The Strategic National Stockpile: Vital to Maintain, Critical to Improve

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SNS: A Public Good with a Declining Budget

Established in 1999, the SNS evolved from the National Pharmaceutical Stockpile (NPS), headed by the Centers for Disease Control and Prevention (CDC) within the Department of Health and Human Services (HHS). Its purpose, as directed by Congress, was to "provide a re-supply of large quantities of essential medical materiel to states and communities during an emergency within the first two hours of the federal decision to deploy."[3] After the 9/11 terror attacks, which dislodged Americans from a state of complacency about disasters, policymakers took a more careful look at the NPS and discovered a number of flaws. These shortcomings included a slow response time, inadequate supplies on hand, and responders who were often unqualified to handle specific emergencies.[4] To address these shortcomings, the Homeland Security Act of 2002 transferred responsibility of the NPS to the Department of Homeland Security, under whose authority the NPS officially became the Strategic National Stockpile in March 2003.[5]

In 2004, the enactment of Project Bioshield further increased preparedness efforts by appropriately restoring jurisdiction of the SNS to the CDC—which is part of HHS, not the Department of Homeland Security—as we are calling for the strengthening of the SNS' capacity to store and distribute countermeasures such as vaccines and drugs in the event of a bioterror attack. The Bioshield Special Reserve Fund encouraged private business involvement in building up the SNS by offering a guaranteed federal market for medical supplies.[6] Establishing such a market was, and is, essential to stockpiling efforts,

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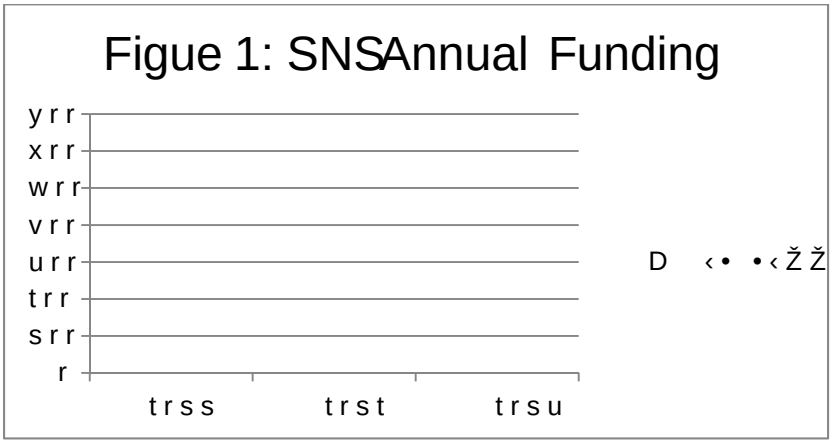
[3] "CDC – PHPR – Strategic National Stockpile," Centers for Disease Control and Prevention, http://www.cdc.gov/phpr/stockpile/stockpile.htm (accessed July 15, 2013).
[4] Ali S. Khan, "Public health preparedness and response in the USA since 9/11: a national health security imperative," Centers for Disease Control and Prevention, www.cdc.gov/phpr/documents/Lancet_Article_Sept2011.pdf (accessed July 15, 2013).
[5] U.S. Department of Health and Human Services, Chemical Hazards Emergency Medical Management, "Strategic National Stockpile – SNS," http://chemm.nlm.nih.gov/sns.htm (accessed July 15, 2013).
[6] Congressional Research Service, "Medical Countermeasures to Chemical, Biological, Radiological, and Nuclear Terrorism," Issues in Homeland Security Policy for the 113th Congress,

as individuals are unlikely to purchase many of the key countermeasures needed in case of a biological, radiological, or chemical incide

Figure 1:



These numbers may sound huge, and they are. But the SNS is a classic example of a public good, something that the nation requires, but that individuals are unlikely to procure for themselves. Historically, the paradigmatic example of a public good has been a lighthouse, especially in days when cross-oceanic transport took place exclusively by ship. These days, lighthouses are relatively rare, but the need for public goods continues. According to a recent analysis by Kevin Williamson, author of The End Is Near and It's Going to Be Awesome, only about one-third of federal spending today is on public goods.[11] Our problem today is perhaps not a lack of resources as much as a need to re-examine our priorities. The SNS is a strategic necessity for the United States government. Given that there are many forms of government spending that are not strategic priorities, the United States needs to find ways to trim non-priority spending before reducing its commitment to the SNS. Decreasing funds for the SNS inhibits its ability to provide adequately for the ever-increasing population of the United States, forcing it to do more with fewer resources.

If funds continue to dwindle, the SNS will need to allocate its limited dollars more strategically by evaluating different platform technologies that could promote more efficient innovation in the future. Also, the "one bug, one drug" method that is currently employed should be re-evaluated and redirected to a "many bugs, one drug" approach.

[11] Kevin D. Williamson, The End Is Near and It's Going to Be Awesome: How Going Broke Will Leave America Richer, Happier, and More Secure (New York: Broadside Books, 2013).

