ANTIMICROBIAL PROPHYLAXIS AND PROVIDING SUBACUTE CARE IN THE CONTEXT OF A BIOTERRORISM EVENT: LESSONS LEARNED FROM 2001

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1. Introduction

Since 2001, development of bioterror response capacity has largely focused on emergency management, development of diagnostic tools and algorithms, and ensuring capacity for acute care of casualties [1, 2]. This has included assuring supply of antimicrobials, vaccines, critical equipment, and hospital preparedness planning. The 2001 anthrax attacks demonstrated that subacute response, the ability of public health to mobilize screening, treatment, and dispensing capacity to large numbers of potentially exposed persons, was the major need. Despite this experience, there has been little planning for subacute response capacity.

In the context of a bioterrorism event, subacute response is providing assessment services, counseling, preventive treatment, and follow up to persons with potential exposure, and who are not clinically ill. Preparing the subacute response poses enormous logistical challenges. In most cities, providers of preventive health services, for example, municipal health departments currently provide only minimal clinical services, and have little surge capacity. Therefore, careful planning is critical.

This is a national problem. McGugh reviewed preparedness in 12 US metropolitan areas in 2002–2003 [3]. The vast majority of activity was in emergency preparedness/response activities and hospital preparedness. Major activities included increased disease surveillance, laboratory capacity, information and system technology, education, and workforce training (mostly for immediate disaster response). Challenges identified in this review were funding shortfalls, local budget deficits (independent of preparedness), which limited surge capacity, communications, and infor-
mation technology infrastructure, and public health staffing. “Respondents in some communities reported difficulties in hiring qualified public health workers, particularly nurses and epidemiologists, because of short supply and inability to offer salaries competitive with the private sector.”

During the 2001 anthrax attacks, the health departments in the New York and Washington areas were presented with an enormous challenge; providing therapeutic treatment, preventive treatment, and counseling to thousands of individuals who were potentially exposed. This presented enormous stresses to the local health departments, but also presented opportunities for planning these types of events in the future. Their experiences have been extensively reviewed [4–8]. In reviewing the experience, it appears that the bulk of all clinical activities responding to the attacks were provided by direct health-care providers providing subacute care. Acute care hospitals, first responders, and emergency departments played only a minor role. This review will synthesize the reported literature reports, and the Baltimore Health Department experience of the 2001 outbreak, which addressed the subacute outpatient response.

In the United States, the structure of the public health system is highly decentralized – providing both major advantages and disadvantages for disaster planning. Public health in the United States is a local and state function specifically delegated as such in the US Constitution. Each of the 50 states has a health department, and within those states, there are a total of 3,100 local health departments, mostly at the county or municipal level. Over two-thirds of these departments serve small populations (less than 50,000 individuals) and have less than seven direct employees. Because of changes in the US public health system over the past decades, the clinical capacity of the public health system has actually decreased. Rarely do public health departments provide direct clinical services in primary care, and typically they are limited to areas which have public health impact, specifically those mentioned above. For example, health departments used to provide large amounts of primary pediatric and prenatal care. However, with expansion of managed care organizations, and provision of insurance to children and pregnant women, the need for public health provision of those clinical services has declined.

The published literature identifies five major problem areas in the 2001 anthrax attack response, and has been most comprehensively reviewed by Gursky [2], and critiques published by the US Government General Accounting Office [1]. These include: