A review and critical evaluation of how the National Aseptic Error Reporting Scheme (NAERS) is utilised across NHS aseptic sites, with the objective of producing recommendations to improve user experience, operational resilience and patient outcomes

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Introduction
Results and Discussion
Recommendations

Introduction

Context

Core Value: Patient Safety

Core Value: Positive Impact

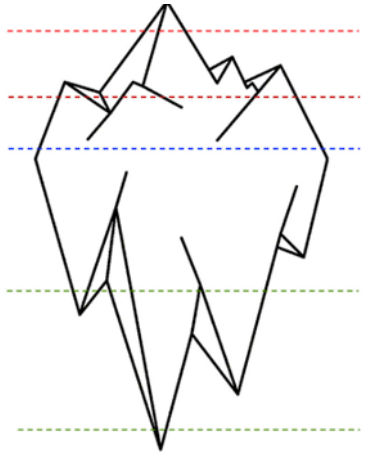
I was keen to build on my prior knowledge and experience of NAERS in a way that would add value to myself, to aseptic units across the NHS, to the NAERS itself and potentially the wider drug production sphere

Context

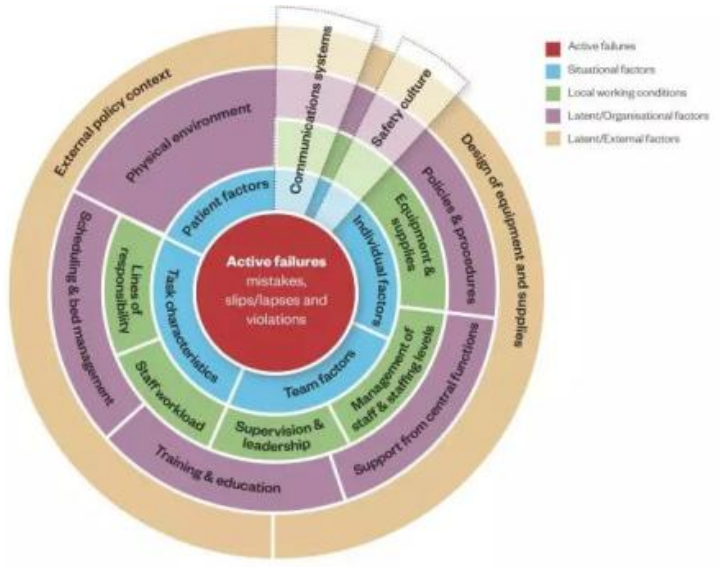
Through the literature review, the nature of errors was explored, alongside a series of error models and theories

Swiss Cheese Model

The injury pyramid/ Bird Triangle [16]



eberg model as a framework [9]



The Yorkshire Contributory Factors Framework [30, 31]

Gaps in Literature

There was limited research around error reporting across NHS aseptic services

There was limited NAERS-specific research

Research was particularly limited in comparison to other industries such as aviation and oil and gas

Aim

Critically evaluate how the National Aseptic Error Reporting Scheme (NAERS) is utilised to reduce near miss and error events across National Health Service (NHS) aseptic sites.

Four Key Objectives

- **Context**: to **explore the landscape and theories around error and near misses**
- **Risks**: to **understand the risks of aseptic production**
- **Culture**: to **investigate what good culture looks like**
- **Recommendations**: to **develop evidence-based recommendations**

Questionnaire Roll-Out

The survey was open for **a five-week period** (25 July 2024 to 31 August 2024)

It was disseminated via the **Regional Quality Assurance Network**

The aim was to achieve an **ideal sample of 75 respondents** (95% confidence level and 5% margin of error)

