BACKGROUND: Haemopoietic Progenitor Cell (HPC) Transplants, with an expanding range of related cellular therapies, are an essential part of the management in Haematology and Oncology, and now also non-malignant diseases. As they are living tissues there are a wide range of quality management (QM) processes that need to be carefully implemented with regard to patient, donor and workforce to ensure best practice, minimize costs and maintain efficient processes across the multiple stakeholders. We describe the implementation of a State Wide Network for Quality Management and Accreditation in HPC Centres and Processing Laboratories.

METHODS: NSW is a large state in Australia with an area of 810 thousand square km. It had a population in 2016 of 7.5 million, and that year a combined total of 589 autologous and allogeneic HPC transplants were performed (an increase by 22% over the previous 5 years). In addition, there is increasing use of other cellular therapies including donor lymphocyte infusions, pathogen specific T-cell infusions, and the emerging role of CAR-T cells. These therapies are performed at adult and paediatric clinical units over a large geographical area.

In the early 2000s there were rapidly increasing requirements of regulatory agencies both national and international (FACT, NATA and TGA). In response, a state-wide Quality Management (QM) service was established as a joint initiative by HPC transplant clinical / laboratory staff and the NSW State Ministry of Health to provide services to the 15 clinical units and 7 laboratories.

Objectives that needed to be achieved were: a) creation of oversight committees; b) hiring the QM team; c) providing centralised offices and transportation facilities for the QM team; d) selection of QM software to be utilized across all the sites; e) obtaining memorandums of understanding (MOU) from Chief Executive Officers of geographic health services, Directors of Clinical Units, Directors of Laboratory Services and others;  

RESULTS: This statewide initiative has been successful in:

- Sharing of highly specialised clinical and laboratory expertise
- Standardisation of practices, procedures and forms
- Independent auditing and collaborative implementation of quality improvements
- Benchmarking programs e.g. inter-laboratory frozen CD34 comparison
- Multicentre valuations of quality indicators (cell yield, engraftment, survival) using extensive transplant data.
- Comprehensive education program including webinars, forums and training resources

Patient experience systems
- Patient resources – autologous, allogeneic patient guides, with long term follow-up resources in development

CONCLUSION: Although what appeared to be a daunting task initially to achieve a harmonized QM program across 15 clinical HCT units and 7 laboratories, patience and good will achieved a functional and efficient team and processes. The initiative has facilitated continued accreditation with the additional benefits of sharing and comparing data, and addressing opportunities for improvement across sites and developing education resources as a team. There have also been financial gains by increasing purchasing power of equipment and consumables over a network rather than as individual units, and rotating and sharing consumables prior to expiration dates. The patient is the primary focus with improvements and resources development aimed at maximising product quality whilst assisting quality of life.

NSW Overview

Advantages

- Independence – not employed by the hospital / pathology
- Diverse background of the BMT Network team
- Learning through others experience
- Large expertise pool
- Flexibility to adjust to required workload
- Large data pool