Development and graphical illustration of a data-based analysis combining the regional distribution of patient cohorts with availability, distribution and caseload of in- and outpatient specialists

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BACKGROUND

The project's background was the European launch of a new, innovative drug for a rare endocrinological disease. Due to the low number of patients, the regional distribution of patients across Germany, as well as the identities of potentially prescribing doctors, were unknown. As a result, the medicine did not reach the patients.

GOAL

The aim was to analyze healthcare data to identify the distribution of patients across Germany, determine which inpatient and outpatient specialists are relevant for prescribing the drug, and locate these specialists.

METHODS

The methodological part divided into three milestones:

1	The nationwide analysis of prevalences	A population-based distribution of the known nationwide prevalence was calculated down to the level of German districts and independent cities. To ensure validity, the analysis used two different population databases.
2	The identification and classification of the relevant hospitals	Relevant operation and procedure codes for interventions that led to the postoperative development of the disease, necessitating the use of the drug, were identified. Subsequently, the number of such procedures performed per hospital was analyzed based on the German annual hospital quality reports.
3	The identification and classification of the relevant outpatient specialists	A nationwide doctor search was conducted, filtered according to the relevant specialist groups.

RESULTS

This approach made it possible to combine prevalence calculation methods with provider-specific data, creating a comprehensive representation of the healthcare landscape surrounding a specific drug or intervention. Based on these insights, a data-driven, self-updating, and widely applicable interactive tool was developed to understand specific care situations. This tool enables countrywide analysis of indication-specific care landscapes and can be adapted for use in other countries.
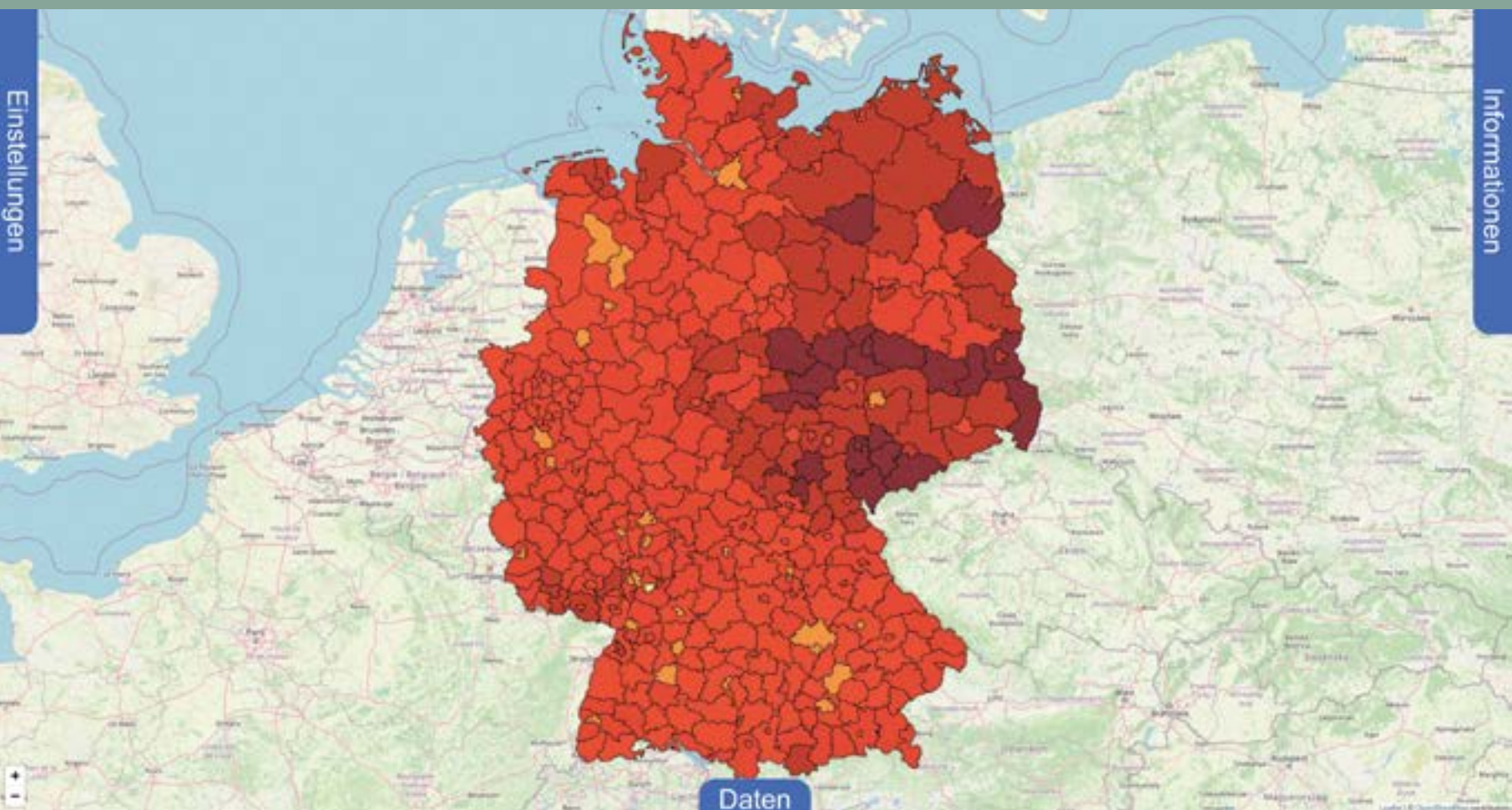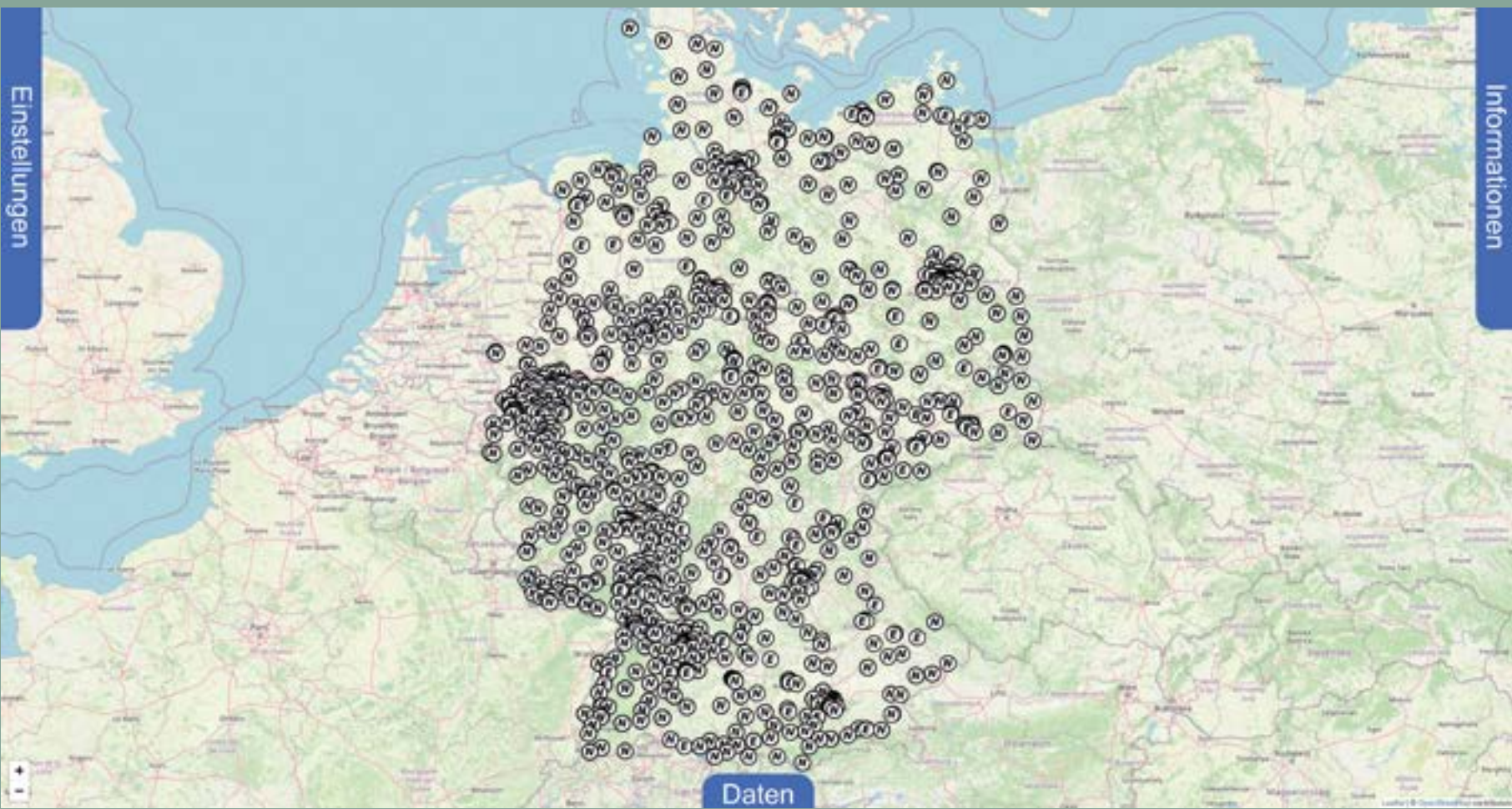

