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Care-pathways for patients presenting to emergency ambulance services with self-harm: national survey

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Handling editor Caroline Leech

► Additional material is published online only. To view please visit the journal online (<http://dx.doi.org/10.1136/emmermed-2019-208967>).

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Received 24 July 2019

Revised 18 June 2020

Accepted 24 June 2020

Published Online First

3 September 2020

ABSTRACT

Background Self-harm is among the top five causes of acute hospital admissions and ambulance clinicians are often the first point of contact. However, the Emergency Department (ED) may not be the most appropriate place of care and little is known about the existence or nature of alternative pathways available to UK ambulance services. This survey describes the current management pathways used by ambulance services for patients who have self-harmed.

Methods A structured questionnaire was sent to all UK ambulance services by email and followed up by telephone in 2018. Three independent researchers (two clinical) coded responses which were analysed thematically.

Results All 13 UK ambulance services responded to the survey: nine by email and four by telephone interview. Two services reported a service-wide protocol for managing people presenting with self-harm, with referral to mental health crisis team available as an alternative to conveyance to ED, following on-scene psychosocial assessment. Four services reported local pathways for managing mental health patients which included care of patients who had self-harmed. Four services reported being in the process of developing pathways for managing mental health patients. Six services reported no service-wide nor local pathways for managing self-harm patients. No robust evaluation of new care models was reported.

Conclusion Practice in ambulance services in the UK is variable, with a minority having a specific clinical pathway for managing self-harm, with an option to avoid ED. New pathways for patients who have self-harmed must be evaluated in terms of safety, clinical and cost-effectiveness.

INTRODUCTION

Self-harm is one of the top causes of acute medical admission which has an impact on emergency care provision in the UK and internationally.¹ Ambulance clinicians are often the first point of contact for patients who have self-harmed. The nature of this encounter affects immediate outcomes and future help-seeking behaviour.^{1–3}

Although there is a lack of evidence about safety and effectiveness, UK national guidance includes recommendations that ambulance trusts, ED and mental health trusts should work together to develop alternative care pathways for ambulance staff to implement for people who have self-harmed.⁴ In Australia, New Zealand and Sweden initiatives have been introduced to improve care for patients who have self-harmed.^{5,6}

Key messages

What is already known on this subject

- Little is known about the existence or nature of alternative pathways (avoiding ED attendance) available to UK ambulance services.
- Studies, mainly in ED, showed a lack of relevant clinical policies and training for ambulance clinicians managing those who self-harm.
- Evidence about safety and effectiveness is lacking.

What this study adds

- In this survey of all ambulance services in the UK, we found a variability in managing patients who have self-harmed.
- A minority of UK ambulance services have a specific clinical pathway for managing self-harm presentations with ED avoidance options.
- There is a need for evaluation of any pathways in terms of safety, on-going care, cost-effectiveness and acceptability.

In this study, we describe emergency ambulance practice across the UK for patients who have self-harmed; whether a routine, service-wide protocol was in place and if local pathways existed.

METHODS

We developed a structured questionnaire (online supplementary appendix 1) based on a literature review,^{2,3,7} piloted it with paramedic colleagues and incorporated their suggestions.

Between February and April 2018, we sent a questionnaire, information sheet and consent form to the nominated lead for mental healthcare at each ambulance service (AS) trust in the UK. Respondents could return questionnaires by email or be interviewed by telephone.

AJ, HS and MZ analysed responses using a thematic approach.⁸

As this study was a survey of usual service provision, there was no requirement for ethical approval. Patients or the public were not involved in the design, conduct, reporting or dissemination plans of this survey.

RESULTS

All 13 UK AS responded to the survey, nine by email and four by telephone interview. Responses are summarised in [table 1](#).



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To cite: Zayed MG, Williams V, Glendenning AC, et al. *Emerg Med J* 2020;**37**:752–755.



