

Article

Changes in the number of days of paid sick leave for viral infection in General Medical Practices

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Abstract: The aim of the current research is to determine the difference in the number of days of paid sick leave for viral infection among patients coded by General Practitioners (GPs), based on the practice's characteristics. We used the data of the National Health Insurance Fund of Hungary for our research. The B300 report on GP practices, the data of the 18-64 age group encoded with a viral infection (J1000-J1180 or B2500-B3490), the number of days of paid sick leave and the characteristics of the practice (gender, age and of the GP, vacancy of GP's position) were used. The regional distribution of the number of days of paid sick leave and the practice characteristics were assessed through indirect standardization by age and gender. The relative proportion of days of paid sick leave per case was significantly higher than the national average in practices with female GPs, vacant practices, and where the GP was over 65 years of age. Based on these findings, decision makers should pay attention to decrease the number of vacant practices, and it would be important to find incentives for more young doctors to choose this field.

Keywords: days of paid sick leave; GP practices; vacancy; practice characteristics; viral infection in adults; Hungary;

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INTRODUCTION

Primary care is that part of the health care system that can keep close contact with patients, thus it is able to influence health behavior and is prepared to take the first step to handle health problems of the population. It can be stated that primary care and the services it provides are an emphatic part of the health care system in Hungary (Kovács et al., 2019). The general practitioner (GP) is the cornerstone of the primary care system. The structure and services of GPs and the differences between them can be identified and compared with a number of so-called practice characteristics. One important characteristic of practices is human resources, such as age and gender of the GP or vacancy of the practice. (Papp et al., 2019). Practice vacancy is a sign of the global health workforce crisis and unfortunately there is a shortage of health professionals at all levels of care (Fort et al., 2017).

The ageing of general practitioners and the lack of replacement is leading to a steady increase in the number of vacant GP practices (Organisation for Economic Co-operation and Development, 2015).

A study in Scotland found that female GPs dominate younger age groups, 58.8% of female GPs were under the age of 45, compared with 41.8% of male GPs. For GPs over 55, the proportion of male GPs was much higher (24.8%) than that of female GPs (10.8%). Overall, 53.2% of GPs in the entire age group were female (Blane et al., 2015). The reason why this specificity came to the forefront, because in a systematic review of 32 relevant publications, it was found that female GPs work fewer hours than male GPs, meet less patients, but spend more time with their patients and deal with several separate issues in the same appointment (Hedden et al., 2014).

In 2007, 52.27% (95% CI 51.03 to 53.5) of the GPs were women in Hungary, and this rate increased to 56.19% by the end of the decade (Papp et al., 2019). Kovács et al in Hungary in our research found that 4.82% of General Medical Practices were vacant during the study period (Kovács et al., 2019).

The inequality of access to health care is a characteristic problem of the Hungarian primary care system. (Papp et al., 2019) The problem of vacant practices causes increasing workload for functioning GPs and also to other levels of the health care system. All in all, this phenomenon (a phenomena akkor these phenomena, a phenomena a többes szám) contributes to deteriorating quality in patient care. One of the main reasons for the shortage of GPs is retirement, currently the average age of GPs is around 60 years in Hungary. A Hungarian study described the human resource

situation in primary care as a decline in the number of GPs, increasing the average age of active GPs, with a rise in the proportion of female doctors and number of vacant practices. (Papp et al., 2019).

Apart from the obvious healthcare implications of the issue, this also creates problems on a societal and budgetary level, as GPs play a key role in determining if a citizen with social security coverage is able to work or has to take a leave of absence due to health-related issues (or staying home caring for a sick child). The eligibility of paid sick leave is verified by the GP, given that the patient complies with the applying legal regulations (Központi Statisztikai Hivatal, 2014-2016; National Institute of Health Insurance Fund Management, 2020) These forms of financial benefits are intended to maintain the financial security of an employee who is temporarily absent from work, but any form of these compensations result in a loss of income, as the amount of payment is 70% of the salary for the period of absence (National Institute of Health Insurance Fund Management, 2020).

During an influenza pandemic, absenteeism from work increases significantly (World Health Organization, 2018). Most countries usually have intermittent influenza pandemic that vary in size and severity from year to year. (Groenewold et al., 2013). Seasonal flu can be very virulent and, like many respiratory viruses, can spread quickly in populations (Nair et al., 2011). Studies and publications focusing on benefits during influenza-related illnesses examined the increase in the number of days of paid sick leave (Piper et al., 2017; Zhai et al., 2018).

