Unlocking the Power of Behavioral Insights to Prevent Outbreaks: The Zoonotic Behaviors Survey

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Imagine This Scenario

Caption: Team going to address bird flu outbreak in Senegal. Credit: Breakthrough ACTION.

Imagine an outbreak of a zoonotic disease sweeping through a country. This disease, transmitted between animals and humans, threatens lives and overwhelms health systems. But this time, the Ministry of Health is ready. Equipped with robust baseline data on how communities interact with animals, their hygiene practices, and their trust in vaccines, the ministry can quickly design a targeted response. With access to a modular survey tool, they gather real-time behavioral data, to monitor trends and identify gaps in awareness and behaviors to inform risk communication campaigns and community engagement activities.

The intervention is swift and effective, containing the outbreak before it spirals out of control. This is the future of global health security—a future where governments are empowered with the behavioral insights needed to prevent and respond to zoonotic threats.

But This Isn't the Reality—Yet

Caption: Poster from Breakthrough ACTION created about keeping rats away from one's food to protect oneself from Lassa fever.

- For most countries, this level of preparedness remains a distant goal. While significant strides have been made in identifying and prioritizing zoonotic diseases under One Health frameworks, governments often lack the data needed to understand the behaviors driving zoonotic spillover and disease transmission. Standardized tools to measure these behaviors are rare, leaving countries to scramble for insights during outbreaks, when every second counts.

The Tool That Can Change This: The Zoonotic Behaviors Survey (ZBS)

Credit: Breakthrough ACTION.

Senegalese female farmer holding her chicken

The Zoonotic Behaviors Survey (ZBS) is an innovative tool designed to address this critical gap. Developed by Breakthrough ACTION, a global social and behavior change (SBC) project funded by USAID and led by the Johns Hopkins Center for Communication Programs (CCP) in partnership with a consortium of organizations, the ZBS standardizes the measurement of behaviors and behavioral determinants related to zoonotic diseases. It provides the data governments and implementing partners need to design effective prevention and response strategies, monitor progress, and contribute to the global knowledge base on zoonotic diseases.

Through evidence-informed risk communication and community engagement (RCCE) interventions, Breakthrough ACTION has been at the forefront of enhancing global health security. Operating across 19 countries, the project leverages One Health platforms to strengthen health systems and ensure communities are equipped to prevent, detect, and respond to zoonotic diseases and other emerging health threats.

How the Zoonotic Behaviors Survey (ZBS) was Developed

Credit: Breakthrough ACTION.

A young college student sharing a presentation with community members in Senegal

The ZBS is the product of rigorous development, underpinned by six years of qualitative research on zoonotic diseases across seven countries. Extensive literature reviews, consultations with One Health stakeholders, and input from global and local experts ensured that the survey reflects the most pressing behavioral drivers of zoonotic disease prevention and control.

Key innovations in its development include:

- **Expert Review:** Internal and external experts, including representatives from WHO and regional GHS initiatives, validated the survey's content, ensuring it aligns with international standards and local priorities.
- **Cognitive Interviewing:** Conducted in Côte d'Ivoire and Liberia, this process tested how participants understood and responded to survey questions, leading to improvements in clarity, relevance, and cultural appropriateness.
- **Field Testing:** The ZBS was piloted in Liberia and Côte d'Ivoire, allowing for refinements based on real-world implementation challenges and opportunities.

This iterative process makes the ZBS a trusted and adaptable tool, ready to be deployed across diverse contexts.

Why the Zoonotic Behaviors Survey (ZBS) Is So Powerful

Caption: Liberian data collection team gathers to identify the households to visit for data collection on a map.

The ZBS is not just a survey—it's a flexible and functional tool designed to meet a wide range of public health needs. Its features include:

- **Modularity:** The survey is broken into modules, tagged by disease, enabling countries to focus on specific zoonotic threats, such as Rift Valley Fever in Senegal or anthrax in Cameroon.
- **Tailorability:** The ZBS can be customized to the unique needs of different countries, regions, and objectives. For example, in Senegal and Cameroon, survey sites were selected based on One Health priorities, ensuring the data directly supports national strategies.
- **Adaptability to New Modalities:** Breakthrough ACTION is currently developing web-based and telephone-based versions of the ZBS, expanding its usability for real-time data collection during outbreaks.

These features make the ZBS an invaluable resource for governments, donors, and implementing partners seeking to understand and address zoonotic disease risks.

