This study deals with the development of the number and the age and sex structure of Czech physicians according their medical specialty in the period 2000–2010. The aim of the study is to identify which medical specialties are already problematic or could face the lack of physicians and demographic ageing in the future and on the other hand which medical specialties are popular among young physicians. Firstly, the Czech health system and particular groups of health workforce are introduced. After that follows the analysis of the number and the sex and age structure according their medical specialty. The cluster analysis which produces groups of medical specialties with similar characteristics of development of the number and the structure was used for schematic overview. The second part of the study is focused on the most numerous fourteen medical specialties. The number of medical school graduates, the number of attestations and the development of workload of physicians regarding the number of ambulant treatment and hospitalization is taken into account.