It can be seen that the number of days of paid sick leave has been studied in the international academic literature along a number of factors. These publications confirm that the issue is complex and has several social or economic implications. In the course of our research, however, we were found studies from Sweden, Finland and UK that examined the number of days of paid sick leave based on the characteristics of the general practitioner (Englund et al., 2000; Kankaanpää et al., 2012; Wynne-Jones et al., 2010; Norrmén et al., 2006). The goal of the current research is to examine the effect that the practice characteristics (GP's age, gender, vacancy of the practice) have on the number of days of paid sick leave prescribed.

METHODOLOGY

We obtained the data from the National Health Insurance Fund's database without personal data. Data from the B300 report (itemized patient data

reporton) GP practices, the characteristics of the practices (GP's age, gender, vacancy of the practice) and the number of days of paid sick leave prescribed for employed adults encoded with a viral infection (J1000-J1180 or B2500-B3490) between the ages of 18 to 64 were used. General characteristics of practices were analyzed yearly on a county level (Baranya, Bács-Kiskun, Békés, Borsod-Abaúj-Zemplén, Csongrád, Fejér, Győr-Moson-Sopron, Hajdú-Bihar, Heves, Komárom-Esztergom, Nógrád, Pest, Somogy, Szabolcs-Szatmár-Bereg, Jász-Nagykun-Szolnok, Tolna, Vas, Veszprém, and Zala counties) between 2015-2019. The regional distribution of the days of paid sick leave and the practice's characteristics of age (7-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75-79, 80-84, 85-89, and 90 years and above) and gender were assessed through indirect standardization. In our analysis, we examined regional differences, then these data were presented using maps, and we examined the standardised rate and the corresponding 95% confidence interval of paid sick leave per capita. We received ethical approval from RKEB (5577-2020) and TUKEB (IV / 9919-1 / 2020 / EKU) for our study.

RESEARCH RESULTS

In our research, we have seen that the number of days of paid sick leave prescribed in the case of a viral infection is related to the characteristics of GP practice, such as the vacancy of the practice and the gender and age of the GP.

Studying the GP practices we found that the proportion of where a female GPs practicing was around 49-50 % every year (2015-2019) at the national level. In five counties (Baranya, Csongrád, Hajdú-Bihar, Tolna, Vas) and in the capital, the proportion of female GPs were above the national average all 5 years with Baranya, Csongrád-Csanád counties and Budapest having the highest percentage. In Budapest, for example, the proportion of female GPs was 62-63.5% in the period under review (Figure 1).

Examining the average age of GPs, we found that the national average increased every year between 2015 and 2019: it was 56.4 years in 2015, 56.8 years in 2016, 57.2 years in 2017, 57.6 years in 2018, and 58 years in 2019. In three counties (Bács-Kiskun, Nógrád, Zala) and in the capital, the average age of general practitioners was above the national average all 5 years (Figure 2).

The proportion of vacant practices on a national level shows an increase between 2015 and 2019; in

2019, 7.08% of GP practices (adult and mixed) were vacant. In all 5 years, the proportion of vacant practices was above the national average in eight counties. The proportion was extremely high in Békés, Borsod-Abaúj-Zemplén, Heves, Nógrád and Tolna counties, and it can be clearly seen that in 2018 and 2019 the proportion of vacant practices increased significantly in Fejér County (Figure 3). The proportion of number of days of paid sick leave per case between 2015 and 2019 for patients with viral infection increased every year in almost all counties. A decrease in number was only observed in the county of Pest and Győr-Moson-Sopron, and in the capital, Budapest between 2017 and 2019. (Figure 4)

It can be said that comparing the counties to each other, there has been no significant change over time. Bács-Kiskun county had the significantly lowest and Heves county the highest number of days of paid sick leave per case for patients coded with a viral infection. At a national level, the number of days of paid sick leave on average per case has increased over the analyzed period, except in three counties (Pest, Győr-Moson-Sopron and Békés) and the capital, Budapest (Figure 5).

