

WG 2 (Preventive Medicine and Healthcare Policies)

Detect. Assess. Inform. Act: The Health Intelligence Agency

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Effective disease surveillance is critical for early detection, risk assessment, and response to public health threats. This lecture explores key methodologies for tracking and analyzing outbreaks, highlighting the vital role of health intelligence in preparedness and decision-making.

Real-time data plays a crucial role in identifying emerging health risks. For example, West Nile fever outbreaks have been detected through mosquito surveillance, allowing authorities to implement vector control measures and reduce transmission. Similarly, health intelligence has been instrumental in tracing Hepatitis A outbreaks, enabling public health interventions such as vaccinations.

By leveraging epidemiological modeling, data analytics, and cross-sector collaboration, health intelligence assesses risks and provides actionable insights to policymakers and healthcare professionals.

Through case studies and real-world examples, this session will demonstrate how a proactive and intelligence-driven approach strengthens public health resilience, ultimately leading to more effective outbreak prevention and response.

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A Threat Classification Model Based on National Risk Levels

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Israel's National Health Intelligence Agency was established post COVID-19 pandemic to enhance early detection and response to public health threats. It supports risk-based decision-making, detecting outbreaks, assessing risks, and guiding strategic actions. A structured threat classification model is essential for shifting from reactive to proactive public health management.

Purpose:

To develop a standardized model for classifying public health threats based on national risk levels and potential disease importation.

Methods:

The model evaluates five key factors:

1. Anomaly detection – Identifying unusual health events.
2. Severity assessment – Mortality and transmissibility.
3. Population vulnerability – Immunization levels, healthcare burden.
4. National preparedness – Policies, stockpiles, governance.
5. Additional considerations – Political, economic, and public concerns.

Results & Implications:

1. A real-time, adaptable threat classification tool.
2. Standardizes risk levels for national health events.
3. Supports evidence-based decision-making and response planning.
4. Enhances coordination across health authorities and emergency systems.

Existing models often focus on travel-related threats or pandemics, neglecting broader risk factors. This model integrates comprehensive public health risks to guide national preparedness and response strategies effectively.

Overall, the threat classification model based on national risk levels provides an organized, insightful snapshot of the threat landscape. It helps leaders and planners swiftly grasp which threats present the most serious challenges, fostering informed decision-making to enhance national resilience and security. Each threat category is addressed in proportion to its risk, thereby optimizing mitigation efforts for better protection of the nation's people, infrastructure, and interests.