Dentists' migration to and from Hungary between 1970 and 2005 and into the United Kingdom between 1994 and 2005

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Abstract

Aims: The aims of this paper are to present the data for the migration of dentists into and from Hungary between 1970 and 2005, and into the United Kingdom (UK) between 1994 and 2005, to discuss the background to the migrations and to consider what lessons could be learned. ***Methods:*** Longitudinal data for 1970 – 2005 for numbers of registered immigrant dentists were obtained from the register of the Hungarian Ministry of Health. Cross-sectional data for the actual dental workforce on the 27 October 2005 and its movements were obtained from the Hungarian Medical Chamber. The UK's General Dental Council provided data on dentists' registration by qualifying country for the years from 1994 – 2005. These data were analysed for trends. ***Results:*** Between 1970 and 2005, 578 immigrant dentists with degrees or diplomas from dental schools outside Hungary were registered, of these 443 (7.81% of all active dentists in Hungary) were "active" in 2005. According to a cross-sectional study in October 2005, there were 5,671 active dentists in Hungary. It appeared that between 1970 and 1988, 162 dentists left Hungary and a further 85 between 1989 and 2005. At 31 December 2005, there were 33,698 registered dentists in the UK, 7,236 (22%) of whom had degrees or diplomas from dental schools outside the UK, of whom 1,474 had South African qualifications, 1454 Swedish ones, 617 from the Republic of Ireland, 504 from Australia and 492 from Poland. The apparent reasons for these migrations in both Hungary and the UK appeared to be largely economic and political. Culture and language also appeared to be factors for immigration to Hungary. ***Conclusions:*** It was concluded that there had been relatively little movement of dentists into and out of Hungary during the period between 1970 and 2005. However, in the UK, since 1994, immigrant dentists have made a major contribution to the dental workforce.

Key words: Migration, European Union, Healthcare Workers, Dentists, Hungary, United Kingdom

Introduction

Global migration of health professionals, including dentists, is a well-known phenomenon, as are some of its general consequences [1]. Political and professional barriers have limited the movement of dentists and other health professionals to and even within some countries. However, within the European Union (EU) and European Economic Area (EEA), migration of all goods, services and workers (including healthcare workers) and, subject to meeting minimal, agreed EU standards, the right to work in a trade or profession in any EU/EEA member state, has, and continues to be, a fundamental freedom [2, 3]. In January 2007, the accession to the EU of Bulgaria and Romania extend this freedom to the dentists and other healthcare workers of 30 EU/EEA countries. Prior to 1990, far fewer countries were member states of the EU/EEA. Movement, from country to country, whether or not the countries concerned were EU/EEA member states, was easy in Western Europe but dentists and other healthcare workers from non- EU/EEA member states did not have the automatic legal right to work in their professions if they migrated to an EU/EEA member state. The situation for dentists and other healthcare professionals from countries in Central and Eastern European (CEE), who lived behind the Iron Curtain was far worse. For over 40 years, until the fall of the Berlin wall, it was difficult and invariably illegal for them to migrate from the CEE countries. Data on such movements were suppressed by the relevant authorities in a conspiracy of official silence [4]. After the great political changes of 1989-1990 and German unification in 1990, there was a significant East-West movement within Germany by the skilled workforce of the German Democratic Republic. A rough estimate has been made of "several thousand" doctors who departed for West Germany after the opening of the Berlin Wall [5]. In the other CEE countries, in general, with the pos-

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sible exception of the smaller countries such as Slovenia, during the period of transition from communism to EU membership (1990 – 2004), erratic records were kept on the migration of dentists and other healthcare workers. At the time, the situation in some Western European countries was no better. It appears that the relevant competent authorities of these countries were either unable or unwilling to report accurate data on immigration and emigration of dentists and other healthcare professionals during this period [6]. As a result, the data reported in any studies published about the migration of dentists and other healthcare workers, related to the 1990s and early 2000s, cannot be described as evidence-based and must be viewed with caution [7]. Furthermore, particularly in many of the CEE countries, because of the administrative upheavals that took place during the period of transition, even when data were reported, there was a risk of erratic data processing and management of data bases. Thus, it seems unlikely that real past changes in these countries can be identified [8]. Since the enlargement of the EU/EEA in May 2004, it has been possible for dentists and other healthcare workers from the CEE to migrate to other EU member states. Some member states, such as the United Kingdom (UK), which have perceived shortages of many groups of healthcare professionals, including dentists, have encouraged such movements and have actively recruited dentists and other healthcare workers from other EU member states and from other countries around the world. A number of factors have influenced CEE healthcare workers' decisions to migrate [9].

