Migration Intentions of Health Care Professionals: the Case of Estonia

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Abstract

This paper analyses the size and determinants of the potential migration flows of Estonian health care professionals using an opinion survey carried out in 2003. Results show that about half of Estonian health care professionals would like to work abroad, either permanently or temporarily, and around 5% have definite plan to go. The results of logistic regression models show that migration intention depends on usual socio-demographic and economic variables like age, gender, marital status, region of living, risk of losing the job, and dissatisfaction with current wages. The share of Estonian health care professionals with intention to work abroad is similar to Hungary and Czech Republic and higher than in Poland and Lithuania. High willingness to work abroad together with active recruitment by Scandinavian health care providers creates difficult and expensive choices for Estonian health policy makers.

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1. Introduction

The free movement of labour and mutual recognition of qualifications has enhanced opportunities to work in Europe for workers from Central and Eastern European countries. As the living standard in the old EU member states exceeds the living standard in the new member states considerably, economic incentives to move abroad are high. Although the estimates predict low migration in general (see for example European Commission, 2001; Krieger, 2004), there are some economic sectors that might be more vulnerable to migration than the others. One of such sectors is definitely health care. In many old EU member states there is a deficit of health care professionals, which is at least partly covered with active recruitment from other countries. Additionally, the health sector workforce is relatively underpaid in the CEE countries compared to the Western countries. Thus it might turn out that health care will suffer large emigration flows, despite of general low migration.

The aim of our research was to identify the extent of the emigration problem for Estonian health sector workforce. An opinion survey among Estonian health sector professionals was conducted in order to investigate the willingness to go to work abroad . Based on the survey we analysed how large the migration flows may become, which factors impact people's decision to go abroad, and what is the impact of the migration flows on workforce planning.

The paper proceeds as follows. First we give a short overview of the number of health care professional in Estonia compared to other countries. It is followed by a brief overview of the previous literature on migration of health professionals in Section 3. Section 4 and 5 describe the survey carried out in Estonia and its main results. Section 6 concludes.

2. Health sector workforce in Estonia

Though the ratio of health care professionals to the population in several European countries is higher than in Estonia, many of them are feeling the shortage of health sector workforce. The shortage might come from spatial or occupational distribution of health care professionals. For example Finland is actively recruiting Estonian doctors, though their average share of doctors to population is higher than in Estonia (see Table 1). One of the EU countries' strategies to cope with labour shortage in health sector is to recruit from other countries, including the new EU member states.

TABLE 1. The Number of Health Care Professionals per 1000 Inhabitants

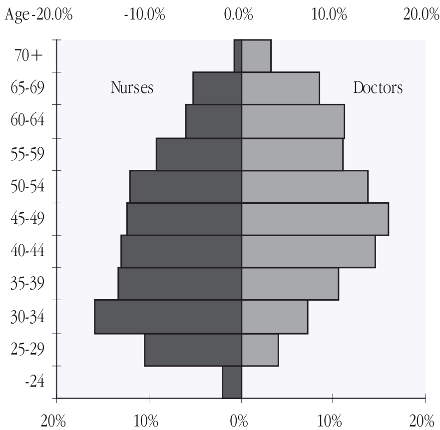
	Doctors	Nurses
Finland	3.3	14.7
Sweden	2.8	8.8
Germany	3.6	9.6
UK	2.0	8.8
Ireland	2.5	14.0
Norway	2.9	10.3
Denmark	3.6	9.5

	Doctors	Nurses
Netherlands	3.2	13.4
USA	2.5	8.1
Poland	2.2	4.9
Czech Republic	3.8	8.9
Hungary	2.9	4.8
Estonia 2001	3.1	6.3
Estonia 2002	3.1	6.4

Sources: doctors - Eurostat Yearbook 2003a: 102 and 2003b:51; nurses - Docteur, Oxley 2003:68, 69; Estonia -Ministry of Social Affairs 2003.
Note: For the EU old countries, Norway and USA data from 2000, for new member states from 2001.

Migration is a component, which must be taken into account in planning the health sector workforce. The targets of the Estonian Ministry of Social Affairs for health sector workforce are 8 nurses and 3 doctors per 1000 people. The actual number of nurses is far below the target. The target for doctors is currently fulfilled but there will be a shortage after some years due to the small number of doctors in state-commissioned education during last 10 years. Due to the age structure (see Figure 1) many doctors will retire soon. Currently there are 24% of doctors older than 60 and only 18% under 40 years old.