Results and Discussion

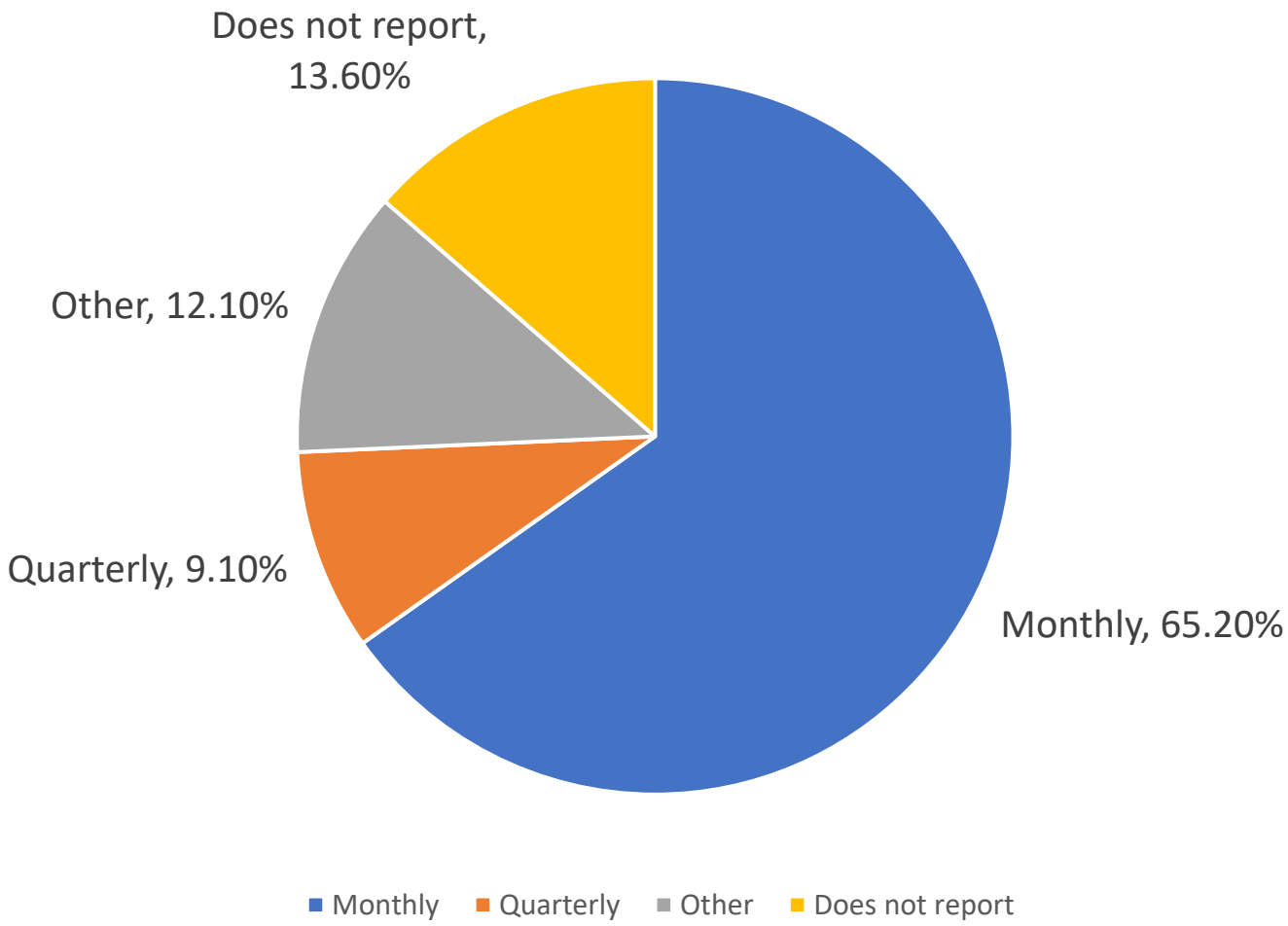
Results

77 responses were received **54** were fully completed **23** were partly completed