In our analysis, we found that the practice characteristics significantly influenced the number of days of paid sick leave for patients with viral infection. Based on 2015 data, for patients coded with a viral infection, the number of days of paid sick leave per case was significantly higher than the national average in practices where male GPs attended patients. This was not the case based on 2017, 2018 and 2019 data, the number of days of paid sick leave per case was significantly higher in practices where female GPs were attending. Analysing the data further, we found that between 2015 and 2019, the rate of days of paid sick leave per case of viral infection was higher for female GPs. For male GPs, it decreased steadily from 2015 to 2019.

We examined how the proportion of days of paid sick leave per case of viral infection among male patients in the period 2015-2019 varies by the gender of the practicing GP. It can be seen that in the period 2015-2017, the number of days of paid sick leave per case of viral infection for male patients in a male GP practice was higher than in female GP practices over the same period. However, in 2018 and 2019 this tendency changed, with the number of days of paid sick leave per case of viral infection for male patients becoming higher in female GP practices than in male GP practices.

We also examined how the proportion of days of paid sick leave per case of viral infection among female patients in the period 2015-2019 varies

depending on the gender of the GP. We can surmise, that female GPs reported significantly more days of paid sick leave per case for female patients coded with a viral infection compared to the national average.

Based on data from 2015, 2016 and 2017, the number of days of paid sick leave per case for patients coded with a viral infection was significantly higher than the national average in practices with an appointed GP. On the other hand, the number of days of paid sick leave per case was significantly higher in vacant practices compared to the national average in 2018 and 2019.

Focusing on the age of the GP, we found that every year for patients coded with a viral infection, the number of days of paid sick leave per case was significantly higher than the national average among GPs aged 65 years and over (Figure 6).

CONCLUSIONS

Issuing certifications of illness is an important task for doctors (Wahlström and Alexanderson, 2004; Wynne-Jones et al., 2008). Undertaking research on the role of regular GPs with regard to rates of sickness absence is methodologically challenging, and existing results show a wide divergence. For example, according to Norwegian research that the age, gender and list length of the regular GPs were not associated with sickness absence paid (Winde et al., 2013). The role of the GPs for rates of sickness absence is a controversial topic which has been extensively discussed, including in the media. Assertions that older and male doctors certify sickness more frequently than female and younger doctors have attracted large headlines, but are most likely due to confounding factors that disappear when the composition of the list populations is controlled for (Winde et al., 2013). However, our own research shows just the opposite when controlling for age and gender.

In Hungary between 2015 and 2019, the number of vacant practices is increasing every year, a high proportion of elderly general practitioner and the proportion of female GPs was above the national average.

In Hungary, burnout among GPs is becoming increasingly common, which can indirectly lead to poor quality of patient care. They found that age was negatively correlated with emotional exhaustion and depersonalisation and positively correlated with personal performance among GPs. High workload was positively correlated with depersonalisation among female GPs. Younger age was the strongest

predictor of emotional exhaustion (Adam et al., 2018).

For these reasons, it is important that decision-makers are advised to pay attention to reducing the number of vacant practices in order to reduce unnecessary paid sick leave, and that incentives are found to encourage more young doctors to choose general practice.

