# Accessibility of health care in the Czech Republic according to the geodemographic characteristics of the population

## Abstract

Public healthcare is a subject that affects us all. The health and medical status of the population is a key measure of how advanced a country is. That is why healthcare issues attract so much debate. A number of factors affect the health of a nation. On one hand there are factors such as how individuals look after their health. Dietary habits, sufficient physical exercise and preventive care are all factors that the individual has control over. On the other hand, however, there are determinants affecting whether healthcare take-up is adequate. The cost of providing healthcare and medical equipment together with healthcare accessibility – the topic of this thesis – are factors affecting the population's health. It is the duty of all public healthcare stakeholders to limit the impact of these determiners.

One of the main barriers to healthcare take-up is accessibility. On 1 January 2013 government decree no. 307/2012 Coll. came into effect quantifying healthcare accessibility for the first time. This law stipulates the local and travel time accessibility that ensures accessibility depending on type of healthcare on the basis of an upper travel time limit or waiting period. Accessibility is, however, a more complex issue than would appear from the legislation. Accessibility may be affected by physician capacity, physician demographic breakdown and also the patient's financial situation.

The aim of this dissertation is to analyze the accessibility of outpatient healthcare using specialist diabetes care as a case study and taking into account travel time accessibility and the factors that affect it. The aim is also to highlight any inadequacies in existing analytical concepts and propose a method that can be used in practice. The legislation provides the basic framework; although healthcare accessibility is rather liberally and ambiguously defined. In addition to considering travel time, the analysis also looks at the population and physician breakdown including the number of posts. Arc GIS and Network Analyst extension is a suitable analytical tool enabling us to model the actual network. The outcome is a defined catchment area indicating regional differences in the accessibility of outpatient diabetes care.

The thesis also includes two modeled situations indicating potential changes to accessibility if input conditions are met. The first situation modeled highlights the demographic ageing of physicians and illustrates changes to access if a proportion of physicians were to retire. The second modeled situation forecasts the accessibility of outpatient diabetes care in ten years' time.