Establishing the right platform technologies could put us on the path for more innovations in the future. Another budgetary challenge has always been the need to replace products rather frequently as they reach their expiration dates. Fortunately, PAHPRA has extended the shelf life of expired SNS products that the FDA has deemed are still effective and usable, which will help further stretch limited SNS spending.[12]

The Promise of the SNS

The SNS' arsenal of drugs and vaccines ha

best examples of the SNS' potential benefit in the area of anthrax, which came to the public's attention during the attacks via the U.S. Postal Service in the autumn of 2001. Anthrax, an infectious disease that affects the skin, gastrointestinal tract, and/or lungs, can be spread rapidly, over great distances, in relatively minute amounts by persons wishing to do us harm. In 2009, the National Security Council reported that a biological attack with an agent such as anthrax could cause casualties in the "hundreds of thousands

of the supplies, with a goal of being able to get a crucial countermeasure to any location in the country within 24 hours. The first provisions to be deployed are 12-hour “Push Packages” that provide an extensive array of drugs and materials within the early hours of an immediate threat. In the event of a bioterror attack, antibiotics hypothetically would be distributed to a designated metropolitan area within 48 hours of the deployment.[16]

Distribution methods

Beyond the big-picture goal of the distribution of large quantities of product to a general area, there is the question of how best to distribute product to the specific people in need.

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Overall coordination

Another challenge, as the case of missing Tamiflu suggests, is the apparent lack of an overarching central authority to coordinate all aspects of public health. Under Section 2811 of the PHSA, the authority for coordination of this sort falls squarely under the Secretary of Health and Human Service, specifically in the office of the Assistant Secretary for Preparedness and Response. The National Response Framework Emergency Support Function (ESF) #8 is quite explicit on this front: "The Secretary of HHS leads the ESF #8 response. ESF #8, when activated, is coordinated by the Assistant Secretary for Preparedness and Response (ASPR)."[30]

And yet, as with many government responsibilities and activities, public health data and information remains scattered among various

Offsetting the cuts in SNS funding is a difficult task, especially considering the $16.7 trillion national debt and the concerns about budget sequestration. Some options include transferring funds from other public health agencies including the Indian Health Services (IHS), Agency for Healthcare Research and Quality (AHRQ), and Centers for Medicare and Medicaid Services (CMS), to name a few. These agencies' combined budgets were increased $296 million with the 2013 FY budget. Perhaps with the establishment of the situational awareness authority uniting the public health agencies, appropriate budget transfers could be made among the agencies, although the bureaucratic tendency to defend one's turf makes this somewhat unlikely. The second option involves deriving funds from the Prevention and Public Health Fund of $903 million. This too seems unlikely, given that Congress has already cut this fund for 2013 by $250 million, and that the fund has certain powerful advocates in Congress.[25] Of course, there is always the option to accept the cuts, and simply reduce spending within the SNS. For example, the SNS is already preparing to save money by choosing to replace only high-priority expiring supplies, and cutting low priority items.[26] Careful consideration must be applied to decisions about which provisions are absolutely necessary, versus those that can be done away with.[27]

The difficult budget environment clearly means that SNS, as with nearly all government programs, will experience cuts. The outstanding question is whether the SNS budget cuts will threaten the efficiency of the program. As Ali Khan, director of CDC's Office of Public Health Preparedness and Response, said, "The [stockpile] will be buying less. There's no doubt about it."[28] Whether the smaller stockpile will be able to maintain the right level of preparedness depends on the strategic decisions HHS officials make in the months ahead.

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[25] Meredith Wadman, "US disease agency in fiscal peril," *Nature*, February 28, 2012, http://www.nature.com/news/us-disease-agency-in-fiscal-peril-1.10109#col (accessed July 18, 2013).
[26] Budget Highlights, Centers for Disease Control and Prevention, www.cdc.gov/fmo/topic/budget%20information/factsheets/PHPR_Factsheet.pdf (accessed July 18, 2013).
[27] Erika Check Hayden, "Budget forces tough look at biodefense," *Nature*, April 10, 2013, http://www.nature.com/news/budget-forces-tough-look-at-biodefence-1.12766#/stockpile (accessed July 18, 2013).
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2. Community Polling Sites used as "PODs"—Using polling or other community sites as PODs is another possible approach for the POD method. Polling sites in particular are typically more numerous within communities than the standard public PODs (high schools, pharmacies, etc.). Their locations are specifically designed to efficiently handle large crowds of people during a short, discrete time period (i.e., Election Day) and to provide service to a significant, but unknown, number of citizens in a timely manner. Typically, the locations are convenient and familiar to people, and furthermore they are designed to prevent congestion and limit long lines. Election personnel, moreover, are experienced in handling crowds and equipment at sites, and could presumably work well in conjunction with public health officials. They are also predisposed to volunteer and are engaged in their communities. Overall, employing workers or volunteers already used to staffing community centers for civic purposes could address the potential shortage of public health workers who could quickly and efficiently distribute drugs in case of emergency.