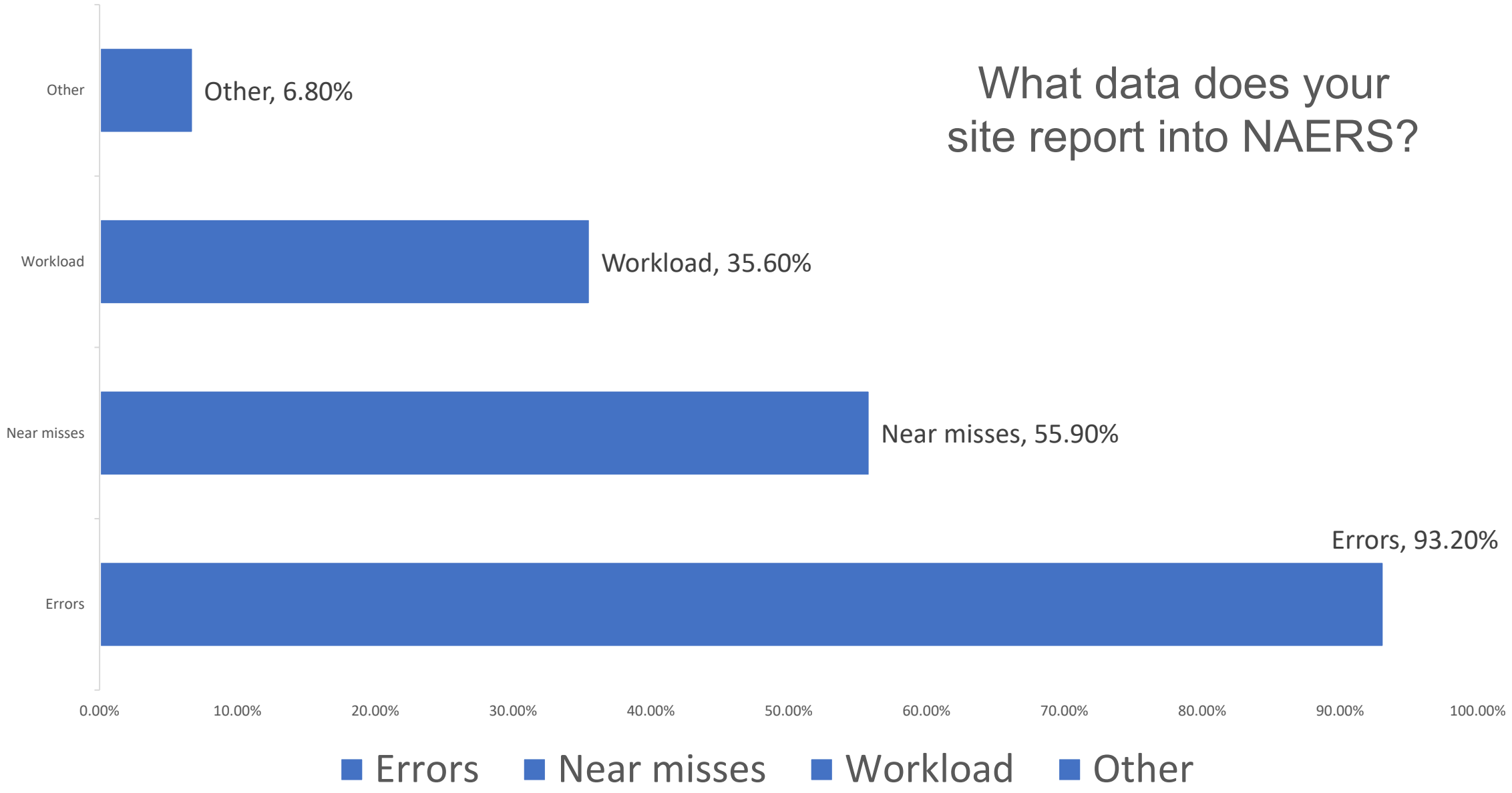
Analysis by type of licence				
Section 10 exemption only	Total Section 10 exemption	MS only	Total Specials (MS) licence	Total MIA (IMP)
57	70	5	18	3
76%	93.3%	6.7%	24%	4%