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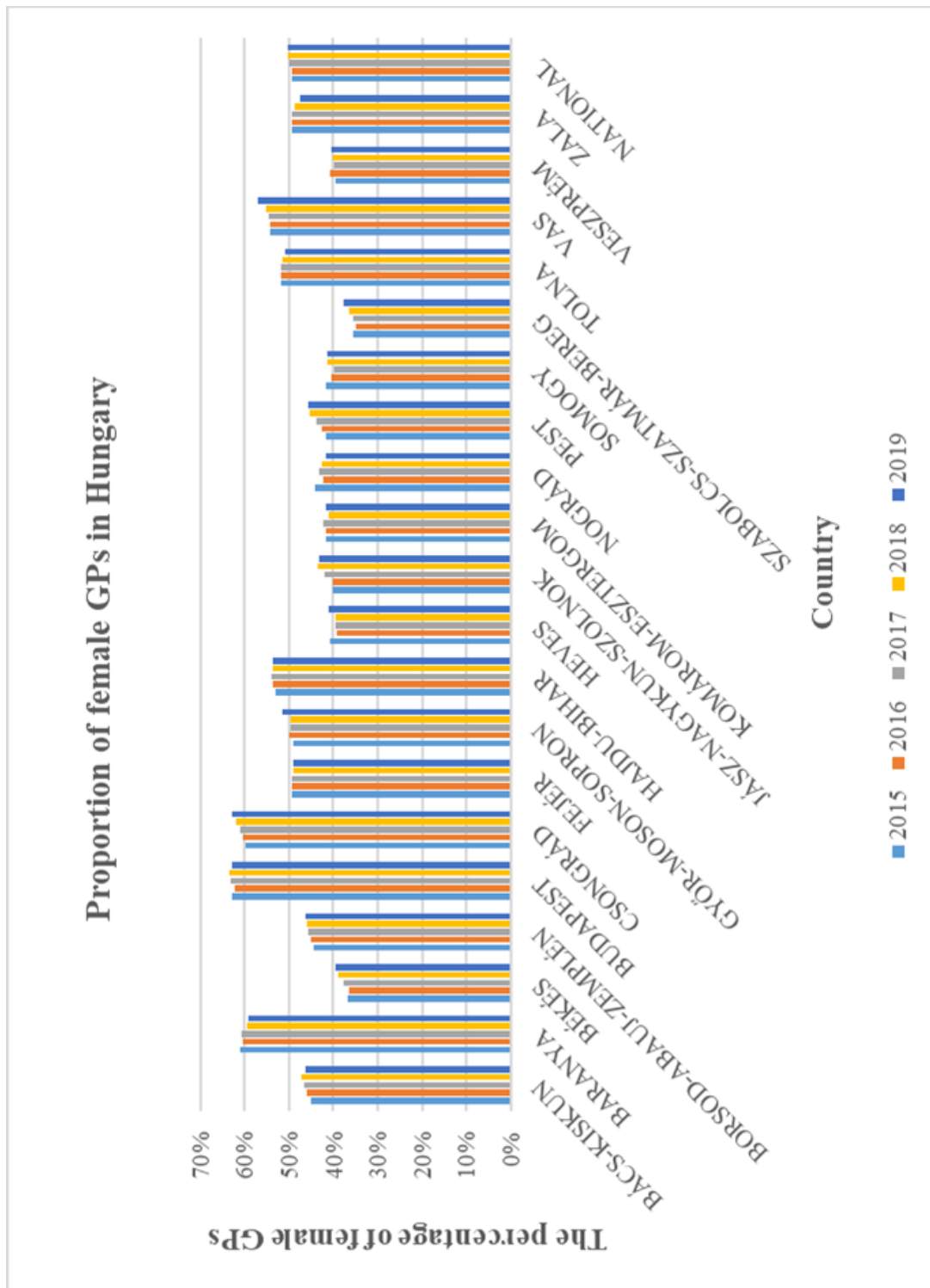


Figure 1
 Changes in the proportion of female GPs between 2015 and 2019, at the county level in Hungary

