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## WHO flagship area – High Risk Medicines

### Background

- Paediatric oncology is a high risk environment with complex patients.
- A recent review of incidents relating to high-risk medications showed that errors commonly occurred due to knowledge deficit.
- Current medication education was ad hoc and the impact was unable to be measured.
- Oncology pharmacists are the medication experts best placed to deliver education to specialised oncology nursing staff.

### Objective

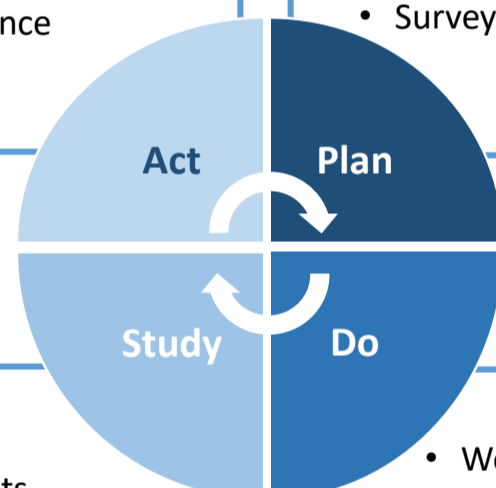
To formally measure improvement in drug knowledge in real time by implementing a pharmacist led education program (called the Druggle) to target nursing staff.

### Method

- The Druggle was conceptualised and implemented using Plan-Do-Study-Act (PDSA) cycles over a period of 6 months.

- Based on nursing feedback, change drug selection to commonly used drugs instead of targeted therapies
- Change day of the week for presentation
- Provide Quiz results in real time
- Druggle for senior staff with content tailored to their experience

- Concept based on existing KCC Huddle and Leeds Hospital UK "Drug-gle"
- Multidisciplinary team developed the content
- Standard format used
- Drugs selected on incidents
- Developed metric including 5 domains
- Survey pre and post weekly
  - Retention quiz at 6 months
  - Evaluate staff experience



- Pre and post quiz results
- Performance in each domain
- Attendance and star rating
- Demographics and paediatric oncology experience
- Knowledge retention quiz

- Weekly Druggle implemented
- Two sessions per week
- 15 min session
- One "hot topic" per Druggle
- Virtual platform for delivery
- Pre and post quiz for each Druggle implemented
- Retention quiz at 9 months

- It follows a standardised format, covering 5 domains



Drug Interactions



Dose



Administration



Mechanism of action



Side Effects



Retention Quiz QR Code

- A pre and post quiz was conducted to measure the impact. 5 questions, 1 for each domain. Delivery by QR code to engage in-person and virtual participants
- A 30 question retention quiz was done at 9 months (equally covered all domains)

### Evaluation

- 15 drugs presented to 257 attendees over 28 sessions in 6 months
- Median pre quiz result was 2.1/5 (42%) and median post quiz result was 4.25/5 (85%).
- Each domain was analysed separately and showed an increase in each domain.
- The retention quiz covered previously presented drugs. The questions were equally distributed across all domains
  - The retention quiz showed favourable outcome of an average score of 19/29 (68%).

Overall  
2.8/3  
stars

- Staff experience was captured with a star rating
- Better outcomes and star ratings were seen in commonly use medications (i.e. anti-emetics and antibiotics) compared with more complex medications (i.e. precision therapy)

