

Roundtable Discussion

Identifying Unmet Health Surveillance Needs Of Recruits

Recruits are the fuel that keeps the military enterprise humming. Consequently, ascertaining and maintaining the health of those who enter the military and undergo basic and advanced training is essential.

In fiscal 2009, the military services, including the National Guard and reserve forces, signed up 296,500 recruits, at an average total cost of \$44,000 for basic and advanced training. If a recruit — or a group of recruits — is injured or becomes ill, it can compromise the flow of manpower into combat and support units. Having to discharge recruits for health reasons comes at great expense, in terms of both dollars and mission performance.

To examine the effectiveness of surveillance for injuries and pathogens that might adversely affect recruit training, the Armed Forces Health Surveillance Center and the nonprofit Institute of Federal Health Care held a roundtable discussion attended by representatives of the public health and training communities in the Defense Department and US Coast Guard.

The roundtable identified gaps in current surveillance efforts and made suggestions for narrowing them. Among the major ideas to emerge from the discussion:

** Assembling a baseline health history for each recruit at the time training begins, with a common form used among the service branches.* A standardized form would make it easier to monitor individuals involved in joint training programs.

** Creating a public health structure within the Military Health System to develop*

a plan for use of resources across the service branches and to allow the flexibility needed for faster responses to disease outbreaks. The plan should provide for more effective data collection.

Resources and manpower for dealing with recruit health problems are limited; a coordinating body could quickly direct resources to areas of greatest need and could provide overall monitoring of injuries and outbreaks in

training centers. A coordinating body also could help proliferate programs tested at one training center and found to be of value in reducing injury or disease transmission. Roundtable participants also saw need for having such a body focus on areas of concern: laboratories, the clinical setting, and information technology, for example.

** Standardizing surveillance definitions at the local level and across the service*

From the discussion ...

- **Nearly a third of enlisted personnel fail to complete their first tour of duty. Of this group, between 30 and 40 per cent entered through a waiver — allowing them time to rectify a disqualifying condition such as obesity.**
- **Local units are where injuries and illnesses first are detected and where their impact is felt. Commanders need better data in a usable format that allows them rapidly to detect the need for mitigation measures and to see how their training units compare to others.**
- **Recruits cannot be sent on to duty stations if they are injured or ill, potentially delaying deployments or causing deployment of a unit at less than full strength.**
- **Recruit training should include the same type of conditioning measures used for athletes: a focus on nutrition, sports medicine, physical conditioning. “We do it for the athletic teams at our service academies, and we should have the same mind-set elsewhere.” Several training centers are undertaking such programs and may serve as models.**
- **Some surveillance is accomplished through special studies; at other times it is done routinely. An assessment should be made as to when the special can move to the routine, and how to determine when special studies are needed.**
- **Training cycles are being extended, potentially extending the time recruits are vulnerable to the infectious diseases linked to housing in close quarters, adenovirus being a prime example.**
- **Some training occurs in areas without military hospitals. In these cases, civilian hospitals are used, and a mechanism is needed to obtain data from them.**

branches. This would allow translation of injuries and illnesses that clinicians encounter into aggregated data, facilitating comparisons and trending.

** Giving the Armed Forces Health Surveillance Center authority to mobilize public health resources to respond to disease outbreaks.* As things currently stand, “no one is responsible for getting the ball rolling.”

** Improving the electronic health record (EHR).* Busy clinicians should not have to do the ICD-9 coding that plugs into the EHR. Well-trained coders are needed to make the EHR a useful tool for surveillance.

Surveillance for Injuries

Identifying recruits at highest risk for injury is problematic. Current data indicate that women are slightly more susceptible to injury during training than men.

Musculoskeletal injuries are a significant problem at the nine training centers maintained by the services (five Army, two Marine, one each Air Force and Navy). While such injuries often can be rectified with rehabilitation programs, systematic data on the results of such interventions are lacking. For example, it would be helpful to know the typical in time rehabilitation by condition and measures that successfully reduce those times.

