Viktor Pál – Annamária Uzzoli

The Faces of Well-Being. Health-Related Quality of Life in Budapest

Introduction

In 2020, 18% of the Hungarian population lived in the capital city, which is the country's most important economic, educational, cultural and tourist centre. Thus, the living and working conditions of the inhabitants of Budapest have always had and will have an impact on the city's performance and socio-economic position both nationally and internationally, both in the past, present and future. The quality of life of the capital's population, including its health-related quality of life, influences the development potentials of Budapest and ultimately plays a key role in the city's future. Evidently, it is also essential in itself what the inhabitants' quality of life and health status are like, what kind of healthcare services are available and what differences exist within the city, because these are the things that constitute the basis of the population's quality of life in the city. All these factors underline the special importance of overviewing the characteristic features and territorial differences of the quality of life and particularly the health-related quality of life in the capital city.

The health status and health situation of the population of Budapest show a kind of duality. Examining the main morbidity and mortality indicators, it is found that in general, the health status of the Budapest population is better than the national one. In 2020, the average life expectancy at birth exceeded the national average by two years: it meant better life chances in Budapest for men by two and a half years and for women by one year. However, there are significant differences between districts mainly due to local characteristics of the quality of life. There is a difference of six years in life expectancy between the highest values in the 2nd and 12th districts, and the lowest in the 8th and 10th districts.[1] This district-level gap was ten years in the mid-1980s, and it has only decreased by half in more than 35 years since then.[2]

More than a third of the medical doctors working in Hungary are concentrated in Budapest. Their number is one and a half times the national average per 10,000 inhabitants. Several national institutes are located here, and the capital city is considered the largest hospital centre in Hungary. Only 4% of the medical doctor posts required for the

[1] KSH 2022.
[2] Józan 1986: 251.

DOI: https://doi.org/10.36250/01242_05

operation of the system were vacant in Budapest in 2019, which was below the national average (5%). At the same time, 8% of all healthcare worker posts in the capital were vacant, which is double the national average.[3]

Health-related quality of life explores socio-economic and spatial inequalities in a complex way, and at the same time it also provides an opportunity to interpret both objective and subjective components. This is the reason why this study on the well-being in Budapest focuses primarily on health-related quality of life, and its purpose is to make an overview of the health status of the population in the capital and outline the main characteristics and spatial aspects of local healthcare services.

In this chapter, after the terms used in connection with quality of life, we review the health status of Budapest inhabitants, both as characterised by statistical indicators (objective health) and as perceived by the individual (subjective health). Looking at recent events, we also present the characteristics of the coronavirus pandemic in Budapest. We then analyse the specific features of healthcare, with particular reference to private healthcare services in the capital. In each case, we position the capital city within Hungary, partly in comparison with counties and partly in comparison with regions. Where possible, we examine the internal spatial processes within Budapest at the geographical scale of districts.

1. Quality of life, the concept and characteristics of health-related quality of life

The concept of quality of life is increasingly used in a broader meaning of well-being. This suggests that it is becoming more and more important in the value systems of societies to what extent individuals are able to live a more fulfilling, i.e. higher quality life in their socio-economic environment. The concept reflects a change of approach, as it shifts the focus from economic goals to the individuals' and social groups' quality of life.[4] The question then arises if the economy comes first, or the economy exists for the people.

What is meant by quality life (and thus quality of life) is a matter of interpretation, and there is an extraordinary body of literature on the subject, both internationally and domestically. As a result, there is not a single, universally accepted definition (such as the WHO definition of health), but there are rather approaches. These approaches largely depend on which discipline is investigating it, as the quality-of-life research is multidisciplinary. The disciplines dealing with it include but are not limited to economics, medicine, sociology, geography and psychology.[5] This wide-ranging interest in the subject is not new. It goes back to Aristotle (then understood as happiness), still,

[3] KSH 2020: 106.
[4] Csébi 2015: 28; Csébi 2016: 51.
[5] Kopp–Kovács 2006: 6; Michalkó 2010: 18.

it has come into the centre in the recent decades, in a consumption-oriented world driven by the urge to acquire material goods. Even though there was academic research conducted on the subject in the United States between the two world wars, it was only later, in the 1960s that society and politics began to address the subject. This was also the period when the amount of research started to rise.[6] These studies produced a number of definitions and used various models to demonstrate, which element of the quality of life they considered more emphasised, bearing in mind that quality of life should always be understood as a system of relationships between the individual and his or her environment.[7] Consequently, whichever approach or model serves as the starting point for the definitions, all of them have the common ground that they distinguish the objective and the subjective characteristics of the quality of life: "The quality of life is the joint dimension of the objective factors that determine human existence and their subjective reflection."[8] Based on this definition, quality of life has an objective pillar that can be defined as 'welfare', and a subjective pillar that can be understood as 'well-being'.[9] From a different perspective, distinction is made between objective and subjective quality of life, where the objective element is characterised by various statistical indicators and the subjective element is the individual's assessment of his or her own state.[10] It is also important to see in the use of the objective–subjective conceptual pair from which aspect it approaches the quality of life. Health-focused research studies[11] examine factors that refer to health status or the experience of health, while researches that focus on the factors affecting the quality of life,[12] investigate the settlement, the infrastructural and the environmental factors.[13]

Quality of life is influenced by a number of factors, depending on the approach taken: individual characteristics, various socio-economic specificities, health status, and the environment. In our study, we examine, in a narrower sense, health-related quality of life through the objective and subjective characteristics of the health status and through the characteristic features of healthcare. In a broader sense, we define the quality of life in terms of socio-economic, political, environmental, cultural, etc. factors *(Figure 1).*

6 Michalkó 2010: 18.
7 Izsák et al. 2008: 265.
8 Michalkó 2010: 19.
9 Michalkó 2010: 21.
10 Utasi 2007: 10.
11 Kopp–Kovács 2006: 11.
12 Egedy 2009: 22.
13 Michalkó 2010: 20.

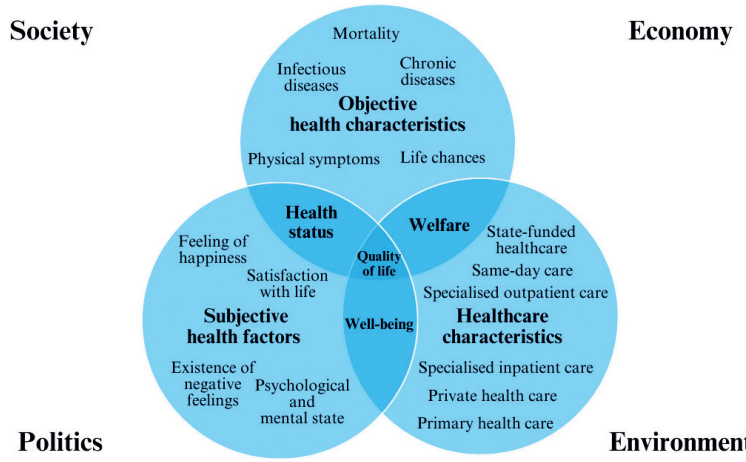

Figure 1: Objective and subjective characteristics of health-related quality of life
Source: compiled by the authors

In line with this conceptual framework, research is constantly looking for indicators and measures that can be used to express the quality of life, not specifically applicable for the individual, but for the society and for specific social groups. However, the purpose of indicators is not only to analyse differences between social groups, but also – since society is also spatially differentiated – to show spatial or territorial differences and inequalities.[14] Spatial and social inequalities in the quality of life essentially appear at all geographical scales examined: global, macro-regional (in spatial units larger than nation states, such as the European Union), within countries, and even within city regions or cities – such as Budapest[15] or its agglomeration.[16] Indicators initially focused on welfare, i.e. the living conditions (Swedish model), they were based on objective measures, and gradually, more subjective measuring options related to quality of life and well-being came to the fore.[17]

Although it is difficult to choose just one element from the multidimensional definitions of the quality of life, the most important element of the many approaches is perhaps the health-related quality of life. The reason for this is that health, its context and accessibility to healthcare is one of the foundations of all that is necessary for well-being and for its wholeness. In addition, the first Hungarian research works on quality of life also mostly focused on health-related quality of life. Absence of health or poor health prevents individuals from fulfilling the other dimensions of quality of life.[18] Health-related quality of life first came to be the centre of attention in health sciences. It is closely related to the interpretation of health. The relationship to health is also culturally determined, so what medicine considers health varies in each era and culture. With the development

[14] Papp et al. 2017: 642.
[15] Csébi 2016: 57.
[16] Szirmai 2015: 205.
[17] Bukodi 2001: 39.
[18] Kopp–Kovács 2006: 12.

of modern Western medicine, mortality from infectious diseases has decreased and life expectancy at birth has extended. It has become increasingly important that people can live their longer life as healthily as possible. Thus, whereas previously somebody was considered healthy if they did not have a disease (absence of disease), in the 20th century, it also became important to what extent an individual can live a full life beyond his or her physical condition. The former approach is reflected in the biomedical model, which is basically objective and focuses on the human body. The latter approach is represented by the bio-psycho-social model, which considers the mental state and social environment important in addition to the physical condition of the body, and essentially, it expresses the shift towards a quality-of-life approach and that the objectives of modern medicine have changed.[19]

The quality of life of the population living in big cities, including Budapest, is also fundamentally determined by their health. Most European large cities have more favourable health indicators than rural areas, but because of their high complexity, there are also rather big differences, which show close correlation with other quality of life indicators.[20] In view of all this, our study focuses on health-related quality of life.

It is an essential question how to measure health-related quality of life. This involves objective indicators, which are classically measured by mortality and morbidity statistics, but also indicators that represent a subjective assessment of an individual's health condition.[21]

2. The aspects of welfare and well-being in Budapest – Objective and subjective elements of quality of life

The measurement of health-related quality of life in a broader sense, and of health status in a narrower sense, is partly based on objective factors and partly on subjective perceptions of health. In the former case, various statistical indicators are available, while in the latter case, population surveys help to assess perceptions of health.

2.1. Objective elements of health-related quality of life

Indicators related to the objective aspect of health-related quality of life are based on mortality data and morbidity data available in various health statistics. Most of the conclusions can be drawn from mortality statistics.

The health of Hungary's population began to deteriorate in the 1960s. A so-called 'epidemiological crisis' arose and then it deepened in the mid-1990s. It means that until the 1960s, the situation in Hungary (as in other Eastern and Central European countries)

[19] Kopp–Kovács 2006: 11.
[20] Csébi 2016: 63.
[21] Tokaji et al. 2011: 771.

was similar to that of developed and moderately developed countries, but afterwards mortality and health status began to deteriorate. The worst indicators in this process were recorded in 1993. Afterwards, there was an improvement in life expectancy, influenced both by changes in lifestyle and the application of new medical advances. However, Hungary was still well below the EU average.[22] During the 2000s, life chances slowly improved, but the gap has remained stable.

The epidemiological crisis also affected Budapest, although to a lesser extent than other areas of the country, as the objective health status of the capital's population is still among the most favourable in Hungary: mortality and morbidity rates are much better – and were also better earlier – than the national average.[23]

However, in the case of Budapest, there are also quite substantial disparities within the agglomeration and within the city. Thus, the city shows two different sides: on the one hand, life chances and some other health indicators are among the best in Hungary for the entire city. On the other hand, there are areas that are the worst in terms of cancer mortality in the city and nationally, and there tend to be large differences between districts.[24] All this is linked to the complexity of the structure of the metropolis,[25] the diversity of its society and its spatial disparities. Some of the internal disparities show stability: there are districts that have long been among the best or worst according to most of the objective health indicators (e.g. the situation of the 2nd district has been persistently favourable and that of the 10th district has been persistently unfavourable), but over the last decade, there have been perhaps more districts in transition and 'changing positions'. Nevertheless, health indicators show close correlation with other indicators of social position (e.g. education).[26]

The most commonly used indicator of mortality is the crude death rate, which is highly dependent on age composition. As Budapest's ageing index in 2019 was one of the highest in Hungary at 156.8%, as opposed to the national value of 136.6%,[27] the crude death rate was also high. In 2019, the national rate was 13.3‰, whereas in Budapest – despite the high proportion of the elderly population – it was 12.0‰.[28] It implies that the capital's residents are healthier on the whole. In Budapest, the change in mortality over time has also shown a favourable trend, there has been a steady decline both in the Budapest rate itself and relative to the country as a whole *(Figure 2).* The mortality rate of Budapest was higher than the national average until 2007 after which the rate had a continued sharp decline, and it has been continuously lower since then with the gap steadily widening in the capital's favour. However, Pest County has always had more favourable rates due to the social characteristics of its agglomeration settlements.

The geographical distribution of crude death rates in the districts partly follows the trend of the ageing index, but also diverges from it in several places *(Figure 3).*

[22] Józan 1994: 7; Józan 2002: 424; Pál et al. 2021a: 151.
[23] Uzzoli 2008: 357; Uzzoli 2010: 425; Ádány 2012: 6.
[24] Uzzoli 2008: 365; Uzzoli 2010: 424.
[25] Csapó–Lenner 2015: 64.
[26] Ádány 2012: 22.
[27] KSH 2020: 15.
[28] KSH 2021a: 28.

