

The Implementation of Automation and Advanced Technologies to Pharmacy Technical Services

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Context and Approach:

Pharmacy Technical Services teams nationwide have been caught in a perfect storm of adverse conditions. Regulatory requirements are increasing, demand from patients is higher than ever, the effects of historic under investment are now being felt and struggles to recruit staff have left units operating over capacity. In recent years this has started to be addressed with the commencement of the Transforming Access to Medicines (TrAMS) project in Wales and the development of Pathfinder sites in England both promising to revolutionise this service provision and overcome the challenges currently being faced. However with the completion of these projects some years off with a longer period to demonstrate the advantages; it asks the question "What do we do NOW?"

This project looks at several affordable and easy to implement technologies to determine whether the adage "Work smart not hard" can provide tangible benefits to over stretched Technical Services teams in a short time period.

Planned Activity:

Research:

This research looks at the introduction of a range of new technologies to the Pharmacy Aseptic Unit these include:

- Portable hydrogen peroxide gassing modules
- Augmented reality hardware and software
- Semi-autonomous manufacturing capability
- Pharmaceutical intermediate products

Education/teaching :

The aim of these projects is the spread and scale of these technologies across Welsh (and UK) Technical Services teams. Data generated from the activities will be made available to interested parties, presented at relevant conferences and published where appropriate.

This knowledge transfer has already begun, with posters presented, journal articles submitted and validation finding shared.

Leadership:

Many of these technologies are firsts in either Technical Services, NHS, Wales and/ or the UK. This pushes both BCUHB and Wales to the forefront of innovation within Pharmacy Technical Services.

Progress to date:

Portable Hydrogen Peroxide: Validation underway device to be brought into use Q3 2025.

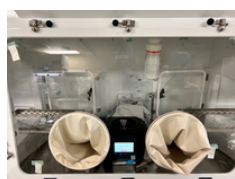
Semi-automated manufacturing capability: Stability data generated, manufacturing process validated. Go live Q4 2025

Pharmaceutical intermediates: Stability data generated, manufacturing processes validated, awaiting manufacturer audit. Scheduled July 2025

Augmented Reality: On-boarding with IT to be completed May 2025



- Photographs of the Develco Phileas Genius Hydrogen peroxide sterilisation device.
- Cleaning in the aseptic unit is a time consuming process that uses dangerous chemicals and hard strenuous activity.
- This module reduces the need for using the most dangerous cleaning chemicals replacing them with a dilute hydrogen peroxide and removes the need for the most strenuous activity.
- Expected to come into use this month.



- Vuzix M400
- Bringing AR/ XR into pharmacy technical services for the first time.
- On-boarded through BCUHB ICT and awaiting programs to be written.
- In early discussions with DHI and GSA about software design and working partnerships.

Reflections:

- The work being carried out is well supported by senior leadership teams within the Health Board.
- There is a desire from the Technical Services team in BCUHB to change and progress the service being offered
- Relationships with academic and industrial partners have been forged during the past 6 months and are an invaluable asset in the development of this project.