The current electronic health record does not provide information on the cause of or the severity of an injury. Data from the battalion aid level are not available, making it difficult to obtain a complete picture. In the case of head injuries, for example, “we don’t know if the injury is related to training or some other situation.”

Surveillance for Diseases

Adenovirus outbreaks at the Coast Guard training center in Cape May,

New Jersey, and the Air Force training center at Lackland AFB, Texas, exemplify the vulnerability of recruits to respiratory infectious diseases. The emergence of H1N1 in the spring of 2009 underscored concern about the detrimental effect on deployments and missions should a training center be closed because of widespread illness.

While new adenovirus vaccines are being developed, this process has taken so long that the serotypes involved in recent outbreaks are different from those in the vaccines. Consequently, it is uncertain how effective the vaccines will be in averting adenovirus outbreaks.

While infectious disease outbreak data may be readily available at the local level, a tool is needed to integrate such information automatically at higher levels. “We have a lot of data; the issue is useful analysis.”

The current electronic record lacks important functions, such as the ability to search for the number of febrile persons seen each day. Those involved in recruit surveillance cannot determine how many individuals have been admitted to hospital or their outcomes.

Each service branch should be able to access data from the others.

Surveillance Wish List

Roundtable participants mentioned potential surveillance markers that would be valuable — but may be too complex to be developed at this point in time.

** A marker for motivation.* Such a marker would allow detection of recruits who simply lack the determination to complete the rigors of training, potentially saving money by avoiding discharges. Even if a definite marker seems elusive, attempts are being made

to use psychometric questions that can help determine motivation levels.

** A means of identifying those who are incubating an infectious disease.* This potentially could allow isolation of recruits before they can spread infection in the close barracks quarters that are part of training.

Participants in this roundtable: Patrick Blair of the Naval Health Research Center; John Brundage of the Armed Forces Health Surveillance Center (AFHSC); Daniel Burnett of the Uniformed Services University of the Health Sciences; Michael Butel of Force Health Protection and Readiness Programs; Richard Caldwell of the US Coast Guard; Steven Cersovsky of the US Army Public Health Command; Christopher Claggett of the Navy and Marine Corps Public Health Center; Thomas Cropper of Lackland AFB; Robert DeFraitas of AFHSC; Joel Gaydos of AFHSC; Phil Could of the Air Force Medical Support Agency; Keith Hauret of the US Army Public Health Command; Penny Heisler of the Marine Corps Recruit Depot San Diego; Joseph Knapik of the US Army Public Health Command; Jenny Lay of AFHSC; Robert Lipnick of AFHSC; Robert Lipsitz of Naval Health Clinic Great Lakes; Sharon Ludwig of AFHSC; Victor MacIntosh of Brooks AFB; Michael Meier of the Joint Staff; Sean Moore of Lackland AFB; David Niebuhr of Walter Reed Army Institute of Research; Karen O’Brien of TRADOC; Jean Otto of AFHSC; Laura Pacha of the US Army Public Health Command; Christopher Perdue of AFHSC; Christopher Phillips of the Naval Health Research Center; Timothy Powers of AFHSC; Eva Reed of Naval Hospital Beaufort/Parris Island; Christopher Rennix of the Navy and Marine Corps Public Health Center; John Rowe of the Office of the Army Surgeon General; Cecili Sessions of AFHSC; Trueman Sharp of Uniformed Services University of the Health Sciences; Danny Shiau of the Navy Bureau of Medicine and Surgery; Julia Springs of the US Marine Corps; Timothy Styles of AFHSC; Annette Von Thun of AFHSC.

The roundtable was moderated by Francis O’Donnell of the Armed Forces Health Surveillance Center (www.afhsc.mil). Institute of Federal Health Care Managing Director is Nancy Tomich (www.fedhealthinst.org).