Editorial

Equality in Living Conditions as a Prerequisite for Health Equity

Oliver Razum, Odile Sauzet

Editorial
to accompany the
article:
“District-level life
expectancy in
Germany” by Roland
Rau, Carl P.
Schmertmann
in this issue of
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Social health inequalities exist even in a wealthy country like Germany: people with a lower social status have a higher risk of falling ill and of dying at a younger age than those who are better off. Economic and political structures as well as individual living conditions and health behavior contribute to this state of affairs (1). What is less well known is that the place of residence within Germany is also associated with differences in morbidity and mortality risks. The work of Rau and Schmertmann in this issue (2) impressively demonstrates the existence of such differences. They show, for example, that the average life expectancy of men at district level varies by more than 5 years and that of women by almost 4 years.

Considering small-area differences

Rau and Schmertmann’s work gratifyingly pursues a direction of research that has developed over the past 15 years at the interface of public health, demography, and geography. It is worth remembering the work on differences in mortality at the district level by Eva Kibele, who in 2012 noted changes in regional mortality rates, especially among women (3). Werner Maier published an index of multiple deprivation in the same year, and has since used it to analyze mortality and other health differences at the community level (4). In our own study in 2008, we showed that health differences no longer follow an east–west gradient; rather, much smaller areas must be examined (5). Selective emigration of younger people, high unemployment, and resulting changes in health-related social norms can be found not only in some districts of eastern Germany, but also, for instance, in the core region of the Ruhr area (5).

Notably, Rau and Schmertmann were able to improve the estimates of mortality at the district level. As an important methodological limitation, they did not check for selection effects through selective emigration or immigration in relation to health status; indeed, this would require randomized controlled trials. Since such studies are not possible, the only remaining setting is a “natural experiment” (6). We found an example of one in the distribution of newly immigrated resettlers [(Spät-)Aussiedler] to the urban/rural districts of the federal state North Rhine–Westphalia: as this distribution does not depend on health status, we were able to rule out selective migration. Our analysis shows a higher

mortality rate among resettlers who were assigned to live in particularly poor districts than in those assigned to districts primarily inhabited by young families (7).

Rau and Schmertmann rightly note the political relevance of their research. How politics reacts to findings of regional inequality has changed fundamentally in recent years. In 2004 the German President, Horst Köhler, stated in a interview in the magazine Focus that there are major differences in living conditions in Germany. His proposed solution, however, relied mainly on self-initiative. Those who want to level regional differences, said Köhler, “cement the subsidy state and place an unsustainable debt burden on the younger generation. (. . .) What matters is to give people space for their ideas and initiatives.” (8) Today it is clear that self-initiative alone is not enough to overcome structural inequalities and regional disadvantages. In the meantime, politicians also see it that way. In 2019, three federal ministries presented a “Plan for Germany—Equal Living Conditions Everywhere” (9). Among other things, this called for improvements to the spatial structures and infrastructure in rural areas, as well as to social welfare services.

Targeted government intervention seems necessary

Rau and Schmertmann do not, however, find any clear evidence for the role of infrastructural factors, such as physician density at the district level, in the development of health inequalities. In contrast, there is a strong correlation with the proportion of recipients of German Social Code II-based (“Hartz IV”) welfare benefits. The authors therefore propose raising the standard of living of poorer people in order to reduce health inequalities. They leave open whether the focus should be on direct support of the poor or on the structural strengthening of regions. This is due not least to the evidence: interventions with a focus on structural factors are complex—both in implementation and in evaluation (6). Only a few studies have yielded robust results on this topic.

The COVID-19 pandemic will further fuel the debate about appropriate interventions, in that the consequences of the protective measures will have the effect of further increasing social inequalities in the field of health. Again, regional differences play a role: the COVID-19 incidence rates vary considerably

Department of Epidemiology and International Public Health, School of Public Health, Bielefeld University, Bielefeld, Germany: Prof. Dr. med. Oliver Razum, Dr. Odile Sauzet

Center for Statistics, Bielefeld University, Bielefeld, Germany: Dr. Odile Sauzet

among urban/rural districts—in May 2020 by a factor of >100 (10). Regions of higher incidence could experience greater economic disadvantages, and consequently health disadvantages, as a result of longer-lasting restrictions than less affected regions. Therefore COVID-19, too, poses for scientists and politicians the question of whether state aid measures should be evenly distributed throughout Germany or rather targeted according to local needs. Social health inequalities are largely avoidable, and it is in the interest of society as a whole to reduce them. Despite persisting controversies and gaps in the evidence, it can now hardly be disputed that government support is necessary to overcome structural inequalities. Exactly what form this should take requires further research. The goal of getting as close as possible to comparable living conditions and thus similar health opportunities throughout Germany now enjoys broad support.

Conflict of interest statement

Prof. Razum and Dr. Sauzet lead German Research Foundation (DFG)-funded projects about small-area influences on public health, which provided the framework for this editorial. Prof. Razum has received honoraria for the book cited in (1).

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Corresponding author

Prof. Dr. med. Oliver Razum, AG3 Epidemiologie & International Public Health, Fakultät für Gesundheitswissenschaften, Universität Bielefeld, Postfach 100131, 33501 Bielefeld, Germany, oliver.razum@uni-bielefeld.de

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CLINICAL SNAPSHOT

Juvenile Embolic Stroke Complicating COVID-19 Infection

A 39-year-old man was admitted to the hospital 70 minutes after the acute onset of dysarthria. Examination revealed left hemiparesis and multimodal neglect; there was no disturbance of the senses of taste and smell. The patient had been in quarantine at home for 11 days because of a respiratory infection with a positive test for COVID-19. Laboratory findings prior to admission had included a mild polycythemia; on admission, the hematocrit was 53.4% and the hemoglobin concentration was 19.1 g/dL. There was also an elevated D-dimer concentration (2.1 mg / L; normal range, <0.5 mg / L). The patient was informed both of the findings relating to COVID-19 (Figure a) and of the neurological findings, and he gave his informed consent to treatment by systemic thrombolysis and therapeutic phlebotomy. Although his neurologic state improved, a follow-up scan revealed a demarcated infarct (Figure b). Further tests ruled out a cardiac embolic source, a patent foramen ovale, and a deep venous thrombosis, and the patient was discharged to his home. Even in the absence of severe pulmonary manifestations, the D-dimer concentration was pathological. This case indicates that patients with a SARS-CoV-2 infection and associated activation of the clotting system may be at elevated risk for stroke even if they are young.

a) Bilateral atypical infiltrates (arrowheads), worse on the right, with subpleural consolidation (arrow); b) Right temporoparietal territorial infarct in the posterior portion of the middle cerebral artery territory (arrow), with a dense vessel sign (arrowhead).

Prof. Dr. Dr. med. Stefan Weidauer, Sankt Katharinen Krankenhaus, Akademisches Lehrkrankenhaus der Goethe-Universität-Frankfurt, Neurologische Klinik, Frankfurt am Main, stefan.weidauer@sankt-katharinen-ffm.de

Mona Tafreshi, Sankt Katharinen Krankenhaus, Akademisches Lehrkrankenhaus der Goethe-Universität-Frankfurt, Neurologische Klinik, Frankfurt am Main

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