

ECLIPSE

## **Policy and practice mismatches:**

**A study of intravenous infusion administration procedural  
and documentation violations across  
14 hospitals in England**

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- **Department of Health disclaimer:** The views and opinions expressed herein are those of the authors and do not necessarily reflect those of the HS&DR programme, NIHR, NHS, or the Department of Health

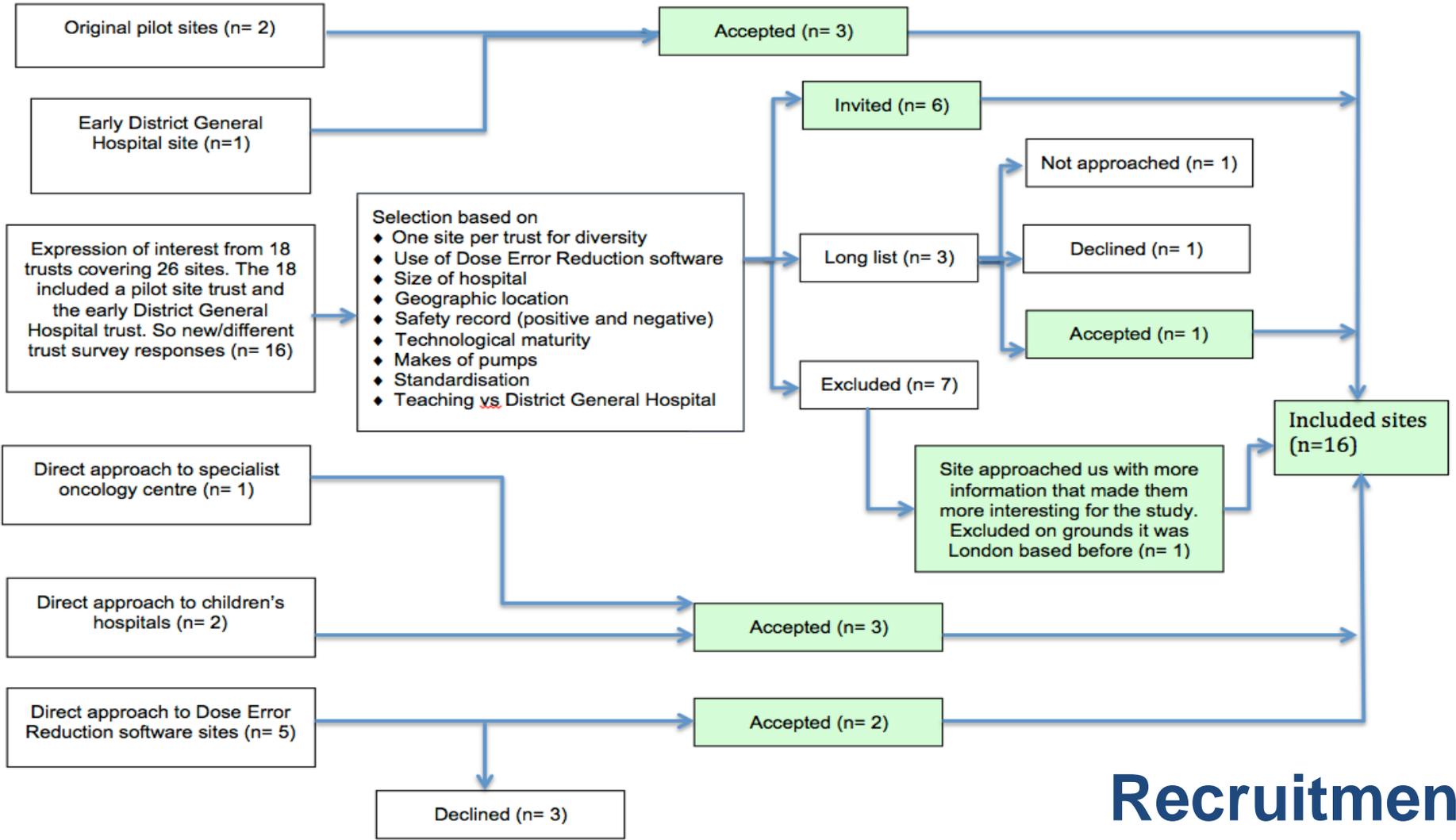
# Introduction

- Part of a larger project on exploring the landscape of intravenous (IV) infusion administration practices and errors (ECLIPSE) involving 16 trusts.
- Overall looking at IV medication administration errors and procedural and documentation violations.
- Clear policy and procedures are required for the safer use of injectable medicines; we investigated how well IV infusion administration practice aligns with current local policy.

