

Original Article

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Patient safety incidents within adult community-based mental health services in England: A mixed-methods examination of reported incidents, contributory factors, and proposed solutions

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Abstract

Background. Relatively little is known about mental healthcare-related harm, with patient safety incidents (PSIs) in community-based services particularly poorly understood. We aimed to characterize PSIs, contributory factors, and reporter-identified solutions within community-based mental health services for working-age adults.

Methods. We obtained data on PSIs reported within English services from the National Reporting and Learning System. Of retrieved reports, we sampled all incidents reportedly involving 'Death', 'Severe harm', or 'Moderate harm', and random samples of a proportion of 'Low harm' or 'No harm' incidents. PSIs and contributory factors were classified through qualitative content analysis using existing frameworks. Frequencies and proportions of incident types were computed, and reporter-identified solutions were inductively categorized.

Results. Of 1825 sampled reports, 1443 were eligible and classified into nine categories. Harmful outcomes, wherein service influence was unclear, were widely observed, with self-harm the modal concern amongst 'No harm' (15.0%), 'Low harm' (62.8%), and 'Moderate harm' (37.6%) categories. Attempted suicides (51.7%) and suicides (52.1%) were the most frequently reported events under 'Severe harm' or 'Death' outcomes, respectively. Incidents common to most healthcare settings were identified (e.g. medication errors), alongside specialty-specific incidents (e.g. Mental Health Act administration errors). Contributory factors were wide-ranging, with situational failures (e.g. team function failures) and local working conditions (e.g. unmanageable workload) widely reported. Solution categories included service user-directed actions and policy introduction or reinforcement.

Conclusions. Study findings provide novel insights into incidents, contributory factors, and reported solutions within community-based mental healthcare. Targets for safety improvement are outlined, aimed at strengthening system-based prevention of incidents.

Introduction

Internationally, there is growing recognition of patient safety and healthcare-related harms (World Health Organization, 2021). Until recently, patient harm from poor quality or unsafe care in mental health services had received relatively limited research attention. Safety challenges in psychiatric services are increasingly acknowledged within emerging evidence and clinical service improvement agendas (Berzins et al., 2018; D'Lima et al., 2017; Thibaut et al., 2019). Indeed, self-harm, suicide, and violence constitute dominant concerns within the field (Bowers et al., 2011; Bowers et al., 2015; James et al., 2012), with national targets for their reduction within inpatient settings, alongside efforts to mitigate restrictive practices which follow (e.g. physical restraint), established within the English National Health Service (NHS) Mental Health Safety Improvement Programme (NHS England, 2021c).

Harms such as self-harm, suicide, and aggressive behavior can be understood as unsafe service user actions (Dewa et al., 2018). Challenges for the patient safety field, particularly in community-based care where the whole patient journey is often unknown, lie in determining the preventability of such events, which may arise as outcomes of unsafe care (e.g. ineffective risk management, misdiagnosis), but may also occur in the absence of identifiable service shortfalls (Averill et al., 2023). In many countries, mental healthcare is delivered primarily in community settings, yet patient safety outcomes in community-based mental health services remain poorly understood.

Patient safety incident (PSI) reporting by clinical teams constitutes a valuable, yet underutilized source of intelligence about patient safety challenges in mental healthcare (Barnes et al., 2022;

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Mishina et al., 2023). England and Wales' National Reporting and Learning System (NRLS) was launched in 2003, encouraging voluntary reporting to generate learning about PSIs and identify solutions to mitigate risks to patients (NHS England, 2021b). These data have provided insights into various mental healthcare safety challenges, their amelioration, and remedial actions by professionals, including medication safety concerns (Alshehri et al., 2021; Dabba et al., 2019; Innes & Curtis, 2015; Young et al., 2020); prevention of and staff responses to inpatient suicides and self-harm (Bowers et al., 2011; James et al., 2012); and PSIs associated with discharge from specialist services (NHS England Patient Safety Domain, 2014).

In 2005, a quantitative overview of the relative frequencies of different PSIs within inpatient and community-based mental health services was published, using structured NRLS data about the incident type (National Patient Safety Agency, 2006). Safety improvement priorities were then examined within subsequent mixed-methods analyses focused primarily on inpatient safety, with themes such as aggressive behavior, sexual safety, and patient absconson elucidated (National Patient Safety Agency, 2006). However, neither incident contributory factors, nor potential solutions to safety problems in community-based care, were explored. Moreover, it is also acknowledged that free-text incident accounts written by the reporting clinical team, as opposed to structured data, offer the greatest opportunities for learning from NRLS data (Mayer et al., 2016).

Given the above limitations, the present study comprised a detailed examination of PSIs within community-based mental healthcare settings for working-age adults. First, we aimed to characterize the nature of PSIs and their contributory factors as described within reports. Second, we explored the types of solutions to PSIs presented by incident reporters.

Method

Design

This study adopted a sequential exploratory mixed-methods design (Halcomb & Hickman, 2015). We examined incident types, contributory factors, and reported solutions using qualitative content analysis. Next, within each incident category, we computed descriptive statistics to explore the frequencies and proportions of each PSI type. Study reporting corresponds to the Reporting of studies Conducted using Observational Routinely-collected health Data (RECORD) Statement (Benchimol et al., 2015).

Data source

We obtained anonymized PSI data from the NRLS database, managed by NHS England (NHSE). The NRLS is one of the largest databases of PSIs, receiving over 2.4 million reports from NHS or independent providers in 2021 (NHS England, 2022b). PSIs are also reportable to the NRLS by public members via an online form; however, data as to the extent to which this mechanism is utilized are not publicly available. NRLS data are used by multiple stakeholders, including the Health Services Safety Investigations Body, for identifying investigation foci (NHS England, 2021a). Through structured fields, reporters provide information about PSIs, those involved, and appraise the degree of harm related to the incident. Three free-text fields allow reporters to describe what happened, identify contributory factors, and report actions taken to prevent incident reoccurrence.

Eligibility criteria

We analyzed reports concerning potential or actual PSIs relating to community-based mental healthcare provision for working-age adults within primary or secondary care. Mental health patient safety was defined broadly: 'The avoidance of unintended unsafe or iatrogenic harm associated with mental healthcare – either an error in inappropriate treatment, or an omission to detect unsafe behavior' (Dewa et al., 2018). Therefore, besides PSIs recognized across most healthcare contexts (e.g. medication errors), reports describing potential or actual harmful outcomes for community mental health patients where service influence is less clear (e.g. suicides, interpersonal violence), were included. This patient safety definition was adopted over widely cited alternatives, such as 'freedom from accidental or preventable injuries produced by medical care' (Agency for Healthcare Research and Quality, n.d.), which insufficiently represent the range and mechanisms of potential mental healthcare harms (e.g. psychological harm from coercion, ineffective management of unsafe patient actions).

