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Quantifying the spatial accessibility of services in Switzerland

The supply of resources and services that sustains human wellbeing is not evenly distributed across regions. Analyzing accessibility of basic facilities like hospitals, schools, stores or public transport is a way to illustrate this phenomenon. Hence, we can observe the accessibility patterns for different categories of services, recognize spatial disparities and distinguish vulnerable regions.

The Swiss Federal Statistical Office measured accessibility as the distance traveled on the road network between the place of residence and the location of the nearest service. Thirty services that are important for daily life were included. For the calculations, we used our register-based surveys (population statistics, structural business statistics) and the road network of the Swiss topographic landscape model of the Federal Office of Topography. In order to produce credible results for all regions of Switzerland much effort was invested to optimize the quality of the input data. We decided not to measure the actual travel time because of the lack of reliable drive time data. To reach an acceptable balance between calculation time and completeness of results, threshold values for each service category as well as calculation zones were introduced.

Building on our results, further studies could track and evaluate the multifaceted effects that result from changing accessibility. Such could support plans to reduce undesirable inequalities, improve the quality of life for the entire population or also protect remoteness. Accurate, realistic measurements of accessibility are a precondition to generate information that has a favorable impact on the design and implementation of policies.