## Aims and objectives

We aimed to investigate the frequency of documentation and procedural violations related to IV administration in English hospitals.

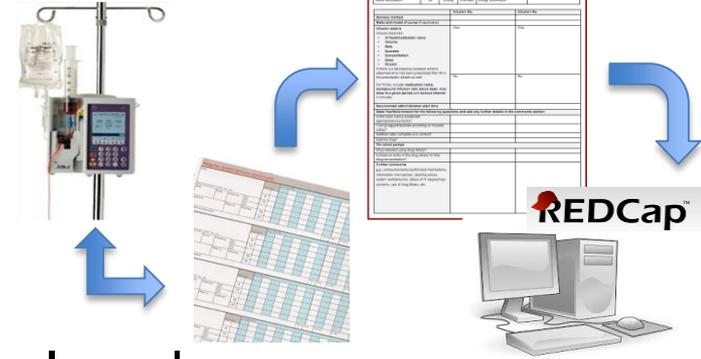
- To measure the frequency of violations relating to:
  - 1) tubing tagging;
  - 2) documentation of administration;
  - 3) details of additive labels; and
  - 4) patient identification (ID).
- To explore any other documentation and procedural issues in dialogue with sites.



# Recruitment

# Method

- Quantitative observational study of IV administrations across 16 trusts
  - Data from 14 hospitals cleaned and analysed
  - Severity assessed using adapted NCCMERP
- Data collection by pharmacist and nurse at each site
- Debriefs and focus groups with key staff at participating sites to understand practices
- Qualitative studies at five hospitals and dialogue with healthcare practitioners to identify and communicate best practices (on going)



# Rating the severity of discrepancies/errors

		Harm	Category	Description
Discrepancy	}	No error	A1	Discrepancy but no error
			A2	Capacity to cause error
Error	}	Error, no harm	B	An error occurred but is unlikely to reach the patient
			C	An error occurred but is unlikely to cause harm despite reaching the patient
			D	An error occurred that would be likely to have required increased monitoring and/or intervention to preclude harm
	}	Error, harm	E	An error occurred that would be likely to have caused temporary harm
			F	An error occurred that would be likely to have caused temporary harm and prolonged hospitalization
			G	An error occurred that would be likely to have contributed to or resulted in permanent harm
			H	An error occurred that would be likely to have required intervention to sustain life
	Error, death	I	An error occurred that would be likely to have contributed to or resulted in the patient's death	

