documents produced by OECD member governments.

¹ These countries were Australia, Austria, Canada, France, Germany, Japan, Korea, Mexico, Netherlands, New Zealand, Norway, Slovak Republic, Spain, Sweden, Switzerland, United Kingdom and United States.

3. Results

3.1. Physician migration flows in OECD member countries

Migration of physicians is increasingly affecting OECD member countries. Annual flows of physicians in and out of a country are an important factor influencing domestic supply. In Canada, the net effect of immigration and emigration flows of physicians has generally been a net loss to the Canadian medical workforce over the last two decades (see Figure 1). Foreign-trained physicians now make a substantial contribution to the national stock of physicians, particularly in Anglo-Saxon countries where they comprise more than 20% of the medical workforce in 2000 (see Figure 2).

It has sometimes been argued that OECD member countries prioritise the recruitment of physicians from developing countries, thereby raising issues of ethical recruitment. This is not necessarily the case, with the single largest contribution to the foreign medical workforce of Australia, Austria, Belgium, Canada, Denmark, France, Germany, Ireland, Norway and Switzerland originating from another European country (see Table 1).

Table 1 also illustrates that flows of physicians between OECD member countries are not always uni-directional. For instance, in 2001, Irish physicians made up 15.2% of the foreign medical workforce in the United Kingdom. Conversely, 29.2% of foreign physicians in Ireland originated from the United Kingdom. This is sometimes referred to as a 'carousel movement' [1].

The direction of migration flows may also change over time. For instance, in the 1960s many physicians working in developing countries originated from developed countries, but in the 1990s developing countries were estimated to supply 56% of all migrating physicians and receive less than 11% [2].

Language affects migration flows in that physicians are more likely to move between countries speaking the same language. Amongst OECD member countries, this is mirrored in the incidence and extent of migration flows between Australia, Canada, Ireland, the United Kingdom and the United States, between Germany, Austria and Switzerland, between France and Belgium, and between Denmark, Norway, Sweden and Finland (see Table 1).

Historical, administrative and legislative frameworks, training institutions, professional associations and regulation have influenced practices in former colonies and affected the migration of physicians for training and employment opportunities. This explains the significant migration flows of physicians from India towards Australia, Canada, the United Kingdom and the United States and from North African and Middle Eastern countries to France (see Table 1).

Physicians also move abroad for training purposes, either to obtain a medical degree, to acquire additional professional qualifications or to gain experience with medical techniques. Immigration for training purposes can account for a substantial number of foreign-trained physicians in a country. Overseas physicians who were attending postgraduate training in England made up 39.6% of all overseas physicians in the National Health Service in 1995, 36.2% in 2000 and 37.3% in 2001. International medical graduates who came to the United States to attend postgraduate training comprised 11.9% of all international medical graduates in 1980, 12.1% in

1990, 15.1% in 1995 and 13.1% in 2000. Similarly, training opportunities may account for a significant proportion of emigrating physicians. In 2001, the number of physicians who were registered in Switzerland, but were living abroad to attend postgraduate training and to practice was 555 and 629, respectively.

3.2. Impact of physician migration

Migration of physicians is not necessarily beneficial from a social point of view. In making the decision to move, the potential migrant takes into account the private costs and benefits of the move. However, migration also produces externalities that influence the welfare of people in both the home and host country.

3.2.1. Consequences for the home country

In assessing the impact of migration of physicians on the home country, it is important to distinguish between permanent and temporary migration. In the case of permanent migration, two types of costs need to be considered. The first corresponds to resources spent to educate a physician. The second represents the value of the health care services that the emigrating physician would have rendered to his/her country in the absence of migration.

Emigration might improve the prospects of physicians who leave permanently, but substantial and lasting emigration flows of physicians may weaken the capacity of the home country's health care system and worsen patients' access to health care. These consequences are most important in the poorest countries that are not able to attract substitutes from other countries. Migration may also

impact on the capacity of the home country to provide quality training to new physicians and the research capacity of medical schools. This represents a 'brain drain' from developing to developed countries. For instance, in Nigeria and other countries in Sub-Saharan Africa, most medical research institutions have collapsed from the massive emigration flows of highly-skilled physicians [3].

However, permanent migration can also benefit the home country due to remittances that physicians send back. Remittances can be a crucial source of foreign exchange and provide a significant economic payoff to the population of the home country. For instance, a study focusing on physicians from the Philippines who practice overseas estimated that remittances were large enough to compensate for the economic losses associated with emigration [4].

