

A CONTINUOUS REVIEW OF PAEDIATRIC INTRAVENOUS FLUID THERAPY AT THE QUEEN ELIZABETH HOSPITAL KING'S LYNN BASED ON QUALITY STANDARDS FROM NICE GUIDELINE NG29

Dr. Ho Joo Hin (1), Dr. Nina Terziyan (2)
(1) Foundation Year 2, Norfolk and Norwich University Hospital
(2) Consultant Paediatrician, Queen Elizabeth Hospital King's Lynn



OBJECTIVE

- To review compliance with departmental guideline which is adapted from the NICE guideline NG29 on intravenous fluid therapy in children and young people admitted to the paediatric ward and who have had their fluid and electrolyte balance assessed and intravenous fluids prescribed by the paediatric team.
- To improve the quality of paediatric intravenous fluid therapy at Queen Elizabeth Hospital King's Lynn.

METHODOLOGY

Background: This is the third re-audit cycle of a continuous review [1]. Changes introduced after the initial cycles included poster reminders, paediatric intravenous fluid prescribing teaching and documentation improvements.

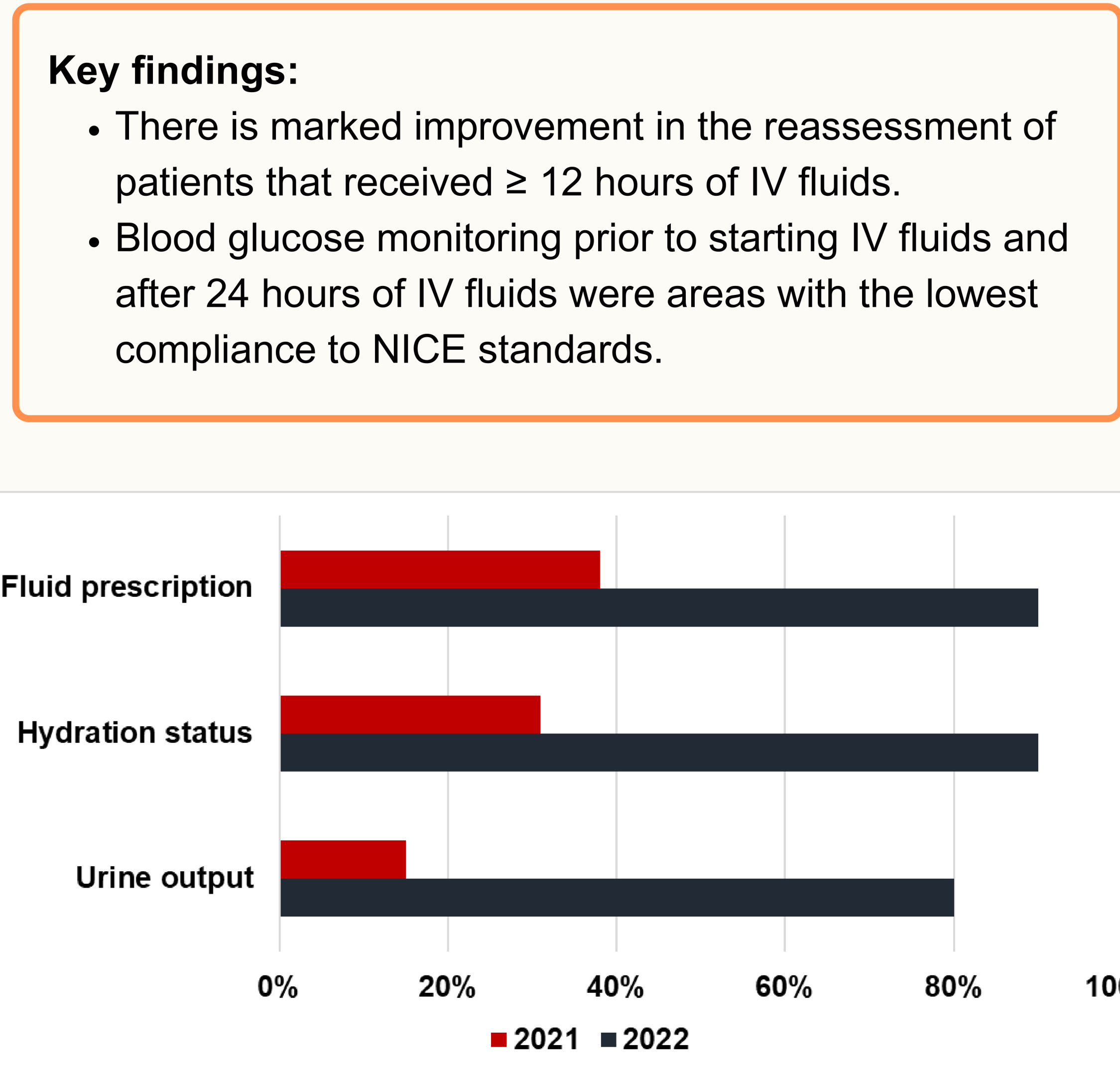
Method:

