Aseptic Preparation of ATMPs/ATIMPs within a Stem Cell Laboratory

The Newcastle upon Tyne Hospitals NHS Foundation Trust

1 Introduction

The Cell, Gene, and Tissue (CGT) Laboratory at the Royal Victoria Infirmary, part of the Newcastle upon Tyne Hospitals NHS Foundation Trust, **IS AIMING TO BE THE FIRST STEM CELL-BASED LABORATORY IN THE UK** to attain compliance with Quality Assurance for Aseptic Preparation services (QAAPS) standards to facilitate the continued delivery of a growing portfolio of Advanced Therapy Investigational Medicinal Products (ATIMPs) for use in clinical trials.

Working in close collaboration with the established Pharmacy Aseptic Facility, the CGT Laboratory aims to become the first Stem Cell-Based Laboratory with both the cell-based skill sets to handle these products and the regulatory accreditation for an aseptic facility. Success in this endeavour will double capability and capacity while fostering a unique collaborative approach between scientifically trained and pharmaceutically trained staff in the handling of innovative medicines.

The substantial review of EI(97)52 in 2022 and the 2023 expansion of existing QAAPS guidance to include the aseptic reconstitution of innovative therapies, including ATIMPs, have necessitated a program of work within our CGT Laboratory to achieve QAAPS compliance.

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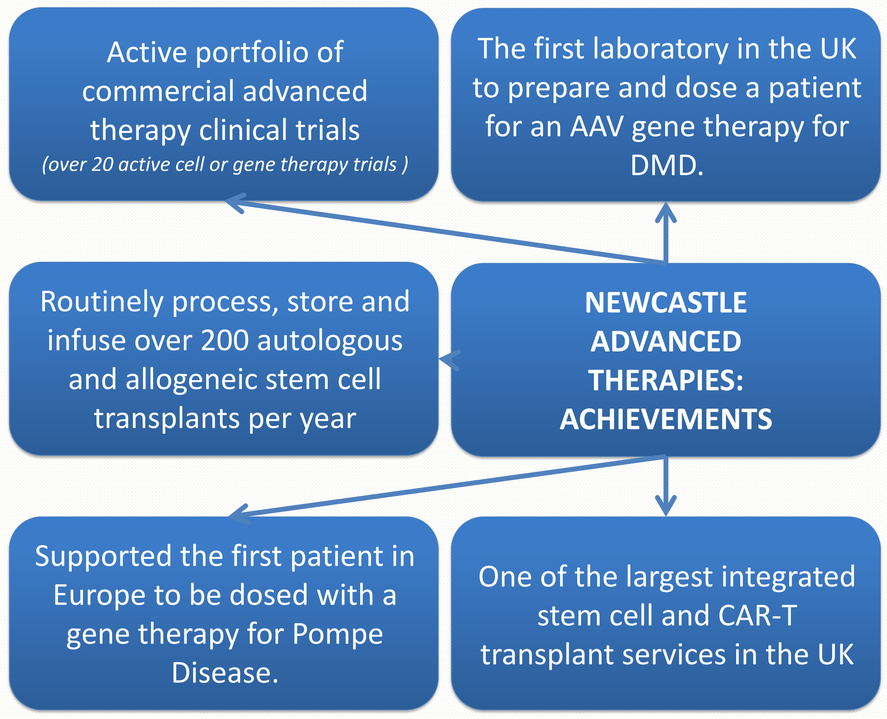


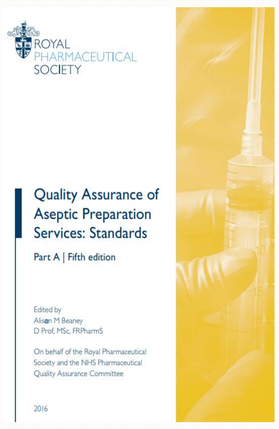
2 Methodology

A comprehensive QAAPS Gap analysis was performed. Each standard was reviewed against current practices and either evidence was documented or deficiency highlighted. A working group was formed to review the deficiencies, an action plan was formulated using a multi skilled group, to ensure it aligned with existing regulations (HTA & JACIE). This was documented within the Quality Management system; A change control was raised with Impact Assessment and Corrective Actions were raised in full. Updates on QAAPS Compliance continue to be communicated to the team through a series of forums including; Managerial meetings, Quality meetings, ATMP & Pharmacy meetings and CGT Operational meetings.

