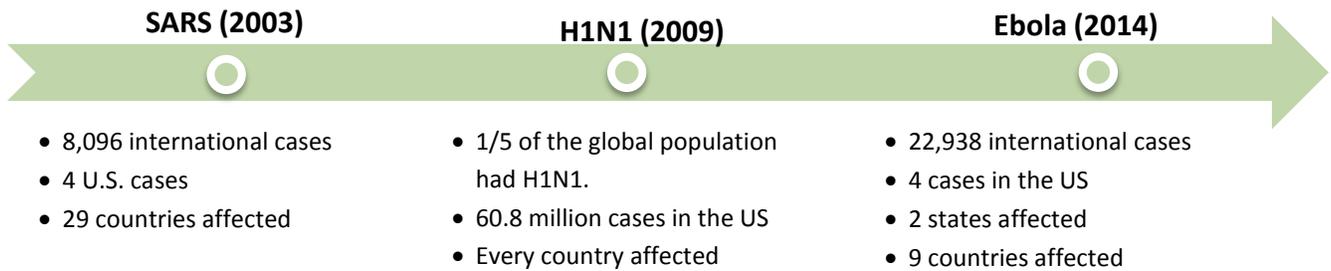




Pandemics and Medical Supplies

Pandemics have same medical supply and personal protective equipment (PPE) challenges

Similar patterns regarding medical products have emerged from recent pandemics. First, experience shows demand spikes for these products are unanticipated, immediate and widespread. Second, the supply chain adjusts order sizes to historic levels to prevent shortages. In response, orders are placed with numerous vendors which distorts demand. Often after over-ordering occurs some items are not ordered again for months creating additional uncertainty for suppliers. The supply chain for these products is efficient and based on historic demand patterns. Normal delays are anticipated and accounted for, but large, unanticipated demand spikes can create real or perceived scarcity and hamper the supply chain’s ability to support healthcare providers. The three pandemics below had similar impacts on the supply chain as a number of healthcare products are critical to any medical response in any provider setting such as gloves, masks and IV solutions as well as those that protect healthcare workers such as coveralls, hoods and face shields.



Sources: World Health Organization, Centers for Disease Control

Medical supply lessons from pandemics: Common ordering behaviors are exhibited by healthcare providers and the public in response to pandemics.

Common Challenges	Example	Why it’s a problem
Over Ordering	<ul style="list-style-type: none"> • Ordering 2-300% of historical purchases is common. • Multiple orders are placed with multiple suppliers in the supply chain. 	<u>Product shortages possible:</u> <ul style="list-style-type: none"> • Creates over demand for product • Creates confusion and inefficiencies in the supply chain. • Delays to fulfill orders
Nontraditional Demand	Demand for medical products and PPE comes from non-patient care areas/facilities.	<ul style="list-style-type: none"> • Creates additional over demand • No pre-existing business relationship to determine validity • Non healthcare entities competing with healthcare supply chain for product
Non-Medical Products	Tyveck suits for healthcare worker protection not carried in large quantities by medical supply chain.	<ul style="list-style-type: none"> • Confusion from providers on how to obtain the product • No pre-existing business relationship between industry supplier and med-surgical distributors • Demand spike on a non healthcare supplier • Logistical challenges to receive and move product from new supplier

Sources: GAO study, “Influenza Pandemic: Lessons from the H1N1 Pandemic Should be Incorporated into Future Planning”, HIDA Research

Flexible solutions are needed: Healthcare provider settings and the patient populations they serve have different needs and vulnerabilities to consider when responding to a pandemic.

Acute	Alternate/Physician Office	Post-Acute/Nursing Home
Healthcare Worker Protection	Healthcare worker protection	Healthcare worker protection
<u>Patient demographics:</u> <ul style="list-style-type: none"> Protecting vulnerable patients in other units such as trauma, burn units, neo-natal Physical limitations make evacuation difficult 	<u>Patient demographics:</u> <ul style="list-style-type: none"> Physician specialty could indicate additional vulnerabilities. 	<u>Patient demographics:</u> <ul style="list-style-type: none"> Co-morbidities and possible physical limitations that make evacuation and preparedness difficult
<u>ER containment:</u> <ul style="list-style-type: none"> Training and protocols to isolate and contain patient presenting in an ER 	Different infrastructure (small doc office vs hospital) requires different education, communication and planning strategies	Pandemic planning and evacuation planning that includes healthcare workers critical to success

Sources: NIH Study, "Emergency Preparedness as a Continuous Improvement Cycle: Perspectives from a Post-Acute Rehabilitation Facility"

Working towards a solution: Through constructive dialogue the supply chain and governmental agencies can learn from past pandemics and implement programs to ensure that availability of certain types of medical products that would meet immediate pandemic response needs. Creating a continuous and certain elevated level of demand for these types of products requires experience in warehousing, maintaining and refreshing product in a timely manner as well as logistical capabilities to redirect product if necessary.