Temporary migration is usually driven by the desire to acquire higher professional qualifications or to gain experience with new techniques not available in the home country. If the host country subsidises the education of foreign students and these migrants return to their home country after they graduate, this could be considered to be an 'inverse brain drain'. In this way, temporary migration of physicians can contribute to a general upgrading of skills in the home country. Yet, there may be certain limits to this. If the skills that migrants have acquired during their stay abroad are too specialised, the home country may not be in a position to take advantage of them.

3.2.2. Consequences for the host country

In OECD member countries, foreign physicians are predominantly used as a supplement to local labour. This is because foreign physicians are more willing to practice in certain organisational settings and in certain geographical areas that domestic physicians tend to avoid. This is sometimes referred to as the ‘safety-net’ role. In the United Kingdom, general practitioners who graduated in South Asian medical schools (Bangladesh, India, Pakistan and Sri Lanka) are concentrated in less attractive areas with large patient lists and relatively deprived populations [5]. In the United States, international medical graduates contribute significantly to care in rural areas [6]. However, in Canada, policies requiring foreign physicians to practice in pre-specified areas have been legally challenged as a violation of basic human rights and have been judged against the Canadian Charter of Human Rights [7].

Increased supply in the host country might bring benefits to consumers. Consumers may benefit from improved access to care and may gain from reduced medical care prices. Estimates of the gain to consumers from immigration in the United States, measured as a percentage of total expenditures on physician services, ranged from near 1% in 1966 to over 12% by 1971 [8]. Increased competition between physicians may raise the quality of health care services provided in the host country. On the other hand, immigration may endanger the safety and quality of health care provision if the physicians concerned have a lower standard of medical practice. Concerns that qualifications are not equivalent across countries and differences in practice patterns have been used by professional associations to exclude foreign physicians [9].

3.3. International regulation governing physician migration

Although OECD member countries generally favour long term policies of national self-sufficiency to sustain their medical workforce, such policies usually co-exist with short-term or medium-term policies to attract physicians from abroad. Immigration of physicians is considered to be important in maintaining an adequate stock of physicians in countries such as Australia, Canada, England, Germany, New Zealand, Norway, Sweden, Switzerland and the United States. Conversely, Canada, New Zealand and Sweden perceived physician emigration to negatively affect the stock of physicians in their country.

As a result, OECD member countries have entered into international agreements regulating physician migration by imposing general requirements that physicians have to fulfil in order to move and work abroad. These provisions refer to, amongst other things, nationality and citizenship requirements, national regulation governing the issuance of work permits, procedures and tests for examining asylum applications. One of the agreements that covers the temporary immigration of physicians into an OECD member country is the General Agreement on Trade in Services (GATS).

If a WTO member decides to make a commitment to the sector of health services, the country must specify whether and to what extent market access and national treatment are granted. If a WTO member grants full market access, the country must refrain from operating any of six types of restrictions enumerated in Article XVI of the agreement. These are mostly quota-related barriers that may limit, for example, the number of service providers (hospitals, physicians, etc.) or operations (number of beds, practices, etc.). Also precluded under this Article is the use of

economic need tests, e.g. the conditioning of access approvals on pre-established indicators such as the number of hospital beds or practices per head of population. Members may also provide some, but limited market access, i.e. they may maintain any of the six types of restrictions provided they list them in their schedule of commitments. Article XVII defines national treatment as the absence of any measures that modify the conditions of competition to the detriment of foreign services or service suppliers. Again, however, Members are free to make no commitment on national treatment, or to provide partial national treatment provided they list the measures they maintain which discriminate in favour of nationals in their schedule.

For the health services sector, commitments under GATS can be made separately for four modes of supply - (a) cross border trade (e.g. telemedicine); (b) consumption abroad (e.g. a patient travels to another country for health treatment); (c) commercial presence (e.g. a foreign hospital establishes in another country); and (d) temporary movement of service suppliers (e.g. a physician working temporarily in another country). Commitments can also be made for a mode of supply across all service sectors (a so-called “horizontal commitment”). Although most countries' commitments on movement of service suppliers are horizontal, they tend to be very limited, due to sensitivities over the potential impact of temporary foreign workers and the desire of countries to retain full flexibility in their temporary migration regimes.

GATS seems to have had a limited impact so far on the migration of physicians. Very few commitments have been made for trade in health services: only 29 countries have made commitments for health services, and then only partial commitments for some health services. Commitments to the movement of physicians are also very limited. For instance, as a result of commitments under the GATS, temporary resident visas are available in Australia only for

suitably qualified physicians who satisfy labour market requirements (i.e. provide services to rural and remote communities).

