



Design, build and implementation of electronic prescribing and medicines administration in neonatal units across four UK hospital trusts

GPI Number: ISG13319

Contact data: Holly Jones (Highly Specialist Pharmacist – EPMA, CWFT), Nicola Vosser (Principal Pharmacist – EPMA, CWFT)

What was done

Development of a neonatal formulary on an existing Electronic Prescribing and Medicines Administration (EPMA) system shared by four UK hospital trusts, including design, build and validation of electronic workflows for protocols such as continuous variable rate drug infusions, intravenous fluids and parenteral nutrition.

Why was it done



Collaboration - support interdisciplinary decision making across trusts



Digital alignment - use same electronic prescribing system across all clinical areas



Innovation - facilitate effective use of digital systems in healthcare



Patient safety - facilitate safe prescribing and administration of medicines

How was it done

- Gap analysis of existing electronic drug catalogue
- Key guidelines shared to harmonise local differences
- Multidisciplinary decision making on new builds, including >30 neonatal prescribing plans for complex variable rate infusions and fluids, totalling >200 new/updated builds
- Extensive testing and validation
- Detailed and varied training
- Go-live planning and support

What has been achieved

- Successfully implemented a bespoke neonatal medication build at four UK hospital trusts
- Ability to clearly and safely prescribe medications and document administration, including adjustments of infusion rates
- Standardisation and improved continuity of care across regional hospitals
- Improved visibility and accuracy of patient records

What next

- Ongoing optimisation based on user feedback
- Implementation of electronic fluid balance charts
- Sharing of successes and challenges with other UK hospital trusts using the same EPMA system

Paper drug chart prescribing

Drug Name 4.2% SODIUM BICARBONATE	Diluent 13 ml sterile water & Volume + 1 ml Heparin (10 units)	Date 2/5 2/5 3/5
Drug Amt. 3 mmol (6ML)	Infusion range 0.5ml/hr	Time 0700 2200 2200
Route: IAC	Start date 02/05/24	Given
Signature	Pharm	Check



Electronic prescribing powerplan

<input checked="" type="checkbox"/>	Metabolic Acidosis - heparinised bicarbonate infusion	
<input checked="" type="checkbox"/>	WEAK sodium bicarbonate plus heparin	
<input type="checkbox"/>	Total volume = 20mL	
<input type="checkbox"/>	Sodium bicarbonate plus Heparin in Water for Injection titratable infusion	20 mL, intraarterial, mL/hour, hour(s)
<input type="checkbox"/>	Total volume = 40mL	
<input type="checkbox"/>	Sodium bicarbonate plus Heparin in Water for Injection titratable infusion	40 mL, intraarterial, mL/hour, hour(s)
<input checked="" type="checkbox"/>	STRONG sodium bicarbonate plus heparin	
<input checked="" type="checkbox"/>	Total volume = 20mL	
<input type="checkbox"/>	Sodium bicarbonate plus Heparin in Water for Injection titratable infusion	20 mL, intraarterial, mL/hour, hour(s)
<input checked="" type="checkbox"/>	Total volume = 40mL	
<input type="checkbox"/>	Sodium bicarbonate plus Heparin in Water for Injection titratable infusion	40 mL, intraarterial, mL/hour, hour(s)

Base Solution	Bag Volume	Rate	Infuse Over
Water for Injection (Diluent for Continuous Infusion)	20 mL	mL/hour	hour(s)
Additive	Additive Dose	Normalised Rate	Delivers
sodium bicarbonate (additive for infusion.)	3 mmol		
heparin (additive for infusion)	10 unit(s)		
Total Bag Volume	20 mL		

Weight: 1 kg Weight Type: Clinical Weight Result dt/tm: 17/Oct/2023 11:49:00 BST



Electronic drug administration chart

sodium bicarbonate (additive for infusion.) 3 mmol
heparin (additive for infusion) 10 unit(s)
Water for Injection (Diluent for Continuous Infusion) 20 mL
20 mL, intraarterial, 01/Feb/24 10:04:00 GMT, at 0.5 mL/hour, Infuse over: 40 hour(s)
NICU
Administration Information
sodium bicarbonate
heparin
sterile water

sodium bicarbonate (additive for infusion.) 3 mmol + heparin (additive for infusion) 10 unit(s) + Water for Injection (Diluent for Continuous Infusion) 20 mL, intraarterial, 01/Feb/24 10:04:00 GMT, at 0.5 mL/hour, Infuse over: 40 hour(s)

31/Jan/2024 22:06 GMT - 01/Feb/2024 22:06 GMT

Begin Bag	No results found.
Site Change	
Infuse	
Bolus	
Waste	
Rate Change	

Yes No sodium bicarbonate (additive for infusion.) 3 mmol

Yes No heparin (additive for infusion) 10 unit(s)

Yes No Water for Injection (Diluent for Continuous Infusion) 20 mL

*Performed date/time: 01/02/2024 1006 GMT

*Performed by: Jones, Holly

Witnessed by:

*Bag No.: 1

*Site:

*Volume (mL): 20

*Rate (mL/hour): 0.5

