

Poster Section: Surveillance and Diagnostics, with an Update on Rapid Diagnostics

Section Chair: David Hillyard, MD

Poster Title: US Army Acute Respiratory Disease Surveillance Program: Select Outbreaks and Program Review (1995-2006)

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Army Medical Surveillance Activity

Context

Acute respiratory diseases (ARD) are a cause of high morbidity and occasional mortality among military trainees. Since 1966, the US Army has tracked weekly incidence of ARD at Army basic combat training installations. Understanding the dynamics of ARD (and, similarly, ILI) in this vulnerable population is vital to building the capacity to detect and respond to an emergent virulent strain of influenza and/or suboptimal influenza vaccine.

Objectives

To summarize select ARD/group A streptococcus (GABHS or GAS) outbreaks from the past 5 years and review ARD activity over the past 12 years of the ARD Surveillance Program.

Methods

Data on ARD rates and GABHS were collected every week from 5 installations as part of ARD Surveillance. Information on select ARD/GABHS outbreaks was extracted from the Defense Medical Surveillance System.

Results

Outbreaks at Fort Leonard Wood coincided with the shortage of benzathine penicillin G (BPG). Four of the 5 outbreaks exceeded the ARD threshold. In 5 outbreaks, 80% of all isolates tested for M types were M5. Pneumonia and deep soft-tissue infections were the most common disease diagnoses.

Conclusions

M types, once known to be associated with acute rheumatic fever, are now commonly associated with other invasive GAS diseases. Environmental improvements coupled with mass and tandem chemoprophylaxis have stopped outbreaks of ARD/GABHS. The ARD rate threshold, GABHS surveillance, and sentinel case surveillance are sensitive and specific tools to capture outbreaks of disease at local installations and to respond in a timely manner.