
“The Last 100m”: Managing the Logistics of Advanced Therapies in an Acute NHS Hospital Setting

The Challenge

Advanced Therapies are making rapid progress as therapeutic options outside the research setting and a few of these are already commissioned. These medicines bring with them specific challenges, particularly in their logistics and tracking. Whilst the necessary infrastructure, systems and processes to ship patient specific samples have been developed, how therapies get from the point at which a driver drops them off at a hospital or intermediary (e.g. blood service) and their subsequent chain of custody has not yet been defined i.e. the “last 100m”. Although this is practicable for the currently small numbers of therapies that have been commissioned, the challenge of how this would be managed at scale needs to be addressed to avoid the logistics pathway becoming a barrier to adoption.

The solution

To explore some of the challenges, a workshop was held at Leeds Teaching Hospitals Trust (LTHT) as part of the Northern Alliance Advanced Therapies Treatment Centre (NA-ATTC) programme.

The workshop content and structure was created collaboratively by representatives from World Courier and LTHT, in response to the needs of industrial partners and the hospital itself. World Courier was keen to learn more about how the interface with courier drivers could be improved and how the delivery process could be optimised / standardised at sites. LTHT has significant experience of handling viral vectors in clinical care, both for research purposes and as part of commissioned services, but wanted to look at how it could optimise the management at scale of both “fresh” and “frozen” cellular therapies within the organisation. Attendees included LTHT clinical and pharmacy staff, hospital managers and nurses along with representation from other NHS hospitals, NHSBT, the Welsh Blood Service and industry partners - both Advanced Therapy developers (Autolus Therapeutics) and companies involved in logistics management (TrakCel and World Courier). The composition of the attendees reflected the close collaborative working relationship between NHS partners and industry within the UK’s ATTC programme.

The results

The workshop addressed the following issues:

- Product arrival at site
- Internal moving and handling of Advanced Therapies within a hospital

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- Local storage requirements - both at site and at an intermediary site
- Training needs
- Enabling infrastructure and processes that might already be available

These issues are explored, with recommendations made, in the publication “*The Last 100m*”: *Managing the Logistics of Advanced Therapies in an Acute NHS Hospital Setting* co-authored by Simon Ellison, Dr Chris Herbert, and Sarah Tehan (<https://attc-143fd.kxcdn.com/wp-content/uploads/2020/09/DL120-Last-100-metres-no-cover-1.pdf>). Key recommendations from the workshop were:

- The need for NHS organisations to take the necessary ownership by having standard practices and processes for all therapies.
- Once received in Pharmacy, validated SOPs to manage the product in a standardised way.
- By having defined drop off points, ensuring capacity for holding products and a visible chain of custody will take away complexity and reduce the barriers to adoption along the pathway.
- Ensuring the hospital knows where the therapy is and being able to link this to the patient, so that the right therapy is given to the right patient.

Making further impact

Based on the workshop’s outputs, an exploratory investigation was carried out with a system called Scan for Safety. This system uses bar codes and QR codes throughout the hospital and has been successfully implemented for medical device management across LTHT. There has been an opportunity within the NA-ATTC to test whether Scan for Safety can be used not only to track advance therapies within a hospital, but also to link that with the courier’s track and trace system. An advanced therapy clinical trial (MATCH trial <http://www.isrctn.com/ISRCTN10368050?q=&filters=conditionCategory:Digestive%20System&sort=&offset=9&totalResults=532&page=1&pageSize=50&searchType=basic-search>) will be used as an exemplar to test the application of Scan for Safety for this purpose; this will involve shipping fresh samples from Leeds to be manufactured in Edinburgh, the product then being shipped back to Leeds for administration to the patient within its shelf-life of 48 hours. The results from this work will be reported in 2021.

With thanks to contributing NA-ATTC partners, this work was led by Leeds Teaching Hospitals NHS Trust and World Courier in collaboration with Cytiva, Autolus Therapeutics, TrakCel, Newcastle University, NHSBT and The Newcastle upon Tyne Hospitals NHS Foundation Trust.

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