In contrast to the general dearth of reliable data for health care workers in the EU/EEA, such data do exist for the migration of dentists to the UK and the migration of dentists in to and out of Hungary. Against this background, the aim of this study was to present these UK and Hungarian data, to discuss the background to the migration of dentists to the UK and in to and out of Hungary and to consider what lessons can be learned.

Methods

1. Dentists' Immigration to the UK

In the United Kingdom, healthcare professionals are registered by national competent authorities. Each profession has its own competent authority. For dentists the competent authority is the General Dental Council (GDC). The competent authorities are independent bodies and are agencies for neither the Department (Ministry) of Health nor the Professional Associations (Chambers/Orders). The GDC maintains a data base with details of the nationality and universities that awarded primary dental qualifications to all dentists on the register. It is up-dated annually. As such it is possible to accurately assess immigration patterns of dentists to the UK.

After a request from one of the authors (KE), the GDC provided data on dentists registration by qualifying country for the years from 1994 – 2005. These data were analysed for trends and are reported and discussed in this paper.

2. Dentists' immigration to and emigration from Hungary

Hungary's current system of state registration for doctors (physicians and dentists) started in 1960. Prior to 1 January 2000, details of all registrations were held in the only national database operated by the Ministry of Health. Since then the Ministry of Health has continued to register all new doctors (physicians and dentists) as they graduate from Hungarian universities and also immigrant doctors (physicians and dentists) with diplomas that can be accepted by Hungary. However, it has ceased to process the data. In common for both physicians and dentists, the Hungarian Medical Chamber (HMC) then issue a licence to practice, which is renewable every five years, and enables these professionals to start working in their professions either part-time or whole-time. The HMC is thus aware exactly where all Hungarian dentists are working in Hungary [10].

The methodology for assessing emigration of dentists from Hungary was based on longitudinal data analysis until the end of 1988 and then on a retrospective cohort study for subsequent years. As mentioned previously, until 1988, it was illegal for physicians/dentists to migrate. However, a number of dentists did emigrate and, for political reasons, their numbers were recorded secretly by the Hungarian Ministry of Health [11]. Longitudinal data for the years 1970-2005 for numbers of registered dentists were obtained from the register of the Ministry of Health. Data concerning the actual dental workforce and its movements were obtained from the HMC [12]. They are reported in this paper.

Results

1. Immigration of Dentists – UK

The GDC reports data on dentists annually. When this paper was written, the most recent year for which confirmed data were available was 2005 [13].

At 31 December 2005, there were 33,698 registered dentists in the UK of whom 7,236 (just under 22%) had qualified from universities outside the UK and can be considered as immigrant dentists. It was unclear how many of the 33,698 registered dentists were working in the UK. Over 1,000 were registered at overseas addresses, a number had retained their registration after retiring from active clinical dentistry, others were almost certainly either taking career breaks or working part-time [14]. There may therefore have been about 27,000 full-time equivalent, active dentists in the UK. At this time the population of the UK was 59,113,000 [15]. The distribution by country of origin of immigrant dentists registered by the GDC in 2005 is at *Table 1.*

Of the 7,236 dentists with non-UK primary qualifications, 4,541 (just under 63%) came from five countries: South Africa 1,474 (20%), Sweden 1454 (20%), The Republic of Ireland 617 (9%), Australia 504 (7%) and Poland 492(7%). These 7,236 dentists came from 35 different countries. Twenty of these countries provided a total of at least 50 dentists and 7,055 (96%) of the 7,336 dentists came from these 20 countries *(Table 2).*

Table 1. *Total Numbers of Dentists with Non-UK Primary Qualification Registered with the GDC in 2005*

Country of origin	Total number	Country of origin	Total number
Australia	504	Latvia	10
Austria	1	Lithuania	56
Belgium	74	Malaysia	22
Canada	1	Malta	22
Czech Republic	25	Netherlands	48
Denmark	170	New Zealand	257
Estonia	11	Norway	67
Finland	121	Poland	492
France	99	Portugal	102
Germany	411	Singapore	125
Greece	399	Slovakia	24
Hong Kong	219	Slovenia	1
Hungary	53	South Africa	1474
Iceland	7	Spain	200
India	2	Sweden	1454
Iraq	1	Switzerland	1
Ireland	617	USA	25
Italy	141	**TOTAL**	**7236**