Sample selection

There is no agreed systematic way to sample NRLS reports relating to community-based mental health services. When refining our search criteria iteratively with NHSE support, we optimized sample relevance (specificity) over sensitivity. To retrieve data pertaining to routine care provision, rather than care delivered during the subsequent COVID-19 pandemic, a search executed by the NHSE Patient Safety Data Team (date: 16/12/2021) captured PSIs reported within 2019 (01/01/2019–31/12/2019), involving patients aged 18–65 years where care setting was defined as 'mental health services'. To remove irrelevant reports from community physical healthcare, the search was limited to 22 English NHS Trusts identified by the authors as providing mental healthcare primarily or exclusively. Incident categories such as 'failure to return from authorized leave', and locations such as 'prison/remand center', 'nursing home' were excluded, owing to associations with institutional mental healthcare models or older adult services. Free-text data were then searched for terms associated with institutional mental healthcare settings (e.g. 'escorted leave') and excluded.

Guided by NHSE as to sample size considerations, all retrieved PSIs associated with reported 'Low harm', 'Moderate harm', 'Severe harm', or 'Death' outcomes were extracted, alongside a random sample of 1000 reports resulting in 'No harm', as judged by incident reporters. Due to large report numbers, the research team randomly sampled half of the 'No harm' and 'Low harm' reports received in the dataset. [Supplementary Material 1](#) details the full search strategy, and [Table 1](#) presents an overview of the proportion of reports sampled for analysis.

Data coding and analysis

Free-text data were analyzed using qualitative content analysis (Elo & Kyngäs, 2008; Hsieh & Shannon, 2005). To incorporate learning from existing evidence-based PSI analysis frameworks, whilst retaining the flexibility to introduce new codes, incident type and contributory factors were examined with a hybrid inductive-deductive approach (Aim 1). Conventional inductive qualitative content analysis methods were applied to explore reporter-identified safety solutions (Aim 2), where appropriate coding frameworks do not already exist. Reports were treated as single

Table 1. Reports retrieved by search within sampling period and proportion sampled for analysis

Reported degree of harm	All reports retrieved by search within study sampling period (01/01/2019–31/12/2019)	Reports sampled for analysis	
		<i>n</i>	%
No harm	3020	500	16.6%
Low harm	918	459	50%
Moderate harm	465	465	100%
Severe harm	35	35	100%
Death	366	366	100%
Total	4804	1825	38.0%

units of analysis (Elo & Kyngäs, 2008). Data were coded for explicit, manifest content only. Where reports described multiple potential incidents or harms, including chains of contributory incidents, the incident type was classified according to the primary incident most proximal to the outcome for patients or staff.

One researcher (P.A.) iteratively reviewed a stratified random 10% subset of sampled reports ($n = 183$), making inductive open coding notes within Microsoft Excel (see [Supplementary Material 2](#) for examples). Informed by this preparatory sense-making analysis phase, several tools for classifying incident type and contributory factors were then applied to the subset of reports to assess their suitability (Aim 1) (Barnes et al., 2022; Berzins et al., 2018; Carson-Stevens et al., 2015). We selected a framework adapted from the Primary Care Patient Safety (PISA) Classification System for characterizing incident type and outcome (Carson-Stevens et al., 2015), with the Yorkshire Contributory Factors Framework – Mental Health adaptation (YCFF-MH) used to code contributory factors (Berzins et al., 2018). Several new codes for the incident type were inductively generated and applied to all relevant reports (see [Supplementary Material 3](#)). Frequencies and proportions of incident types were calculated, and organized by incident category. Inductive qualitative content analysis of reporter-identified safety solutions (Aim 2) began with a familiarization phase as described above. The range and nature of solutions to PSIs described within the dataset were then inductively coded.

Once the coding manual had been piloted and finalized ([Supplementary Material 4](#)), a second coder independently coded 10% of reports (divided equally between C.H., Consultant Psychiatrist and N.S., senior patient safety expert) and Cohen's kappa statistic was computed to assess incident type agreement adequacy. Coding disagreements were discussed amongst coders; the remaining researcher provided independent arbitration. The remaining sample was systematically coded by one researcher (P.A.). Illustrative quotations and descriptive statistics are presented to elucidate key findings.

Research ethics considerations

The Health Research Authority confirmed study exemption from research ethics approval, as NRLS data are anonymized before researcher analysis (IRAS ID: 311051). Where reports are quoted, minor editorial adjustments were made to further ensure confidentiality.

Table 2. Patient characteristics as documented within eligible reports

Characteristic	Category	Eligible reports	
		<i>n</i>	%
Age (years)	18–25	250	17.3%
	26–35	362	25.1%
	36–45	319	22.1%
	46–55	333	23.1%
	56–65	179	12.4%
Sex	Male	535	37.1%
	Female	518	35.9%
	Not stated or unknown	390	27.0%

Results

Of 1825 reports, 1443 met the analysis criteria. Eligible reports were all appraised to have been written by clinical services staff. We excluded 382 (20.6%) reports for reasons such as not describing a PSI or harmful outcome, providing insufficient detail for coding, or not relating to community-based mental healthcare. Cohen's kappa statistic indicated suitable coder agreement ($\kappa = 0.77$) (McHugh, 2012). [Table 2](#) details reported patient characteristics.

[Table 3](#) shows the nature and frequency of each PSI type, disaggregated by reporting-staff-rated degree of harm. PSIs were classified into nine categories: investigations; documentation; referral; communication; administration; treatment and procedure; medication; diagnosis and assessment; and potential or actual harmful outcomes where service influence is unclear. The latter group described scenarios involving patient suicides, violence, or risks from others. No reports concerned a tenth incident category, about equipment-related PSIs. Using the YCFF-MH (Berzins et al., 2018), identified contributory factors and active failures (errors by clinical staff at the 'sharp end') are summarized for each incident type. See [Supplementary Material 4](#) for code definitions and [Table 4](#) for illustrative examples identified within reports. Finally, [Table 5](#) outlines reported safety solutions by incident category.

Investigations

PSIs concerning clinical investigations were observed amongst 'No harm' and 'Low harm' reports only ([Table 3](#)). These included incidents stemming from inadequate support from other departments (e.g. laboratory services) culminating in delayed specimen processing. Key examples involved tests required for clozapine prescription, where delays rendered blood samples unusable. Proposed solutions, corresponding to incorrect test ordering, reinforced the need to clearly stipulate the specific investigation(s) required at the point of order ([Table 5](#)).

