Public Health Reporting Germany
Journal of Health Monitoring 2026 | 11 | 27 **EDITORIAL**

ROBERT KOCH INSTITUT

The Robert Koch Institute's COVID-19 lessons learned process: scientific assessment for future pandemics

Authors: Ulrike Grote[1], Ariane Halm[1], Julia Hermes[1], Nadine Püschel[1], Ute Rexroth[1], Meike Schöll[1], Lars Schaade[2], Andreas Gilsdorf[2]
Institutions: 1 Robert Koch Institute, Department of Infectious Disease Epidemiology, Berlin, Germany 2 Robert Koch Institute, Directorate, Berlin, Germany

The COVID-19 pandemic posed an exceptional challenge to the population and also to public health authorities, including the Robert Koch Institute (RKI). For more than three years, it placed demands on the RKI in almost every area of its statutory duties and professional remit: from assessing the epidemiological situation, conducting surveillance, providing laboratory diagnostics, evaluating public health measures, developing recommendations, supporting public health services, advising policymakers, and collaborating nationally and internationally. The RKI had to carry out many of these responsibilities amid considerable uncertainty, intense time pressure and a rapidly and frequently changing evidence base.

Following the end of the pandemic, the task now is to examine these experiences systematically. This calls for scientifically grounded reflection: What actions did the RKI take? What data and evidence informed those actions? What do we understand better today? And what conclusions can we draw for relevant future public health events and pandemics?

Through this series of articles in the Journal of Health Monitoring, the RKI aims to contribute to this effort. The articles examine key areas of the RKI's work during the COVID-19 pandemic, assess them in the light of the evidence now available and draw conclusions to inform the further development of pandemic preparedness planning and crisis management. The aim is to provide a transparent, evidence-informed account that serves research, practice and policymaking.

The process began with the idea of comparing experiences from the pandemic with current scientific evidence. To this end, the RKI developed five discussion papers internally on key thematic areas. These papers described the respective activities, recommendations and scientific assessments during the pandemic, summarised the available evidence and set out initial conclusions. They focused on the RKI's tasks and recommendations within its remit. The political implementation of measures was outside the scope of the assessment.

Given the breadth of the RKI's activities, the selection of topics required a clear focus. This series covers five areas:

1. Diagnostics, testing strategy, surveillance, notification system and digital tools
2. Public health and social measures for infection control
3. Medical countermeasures: vaccination and clinical management
4. Long-term effects of COVID-19 and social determinants
5. The RKI's international engagement during the pandemic.

One article is published alongside this editorial; others will follow over the coming months. A central element of this lessons learned process was exchange and dialogue with external experts. In October 2025, RKI experts discussed the papers with participants from federal and state ministries and authorities, universities, local public health authorities, laboratories, specialist institutions, associations and hospitals. The aim was to examine the RKI's internal preparatory work on the first four thematic areas critically but constructively, incorporate additional

Article and Journal Information

Submitted: 06.07.2026
Accepted: 10.08.2026
Published: 25.11.2026

Article not peer reviewed

Citation: Grote U, Halm A, Hermes J, Püschel N, Rexroth U, Schöll M, et al. The Robert Koch Institute's COVID-19 lessons learned process: scientific assessment for future pandemics.
J Health Monit. 2026;11:27.
doi: 10.25646/14616

Dr. Andreas Gilsdorf
GilsdorfA@rki.de

Robert Koch Institute, Berlin
Journal of Health Monitoring
www.rki.de/jhealthmonit-en

The German version is available at
www.rki.de/jhealthmonit

Open access

Creative Commons Attribution 4.0 International license

Federal health reporting
Joint service by RKI and Destatis

The Robert Koch Institute is a Federal Institute within the portfolio of the German Federal Ministry of Health

perspectives and refine the conclusions from a scientific perspective. A further discussion with national and international experts in February 2026 addressed the RKI's international activities.

The first phase of this process deliberately focused on self-reflection. This is both a strength and a limitation. An institution examining its own actions as part of a learning process has detailed knowledge gained through experience and first-hand insight into decision-making processes, scientific considerations and practical challenges. At the same time, such self-reflection cannot replace independent external scrutiny. For this reason, comparison with scientific evidence and incorporating external expertise were an essential part of the second phase. The articles in this series do not offer a comprehensive assessment of the pandemic as a whole but they provide a scientific analysis of selected topics within the RKI's remit.

The conditions under which the RKI often had to develop recommendations during the pandemic were typical of public health practice, but exceptional in their intensity. These included limited data on a new pathogen, rapidly changing viral variants, new diagnostic possibilities, changing population immunity, new vaccines and therapeutics, and substantial societal, legal and political implications. Providing scientific advice in a crisis means acting under uncertainty while also communicating that uncertainty transparently. Many decisions required action at very short notice, based on the information available at the time. In retrospect, many aspects can be assessed more clearly.

For the RKI, this process is part of broader institutional learning. The pandemic demonstrated the importance of effective public health institutions, scientific excellence, international networks and trust in evidence-based advice. It also showed that these foundations need to be in place before a crisis. Through this publication series, the authors considered what we can learn from the COVID-19 pandemic in the selected areas of work, where the evidence has supported recommendations and where further development is necessary. The intention is not to provide definitive answers to every question. The aim is to make clear how we intend to learn from experience and evidence in preparation for future events. Preparing for future health crises and pandemics is an ongoing responsibility.

The five articles in this series are published in the Journal of Health Monitoring under the following titles:

- The Robert Koch Institute's COVID-19 lessons learned process: surveillance, digital tools, diagnostics and testing strategy
- The Robert Koch Institute's COVID-19 lessons learned process: public health and social measures
- The Robert Koch Institute's COVID-19 lessons learned process: vaccination and clinical management
- The Robert Koch Institute's COVID-19 lessons learned process: managing the COVID-19 pandemic in Germany – Social determinants, interactions with non-communicable diseases and long-term effects
- The Robert Koch Institute's COVID-19 lessons learned process: international health protection is national health protection and vice versa.

Declaration of generative artificial intelligence (AI) and AI-assisted technologies

The authors used ChatGPT, GPT-5.5 Thinking, OpenAI, to assist with wording. condensing and translating the text of this editorial. The authors are responsible for conceptual development, assessment of the content and editorial revision, and bear final responsibility for all statements. ChatGPT was used to translate the manuscript from German into English.

Conflicts of interest

The authors declare that they have no conflicts of interest.