## Results (14 sites)

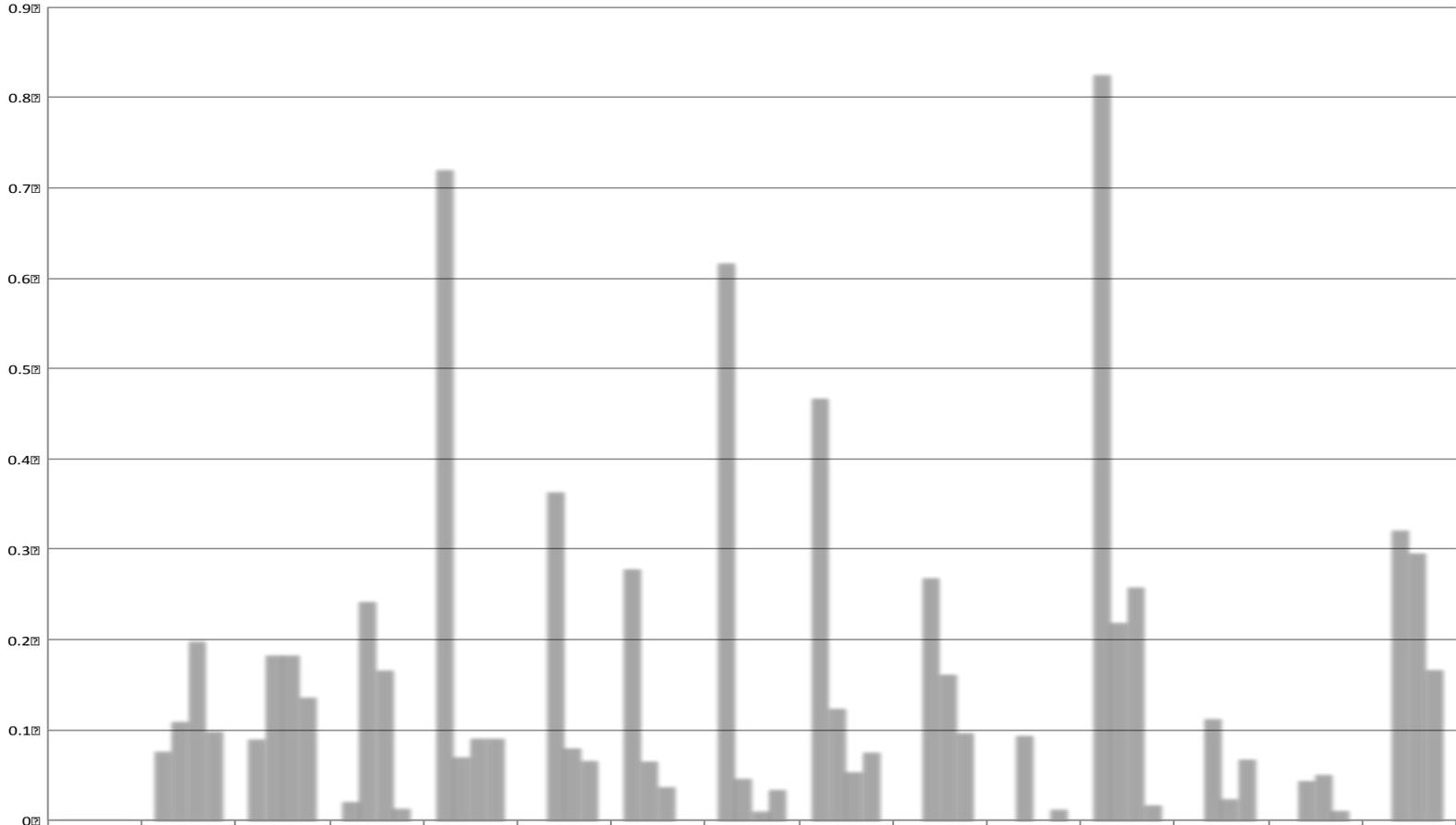
- 1,124 patients
- 1,739 infusions
  - 505 (29%) administered using a smart pump
- 11% error rate (n=192)
  - Rate deviations and unauthorised medications most common
  - Intravenous fluids most likely to be associated with error
  - 1.3% (23) of all infusions were potentially harmful
- 50.8% discrepancy rate (n=884)
  - Non-compliance with policy on tagging or labelling most common

# Procedure and Documentation Discrepancies

	N (% of all infusions)
Tubing not tagged/labelled correctly	376 (21.6)
Documentation of the administration	268 (15.4)
Additive label missing or incorrect	187 (10.8)
Patient identification	105 (6.0)
[Figure is per infusion rather than per patient]	

## Procedural and Documentation Discrepancies per Site

Percentage of infusions with at least one procedural or documentation discrepancy



	A (90)	B (130)	C (131)	D (97)	E (74)	F (282)	G (84)	H (143)	I (141)	J (73)	K (104)	L (114)	M (152)	N (124)
Tubing not tagged or labelled correctly	0%	7.8%	9.2%	2.3%	72.2%	28.0%	61.9%	46.9%	27.0%	9.6%	82.7%	11.4%	4.6%	32.3%
Documentation in the administration	0%	11.1%	18.5%	24.4%	7.2%	6.7%	4.8%	12.6%	27.0%	9.6%	22.1%	11.4%	4.6%	32.3%
Additive label missing or incorrect	0%	20.0%	18.5%	16.8%	9.3%	3.9%	1.2%	5.6%	16.3%	26.0%	2.6%	5.3%	29.8%	16.9%
Patient identification discrepancies	0%	10.0%	13.8%	1.5%	9.3%	6.8%	0.0%	3.6%	7.7%	9.9%	1.4%	1.9%	7.0%	16.9%

# 1) Variability in tube tagging policy

Site	Policy
A	According to the policy, “administration sets must be labelled with the date that the set is first used and where more than one infusion is being infused with what drug/fluid.”
D	Only found out they had a policy to tag all IV lines at the end of their data gathering. It was buried in their peripheral cannulation policy.
E	No policy.
G	Policy to tag all IV infusion lines but it is rarely done.
K	The trust’s Injectable Medicines Guide set out requirements for the tagging and labelling of tubing. All lines must be visibly labelled with the following information (taken from: Promoting Safer Use of injectable medicines: NPSA/2007/20). Name of the medicine; Strength; Route of administration; Diluent and final volume; Patient’s name; Expiry date and time; Name of the practitioner preparing the medicine.
N	No policy. Track when IV lines need changing in rounds and notes.
O	Label only continuous infusions with the time/date line needs to be changed.
P	Label all IV lines with the date they were put up.