Documentation

Documentation PSIs, identified amongst 'No harm' and 'Low harm' reports only, comprised problems arising from unavailable, incomplete, or inaccurate healthcare records ([Table 3](#)). Active failures were often implicated in incident causation, including failure to document risks or loss of paper records ([Table 4](#)). Reported consequences of documentation PSIs included clinicians

Table 3. The nature and frequency of incidents at each reported degree of harm

Incident category and type	Reported degree of harm				
	No harm <i>n</i> (%)	Low <i>n</i> (%)	Moderate <i>n</i> (%)	Severe <i>n</i> (%)	Death <i>n</i> (%)
Investigations	1 (0.3%)	2 (0.6%)	—	—	—
Wrong test ordered or test not ordered when appropriate	1 (0.3%)	—	—	—	—
Errors in the process of obtaining or processing laboratory specimen	—	2 (0.6%)	—	—	—
Documentation	6 (2.0%)	2 (0.6%)	—	—	—
Incorrect documentation or availability of healthcare records	6 (2.0%)	2 (0.6%)	—	—	—
Referral	4 (1.4%)	—	2 (0.5%)	—	3 (0.9%)
Errors in the referral decision-making process	1 (0.3%)	—	—	—	2 (0.6%)
Administration errors in the referral process	3 (1.0%)	—	2 (0.5%)	—	1 (0.3%)
Communication	9 (3.1%)	—	3 (0.7%)	—	1 (0.3%)
Communication with patients	1 (0.3%)	—	1 (0.2%)	—	—
Communication between healthcare professionals	5 (1.7%)	—	1 (0.2%)	—	1 (0.3%)
Communication between healthcare and non-healthcare professionals	3 (1.0%)	—	1 (0.2%)	—	—
Administration	38 (13.0%)	9 (2.5%)	9 (2.2%)	1 (3.4%)	2 (0.6%)
Message handling errors	3 (1.0%)	—	—	—	—
Errors in managing appointments for healthcare	1 (0.3%)	1 (0.3%)	—	—	—
Ability to access a healthcare provider	4 (1.4%)	4 (1.1%)	—	1 (3.4%)	1 (0.3%)
Transfer of patient information across healthcare systems	6 (2.0%)	1 (0.3%)	1 (0.2%)	—	1 (0.3%)
Breaches of confidentiality	14 (4.8%)	1 (0.3%)	1 (0.2%)	—	—
Staff professionalism	5 (1.7%)	1 (0.3%)	4 (1.0%)	—	—
Errors in transport logistics	5 (1.7%)	—	1 (0.2%)	—	—
Errors in legal administration	—	—	2 (0.5%)	—	—
Treatment and procedure	19 (6.5%)	16 (4.4%)	25 (6.1%)	—	6 (1.7%)
Errors in decision-making processes for treatment other than medication	—	1 (0.3%)	2 (0.5%)	—	1 (0.3%)
Error in implementation or delivery of treatment other than medication	4 (1.4%)	3 (0.8%)	4 (1.0%)	—	5 (1.4%)
Treatment not given in a timely fashion	15 (5.1%)	12 (3.3%)	19 (4.7%)	—	—
Medication	50 (17.1%)	10 (2.8%)	8 (2.0%)	—	—
Medication decision-making errors	1 (0.3%)	—	—	—	—
Prescribing errors	5 (1.7%)	1 (0.3%)	2 (0.5%)	—	—
Dispensing errors	10 (3.4%)	1 (0.3%)	1 (0.2%)	—	—
Administering errors	11 (3.8%)	—	—	—	—
Medication monitoring errors	1 (0.3%)	—	—	—	—
Adverse drug event	—	2 (0.6%)	3 (0.7%)	—	—
Drug omission	4 (1.4%)	—	—	—	—
Patient unintentional overdose	9 (3.1%)	2 (0.6%)	1 (0.2%)	—	—
Medication timeliness	3 (1.0%)	—	1 (0.2%)	—	—
Medication unavailable	2 (0.7%)	2 (0.6%)	—	—	—
Prescription handling errors	2 (0.7%)	—	—	—	—
Inappropriate medication supply (e.g. illegal supply)	1 (0.3%)	2 (0.6%)	—	—	—
Unsuitable medication taken by a patient	1 (0.3%)	—	—	—	—
Diagnosis and assessment	36 (12.3%)	4 (1.1%)	146 (35.9%)	1 (3.4%)	12 (3.4%)
Diagnosis	—	—	1 (0.2%)	—	—
Insufficient assessment	9 (3.1%)	3 (0.8%)	7 (1.7%)	1 (3.4%)	7 (2.0%)

(Continued)

Table 3. (Continued)

Incident category and type	Reported degree of harm				
	No harm <i>n</i> (%)	Low <i>n</i> (%)	Moderate <i>n</i> (%)	Severe <i>n</i> (%)	Death <i>n</i> (%)
Delayed assessment	26 (8.9%)	1 (0.3%)	135 (33.2%)	—	3 (0.9%)
Failure to act appropriately on patient symptoms	1 (0.3%)	—	3 (0.7%)	—	2 (0.6%)
Potential or actual harmful outcomes where service influence is unclear	130 (44.4%)	320 (88.2%)	214 (52.6%)	27 (93.1%)	327 (93.2%)
Suicide	4 (1.4%)	—	—	—	183 (52.1%)
Attempted suicide	17 (5.8%)	42 (11.6%)	40 (9.8%)	15 (51.7%)	—
Self-harm	44 (15.0%)	228 (62.8%)	153 (37.6%)	11 (37.9%)	28 (8.0%)
Suspicious death	—	—	—	—	5 (1.4%)
Unexpected death	28 (9.6%)	—	—	1 (3.4%)	59 (16.8%)
Other death	5 (1.7%)	—	—	—	49 (14.0%)
Falls or accidents	—	17 (4.7%)	5 (1.2%)	—	1 (0.3%)
Acts of violence by patient	5 (1.7%)	9 (2.5%)	—	—	2 (0.6%)
Issues concerning vulnerable adult	27 (9.2%)	24 (6.6%)	16 (3.9%)	—	—
Total, <i>n</i>	293	363	407	29	351

Notes: Frequencies and proportions presented pertain to the analysis of samples of 16.6% (500/3020) of 'No harm' and 50% (459/918) of 'Low harm' reports out of the total volume of reports retrieved for these harm categories. During manual coding, further reports were identified as not meeting study criteria and were excluded (*n* = 382); 1443 eligible reports were tabulated. Proportions are rounded for ease of reporting and therefore do not always sum to 100%.

conducting home visits unaware of prior patient violence; risk of patient deterioration; and repeated clinical investigations:

'Service user had three blood tests to be supplied with clozapine, advised by pharmacy that none of the results are on the system.'

Potential solutions were not addressed by reporters.

Referral

Referral-related PSIs included decision-making errors, such as inappropriate referrals, or decisions not to refer, for example onward referral to specialist support not being completed for patients who subsequently died by suicide (Table 3). Patients were encouraged to contact these services directly themselves, but it was not ascertained whether contact was established.

Referrals were also impacted by administration errors, including delays or failures in sending referrals. Active failures included a routine rather than urgent referral for eating disorders care, since the referring general practitioner (GP) did not indicate patient weight or acuity, nor did the receiving team seek to validate this information:

'Patient waited seven weeks to be seen despite the target being four weeks and when seen was critically ill...'

Proposed solutions comprised reinforcement or introduction of policies and procedures; improving communication and joint working between services; and establishing new systems for referral management (Table 5).