Table 2. *Numbers of Dentists with Non-UK Primary Qualifications from 20 Countries with More than 50 Registrants by 2005 Registering with the GDC for the First Time*

Country of origin	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Grand total
Australia	30	24	42	39	45	69	78	54	44	41	18	20	504
Belgium		2	8	9	8	11	7	2	6	6	5	10	74
Denmark	8	15	7	8	12	23	26	23	12	14	15	7	170
Finland	4	5	19	5	11	19	20	14	9	10	4	1	121
France	8	5	4	10	9	8	14	9	10	9	6	7	99
Germany	12	12	7	15	16	32	34	36	36	56	74	81	411
Greece	14	16	11	12	22	20	23	30	48	54	79	70	399
Hong Kong	32	20	31	26	9	22	49	20	5	2	3		219
Hungary											30	23	53
Ireland	49	65	66	65	44	49	52	32	45	51	50	49	617
Italy	3	4	1	12	16	19	10	8	15	13	23	17	141
Lithunania											20	36	56
New Zealand	25	14	26	21	29	20	39	34	20	13	12	4	257
Norway	1	2	1	4	5	17	11	8	3	5	6	4	67
Poland											158	333	492
Portugal				1		2	5		2	14	48	30	102
Singapore	5	6	4	1	13	38	35	6	6	3	7	1	125
South Africa	77	65	143	118	202	322	282	79	86	55	37	8	1 474
Spain		1	1	4	1	4	2	2	9	55	61	60	200
Sweden	20	98	205	213	184	175	152	125	72	81	67	62	1 454
Totals	**289**	**354**	**576**	**563**	**626**	**870**	**839**	**482**	**428**	**482**	**723**	**823**	**7 055**

From *Table 2,* five patterns of immigration can be seen. They are as follows:

- British Commonwealth, or ex-British Commonwealth, countries (Australia, Hong Kong, New Zealand, Singapore, South Africa) - a rise in annual numbers registering for the first time from 1994 to peaks in 1999/2000, followed by an annual decline to 2005.
- Nordic countries (Denmark, Finland, Norway, Sweden) - a similar rise, peak and fall; however, although the peak was in 1999/2000 for dentists from Denmark, Finland and Norway, it occurred earlier (in 1997) for Swedish dentists.
- The three countries geographically nearest to the UK (Belgium, France and Ireland), who were EU members by 1994 – relatively little variation over the whole period in numbers registering for the first time in the UK.
- Five other countries, who were EU members prior to 2004 (Germany, Greece, Italy, Spain and Portugal) – numbers of dentists registering in the UK for the first time rising throughout the period with the highest numbers by 2004/2005.
- Three countries who joined the EU in 2004 (Hungary, Lithuania and Poland) - relatively large numbers of dentists registering for the first time in 2004/2005 in comparison to many of the other 17 (out of the 20) countries.

The reasons for these patterns are largely political (due to changes in the regulations for registration) or economic. They will be discussed later in this paper.

2. Immigration and Emigration of Dentists - Hungary

The country's population was 10.07 million in 2005. The HMC had licenced 5,671 active dentists by October 2005.

Between 1970 and 2005, the annual number of new dentists (Hungarian citizens only) graduating from four dental schools in Hungary ranged from 111 to 191 with a mean of 140 *(Figure 1).* Foreign students who left the country immediately after graduation were excluded from the reported data. Therefore, 5,043 dentists with degrees from Hungarian universities were registered during this period *(Figure 1).*