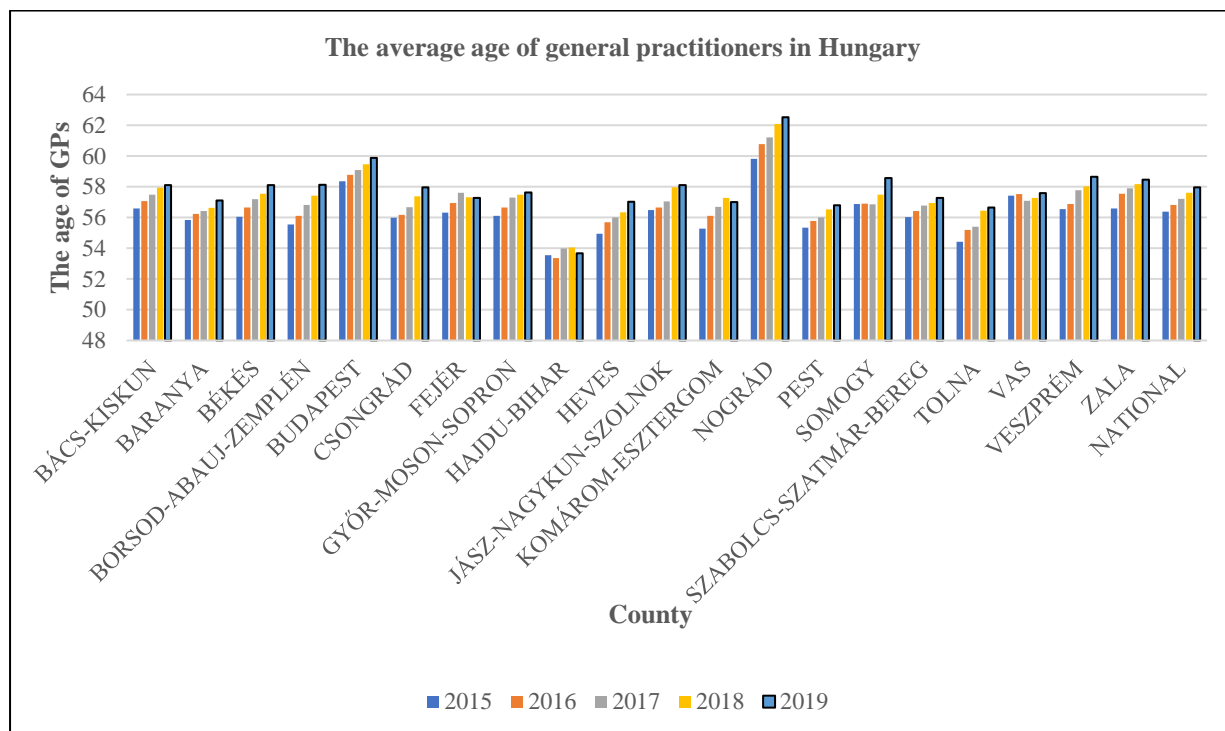


Figure 2
 Change in the average age of GPs between 2015 and 2019 at the county level in Hungary

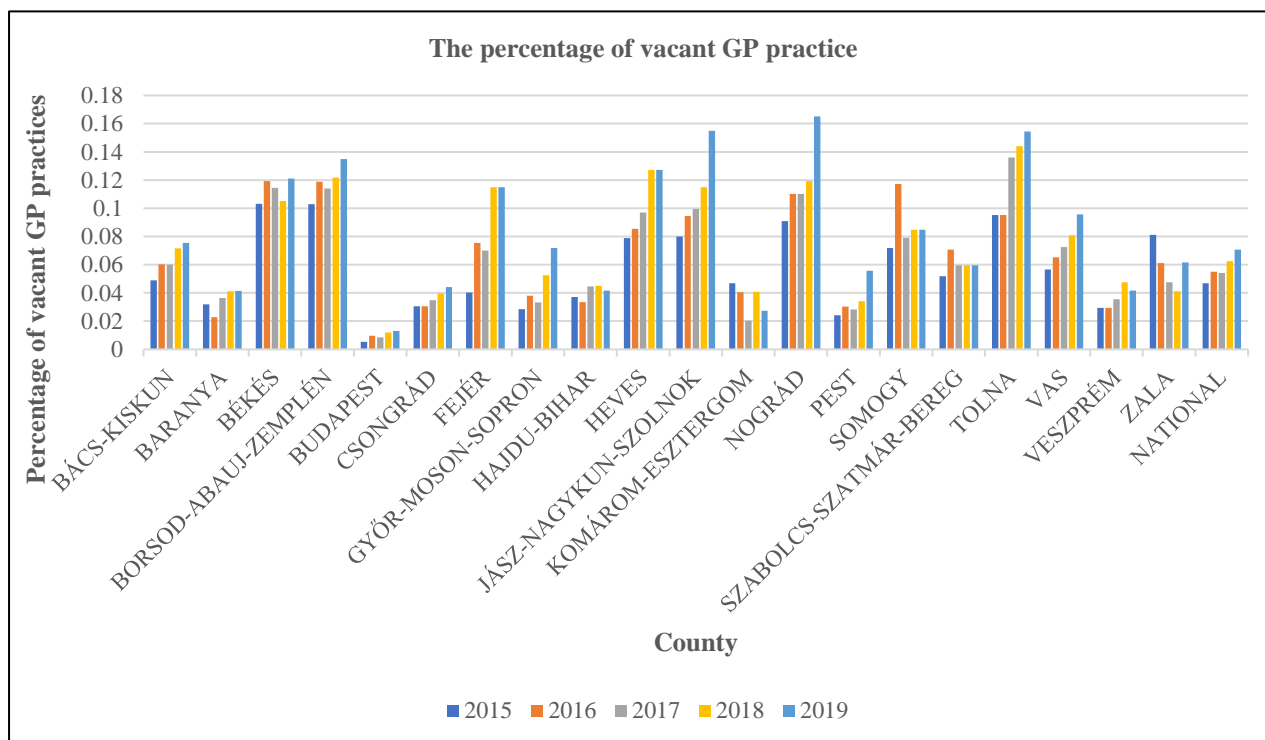


Figure 3
 Change in percentage of adult and mixed vacant practice between 2015 and 2019 at the county level in Hungary

