

The timeline in the research of Zhang et al. (2020) presents the sequence of events and official reports related to pneumonia cases of unknown cause in Wuhan, China, at the onset of the COVID-19 pandemic. Starting on December 31, 2019, with the initial report of 27 cases, the timeline highlights significant gaps in reporting, especially during the period when the Wuhan and Hubei People's Congress sessions were ongoing. Notably, from January 1 to January 17, 2020, multiple days passed without any reports being released, even as the number of pneumonia cases increased to 59 by January 5. On January 11, authorities confirmed 41 cases but stated that no new cases had emerged since January 3. It wasn't until January 18, when the People's Congress sessions concluded, that new cases were reported daily. This timeline underscores potential delays and inconsistencies in public health reporting, possibly influenced by political events, which may have impacted early responses to the outbreak. The emphasis on the lack of reporting during the People's Congress suggests a critical period where transparency and timely communication were crucial yet lacking.

#### **4.3 Lessons learned from case studies**

From these case studies, several key lessons can be drawn to improve future Bt-based public health interventions. First, the importance of community engagement and the involvement of local experts cannot be overstated, as demonstrated by the successful fluoridation campaign in Saskatoon. Second, the need for a collaborative approach that includes diverse stakeholders, such as religious institutions, can enhance the effectiveness of public health measures, as seen in Romania (Dascalu et al., 2021). Third, the experiences from the COVID-19 pandemic highlight the necessity of timely and transparent communication to prevent public confusion and ensure effective response to health crises (Warren and Lofstedt, 2021). Lastly, the use of social media and other modern communication tools should be integrated with traditional methods to reach a broader audience and address misinformation effectively (Toppenberg-Pejcic et al., 2019; Arije et al., 2023).

By incorporating these lessons, future Bt-based public health interventions can be better equipped to navigate the complexities of risk communication and achieve greater public support and compliance.

### **5 Evaluating the Effectiveness of Risk Communication**

Evaluating the effectiveness of risk communication strategies for Bt-based public health interventions is crucial to ensure that the intended messages are accurately received and acted upon by the target audience. This evaluation can be broken down into three main components: metrics and indicators of success, feedback mechanisms, and continuous improvement.

#### **5.1 Metrics and indicators of success**

To measure the success of risk communication strategies, it is essential to establish clear metrics and indicators. These can include changes in awareness, knowledge, attitudes, and behaviors among the target population. For instance, a systematic review highlighted that multi-media approaches and printed materials combining text and diagrams are more effective in enhancing public understanding and response to environmental health risks (Fitzpatrick-Lewis et al., 2010). Additionally, the effectiveness of health-risk assessments with feedback has been demonstrated in worksite health promotion programs, where improvements in health behaviors and physiological estimates were observed (Soler et al., 2010). Metrics such as the rate of early detection, response times, and coordination efficiency during public health emergencies can also serve as indicators of successful risk communication (Dickmann et al., 2015).

#### **5.2 Feedback mechanisms**

Feedback mechanisms are vital for assessing the impact of risk communication and making necessary adjustments. These mechanisms can include surveys, focus groups, and direct feedback from the community (Brehaut et al., 2016). For example, patient-mediated interventions, such as patient-reported health information and patient education, have been shown to improve healthcare professionals' adherence to clinical practice guidelines, indicating the importance of incorporating patient feedback into communication strategies (Fønhus et al., 2016). Moreover, tailored risk feedback and message framing have been found to correct risk perceptions and increase behavioral intentions, underscoring the need for personalized feedback mechanisms (Goh et al., 2021).