



HEALTHCARE AND PUBLIC HEALTH SECTOR OVERVIEW

- The Healthcare and Public Health (HPH) Sector is the lead Sector responsible for protecting and sustaining the Nation’s health. The U.S. Department of Health and Human Services (HHS) serves as the Sector-Specific Agency for the HPH Sector.
- This widespread and diverse Sector includes acute care hospitals, ambulatory healthcare, public-private financial systems, Federal, State, and local public health systems; disease surveillance; and private sector industries that manufacture, distribute, and sell drugs, biologics, and medical devices.
- The Sector is vulnerable to a variety of all-hazards threats, and is especially concerned about potentially catastrophic impacts resulting from biological, cyber, vehicle-borne explosive devices, and insider threats.
- Such attacks could result in large numbers of illness and casualties, denial of service, or theft of confidential patient information.
- For the Sector, critical infrastructure protection is ultimately defined by the extent to which the Sector has been able to mitigate interruptions in the delivery of healthcare and public health services.

Figure 1: Occurrence of Major Flu Pandemic or New Influenza Strain over the Past 100 years



Table 1: Major Flu Pandemics in the Past 100 Years, with Comparison to Seasonal Flu

	Virus Strain	First Identified	Ground Zero	Higher Risk/Age Group	Estimated Infection Rate	Mortality Rate	Estimated Deaths
Seasonal Flu	Seasonal variation	Seasonal variation	N/A	Very young, very old, and the infirm	5-15%	0.6%	0.25-0.5 million
Spanish Flu	H1N1	Spring 1918	Western Europe	Age 20-50	20-40%	2-2.5%	40-50 million
Asian Flu	H2N2	February 1957	China	School-aged children, elderly	30%	0.025%	2-4 million
Hong Kong Flu	H3N2	Early 1968	Hong Kong	Elderly	30%	0.02%	1-3 Million
Influenza A (H1N1)	H1N1	April 2009	Mexico	Children, teens, young adults	24% ¹	0.02% ¹	>18,500 ¹

¹ World Health Organization (WHO), “Estimating age-specific cumulative incidence for the 2009 influenza pandemic: a meta-analysis of A(H1N1)pdm09 serological studies from 19 countries,” *Influenza and Other Respiratory Viruses*, Vol:7, January 2013

THREATS AND HAZARDS OF SIGNIFICANT CONCERN

Global Supply Chain Disruptions

- A supply chain disruption refers to an event leading to a shortage of a pharmaceutical, device, or biologic. A natural disaster may make roads impassable and thereby prevent goods from arriving at an effected area, or a product may be contaminated at its place of origin and need to be recalled resulting in a limited amount of that product on the market.
- Independent of the reason, supply chain disruptions can be catastrophic, as healthcare providers tend to rely on just-in-time resupplying and therefore do not always have sufficient stockpiles to weather a delay, especially during events that lead to an increased demand for healthcare or healthcare-related products.

Theft and Exploitation of Medical Goods and Confidential Medical Information

- Theft and exploitation result from the work of malicious actors.
- Many medical facilities and laboratories contain radiological materials or biological select agents and toxins that are used for clinical treatment or medical research; and the open nature of these facilities presents a potential security vulnerability. These agents and materials may provide an attractive target to those wishing to construct a “dirty bomb,” intentionally infect a population, or sell the material on the black market.
- Medical systems and vital records are also at risk for compromise or theft by external hackers or malicious insiders, and cybertheft presents a trend in medical identity theft.

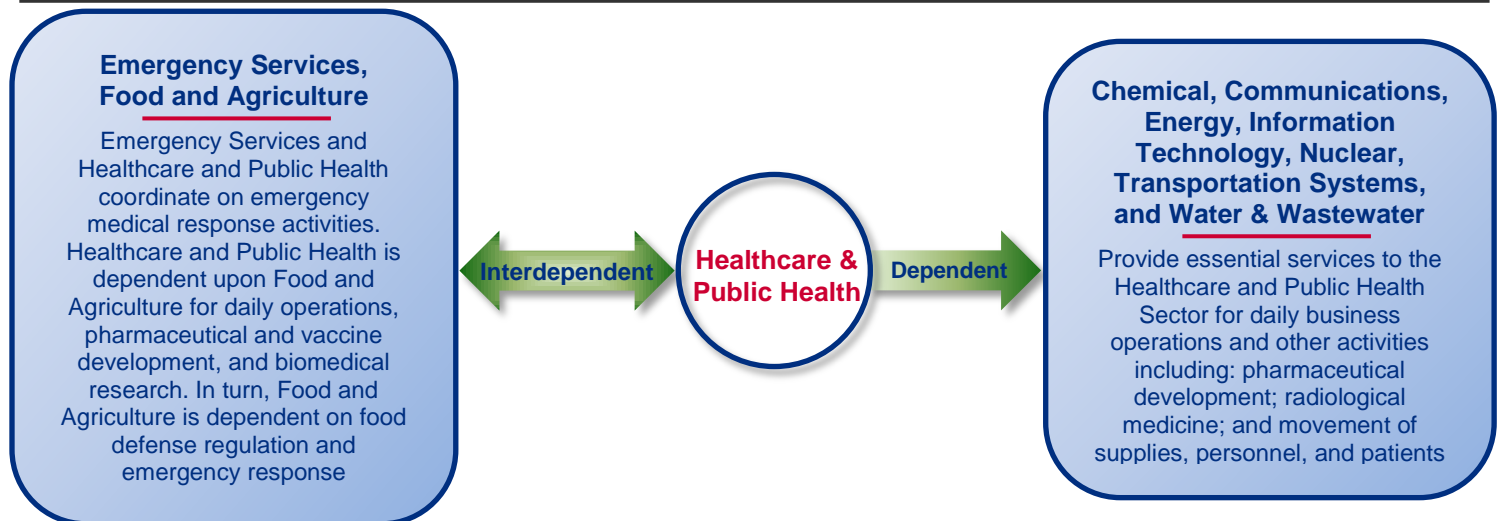
Pandemic

- Recent experience with influenza demonstrated how a rapidly-spreading infectious agent can significantly impact the HPH Sector and the country as a whole. A naturally occurring agent like influenza was able to cause death, hospitalizations, and absenteeism.
- If a more dangerous agent, such as smallpox, were intentionally released, the effects could be even more catastrophic due to the increased lethality and our general immunological naiveté to the disease.

FOR MORE INFORMATION

- Sector-Specific Agency: Department of Health and Human Services (HHS), Public Health Preparedness and Emergency, www.phe.gov
- DHS, HHS, *2010 Healthcare and Public Health Sector-Specific Plan*, www.dhs.gov/files/programs/gc_1179866197607.shtm
- DHS, *National Risk Profile*, OCIA@hq.dhs.gov

Figure 2: Common, First-order Dependencies and Interdependencies of the Healthcare and Public Health Sector



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Prepared by the DHS National Protection and Programs Directorate
Office of Cyber and Infrastructure Analysis (OCIA)
Questions or comments should be directed to OCIA@hq.dhs.gov