Presentation of prevalence nationwide
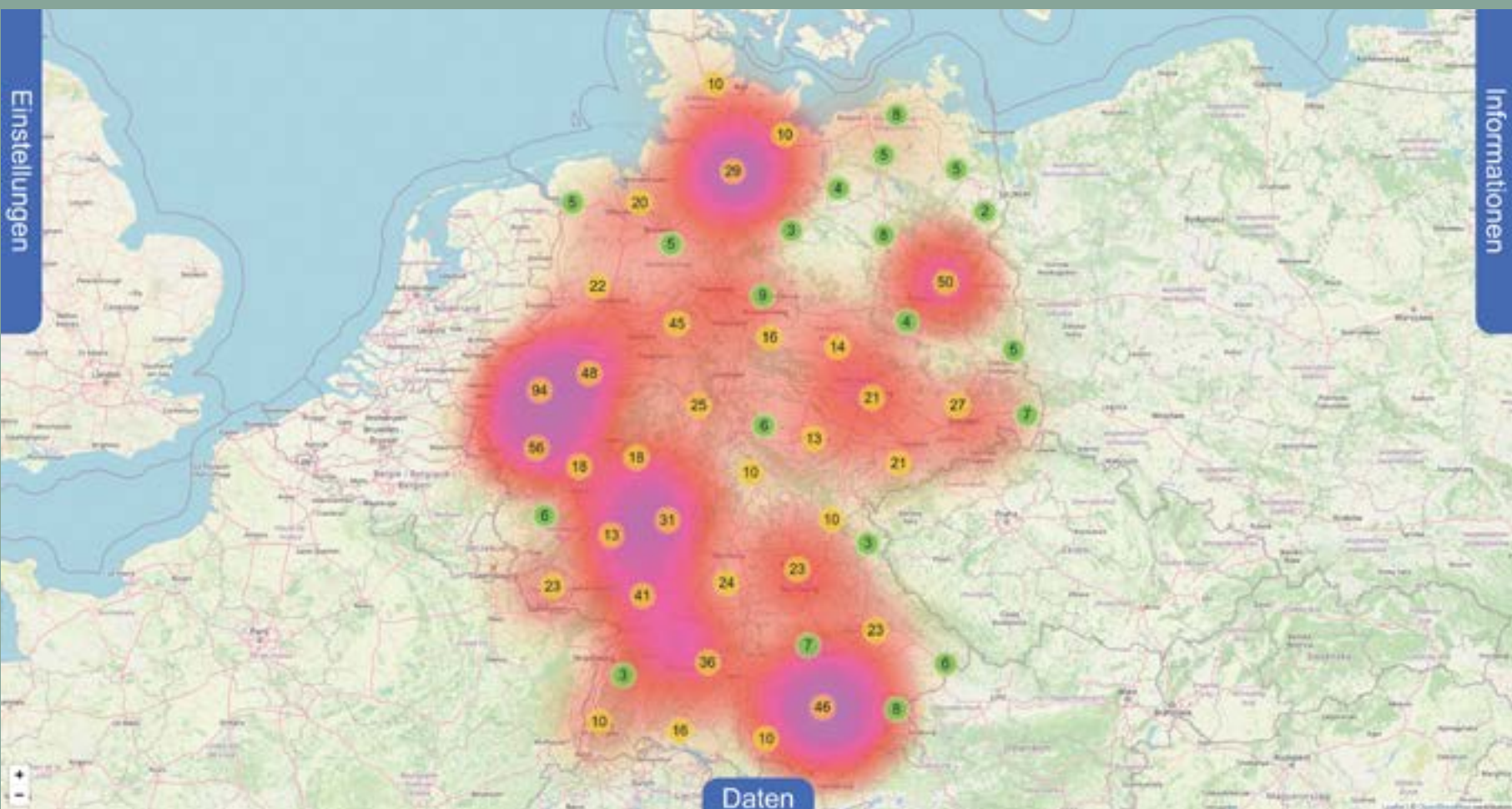
Combination of prevalences and providers in Heat Map

Presentation of operating hospitals

Presentation of different specialist providers

Ongoing spatial observation of the BBSR - INKAR, Edition 03/2024. ed.: Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR), Bonn (https://www.inkar.de/)

Data from the hospitals' quality reports from the 2022 reporting year. The hospital quality reports of the Federal Joint Committee (G-BA). https://www.g-ba.de/richtlinien/39/

Doctor's search of KBV https://arztsuche.116117.de/

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