Communication

PSIs within this category included staff-patient communication problems and communication breakdowns between healthcare professionals (Table 3). For instance, due to insufficient hand-over between crisis team shifts, an individual at high risk of self-

harm was not visited as intended. In other examples, patients received poorly coordinated care, or no care at all, owing to unclear lines of responsibility between teams: *'There was no working together between different agencies.'* Finally, further reports described communication problems between healthcare professionals and non-healthcare professionals, such as receptionists, security staff, and the police. Reported solutions included proposals to optimize handover practices and configure joined-up electronic patient record access to foster improved communication and information-sharing (Table 5).

Administration

PSIs concerning care administration were observed at the greatest relative frequency among 'No harm' reports (13.0%; Table 3). Incidents included staff performance-related problems, for example confidentiality breaches, and professionalism issues. These active failures were typically unintentional errors, although procedural violations were also described:

'Student nurse observed qualified nurse who did not wash hands between patients, did not use gloves and drew up risperidone incorrectly by using a needle through the rubber seal, then using the same needle to administer the injection to the patient.'

Further PSIs comprised problems in accessing healthcare providers, such as missed or canceled crisis care appointments. Reported contributory factors included staffing shortfalls and unclear lines of responsibility between services. Errors in legal administration were also inductively introduced into the coding framework (Carson-Stevens et al., 2015), including errors in Mental Health Act (MHA) administrative paperwork pertaining to patients treated under a Community Treatment Order (CTO):

'Service user who I am care coordinator for was on CTO...CTO expired and I was not contacted by Mental Health Act office until two weeks afterwards.'

Table 4. The nature of identified contributory factors by incident category and type

Incident category	Incident type	Identified contributory factors		
		Level of framework	Contributory factor	Examples
Investigations	Wrong test ordered or test not ordered when appropriate	Active failures	Active failures	Blood sample required for clozapine prescription was erroneously processed for clozapine plasma level rather than full blood count. Absent full blood count analysis unnoticed by pharmacy staff and 4-week supply of clozapine dispensed to a patient
	Errors in the process of obtaining or processing laboratory specimen	Latent organizational factors	Support from central functions	Laboratory delayed in processing blood sample for clozapine prescription; sample rendered unusable
Documentation	Incorrect documentation or availability of healthcare records	Active failures	Active failures	Overdose and actions taken by the team not recorded
		Cross-cutting factors	Communication systems	Clinical risk assessment information recorded within suboptimal locations within electronic health record
Referral	Errors in the referral decision-making process	Local working conditions	Management of staff and staffing levels	Assessments completed by bank staff, who lacked up-to-date knowledge of local referral systems
	Administration errors in the referral process	Active failures	Active failures	Referral omitted known suicide risk information
		Cross-cutting factors	Communication systems	Referral sent to a generic, unmonitored email address; no automatic reply configured to notify referrers
Communication	Communication with patients	Active failures	Active failures	Procedures for seeking patient consent not followed
		Cross-cutting factors	Communication systems	Patient care plan contained incorrect information about which team to contact for support, owing to poor lines of communication between services
	Communication between healthcare professionals	Active failures	Active failures	General Practitioner (GP) receptionist contacted the psychology team instead of emergency services to report patient emergency
		Local working conditions	Lines of responsibility	Crisis team was unaware of their responsibility to visit a patient
		Latent organizational factors	Support from central functions	Community team was unable to arrange a visit by out-of-hours service; patient hospitalized after an overdose
		Cross-cutting factors	Communication systems	No joint working between services before patient death to intervene for known physical health risks
	Communication between healthcare and non-healthcare professionals	Latent organizational factors	Support from central functions	Security staff member reported not to speak English; failed to follow protocol for contacting the clinical team
		Cross-cutting factor	Communication systems	Police brought a distressed and actively intoxicated patient onto drug and alcohol advice center premises, misunderstanding the remit of service
Administration	Message handling errors	Active failures	Active failures	Patient appointment letter sent to wrong address
	Errors in managing appointments for healthcare	Active failures	Active failures	Appointment was terminated as the interpreter service failed to notify the clinical team of the interpreter unavailability
		Situational failures	Individual factors	Some members of staff fail to use a designated system for managing caseloads and staff assignments
		Cross-cutting factors	Communication systems	Poor internal systems for caseload management
	Ability to access healthcare provider	Situational failures	Service user factors	Non-attendance at appointments by service users
		Local working conditions	Staff workload	One shift coordinator was rostered to monitor multiple pagers and respond to reports of patients at risk
			Lines of responsibility	Patient unable to access care as two local services unclear of division of responsibility between teams
			Management of staff and staffing levels	Night visit to patient by crisis team canceled due to shortages of qualified mental health nurses on shift
			Equipment and supplies	Lift out-of-order; disabled patient unable to be seen

(Continued)

Table 4. (Continued)

Incident category	Incident type	Identified contributory factors		
		Level of framework	Contributory factor	Examples
	Transfer of patient information across healthcare systems	Latent organizational factors	Support from central functions	Referral rejected by specialist team, when deemed only suitable course of action by referring agencies
			Service process	Difficulties in making contact with crisis team
		Active failures	Active failures	Identified after patient suicide that notification of discharge from community team was sent to wrong GP practice. Protocol stated that confirmation from GP of receipt of discharge summary should have been obtained before commencing the discharge
		Situational failures	Team factors	Discharging inpatient service routinely sharing discharge documentation with community team around 7-days post-discharge, despite current prescription of time-sensitive medication (clozapine)
	Breaches of confidentiality	Active failures	Active failures	Confidential letters sent to patient with a similar name
		Cross-cutting factors	Communication systems	Issue with computer systems contributed to breach
	Staff professionalism	Active failures	Active failures	Abusive or inappropriate behavior by staff
	Errors in transport logistics	Situational failures	Individual factors	Issue with individual controlled drugs delivery driver
		Latent organizational factors	Support from central functions	Unable to access secure patient transport services
		Cross-cutting factors	Communication systems	Ambulance arrived at outdated supported housing service address following communication issue
	Errors in legal administration	Active failures	Active failures	Mental Health Act paperwork had not been signed or dated by Approved Mental Health Professional
Treatment and procedure	Error in implementation or delivery of treatment other than medication	Active failures	Active failures	Failure to follow Did Not Attend (DNA) protocol
		Latent organizational factors	Support from central functions	Police error in seeking to take patient from home to place of safety under Section 136 of the UK Mental Health Act, when Section 135 warrant was required
		Cross-cutting factors	Communication systems	Within-team communication breakdowns
	Treatment not given in a timely fashion	Active failures	Active failures	Patient discharged from inpatient unit without required input from community team. Readmission required but delayed owing to hospital bed capacity
		Local working conditions	Lines of responsibility	Delayed treatment due to dispute between two NHS Trusts over responsibility for provision of care
			Management of staff and staffing levels	Unavailability of specialist nurses for complex care
		Latent organizational factors	Scheduling and bed management	Delayed admission for community patients assessed as requiring hospitalization due to bed shortages
			Support from central functions	Hospital recall for patient on Community Treatment Order cancelled owing to unavailability of police
			Service process	Lengthy waiting lists for psychological therapies
		Latent external factors	External policy context	No commissioned service for complex patient needs
Medication	Medication decision-making errors	Active failures	Active failures	Medication prescription for patient without doctor assessing patient or discussing with team leader
	Prescribing errors	Active failures	Active failures	Sodium valproate prescription to service user not using effective contraception method at the time
		Cross-cutting factors	Communication systems	Errors and unclear communication in letter to GP
	Dispensing errors	Active failures	Active failures	Incorrect dose of medication dispensed by pharmacy
		Local working conditions	Lines of responsibility	Unclear agreement with duty worker for dispensing of medications during staff team absences
			Equipment and supplies	Recurrent supply issues for medications

