



Airtight Planning

Russell Atkinson of Movianto UK discusses the logistical challenges in the storage and distribution of life-saving vaccines

Whether dealing with the large range of childhood vaccines, the seasonal flu vaccine or the more recent vaccine to fight the H1N1 pandemic, so-called ‘swine-flu’, the challenge for all those involved is huge. Not only is a flexible and reliable logistics concept essential, the challenge begins far earlier than this – at the point when the drugs have to be stored under temperature-controlled conditions so as not to damage them and thus render them useless, or worse, dangerous.

It is imperative for a healthcare logistics provider to work closely with the Department of Health and be an integral part of their planning process. Being involved at the appropriate time enables the logistics provider to make sufficient provisions to deal with all the challenges required. Using the example of the flu vaccine, which is typically administered between October and January, in particular to people over 65, asthmatics and those with compromised immune systems, we can outline the

immense logistics challenges involved in getting the vaccines to the specified destinations on time and how these challenges can be met. The flu vaccine has been widely taken up since its introduction, and during the 2008/2009 flu season, the Department of Health required over 15 million doses of flu vaccine to meet nationwide requirements. This is where the logistics challenge begins – the sheer volume of medication to be stored and then rolled out nationwide in a short period of time.

Delivering large amounts of vaccine on time can be a great challenge. With this in mind, it is vital that all logistic elements are taken into account, so medication gets where it needs to be, when it is needed. In the case of the flu vaccines, the manufacturing process is unpredictable due to the nature of the seasonal flu threat and the time needed to grow the appropriate virus strain for the vaccine. The logistics provider therefore typically faces the challenge of not allowing this unpredictability to affect the seasonal distribution of the medication.

Orders are placed as early as the end of the previous season and pre-planning commences in June, with the manufacturers providing a rough estimate of orders and deliveries. As additions and deductions to these orders can be made at any time during the season, a customer service team is needed to document any changes. Typically, orders continue from September through to January, and

experience shows that over 500 calls per day have to be handled at peak times. A logistics provider must have systems in place to amend orders up to 24 hours before delivery, and also to perform emergency deliveries when required. In addition, a customer service team has to be on hand to handle all product returns for each vaccine producer. Working closely with the manufacturers' field representatives, logistics providers facilitate the return of unused or unwanted vaccines and must answer all customer enquiries efficiently.

Regardless of whether the vaccines are on the road or being stored, temperature excursions are strictly prohibited – preventative storage means having a system in place to alert the quality control team in time. The key to this system is validation. The design and construction of refrigeration facilities that are temperature-mapped so that hot and cold stops are completely eliminated, and specially developed tools such as a mapping system, data validation equipment and the validation of temperature probes also contribute to the proper storage of vaccines. Logistics on this scale has to be completely airtight with no room for errors. However, a smooth operation can be guaranteed if a

About the author



Russell Atkinson is Commercial Director at Movianto UK. Russell holds over 20 years of operational

experience in managing logistics facilities. In December 2009, he took over responsibility as Commercial Director at Movianto UK, where he oversees clients' relationship and secures new business opportunities as well as full responsibility for sales and marketing. He worked at UDG for the last 10 years as Operations Director and Business Development Director, where he in-sourced transport logistics, introduced active cold chain and designed a distribution centre for 30,000 pallets of pharmaceutical products. Email: movianto.uk@movianto.com



network of distribution facilities is at hand. Vaccines can be dispatched from a main distribution centre to regional depots for local delivery. Strategically placed facilities enable next-day delivery to flu clinics, doctor's surgeries and to retail pharmacies. Should a delivery not be completed for any reason, facilities should be in place to enable the products to be returned to the nearest depot for overnight storage and re-delivered before 12pm the next day, with chill-chain integrity remaining intact. A healthcare logistics company is often the main point of contact between a client and its customers. For this reason, and to guarantee product integrity, it should not subcontract deliveries under any circumstances.

Once the orders have been taken and processed, the deliveries are scheduled and the logistics fleet is then put on the road. Throughout the course of a typical flu season, a company may need to deliver over 4 million doses to hospitals and doctors' surgeries throughout the UK. During the early stages of the flu campaign, approximately 900 deliveries per week can be handled, rising to over 2,500 deliveries a week at the peak of the season.

Delivery in temperature-controlled vehicles is a must. The consignments of flu vaccines are maintained between required temperatures. Companies may use satellite tracking technology which guarantees that specified parameters are adhered to throughout the entire cold chain. Furthermore, drivers can be

equipped with visual and audible monitors, immediately alerting them if there is a temperature excursion. Should a problem arise, a quality team will need to be close at hand to assess what measures need to be undertaken. This validation of transportation temperatures at every point in the supply chain ensures that these products are safe for use at point of delivery. If recommended temperature parameters are not met or exceeded at any point, the vaccines can be damaged, rendering the product innate or even harmful. To further document the quality control procedure, full daily reports should be produced, detailing temperatures and delivery times, ensuring the quality of the vaccine when it arrives at its end destination. In fact, it is important for clients in this sector to be constantly up-to-date on their consignments. A wireless connection can be used to export pre-scheduled routes to PDAs contained in the delivery vehicles to ensure that time-critical deliveries are successful. Electronic proof of delivery signatures (ePODs) can thus be collected and relayed back to the customer services team wirelessly. The delivery information is available to clients within a few minutes, providing an almost instantaneous audit trail.

The logistics of flu vaccines, childhood immunisation medication and even the H1N1 vaccine is a highly specialised task, one that requires various tools of validation, excellent infrastructure, and a team which has the expertise and experience to check, check and check again that there have been no errors.