Moreover, within the GATS framework, Members are free to pursue domestic policies in areas such as technical standards, licensing and qualifications to ensure the safety and quality of health care provision. That implies that a commitment to allow entry of foreign physicians is still subject to those physicians meeting all domestic regulatory requirements to practice. GATS only states that such requirements must be transparent (i.e. made publicly available) and must be administered in a reasonable, objective and impartial manner.

International agreements stimulating the immigration of foreign physicians have been accompanied by requirements licensing medical practice in a country to ensure the quality and safety of services provided by migrants. However, licensing provisions may also serve to reduce competition in the host country and to raise the income of domestic physicians. This raises the issue of how foreign physicians are mobilised within the health care system of the host country and the conditions under which they have to work. In some cases, this has led to a situation where physicians whose qualifications have not been recognised by the host country still practice medicine even though their status is unclear. In other cases, specialists work as generalists or generalists work as nurses. Once registered, physicians may also face discriminatory employment practices. A survey showed that 9% of foreign physicians claim discriminatory practices in finding employment in the United Kingdom [10].

Licensing requirements usually consist of holding the required qualifications (i.e. medical degree) from a recognised medical school and of having completed a period of training. However, the license is only valid within the jurisdiction of the granting body. This is usually an entire country, but in some cases a province or state as in Canada and the United States. This implies that physicians who wish to practice in another country have to go through the process of having their qualifications recognised by the relevant body in the host country. In Australia, physicians who are seeking permanent residency are required to pass an examination administered by the Australian Medical Council. This examination is set at the standard of medical knowledge, clinical skills and attitudes required of newly qualified graduates from Australian medical schools. In Canada, international physicians must take the Medical Council of Canada Evaluating Examination and must fulfil registration requirements of licensing bodies. In order to practice in the United States, physicians trained abroad must pass a clinical skills assessment exam. In addition, they must complete graduate training in most cases.

Simplified procedures exist for physicians trained in specific countries. For instance, from 1st May 2002, graduates of British medical schools recognised by the General Medical Council are eligible for permanent registration in New Zealand without having to sit the New Zealand Medical Council registration examination. There is also a Mutual Recognition Agreement between Australia and New Zealand, providing for automatic recognition of primary medical qualifications conferred by all medical schools within these jurisdictions. Licensing provisions governing the migration of Canadian physicians to the United States have been simplified in that fewer visa restrictions apply and Canadian physicians do not have to pass the Clinical Skills Assessment exams.

The European Union has adopted a range of measures to simplify licensing provisions. The European Union generally provides for a broad right to labour mobility. The Treaty of Rome (enforced in 1957 and subsequently amended by the Treaty of Amsterdam in 1997) gives every European Union citizen a fundamental, personal right to move and reside freely within the territory of the Member States. No visas or work permits are required, although residence permits may be. In addition to this, Member States have adopted sectoral directives that facilitate the movement of physicians through the harmonisation and recognition of qualifications and diplomas. In the context of physician migration, the most relevant directives are the so-called “doctors’ directives” (75/362/EEC and 75/363/EEC). These directives entitle any European Union physician who has completed basic training in a Member State and who holds a recognised qualification to be automatically registered in any other Member State. To this effect, the doctors’ directives have established minimum standards with respect to the nature, minimum content and length of education and training programmes.

The sectoral directives are based on the principle of mutual confidence and comparability of training levels. This is reflected in the “Recognition of Foreign Professional Qualifications Act”, which requires European Union Member States to consider the practical experience of an individual in the process of recognition of qualifications. In case of structural differences, Member States are entitled to require an adaptation period and an aptitude test, which imposes an additional barrier on the migration of physicians.

The impact of the European Union doctors' directives on the movement of physicians has been minimal, except in some isolated cases. For instance, since the adoption of the directives in 1977, there has been an increase in the number of physicians emigrating to the United Kingdom from other Member States, although these numbers have reached a ceiling in more recent years.

The limited impact of the European Union doctors' directives is linked to the general absence of physician surpluses in other Member States (which restricts the pool of potential migrants), failure to implement the directives and recognise the equivalence of qualifications by some Member States.

In addition, there have been reports that some professional associations refuse to register physicians from certain Member States who comply with European Union minimum qualification standards [9]. To justify such practices, professional associations claim variations in qualifications that might occur because of differences in the number of patient contacts or in practical experience. This might be linked both to the educational and cultural system of the migrant. In this regard, we note that flows are more intense among countries with similar health care systems.