(Continued)

Table 4. (Continued)

Incident category	Incident type	Identified contributory factors		
		Level of framework	Contributory factor	Examples
	Administering errors	Active failures	Active failures	Patient had two medication charts, violating policy
		Situational failures	Individual factors	Staff mental illness reported to impact performance
		Local working conditions	Staff workload	Unmanageable clinic sizes for depot antipsychotics
		Latent external factors	Design of equipment and supplies	Needle detached from syringe during delivery of depot antipsychotic, partial dose administered only
		Cross-cutting factors	Communication systems	Errors in communicated due date for medications
	Medication monitoring errors	Active failures	Active failures	Clozapine re-titration schedule not followed
	Adverse drug event	Cross-cutting factors	Communication systems	Poor communication mechanisms between GP and psychiatrist about changes in physical health
	Drug omission	Situational failures	Service user factors	Appointment non-attendance or medication refusal
	Patient unintentional overdose	Situational failures	Service user factors	Reported attentional lapse whilst taking medication
	Medication timeliness	Local working conditions	Equipment and supplies	Delay in receiving medication stock from pharmacy
		Cross-cutting factors	Communication systems	Communication breakdown between agencies
	Medication unavailable	Local working conditions	Equipment and supplies	Break in treatment due to supply chain issues
Diagnosis and assessment	Prescription handling errors	Local working conditions	Service user factors	Falsification of prescription by service user
	Inappropriate medication supply (e.g. illegal supply)	Local working conditions	Service user factors	Online acquisition of unprescribed medications
	Insufficient assessment	Active failures	Active failures	Discharge from service without sufficient assessment
		Situational failures	Team factors	Deterioration repeatedly not addressed by team
		Local working conditions	Lines of responsibility	Lack of clarity over which team was responsible for social services referral during transfer of care
			Management of staff and staffing levels	Case re-allocation not conducted upon staff sickness
		Latent organizational factors	Support from central functions	Insufficient monitoring of changes to patient presentation by supported accommodation service
			Service process	Discharge planning issue due to poor service access
		Latent external factors	External policy context	No commissioned service for dysphagia assessments
		Cross-cutting factors	Safety culture	Poor service culture of assessing and managing risks
			Communication systems	Lack of robust between-team communication
	Delayed assessment	Active failures	Active failures	Interpreter mistook start time for the assessment
		Situational failures	Service user factors	Not at home for Mental Health Act assessment
			Team factors	Lack of cooperation between professionals
		Local working conditions	Management of staff and staffing levels	Unavailability of psychiatrists for Mental Health Act assessments
		Latent organizational factors	Scheduling and bed management	Lack of appropriate hospital bed availability for patients awaiting a Mental Health Act assessment
			Support from central functions	Unavailability of police or Approved Mental Health Professionals for Mental Health Act assessments
			Service process	Issues in gaining access to new service
		Cross-cutting factors	Communication systems	Communication issues between crisis team and Approved Mental Health Professionals in local area

(Continued)

Table 4. (Continued)

Incident category	Incident type	Identified contributory factors		
		Level of framework	Contributory factor	Examples
Potential or actual harmful outcomes where service influence is unclear	Failure to act appropriately on patient symptoms	Active failures	Active failures	Failure to adhere to policies for safeguarding patient
		Local working conditions	Staff workload	Patients not allocated a care coordinator as per assessed needs due to service capacity issues
			Management of staff and staffing levels	Breakdown in relationship with service user and their family due to extensive turnover of staff
		Cross-cutting factors	Communication systems	Lack of communication between agencies
	Suicide	Local working conditions	Management of staff and staffing levels	Staff vacancies and absences within service resulted in poor information handover prior to patient suicide
		Cross-cutting factors	Safety culture	Concerns about service decision-making about risk
	Attempted suicide	Situational failures	Service user factors	Service user intoxication, exacerbating impulsivity
		Local working conditions	Management of staff and staffing levels	Ongoing issues with service staffing levels reported
		Cross-cutting factors	Safety culture	Outdated or incomplete assessment of risks
	Self-harm	Active failures	Active failures	Service user managed to gain access to all of their medication from supported accommodation staff, contrary to care plan. Error not reported by staff
		Situational failures	Service user factors	Intoxication, exacerbating impulsivity; declining care
		Latent organizational factors	Scheduling and bed management	Lack of available beds within detox services
		Cross-cutting factors	Communication systems	Delays in responding to patient request for urgent support owing to issues with text messaging service
	Falls or accidents	Situational failures	Service user factors	Increased falls risk due to service user intoxication
		Latent organizational factors	Physical environment	Fall due to floor being slippery from mopping
	Acts of violence by patient	Situational failures	Social environment	Risks to other service users within supported accommodation service environment
			Service user factors	Intoxication, exacerbating impulsivity and aggression
	Issues concerning vulnerable adult	Situational failures	Social environment	Risks from other service users within supported accommodation service environment
		Latent organizational factors	Scheduling and bed management	Lack of hospital beds for informal admission of deteriorating patient

Notes: See Lawton et al. (2012) and Berzins et al. (2018) or [Supplementary Material 4](#) for descriptions of each factor. Several reports detailed multiple active failures and/or contributory factors.

Multiple solutions were proposed (Table 5), including reinforcement or introduction of various policies and procedures: 'Clinicians asked to use the caseload system [digital software] so that it's easier to manage their caseloads in the event of unforeseen absence.' Moreover, double checks were advised to prevent administrative errors.

Treatment and procedure

PSIs involving treatments other than medications included errors in treatment decision-making, with insufficient treatment, care, or monitoring provided:

'There were some opportunities missed by the perinatal mental health service to assess her mental state and create comprehensive relapse prevention and crisis plans.'

Further reports detailed errors in treatment implementation or delivery, where active failures and communication breakdowns were cited as contributory factors (Table 4). These reports described

care delivery that deviated from service procedures, including the failure to assign patients a care coordinator, or insufficient follow-up after patient non-attendance:

'Received notification that service user was found dead...there is a need for staff to fully adhere to the 'Did Not Attend' procedures...no evidence that the keyworker was contacted and no written records that highlight any action was undertaken to re-engage them.'