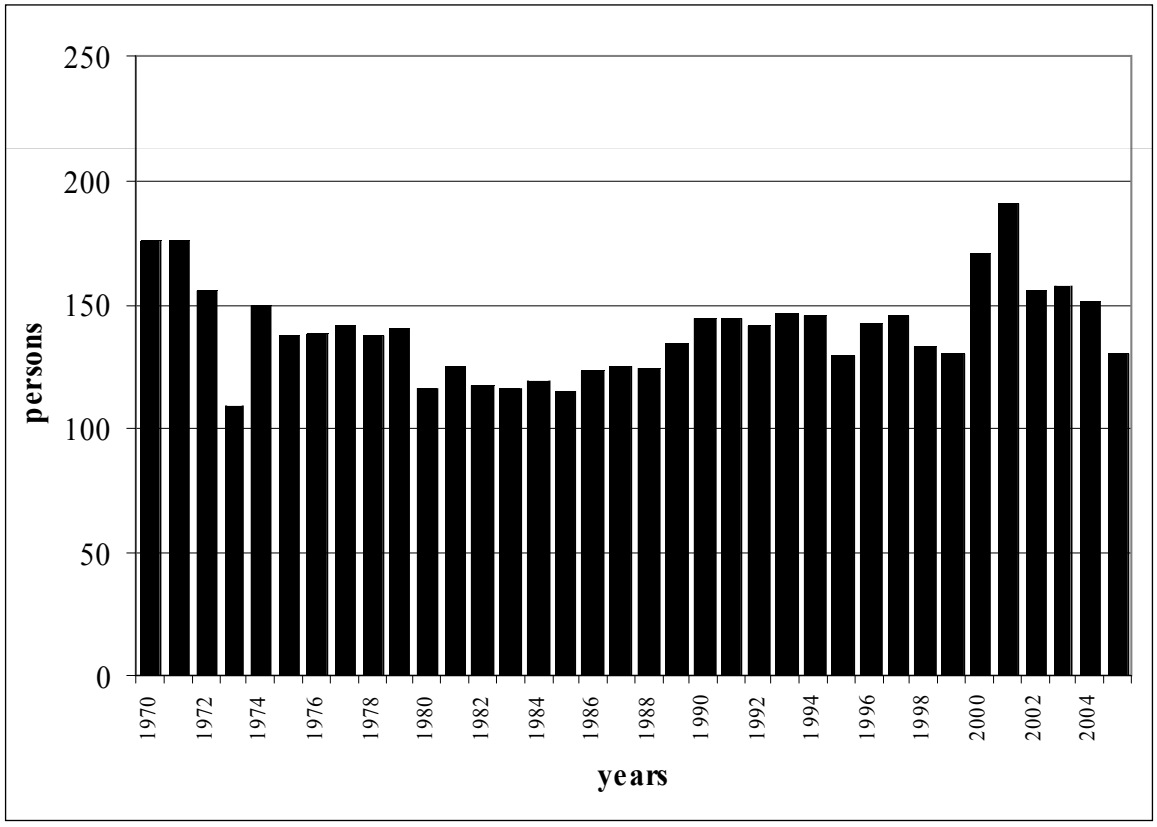

Figure 1. *Annual number of new dentists (Hungarian citizens only) graduating from the four dental schools in Hungary between 1970 and 2005.*

In addition, between 1970 and 2005, 578 immigrant dentists with degrees or diplomas from universities outside Hungary were also registered *(Figure 2).* Of these 578 immigrant dentists, 272 were registered in a relatively short period between 1988-1991. The increase in these four years was greater than the total of 118 for the previous 18 years and the total of 188 for the following 14 years. Thus, an average of just over 6 immigrant dentists per year were registered for the first time between 1970 and 1987, an average of 68 per year between 1988 and 1991 and an average of just over 8 per year from 1992 to 2005 *(Figure 2).*

The countries of origin of the 272 dentists in the 1988 – 1991 immigration wave is set out in *Table 3.* Eight out of ten immigrants came from Romania, one of Hungary's neighbouring countries, and 170 were from one town Marosvásárhely, which is a university town and has a significant ethnic Hungarian population. This trend continued until 2005. However, the percentage from Marosvásárhely decreased from 63% to 54% of the total of 443 dentists, who immigrated to Hungary until 2005 *(Table 4).*

Table 3. *Analysis of 272 immigrant dentists arriving in Hungary between 1988-1991*

Country/ university town of origin	**Number of immigrants**	**Percentage***
Romania/ Marosvásárhely	170	63%
Romania/other towns	49	18%
Other countries	53	19%
Total	272	100%

** rounded to nearest whole number*

Data obtained from the HMC indicated that in 2005, the total Hungarian workforce of licensed dentists was 5671 of whom 443 (7.8%) were immigrant dentists [10]. *Table 4* shows the breakdown of these immigrants according to their original countries.