## 2) Variability in additive label policy

Site	Policy
K	<p>The trust's Injectable Medicines Guide set out requirements for labelling of medications and fluids. Labels should contain: Patient's name; Ward/clinical area; Drug; Medicine Name; Final Concentration; Agreed administration rate</p> <p>Amount; Total amount of drug added to the syringe or bag; Batch Number; Of added medicine [Diluent; Date prepared; Time prepared; Expiry Date; Expiry Time (Note this is usually 24 hours after preparation unless otherwise indicated in trust guidelines e.g. NHS Injectables Guide); Route of administration.</p>
B	<p>The Trust's IV administration policy gives this direction on labeling additives: "Complete the drug additive label and fix onto the bag, bottle, burette or syringe used for drug infusion. To identify what drug has been added, when and by whom. – any time an additive/ drug is added to a carrier e.g. N/Saline, 5% Glucose." The additive label include the batch number.</p>
D	<p>No policy or guidelines but expectation to fill out additive label. Focus group discussed redesigning their label and removing the batch number.</p>
F	<p>Interesting practice where patient prescribed paracetamol, should be 675mg based on patient's weight, 1000mg hanging and no label so looks like too much. However, nurse confirmed they had taken the excess out.</p>

### 3) Variability in patients ID band policy

Site	Policy
C	Policy specifically states that oncology day care patients are not required to wear an ID band. Some discussion at this time whether oncology day care patients are considered outpatients and so do not need ID bands.
B	All patients must wear an ID band as soon as they are admitted or enter a department for treatment. Oncology Day Unit matron acknowledges this is important, but has trouble getting staff to do it and their printer keeps breaking down which exacerbates the problem. She had a near miss herself when a hard of hearing patient answered to the wrong name in the waiting area, another nurse pointed out it was the wrong patient before treatment had started.
O	All Oncology Day Units patients wear an ID band. This forms part of their hospital admissions process, checking allergies, and checking you have the right patient when giving IVs. They could not imagine not having ID bands now. Mortified to hear a patient receiving blood without one as it shows the checks had not been done.
F	All patients must where ID bands. They had problems here previously. It has been heavily audited and no missing ID bands were found in our study.

## 4) Variability in prescribing flushes

Site	Policy
D	In their Oncology Day Care Unit they have an e-prescribing system that adds flushes to the chemo regimes so they are prescribed, e.g. up to 250ml as required. In other parts of the hospital there is recognition that flushes should be prescribed but they aren't.
K	Oncology Day Care Unit were not prescribing flushes and did not appear to have a policy or PGD in place to cover this practice. The lead pharmacist said this had been discussed in meetings, it was accepted practice, and they would continue to not prescribe flushes.
O	Oncology Day Care Unit – they have a PGD so nurses can administer flushes without needing a separate prescription by a medic. Found out in our focus group that these are not being well documented.
G	RECENT: They are not renewing their PGD and so doctors must now prescribe every flush and flushes must be double checked and signed when administered like any other drug/fluid across the whole trust. Very recent change with mixed reception.
N	Bags of saline hung for KVO (Keep Vein Open) in general surgery. The site was quite clear that this is not covered by their trust's policy.

## Strengths and limitations

- Many sites audited for infection control and prescription issues around IV practice but said IV administration was a gap in their review processes.
- A limitation of our study is that some sites have suggested that staffing levels and workload could impact the frequency of violations, but we did not collect this data; this could be explored in future studies.

# Conclusion

- Local IV administration policy varies greatly between trusts, as do their discrepancy rates.
- Some trusts may have policies that are too onerous.
- Some trusts appear to lack policies when compared to the norm.
- Some trusts have policies that are not known by staff.
- In some contexts policies are known but not followed.
- Some trusts appear to have rational and practical policies that they can audit against.
- Can we do better locally and nationally?

# Thank You

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