Furthermore, despite the presence of provisions allowing Member States to request information regarding the good character, reputation or the criminal past of an individual, many Member States are concerned about the immigration of physicians who have had dubious medical practices in the past. Such concerns are motivated by the fact that some Member States have difficulty in keeping reliable data on physicians. In fact, cases have been reported of physicians who lost their licence to practice in one country for misconduct who were subsequently authorised to practice in another European Union country.

3.4. Health policy implications of physician migration

Given the limited success of international agreements regulating physician migration, OECD member countries have adopted specific policies designed to stimulate the immigration of foreign physicians, whilst minimising its negative impact on the home country. OECD member countries have generally adopted three types of policies to attract foreign physicians. These have consisted of launching international recruitment campaigns, easing immigration requirements and setting up special arrangements that foster shared learning between health care systems. International recruitment campaigns have involved advertisements in the medical press and participation in job fairs in Germany and language courses in Norway.

Other OECD member countries have eased general immigration requirements for physicians. In Canada, changes to the Immigration Act Regulation favour the immigration of physicians and increased efforts are being made to support licensure of foreign-trained physicians. Australia and the United States have made the relaxation of immigration requirements conditional on foreign physicians practising in rural areas.

Finally, the United Kingdom has put in place arrangements that foster international co-operation and promote the National Health Service abroad. An International Fellowship Programme was launched in 2002 to attract experienced specialists from abroad to selected posts in the National Health Service for periods of one to two years. It targets those specialities that need to grow in order to fulfil the National Health Service plan and those specialities with perceived shortages such as cardio-thoracic surgery, histopathology, radiology, nuclear medicine and psychiatry.

However, concerns about ethical recruitment have led some OECD member countries to discourage recruitment from developing countries. For instance, in May 2002, Commonwealth countries approved an International Code of Practice on ethical recruitment that would apply to all major importers of physicians. As a result, the United Kingdom only recruits physicians from those countries with which it has an agreement.

Given that the temporary outflow of physicians from developing countries may be beneficial in terms of investment in skills, a second type of policy has focused on offering grants to foreign students to enter medical school, while at the same time making it impossible for foreign graduates to obtain a work permit for a certain amount of time (e.g. five years). This, in effect, forces them to return to their home country after they graduate. Some OECD member countries have created regulations or have entered into bilateral agreements restricting the stay of foreign physicians. For instance, the United States has created a 'cultural exchange visa' that can be issued to foreign health care workers only for a limited duration of work. After the permitted stay, the visitor is required to return home for a two-year period before he is entitled to apply for re-admittance.

A third approach has consisted of financially compensating the developing country for losses in terms of costs of education and training and the value of the health care services that could have been provided if the physician had not left the country. The reimbursement of educational costs is in fact proposed by the International Code of Practice approved by Commonwealth countries. However, the problem with such policies is the difficulty in evaluating the country's net loss (subtracting direct and indirect costs created by the departure of the physicians from migration gains, such as an increase in scientific knowledge and remittances). In addition, the potential

return of the physician might represent a problem in setting the level of compensation. Such difficulties may explain the fact that previous schemes attempting to tax host countries, and even migrants, have not proven to be successful [11].

Few OECD member countries have implemented policies to reduce the level of emigration of physicians. To the best of the author's knowledge, only New Zealand has undertaken efforts to maintain contact with expatriate physicians, encouraging their overseas development while offering some incentives for their return.

4. Discussion

This paper has examined the impact of physician migration on home and host countries and focused on international regulation and policy approaches governing physician migration. It has shown that OECD member countries increasingly perceive immigration of foreign physicians as a key element in the dynamic human resource management of their health care systems. Traditionally, physician migration was mostly opportunistic or based on individual motivation and personal contacts. Recently, OECD member countries are actively promoting international recruitment as a way of sustaining their domestic medical workforce.

As a result, most OECD countries have now entered into international and regional agreements easing border controls in order to facilitate the movement of physicians across countries. However, the success of these legal changes remains limited due to practical barriers relating to qualification and licensing requirements. Moreover, in many countries there are still remnants of

traditional hostility towards foreign-trained physicians, especially within the domestic medical profession, as foreign-trained physicians may not reach the quality standards of the host country and may infringe vested interests of the domestic medical workforce.