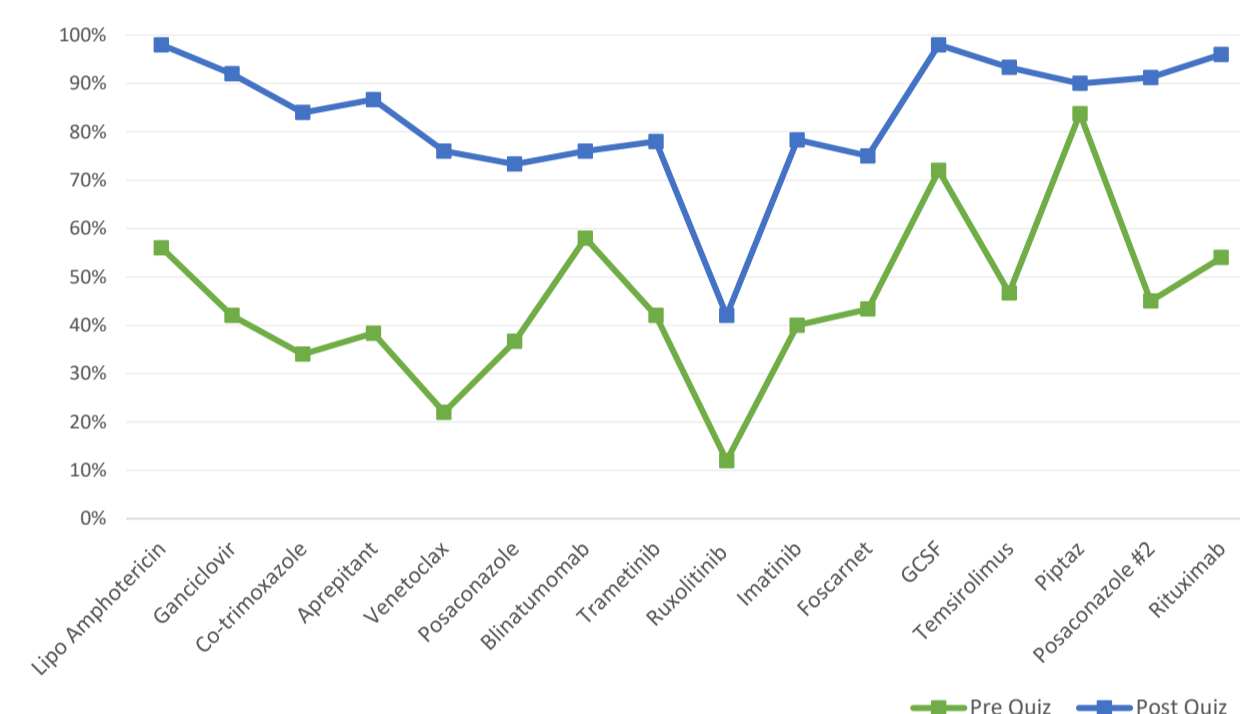


Figure 1: Comparison of pre and post quiz analysed by drug

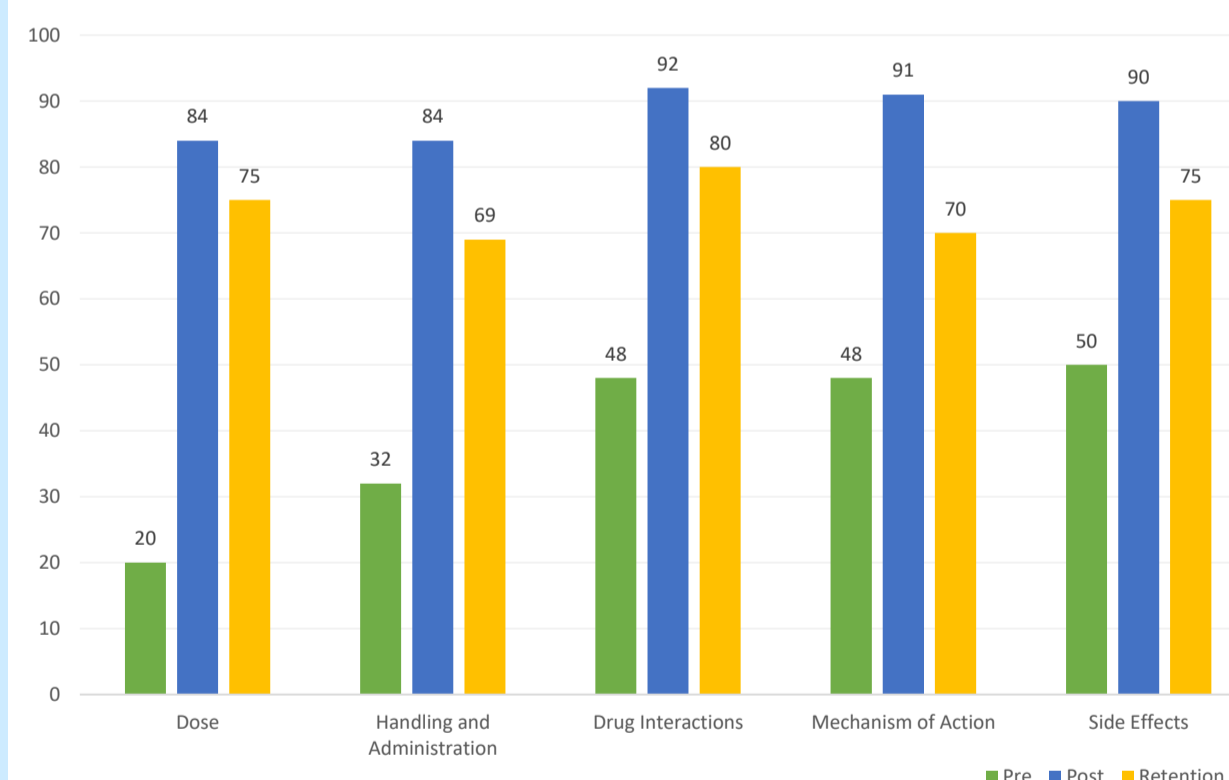


Figure 2: Comparison of pre, post and retention quiz analysed by domain

### Discussion

- The short structured, reproducible format of the pharmacist-led Druggle using a standardised metric to determine impact and a follow up retention quiz improved nursing drug knowledge in real time.
- It was noted that nursing staff had better results and gave higher star ratings (which showed they found the session valuable for learning) for more commonly used medication.
  - In response we tailored the drug selection and focussed on more commonly used medicines.
  - Education for complex precision therapy may be better delivered in long and more in depth education sessions
- Improvement was maintained over 9 months.
- We plan to expand and offer the Druggle to medical staff with content tailored to their experience.