

Fact Sheet

The Pillars of Outbreak Response

The COVID-19 pandemic highlighted the need for an understanding of how outbreaks can be effectively managed. This knowledge allows for evidence-based infectious disease response. An outbreak refers to a higher-than-expected number of cases of a certain disease in a specific area.

Outbreak response is a highly specialized area of public health that requires a background in medical science and epidemiology, plus extensive on the ground, practical training.

There are four Pillars of Outbreak Response:

1. **Leadership Team:** Build an effective, skilled, inclusive, transparent outbreak team that can review/analyze and rapidly respond to the current situation and to understand models predicting the possible outcomes
2. **Tests and data:** Identify properly validated tests for the disease in question. Include measures for clinical effect and mortality, the effect on mental health and economic and social prosperity. Also include data on risk factors (i.e., age, income, location) to identify groups at risk through proper data analysis.
3. **Treatment and prevention:** Identify, implement, revise/adjust and monitor safe and effective approaches to treat those affected and prevent others from becoming affected.
4. **Communications:** Establish and maintain with all key audiences a multiway dialogue that is open, truthful, complete, transparent and evidence based.

Each of these are implemented:

- **Short term** to reduce the immediate effect of the outbreak
- **Medium term** to develop more approaches based on evidence obtained from the outbreak
- **Long term** to build more effective approaches for prevention of future outbreaks based on lessons learned.

Benefits of following the Pillars Approach

- **Inclusive leadership** – all relevant members of the community are represented, their concerns are heard, and essential technical expertise is included and shared transparently. This builds the trust that is essential for community participation in proposed treatment and prevention approaches.
- Properly validated **tests** - indicate the magnitude of the outbreak and its consequences (clinical cases, mortality, and economic impact). With proper data collection and analysis, treatment and prevention strategies can be focused on groups truly at risk, avoiding unintended consequences to others and saving valuable time and resources.
- Effective **treatment and prevention** strategy - allows for the selection of treatment and preventive approaches in a timely manner which are safe and effective.
- Effective **communication** - everyone in the community always understands the situation and knows how to assist.

Consequences of not following the Pillars Approach

Failure to incorporate any of the pillars can result in ineffective, prolonged or even catastrophic consequences.

Additional information:

1. [Gregg, M. Field Epidemiology. New York. Oxford University Press, 2008. Print.](#)
2. [Wilson, J, Salman, M, Janzen, E. et al. Community Network Integration: An approach to alignment of One Health partners for solutions to 'Wicked' problems of antimicrobial resistance. Prev Vet Med 2020; 175:1-2.](#)
3. https://www.youtube.com/watch?v=bdgEpo8_JC8&t=775s

For more information see <https://www.novometrixinc.com/>