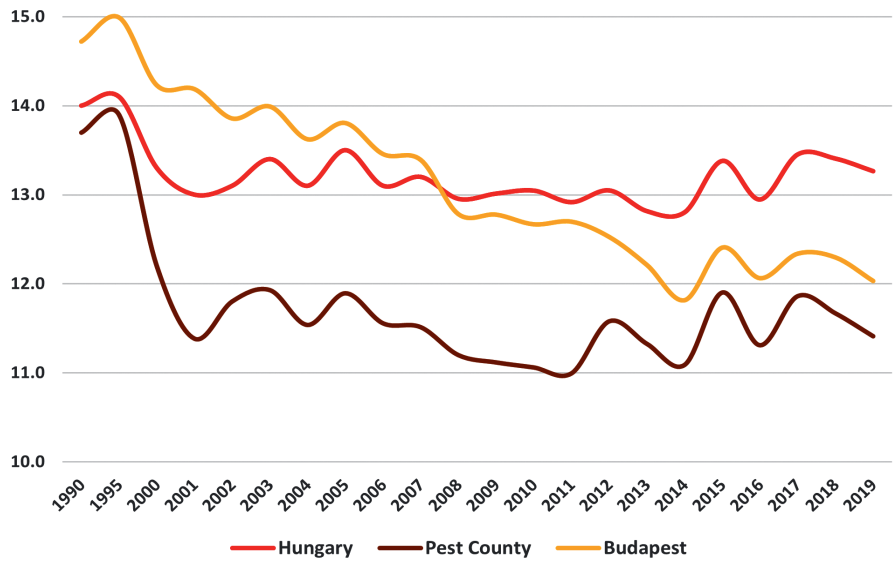

Figure 2: Change over time in the number of deaths per one thousand inhabitants in Hungary and Budapest
Source: compiled by the authors based on KSH 2021a

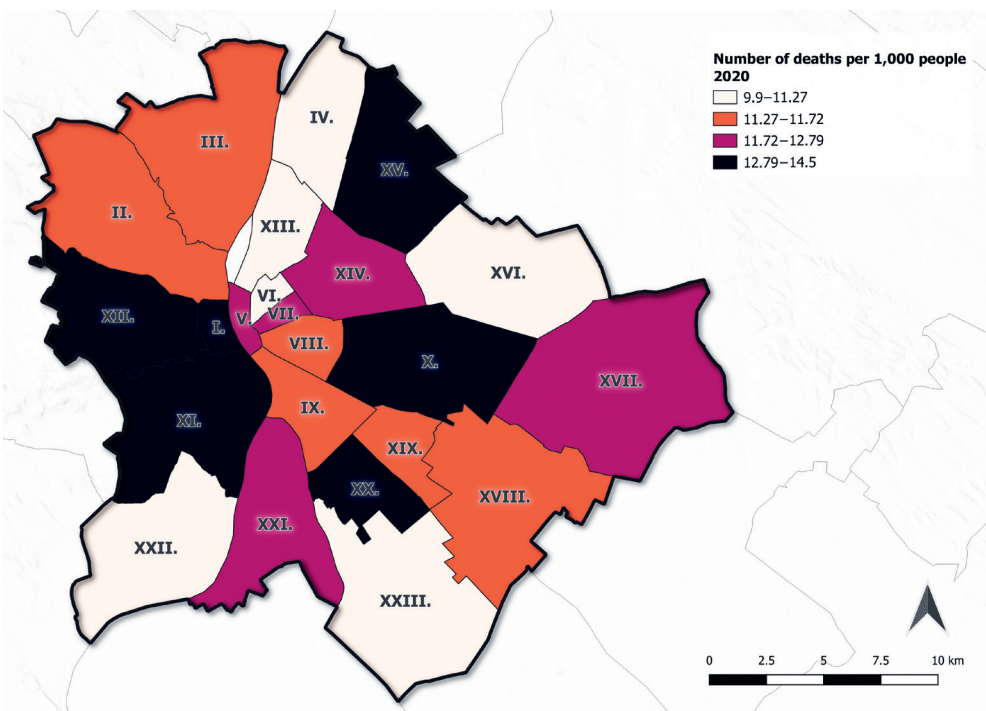

Figure 3: Number of deaths per 1,000 inhabitants in the districts of Budapest in 2019
Source: compiled by the authors based on KSH 2021a

The differences due to age structure are eliminated by the standardised mortality rate. In this regard, Budapest (and its agglomeration) is in one of the most favourable positions in Hungary (2019), and it can be observed that the districts belonging to the agglomeration on the Buda side show better values. Even though Budapest itself is not the first in this respect, if the districts are also taken into account, the 1st, 2nd, 5th and 12th districts lead the national list. However, the worst performers nationally include the 23rd district of Budapest.[29]

The causes of death in Budapest are similar to the Hungarian average. Almost half of all deaths are caused by cardiovascular diseases and about a quarter by tumour diseases. The difference is that both causes of death account for a slightly higher share of total deaths. The same can be said of deaths from diseases of the respiratory and digestive systems. Yet, deaths from external causes (e.g. accidents, suicide) or from infectious and parasitic diseases account for a smaller proportion of deaths *(Table 1).*

Table 1: Mortality by cause of death in Hungary and Budapest in % of total deaths by leading causes of death in 2019

Causes of death	Budapest (%)	Hungary (%)
Cardiovascular diseases	49.84	49.08
Tumour diseases	26.06	25.18
Respiratory diseases	6.61	6.42
Diseases of the digestive system	5.03	4.90
External causes of morbidity and mortality	3.32	4.17
Infections and parasitic diseases	0.47	0.53
Other reasons	8.68	9.72
Total	100.00	100.00

Source: compiled by the authors based on KSH 2020

Comparing Budapest with the districts of counties, however, greater differences can be seen. The rates of several county districts differ from the national average: for example, the rates of cardiovascular diseases are much lower in the districts of Pécs and Miskolc. It is also instructive for Budapest to see how the rates of the county districts in the neighbourhood evolved in 2019 in this respect. In general, the county districts west of Budapest have a lower share of deaths from cardiovascular diseases in total deaths (lowest in the district of Érd), while the districts located to the east have either a higher share than Budapest or close to it.[30]

The measure that is most frequently calculated on the basis of mortality and presents life chances, thus an indicator of health-related quality of life, which tends to be applied fairly often, is life expectancy at birth. It has increased steadily but moderately for both men and women across the country since the low point in 1993.

[29] Pál et al. 2021a: 151.
[30] Pál et al. 2021a: 151.

Table 2: Change in average life expectancy at birth over time by sex and county

Territorial unit/Year	Men			Women		
	2001	2012	2020	2001	2012	2020
Budapest	*69.28*	*73.58*	*74.34*	*76.52*	*79.23*	*79.85*
Bács-Kiskun County	67.41	70.96	71.79	76.73	78.22	78.34
Baranya County	68.20	70.99	72.45	75.63	78.12	79.14
Békés County	68.84	71.06	71.21	76.60	77.54	77.87
Borsod-Abaúj-Zemplén County	66.59	68.95	69.66	76.10	76.76	77.10
Csongrád-Csanád County	68.68	71.50	73.21	76.56	78.78	79.22
Fejér County	68.54	71.47	72.38	76.41	78.36	78.42
Győr-Moson-Sopron County	69.48	71.95	73.08	78.04	78.71	79.44
Hajdú-Bihar County	68.04	71.83	72.37	76.63	79.23	79.75
Heves County	66.77	70.78	71.11	76.78	78.03	78.10
Jász-Nagykun-Szolnok County	67.43	70.55	70.55	76.25	77.62	77.61
Komárom-Esztergom County	67.95	70.27	70.73	76.25	77.57	78.36
Nógrád County	67.14	70.47	70.38	75.97	77.71	76.90
Pest County	68.68	71.94	72.74	76.54	78.22	78.83
Somogy County	67.28	70.29	71.72	75.39	78.07	78.33
Szabolcs-Szatmár-Bereg County	65.78	70.05	70.70	75.74	78.26	77.50
Tolna County	67.96	71.88	72.32	76.57	78.85	78.42
Vas County	68.84	70.66	71.61	77.12	78.25	79.20
Veszprém County	69.01	71.70	72.41	76.08	79.11	79.15
Zala County	68.24	71.84	72.33	76.83	78.96	79.15
Total country	68.15	71.45	72.21	76.46	78.38	78.74

Source: KSH [s. a.b]

In this respect, Budapest has always ranked among the highest in terms of value for both men and women in comparison with the counties. A man born in Budapest in 2020 could expect to live 74.34 years compared to the national average of 71.45 years. Nógrád County was in the most unfavourable situation (70.38 years), with a difference of 3.96 years. In the same year, life expectancy at birth for women in Budapest was 79.85 years (78.74 years nationally) and the lowest in Nógrád County (similar to men) was 76.9 years, but the difference was smaller than for men (2.95 years) *(Table 2).* When Budapest is ranked among the districts, even larger regional differences emerge, but Budapest is no longer in the lead for either sex, although it is still in the most favourable category *(Figure 4).* It ranked 11th for men and 20th for women in 2020. (It should be noted that the difference between people's best and worst life chances by district is more than 10 years for men

and almost 9 years for women.) The districts belonging to the agglomeration of Budapest also fall into the most favourable category, especially for men *(Figure 4).* Compared to 2012, the positions of Budapest in life chances have improved with regard to districts for both men and women.

The specificities of the comparison between county districts point to the fact that within Budapest there are also large territorial differences in life chances, which were already found by research in the 1980s.[31] The differences have decreased since then and their spatial patterns have also changed. In 2020, the best life expectancy (in terms of total population) was in the 2nd district (80.89 years of age), while the worst was in the 10th district (74.6 years of age). For men, the two poles are also the 2nd and 10th districts, but for women, the most unfavourable situation is in the 23rd district, although it is true that the 10th district is the last but one. The 2nd district also has the best life chances in all respects in a national (county district) comparison *(Figure 5).*

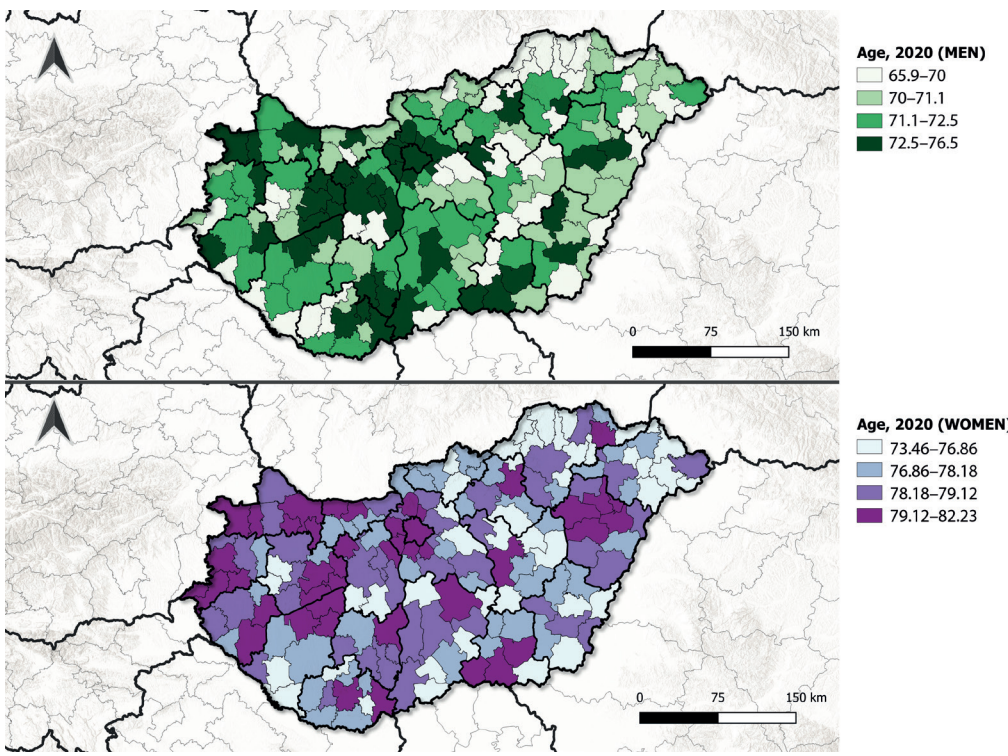

Figure 4: Average life expectancy at birth for men and women by county district in 2020
Source: compiled on specific request, edited by the authors based on the tabular data set of KSH 2022

[31] Józan 1986: 199.

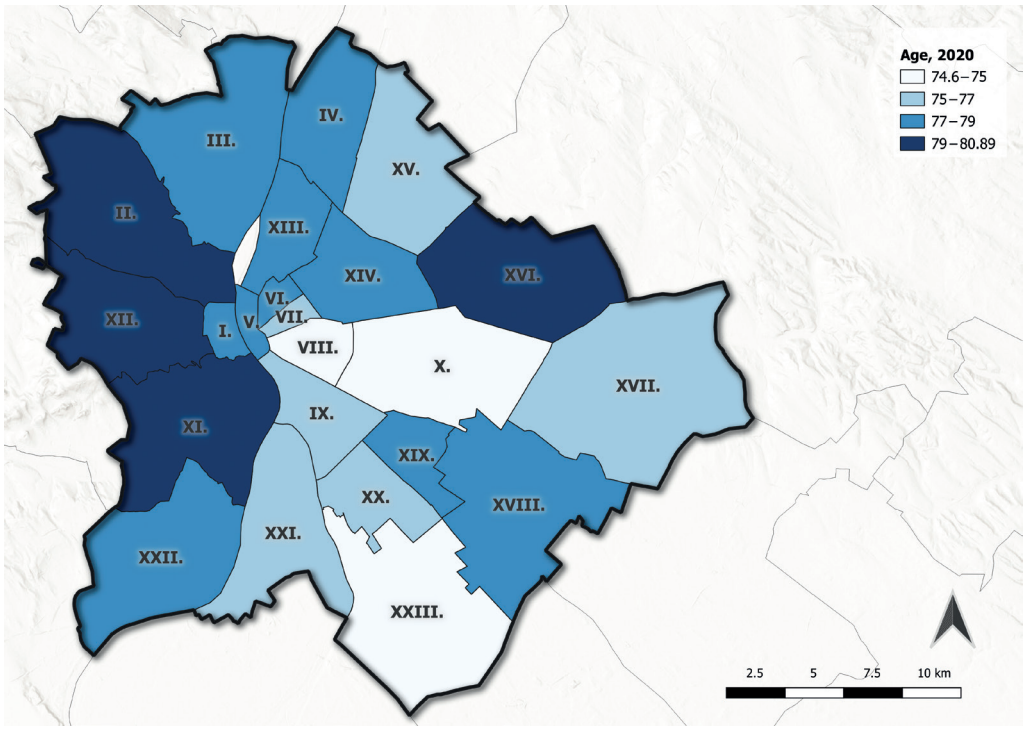

Figure 5: Average life expectancy at birth in the districts of Budapest in 2020
Source: compiled on specific request, edited by the authors based on the tabular data set of KSH 2022

The spatial patterns of life chances traditionally, and also today, show a pattern (more favourable in the districts on the Buda side than on the Pest side), but this has changed in recent years compared to 2012, in parallel with the continuous spatial changes of the metropolis and its society.