CASE EXAMPLE: Liberia's Implementation of the ZBS

Liberia's pilot of the ZBS exemplifies the tool's power and flexibility. Implemented in Bong and Montserrado Counties, the survey collected data from over 2,000 heads of households and individual adults, providing critical insights into behaviors influencing zoonotic disease risks. Key findings highlighted self-efficacy as a major driver of behaviors like dog vaccination and hygiene practices, with gender, education, and urban residency shaping behavior adoption. Behavioral attitudes, such as response efficacy and perceived risk, significantly influenced hygiene and emergency response behaviors, underscoring the importance of practical, behavior-focused messaging.

The survey also revealed the role of descriptive norms in shaping routine hygiene and care-seeking behaviors, while community trust in institutions like schools, health workers, and scientists enhanced the likelihood of collective action. These findings illustrate how the ZBS can provide governments with actionable data to design tailored interventions and strengthen resilience against zoonotic disease threats.

This combination of modularity, adaptability, and real-world application makes the ZBS an invaluable resource for governments, donors, and implementing partners seeking to understand and address zoonotic disease risks.

CASE EXAMPLE: Côte d'Ivoire's Implementation of the ZBS

The ZBS pilot in Côte d'Ivoire offered key insights into community knowledge, attitudes, and practices regarding zoonotic disease prevention. Conducted in the regions of Agnibilékro and San Pedro, the survey revealed that while many respondents were aware that diseases can be transmitted between animals and humans, detailed knowledge of specific diseases, such as Marburg fever and mpox, remained limited. More commonly recognized diseases included rabies and avian flu, underscoring the need for targeted awareness campaigns to address lesser-known threats.

Preventive behaviors varied widely. Many respondents reported practicing basic hygiene behaviors, such as handwashing after handling raw meat, but critical protective measures, like avoiding meat from sick or unknown sources and using protective equipment during waste management, were less frequently adopted. These gaps underscore the importance of promoting simple, actionable preventive behaviors that can be integrated into daily life and supported by community engagement efforts.

Similar to findings from Liberia, community trust and self-efficacy were identified as significant factors influencing behavior. Trust in healthcare providers was relatively high, and respondents often relied on local leaders and peers for guidance, highlighting the role of social dynamics in behavior adoption. However, structural barriers, such as limited access to veterinary services and the cost of vaccinations, hindered widespread adoption of preventive measures, including routine animal vaccinations.

The ZBS findings highlight the need for interventions that combine structural support, like improved access to veterinary care, with culturally relevant communication strategies that leverage trusted community influencers. Efforts should focus on building trust, simplifying preventive practices, and addressing the specific barriers identified to create sustainable behavior change.

This implementation demonstrates how the ZBS provides governments with actionable insights, enabling them to design tailored interventions that strengthen resilience, enhance prevention efforts, and support global health security frameworks.

Why and How It Should Be Implemented

Caption: Photo from Liberia illustrating how animals are often in close proximity to households' food.

The ZBS offers three critical functions that can transform how countries approach zoonotic diseases:

1. **Baseline Data Collection:** Establishing a baseline for behaviors and behavioral determinants helps inform routine prevention programs and guides community engagement efforts.
2. **Monitoring and Evaluation:** By tracking behavioral shifts over time, the ZBS supports the evaluation of risk communication and community engagement (RCCE) activities, ensuring resources are used effectively.
3. **Contributing to the Knowledge Base:** The ZBS provides data to support the creation of standardized behavioral indicators, filling a critical gap in global health security and enabling cross-country comparisons.

For maximum impact, the ZBS should be integrated into national RCCE strategies and implemented in collaboration with One Health platforms. Countries can use the tool to collect data in key regions, tailoring the survey to focus on priority diseases and leveraging insights to strengthen preparedness and response efforts.

How to Access the Zoonotic Behaviors Survey (ZBS)

Caption: Behind-the-scenes shot from Drôle de Marché, a francophone mini-series modeling bird flu and rabies preventive behaviors.

- The ZBS is available through the CCP, a global leader in SBC and health communication. CCP is ready to collaborate with stakeholders to implement the ZBS, adapt it to diverse contexts, and ensure its findings drive impactful action.

  Whether your organization is seeking direct implementation support or planning to adopt and customize survey modules, CCP offers the expertise, tools, and technical guidance needed to operationalize the ZBS. CCP is also committed to sharing lessons learned from implementing the ZBS globally, fostering cross-country collaboration, and advancing the global knowledge base on zoonotic disease prevention.

  Partner with CCP to strengthen health systems, enhance community resilience, and contribute to a safer, healthier future. With the ZBS and strong partnerships, we can prevent outbreaks before they begin. Contact ccpinfo@jhu.edu today to explore how the ZBS can transform your approach to zoonotic disease prevention and response.