(Geo)Demographic Aspects of Availability of Health Services: The Case of Diabetology in Czechia

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Introduction

Health services are one of the most important public services of every society. Therefore, the quality and availability of health services belong to the most important long-term goals of not only developed countries. However, the health care system is very complicated, dissimilar in each country and is influenced by many factors. In particular, the system and authorities of public health should reduce the impact of the negative factors limiting the access to public health care (Šídlo et al., 2017).

According to present studies (such as Andersen and Newman, 2005; Kondo, 2011; Whitehead and Dahlgren, 1991), there are a large number of factors which affect the availability and use of health services. Some factors may be influenced by the individual or society itself, whereas others may not. Biological factors, like gender, age and hereditary genes, are among those that cannot be effected. In contrast, every person can more or less direct at his lifestyle factors, such as smoking, alcohol consumption, diet, eating habits, and physical activity. Other factors relate to the social and social situation, living and working conditions and, the general socio-economic, cultural and environmental conditions (Whitehead and Dahlgren, 1991). Potential factors have been studied for several decades, but many uncertainties and limited outcomes remain. Due to Andersen and Newman (2005), the study of inequalities in the use of health services is very complicated due to the interdependence between individual factors, socio-economic factors, the health service system and the actual use of health services.

One of the main prerequisites for ensuring health services is availability of these services. In Czechia, availability of health care is the basic goal of health policy, which is based on the principle of solidarity. Nevertheless, the term availability (or accessibility) in the field of health services is not clearly defined yet and can be viewed from several perspectives - as local (geographical), time, economic, capacity or organizational availability (Šídlo et al., 2017). This study is devoted to primary local geographical availability.

This paper focuses on differences in the use of selected health services (outpatient diabetology) from a demographic and geographical perspective. The main aim is to analyse and describe distribution of patients with diabetes and utilization of health services in districts (LAU1) in Czechia. The research concerns with several determinants, especially gender, age, residence of the patients.

Data and Methods

The selected segment of health services was outpatient diabetology. The following analyses were based on sorted anonymized data for year 2017. Data were obtained from the Czech Statistical Office (CZSO) and the General Health Insurance Company of the Czech Republic (GHIC CR). Studied patients were people who used health services and they were insured of GHIC CR. There was also calculated estimation of all patients from health insurance companies in Czechia by gender and the age structure. Information about gender and age of patient allowed to study of the use of health services in full detail. Moreover, the analysing data contained also information on the patient's place of permanent residence and the place where the patient receives the health services and its amount which enabled to research commuting to these services both overall and in depth, by gender and age of patient.

Results

In the long perspective, the number of people with diabetes has been increasing over time. According to estimates of the Institute of Health Information and Statistics of the Czech Republic (UZIS CR), just between 2007 and 2017 the number of patients of diabetes increased from 805 thousand to 936 thousand (UZIS ČR, 2018). These patients are all patients who were diagnosed with diabetes and they can be treated not only by outpatient diabetologists but also by general practitioner, internist or other providers of health services. Patients of non-diabetologist have predominantly less complicated course of the disease and medication is less exacting.

Overall, about half of the patients were treated by outpatient diabetologists. In 2017, there were 355 thousand of patients insured of GHIC CR and it was supposed that there were 573 thousand of patients at all. In total, lightly more patients were women than men. Almost half of the patients, both men and women, were aged between 65 and 80 years.

Fig. 1: Structure of patients in outpatient diabetological providers, patients of GHIC CZ and the estimate for patients of the whole system, Czechia, 2017
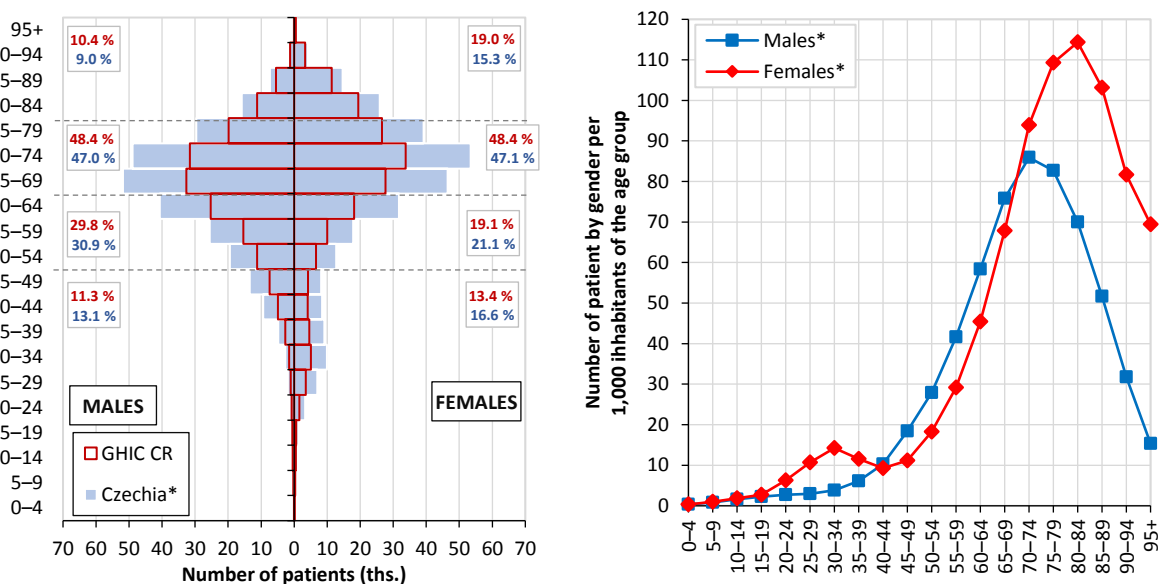