FIGURE 1: Age structure of Estonian Nurses and Doctors in 2004



Source: The registry of Estonian health care professionals as of April 2004

Potential emigration would cause even steeper shortage of health sector workforce. The free movement of labour, however, means that the supply of the workforce does not depend only on the migration from and to Estonia, but also on the migration between other EU countries (see Jinks *et al.* 2000 on the discussion of the health sector workforce in the EEA). Thus the planning of the workforce is a difficult task.

Estonian health care professionals have been object of active recruitment by Scandinavian health care providers (See Box 1 for examples). Active recruitment makes even more difficult for the Government to plan the needs of health sector workforce as migration is not induced by supply side but demand side abroad.

Box 1. Examples of Scandinavian companies' active recrutiment in Estonia

- Kotka and Lappenranta (Finnish county) organized two big cocktail parties in order to hire Estonian doctors. For more interested doctors a trip was organized to Kotka on the account of the receiver (over 15 doctors were needed) (2004).
- Uusinmaa county has announced that they need 15-16 doctors, which they plan to hire from Estonia (2004).

- Päijäthämä region representatives came to Estonia to introduce working possibilities there. Estonian doctors organized themselves a trip to there (currently two doctors are going/working) (2003).
- MedOne – biggest employer of Finnish doctors, was introducing working possibilities in Finland in a regular winter party of the Medical Faculty students of the Tartu University 2004).
- A Swedish company hired for Sweden around 20 doctors - first, introduced working possibilities in Estonia, organized and paid a trip to working place, concluded a contract and paid for language classes and exam.
- Employment intermediation company Radmann Group started a project to train and send 60 Estonian nurses to Norway. Project failed and some criminal aspects emerged. The project had no support from the government of Norway (2001).
- Swedish Dalarna county hospital initiated a project to train nurses at Tallinn Medical School in 2002, hoped to get 15 in the first year, 200 vacancies total. Project did not start, because of the negative impact of the earlier project of Radmann Group.

Without direct head-hunting by the foreign institutions, the decision to migrate is personal (and family) one, which takes account income, social networks, employment opportunities and the other conditions in homeland and in the target country. If there is, however, active recruitment by foreign health care providers, the migration behaviour of people will be much more complex to estimate and it will make planning the health sector workforce more difficult. It will lead to the situation where the migration decision follows the demand in host countries rather than individual decisions (Bauer and Zimmermann 1999: 26).

3. Earlier research on health sector workforce migration

There has been some research on the migration patterns and the extent of migration of the health care professionals from the developing countries to the developed countries (for the list of contemporary studies see Martineau, Decker, and Dundred 2002:16, Buchan, Parkin, and Scholaski 2003). There has been less research on the movement of health care professionals within the EEA countries. Jinks, Ong, and Paton (2000) investigate the movement of the doctors from the other EEA countries to the UK. Surveys to analyse the migration intentions of health care professionals after joining the EU, similar to the one we made, were conducted in Poland, Czech Republic, Hungary and Lithuania (see Borzeda *et al.* 2002 and Gai auskiene *et al.* 2003). Based on comparison of migration decisions of the EEA doctors (Jinks *et al.* 2000) and migration intentions of the CEE health care professionals (Borzeda *et al.* 2002), it can be concluded that the driving forces for the migration in these areas are different. While in the old EU countries, the main driving force for migration to the UK was unemployment at home country or motivation to get better training in the UK, in all the CEE countries the main reason for emigrating is better wage abroad. In this respect the migration pattern from the CEE countries to the West is more like the one from developing countries to developed countries and not like the migration between the old EU countries.

The source countries of migration are developing strategies to reduce the emigration or even to reverse the trend of migration. Vujicic *et al.* (2004) consider how the rise of wages would impact health sector emigrants from African countries. They propose that the wage differential is currently so big that small increases of wages in African countries do not change the supply of health care migrants. Thus the wage is not a good policy instrument to change the migration behaviour of people and other measures should be considered. Though the wage differentials of the CEE countries and the rest of the EU countries are somewhat smaller than the difference is with African countries, these are still considerable. Without considering purchasing power the average wage differential for Estonian health sector workers with their colleagues in most preferred target country Finland is over four times. Therefore we would expect that earnings differential is the main determinant of migration decision in case of Estonia. Comparing the migration intentions, wages and satisfaction of different groups of health care professionals (especially dentists), it appears that the wage level in Estonia is such that some changes in it should change also migration intentions.