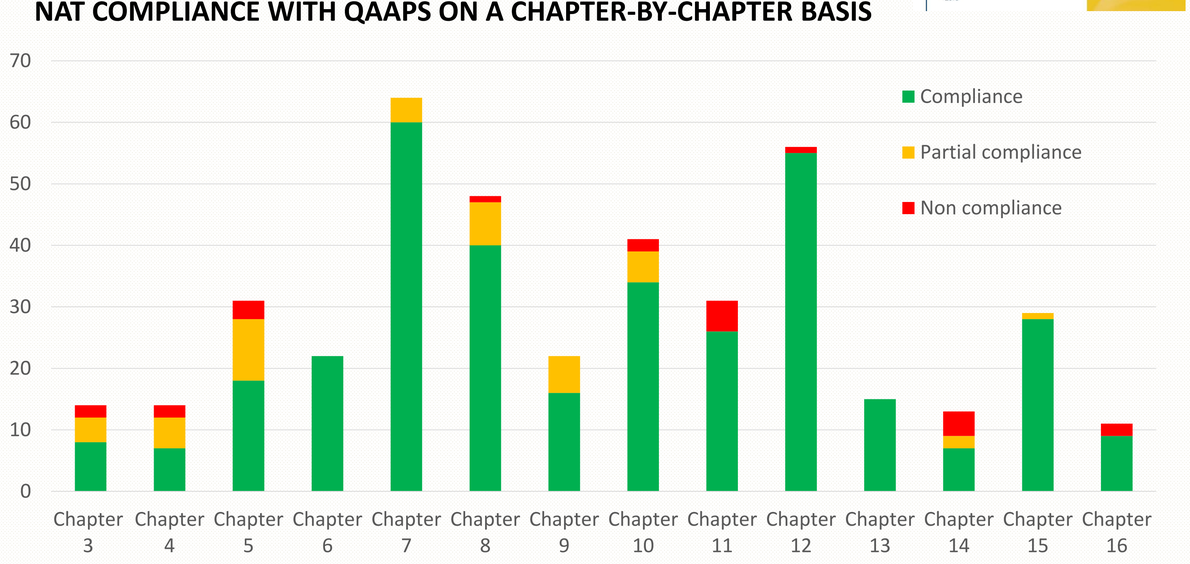
3 Results

A TOTAL OF 55 CORRECTIVE ACTIONS WERE IDENTIFIED.

CGT was found to be **83.94% compliant**
Whilst most chapters were primarily compliant, out of 411 standards we were partially / non-compliant in 66.
This ranged from minor updates to existing documentation and practices to the substantial integration of new systems.



NAT COMPLIANCE WITH QAAPS ON A CHAPTER-BY-CHAPTER BASIS

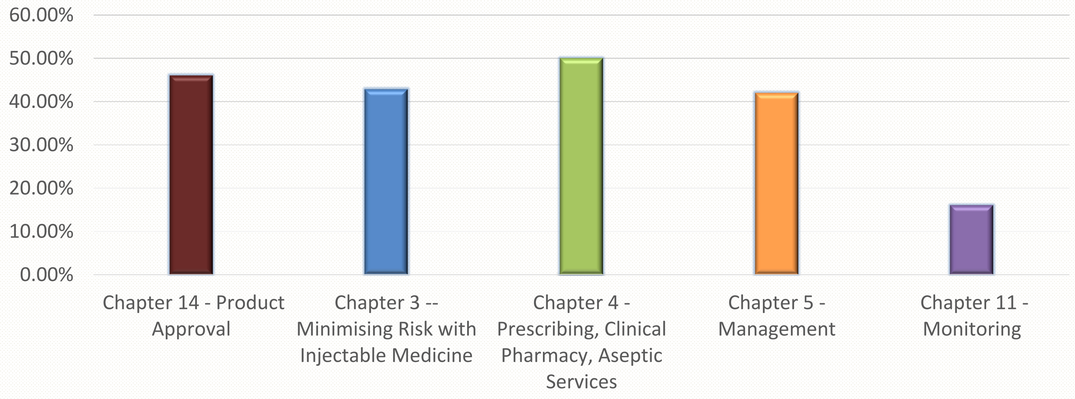


Chapters 3, 4, 5, 11, & 14 demonstrated the lowest levels of compliance, with the need for some significant changes to overarching policies, including a significant update to roles and responsibilities taking into consideration the newly appointed pharmaceutical-based roles.

SOME PRIORITY AREAS INCLUDED:

- ❖ The implementation of a product approval policy
- ❖ Refinement of pre-process, in-process, and final checks.
- ❖ Tailored Process Validation
- ❖ End-of-Session testing kits
- ❖ Facility water testing

PERCENTAGE OF PARTIAL/NON-COMPLIANCE IN CHAPTERS WITH THE LOWEST COMPLIANCE



4 Corrective Actions

- Product Approval Policy
- Process Validations for ATMPs
- Roles and Responsibilities Policy
- Aseptic preparation Trust policy
- End of Session Testing
- Water Testing
- New BPR template
- SOP Approvals Management
- Competency for pre and in-process check
- Review Capacity Plan
- Contingency plans

5 Challenges

- Communication of changes
- Incorporate new policies with existing practices.
- Interpretation of QAAPS standards
- Training Needs
- Change Management
- Managing deadlines
- Aligning QAAPs to JACIE and HTA

6 Conclusion

CGT was found to be well-positioned due to our ongoing compliance and adherence to HTA, JACIE, and previous MHRA standards. The audit identified actions to further elevate CGT's standard.

The leadership team have done an exemplary job of bringing the team together, supporting each other and ensuring the changes are communicated in a positive light. The challenges have been approached with comradery and the only outstanding challenge to implementing the deficiency improvements surround the management of obtaining approvals for policy adjustments and managing deadlines.

The collaboration between pharmaceutical and scientific staff has led to significant benefits, including:

- ❖ Enhanced productivity,
- ❖ Faster setup for ATIMP trials, and
- ❖ Cross-disciplinary learning and knowledge sharing

This fusion of expertise has established Newcastle NHS Trust as the ideal location for aseptic preparation of ATMPs/ATIMPs, with success set to double capability and capacity in managing these advanced therapies. The next critical step will be to apply for iQAAPs and await the first audit for accreditation.

References: 1. Quality Assurance of Aseptic Preparation Services: standards Handbook 2016. 2. NHS England Assurance of aseptic preparation of medicines NHS England » Assurance of aseptic preparation of medicines 3. https://www.ebmt.org/sites/default/files/2021-12/STS_5_2_041_FACT-JACIE%20Standards%20Eighth%20Edition_8_1_R2_12142021_ForWeb.pdf