As far as the geographical distribution of the immigrant dentists in the 19 counties and the capital of Hungary was concerned *(Figure 3),* 115 (25.0%) worked in the five counties of the north-eastern part of the country nearest to the Romanian and Ukrainian borders (30 + 24 + 17 + 15 + 29). A

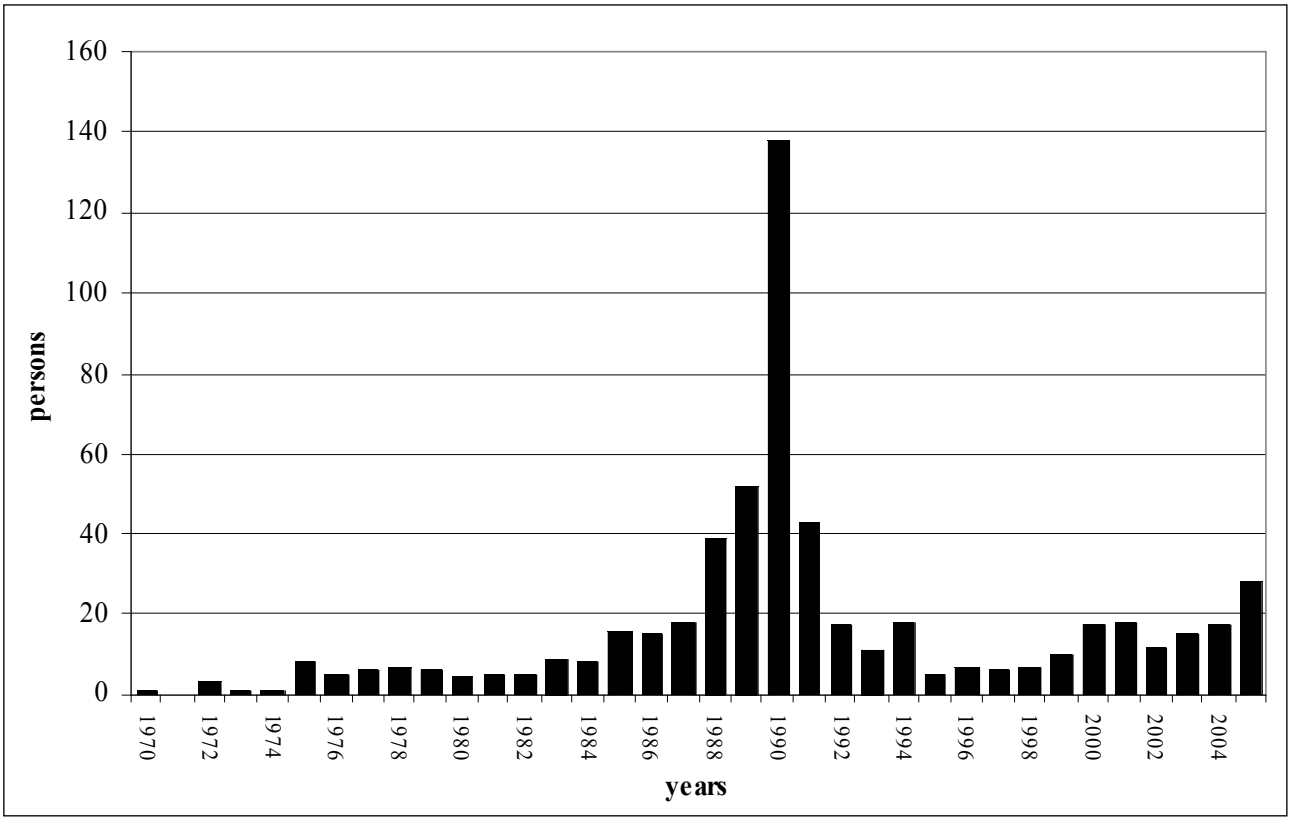

Figure 2. *Annual distribution of the 578 immigrant dentists whose diplomas were accepted for registration in Hungary between 1970-2005.*

further 146 (33.0%) worked in either Budapest (107), the Hungarian capital, or the county that surrounds it (39). Seventy nine (17.8%) worked in two counties in the north-western region on the Austrian border (45 + 34), where there is additional demand for oral health care from non-Hungarian patients who travel to Hungary (dental tourism). The other 103 (23.3%) immigrant dentists worked in the other 11 counties.

According to the longitudinal data, between 1970 and 1987, 238 dentists left the country and 118, nearly the half of this number arrived; thus, there was a net loss of 120 dentists. Since 1988, there are no reliable data for the emigration of dentists from Hungary. There is a mandatory requirement for a dentist to notify the HMC if he/she intends to cease professional activity for more than 12 months. However, there is no requirement to explain why.