4. Estonian Survey of Health care professionals

An opinion survey among Estonian health sector professionals was conducted in order to investigate the willingness to go to work abroad. Unfortunately there is no registered data in Estonia on emigration that would enable to analyse the size and determinants of actual migration so far. The design of the questionnaire was partly taken over from the similar survey carried out on the initiative of the Ministry of Labour and Solidarity of France in Hungary, Poland and Czech Republic (Borzeda *et al.* 2002). In the questionnaire there were questions on willingness to go to work abroad; people were asked to specify how developed their plan to work abroad was and for how long they planned to go. Several other questions on the target country, job preference, and background information were asked. Estonian questionnaire included additionally several questions on income and work satisfaction.

TABLE 2: The population, Sample and Answers of the Survey

	Population from which the sample was drawn	Final sample (with addresses)	Final sample, % of population	Answers	Share of answers to sample, %
Residents	405	373	92%	196	53%
Employees	11855	2167	18%	1220	56%
Physicians	3520	899	26%	494	55%
Dentists	781	118	15%	58	49%
Nurses	7187	1074	15%	618	58%
Midwives	380	76	20%	50	66%
Total	12260	2540		1416	56%

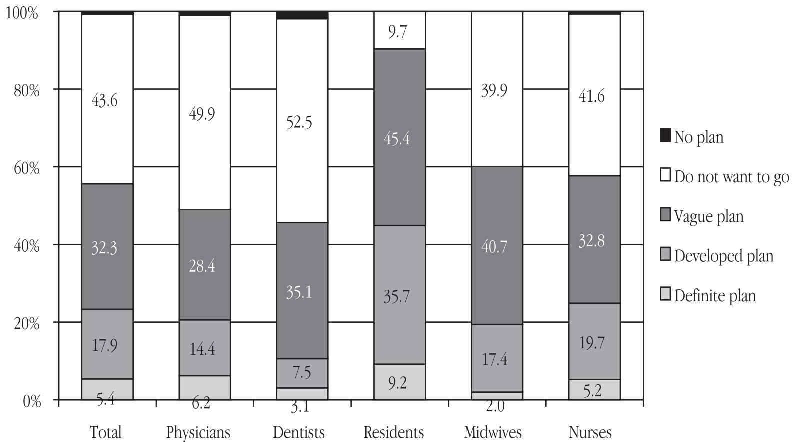
Source: Registry of Health Care Professionals, authors' calculations

The survey was carried out among health care professionals who were registered in the Registry of Health Care Professionals[1] in October 2003. The sample was drawn randomly separately for physicians, dentists, midwives and nurses. Residents were surveyed totally (except those with missing addresses). The sample and answering percentages are presented in Table 2.

The survey was conducted in November and December of 2003. Employees were surveyed by ordinary mail (which included prepaid envelope) in two rounds. The second round was sent to those who did not answer in the first round. The general share of answers was 56%, which is considerably good with respect to similar surveys in the other countries (see Borzeda *et al.* 2002). Thus the data for current paper include answers from 1416 Estonian health care professionals.

The survey indicated that health care professionals' willingness to go to work abroad is somewhat higher than among Estonian people aged 15-64 in general (Kallaste and Philips 2004). At the same time the differences are not big. While 56% of health care professionals are planning to go to work abroad, 42% of the Estonian people aged 15-64 are planning to go[2]. 5.4% of health care professionals have definite plans to go. Most active are residents and least active dentists and midwives.

FIGURE 2: Distribution of Estonian Health Care Professionals According to Plans to Work Abroad



Source: Võrk et al. 2004

The residents are most active because their working conditions are relatively worse in Estonia. Only around 10% of the residents do not have any plan to go abroad. The residents' base gross-wage is 5004 EEK (321 EUR) per month, which is after taxes 4030 EEK (258 EUR) per month. In 2003 the average

1 The registry was under construction at the time of the survey. The estimates were that about 75% of the health care professionals were registered at the time. Experts at the register affirmed that there should be no systematic difference among registered and unregistered people.

