The impact of aging on the health care sector in Slovakia

Forecast of demand and supply until 2030

Michal Páleník et al.

English summary

2021

Comenius University in Bratislava

Michal Páleník a kol:

Vplyv starnutia na zdravotnícky systém Slovenska – Prognóza dopytu a ponuky do roku 2030

Authors:

Mgr. Ing. Michal Páleník, PhD., FM UK, IZ

Mgr. Lucia Kohnová, PhD., FM UK

RNDr. Viliam Páleník, PhD., EÚ SAV

RNDr. Miroslav Pollák, FM UK, IZ

Ing. Marek Radvanský, PhD., EÚ SAV

Reviewed by:

doc. Ing. Tomáš Želinský, PhD., EF TU

Ing. Ján Košta, CSc., EÚ SAV

online version of English summary at

www.iz.sk/download-files/en/impact-of-aging-on-healthcare-system-in-slovakia

ISBN 978-80-223-5149-2

ISBN: 978-80-223-5152-2 (online)

full online version in Slovak at http://iz.sk/Syjk

www.iz.sk/sk/projekty/starnutie-populacie

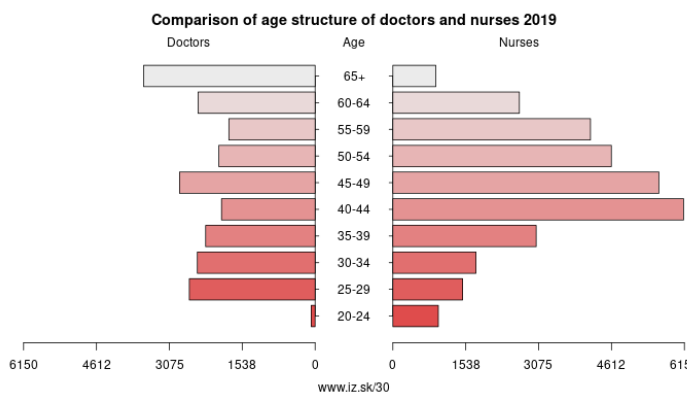
online verziu nájdete na http://iz.sk/Syjk

11 Summary

Michal Páleník et al: The impact of aging on the health care sector in Slovakia – forecast of demand and supply until 2030

Population aging is one of the most important factors affecting the health care system. In comparison to other sectors, aging affects health care in two ways: the employees in the sector are aging and the general population is aging as well (older patients increase demand for sector's services).

Aging of health workers leads to the retirement of a portion of these workers, which creates strong replacement demand. As we described in chapter 2.2 on page 69, employees' aging is visible among doctors as well as nurses. The over 65 age group is the main age category of doctors, followed by doctors below 30 years of age. The smallest group is between 50 and 59 years of age. There is a relatively large supply of young doctors. Nurses have a different age structure: the majority of nurses are over 40 years old. There is relatively low number of nurses over 60 years of age. The situation among dentists and pharmacists is not as dramatic.



Source: iz.sk/30-graphs-on-ageing/comparison-of-age-structure-nurses-doctors

Situation worsened during the Covid19 pandemic. Even though there are very few published data, we see older doctors and larger number of nurses exiting the health care sector. Overall, Covid19 quickened and highlighted the negative trends already present.

The second effect of population aging on health care is caused by rising morbidity due to the aging of patients. As we described in chapter 3.3.1, aging of patients will increase the number of hospitalizations and visits to doctors. Assuming the middle demographic scenario, we expect an increase in hospitalization days by 13 %. In table 3.10 on page 96 we summarize, that we expect an increase of general health care by 11 % and specialized health care by 8 % by 2030.

In chapter 3.4, we quantify expansion demand for health care workers. This demand is created by additional demand for services, mainly because of population/patient aging. Table 3.24 on page 109 quantifies this demand. In the majority of professions it is around 0.7 % annually with mild fluctuations over the years.

Replacement demand describes how many new workers will be needed due to retirement of existing workers. It is summarized in table 3.26 on page 111. Average annual replacement demand is 3.5 %, however it varies greatly among professions and over time: paramedics or nurses are near 5 %, pharmacists at 2 %.

The sum of replacement and expansion demand is the most important indicator. It is quantified in table 3.27 on page 113.

The table describes, how many new workers will be needed in each of the occupations. Up to 2030 it will be necessary to add 3 450 workers annually. Of these, around 1330 are nurses, 750 doctors, and around one hundred each of dentists, pharmacists, technicians, medical assistants, and paramedics. Looking at relative numbers, there is a need to replace the workforce by 5 % annually among paramedics, laboratory technicians and sanitary workers. We used pre-covid19 data and we expect mainly negative effects of the covid19 pandemic (increase in burnout syndrome, (early) retirement of a significant portion of workers, workers leaving for

other sectors/occupations, postponing of white medicine). Therefore the modeled demands are underestimated.