Note: * estimate for patients of whole Czechia

Source: GHIC CR, 2018

However, there were significant differences in gender and age groups of patients. Firstly, although numbers of patients under the age of 50 years were relatively low, there were considerably more women aged 20 to 40 years than men. This increase was associated with treatment of women with gestational diabetes which is type of diabetes that occurs during a pregnancy. Subsequently, there were higher share of men than women between the age of 50 and 70 years. On the other hand, patients aged 70 years were more often women than men. This trend was obvious both absolute and relative scale. The highest number of men patients per 1 000 habitants were at the age group 70–74 years (86 patients per 1 000 habitants, including both genders) and the number of women patients culminated at the age group 80–84 years (110 patients per 1 000 habitants).

In this paper, it was applied information on the patient's permanent residence, which was used for illustrating of geographical aspect of this issue. However, it is necessary to realize that people need not to use and also do not use health services at their place of permanent residence in fact. Furthermore, permanent residence may not correspond to common residence. Yet it was the most adequate and available data on this topic and the paper made into consideration these issues.

The distribution of patients and providers of health services was considerably uneven in the space. There were regional differences in both the age structure of patients and distribution of health services. For example, younger patients usually used health services out of their region more often than older patients. The commuting to health services was also studied such as how many people utilized health services in their region and how many patients did not or in which regions health services were used more than in others.

Fig. 2: Share of health services of outpatient diabetological services drawn in the district of the patient's permanent residence; regional differences and the differences by gender and age of patient, estimate for patients of the whole system, Czechia, 2017
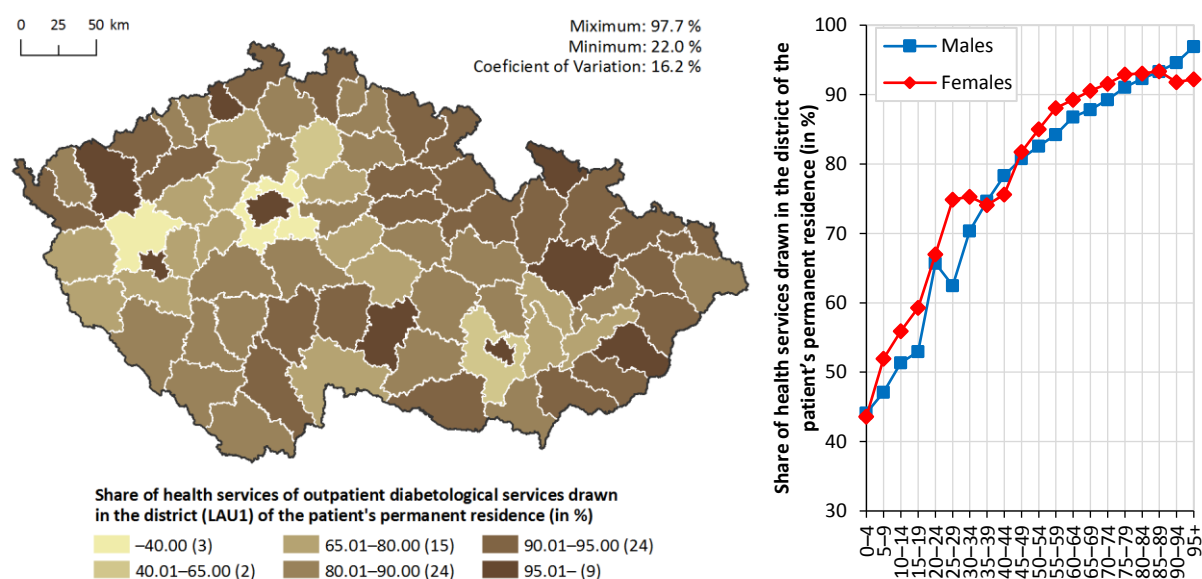
Source: GHIC CR, 2018

Conclusion

The issue of the availability of health services is highly actual topic. Knowledge of factors and geodemographic aspects of availability of health services are keys to understand and then effectively solve this issue. Gender and the age structure of patients are significant demographic factors influencing the availability of health services. According to this fact, the analyses of gender and the age structure of the patients were made. It was found that diabetes effected mainly older generations but there were also significant differences in gender and age groups of patients. There was applied information on the patient's permanent residence, which were used for illustrating of geographical aspect of this issue. The distribution of patients and providers of health services is considerably uneven in the space. There were regional differences in both the age structure of patients and distribution of health services such as in utilization of these services.

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