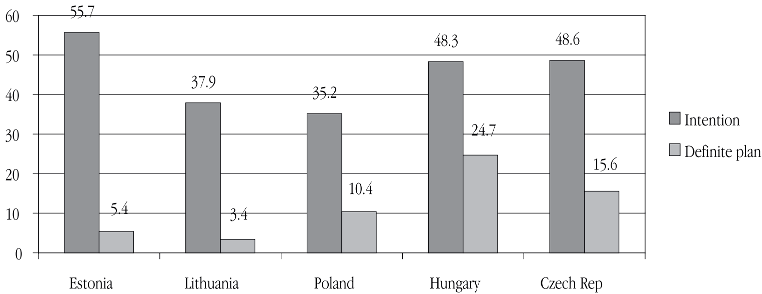
2 One should be cautious when comparing the numbers, because the two surveys did not have exactly the same wording of the questions.

gross-wage Estonia was 6702 EEK (430 EUR) and in the health and social work area it was 5725 EEK (367 EUR) per month. It indicates clearly that residents earn less than average Estonian and less than average person in the health and social work area.

The dentists form a group that is less willing to go abroad. The reason for it is different work arrangement than for the rest of the health care professionals. The dental care is offered by private establishments and financed largely by patients. Therefore dentists' income is also better and they have more freedom to arrange their work compared to the physicians and nurses working in the hospitals. Only 15% of dentists who wanted to work abroad regarded wage as the main reason, compared to over 40% of the other health care professionals. Dentists value more the additional training, living and working experience abroad compared to the other health care workers.

In comparison with the other Central and East European countries, which have carried out a similar survey, Estonian health care professionals are more inclined to go abroad, but there are less people who have firm intentions. There might be different explanations, starting with the different age structures of health care professionals or better working conditions to different migration habits and foreign institutions' recruitment activities.

FIGURE 3: Share of Health Care Professionals Who Want to Work Abroad (%)



Source: Võrk et al. 2004

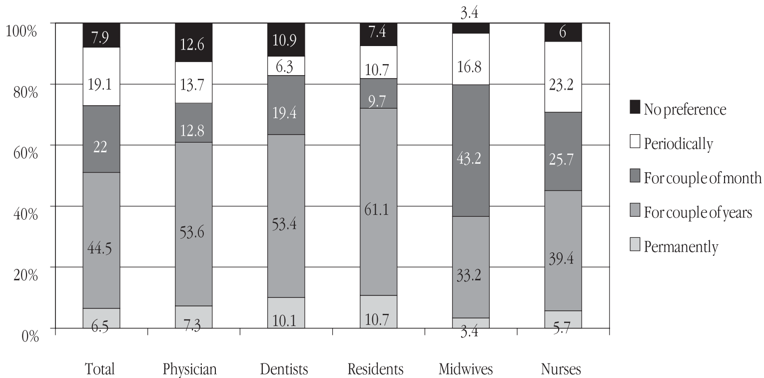
Most people want to go abroad for a short period and only 6.5% want to leave permanently. There are more people who would like to stay abroad permanently among residents and dentists. In international comparison, less Estonians than Polacks, Czechs and Hungarians want to go abroad permanently. From Poland almost one quarter wants to leave permanently, from Czech Republic 11% and from Hungary 7%.

By far the most preferred destination country for working abroad for Estonian health care professionals and Estonians in general is Finland. 30% of health care workers would like to go to work to Finland as the first preference. And almost 60% have mentioned Finland as one possible target country. The preference of Finland comes from the geographical, linguistic and cultural closeness to Estonia.

Based on the opinion survey it is difficult to estimate the actual number of people migrating. This is because the definite intentions of migration might never become the reality and at the same time some people who even do not have intentions to go abroad at the time of the survey might still do it

because of some unexpected development or, especially, active recruitment by foreign institutions. The general view is that opinion surveys overestimate the actual migration (see Krieger, 2004).

FIGURE 4: Distribution of Health Care Professionals According to the Preferred Length of Stay Abroad



Source: Võrk et al. 2004

Thus we can not say how many health sector workers will go abroad, but potentially there are over half of workers who have thought about it. We consider that those Estonian health care professionals who say that they have definite plan to go to work abroad will most probably go. With definite plans there are around 5% of health sector workers who will probably leave Estonia in the coming years and their leaving should be taken account already now. There is no good grounding to conclude anything on the emigration of people who have not definite plans. But policymakers should know that they are potential leavers, especially if foreign institutions recruit them actively.