Job title Summary	Responses
Unit Head / Operations/ Aseptic Manager	4
Head of/ Production/ Manager	2
Deputy Production Manager	1
Accountable Pharmacist	5
Deputy Accountable Pharmacist	2
Chief / Lead/ Principal Pharmacist	2
Senior Pharmacist	1
Pharmacist (Aseptic/ Production	8
Chief / Lead/ Principal Technician	8
Deputy Lead Technician	1
Senior Technician	4
Technician (Aseptic/ Production)	2
Quality Assurance	4
Quality Assurance / Manager	1
Qualified Person	1
Deputy Lead for Aseptic and Radiopharmacy	1

How often does your site report into NAERS?



What data does your site report into NAERS?



Other Key Findings

65.1% self-reported that they were clear on the purpose of NAERS

85.9% believed the purpose is to trend NHS aseptic site errors and/or near misses

63.5% of respondents rated its usefulness as low, highlighting potential opportunities for improvement; access was noted as a contributing factor this low usefulness rating, alongside perceived data visibility

“Don't get sent it/know where to look”

“We need to be able to see trends in the type of errors we are getting, which is not possible with the system. Would be useful to see trends in operators. As a result of being unable to do this I am having to log errors twice (on NAERS and on our own spreadsheets)”

Other Key Findings

Of those who did find it useful, they reported benefits of seeing data from other units to provide proactive learning,

"It is useful to have other Units systems with dealing with errors so that these can be considered at our Unit"

"Useful in training/updating of staff. Helps in learning from common pitfalls"

Barriers: capacity, time, quantity of data to input, no clear responsible staff member and access

Interestingly, average monthly time taken to submit data <3 hours, with 65.5% of respondents reporting this timeframe. 12.1% reported taking 3+ hours, with an average score of ease of input at 5.8/10.

Other Key Findings

Most beneficial NAERS information: (1) national trends by error type (72.6%), (2) year on year trending for your site (66.1%), (3) anonymised trending vs local units (65%), (4) trends of contributory factors (55.7%), and (5) national trends by product type (55.7%)

What staff wanted more of:

“Trends by drug, learning from major incidents reported (with site permission). Error rate relevant to capacity? An idea of how many errors are identified by designated checks put in place”

“Trends in the error type - not just assembly, but trends in incorrect number of vials, syringes”

“Error rate against capacity”

Other Key Findings

60% of respondents wanted improvements to the input method which was the most significant request for improvement

“It is a very manual process it would be good to implement something where it can be collected locally and imported into NAERS to avoid duplication of work.”

“It would be easier if we could upload a report of errors rather than entering them individually”

“A little frustrating that it takes you back to the list before you can create a new entry each time.”

“Once an error has been entered you then have to navigate back to list of errors to find the icon to add another, it would be good if once you entered the error and submitted it you had the option to open up a new error reporting screen immediately”

“A user guide to enable more staff to upload”

Recommendations

Recommendations

1. Improve Awareness around NAERS and Error Data

2. Increase Accessibility to NAERS

3. Implement NAERS GMP Training

Recommendations

4. Utilise NHS Training Courses

5. Review Data Input Method for Ease of Use for Sites

6. Increase Consistency of Data Across Trusts

Future Research

Future Research

- **Barriers to Data Input**:
- **Capacity Insight**:
- **Broader Research Methods**:
- **Cultural Exploration**:
- **Technology Exploration**:
- **Future surveys:**

Personal Reflections – Learnings and Impact

Error theories: enhanced consideration of errors at work including error theories

Knowledge of barriers: I have delivered training at work after completing the dissertation to share learning, improve quality assurance processes and culture change

Personal resilience: I have demonstrated continued resilience in the face of challenge

Improvement spotting: I have identified further areas the error reporting processes may be internally adapted for better impact