The best estimate for loss of dentists due to emigration suggests that it is 247 *(Table 5).* Out of those who graduated between 1970 and 2005 in Hungary or abroad (immigrants) and registered at any time during this period, the total cumulative loss was 349. Of whom 102 were dentists who died in Hungary and the number of registered illegal emigrants (before 1989) was 162. Consequently, it appears that only 85 dentists left the country to work abroad between 1989 and 2006.

Table 4. *Breakdown of immigrants registered in Hungary in 2005 according to their original countries*

Country/ university town of origin	**Number of immigrants**	**Percentage***
Romania/ Marosvásárhely	237	54%
Romania/other towns	82	18%
Ukraine	30	7%
Other countries	94	21%
Total	443	100%

** rounded to nearest whole number*

Table 5. *Estimated cumulative loss of dentists registered at any time in Hungary who graduated between 1970-2005.*

Cause of loss	**Domestic**	**Immigrants**	**Total**
Illegal emigrants (before 1989)	159	3	162
Died in Hungary	92	10	102
Suspected emigrants (after 1989)	74	11	85
Total loss	325	24	349

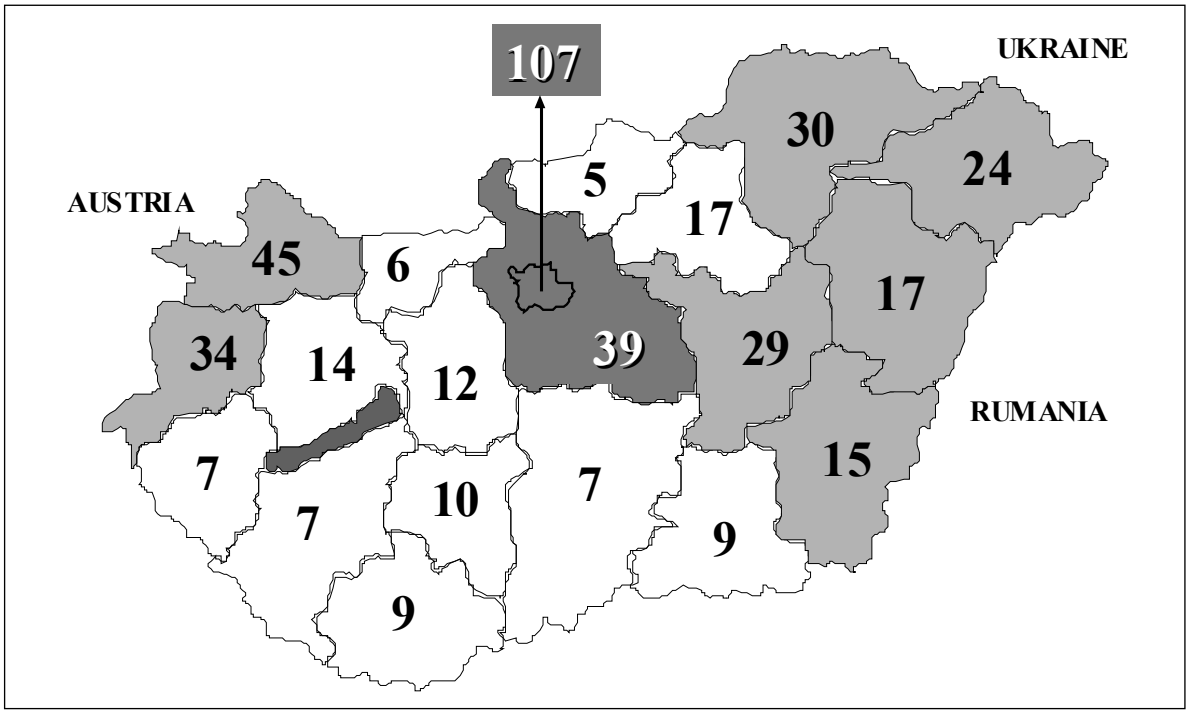

Figure 3. *Geographical distribution of immigrant dentists in the 19 counties of Hungary and the capital Budapest (number indicated by the arrow).*

Discussion

Before discussing possible reasons behind the migration of dentists to the UK between 1994 and 2005 and into and out of Hungary from 1970 to 2005, it is pertinent to remember a problem common to the assessment of workforce numbers in all healthcare professions. In many countries registered dentists, physicians, nurses, etc may be retired or overseas and are therefore not working, whereas in others, such as Greece, only working dentists can be registered [7]. Even then, it is impossible to know how many are clinically active and whether or not they are working full or part-time. It is clear that in both the UK and Hungary there were differences between the number of registered and active dentists. Furthermore, as previous studies [14, 16] have demonstrated the number of active dentists does not equate with the number of full-time clinically active dentists.