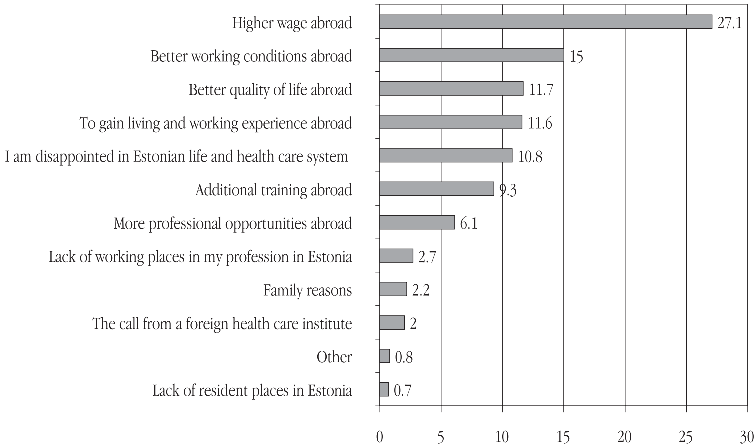
5. The factors influencing migration decision

In this section we analyse the factors that influence the decision to work abroad. These factors should be the target for health policy makers if their aim is to reduce the potential migration flows.

The overwhelmingly most important reason that health care workers state why they plan to work abroad is better wage (see Figure 5). This is followed by better working conditions and better quality of life abroad.

Prospects of higher wages abroad are certainly justified, because Estonian health care professionals earn considerable less than their Scandinavian colleagues both in absolute terms and also in relative terms when compared to average wages. For example, in Estonia health professionals (except nursing) earned 135% of the average wage (in 2001), in Sweden the relevant wage was 196% of the average (in 1998). Also health associate professionals are in relatively worse position earning only 73% of the average wage in Estonia compared to the 130% in Sweden (Philips *et al.,* 2002: 49).

FIGURE 5: Reasons for Going to Work Abroad (% of answers)



Note: As survey questions asked to rate three most important factors, the maximum percentage that each answer can possibly have is 33%.
Source: Võrk et al. 2004

As a result, Estonian health sector workers are less satisfied with their wages compared to Estonian employees in general. While 15% of Estonian people aged 15-64 are not satisfied with their wages at all (SaarPoll, 2002), the same figure for health sector workers is even 40% (see Table 3). Dentists are more satisfied with their wages than health sector workers on average and even Estonian employees in general; only 11% of dentists are not satisfied with their wage.

TABLE 3: Distribution of Satisfaction with Wages (%)

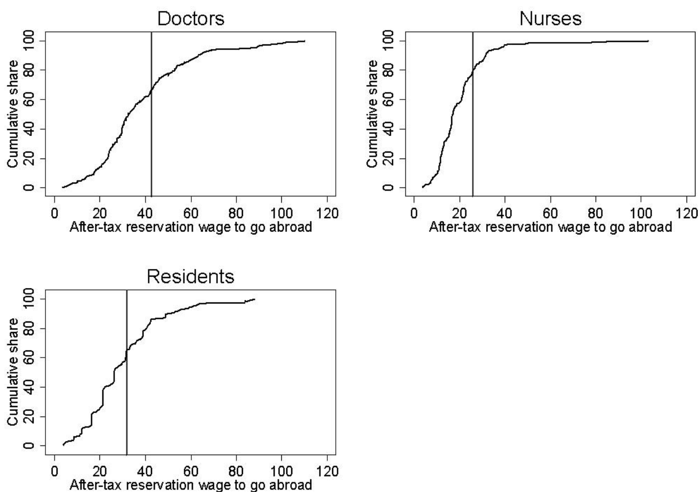
	Physician	Dentist	Resident	Midwife	Nurse	Total health sector	Total 15-64
Very satisfied	2.9	2.8	1.1	0.0	1.9	2.1	7.6
Quite satisfied	24.9	49.3	7.4	6.9	12.5	18.0	39.2
Rather not satisfied	38.1	31.8	28.6	35.2	38.5	37.6	37.1
Not satisfied at all	31.9	11.0	61.9	57.9	44.3	39.7	15.3
Difficult to say	2.2	5.0	1.1	0.0	2.8	2.6	0.7
Total	100	100	100	100	100	100	100

Source: Survey of Estonian health professionals; migration survey of the Estonian population (SaarPoll 2002)s

Comparing the willingness to go to work abroad and satisfaction with wages, it appears that those who are least satisfied (residents and midwives) are most willing to go (compare Table 3 and Figure 2 in previous section).