Treatment not given in a timely fashion was a salient incident type, comprising 5.1%, 3.3%, and 4.7% of sampled 'No harm', 'Low harm', and 'Moderate harm' incidents respectively. Delayed admission for patients assessed as requiring hospitalization, voluntarily or under MHA legislation, was a key example. High bed occupancy within mental health units, and limited police availability to facilitate CTO recalls, were important contributory factors.

Proposed solutions were wide-ranging and included a focus on policies and procedures, where established policies for patient risk zoning were reinforced (Table 5). To address hospital bed

Table 5. The nature of reported safety solutions for each incident category

Incident category	Proposed solutions		
	Solution category	Solution type	Examples
Investigations	Policies and procedures	Reinforcement of existing policy	Informing staff of the need to clearly specify the type of clinical test required on a form accompanying the blood specimen
Referral	Policies and procedures	Reinforcement of existing policy	Informing staff of the need to provide an updated risk assessment at point of referral and to inform of changes in risks whilst awaiting the referral outcome
		Procedural changes	Introduction of the requirement that patient referrals and assessments are conducted by at least one permanent staff member
	Communication and information sharing	Opening channels of communication between services	To arrange a meeting of service managers to address communication challenges between the services
	Changes to administrative system	Implementation of systems for managing referrals and follow-up	New referrals to be discussed in a designated meeting, and patient names, actions, and outcomes to be recorded in a spreadsheet which will be regularly monitored and updated by named administrator
Communication	Communication and information sharing	Improving clinical handover practices	To ensure a handover of high-risk patients for staff members covering shifts for teams they do not usually work in
		Improving between-team communication through joint access to electronic patient records	To configure crisis team staff access to key handover information within the electronic patient records system about patients in the care of other crisis teams within the same NHS Trust
	Clarifying service roles and function	Improving local agency awareness of community mental health service remit and responsibilities	To ensure that local agencies understand service roles and function to improve transitions and pathways between services
	Policies and procedures	Reinforcement of existing policy	Reminding staff of the need to follow protocol for seeking consent for communicating with family and carers
	Working across organizational or team boundaries	A member of staff to work between settings to improve joint working for patients with complex needs	Introduction of link workers into community mental health teams with substance misuse expertise to ensure effective working for patients with dual diagnosis
Administration	Policies and procedures	Reinforcement of existing policy	Informing staff of the need to use digital caseload management software system to organize patient care in the event of staff absences
		Procedural changes	Requirement that patients must not be discharged from secondary care without receiving General Practitioner (GP) confirmation that they will resume patient care
	Checking or improving staff performance	Checking reminder	Staff reminded to check information and addresses before sending confidential correspondence
	Training and supervision	Staff training	Suggestion of additional training for staff in data protection and the consequences of data breaches
		Supervision	To ensure that staff inform their supervisors before using new technology with patients
	Communication and information sharing	Allocating mobile phones to staff to reduce message handling errors	To ensure that locum staff are assigned their own phone numbers and to inform patients that these numbers are temporary
		Circulating information about recent errors to prevent reoccurrence	To ensure that staff provide the correct service address when requesting an ambulance, due to incorrect information held in database having delayed ambulance arrival previously
	Changes to administrative system	Streamlined system for managing paper documentation	To simplify the documentation system and therefore reduce paperwork backlog
	Working across organizational or team boundaries	Improving response times by drawing on staff from wider service	To utilize support from other teams when receiving a high volume of contact from patients in need of support
	Service reorganization	Care team reorganization to allocate specific staff to the follow-up of disengaged service users	Introduction of dedicated staff members within the wider clinical team to assume responsibility for re-engaging with high-risk service users

(Continued)

Table 5. (Continued)

Incident category	Proposed solutions		
	Solution category	Solution type	Examples
Treatment and procedure	Policies and procedures	Reinforcement of existing policy	Informing staff of the need to zone patients, e.g. red to denote high risk, and to discuss these patients weekly
		Procedural changes	Introduction of a Standard Operating Procedure for addressing communication between clinical and administrative staff
	Working across organizational or team boundaries	Facilitating earlier hospital discharges	Crisis team staff to work more closely with inpatient services to improve awareness of available resources to enable earlier discharges
	Service user-directed	Improving continuity of care for patients at risk of disengaging	Ensuring consistency of key worker for patients with history of disengaging and re-presenting to services
	Communication and information sharing	Improving information sharing within and between services	Ensuring documentation of progress notes sent from secondary care to GPs and checking for follow-up of actions, particularly when written by locum staff
	Training and supervision	Supervision	After an incident, care coordinator asked to write a reflective statement to discuss with their supervisor
Medication	Communication and information sharing	Improving communication between teams	To discuss the need for improved communication between primary care and secondary care services
		Structured clinical handovers	Staff instructed to handover clinical information using Situation, Background, Assessment, Recommendation (SBAR) structured format
	Service user-directed	Medication counseling	Counseling for patients on possible consequences of inappropriate purchase and use of prescription drugs
		Support with self-administering medication	Staff in supported accommodation settings advised to observe and support patient taking medications
	Training and supervision	Staff training	GP training in depot administration in primary care
		Supervision	Staff supervision following a medication error
	Checking or improving staff performance	Double checks	To conduct medication double checks in pairs
		Allocating suitable time to task	Staff advised to slow down to avoid errors
	Policies and procedures	Reinforcement of existing policy	Informing staff of requirement to review policy documents and use single medication titration form per patient
	Decision support tool	Decision support tool for staff about opioid substitution treatment options	Guidance for common drug presentations detailing key considerations and treatment recommendations
	Working across organizational or team boundaries	A member of staff to work between settings on medication changes and follow up	Support worker within supported accommodation setting assigned to work with clinicians to ensure medication changes are implemented correctly
Diagnosis and assessment	Policies and procedures	Reinforcement of existing policy	Informing staff of the need to follow Did Not Attend (DNA) policy and to discuss patients at risk of disengaging
		Procedural changes	To include risk ratings in triage letters and to screen previous notes for newly referred high-risk patients
	Communication and information sharing	Reporting of changes to risk whilst patient awaits assessment	Encouraging GPs and patients to inform secondary care team of risk changes whilst awaiting assessment
		Communication with patients and carers	Staff advised to use team email address rather than individual clinician address when contacting patients to reduce delays in responding
	Training and supervision	Supervision	Staff supervision and support plan following incident
	Working across organizational or team boundaries	Improving the safety of care transitions by working with staff in inpatient settings	Inpatient staff advised to liaise with community team prior to patient discharge, so that a home visit can be conducted to ensure home safety
	Proactive patient monitoring	Monitoring health over time for indicators of falls risk	Staff advised to regularly assess and document falls risks to identify trends or deterioration over time
	Checking or improving staff performance	Checklist for staff to use during phone calls with patients	Checklist developed for crisis team support workers after inappropriate handling of patient call
	Recruiting and commissioning	Staff recruitment or new care pathway to address gap in service offer	Recruitment of Speech and Language Therapist or new care pathway to handle dysphagia assessments

(Continued)

Table 5. (Continued)