In the case of men, the 2nd and 12th districts maintain their favourable position, what is more, the average life expectancy at birth is rising here. However, there is a strong decrease in the 1st district, and also in the 22nd and 23rd districts. The latter's position, which is traditionally bad, continues to deteriorate, and so does that of the 8th district, although the decline is smaller. By contrast, the life chances of the residents in the northern districts of Pest, and in particular in the 14th and 16th districts, have improved considerably over just the last decade *(Figure 6).*

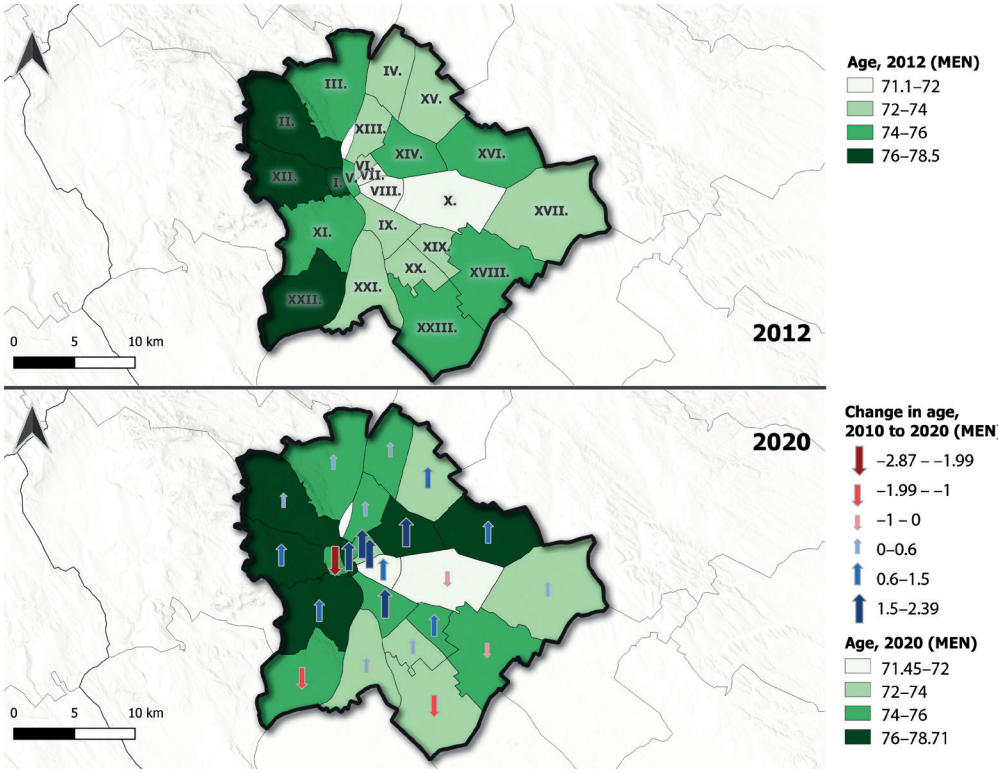

Figure 6: Average life expectancy at birth for men in the districts of Budapest in 2012 and 2020
Source: compiled on specific request, edited by the authors based on the tabular data set of KSH 2022

The spatial pattern of women's life chances within Budapest and its change is in many respects similar to that of men (for example, the deterioration of data in the 1st, 10th and 23rd districts, or the improvement in the 16th and 14th districts), but here by 2020, the districts in the most favourable categories have expanded, and the Buda districts (with two exceptions) have improved *(Figure 7).*

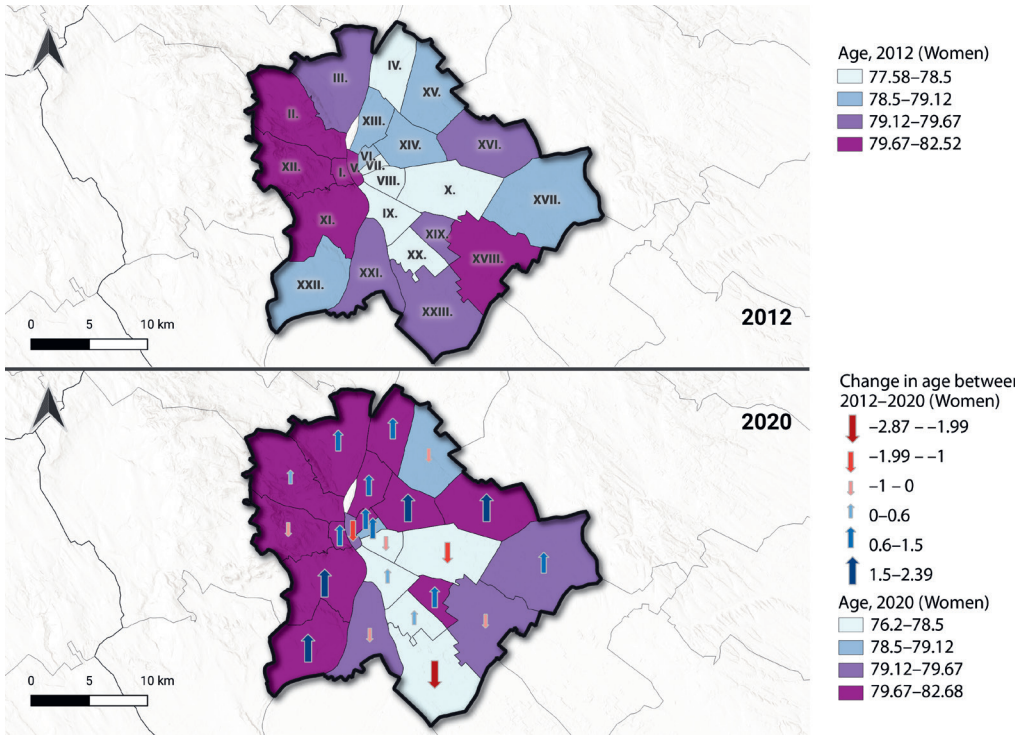

Figure 7: Average life expectancy at birth of women in the districts of Budapest in 2012 and 2020
Source: compiled on specific request, edited by the authors based on the tabular data set of KSH 2022

In the case of both sexes, the sharp deterioration in the life chances of the 1st, 10th and 23rd districts and the improvement in the 14th and 16th districts are significant. These trends may be induced by a variety of factors, including the replacement of urban society, gentrification, urban regeneration and, in combination with this, internal migration and changes in the age composition of the districts.[32]

In addition to average life expectancy at birth, healthy life expectancy at birth is a good indicator of health-related quality of life. In a regional comparison, Budapest residents can expect to live the longest healthy life years, as their healthy life expectancy at birth is the highest, and this increased for both men and women between 2018 and 2020 *(Figures 8–9).*

[32] Kovács–Dövényi 2021: 135.

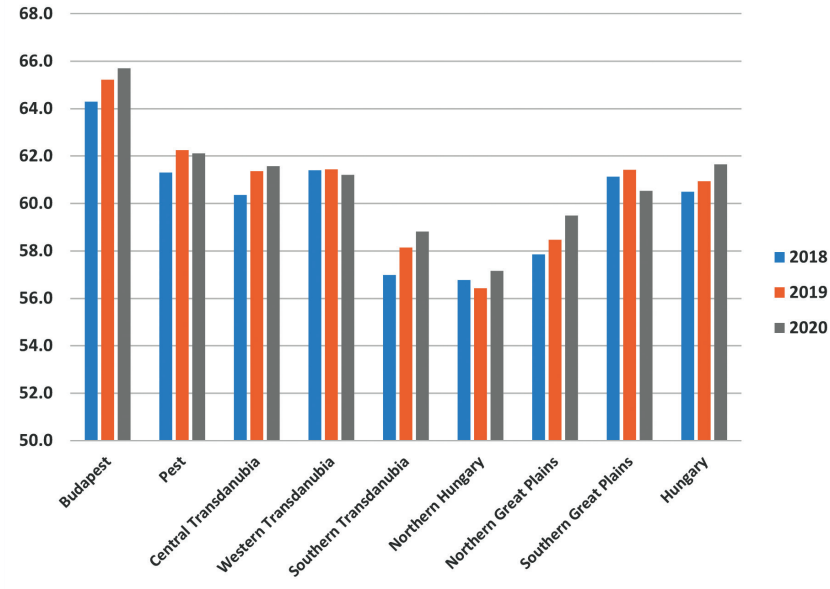

Figure 8: Healthy life expectancy at birth for men, 2018–2020
Source: compiled by the authors based on KSH [s. a.a]

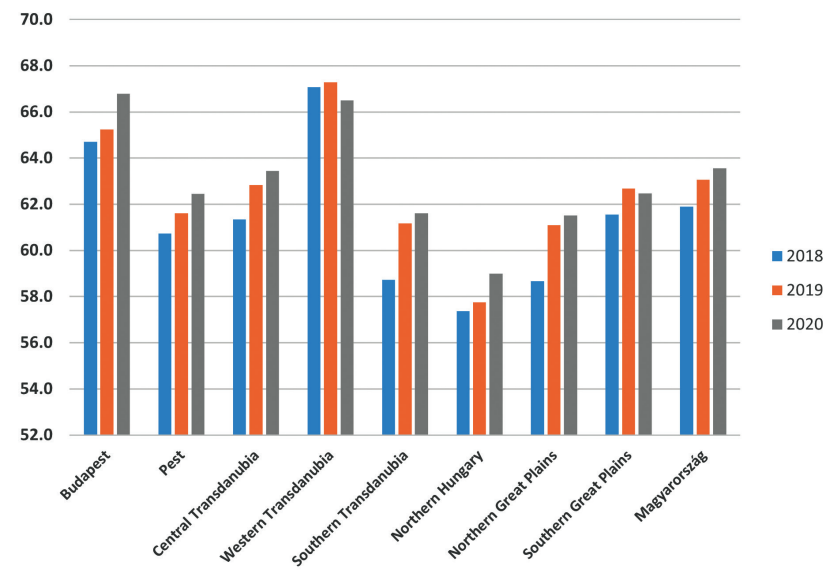

Figure 9: Healthy life expectancy at birth for women, 2018–2020
Source: compiled by the authors based on KSH [s. a.a]

2.2. Subjective elements of health-related quality of life

Subjective well-being is of fundamental importance in quality of life, as it provides a lot of information on the individual perceptions of direct and indirect effects of living, housing and working conditions of the population. Self-assessed health, i.e. people's perception of their own health (perceived health), does not necessarily correspond to their actual health status, measured objectively. Subjective health depends on an individual's educational attainment, occupation, income, and place of residence.[33]

Subjective well-being interprets and measures the quality of life experienced, the important parts of which are mental health, the presence/absence of positive emotions and social relationships.[34]

It is true in general that people in better socio-economic situations, people living in urban environments and those who have a better health status assess their health more favourably. They experience positive emotional states more often and have a significantly lower rate of depressive symptoms.[35]

The European Health Interview Survey 2019 (EHIS) included a mental health survey, with a focus on the measuring of happiness. This surveyed the positive emotional states experienced in the two weeks prior to taking the survey – such as being happy, cheerful or calm, relaxed or active, lively, etc. Low levels of positive emotional states were particularly common among people living in Northern Hungary, but Budapest and Pest County were ranked second and third in the results *(Figure 10).* A high level of the same measure is mostly found in the Transdanubia (west of the Danube), while Northern Hungary, Budapest, and Pest County have the worst scores also nationally.

In the previous European Health Interview Survey 2014, negative feelings (such as nervousness, loneliness, unhappiness) were measured, and the results demonstrated that in Budapest, there were significantly more people who were not at all or less affected by negative feelings.[36]

The national health survey also examined mental health by asking about the presence of symptoms used for the diagnosis of depression. Questions were asked about various negative emotional states (lack of interest, sadness, bad feelings about oneself), concentration difficulties, problems with eating, sleeping and exercise experienced during the two weeks prior to taking the survey. In Hungary in 2019, the proportion of people with mild depression was the highest in Northern Hungary (27%), whereas the lowest in Western Transdanubia (16%), 24% in villages, 23% in Budapest, and 18% in the cities with county rights.[37]

[33] Pál et al. 2021a: 153.
[34] KSH 2021d.
[35] Pál et al. 2021a: 153; KSH 2021d.
[36] Pál et al. 2021a: 153.
[37] KSH 2021d.

