

Force Health Protection and Readiness Programs Directorate

Epidemiological Surveillance Methods Development

- Project management
- Liaison with CDC, MHS, Johns Hopkins University and others
- Application of epidemiological methodology to current health surveillance operations within DoD
- Review and analysis of ESSENCE, the DOD's syndromic surveillance system
- Status reporting
- Executive briefings
- Medical geographer activities

PROJECT OVERVIEW & RESULTS

The Epidemiological Methods and Development Project is currently funded by the DoD's Avian Influenza budget for FY07. With the constant threat of pandemic influenza, the DoD has chosen to invest in their global health surveillance capabilities. PSI and its strategic partners were awarded the project to improve current DoD bio-surveillance activities as well as suggest innovative concepts for future surveillance efforts at the enterprise level (TRICARE Management Activity/Health Affairs).

Within a few months, the PSI Team developed a methodological framework to evaluate existing syndromic surveillance systems. Key components included: (1) data extracts, (2) standardization and aggregation, (3) syndrome classification and algorithm detection, (4) processing and visualization and (5) user interface and display.

The essential core competencies required to properly conduct research and analysis on this project include the following:

- Extensive knowledge in infectious diseases and bioterrorism (is absolutely critical)
- Extensive experience associated with environmental exposures and GIS systems (is paramount)

The project is focused on applying epidemiological methodology to current health surveillance operations within DoD to improve detection capabilities of infectious diseases and possible bioterrorism events at over 300 DoD medical treatment facilities around the world. The ability to quickly identify the areas of improvement and suggest the necessary methodology for enhancement is crucial to the project's overall success.

ESSENCE, the DoD's syndromic surveillance system, is currently being reviewed and analyzed by PSI employees in an effort to enhance the system's ability to detect serious infectious diseases such as avian influenza and SARS.

TECHNICAL ENVIRONMENT

- This work is extremely technical, daily tasks often require the ability to synthesize and translate multifaceted information in the areas of bioinformatics, bio-surveillance and bio-defense; and
- The PSI Team not only works closely with the Force Health Protection and Readiness Staff but also with ESSENCE's mission partners such as EIDS and CITPO.

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