

AN AUDIT OF THE COMPLETION RATE OF A CLINICAL RISK ASSESSMENT SCREENING TOOL FOR NEONATAL ADMISSIONS

A LESSON OF FUN

C Barratt, E Connon, CL Smith
Simpsons Reproductive Centre, NHS Lothian

Background

The clinical risk assessment (CRA) is a screening tool used on the neonatal unit that identifies neonates at risk of carrying multi-drug resistant organisms (MDROs). The CRA screening proforma is found in the National Infection Prevention and Control Manual (Scotland) and that the expectation is that this is used for every baby admitted to a neonatal unit, at the point of admission. Utilising the CRA allows appropriate barrier precautions, nursing and cleaning procedures to put in place for patients and to identify babies requiring screening for MDROs including MRSA swabbing and carbapenemase-producing Enterobacteriaceae (CPE) stool testing. The aim of the CRA is to reduce the spread of MDROs in the neonatal unit.

Carbapenemase Producing Enterobacteriaceae (CPE)
Mother is known to be or has been positive for CPE Yes No
Mother has received hospital care outside of Scotland in the past 12 months Yes No
Baby has received hospital care outside of Scotland in the past 12 months Yes No
Click to view CPE guideline... Addendum...
Methicillin resistant Staphylococcus aureus (MRSA)
Mother is known to be or has been positive for MRSA Yes No
Click to view MRSA guideline...
All Other Organisms
There is a current incident or outbreak in the transferring unit Yes No
Baby or mother in known to be colonised or infected with MDRO (other than CPE or MRSA) Yes No
Baby is due to undergo cardiac surgery this admission Yes No
Screened on transfer for another infectious agent Yes No

Figure 1: Screenshot of the CRA tool on BadgerNet

Method

Over a 6 month period from Aug 2023-Jan 2024, retrospective data was collected weekly for all new admissions to the neonatal unit from the previous week, using the audit-trail function on BadgerNet. Data collected included date of admission, if they had their CRA completed, what the result of the CRA was, and who completed the CRA. The target CRA completion rate for the quality improvement project was set at 100% and the aim was to improve the completion rates of the CRA. I implemented several interventions over time including group reminders, a weekly update/competition board, introducing a “CRA star of the week” and prize crown. Results were recorded on a run chart and the student’s t-test was used to compare the statistical difference of weekly averages of CRA completion following new interventions, compared to the initial completion rate.

Results

There were 374 admissions to the neonatal unit over 6 months, of which 278 patients had their CRA screening completed. 47 different staff members completed a CRA including doctors, advanced nurse practitioners and neonatal nurses. 69.8% (261) of patients had a negative CRA screen, 25.7% (96) did not have a CRA screen, and 4.6% (17) had a positive CRA screen.

Prior to intervention, the average CRA completion rate was 65.5% (56-75%). Out of the 3 interventions, implementing a weekly competition board and a “CRA star of the week” each significantly improved the completion rates of the CRA (82%, p value 0.039, and 93.6%, p value 0.0001 respectively). A run chart showed marked improvement with these two interventions, with the run chart median being reset from 69% to 89% after the introduction of the weekly competition board (see Figure 3). 100% compliance was achieved for the first time on two weeks during this project after the introduction of the “CRA star of the week”. Regular group reminders did not significantly improve CRA completion rates (62%, p value 0.964) and showed no change in the run chart.

