

Epidemiology, outcomes, and lived experiences of paediatric and young adult cancer patients requiring intensive care admission: a mixed methods study



S. Kularajan, Dr G. Horne, Professor K. Puxty
School of Cancer Sciences, University of Glasgow



Background:

- The survival of children and young people with cancer has improved drastically
- Patients still experience significant morbidity and mortality, due to tumour-related complications or treatment-related toxicity
- Complications can cause patients to require admission to an intensive care unit
- Mortality rates have been reported to be five-fold higher for patients with cancer than the general PICU population¹

Aim:

- This project aims to outline the epidemiology, outcomes and support needs of children and young people with cancer in Scotland who require intensive care admission
- This will inform the development of tailored support interventions and future NHS service planning

Methods:

- A quantitative study will link Public Health Scotland datasets with the PICANet paediatric intensive care dataset
- A retrospective cohort analysis will be conducted on patients aged 2-25 with cancer who require intensive care admission
- The demographics, oncological outcomes and healthcare utilisation of these patients will be analysed.
- Qualitative interviews will be conducted with teenagers and young adults aged 16-25 affected by critical illness during cancer, and their parents/caregivers
- Interviews will establish the support needs of this unique population
- These will be combined to inform future interventions and service planning

Patient and public involvement:

- Patient and public involvement (PPI) is an integral aspect of this project
- A PPI group of contributors has been formed, to be involved throughout the research cycle from method design to dissemination
- Patient facing materials and interview guides have been reviewed for readability
- Lay summaries will be co-produced to disseminate the findings, in accessible formats (e.g. comic strip or podcast)



Potential findings:

This study represents a novel opportunity to create and analyse a linked dataset to address key questions which have been rigorously studied in adult populations but remain largely unexplored in paediatrics.

It will benefit patients by identifying groups most at risk of ICU admission, informing tailored support, and improving understanding of physical and psychological sequelae. Findings will guide interventions to improve survivorship, reduce the long-term effects of critical illness, and enhance multidisciplinary care.

References:

1. Heneghan JA, Pollack MM. Morbidity: Changing the Outcome Paradigm for Pediatric Critical Care. *Pediatr Clin North Am.* 2017 Oct;64(5):1147–65.