In 2005, in the UK, of the total of 7236 just under 4000, came from: EU/EEA member states and some 3,300 from non-EU/EEA countries. The question arises: what are the likely reasons for the patterns of dental immigration to the UK since 1994?

In the past, there were special arrangements for dentists from Australia, Hong Kong, Malta, New Zealand, Singapore, South Africa. Prior to the year 2000, teams from the GDC periodically visited the dental schools in these countries (but not Canada, India, Pakistan, etc.) to check the quality of education provided. If they wished to, graduates from the dental schools concerned could register with the GDC, without further assessment (examinations), and then work in the UK. These visits have stopped and dentists who have graduated from these dental schools since 2000 are now treated in the same way as all other non-EU/EEA graduates and have to pass an examination set by the GDC. This new requirement is almost certainly the reason why the number of annual registrations of dentists from Australia, Hong Kong, New Zealand, Singapore and South Africa has decline significantly since 2000. The high numbers of South African dentists that registered for the first time between 1996 and 2000 appear to reflect the deteriorating economic situation and their perceived uncertainty about future social stability in South Africa. The majority of South African dentists who have been registered by the GDC are still working in the UK and, in December 2005, they represented just under 5% of all registered UK dentists.

The patterns of immigration of dentists from the Nordic countries between 1994 and 2005 showed an annual rise from 1994 to 1999/2000 for dentists from Denmark, Finland and Norway (1997 for those from Sweden) and then a fall. This pattern may reflect changes in fee structures for dental care in the Nordic countries during this period of time, coupled, in the case of Sweden, with better job opportunities as greater numbers of older dentists have retired [17].

There are no obvious reasons why the number of annual registrations of dentists from Belgium, France and Ireland have fluctuated little over the last 13 years. There has always been a migration of dentists from Ireland to the UK as in the past there have been insufficient jobs in Ireland for all the graduates from Irish dental schools. Surprisingly, although their countries are geographically very close to the UK, the annual numbers of dentists from Belgium and France, who have registered, has been low in comparison with those for dentists from other affluent EU countries, such as Germany and Sweden. It may be that linguistic and cultural factors are in part responsible for this anomaly.

The rising numbers of dentists registering annually from the "old EU" member states of Germany, Greece, Italy, Portugal and Spain appears to be due to a number of factors. For German dentists they may reflect a decline in the national economy and revisions to the fee scale. As far as Greece, Italy, Portugal and Spain are concerned, they appear to reflect that low demand for oral health care by the populations of these countries, where there is virtually no publicly funded dentistry, and rising numbers of dentists graduating from the dental schools [18] and the subsequent under- or unemployment of dentists.

The patterns of immigration to the UK from the "new EU" countries of Hungary, Lithuania and Poland, that joined the EU in 2004, reflect the strong economy of the UK and active efforts in 2004/2005 to recruit dentists from these countries to address a perceived shortage of dentists in many parts of the UK [19].

In general, it appears that the migration of dentists into the UK has been driven by economic and political forces, although, for some, opportunities for career development through postgraduate education may also have played a part. Migration of dentists into Hungary appears to have occurred for political, economic and cultural/linguistic reasons.

Dentists who have immigrated to Hungary have in general arrived from bordering countries and have been Hungarian speakers [20].

In Hungary there have been three sources of dentists; those who have graduated in Hungary, immigrant dentists from abroad and Hungarians who have graduated from dental schools in other countries. Between 1945 and 1989, the vast majority of Hungarian dentists were those who had graduated in Hungary. True immigration emerged only after the political changes in Europe in 1989. The estimated number of Hungarian emigrant dentists may well include some who have not emigrated but are engaged in other work in Hungary. At a country level, this does not alter the data for the number of "lost" dentists but should be borne in mind when (and if) workforce planning ever takes place at a European level.