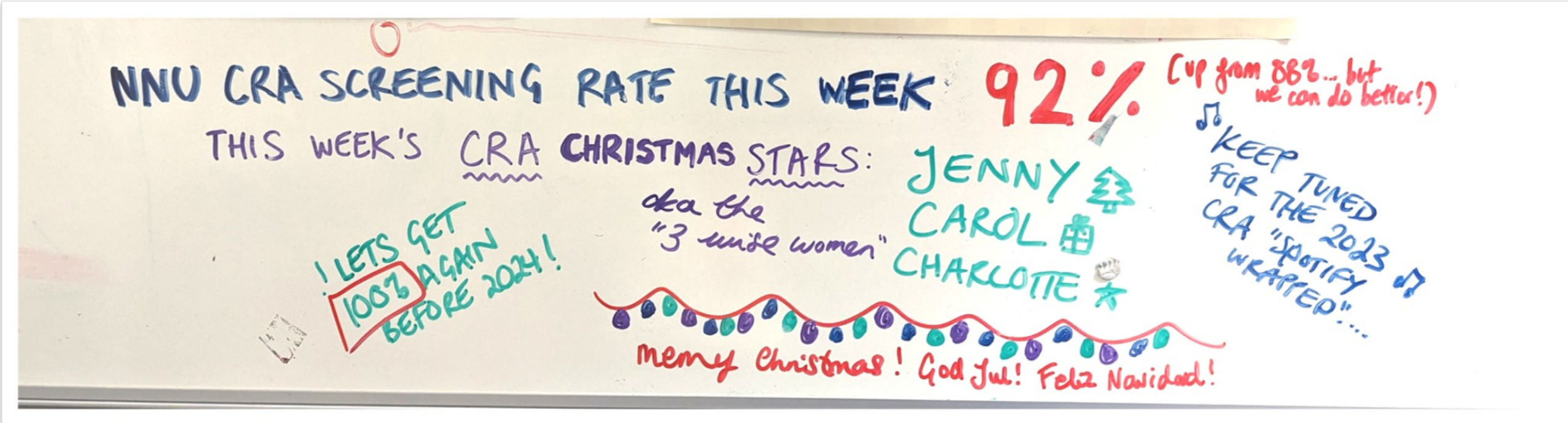


Figure 2: Photo of the weekly update/competition board

Conclusion

The CRA is a clinically useful tool, as it identified 4.6% of admissions that required increased barrier precautions and CPE screening. Simple but fun interventions such as a weekly update board and “CRA star of the week” significantly improved the CRA completion rate from 65.5% to 93.6%, which demonstrates the effectiveness of fun in improving staff participation in quality improvement measures on the neonatal unit.

Figure 3: Run chart showing percentage of neonatal admissions each week having CRA screening tool completed

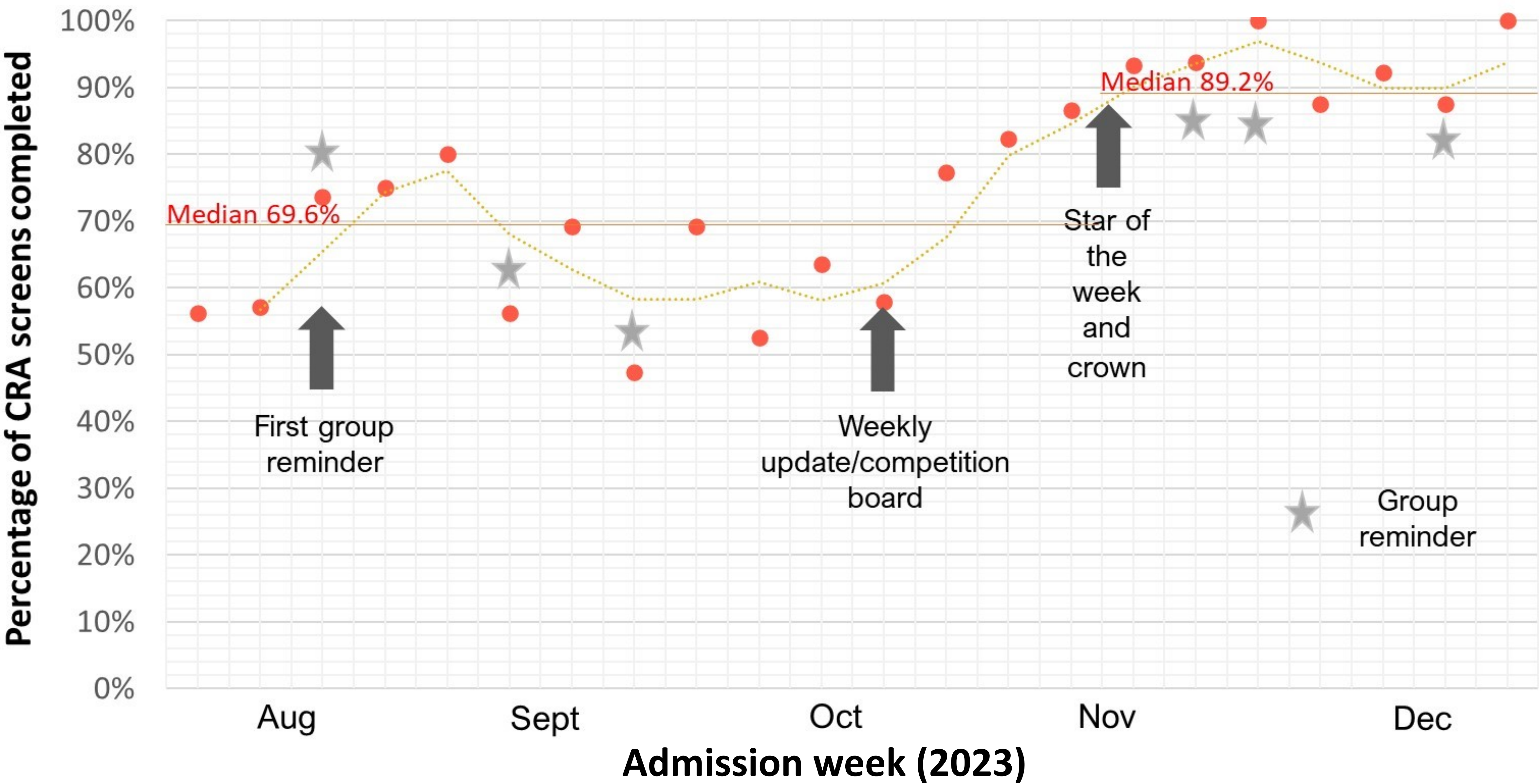


Figure 4: Photos of CRA stars wearing the CRA crown