

MMCG Lessons Learned from the H1N1 alert in 2009

Shortly after the sensationalism died down in May of 2009, the MMCG solicited input from Hospitals, Distributors, Manufacturers, and Equipment renters who are part of the membership of the MMCG. We asked our association members to distribute the request to their members so that we could get a wide spectrum of input to the lessons learned.

In light of the fact that this disease was fairly responsive to treatment and minor in consequence, it actually was a good exercise in preparedness. This was a good table top exercise of our preparation and response capability in regards to a pandemic. The Association for Healthcare Resource and Materials Management (AHRMM) had developed supply lists and had encouraged the members of that association to prepare for the event of a pandemic by analyzing their existing supply chain and it estimate the impact potential for a pandemic. Shortly into the H1N1 event, we discovered that while we had stressed Personal Protection Equipment and supplies (PPE), respiratory supplies, and the potential for increased demand on Respiratory Equipment, we had underestimated the impact in a couple of critical areas. We had two products that were not listed but became in short supply in the first week of the WHO declaration of level 5 status of the H1N1. These two items were goggles and laboratory swab kits for testing. In addition, the overwhelming demand for N95 respirator masks created a shortage of these products.

Several hospitals reported that there was a significant increase in demand on goggles and lab kits from internal departments. The shortage of N95 masks was almost universal in all hospitals. In addition to traditional consumer's pandemic supplies, there was a new customer base who created an unexpected demand. These were physician offices who anticipated large numbers of patients who would flock to their offices for the diagnostic work up to determine if they had the virus. While this part of the supply chain consumed medical supplies, the unexpected demand from these offices were unanticipated and initially provided a significant increase in demand for laboratory kits and PPE. The reality from most institutions was that most of their patients did not go to these sources but rather reported primarily to the emergency services departments.

Little public education was offered regarding the true potential for self contamination by following this method of treatment and the emergency room was the largest consumers of the PPE supplies and equipment. Initially the widespread demand on the N95 disposable respirators, because of the widespread increase in demand and the volume of increase, destabilized the supply chain in the first three days of the announcement by the WHO of the events in Mexico and the US and made the N95 mask difficult to obtain. Most distributors indicated that they moved to an allocation of distribution based on historical use within the first week.

When distributors and manufacturers use this allocation method of distribution, the primary motivation is to protect their existing customer base and to give these customers primary access to the limited amounts that were coming from the source. This amount is

based on historical order patterns and virtually eliminates new customers. While the customer may not get all that they requested, they typically will get some amount based on their order patterns. However, when a new customer is trying to get an order filled from an alternate or backup supplier, this method of distribution eliminates that order fulfillment.

Many hospitals reported that they had significant difficulty, once the allocation was put in place, in accessing either state stockpiles of N95 masks or the SNS stockpile that was distributed to the states. Many hospitals reported similar difficulties with accessing antiviral or other treatment medications for similar reasons. Many state health departments did not realize the impact of allocation and resisted distribution as they understood that commercial sources of product was still available.

Distributors reported that it took 6-8 weeks for the supply chain to stabilize after the initial surge of demand and that while these masks became available, there is still a significant increase in demand even in July for these products. This may be a result of hospital awareness of the shortage of supply chain support for the increased demand a pandemic places on the supply chain and may indicate a building of hospital level inventories in anticipation of a return of this virus in the fall and winter months.

In summary then, the supply chain supported the effort of the providers for most products used in a pandemic. The supply chain failed to support the widespread universal demand for large numbers of the N95 mask. Manufacturing took some 6-8 weeks to stabilize after demand had subsided. Unanticipated pockets of supply chain failure occurred with goggles and lab kits although these were virtually eliminated within a short period of time. All in all, the severity was mild and the long term effects of a severe pandemic could not be tested. Equipment used in respiratory treatment was not a high demand and the end of life support systems were not fully tested either. It is apparent that manufacturing capacity for the N95 mask might be suspect if the demand remained widespread and the duration was intensified.

While the early distribution of the SNS was intended to be a buffer to the shortages of product that was anticipated, state distribution of the asset was ineffective and a lack of communication regarding commercial availability and an established protocol for the release of the supplies, where needed, would be beneficial.

The MMCG looks forward to working with the HSCC to improve the preparedness efforts in relationship to the medical materials supply chain.

Submitted on behalf of the MMCG

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