The comparison between after-tax wages in Finland (as the country of first choice to migrate) and reservation after-tax wage (i.e. minimum wage required to receive abroad in order to migrate) indicates that for majority of those having plans to work abroad after-tax wages in Finland are sufficiently high (see Appendix 1 for details). About 2/3 of doctors (not including dentists) and residents, and 4/5 of nurses have reservation wages of migration below the respective average wage in Finland (see Figure 6). But it also means that not all of those who have plans to go abroad will realize them if they are offered only average wages abroad in their occupation. According to this indicator migration potential among nurses is larger than among doctors. When considering also those who do not have plans to go abroad (setting their reservation wages to migrate to the highest value in the sample, see Appendix 2) overall about 1/3 of doctors, 1/2 of nurses and 1/2 of residents have reservation wages lower than respective wages in Finland.

FIGURE 6: Cumulative distribution of the health professionals who have plans to work abroad ordered according to after-tax reservation migration wage (thousands of EEK) versus relevant after-tax average wage in Finland (vertical line on the graphs)



Note: Doctors do not include dentists

Regression analysis using data on doctors, residents and nurses was carried out to analyse the relative importance of different determinants of migration intentions. Table 4 presents three models, which differ only in earnings variables. First model includes individual ratio of satisfactory wages to their actual wages (both as answered by respondents). Second model includes categorical variables of the satisfaction with current wages. Third model includes ratio of Finnish average after-tax wages to individual current after-tax wages. Other variables are indicators of occupation, age, gender, ethnicity, number of children, marital status, and likelihood to lose the job during the next 12 months, and assessment of household's economic situation.

TABLE 4: Determinants of Migration Intention Using Logistic Regression

	(1)	(2)	(3)
Occupation (compared to "Physicians")			
Residents	0.968*	0.815	1.038*
Nurses	0.163	0.093	0.131
Ratio of satisfactory wage and actual wage	0.181***		
Satisfaction with current wage level (compared to "Very satisfied")			
Satisfied		1.024*	
Not satisfied		1.523***	
Absolutely not satisfied		2.241***	
Difficult to say		1.316*	
Ratio of Finnish average to individual wage			-0.018
Age group (compared to "less than 40")			
40-49	-0.549***	-0.586***	-0.558***
50-59	-1.206***	-1.115***	-1.150***
60+	-2.549***	-2.339***	-2.358***
Male (compared to females)	0.647**	0.795***	0.653**
Estonian (compared to non-Estonian)	-0.006	-0.103	-0.096
Number of children under age 16	0.156	0.169	0.174
Region (compared to "other counties")			
Harjumaa	0.325**	0.295**	0.288**
Tartumaa	0.405*	0.425**	0.398*
Marital status (compared to "Single")			
Married	-0.469**	-0.386	-0.409*
Divorced	-0.177	-0.085	-0.219
Widow/widower	-0.653*	-0.766**	-0.681**
Possibility to lose job in next 12 months (compared to "Not possible")			
Unlikely	0.015	-0.018	-0.045
Likely	0.155	0.096	0.055
Certain	2.211***	2.183***	2.113***
Do not know	-0.142	-0.141	-0.171
Assessment of households economic situation (compared to "Living in very poor conditions")			
Can make both ends meet	-0.826	-0.491	-0.924
Can manage generally	-0.843	-0.383	-1.031*
Can afford everything needed for a normal life	-0.978	-0.308	-1.165*
Can consume without any restrictions	-1.718*	-1.178	-2.040**
Constant	1.440**	-0.298	2.130***
Pseudo R-squared	0.156	0.179	0.149
Observations	1180	1206	1234

*Note: * - significant at 10%; ** significant at 5%; *** significant at 1%*

According to the regression analysis statistically significant variables that influence the intention to migrate are income variables, age, gender, being married. Older people and married people have significantly lower probability to have intentions to migrate, reflecting both larger current migration costs and lower expected future returns from migration. People living in two largest urban areas have higher probability to have intentions to migrate. This fact may be due to the better access to information on working possibilities abroad, because most of the campaigns of active recruitments by Scandinavian health care providers are organised in these two regions.