Therefore, some OECD countries have adopted specific temporary policies designed to attract foreign physicians. These policies have been successful in increasing the flow of physicians into these countries, but it is hard to assess their overall impact on home and host countries. Generally, home countries may experience both gains (remittances) and losses (brain-drain) in the short-term, but may benefit from increased human capital in the long-term. Immigration may increase the supply of physicians in the host country, but may raise concerns over the quality and safety of health care provision by migrants.

Measures designed to minimise the negative impact of the emigration of physicians on home countries such as good practice guidelines and taxes on host countries have not yet produced their expected effect or in some cases have not been established at all. In the future establishment of such strategies, it will be important to know the precise level of policy intervention required in order to avoid an over-control of migration flows. Excessive restrictions on migration by developing countries could lead to illegal emigration or may even produce, as an unintended effect, a surplus of physicians in countries that are unable to offer appropriate employment or working conditions.

Further co-operation on physician migration may help countries to build a better and consistent framework on a global scale. Current efforts developed as part of regional world areas need to be co-ordinated as to ensure consistency and improve opportunities both for developed and

developing countries. Identifying countries that have a surplus of physicians and putting in place an international framework that creates and enforces ethical policies governing the international recruitment of physicians need to be explored. Such a framework must exclude recruitment from countries in which emigration could harm local health service provision and include policies that promote temporary migration. The framework must also protect the interests of the host country by identifying and exchanging information about physicians who have had previous dubious medical practices.

Finally, in the context of growing physician shortages in many OECD member countries, it is argued that migration flows can only offer temporary solutions and act as a short-term buffer. Only a structural shift in training and education policies in OECD countries themselves will enable them to address their future needs.

Competing interests

None declared.

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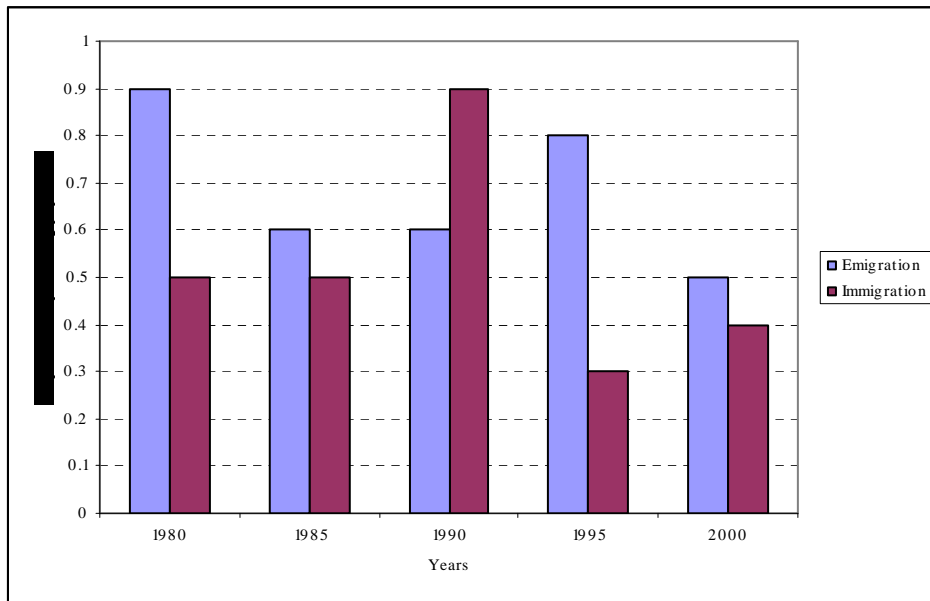
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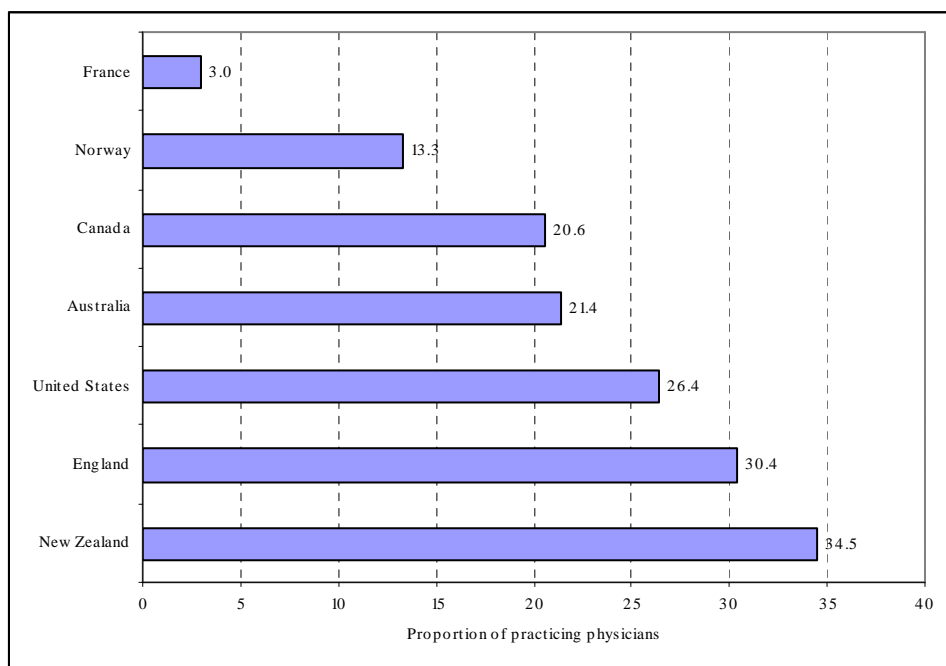
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Figure 1. Emigration and immigration flows in the Canadian medical workforce, 1980-2000



