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ScienceDirect

Procedia - Social and Behavioral Sciences 220 (2016) 12 – 20

Procedia
Social and Behavioral Sciences

19th International Conference Enterprise and Competitive Environment 2016, ECE 2016, 10–11 March 2016, Brno, Czech Republic

The Spatial Differentiation of the Availability of Health Care in Polish Regions

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Abstract

Equal access to health services is one of the priorities of health policy. We assumed, that equitable health service was a consequence of even resource allocation. The aim of the study was to analyse the relationships between non-financial allocation of health resources and the state of health of the Polish population (women and men, at the age of 60), at the level of regions. In order to prove research assumptions, Perkal's method was applied.

We confirmed, that non-financial resources are allocated unequally. We also proved the existence of the relationship between access to health care and the state of health of a population.

Peer-review under responsibility of the organizing committee of ECE 2016

Keywords: access to health care; geographical accessibility; Perkal's method, state of health

1. Introduction

In highly developed countries availability and quality of health services have become a priority in the organization of health care. It is accompanied by a desire to build a comprehensive, cost-effective and fair institutional system, promoting free choice of services (White, 2000), (Williams & Torrens, 1988), (Ucieklak & Bem, 2014 b), (Ucieklak & Bem, 2014 c), (Bem & Michalski, 2016), (Brozyna et al., 2016).

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Peer-review under responsibility of the organizing committee of ECE 2016
doi:10.1016/j.sbspro.2016.05.464

Equal access to health services is, therefore, one of the priorities of health policy (Ucieklak-Jeż, Bem & Prędkiewicz, 2015). The key aim, related to this type of research, is to identify regions, where the provision of health care services should be higher, and regions, which do not require such a high access to health benefits (Fransen et al., 2015).

Equity in health can be assessed both as an equity in access to health care services, and as an equity in distribution of health care resources (Arredondo & Orozco, 2008), (comp. Michalski, 2014; Michalski 2015; Michalski et al. 2015; Raisova et al. 2014). It seems, however, that these concepts are closely linked, especially in the case of distribution of non-financial resources (infrastructure, staff, diagnostic equipment). According to the definition of the equal access, Penchansky and Thomas (1981) conclude, that this is a multi-faced phenomenon, which should be analysed in terms of several dimensions. According to that, Peters (et al., 2008) defines four dimensons of access to health care: *geographic accessibility* (the physical distance or travel time); *availability* (appropriate type of service, waiting times), *financial accessibility*, *acceptability* (health care system responsivness). Neutens (2015) emphasise, that availabilityand geographic accessibility are of special importance, in the light of evidence that proved that spatial barriers are crucial, from the point of view of lower health care utilization and, as a consequence, poorer health care outcomes.Physical distance from health care providers can affect potential patients in many ways, despite the development of telehealth technologies (Meyer, 2012).

What is important, accessibility can be analysed in many ways or dimensions – as the identification of health care needs or as the delivery of health care benefits (Wilson & Rosenberg, 2004), (Harding, 1999). A separate issue is the patients' perception of availability, which may be the result not only of the location of health practitioners, but also of the demand for benefits or other barriers, including those of the socio-economic nature (Wilson & Rosenberg, 2004), (Cylus & Papanicolas, 2015).

Literature studies suggest, that accessibility can be interpreted as spatial and aspatial. Spatial accessibility is a consequence of geographical distrubution of health care providers, which not always reflects distribution of population or unreported demand for health care benefits, while the aspatial one focuses on nongeographic barriers, such as, for example, financial ones (Ngamini Ngui & Vanasse, 2012). Revealed accessibility, in contradistinction to potential accessibility, is related to the actual consumption, ergo, receiving health care benefits. Guagliardo (2004) suggests the analysis of accessibilty in two steps – the first is related to the potential for health delivery, which is followed by the accomplished, actual use of health care services (Guagliardo, 2004).

The purpose of resource allocation mechanisms, which distributes health care resources among regions, is to promote horizontal equity in access to health care benefits, so that people who have the same health needs could receive equal treatment. The equitable allocation of resources should be reflected in the health indicators, such as mordibity, mortality or life expectancies (Anselmi, Lagarde & Hanson, 2015). In many countries, the allocation of resources among regions is based on selected characteristics of the population, such as the structure in terms of sex and age. The algorithms take different forms, but there is always a problem of choosing between horizontal and vertical equity, because those two characteristics can be difficult to obtain equally (Sen, 2002).

In Poland, health care is funded by the universal health insurance. Public funds dominate, they are managed by monopolistic payer's institution (National Health Fund) (Bem, 2013). Policy implemented by NHF creates incentives for health care providers and influence business investment's decisions (Bem, 2013), (Bem, Prędkiewicz & Ucieklak-Jeż, 2015), (Ucieklak-Jeż & Bem, 2014b), (Ucieklak-Jeż & Bem, 2014c), (Ucieklak-Jeż & Bem, 2015c). It also affects strongly financial condition of medical entities, especially hospitals (Bem et al., 2014), (Bem et al., 2015a), (Bem et al., 2015b), (Bem et al., 2015c), (Bem et al., 2015d), (Bem & Michalski, 2016), (comp: Michalski 2015). Financial resources are allocated among regions on the basis of the number of insured persons, taking into account the demographic structure (age, gender). Limited access to benefits, in countries with universal health insurance, like Poland, can have many causes, aside from financial barriers, also non-financial, related to distance, waiting times or poor quality ones (Cylus & Papanicolas, 2015).

The existing structure of the service providers is thus very important - even if the funds were distributed equally, lower density of the healthcare providers (hospitals, medical staff, diagnostic equipment) would prevent proper allocation of financial resources, which may create barriers in access. It can therefore be concluded, that non-financial resources are primary in relation to financial resource allocation.

Decisions concerning the location of service providers are not one-dimensional, as they must take into account not only the obvious interests of patients, but also interests their medical staff, taxpayers or politicians (Burkey, Bhadury