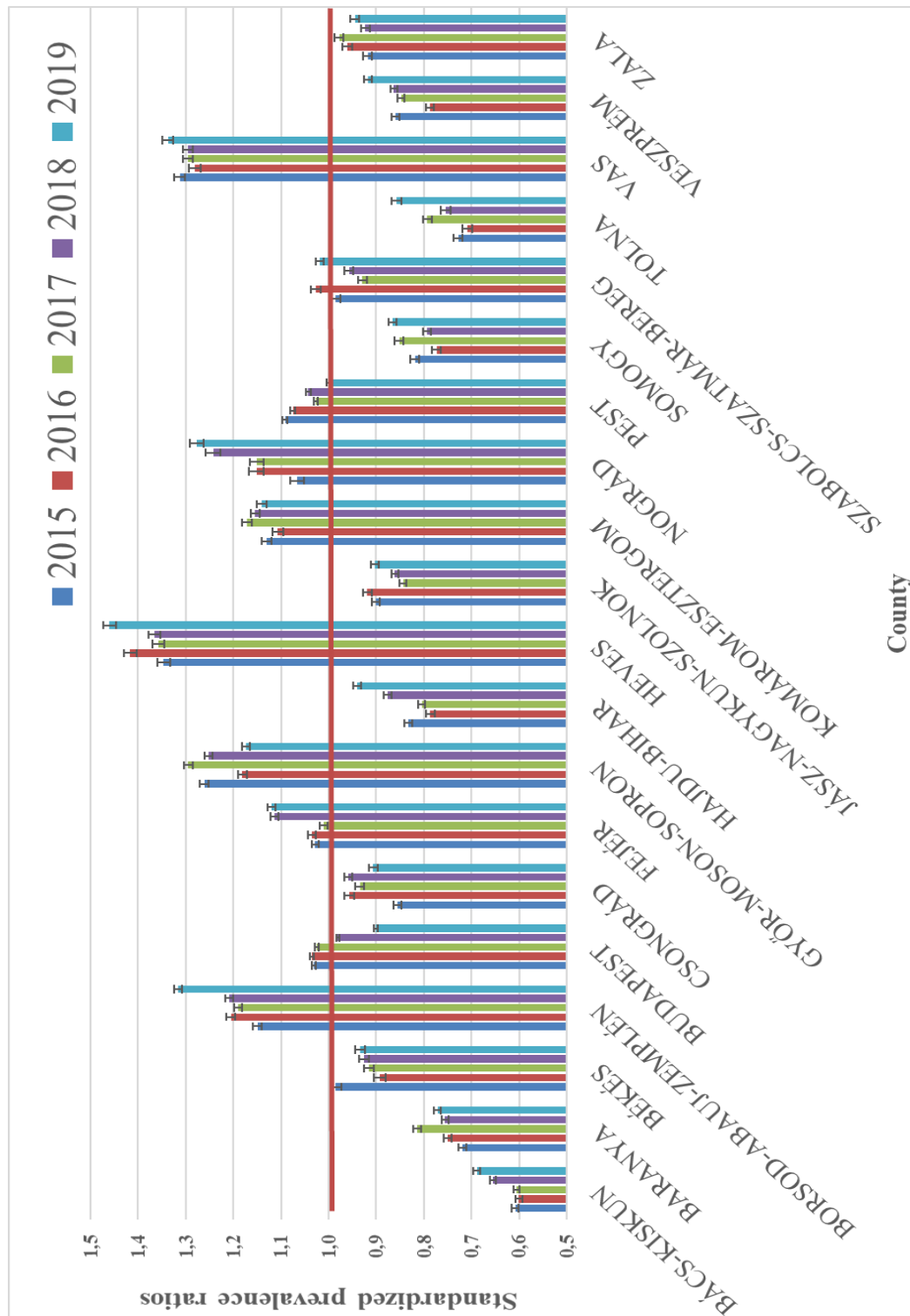


Figure 4
 Change in the proportion of days of sick leave per case standardised by age and sex between 2015 and 2019 for patients with viral infection at the county level in Hungary