Incident category	Proposed solutions		
	Solution category	Solution type	Examples
Potential or actual harmful outcomes where service influence is unclear	Service user-directed	Restricting access to means	Weekly rather than monthly medication dispensing, or involvement of carers in restricting access to items used for self-harm
		Safety planning	Supporting patients to develop adaptive strategies for use at times of high distress
		Medication review	Increasing medication to a more therapeutic dose
		Harm reduction interventions	Supplying patients with naloxone in case of overdose
		Advice and education	Psychoeducation around substance use risks
	Changes to care package	Provision of higher intensity care	Placing patient on Care Programme Approach (CPA) pathway, or staffed supported accommodation
	Training and supervision	Staff training	Team training in access and use of naloxone
		Supervision	Team supervision to improve communication
	Proactive monitoring	Monitoring for signs of patient deterioration	Staff advised to raise concerns sooner in event of patient medication non-adherence and deterioration
	Communication and information sharing	Collaboration with family and carers	Family support plan to improve collaboration on suicide risk management
		Improving team working	Collaborative team working in managing suicide risk
	Working across organizational or team boundaries	Improving joint working with supported accommodation service	Improving clinical team relationships with supported accommodation service staff to optimize joint working and management of safeguarding concerns

availability constraints, further reports discussed improving working across community team boundaries, and exploring how crisis teams could better facilitate earlier hospital discharges:

'Crisis team staff becoming more actively involved in patients admitted onto the wards to try to reduce length of stay.'

Medication

Medication PSIs comprised 17.1% of 'No harm' reports, among which administering errors (3.8%), dispensing errors (3.4%), and patient unintentional overdoses (3.1%) were modal incident types (Table 3). First-generation depot antipsychotics were implicated in multiple medication administering errors. Active failures, including staff attentional lapses and mistakes, were prominent contributory factors to medication-related incidents (Table 4). Service user factors were also reported, such as taking medications twice by accident, or concealing illegal medication supplies. Equipment and supply design issues involving similar packaging for different medications, or equipment malfunction, were also described:

'Most of the depot was given before plunger failed and became stuck, so a small amount was unable to be administered.'

Proposed solutions included calls for improved information sharing between primary and secondary care services and optimizing within-team communication using a structured clinical hand-over format. Service user-directed measures (e.g. medication counseling), and staff training and supervision were among the further solutions clinicians recommended (Table 5).

Diagnosis and assessment

Table 3 indicates that diagnosis and assessment PSIs comprised over one-third of 'Moderate harm' incidents (35.9%) and around

one-in-eight 'No harm' reports (12.3%). Examples included diagnostic errors and failures to act on patient symptoms:

'Call from GP. He received an ECG reading [from five days ago]. ECG showed it was abnormal, patient was reporting chest pain and breathlessness...GP advised me that this was a significant cardiac event and [emergency services] should have been called.'

Delayed assessments – primarily delayed MHA assessments – constituted a sizeable proportion of 'Moderate harm' PSIs (33.2%). Outcomes included self-harm; deterioration; and risks to others:

'Patient has relapsed into paranoid psychosis and is at high risk of harm to others, property, public, and above all himself – he has lost a great deal of weight, is looking gaunt, failing to eat and refusing all medication.'

Contributory factors to delayed MHA assessments were multiple (Table 4). Cancelled assessments were widely attributed to service user factors, for example patients not being home. Scheduling and bed management challenges were also commonplace, along with insufficient support from other agencies, including police or interpreter availability for assessments.

Amongst reported solutions (Table 5), proposed actions centered on policies and procedures, including the introduction of procedural changes around risk recording in triage letters. Measures to optimize within- and between-team communication and information sharing to improve safety were also cited.

Potential or actual harmful outcomes where service influence is unclear

Within each harm level, the majority of reports described harmful outcomes where the influence of mental health services was unclear. Self-harm was the modal event amongst 'No harm' (15.0%), 'Low harm' (62.8%), and 'Moderate harm' (37.6%) reports. Reports involving 'Severe harm' and 'Death' were characterized primarily

by attempted suicides (51.7%) and suicides (52.1%) respectively (Table 3). Often, the influence of clinical teams could not be ascertained definitively for reports within this category. For example, from this excerpt following a service user's death, it is unclear whether assessments were insufficient, or whether risks escalated after the assessment:

'Staff at the residential home and the patient's social worker had expressed concern that the patient had deteriorating mental health and may be a risk to himself. However, the mental health assessment informed the clinical decision that the patient did not require secondary mental health services follow up.'

Reported contributory factors are summarized in Table 4. Service user factors such as declining treatment, or impulsive acts exacerbated by intoxication, were widely cited by reporting staff. Proposed solutions in efforts to prevent the reoccurrence of such events included service user-directed actions, such as naloxone supply for reversing the harmful effects of opioid overdoses. Further solutions centered around dispensing pharmacist- or carer-led measures to restrict access to means for overdose or self-harm. Changes to service users' care packages for preventing incident reoccurrence were also cited, for example referrals for supported accommodation, psychological therapies, or increasing consultation frequency.

Discussion

Key findings

To our knowledge, this is the first in-depth mixed-methods study of PSIs in community-based mental health services, advancing upon early descriptive statistical findings published shortly after the NRLS' inception (National Patient Safety Agency, 2006). Informed by empirically developed incident analysis frameworks, nine incident categories (Carson-Stevens et al., 2015), and multiple contributory factors (Berzins et al., 2018), were identified amongst eligible reports. We also present novel findings as to the solutions clinical staff proposed for preventing incident reoccurrence.

Although many reports described issues observed within most care specialties or settings, including documentation, communication, and medication-related PSIs (Barnes et al., 2022; Carson-Stevens et al., 2015; Mishina et al., 2023), certain incidents and contributory factors appear unique to mental healthcare. We coded specialty-specific problems, such as errors in MHA legal administration (Table 3). Delayed MHA assessments and hospital admissions further threatened the safety of community patients, as did unintentional overdoses by patients. Such risks are likely heightened in community-based care, where patients and carers play greater roles in care delivery (Vincent & Amalberti, 2016).

Within each harm level, harmful patient outcomes (e.g. self-harm, attempted suicides, or suicides) were modal reporting foci; the influence of mental health services over the causation or prevention of these events could not be conclusively established. Such safety challenges align poorly with traditional patient safety definitions derived from physical healthcare contexts (Agency for Healthcare Research and Quality, n.d.). However, their salience within the sample suggests that mental healthcare professionals consider such harms as within the remit of patient safety. Nevertheless, a more decisive stance on report eligibility could be taken in future analyses, potentially excluding reports about patient deaths with no associated PSI documented.

Our analyses complement existing research in highlighting myriad contributory factors to mental healthcare-related PSIs, including latent organizational factors, local working conditions, and situational failures (Berzins et al., 2018). That active failures were observed widely is perhaps a surprising finding (Berzins et al., 2018), although reporters may more readily observe causal relationships between staff practice and PSIs in hindsight (Vincent, 2010). Such biases may be reproduced in secondary analyses of these data conducted by those who are external to events surrounding these PSIs. Consequently, the contributory influence of other factors may not have been adequately reflected.