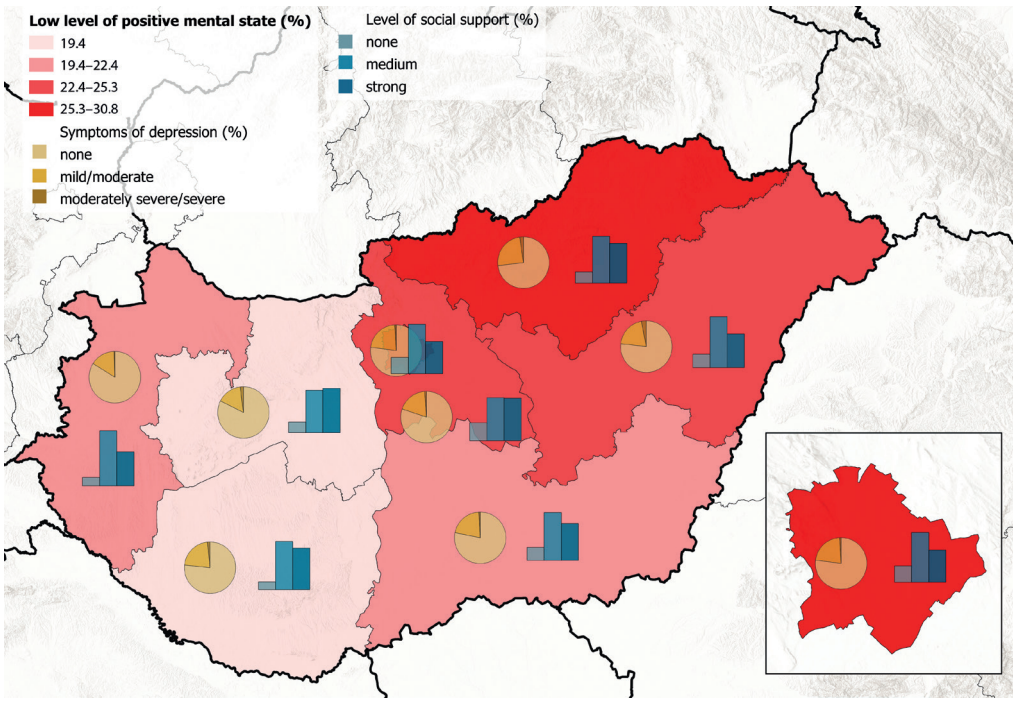

Figure 10: Measurement of subjective well-being and mental health in the framework of the European Health Interview Survey in the regions of Hungary, 2019
Source: compiled by the authors based on KSH 2021d

The EHIS survey, which covers all EU countries, measures the quality of social relations using an aggregate indicator by summing the scores of three questions. These are the following: 1. how interested others are in what happens to us; 2. how many people we can turn to when we have a personal problem; 3. how easy it is to get help from our neighbours when we need it. According to the responses, the proportion of strong social support was high in Central Transdanubia, Pest County and Southern Transdanubia, while weak social support was most common in Budapest and Pest *(Table 3).*

The results of the EHIS 2019 on subjective well-being and mental health highlighted some discrepancies in respect of Budapest. The more favourable socio-economic situation entails better objective health status compared to national average, but subjective well-being is not necessarily the most favourable in the capital. While Budapest residents do not rate their own subjective well-being and social support the most favourably, the proportion of people reporting moderately severe or severe depressive symptoms is the second lowest in the country. Self-assessment of subjective well-being is similar in Budapest and Pest County, while there is some variation between the two areas in the case of the other two indicators. For example, in Pest County slightly more people reported that they had no depressive symptoms, while far more county residents considered their social support to be stronger than in the capital.

Table 3: Measurement of positive mental health, depressive symptoms and social support in the European Health Interview Survey in the regions of Hungary, 2019

Territorial unit	Well-being level (%)		Depressive symptoms (%)			Social support level (%)		
	Low level of positive mental state	High level of positive mental state	None	Mild/ Moderate	Moderate severe	Weak	Medium	Strong
Budapest	*26.0*	*74.0*	*77.1*	*22.1*	*0.8*	*16.6*	*50.6*	*32.8*
Pest County	25.3	74.7	80.2	18.8	1.0	18.2	43.9	43.3
Central Transdanubia	19.4	80.6	82.4	15.6	2.0	11.0	43.5	45.5
Western Transdanubia	19.8	80.2	83.9	15.7	0.4	8.7	56.4	34.8
Southern Transdanubia	19.4	80.6	76.7	21.7	1.6	8.1	49.4	42.5
Northern Hungary	30.8	69.2	73.1	24.6	2.3	11.5	47.9	40.7
Northern Great Plains	23.9	76.1	76.8	20.1	3.1	13.6	51.9	34.4
Southern Great Plains	22.4	77.6	78.2	21.0	0.8	13.4	49.0	37.6
Hungary	23.7	76.3	78.4	20.1	1.5	12.5	49.1	38.4

Source: KSH 2021e

The questionnaire of the Hungarostudy 2002, a national representative survey mapping the quality of life and health status of the Hungarian population, already included questions on subjective well-being. Based on the survey, it was possible to identify the situation of Budapest in comparison with the counties in Hungary at the turn of the millennium. Based on the territorial distribution of the four sets of questions examined (well-being index, depression, anxiety and fatigue) it was found that in each case, the level of the capital was better or even much better than the national average.[38] While according to the well-being index broadly defined by the UN World Health Organisation, Budapest was in an average position in the early 2000s, regarding the other three indicators, the values of the capital were among the best in Hungary.[39]

Currently, there are no comprehensive surveys available to know more about the differences in subjective well-being within Budapest. We can draw conclusions about the differences and their causes from the findings of non-representative local studies comparing a few districts. Although the individual questionnaire surveys differ in their interpretation of subjective well-being and in their measurement methodology, their similar experiences outline common features that can be used to interpret and explain differences between districts. The results highlight that the higher level of education, financial status (income) and labour market position influence the higher level of life satisfaction and positive assessment of subjective well-being.[40] The internal division of

[38] Kopp et al. 2006: 87.
[39] Kopp et al. 2006: 87.
[40] Komjáthy 2014: 332.

functional zones also has a significant impact on subjective perceptions of health: for example, a higher percentage of satisfaction is found in the inner city area, the inner residential areas or apartment complexes, it seems to be average in the hilly areas and outer residential areas, whereas negative trends are observed in the zones of apartment blocks.[41]

3. The role of Budapest as an infection hotspot during the Covid–19 pandemic

A total of five waves of the Covid–19 pandemic developed in Hungary between the spring of 2020 and the early summer of 2022. The territorial distribution of these can be examined based on the official data release, which was provided at county and capital city level for all confirmed patients and active infected, recovered or deceased cases in Budapest vs. countryside distribution (koronavirus.gov.hu). The public release of epidemiological data for Budapest and the countryside started on a daily basis on 19 May 2020, but after 1 May 2022, this was only done on a weekly basis. For this reason, the data was processed for the period from 19 May 2020 to 1 May 2022.

The role of Budapest and Pest County as a hotspot of infection was primarily detected during the first wave of the pandemic in the spring of 2020.[42] Based on the total number of active cases in the country, more than 40% of all active cases and more than 60% of all deaths occurred in the capital *(Figure 11).* The spatial spread of the epidemic during this period was driven by high contact rates in the two most densely populated areas and by infections in institutional hotspots (hospitals, nursing homes). The established commuting links between Budapest and its agglomeration were also a major factor in the spatial pattern of coronavirus spread during this period.[43]

At the beginning of the second wave, in the autumn of 2020, the capital's share of active infections increased, then steadily decreased: by the end of the second wave to below 20%, and by the end of the third wave, in the spring of 2021, to below 10%. A similar improvement was observed in terms of deaths: by the beginning of the second wave, less than half of the deaths were in Budapest, and this downward trend continued during the third wave. Finally, it fell below 20% by the summer of 2021. Thus, in the first year of the epidemic in Hungary, between the spring of 2020 and the spring of 2021, the proportion of active cases and deaths in the capital was decreasing, and accordingly, the large proportion of recovered cases were in the countryside.

From the second wave onwards, the earlier group infections were replaced by mass infections. Thus, the chains of infection that developed in the country led to a spatial spread at the community level in subsequent waves. Based on the number of confirmed

[41] Csébi 2015: 31.
[42] Pál et al. 2021a: 154; Kovács–Uzzoli 2020: 159.
[43] Lennert 2021: 3.

cases per 100,000 inhabitants, Budapest and Pest County gradually lost their leading role as geographical hotspots in the spatial spread of the epidemic. In terms of the distribution of new infections per population, they were no longer the most infected areas in the order of the counties.[44] As the proportion of total active infected cases in Budapest was lower than the number of infected cases registered in the countryside, a higher proportion of recovered cases was found in areas outside the capital.

The rise of the fourth wave in the autumn of 2021 and the fifth wave in the winter of 2022 increased the share of the capital city in the distribution of active cases in Budapest compared to the rest of the country, but this was only observed in the ascending phase. In early 2022, the proportion of active infection cases registered in the capital city was around 25% of the total number of cases, which means that Budapest was a geographical hotspot for a short period at the beginning of the fifth wave. However, less than 20% of deaths occurred in Budapest during the intensive growth phase of the fourth and fifth waves.

From the autumn of 2020 onwards, the proportion of active cases and deaths was on the rise mainly in areas outside Budapest. Infection hotspots were essentially no longer linked to the capital city or Pest County. The exception to this was the upsurge of the fifth epidemic wave. This is explained by the fact that each wave tended to break out, in terms of the number of new infections, in the most developed parts of the country (e.g. Central and Western Hungary) and at higher levels of the hierarchy of settlements (capital city, city with county rights), and then it spread to the moderately developed areas and to the network of medium and small towns. It also occurred during the downward trend of the epidemic waves that a slow decrease started in the number of new cases nationally after the peak period, while spatial differences between regions increased. This was mainly due to the fact that during this period, in less developed areas, peripheral areas, areas far from cities and hubs, more and more people started to fall ill as a result of the new type of coronavirus infection.[45] For example, from December 2020, – at the time of the second wave – the epidemic plateau on the epidemic curve was due to a stagnation of nationally high case numbers, while in some areas (Budapest), the number of new cases started to decrease, while in others (southern counties) the number of new cases continued to increase. This also means that, from the second wave onwards, it was possible to observe that, although the number of new cases was high everywhere in the country, the peak in the number of cases occurred at different times in the different counties and in the capital city.

[44] Uzzoli et al. 2021: 306.
[45] Igari 2021.

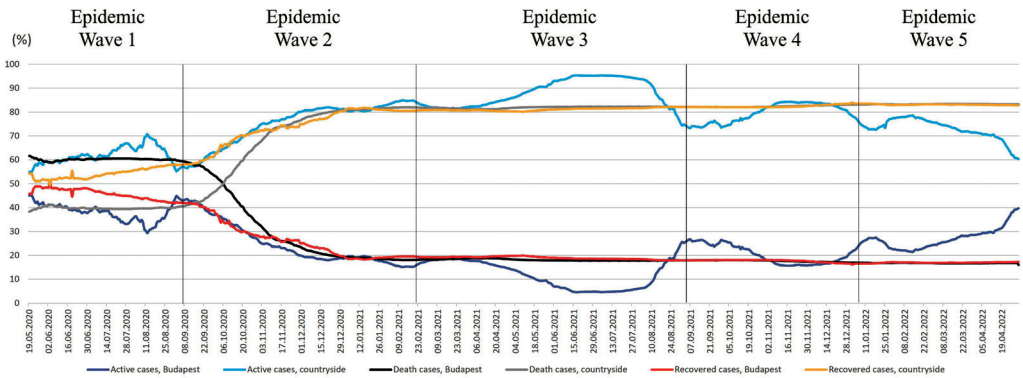

Figure 11: Proportion of all active cases, deaths and recovered cases broken down by Budapest and the countryside (%), 19 May 2020 – 1 May 2022
Source: www.koronavirus.gov.hu

According to the epidemiological data published by the National Centre for Public Health (Nemzeti Népegészségügyi Központ) on its official website, a total of 337,632 infected people were registered in Budapest during the epidemic in Hungary until 1 May 2022, which is 18% of the total number of cases in the country *(Table 4).* The capital city accounted for 17% of all deaths up to 1 May 2022. The mortality rate calculated as the percentage of the total number of infected cases was 2.3% in Budapest, which matched the national average (2.4%). The highest number of new cases per day was registered in the capital on 21 March 2021 during the third epidemic wave (2,271 cases). In mid-January 2022, there was a weekend in Budapest when an average of 2,805 people caught the virus every day during the fifth epidemic wave. The decline of the fifth epidemic wave was steady in Budapest in the spring of 2022, but from the end of June onwards, the number of new cases started to increase slightly both nationally and in the capital.

Table 4: Some indicators of the Covid–19 pandemic in Budapest, 1 May 2022

Indicator	Value of indicator
Total confirmed infected cases (persons)	337,632
Total deaths (persons)	7,780
Total active cases (persons)	19,516
Total recovered cases (persons)	310,336
Total infected cases per 100,000 inhabitants (persons)	19,861
Total deaths per 100,000 inhabitants (persons)	458
Total recovered cases per 100,000 inhabitants (persons)	18,255
Total deaths as a percentage of all infected (%)	2.3

Source: www.koronavirus.gov.hu

Due to the geographically different effects of the Covid–19 pandemic, the question arose even in the case of a small country like Hungary whether there is a need for territorially differentiated measures in epidemiological regulations and, if so, how can these territorial aspects be incorporated into interventions? One of the most important experiences gained from the control of domestic epidemic waves was that, in addition to nationwide restrictions, policy measures applied territorial considerations to different degrees. Most of the current government decrees on epidemiology had a national scope, but some of them were to be applied specifically to a particular area, such as the capital city and Pest County.

