The PopGrouper: Development of a population-based classification system for the cross-sectoral determination of morbidity-related care needs

Introduction: To improve the needs-based nature of care, knowledge of the distribution of morbidity-related care needs is crucial. Germany lacks such a suitable analytical instrument to assess population needs. Internationally, the need for care is often determined with the help of population-based classification systems. Such classification systems (cell approaches) assign each person to exactly one group that is intended to make medical sense and to bring together insured persons with similar need for care (economically homogeneous). This presentation describes the status of the development of the PopGrouper which was initially presented at the 2022 PCSI conference.

Methods: The PopGrouper was developed using medical expertise and analyses of claims data from more than 9 million German sickness-fund insured persons. In the first stage of development, Consolidated Disease Groups ("Zusammengefasste Krankheitsgruppen", short ZKGs), which group diagnoses in a medically meaningful way, were defined and validated by experts from scientific medical societies. Since an individual can have multiple diagnoses, several different ZKGs can be assigned to a person. In the second stage, all persons were divided into mutually exclusive groups based on their diagnoses and other relevant characteristics. For this purpose, 10 higher-level "Macro Base PopGroups" (MBPGs) were first defined to segment the population by particular needs or severity levels. Across all MBPGs, approximately 400 "Base PopGroups" (BPGs) and roughly 1000 more granular PopGroups (PGs) were defined using decision lists and regression trees with costs as the target variable. In the final development stage, 10 economically driven "Meta PopGroups" were defined.

Results: Initial versions of the PopGrouper have been developed and a third version (V0.3) will be completed and presented at the time of the presentation. Application trials are planned for various areas, including 1) cross-sectoral health care delivery planning, 2) regional comparisons of quality and efficiency, 3) the evaluation of interventions, and 4) case management applications. Proposals for institutionalization in the German health care system are to be developed in 2024.

Discussion: The PopGrouper will be continuously revised and improved throughout the project based on the results of the application tests. In this session, initial results and the grouper will be presented and discussed.