Although neither policies and procedures nor training and education were recorded contributory factors in our sample (Berzins et al., 2018), solutions of this nature were widely cited across different incident categories. This suggests a mismatch between the described incidents and suggested routes to prevention. Overall, proposed preventative actions appeared weak (Veterans Health Administration, 2021), with poor explanations of how measures may prevent future incidents, and overreliance on reinforcing existing policies or service user-directed solutions. Nevertheless, what constitutes an effective solution may differ in psychiatric care contexts compared to other specialties, for which measures directed at the wider care system rather than at individuals may be considered stronger (Veterans Health Administration, 2021). For certain highly-reported challenges within community-based mental healthcare (e.g. self-harm), it is plausible that service user-directed solutions (e.g. medication review, restricting access to means) as part of wider therapeutic engagement, are considered best-placed to prevent harm.

Strengths and limitations

Our research offers novel findings about PSIs, their causation, and proposed safety solutions in adult community-based mental health services. Elucidation of mental healthcare-specific PSIs and harms, including those that are not routinely investigated, such as PSIs resulting in low-moderate levels of harm, constitute additional strengths of this research. Previous research suggests that the use of 'other' codes, or potential misclassifications of incident type are common features of structured NRLS data (Dabba et al., 2019; Härkänen et al., 2020; Mainey, 2020). Therefore, a further strength is the systematic, manual approach to coding, applying empirically-informed incident analysis frameworks (Berzins et al., 2018; Carson-Stevens et al., 2015). The sequential exploratory research design has allowed for rich, mixed-methods insights into these routine data (Halcomb & Hickman, 2015).

Study limitations stem primarily from the sampling and features of these routine data. There is no optimal means to systematically sample NRLS data from community-based mental health services for working-age adults; our sampling approach prioritized specificity over sensitivity. Likewise, although reporting cultures and systems are best-established within NHS Trusts, our sample will not have captured reports submitted by independent and voluntary, community, and social enterprise (VCSE) providers within England. Since such organizations are omitted from NRLS Organisation Patient Safety Incident Reports (OPSIR) statistics (NHS England, n.d.), reporting rates within these services remain unclear. Underrepresentation of 'No harm' and 'Low harm' reports within our search strategy represents a further sampling limitation. Our sample may have omitted key types of PSIs observed in clinical practice and therefore may not effectively

establish the prevalence at which staff report different types of PSIs to the NRLS database. Furthermore, the quality of reporting about harmful patient outcomes (e.g. self-harm) often precluded examination of whether such events seemingly occurred following shortfalls in care and the extent to which they might have been prevented. Moreover, owing to reporting biases and practicalities, PSIs resulting in lower harm levels and those occurring in community settings are also particularly prone to underreporting in voluntary reporting systems (National Patient Safety Agency, 2006). However, our quantitative descriptive analyses sought to supplement and enhance our qualitative findings, rather than to support generalizable conclusions.

Although PSIs can be reported to the NRLS by members of the public using an online form, this mechanism appears not to be used widely. In our study, all reports were seemingly authored by staff within clinical services. Service users and carers are important sources of safety intelligence (Armitage et al., 2018); as such, their perspectives are vital. Existing research suggests that service user- and carer-centered paradigms of ‘patient safety’ within community-based mental health services, or at mental healthcare transitions, are more wide-ranging than those espoused by staff. For example, in two studies, service users and carers emphasized the importance of psychological aspects of *feeling safe* (Averill et al., 2024; Tyler et al., 2021). Whilst the prevention and management of risks (e.g. self-harm, violence) was considered a central tenet of safe community care provision amongst service users, carers, and staff alike, in practice, carers felt that they were left to hold risks with little support from services (Averill et al., 2024). Such nuances remain undetected by traditional incident reporting mechanisms.

Implications

Our findings have implications for a systems-informed understanding of PSIs in mental healthcare. We found evidence of the adverse conditions clinicians inherit within mental healthcare systems (Berzins et al., 2018), rendering unusable the resources or mechanisms designed to keep patients safe. Such problems included the unavailability of police support for MHA assessments, inadequate inpatient bed capacity, and insufficient staffing. Where shortages in UK mental health inpatient bed capacity and staffing are rising (NHS Digital, 2022; OECD, 2021), our findings reinforce imperatives to identify effective, scalable solutions to improve patient access and flow.

Our findings contribute to Safety-I perspectives (Hollnagel et al., 2015), namely, learning from what has gone wrong within mental healthcare. The ongoing national rollout of a new PSI data capture mechanism to succeed the NRLS – the Learn from Patient Safety Events (LFPSE) service – warrants attention in future analyses of routine patient safety data (NHS England, 2022a). Whilst we do not anticipate that the LFPSE launch will materially change reporting behavior and corresponding PSI data, this system also allows for instances of good care to be reported, potentially shedding light on the qualities of resilient systems that support safe care delivery. As such, this new functionality may have implications for Safety-II learning, concerned with ensuring that ‘as many things as possible go right.’ To strengthen the potential to learn from reported harmful patient outcomes, reporters should be prompted to reflect on their antecedents (where known) and to contextualize such events within safety and quality considerations across the wider patient care journey, including the extent to which effective risk management approaches were in place.

A further implication concerns the nature of PSIs selected for in-depth investigation. NHSE’s recent replacement of the Serious Incident Framework with the Patient Safety Incident Response Framework (PSIRF) will grant organizations greater agency over this matter (NHS England, 2022c). Historical requirements to investigate all PSIs classified as ‘serious incidents’ have resulted in repeated investigations of similar incidents. Relatively commonplace PSIs not meeting the ‘serious’ threshold have been insufficiently explored. Our findings suggest several safety challenges that may benefit from a detailed investigation. Indeed, further to harms associated with delayed MHA assessments, another such issue relates to harms stemming from disruption to patients’ medication schedules, with clozapine a widely reported example. Where close monitoring and supervision are required (Khawagi et al., 2020), PSIs such as errors in laboratory phlebotomy processing, documentation of results, medication administration, or supply issues, may culminate in patients missing doses and thus requiring re-titration after a treatment break (Dabba et al., 2019; Khawagi et al., 2020). Repeated clinical investigations, deterioration, and hospitalization were among the reported consequences. In-depth investigation of these routinely occurring problems may help to mitigate factors underpinning these pervasive system challenges.

More broadly, our synthesis of solutions to prevent incident reoccurrence, as proposed by clinical staff, provides an important overview for psychiatrists and other healthcare professionals; service managers; and commissioners seeking to improve safety. Based upon our systems-informed incident analysis, these stakeholders will be well-positioned to ensure that safety improvement strategies suitably target those contributory factors implicated in incident causation. Future research to drive improvement efforts should explore the feasibility and scalability of measures proposed by reporting clinicians. This will form a vital preparatory step towards generating broadly effective and implementable solutions to identified PSIs.

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Ethical standard. The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

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