

The Kansas Wastewater Monitor: sharing data to guide individual decision making



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The Kansas Department of Health and Environment created a dashboard that uses the concentration and trend of respiratory viruses in wastewater to summarize current risks for professional and lay users. Users who want information on how to protect themselves can use the dashboard to find simple risk-based actions that they can use to reduce the risk of contracting severe respiratory illness. By giving Kansans straightforward guidance about potential health threats and ways to mitigate risk, this dashboard enables them to make informed decisions about how they can protect themselves.

The “What”

The Kansas Department of Health and Environment (KDHE) has monitored wastewater for multiple pathogens since 2022, but this data was previously only shared with local partners. In September 2024, an [MMWR article](#) discussed the results of a survey indicating that members of the public are supportive of wastewater pathogen monitoring efforts and want to use the data to guide their health-related decisions. With that information in mind, and to better serve Kansans, the KDHE Wastewater Monitoring Program sought to create a public-facing dashboard for wastewater pathogen monitoring data that maximizes utility to lay audiences.



Following a review of science and public health communication literature, KDHE created a set of 13 guidelines to inform the dashboard’s design.

Key guidelines included appealing to shared values, employing rhetorical devices, and reasonable transparency. Applying these guidelines to the dashboard narrowed the goal of the tool to present a single, actionable, and timely message supported by easily interpretable data. The program built the [Kansas Wastewater Monitor](#) around the concept of making recommendations for health-related behaviors based on the level and trend of viral concentrations in wastewater and emergency department visits for associated syndromes via syndromic surveillance.

Based on the CDC’s Respiratory Virus Guidance, the recommendations indicate to users if the concentration of respiratory pathogens in wastewater indicate the need for concern or altered behavior.



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Recommendations and supporting evidence are presented clearly and with accommodations for innumeracy and colorblindness. To serve the most diverse userbase possible, the rest of the dashboard is organized according to a "bite, snack, meal" approach, where the most important messages about risk (the "bite") are presented first, with "snack" (county-level data) and "meal" (downloadable data)-sized information available to those who want more information. In summary, the Kansas Wastewater Monitor is an example of audience-oriented public health communication designed to maximize utility to general audiences rather than simply displaying data.

The "So What"

While on the surface, the Kansas Wastewater Monitor is just another data dashboard that shares public health data, the evidence-based communication concepts embedded in its design represent a shift in public health communication. This is the one of a few wastewater dashboards in the U.S. that directly addresses the "so what" question of how to interpret the data it presents. By transparently offering a recommendation, the dashboard reduces the burden on the user to understand and interpret the data. This greatly improves the potential of the dashboard to inform the public. Additionally, the "bite, snack, meal" approach still gives more inquisitive users the opportunity to interpret the data on their own. This approach not only increases the effectiveness of the data but also works to increase trust in governmental public health through transparency.



The "Now What"

KDHE will continue to monitor how users interact with the dashboard to inform future updates. The steps taken throughout the process will also continue to inform future communication with public audiences.



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