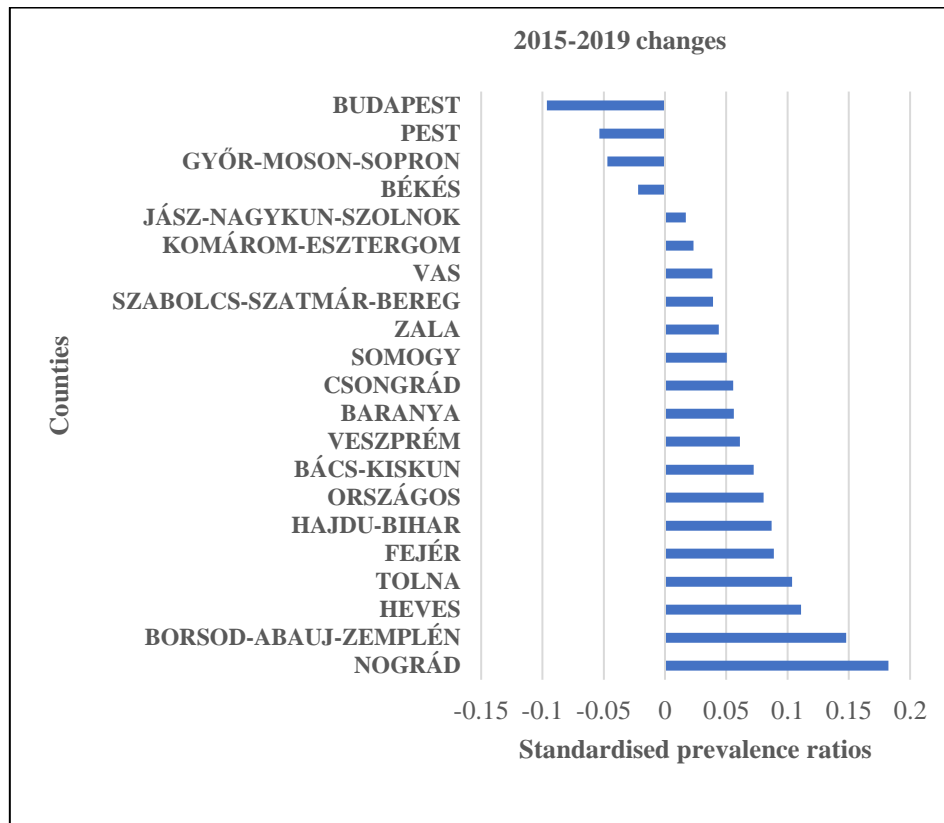


Figure 5

Change in the number of days of sick leave per case of viral infection between 2015 and 2019 by county

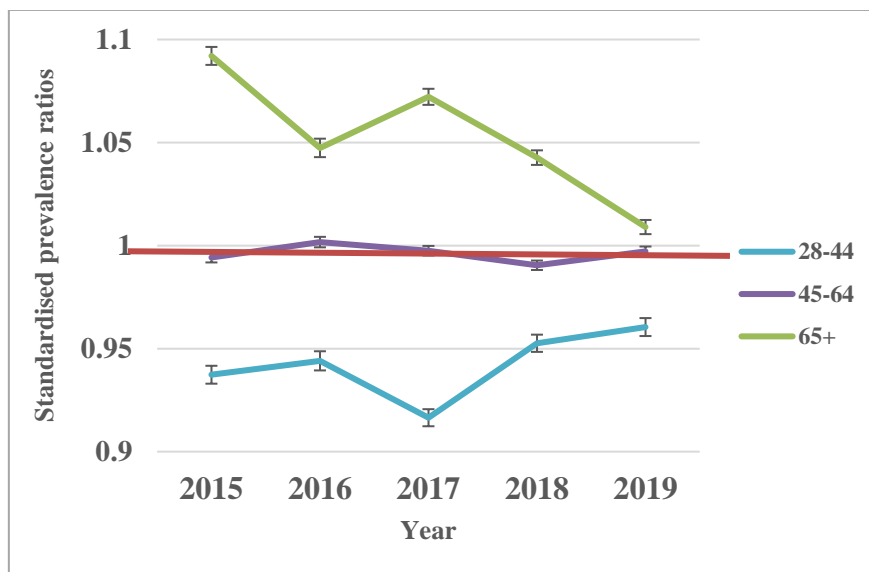


Figure 6

Change in the age- and sex-standardised rate of sick leave for patients coded with a viral infection by age of GPs in 2015-2019