1. A retrospective study involving a total of 22 patients was carried out. Patients were identified randomly via Paediatric department handover data from October 2022 to December 2022.
- Inclusion: Children from over 1 month up to 16 years of age who were administered intravenous fluids on the paediatric ward.
- Exclusion: Diabetes and any other condition necessitating specific approach to fluid management.
2. The patients' notes were reviewed and relevant data were collected, which were subsequently entered in a separate questionnaire sheet for each patient.
3. The data sheets were then analysed and summarised using Microsoft Excel. The results were compared with quality standards set out in the NICE guideline NG29 [2] and represented as compliance percentages.

RESULTS

Table 1: Summary of compliance percentage, compared to the previous review in 2021.

| Criteria | Standard | Actual % (2021) | Actual % (2022) | Variance % (2022) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------|-----------------|-------------------|
| <u>Statement 1:</u> Term neonates, children and young people receiving intravenous (IV) fluid therapy have their plasma electrolyte concentrations and blood glucose measured when starting IV fluids and then at least every 24 hours: Starting (1a) For U&E Starting (1b) For BM | 100% | 100% | 96% | -4% |
| | 100% | 57% | 50% | -50% |
| | 100% | 86% | 100% | 0% |
| | 100% | 14% | 50% | -50% |
| <u>Statement 2:</u> Term neonates, children and young people receiving IV fluid therapy have their fluid balance assessed when starting IV fluids and then at least every 12 hours. Reassessment after 12h of I.V. fluids: 1. Fluid prescription 2. Hydration status 3. Urine output | 100% | | | |
| | | 38% | 90% | -10% |
| | | 31% | 90% | -10% |
| | | 15% | 80% | -20% |
| <u>Statement 3:</u> Term neonates, children and young people are not given hypotonic fluids or glucose-containing fluids for IV fluid resuscitation. Reassessment after fluid bolus documented: | 100% | 100% | 100% | 0% |
| | 100% | 25% | 60% | -40% |
| <u>Statement 4:</u> Term neonates, children and young people receiving IV fluids for routine maintenance are not given hypotonic fluids as the initial fluid. | 100% | 100% | 100% | 0% |



Graph 1: Reassessment after 12h of IVF in 2022 vs 2021

CONCLUSION

There were marked improvement in areas of clinical reassessment which is vital, while maintaining good standards of correct fluid choice and monitoring of electrolytes. There is further room for improvement with regards to monitoring of bedside blood glucose. A suggestion would be to include a specific highlighted blood glucose section to be filled in the paediatric fluid prescription sheet. Generally, the compliance with departmental guideline and quality of paediatric intravenous fluid therapy did improve as a result of the changes introduced within the department.

REFERENCES

- [1] CA2147 Clinical Audit Report, Dr. Nina Terziyan, 1 February 2021.
- [2] NICE guideline [NG29] Intravenous fluid therapy in children and young people in hospital, National Institute for Health and Care Excellence, 11 June 2020.