

Usage of Rediroom for patients undergoing chemotherapy

The importance of isolating patients with suspected or confirmed infections within designated oncology day centres



Problem

Modern-day chemotherapy centres frequently adopt an open-plan layout to foster a communal and supportive environment. However, isolation capacity is often limited, resulting in a shortage of single rooms when patient demand increases, leading to treatment delays or transfers to private rooms in hospital wards.

Why are patients receiving chemotherapy vulnerable to infections?

Patients undergoing chemotherapy frequently develop neutropenia, a condition that reduces white blood cell count critical for combatting infections. Coupled with the risk of bone marrow suppression, which further diminishes the production of white blood cells and platelets, the risk of infection increases significantly.

Increasing isolation capacity

A patient arriving for chemotherapy treatment, with a suspected or confirmed infection is placed in a Rediroom where chemotherapy is then administered. Combined with other protocols, the use of Rediroom minimises the risk of hospital onward-infections spreading to other vulnerable patients.

The benefits of increasing isolation capacity

- Reduce the risk of infection for individuals with compromised immune systems
- Reduce the risk of hospital-onward transmission of pathogens between patients in ward settings
- Improve patient monitoring and welfare by keeping them within the area of specialty
- Enhance point-of-care treatment by promoting effective infection control procedures with clearly visible barriers
- Optimise the allocation and utilisation of specialist nursing staff
- Improve patient experience ensuring they are cared for within a day centre they attend regularly

VRE colonisation in Europe is approximately 20% in oncology¹

What infections are patients receiving chemotherapy most prone too?

- **Bacterial infections:** Common bacteria like *Extended Spectrum Beta-Lactamase* (ESBL) and *Vancomycin-resistant enterococci* (VRE) can lead to serious infections, including pneumonia and bloodstream infections given the patient's exposure to antibiotics and recurrent infections
- **Viral infections:** They are at increased risk for viruses such as Influenza, COVID, PCP, Parainfluenza, Rhinovirus and Respiratory Syncytial Virus (RSV)
- **Fungal infections:** *Candida* and *Aspergillus* can cause severe infections, particularly in patients with neutropenia

Incidence of *Clostridium difficile* infection (CDI) is between 10-20% in cancer patients and is on the rise. CDI leads to increased mortality, cost of hospitalisation, and length of stay in cancer patients²



To review your isolation challenges, please speak to your Capital Account Manager or Gary Thirkell, GAMA's Clinical Director on g.thirkell@gamahealthcare.com

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Real world example: Velindre, Chemotherapy Treatment

Published poster submitted by Hayley Jeffreys, Head of Infection Prevention & Control and Julianne Golding-Sherman, Senior Infection Control Nurse



- Used for patients with suspected or confirmed cases of MRSA, respiratory infections, CPOs and MDROs
- In the absence of insufficient isolation rooms, Rediroom is used to prevent the deferring of cancer treatments or moving the patient to a different ward
- Reduces the spread of infection between patients and staff members
- Reduces requirements for high-levels of environmental decontamination
- Less reliance on specialist nursing staff to treat highly infectious patients



For further details, please scan the QR code or [click here](#) for the poster submission published at IP2024.

"Rediroom has become an invaluable addition to our chemotherapy unit and is an essential tool in our day-to-day operations, ensuring both quality and safety."

References

1. Alevizakos M, Gaitanidis A, Nasioudis D, Tori K, Flokas ME, Mylonakis E. Colonization With *Vancomycin-Resistant Enterococci* and Risk for Bloodstream Infection Among Patients With Malignancy: A Systematic Review and Meta-Analysis. *Open Forum Infect Dis*. 2016 Dec 7;4(1):ofw246. doi: 10.1093/ofid/ofw246. PMID: 28480243; PMCID: PMC5414102
2. Shivani Dalal et al., Rising incidence of clostridium difficile infection and associated clinical outcomes in hospitalized cancer patients: A national perspective.. *JCO* 38, e19095-e19095(2020). DOI:10.1200/JCO.2020.38.15_suppl.e19095

The business case

The £22.7k investment in a Rediroom Cart will be recouped within two years*

This analysis focused exclusively on the tangible savings achieved by optimising the deployment of Band 6 Nurses

In summary:

- Annual recurring cost for Rediroom Canopies
= £8.8k
- Rediroom deployed four times a week for 4 hours per session
= £387.26 nurse savings per week
- Total annual nurse time savings per year
= £11,302

*Note: These savings exclude the potential benefits from increasing the number of patients treated, reduced deferment of treatment, avoiding breaches in treatment targets and savings made in reducing healthcare-associated infections.