   While the polling place POD method has many advantages, it presents some challenges as well. Increasing the number of locations may reduce congestion, but it also requires more complex logistics for organizers.[30] In addition, the heavy reliance on volunteer, civically-minded, non-health experts might cause some consternation with the recipient population since the volunteers would be inexperienced in the administration of the materials.[31] It probably would not require too much time and effort to train them, but any additional tension during an already nerve-wracking situation requires careful consideration.

   Transporting the provisions to the polling sites is another issue, especially if there is a crisis and the provisions are highly sought after. Ideally, the local police force

[30] National Association of County and City Health Officials, "Alternative Methods of Dispensing: Model Highlights," www.naccho.org/topics/emergency/SNS/upload/POD-Article-4_polling-places.pdf (accessed July 18, 2013).
[31] Tevi Troy, "Preparing for Bioterrorism," The Weekly Standard, February 23, 2010, http://www.weeklystandard.com/blogs/preparing-bioterrorism?page=1 (accessed July 18, 2013).

would be tasked with picking up the supplies at the pre-determined general location to which the SNS sent the materials, and would then distribute those materials among the voting sites.

3. Employing Private Sector Commercial Infrastructure: Another promising distributional approach would be to employ the private sector through retail stores and drug manufacturers. Most retail pharmacies have experience with administering flu vaccines, so they already possess basic experience with medical supplies and civilians. Furthermore, they are ideal for handling large crowds looking to procure specific items—that is what they do. Their resources for doing so include large parking lots, storage units to receive large shipments, extensive indoor space laid out for the purpose of dealing with customers, and an available and expandable supply of staff. Perhaps most importantly, retailers also have experience dealing with sales crunches, which a countermeasure supply effort would resemble. On the other side of the equation, retail stores are also familiar and convenient for people. If there is one thing the American people like to do, it is shop. Consequently, there is a retail store within five miles of 95 percent of U.S. residences.

   This idea, while promising, has challenges as well. Primary among these issues is the question of liability. If someone were to be injured during the distribution process, or even by the administration of the countermeasure, who would be held liable? As non-governmental employees, private sector retail workers would face significant liability exposure. Furthermore, the retail stores themselves, as well as their parent companies, could also have some exposure, which would likely make them extremely wary of participating. In fact, it is likely that the only way that the retail store option could be utilized would be if Congress were to provide blanket and explicit liability protection for the workers, the individual locations, and their parent companies.[32]

[32] Onora Lien, Crystal Franco, Gigi Kwik Gronvall, and Beth Maldin, "Getting Medicine to Millions: New Strategies for Mass Distribution," UPMC Center for Health Security, Biosecurity and Bioterrorism 4, no. 2 (2006), http://www.upmchealthsecurity.org/website/resources/publications/2006/2006-06-15-medtomillions.html (accessed July 18, 2013).

provide the physical product itself to the 12 SNS locations but would instead sell the government a guarantee that they would provide the product to the requested location in case of emergency. In doing so, the manufacturer could use its existing logistics, storage, and security operations to hold on to the product until needed, at which point it could serve as the single distributing force when directed by the SNS, or even after a signal from the marketplace that commercial supplies had been depleted to a pre-arranged degree. The necessary supplies would be dispersed to communities via manufacturer's existing commercial modes of transportation.

making them convenient and available to the entire population. Furthermore, the kits could be purchased by large companies and universities and distributed to large groups of employees and students. The option of home medkits appears attractive since it addresses the issues of panic and the need for rapid deployment after a crisis has already commenced. Citizens are more likely to remain calm during a pandemic knowing they have immediate access to health provisions within the safety and convenience of their own homes.

As with all potential solutions, home medkits have a few drawbacks. Most vaccines have specific requirements, such as administration by a health professional or storage in temperature-sensitive environments. Neither of these restrictions can be accommodated through the use of home medkits. Vaccines would therefore not be included in the kits. In 2008, Secretary of Health and Human Services Mike Leavitt met almost unanimous opposition regarding home medkits from skeptical public health authorities, who distrust citizens' ability to handle the medkits properly. However, a 2006 study performed in St. Louis by the CDC revealed that when given the home medkits, 97 percent of citizens followed the directions of health officials.[36] These findings suggest that home medkits can be useful sources of basic provisions, although they obviously cannot cover the entire scope of emergency products.

[36] "CDC's Division of Strategic National Stockpile Emergency MedKit Evaluation Study Summary: Background, Key Results, and Next Steps," Centers for Disease Control and Prevention, www.bt.cdc.gov/agent/anthrax/prep/pdf/medkit-evaluation-summary-2007.pdf (accessed July 18, 2013).

Conclusion: Should we

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