Source: OECD Human Resources for Health Care project.

Figure 2. Foreign-trained physicians as a percentage of practicing physicians, 2000



Source: OECD Human Resources for Health Care project.

Notes:

Data for England relate to physicians in the National Health Service.

Data for New Zealand refer to foreign-trained practicing physicians

Table 1. Stock of foreign(-trained) physicians in selected OECD member countries

Australia (1998): 21.4% of foreign-trained physicians, of those:	
United Kingdom	39.0%
Asia	28.0%
New Zealand	12%
Other countries	21%

Austria (2001): 3.3% of foreign physicians, of those:	
Germany	84.3%
Italy	7.3%

Belgium (2001): 7.8% of foreign physicians, of those:	
Netherlands	28.0%
Italy	17.7%
United Kingdom	16.5%
France	16.4%
Slovak Republic	12.4%
Africa	9.0%

Canada (1998): 20% of foreign-trained physicians, of those:	
United Kingdom	32%
South Africa	9.7%
India	9.6%
Eastern Europe	8.5%
Western Europe	8.2%

Denmark (2001): 7.8% of foreign physicians, of those:	
Norway	50.0%
Spain	24.7%
Germany	20.1%
United States	5.2%

France (2000): 2.2% of foreign physicians, of those:	
Europe	49.0%
North-Africa	33.0%
Sub-Saharan Africa	7.0%
Middle East	5.0%

Germany (2000): 3.5% of foreign physicians, of those:	
EU countries	27.5%
Other European countries	37%
Non-European countries	35.5%

Ireland (2001): 13.1% of foreign physicians, of those:			
United Kingdom	29.2%	France	3.2%
EU countries	13.6%	Italy	3.2%
Germany	6.0%	Canada	3.1%
Australia	4.2%	Central and Eastern Europe	3.1%
United States	3.4%	Others	31.2%

Norway (2001): 11.2% of foreign physicians, of those:			
Germany	32.7%	United Kingdom	6.2%
Sweden	19.9%	Iceland	6.1%
Denmark	15.8%	Finland	5.3%
Central and Eastern Europe	11.5%	Netherlands	2.4%

Switzerland (2001): 19.1% of foreign physicians, of those:			
Germany	59.7%	Italy	4.8%
Yugoslavia	13.1%	Albania	4.0%
Belgium	7.4%	Spain	3.2%
Sweden	4.9%	Argentina	2.9%

United Kingdom (2001): 12.6% of foreign physicians, of those:			
India	18.3%	South America	2.4%
Ireland	15.2%	Ukraine	1.7%
South Africa	7.0%	Poland	1.6%
Other Africa	7.0%	Australia	1.6%
South and South-Eastern Asia	7.0%	Belgium	1.6%
Northern Africa	5.3%	China	1.6%
Greece	4.7%	Denmark	1.5%
Pakistan	4.4%	France	1.5%
Germany	4.0%	Western Asia	1.5%
Algeria	3.6%	Italy	1.4%
Iraq	3.1%	Bosnia Herzegovina	1.4%
Spain	2.6%		

United States (2001): 27% of foreign-trained physicians, of those:	
India	19.5%
Pakistan	11.9%
Philippines	8.8%
Ex-U.S.S.R.	3.1%
Egypt	2.6%
Dominican Republic	2.5%
Syria	2.5%
United Kingdom	2.4%
Germany	2.3%
Mexico	1.8%

Sources: EUROSTAT Labour Force Survey, [12-16].