Tab. 3.27 Total yearly demand for different health care occupations in Slovakia

	2019 state	Expected yearly inflow of workers			Change		
	2018	2020/24	25/29	30/34	2020/24	2025/29	2030/34
Doctors	19 178	772	745	621	3.91 %	3.66 %	2.97 %
Dentists	2 779	118	100	62	4.25 %	3.61 %	2.24 %
Pharmacists	4 354	183	163	141	3.98 %	3.34 %	2.76 %
Nurses	31 061	1 322	1 344	1 359	4.14 %	4.09 %	4.01 %
Midwives	1 742	50	45	56	2.99 %	2.94 %	3.81 %
Medical laboratory technicians	2 749	153	139	116	5.39 %	4.75 %	3.88 %
Pharmaceutical laboratory technicians	2 280	109	101	93	4.55 %	3.97 %	3.48 %
Physiotherapist	1 955	68	65	65	3.39 %	3.10 %	3.04 %
Paramedics	1 979	111	99	82	5.41 %	4.69 %	3.82 %
Medical assistants	3308	100	118	134	2.94 %	3.35 %	3.68 %
Radiology technicians	1390	61	61	59	4.25 %	4.12 %	3.88 %
Sanitary workers	5133	279	280	253	5.28 %	5.11 %	4.46 %
Other	1459	58	54	50	3.87 %	3.47 %	3.10 %
Other workers in sector	2964	106	105	104	3.50 %	3.36 %	3.26 %
Total	82331	3488	3416	3194	4.22 %	4.00 %	3.66 %

Source: Calculations by the authors

As we can see, over the next 10 years, there will be a need to find almost 50 % additional doctors and nurses to fill the vacancies. Due to the needed legislation and organizational changes, ten years is an alarmingly short period. The situation is even worse with paramedics and medical technicians, where there will be a need to find over 50% of workers.

Employment in health care is highly regulated by the government and several years of education are needed to work in this field. Therefore, graduates of secondary schools and universities are the only possible source of new workers (together with immigrants). In chapter 4 we focus on the description of individual study fields, their history as well as current trends. We focus on pharmacists (from page 132), dentists (from page 129), as well as doctors and nurses.

General medicine (described on page 125) is a stable field of study. The number of general medicine students having Slovak citizenship is stable over last decade at around 4 thousand. The number of students with foreign citizenship increased from 960 in 2009 to 2 800 in 2020. So the whole increase of universities' capacities was absorbed by foreign students studying in English. 40 % of capacities of Slovak medicine faculties is dedicated to students, who will not stay in the health sector in Slovakia. Total annual income from tuition fees from these students are around 26 mil. €, which is 0,3 % of the total budget of health care sector in Slovakia.

The study system for the nursing profession is not stable. Over the recent decades, this system has overcome several significant to unnecessary changes. We describe the history and current situation on pages 135 to 144. Standard secondary school education of nurses was changed to "medical assistant" and in 2019 to "practical nurse". Meanwhile, Bc. in nursing (ošetrovateľstvo) was introduced. Other post-secondary studies exist as well (practical nurse, medical assistant, diploma general nurse). However, these students do not receive tertiary education title Bc. (even though the study intensity is comparable to the tertiary nursing programme).

In chapter 5 we describe ways to fill vacancies due to expansion and replacement demand. If current trends continue, vacancies of pharmacists and dentists will be filled, at least at the aggregate level.

There will be a great number of unfilled doctors' vacancies, if current trends continue. To fill these vacancies, we will need to limit the number of general medicine students of foreign citizenship to the levels of 2008: 10% of all medicine students. As we showed on page 149, using these educational capacities will allow for inflow of graduates at the needed rate of 760 annually.

At the aggregate level, it is possible to fill doctors' vacancies. The question is, how to fill vacancies in each region and in each specialization. Segregated Roma communities are one of the factors affecting regional differences in health care. In chapter 6, starting on page 155, we

focus on health specifics of these communities. Regional modeling must consider situation of these communities. On the other hand, they can help to mitigate effects of population aging, not only in health care and long-term care sectors. This will be possible only by effective active labour market policies and inclusive market.

The nursing profession has an alarming development ahead. There are around 1 300 expected vacancies, however, the real inflow of graduates is only 230 (so only 17 % of the required number, more on page 152). To avoid total collapse of the health care sector due to lack of nurses, it is necessary to implement fundamental changes described in chapter 8 on page 198. These needed changes consist of, but not limited to, improving conditions of work, increasing salaries of nurses, reviving career progression, motivating more young people to study nursing, motivating graduates to work as nurses in Slovakia, making sabbatical available, etc.

Long-term care is closely connected to population aging and the health care system. These two sectors compete for workers with similar skills (nurses, personal care workers, health assistants). In chapter 7, between pages 164 and 184, we describe the situation in long-term care sector in Slovakia, as well as the situation in various other countries. Since long-term care is underfinanced and understaffed, it is necessary to increase its financing.

Because of Covid19 pandemic, as well as future growth in long-term care, the lack of nurses will be even larger than described in this publication.

Long-term care in Slovakia is not available to all eligible recipients. One of the reasons is multi-source financing with unclear responsibilities (villages and cities, regions, central government, health care insurance), provided to facilities not individuals. Therefore, we describe possible reform of long-term care system (chapter 7.4 on page 186). The main feature of this reform is the creation of a long-term care fund, which would provide funding to all eligible recipients. The legislative changes would include a reduction in personal income taxes (and corresponding

reduction in the responsibilities of villages and cities), a reduction in health insurance contributions (and corresponding reduction of insurers' obligations in long-term care) and the introduction of a long-term care fund contribution at 1.5 % of gross wages (not changing total taxes and contributions paid by working individuals). Further changes (including payments from central government) are described on page 189.

The result of this reform will be clear and transparent funding with individual person/client being the one choosing which services and facilities to use. Funding will automatically follow each person.

Out of the health care sector professions studied in this book, the forecast of filling vacancies until 2030 on the aggregate level is satisfactory for dentists and pharmacists. With realistic changes to the education system of medicine, the needs for doctors can be met. However, there is an alarming shortage of nurses and without drastic fundamental changes, this shortage will only increase resulting in the collapse of the health care system.