The first territorial enforcement of the control was implemented in Budapest and Pest County, the geographical hotspots of the first epidemic wave, by making the use of face masks compulsory for the first time in the country on public transport and in shops. In the declining phase of the first wave, from the beginning of May 2020, the relaxations of restrictions started gradually, which definitely demonstrated a strong territorial approach. This essentially meant that relaxations were introduced in the countryside areas, which were less affected, while partial restrictions remained in place in Budapest and Pest County for a further two weeks.[46] During the subsequent epidemic waves, there were no territorially differentiated epidemiological controls used, as neither Budapest nor Pest County was the sole geographical hotspot for the spread of the epidemic. In the capital, the measure applicable to settlements with a population of more than 10,000 inhabitants was in force, i.e. the local authorities had the competence to decide on the use of masks in public places or on the partial closure of the municipality. Of these, the management of the capital city chose to regulate the use of face masks, for example, at the start of the fourth wave, the wearing of face masks was made mandatory in theatres, cinemas and libraries in Budapest a week before the introduction of a similar measure at national level. From the third wave onwards, national protection became increasingly vaccine-based, and the purpose was to achieve as full as possible immunisation of the population, initially with two, then three or four vaccines. In proportion to the population, Budapest and Pest County had the highest number of vaccinated persons according to the data officially published in December 2021.

4. Characteristics and spatial structure of healthcare in Budapest

After its unification in 1873, Budapest started to go through a rapid development. In the period when it was growing into a metropolis, its population continued to increase, and healthcare had to be provided in adequate numbers and quality. Large-scale construction projects were started in the inner districts of the city, including the building of new hospitals: between 1870 and 1900, the number of hospital beds increased by 7,000.[47] Between 1876 and 1908, clinics were built in the outskirts of the city, in the fresh air and

[46] Kovács et al. 2020: 210.
[47] KSH 1995.

on the vast areas of former farms in the territory of today's Józsefváros (Joseph city), the 8th district of Budapest.[48] Since then, these hospitals have been surrounded by various residential buildings and the green space around them has gradually decreased.[49]

Today, for example, the windows of the wards of Surgery Clinic 1 look out onto the busy Üllői Road. The world has changed a lot since the turn of the century, and it is no longer a criterion to keep healthcare facilities away from the noise of the city. What is more, a part of the healthcare services, such as private healthcare, are located at busy transport junctions with optimal accessibility.

The most optimal conditions for healthcare services aiming to preserve health, prevent diseases, improve health and prevent danger to life have developed in the capital city of the country. A wide range of services are available in the health system, i.e. each type of healthcare: primary, specialised and special care, which are built on each other. These healthcare services are organised into levels of care according to the principle of progressiveness, depending on the specialised professional and technical needs of the treatment, the complexity of the treatment, the nature of the illness and the patient's condition. This means that simpler and more frequent cases are treated in primary care or specialised outpatient care close to the patient's home, while more complex and less frequent cases are treated in centralised hospitals.[50] Therefore, family physician services and specialised outpatient clinics are located in every district, while hospitals are concentrated according to zones within the capital. The number of healthcare jobs per thousand inhabitants required to operate the health system is the highest in Budapest, it was 32 in 2019.[51]

4.1. Primary healthcare

Some elements of the primary healthcare in the capital were already established in the first decades of the 20th century. In the 1930s, a healthcare network of school doctors was established. State-owned healthcare institutions provided free care for patients and endemic diseases (e.g. tuberculosis) started to be contained.[52] After the Second World War, universal social security guaranteed equal access to healthcare for all. In parallel with that, primary care was organised through the establishment of a system of district general practitioner services and district GP paediatrician services, and by 1970, there were 274 district GP surgeries in the capital.[53] They were transformed in 1993 into the family physician and family paediatrician care, which still exist today, and have been strengthened since then. For example, pursuant to Government Decree 53/2021 (II. 9.), as of 2021, family physician and family paediatrician services have been allowed to operate

[48] Perczel 1992: 29.
[49] Csapó–Lenner 2015: 230.
[50] Pál et al. 2021b: 174.
[51] KSH 2021b: 32.
[52] Berza 1993: 703.
[53] Mikola 1998: 158.

in the form of group practices, making the organisation of patient journeys more efficient. Several group practices have been set up, also in the capital, especially in districts where doctors are overloaded or there are vacancies. Professional collaboration can take several forms, such as collegial, integrated, united group practices, or group practice consortia.

Within primary healthcare, family physician and family paediatrician services have the most balanced network in the capital. On the basis of the permanent population of each district of the capital, district municipalities divide their districts into medical zones for family physician and family paediatrician services, with one medical zone having an average of 1,200–1,500 adult inhabitants for family physician care and 600–800 children inhabitants for family paediatrician care. Despite the shrinking population, a large number of family physicians (908) and family paediatricians (291) work in the capital (2019), but their combined number decreased by 11% between 2000 and 2019, which corresponds to the national average.[54] The decrease was 9% for family physicians and 16% for family paediatricians, and the latter was four percentage points above the average national decrease. This means that while there are fewer children under 14 years of age to care for in the capital's family paediatrician services, the workload of existing family paediatricians has also increased in recent years. Many family paediatricians have taken up work in Pest County as the proportion of minors has risen due to young families moving to the agglomeration and municipalities have created new medical zones for family paediatricians. As a result, 8% more family paediatricians were practising in Pest County in 2019 compared to 2000.

The change in the number of residents per family physician and family paediatrician between 2000 and 2019 shows that doctors have become overburdened in recent years, as they have had to care for an increasing number of patients *(Figure 12).* The proportion of family physician and family paediatrician services, which are provided by substitution is one of the lowest in Budapest, accounting for about a quarter of all services.[55] According to the data released by the National Health Insurance Fund Manager (Nemzeti Egészségbiztosítási Alapkezelő) in June 2022, there were no unfilled family physician or family paediatrician posts in the 1st, 12th and 23rd districts, and only one such service was registered in the 5th, 6th, 8th, 11th, 16th and 22nd districts. There is a significant difference in the number of inhabitants assigned to a medical zone where there is no permanent family physician, ranging from 307 in one district to 3,115 in another. The proportion of the population affected by the unfilled posts of family physicians and family paediatricians is 10% or more of the total district population in the 4th, 15th and 19th districts *(Figure 12).*

However, family physicians and family paediatricians working in primary care in Budapest are responsible for fewer residents on average than their colleagues in Pest County or in other parts of the country.[56] The growth in the number of residents per family physician and family paediatrician has particularly accelerated in the capital since the mid-2010s.

[54] KSH [s. a.c].
[55] KSH 2021e.
[56] Balogh–Bezerédj 1999: 21; Berza 1993: 703.

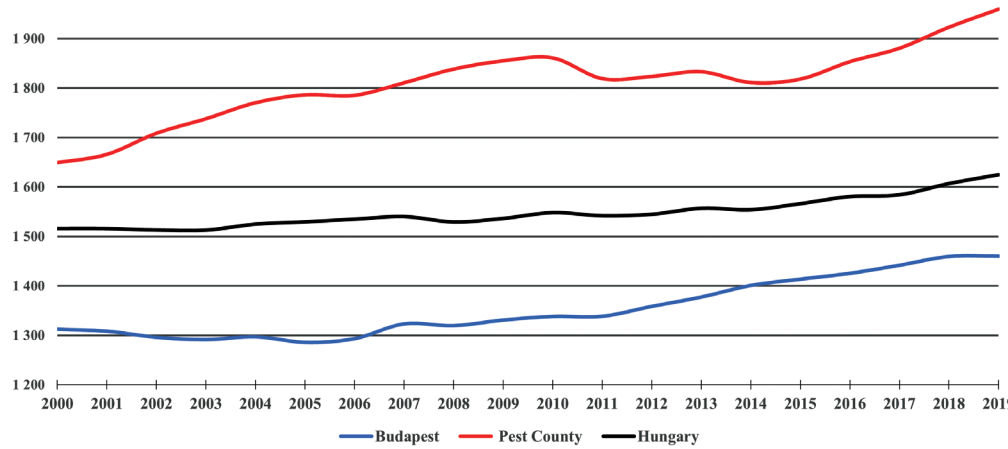

Figure 12: Change in the number of inhabitants per family physician and family paediatrician in Budapest, Pest County and Hungary (persons), 2000–2019
Source: compiled by the authors based on KSH [s. a.c]

All the districts of the capital are provided with family physician and/or family paediatrician services. They are located in a separate building or in the local outpatient clinic. The maintenance and operation of the local outpatient clinics come under the responsibilities of the district municipalities, as is the case for the organisation of family physician and family paediatrician care.

As part of primary healthcare, the district nurse service for mother and child care is an essential institution in women and maternity protection, and in infants and young children care in Hungary. Budapest accounts for 15% of all filled district nurse positions in the country (721 positions in 2019). Of these, there were 41 vacancies in June 2022 in the 2nd, 8th, 9th, 11th, 12th, 18th, 19th and 21st districts, but most of them are in the socially disadvantaged districts (8th, 9th, 19th and 21st).[57]

4.2. Specialised outpatient care

The rapid development of specialised outpatient care took place primarily after the establishment of large hospital capacities in Budapest. A major step forward in improving public health was the extension of the use of vaccination in the early 20th century and the setting up of the Metropolitan Disinfecting Institute and the Metropolitan Institute of Bacteriology and Public Health.[58] From the 1930s onwards, patients were treated free of charge in local medical practices. After the Second World War, integrated hospital

[57] Nemzeti Egészségbiztosítási Alapkezelő [s. a.].
[58] Berza 1993: 702.

and outpatient clinic units were established in Budapest. In 1970, 28 council outpatient clinics and 6 specialised outpatient services were providing medical care in Budapest. In parallel with these, a network of care institutions and public health was set up.[59] After the regime change, the ownership of specialised outpatient clinics was taken over by municipalities, and from the mid-2000s, the responsibilities of the clinics were extended to include same-day care. In recent years, the strategic objective has been to renew the infrastructure of outpatient clinics in Budapest and to achieve integrated care, including several kinds of specialty care and/or primary care.[60]

Specialised outpatient care provides patients with higher level and partly specialised services. Relative to population, the capital city has the highest attendance in specialised outpatient care, five-thirds of the national average.[61] Regular use of specialised healthcare services depends on the level of health literacy, the quality of care and its availability. The institutions of specialised healthcare are the outpatient clinics, which can operate either independently or integrated into hospitals as part of their services. In the capital, specialised outpatient clinics are evenly distributed and can be reached by public transport in 20–25 minutes for patients in Budapest. Specialised outpatient clinics, which were independent of hospitals, were previously owned by municipalities, but in 2013, it was possible to transfer their maintenance to the state. Most district municipalities in the capital have agreed to continue to maintain their own specialised outpatient healthcare. For example, Szent Kristóf Újbuda, a specialised clinic and healthcare service provider public benefit company is owned by the Municipality of Újbuda in the 11th district of Budapest. The municipality took over the ownership of the outpatient clinic from the Metropolitan Szent Imre Hospital in July 2003. In addition to the municipal and state-owned specialised outpatient clinics, there are also clinics owned by foundations or the church.

Some specialised outpatient clinics in the outer districts also provide care for the population of neighbouring municipalities outside Budapest in specialised medical service, under a service agreement. Similar cooperation also exists in several districts: for example, the pulmonary medical clinic in the 22nd district offers care to the population in the nearby areas of the 11th district. Another example is that the specialised outpatient care of the 1st district is located in the 12th district. Outpatient care has a territorial concentration in the inner districts (6th, 8th, 9th, 13th districts), where it is often linked to the activities of the outpatient departments of the Semmelweis University Clinics and Hospitals.

Same-day care is provided not only in hospitals but also in specialised outpatient clinics. Their number has increased 2.7 times since 2010, reaching 345,000 in 2019.[62] The country's first same-day surgery service was opened in June 2007 in the Szegedi Road clinic in the 13th district of the capital. Since then, the second highest number of

[59] Mikola 1998: 158.
[60] Government Decision 1425/2017 (VI. 29.) on the provision of the required resources of 2017 related to the implementation of the Healthy Budapest Programme.
[61] KSH 2021b: 39.
[62] KSH 2021b.

same-day interventions (9,158 in 2019) have been performed in this district *(Figure 13).* The highest number of cases of same-day care is provided in the 8th district, linked to the activities of the Semmelweis University Clinical Centres (28,768 in 2019).[63]

4.2. Specialised inpatient care

The oldest hospital in Budapest was founded in the Roman era (Valetudinarian of the Second Auxiliary Legion) in the area of today's 3rd district.[64] In the Middle Ages, the main task of public healthcare in the territory of present-day Budapest was the treatment of major epidemics (plague, cholera, typhus, smallpox, diphtheria). The first modern hospital for inpatient care, the Rókus Hospital, was built at the end of the 18th century.[65] Following the Austro–Hungarian Compromise of 1867 and the unification of Budapest in 1873, the hospitals of the capital already provided several kinds of specialist medical care. In the first half of the 20th century, the world wars put a heavy strain on public healthcare, but new hospitals were built during the 'peace years' (e.g. Madarász Street Hospital, Bajcsy-Zsilinszky Hospital). Thus, by the 1930s, the health infrastructure in the capital was much better than in the countryside. In the second half of the 20th century, the expansion of the capital's hospitals and the construction of new ones continued (e.g. Tétényi Road Hospital). From the beginning of the 21st century, firstly, the emphasis within healthcare became less hospital-centred, secondly, chronic and rehabilitation care came to the fore in inpatient institutions, and thirdly, with the spread of same-day surgery, outpatient clinics were able to take over some of the tasks of hospitals.