Hungary is surrounded by states with relatively large ethnic Hungarian minorities. The greatest Hungarian minority (1.6 million people) lives in Romania where the economy is less developed than in Hungary. During the Soviet era, although possible, migration between neighbouring socialist countries was rather unusual, thus after long decades of separation the great immigration wave of 1988-1992 was a natural reaction to the former political circumstances. Dentists in the same proportion but in smaller absolute numbers also migrated from Ukraine where there are 150,000 ethnic Hungarians. It has been noticeable that many of these emigrants appear to prefer to work in the border regions of Hungary where they are less likely to experience any cultural problems in their new environment. Those who have decided to work in parts of Hungary distant to the borders with Romania and the Ukraine appear to have done so for financial reasons and have moved to the most economically developed (richest) counties and the capital, where there is greater demand for dental services not covered by public financing.

It is perhaps surprising that there was not an exodus of dentists from Hungary either in the early 1990s, when it became easier to leave the country or immediately after joining the EU in 2004. It may be that the increased opportunities for private practice that arose after 1989 were a factor that encouraged Hungarian dentists to remain in Hungary. Another factor is that since 1990, increasing numbers of patients (dental tourists) from other EU member states travel to Hungary for dental treatment, often provided by dentists who work in counties near to the western border or in Budapest. Whatever the reasons have been, relatively few dentists have been motivated to leave Hungary. It appears that in spite of major political changes no more than 85 dentists emigrated from Hungary between 1989 and 2005. Eleven of these emigrant dentists were trans-migrants in that they had previously moved to Hungary from other countries. As only three trans-migrated between 1970 and 1989, it seems that the vast majority of the dentists who have immigrated to Hungary have remained. Whether or not this very low level of "classic" forms of long distance and long-term emigration continues may be open to question as in the two years since Hungary joined the EU (2004 and 2005) a total of 53 Hungarian dentists have registered with the UK's General Dental Council. There is also anecdotal evidence that although continuing to live in Hungary, a number of Hungarian dentists may be working for at least some of the time in other countries. It is extremely difficult to quantify this loss. Nevertheless, national health policy makers should take it into account when planning the workforce.

Overall it appears that since 1970 Hungary has been a net importer of dentists, the majority of whom are ethnic Hungarians who have migrated from Romania or the Ukraine. This raises the ethical question: is it ethical to "take" health care workers from neighbouring, economically less well-developed countries if along with indigenous workers the immigrants meet the demands of "health or dental tourists" and reduce the number of places needed to train Hungarians in Hungarian dental schools?

This ethical question is of greater significance to the UK, not only for dentistry but even more so for medicine [21] as the country has historically has relied on immigrant doctors, nurses and dentists to ensure adequate service provision. As far as dentistry is concerned, around 800 UK dentists graduated from UK dental schools each year between 1995 and 2005. In three of these years more than 800 non-UK dentists registered with the GDC and during the 11-year period, the mean annual number of non-UK dentists that registered was over 600. This issue has been recognised. A new dental school opened in England in the autumn of 2007 and more 100 additional annual training places for dentists have been made available.

As far as lessons to be learned are concerned, without an understanding of the reasons behind the numbers of migrating dentists, or other health care

professionals, numbers are of far less value. Apart from the ethical issue of importing healthcare workers in all professions, a number of other issues appear to be common to other health professions. They include difficulties in assessing how active registered professionals are, the need for common, verifiable systems for recording numbers of active dentists and other healthcare workers and for recording their migration patterns. Because of the right, subject to meeting minimal agreed EU training standards, for all dentists and healthcare workers to move and work freely anywhere in the EU/EEA, there is a need to improve existing systems for healthcare workforce data collection such that all member states generate reliable and comparable data for numbers of healthcare workers and their migration patterns. Without such data it is impossible to plan at either a national, or Pan-European level and there is greater risk of an under- or over-supply, both of which can have a detrimental effect on patient care, as they may in turn lead to under- or over-treatment.

Conclusions

It is concluded that there had been relatively little movement of dentists into and out of Hungary during the period between 1970 and 2005. However, in the UK since 1994, immigrant dentists have made a major contribution to the dental workforce.

Acknowledgements

The authors wish to thank the General Dental Council and the staff of the National Register of Physicians and Dentists in Hungary and the Register of Physicians and Dentists of the Hungarian Medical Chamber for providing the data that have been analysed and discussed in this paper.

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