Income variables are important in most cases. The higher is the wage level that people consider satisfactory for their current job compared to their actual wage (Table 4, column 1), or the less satisfied they are with their current wages (Table 4, column 2) the higher the probability to have intention to work abroad. The ratio of Finnish average wage in respective occupation to individual wage does not have significant descriptive power to explain the intention to work abroad. People who are certain that they will lose their job in next 12 months have statistically higher probability to have intentions to work abroad. Those people whose household can consume without restriction have significantly lower probability.

6. Conclusions

This aim of the current paper was to analyse the size and determinants of the potential migration flows of Estonian health care professionals. In the absence of registry data an opinion survey was conducted in order to investigate the willingness to go to work abroad. Results show that about half (56%) of Estonian health care professionals would like to work abroad, either permanently or temporarily, and around 5% (about 700-800 health care workers) have definite plan to go. The latter is most likely the size of the emigration that Estonian health care sector has to face during next few years. But a warning signal is that potentially there are half of health sector workers willing to work abroad. Active recruitment of Scandinavian, especially Finnish, health care institutions by providing information and covering travelling and language learning costs may significantly increase the number of health care professionals leaving Estonia.

The overwhelmingly most important reason that health care workers state why they plan to work abroad is better wage. Dissatisfaction with current wages is also significant in regression models. The other individual socio-demographic and economic factors that are important in explaining migration intentions are as expected. People with higher costs and lower benefits from migration (older people, married people, and people living in the countryside) have statistically significantly lower intentions to migrate.

High willingness to work abroad, dissatisfaction with current wages together with active recruitment by Scandinavian health care providers creates leads Estonian health policy makers into difficult situation. The rise in wages seems to be clear-cut solution, but two-times differences in wages in real terms are impossible to cover at the current level of economic development. The optimal policy should be a mix of increase in wages, improvement in working conditions and co-ordination of planning of health care personnel between Estonia and Scandinavian countries.

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Appendix 1. Calculation of salaries in Finland

The wages in Finland are assumed to be following.

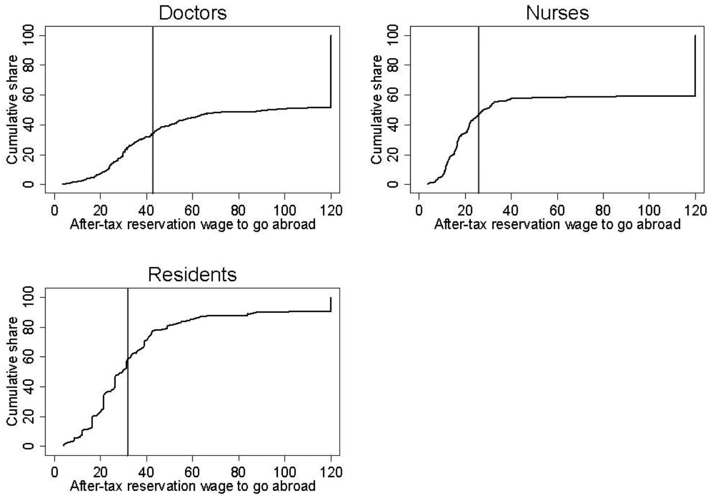
In 2003 senior physician/specialist (gross) salary during regular hours in hospital was 4046 euros per month and for doctors in training the wage was 2788 euros per month (Finnish Medical Association 2004). Nurses will be assumed to go to work to the municipal sector were nurses' average wage in 2002 were 2143 euros per month (Kunnallinen Työmarkkinalaitos). Transfer of the gross wages to the net wage is done with the aid of tax percentage calculator (Finnish Tax Administration 2004).

In the calculation is assumed following: monthly wage is changed into yearly wage by multiplying with 12. The only income is assumed to be wage and no specific deductions are assumed, person is assumed to be in the population register. Person is assumed to be single without children and inhabit in Tampere city.

Table A1.

Senior physician in hospital	2729 EUR=42574 EEK
Doctor in training (resident)	2035,9 EUR=31760 EEK
Nurse	1644,5 EUR=25654 EEK

Appendix 2. Distribution of reservation wages



Cumulative distribution of the health professionals who have plans to work abroad according to after-tax reservation migration wage (thousands of EEK) versus after-tax wage in Finland. (Reservation wage is set to maximum observed reservation wage for those who do not plan to go abroad.)