The Hungarian healthcare system has been characterised by a strong focus on hospitals and Budapest for decades. Significant differences exist in the availability of medical doctors and healthcare workers in different parts of the country, as well as in the capacity of healthcare institutions. In terms of hospital care, the inpatient facilities in the capital also provide care for a significant part of the population of Pest County when required. The coverage areas in respect of certain medical specialisations also extends to certain closer areas of more distant counties, such as Komárom-Esztergom and Nógrád County. The specific number of hospital beds in Budapest is the highest in the country (102).[66]

State hospitals in Budapest have a special role in internal medicine, paediatrics, surgery and orthopaedics among others. Their scope of care extends beyond the administrative boundaries of the capital and also covers Pest County. The capacity of the healthcare institutions in the capital is high by national standards, because they also contribute to the healthcare services of Pest County, and there are also certain specialised medical

[63] KSH 2021a: 84.
[64] Berza 1993: 702.
[65] Mikola 1998: 157.
[66] KSH 2021b: 32.

services that the inhabitants of Pest County can only use in Budapest.[67] The national medical institutes in the capital are responsible for the care of the entire population of Hungary. Some of them are the following: the György Gottsegen National Institute of Cardiology, the National Institute of Oncology, the National Institute of Rheumatology and Physiotherapy, the National Korányi Institute of Pulmonology. Some of the sanatorium capacities are located outside the city (pulmonary medicine in Törökbálint) and some are linked to the thermal spas in the capital (Lukács Spa).

The capital city is home to Semmelweis University, the leading higher education institution of Hungary and Central Europe in the area of medicine and health sciences. It is also the largest healthcare institution of the country. University clinics and hospitals are venues of practical teaching, but they also provide the highest quality patient care services in Budapest. This means that they have a national coverage in most specialist areas and are therefore at the forefront in catering for the most serious cases and patients requiring complex treatment.

The vast majority of public hospitals are located in the inner districts of Pest, mainly in the 8th and 9th districts (Semmelweis University Clinics and Hospitals), but there are also facilities with significant capacity in the 13th and 14th districts. In Buda, most hospitals are located in the 2nd and 12th Districts. There are no inpatient facilities in the 1st and 5th districts and in the outer districts of Pest (the 15th, 19th, 21st and 22nd districts). The distribution of hospital beds in use (used for at least 6 months a year) per district shows large hospital capacities (e.g. Szent János Hospital in the 12th district) and indicates the districts where concentration of healthcare institutions is identified (e.g. clinics in the 8th district) *(Figure 13).*

The state-owned inpatient institutions in the capital come under the management of the National General Administration of Hospitals (Országos Kórházi Főigazgatóság), and there are also hospitals run by the church. These include the Buda Hospital of the Hospitaller Order of Saint John of God (Budai Irgalmasrendi Kórház) (2nd district), the Bethesda Children's Hospital of the Hungarian Reformed Church (Magyar Református Egyház Bethesda Gyermekkórháza) (14th district), the Jewish Charity Hospital (MAZSIHISZ Szeretetkórház) (14th district) and the Szent Ferenc Hospital of Budapest (2nd district).

Among the healthcare institutions of the capital, the Budapest Methodological Social Centre and Institutions (Budapesti Módszertani Szociális Központ és Intézményei), are in a special situation. They are a healthcare organisation for homeless people of the Metropolitan Municipality, established in 1993. The sites where they provide healthcare services (hospital care and treatment, 24-hour on-call GP services, mobile medical services, outpatient care) are located in the 10th and 13th districts.

[67] Gárdos 1996: 39.

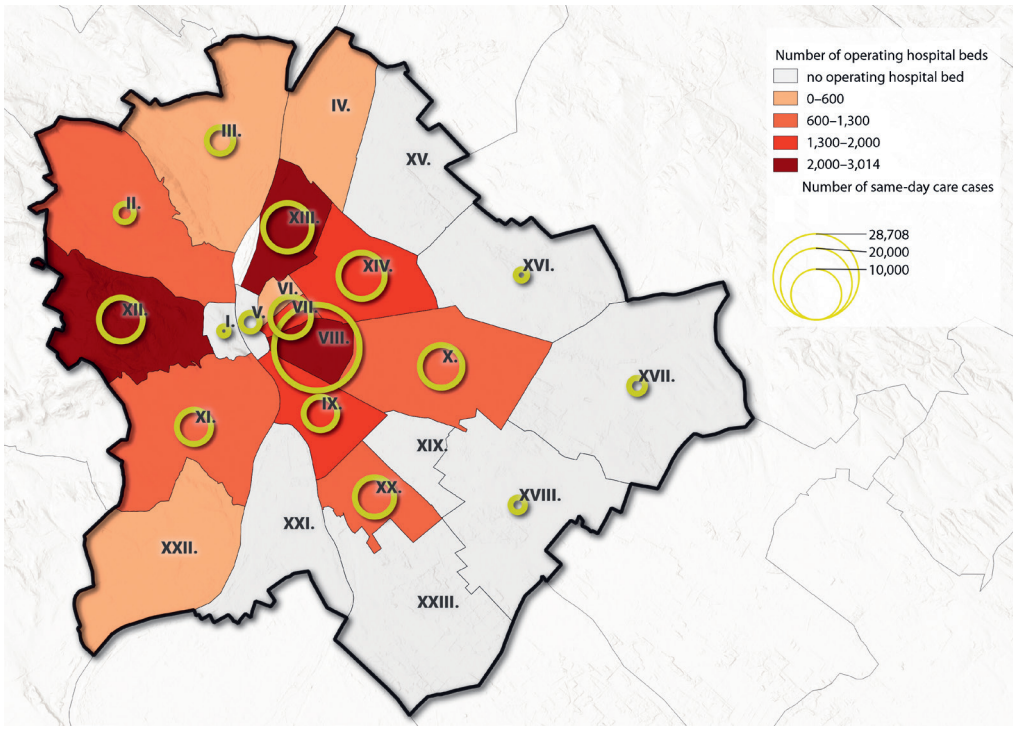

Figure 13: Number of hospital beds in use (number of beds used for more than 6 months a year) and number of same-day care cases (cases) in districts of Budapest, 2019
Source: KSH 2021a

4.3. Hospital closures in Budapest

The number of hospital beds in Budapest had increased steadily in the decades before the regime change. In the early 1960s, there were 26,899 hospital beds in the capital, while by the end of the 1980s, the number of hospital beds in use (used for inpatient care for more than 6 months a year) amounted to 31,576.[68] From the early 1990s, one of the major issues in the restructuring of the Hungarian healthcare system was the rationalisation of hospital capacity, with a significant reduction finally taking place in Budapest in the mid-2000s, following a legal provision.

Act CXXXII of 2006 was adopted to improve and restructure the healthcare system with the aim of reducing territorial inequalities. The development of the new hierarchy of inpatient healthcare involved major reorganisation tasks nationwide, but particularly in Budapest and in the region of Central Hungary.[69] The basic principle of the new

[68] Berza 1993: 702.
[69] Uzzoli 2010: 431.

structure was to reduce the number of hospital beds in use and adapt them to real needs (reducing active inpatient beds, increasing chronic inpatient beds), and to emphasise the obligations of providing healthcare in the designated administrative area. Under the Hospital Development Act, 8,798 hospital beds were eliminated at the beginning of 2007, with the largest reduction of more than 4,300 beds in the region of Central Hungary, mainly in Budapest, which accounted for almost 50% of the total reduction nationwide.[70] As a matter of fact, the reduction in the number of hospital beds only led to closures of institutions in the capital. This was the fate of the National Institute of Paediatric Allergology, Pulmonology and Developmental Neurology in Svábhegy, the National Institute of Psychiatry and Neurology and the Schöpf-Mérei Ágost Hospital and Maternity Centre, which together represented the termination of 1,200 hospital beds. The latter later continued to operate as a private hospital. The functions of the closed hospitals were taken over by other institutions in the capital. The Institute of Sports Medicine was closed down gradually. The State Medical Centre was established by the merger of the Central Military Hospital of the Hungarian Defence Forces, the Central Hospital and Institutions of the Ministry of the Interior (BM Hospital), the MÁV Hospital and Central Outpatient Clinic and the National Medical Centre (Szabolcs Street Hospital). With the creation of the new Central Hospital, the Szabolcs Street Hospital and the BM Hospital ceased to exist as institutions, and the merger meant that 52% of the capacity of the four former institutions was eliminated by mid-2007. Similar mergers took place earlier by placing the Heim Pál and Madarász Street Children's Hospitals under joint management and later by establishing the Southern Pest Central Hospital and the North Central Buda Centre. While the former involves the integration of Szent István Hospital, Szent László Hospital and Merényi Gusztáv Hospital, the latter is based on the merger of Kútvölgyi Hospital and Szent János Hospital. The National Institute of Accidents and Emergency also became a health institution without a legal successor and was merged into the National Traumatology Institute of Péterfy Sándor Street (under the name of Fiumei Road Accident Centre of Péterfy Hospital and Clinic and Manner Jenő National Traumatology Institute). This merger involved the reduction of 90 active hospital beds and the creation of 30 rehabilitation beds.

4.4. Healthcare use

The European health interview survey (EHIS) 2019 also addressed healthcare use. The survey was based on the population's self-reporting, which does not necessarily correspond to institutional statistics, and the data do not provide information on private practices. The most important finding is that the proportion of people using different types of healthcare services in Hungary has not changed significantly since 2014, i.e.

[70] Uzzoli 2007: 107.

the previous EHIS.[71] The results only show a notable increase in dental care. A positive change can be seen in the reduction in the length of stay in hospital and, in parallel, in the more frequent consultations with specialists and a growing number of people taking routine screening tests. In general, people are most satisfied with family physician care both nationally and in Budapest.

The most significant inequalities between regions are observed in dental care: while more than half of Budapest residents used dental care in the 12 months prior to taking the survey, only 38% of those living in Northern Hungary did it.[72]

In 2019, musculoskeletal therapists were consulted by a higher proportion of people aged 65 and over, women, those with higher education and higher incomes and those living in Budapest (20% compared to 11% in the Northern Great Plains), partly due to the emergence of these services as a market service.

The use of home care services (nursing care) and home help services (help provided in elderly care, transport of patients or elderly people) did not change significantly between 2014 and 2019. Home care services were used by 1–2% of the population and home help services by 2–3% in 2019. In contrast to home care, the demand for home help is clearly higher in less urbanised settlements. Home help services were provided to one in five elderly people in villages, and only one in 17 elderly people in Budapest.[73]

4.5. Private healthcare in Budapest – From private consulting rooms to polyclinics

In Hungary and Budapest, more and more people choose private healthcare providers for treatment, health preservation or disease prevention, so this sector represents an increasing proportion in the domestic healthcare system.[74] Demand has been growing steadily for several years, it was only partially and briefly halted by the coronavirus epidemic.[75]

In Budapest in particular, and in some large Hungarian cities, private medical practice in consulting rooms was already known in the years before the regime change, which initially focused only on a few specialist activities of a consultative nature.[76] However, from the early 1990s onwards, these private medical practices also included more and more medical fields, and by the end of the decade, they were already functioning as 'polyclinics', where several medical specialties formed a group practice. Most of the private laboratory services and diagnostic centres were set up in the country only after

[71] KSH 2021c.
[72] KSH 2021c.
[73] KSH 2021c.
[74] GKI 2019: 6.
[75] Csiki 2020.
[76] Rékassy 2014: 15.

1989, and mainly in the capital.[77] The first private healthcare institution providing complex care, Telki Hospital, was established in the Budapest agglomeration in 1998. Although this private hospital was closed in 2013, private medical centres started to spread widely in the capital and partly in the Budapest agglomeration. In the early 2020s, a new type of institution appeared in the private healthcare in the capital: Doktor24 Multiklinika (multi-clinic), which opened at the western gate to Budapest (11th district), at the initial sections of the motorways, with more than 30 adult and paediatric specialties, advanced diagnostic capabilities, an orthopaedic centre, a 30 beds of premium inpatient care and a modern surgical centre, making it the newest and one of the most complex health centres in the country.

Healthcare services provided by private healthcare institutions in the capital have gradually expanded. The private medical consultation rooms already existing before the regime change were specialised mainly in dental, gynaecological and dermatological care. The 1990s saw the emergence of private laboratory and diagnostic service providers and, from the end of the decade onwards, an increasing demand arose for healthcare services of plastic surgery, psychiatry and addiction, rheumatology, orthopaedics and infertility treatment. In the 2000s, private hospitals started to gain ground. Initially they only covered a few specialties (e.g. obstetrics, urology, plastic surgery). The introduction of same-day care in state healthcare also had an impact on the provision of this type of service by private providers from the second half of the decade. Private laboratory service providers expanded their range of services, offering specialised tests that state service providers could not implement. Private diagnostic service providers developed state-of-the-art technology (MRI, PET/CT, UH) and an increasing number of patients from the capital and the surrounding area, and even further afield, chose to use them for preventive purposes or reduce the growing waiting times in state healthcare. It was found that from the 2010s onwards most of the newly established private institutions were operating as private hospitals. They became more and more interested in finding the right medical equipment and human resources to cope with more serious and complicated cases, which required the involvement of big investors in the private health sector in Hungary and in Budapest. The second half of the decade saw a significant rise in solvent demand for a few days' private inpatient interventions, which was partly driven by the growing appreciation of private health insurance and partly, by the pressure of growing problems in state healthcare.

The early 2020s brought a turnaround in the private healthcare market in Budapest. In the first period of the coronavirus pandemic, private healthcare providers were also forced to close down during the period of restrictions introduced in healthcare. Their 'survival' was helped by their switching over to Covid–19 testing: the use of PCR, antigen and antibody tests increased massively, which, for example, resulted in an increase of nearly HUF 5 billion in 2020 compared to 2019 for SYNLAB Hungary,

[77] Lantos 2018: 286.

a laboratory diagnostics company.[78] Apart from that, due to the rise in health awareness, which was also related to the epidemic, various screening packages were offered, digital solutions (online consultations) were given priority and modernisation interventions were preferred in investments.[79] At the same time, human resources capacity was increasing in private medical services. It was triggered by a change in legislation on the health-service legal relationship in state-funded healthcare in the spring of 2021. This drove healthcare workers towards private healthcare. It was further enhanced by the lifting of the ban on dismissals in the health sector on 31 May 2022, following the end of the epidemiological emergency. The private healthcare sector was prepared to face the challenge that once the epidemic was over, the difficulties in the use of the state-funded system would make people turn to private healthcare providers in the long term. For this reason, the private sector was determined to continue to expand the capacity and diversity of services in the future. The increase in demand following the epidemic also revealed the patients' need to be able to get access to different health services, from primary care through specialist outpatient services to hospital interventions, all in one place, i.e. within one building.

Private healthcare is still Budapest-centric in Hungary, with the largest players operating here, a total of 29 private healthcare providers. These include Affidea, Doktor24 Group, Dr. Rose, Duna Medical Center, Emineo, FirstMed, Istenhegyi Klinika, Maternity, Medicover, Pozitron-Diagnosztika, RMC, SYNLAB, TritonLife, Wáberer Medical Center, etc. The Primus Association bringing together private healthcare providers was established in 2017.[80]

The geographic location of private healthcare institutions indicates a typical spatial structure in the capital. Most of them are located at major junctions (5th district) or in office buildings close to junctions (9th, 11th districts) and next to busy roads (Váci Road, Grand Boulevard), while others are situated in green areas (11th, 14th districts) and many of them settled in premium residential areas (2nd, 12th districts) or newly built residential quarters. The spatial concentration of the private clinic network is well demonstrated by the office building situated at a traffic junction in the 9th district that was converted into an integrated outpatient and inpatient healthcare centre with the TritonLife Group and Duna Medical Center services established side by side.

[78] Kormos 2021.
[79] Csiki 2021.
[80] Kincses 2019: 1513.

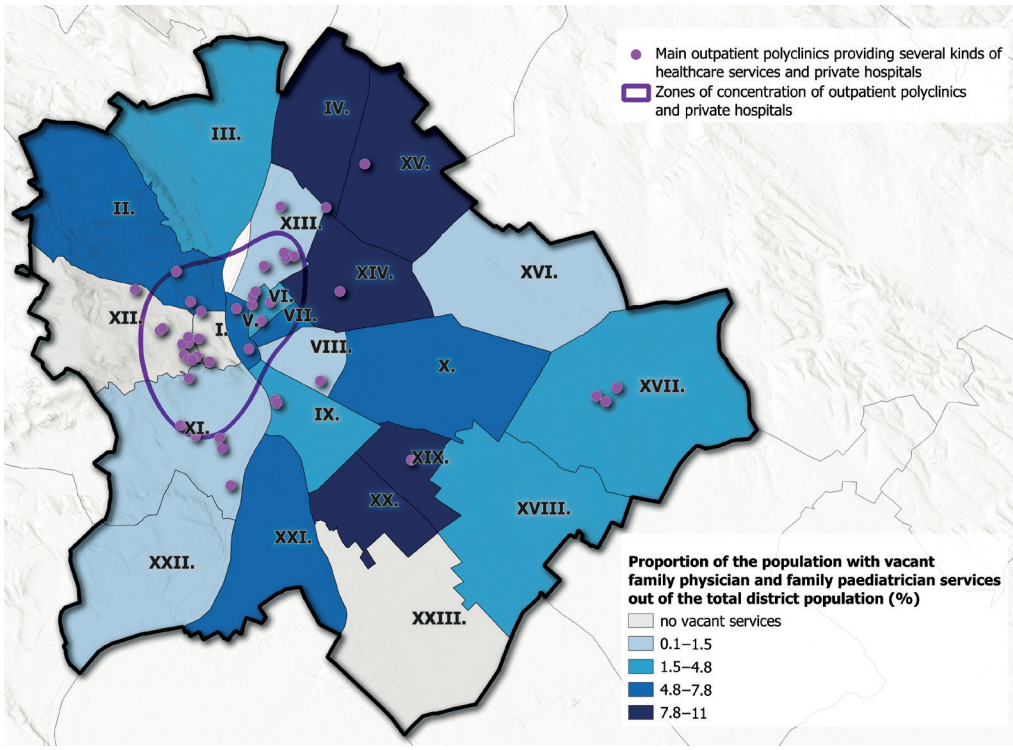

Figure 14: Some spatial characteristics of family physician services and private healthcare institutions in the districts of Budapest, June 2022

Source: compiled by the authors based on the data of the National Health Insurance Fund of Hungary, June 2022 and websites of private healthcare providers, June 2022

Summary

At the national level, favourable conditions have developed in Budapest for health-related quality of life. However, there are significant discrepancies within the capital due to the different characteristics of the socio-economic environment in different city districts.[81] In the course of history, a spatial fragmentation has evolved in Budapest, and it has contributed to the separation of the city's functional residential zones.[82] Over the past 150 years, the capital has developed a distinctive urban structure, which has exerted a significant impact on the population's living and working conditions, housing, living standards and access to various services. The combination of the positive and negative

[81] Csébi 2015: 31.
[82] Kovács–Dövényi 2021: 135.

factors inherited from the past and the new living situations that emerged after the regime change have influenced the current level of health-related quality of life in Budapest and the differences between districts. The current discrepancies in the quality of life have also been fundamentally affected by the urban development in recent decades. One consequence of this is that people of lower social status have become spatially separated within Budapest, occupying more areas but of smaller size and at a smaller scale, whereas those of higher social status have become concentrated in fewer but larger, homogeneous areas.[83]

This is also reflected in the evolution of objective and subjective elements of health-related quality of life. The objective indicators (e.g. mortality, life chances) are still unfavourable by EU standards, but Budapest has traditionally held a favourable position within the country, and this seems to be steadily improving. At the same time, inequalities within the city remain significant, in spite of the considerable changes that have taken place over the last decades, in parallel with the transformation of the metropolitan space.

The 2020–2022 Covid–19 pandemic has shed light on the challenges that the Hungarian health sector has faced in recent years, both nationally and in the capital. The emerging epidemiological emergency has also largely contributed to deepening contradictions and exacerbating problems. A big question for the future is whether it will be possible to tackle the challenges in the short or medium term, solve the problems and gain further advantages from the existing strengths in the long term.

As described above, there is a duality in the health situation in Budapest. The health status of the capital's population is one of the best in the country, two districts in Buda have the best life expectancy in Hungary. However, there are significant discrepancies in the health status of the population living in different districts. These discrepancies are also significant at national level, and some health indicators in the disadvantaged districts are worse than the national average. The socio-territorial differences in health status – health inequalities – are coupled with inconsistencies in the healthcare system. The direct, long-term effects of the Covid–19 pandemic on health and healthcare may be felt even years after the pandemic. During the epidemic emergency, between 11 March 2020 and 31 May 2022, the health system was only partially operational for long months, making access to healthcare difficult in many ways. This may lead to aggravated health problems, deterioration of health and/or avoidable mortality for chronic patients in the future. For example, due to missed screening, cancer diseases may be diagnosed with delay, which may reduce patients' chances of survival. Because of this, the demand for the use of health services may grow in the country and in Budapest in the coming years. Thus, healthcare must be prepared to cope with the constant overload, must be able to offer the required types of care for which it should create optimal operational capacity. People who have had a coronavirus infection may develop side effects and after-effects of the Covid–19 disease in the future. Post-acute or long Covid syndrome can affect anyone infected with the SARS-CoV-2 virus and may require medical care in the future, regardless of the severity of the infection. Since the spring of 2021, there

[83] Csanádi–Ladányi 1992: 132.

have been an increasing number of specialised post-Covid outpatient services, including one at Semmelweis University, but their number will probably need to be increased in the future. One such outpatient clinic was opened specifically for children at Paediatric Centre 1 in Budapest in March 2021.

Indirect effects of the pandemic, psychological and mental disorders, depressive symptom complexes, psychosomatic illnesses may also appear after the epidemic is over. The loneliness caused by the lockdown and confinement, the fear of infection, the anxiety of the new situation, the feeling of tension caused by distance working and distance learning, or post-traumatic stress have greatly contributed to the development and deepening of psychological problems. In the future, greater attention should be paid to ensuring that state healthcare can also provide appropriate psychiatric/psychological services for patients, also on a social security basis. Health Promotion Offices (HPOs), which have a key role in protecting mental health, can give assistance in this area. In 2022, there were 112 HPOs in the country, 6 of which were located in Budapest in the 3rd, 4th, 11th, 12th, 14th and 20th districts. In the agglomeration of Budapest there are HPOs in Biatorbágy, Bicske, Ercsi, Monorierdő, Szentendre, and Vác.

The mental consequences of the pandemic have also severely affected children and young people (because of impersonal education, isolation, new ways of consuming news). A new ward was set up for them in the largest child psychiatric institution in the country, Vadaskert Hospital and Outpatient Clinic (2nd district).

A slow and gradual change can start in the healthcare system of Budapest in the near future. This process could essentially be based on the elimination of the duplication of care and on a concentration established according to professional principles and a territorial basis. This transformation model, created at metropolitan level, could serve as a basis for the future reorganisation of the Hungarian health system.[84] The main development directions were already identified and set in Semmelweis Plan 2011, a strategic document for the renewal of the Hungarian national health system. Details of the Budapest-specific elements of the national professional concept were included in the Budapest Health Plan of 2012.

An important part of the national and metropolitan strategic development directions is the use of the territorial principle, which, in practice, can lead to the implementation of institutional concentration. One such concept is that emergency care in Budapest can only be provided in a few centres, which requires the designation of metropolitan institutions that can integrate all the professions involved in emergency care.

The Healthy Budapest Programme is designed to develop the healthcare institutions of the capital and Pest County. Within its framework, the renovation of several national institutions, hospitals and specialised outpatient clinics in the region have been going on since the end of 2010, with a total budget of HUF 700 billion. For example, a new diagnostic block will be built at the National Institute of Oncology, the Szent János Hospital will be renewed and extended, and a total of 32 specialised outpatient clinics will be renovated. The main task of the renewal of outpatient clinics is to develop same-day

[84] Gaál 2013: 10.

care services, which can help relieve the burden on the capital's family physician services already in the coming years. The medium-term objectives also set out the construction of the 1,200-bed South Buda Central Hospital in the 11th district, which could extend its healthcare zone beyond Pest County.

As part of primary healthcare, family physician and family paediatrician healthcare services in the capital will continue to set up group medical practices in the future, which will provide an opportunity to focus on preventive activities. General medical care in Budapest is expected to be strengthened already in the short term, which may be helped by the accelerated digitalisation of healthcare driven by the pandemic. An important element of this could be the widespread use of telemedicine in family physicians' and family paediatricians' services. However, alongside these positive developments, it must be taken into account that a large number of family physicians and family paediatricians in the capital are expected to retire in the medium term.

On the whole, the future of the private health sector in the capital may be determined by conflicting factors. The coronavirus pandemic has made many people value their health more, and improving health awareness could increase the demand for the screening packages offered by a wide range of private healthcare providers already in the short term. Increased challenges in state healthcare due to the pandemic – reduced capacity, difficult access, longer waiting lists – could also lead to the appreciation of private healthcare. This could be hampered by the fact that the rising inflation and a deepening economic crisis may lead to the shrinking of the solvent demand already in 2022. Social polarisation could ultimately widen health inequalities: in the future, access to private healthcare services could be a privilege of the few, and the middle class could face an increasing financial burden in using private healthcare.

The demand for private healthcare services has undergone several changes in the context of the epidemic in Hungary and Budapest. It can be assumed that as the epidemic subsides, the number of large-scale new investments in private healthcare will decrease. The broadening of the range of services and the digitalisation that started during the pandemic may also slow down. The general economic environment of the recession will not be favourable for private healthcare providers to expand their services in the countryside. Therefore, a regional concentration of private healthcare enterprises is expected to take place mostly in Budapest in the coming years.

References

Ádány, Róza ed. (2012): *Budapest egészségterv 2012.* Debrecen: Debreceni Egyetem Orvos- és Egészségtudományi Centrum Népegészségügyi Kar.

Balogh, Károly – Bezerédj, Béláné (1999): *Közlemények a budapesti agglomerációról 9. A lakosság egészségi állapota és egészségügyi ellátása.* Budapest: Központi Statisztikai Hivatal Budapesti és Pest Megyei Igazgatósága.

Berza, László ed. (1993): *Budapest lexikon.* Budapest: Akadémiai Kiadó.

Bukodi, Erzsébet (2001): Társadalmi jelzőszámok – elméletek és megközelítések. *Szociológiai Szemle,* 11(2), 35–58.

Csanádi, Gábor – Ladányi, János (1992): *Budapest térbeni-társadalmi szerkezetének változásai.* Budapest: Akadémiai Kiadó.

Csapó, Tamás – Lenner, Tibor (2015): *Budapest településmorfológiája.* Szombathely: Savaria University Press.

Csébi, Márk (2015): A budapesti kerületek életminőségének területi egyenlőtlenségei. In Berkes, Judit – Kecskés, Petra (eds.): *Távol és közel, az elmúlt 25 év területi folyamatai, szerkezetei, intézményei, ahogy az új generáció látja.* Győr: Széchenyi István Egyetem Regionális- és Gazdaságtudományi Doktori Iskola, 26–34.

Csébi, Márk (2016): Az életminőség kutatása városi terekben. *Településföldrajzi Tanulmányok,* 5(3–4), 51–65.

Csiki, Gergely (2020): Most tényleg mindenki megrohanja a magánegészségügyi cégeket? *Portfolio,* 13 August 2020. Online: www.portfolio.hu/gazdasag/20200813/most-tenyleg-mindenki-megrohanja-a-maganegeszsegugyi-cegeket-444234

Csiki, Gergely (2021): Ők azok, akik feltörik és felforgatják a magyar egészségügyet. *Portfolio,* 13 September 2021. Online: www.portfolio.hu/gazdasag/20210913/ok-azok-akik-feltorik-es-felforgatjak-a-magyar-egeszsegugyet-499994

Egedy, Tamás (2009): *Városrehabilitáció és életminőség.* Budapest: MTA Földrajztudományi Kutatóintézet.

Gaál, Péter (2013): Hogyan tovább? Az egészségügyi rendszer fejlesztésének stratégiai irányai a Semmelweis Terv értelmezési keretében. *Interdiszciplináris Magyar Egészségügy,* 12(3), 9–14.

Gárdos, Éva (1996): Az egészségügyi ellátóhálózat kapacitásai és szolgáltatásai, valamint ezek igénybevétele az 1990-es években. *Demográfia,* 39(1), 38–53.

GKI (2019): *Az egészségügy helyzete Magyarországon nemzetközi összehasonlításban.* Budapest: GKI Gazdaságkutató Zrt. Online: www.gki.hu/wp-content/uploads/2019/05/GKI-Az-eg%C3%A9szs%C3%A9g%C3%BCgy-helyzete-20190409.pdf

Igari, András (2021): A negyedik hullám berobbanásának nyomában: miért ekkor, miért így és miért ott? *Portfolio,* 22 November 2021. Online: www.portfolio.hu/gazdasag/20211122/a-negyedik-hul-lam-berobbanasanak-nyomaban-miert-ekkor-miert-igy-es-miert-ott-511914

Izsák, Éva – Probáld, Ferenc – Uzzoli, Annamária (2008): Természeti adottságok és életminőség Budapesten. In Szabó, Valéria – Orosz, Zoltán – Nagy, Richárd – Fazekas, István (eds.): *IV. Magyar Földrajzi Konferencia.* Debrecen: Debreceni Egyetem, 265–270.

Józan, Péter (1986): A budapesti halandósági különbségek ökológiai vizsgálata, 1980–1983. *Demográfia,* 29(2–3), 193–342.

Józan, Péter (1994): Epidemiológiai válság Magyarországon a kilencvenes években I. *Statisztikai Szemle,* 72(1), 5–21.

Józan, Péter (2002): A halandóság alapirányzata a 20. században, és az ezredforduló halálozási viszonyai Magyarországon. *Magyar Tudomány,* 48(4), 419–440.

Kincses, Gyula (2019): A köz- és a magánszféra szerepe az egészségügyben. *Magyar Tudomány,* 180(10), 1510–1522.

Komjáthy, Dénes (2014): A szubjektív jóllét vizsgálata Budapest V. és XIX. kerületének példáján. *Földrajzi Közlemények,* 138(4), 322–333.

Kopp, Mária – Kovács, Mónika Erika eds. (2006): *A magyar népesség életminősége az ezredfordulón.* Budapest: Medicina Kiadó.

Kopp, Mária – Skrabski, Árpád – Székely, András (2006): Az életminőség nemi, életkor szerinti és területi jellemzői a magyar népesség körében a Hungarostudy 2002 vizsgálat alapján. In Kopp, Mária – Kovács, Mónika Erika (eds.): *A magyar népesség életminősége az ezredfordulón.* Budapest: Medicina Kiadó, 84–105.

Kormos, Olga (2021): Magánegészségügyi cégek: egyeseknek a pandémia szépen hozott a konyhára. *Mfor.hu,* 3 June 2021. Online: https://mfor.hu/cikkek/makro/maganegeszsegugyi-cegek-egyeseknek-a-pandemia-szepen-hozott-a-konyhara.html

Kovács, Sándor Zsolt – Uzzoli, Annamária (2020): A koronavírus-járvány jelenlegi és várható egészségkockázatainak területi különbségei Magyarországon. *Tér és Társadalom,* 34(2), 155–170. Online: https://doi.org/10.17649/TET.34.2.3265

Kovács, Sándor Zsolt – Koós, Bálint – Uzzoli, Annamária – Páger, Balázs – Egyed, Ildikó (2020): Regional Effects of the COVID-19 Pandemic and Policy Responses in Hungary. *R-Economy,* 6(3), 208–221. Online: http://dx.doi.org/10.15826/recon.2020.6.3.018

Kovács, Zoltán – Dövényi, Zoltán (2021): Budapest és térsége. In Kocsis, Károly – Kovács, Zoltán – Nemerkényi, Zsombor – Kincses, Áron – Tóth, Géza (eds.): *Magyarország Nemzeti Atlasza III. Társadalom*. Budapest: Csillagászati és Földtudományi Kutatóközpont Földrajztudományi Intézet, 128–139.

KSH (1995): *A főváros 120 éve, 1873–1993.* Budapest: Központi Statisztikai Hivatal Pest megyei Igazgatóság.

KSH (2020): *Regional Statistical Yearbook of Hungary, 2019.* Budapest: Központi Statisztikai Hivatal.

KSH (2021a): *Budapest Statisztikai Évkönyve, 2019.* Budapest: Központi Statisztikai Hivatal.

KSH (2021b): *Egészségügyi helyzetkép, 2019.* Budapest: Központi Statisztikai Hivatal. Online: www.ksh.hu/docs/hun/xftp/idoszaki/pdf/egeszsegugyi_helyzetkep_2019.pdf

KSH (2021c): *Európai lakossági egészségfelmérés, 2019 – Egészségügyi ellátás, 2019.* Budapest: Központi Statisztikai Hivatal. Online: www.ksh.hu/apps/shop.kiadvany?pó_kiadvany_id=1063976&p_temakor_kod=KSH&p_lang=HU

KSH (2021d): *Európai lakossági egészségfelmérés, 2019 – Szubjektív jóllét, mentális egészség, 2019.* Budapest: Központi Statisztikai Hivatal. Online: www.ksh.hu/docs/hun/xftp/idoszaki/elef/szubjektiv_jolet_2019/index.html

KSH (2021e): *Tér-Kép 2020.* Budapest: Központi Statisztikai Hivatal. Online: www.ksh.hu/docs/hun/xftp/idoszaki/pdf/ter_kep_2020.pdf

KSH (2022): *Születéskor várható átlagos élettartam – járási adatok 2020. évre.* Egyedi kérésre összeállított táblázatos adatállomány. Budapest: Központi Statisztikai Hivatal.

KSH [s. a.a]: *Egészségesen várható élettartam régió szerint.* Budapest: Központi Statisztikai Hivatal. Online: www.ksh.hu/stadat_files/ege/hu/ege0053.html

KSH [s. a.b]: *Születéskor várható átlagos élettartam, átlagéletkor nem, megye és régió szerint.* Budapest: Központi Statisztikai Hivatal. Online: www.ksh.hu/stadat_files/nep/hu/nep0039.html

KSH [s. a.c]: *Háziorvosok és házi gyermekorvosok megye és régió szerint.* Budapest: Központi Statisztikai Hivatal. Online: www.ksh.hu/docs/hun/xstadat/xstadat_eves/i_fea002b.html

Lantos, Gabriella (2018): A párhuzamos valóság – a magánegészségügyi rendszer kiépülése. In Kolosi, Tamás (ed.): *Társadalmi riport 2018.* Budapest: Tárki Zrt., 286–308.

Lennert, József (2021): A SARS-COV-2 vírus magyarországi terjedésének ágens alapú modellezése – az első járványhullám tapasztalatai. *Tér és Társadalom,* 35(3), 3–32. Online: https://doi.org/10.17649/TET.35.3.3341

Michalkó, Gábor (2010): *Boldogító utazás. A turizmus és az életminőség kapcsolatának magyarországi vonatkozásai.* Budapest: MTA Földrajztudományi Kutatóintézet.

Mikola, István (1998): Egészségügy. In Kasza, Sándor (ed.): *Budapest kézikönyve I. A főváros általános leírása.* Budapest: CEBA, 156–159.

Nemzeti Egészségbiztosítási Alapkezelő [s. a.]: *Védőnői szolgálatok.* Online: www.neak.gov.hu/felso_menu/lakossagnak/szerzodott_szolgaltatok/vedonoi_szolgalatok.html

Pál, Viktor – Uzzoli, Annamária – Boros, Lajos – Fabula, Szabolcs – Trócsányi, András – Nagy, Gábor – Pirisi, Gábor – Kovalcsik, Tamás (2021a): Életkörülmények, életminőség. Az életkörülmények és az életminőség emberi oldala. In Kocsis, Károly – Kovács, Zoltán – Nemerkényi, Zsombor – Kincses, Áron – Tóth, Géza (eds.): *Magyarország Nemzeti Atlasza III. Társadalom.* Budapest: Csillagászati és Földtudományi Kutatóközpont Földrajztudományi Intézet, 150–159.

Pál, Viktor – Boros, Lajos – Trócsányi, András – Uzzoli, Annamária – Nagy, Gyula – Kovalcsik, Tamás – Szilassi, Péter – Gál, Tamás – Gulyás, Ágnes – Pirisi, Gábor – Ilcsikné Makra, Zsófia – Lados, Gábor (2021b): Életkörülmények, életminőség. Az életkörülmények és az életminőség települési oldala. Települési környezet. In Kocsis, Károly – Kovács, Zoltán – Nemerkényi, Zsombor – Kincses, Áron – Tóth, Géza (eds.): *Magyarország Nemzeti Atlasza III. Társadalom.* Budapest: Csillagászati és Földtudományi Kutatóközpont Földrajztudományi Intézet, 170–175.

Papp, Sándor – Nagy, Gyula – Boros, Lajos (2017): A kedvezményezett települések objektív életminőség alapján történő lehatárolási lehetőségei. *Területi Statisztika,* 57(6), 639–664. Online: https://doi.org/10.15196/TS570603

Perczel, Anna (1992): Városrendezés a Józsefvárosban. *Tér és Társadalom,* 6(3–4), 11–45.

Rékassy, Balázs (2014): Virágozzék minden virág? A hazai magánegészségügyi szolgáltatók tipizálása és jövőképe. *Interdiszciplináris Magyar Egészségügy,* 13(10), 12–19.

Nemzeti Erőforrás Minisztérium Egészségügyért Felelős Államtitkárság (2011): *Semmelweis Terv az egészségügy megmentésére. Újraélesztett egészségügy – Gyógyuló Magyarország.* Szakmai koncepció. Budapest. Online: https://2010-2014.kormany.hu/download/5/e7/30000/Semmelweis%20Terv%20az%20eg%C3%A9szs%C3%A9g%C3%BCgy%20megment%C3%A9s%C3%A9re%20-%20Szakmai%20koncepci%C3%B3.pdf

Szirmai, Viktória ed. (2015): *A területi egyenlőtlenségektől a társadalmi jól-lét felé.* Székesfehérvár: Kodolányi János Főiskola.

Tokaji, Károlyné – Faragó, Miklós – Boros, Julianna (2011): Objektíven szubjektív. *Statisztikai Szemle,* 89(7–8), 768–789.

Utasi, Ágnes ed. (2007): *Az életminőség feltételei.* Budapest: MTA Politikai Tudományok Intézete.

Uzzoli, Annamária (2007): A magyar egészségügyi ellátórendszer strukturális átalakításának területi vonatkozásai. *Tér és Társadalom,* 21(3), 103–115.

Uzzoli, Annamária (2008): Az egészségi állapot területi különbségei a közép-magyarországi régióban. *Területi Statisztika,* 48(3), 357–366.

Uzzoli, Annamária (2010): A Közép-Magyarországi régió egészségügyi helyzete. In Csiszér, Zoltán (ed.): *Közép-Magyarországi régió* I. kötet. Budapest: Csiszér Kiadó, 423–444.

Uzzoli, Annamária – Kovács, Sándor Zsolt – Páger, Balázs – Szabó, Tamás (2021): A hazai COVID–19-járványhullámok területi különbségei. *Területi Statisztika,* 61(3), 291–319. Online: https://doi.org/10.15196/TS610302

Legal source

Government Decision 1425/2017 (VI. 29.) on the provision of resources for the implementation of the Healthy Budapest Programme in 2017 [1425/2017. (VI. 29.) Korm. határozat az Egészséges Budapest Program végrehajtásával kapcsolatos 2017. évi forrásigény biztosításáról]