Table 1 Summary of ambulance service (AS) survey responses

AS	Respondent	Trust wide protocol in place	Local pathways in place/being developed	Evaluating self-harm management
1	Area clinical lead	No.	No. Working to develop alternate mental health pathways. Not self-harm specific.	No.
2	Mental health lead nurse	Yes. Mental health protocol including self-harm with options to convey to ED or refer to mental health crisis service as appropriate.	Yes, in certain areas, in partnership with local mental health trust. Variable hours of operation.	No. Planned for 2018
3	Mental health strategy lead	No.	Yes. Triage of 999 calls and response by cars with paramedics and mental health nurses. In partnership with local mental health trust and approved mental health professionals in some areas. Not self-harm specific.	No.
4	Mental health clinical lead	Yes. No further details given.	No.	No.
5	Mental health project lead	No.	Yes. Referral project in which 999 calls are triaged in the dispatch centre and patients are signposted when appropriate to a Mental Health Crisis Team in place of sending an emergency ambulance. Also, a street triage scheme in partnership with local police and mental health service. Not self-harm specific. Highlighted that immediate medical need 'trumps' care of mental health problems.	No.
6	Mental health nurse consultant	No. Self-harm would trigger the use of a specific risk assessment tool by the crew on scene. The primary focus is on treatment of physical injury and then onward referral to a crisis team or if necessary, conveyance to ED for psychiatric liaison support.	No.	No.
7	Head of clinical operations	No. Have access to trust-wide mental health crisis teams if injuries are not serious enough to require ED treatment. No specific protocol for self-harm.	No.	Yes.
8	Consultant paramedic, mental health lead	No.	No. Piloting having mental health nurses in ambulance control room. Not self-harm specific.	No.
9	Mental health professional lead	No.	No. Triage in the ambulance call centre with options - conveyance to ED, 'see and treat' (ie, attendance but non-conveyance), referral to crisis team, dependent on local service availability. Patients who have overdosed are automatically taken to ED. Paramedics have a crew line to speak to mental health nurses. Introduced in 2016. They are available 24/7 but 'it is a small team so might not always be able to speak to someone'. Not self-harm specific.	No.
10	Mental health strategic advisor	No.	No. Callers are triaged by the 'clinical hub' in the call centre to appropriate response—referred to ED/minor injuries unit if required for treatment of injuries, with follow-up by mental health service if patients already known, or to general practitioner if not. Limited access to mental health professionals in the Clinical Hub and to mental health crisis teams has been challenging. Looking to link ambulance service and mental health records.	Auditing self-harm data on monthly basis, this has been updated in February 2018 to include only patients left at home.

Continued

Table 1 Continued

AS	Respondent	Trust wide protocol in place	Local pathways in place/being developed	Evaluating self-harm management
11	Interim medical director	No.	No. Currently setting up street triage project with paramedic, police officer and psychiatric nurse to rapidly assess patients in the prehospital setting. Challenging to secure agreement of hospital Trust to provide a qualified psychiatric nurse to undertake clinical triage which is outside the scope of paramedic practice.	No.
12	Clinical governance manager	No. Working on a mental health policy and education package which includes a self-harm section. Physical health is considered first, if injuries are severe or life threatening, the patient is taken to ED.	No. Working on a referral pathway called Distress Brief Intervention being developed with primary care, ED, police and third sector partners (4-year pilot).	No.
13	Head of clinical practice	No. Physical injuries take priority and often indicate need for ED care.	Yes. Have local mental health triage teams consisting of a mental health nurse, a paramedic and a police officer. Hours of operation vary by area. In partnership with police, CCG and mental health trust. Not self-harm specific.	Currently auditing self-harm data.

CCG, Clinical Commissioning Groups.

Only two services (AS 2 and 4) reported having a service-wide protocol for managing patients who have self-harmed. Four services (AS 2, 3, 5 and 13) reported local pathways for managing patients who have self-harmed. AS 2 had pathways which included an option of referral to mental health crisis teams as an alternative to conveyance to ED when appropriate; pathways operated limited hours depending on availability of the local mental health Trust. AS 3, 5 and 13 described local pathways for managing 'mental health patients' which included self-harm presentations. Both services had a 'street triage' option in some areas to dispatch a team which included paramedic, mental health nurse and police officer to emergency calls for patients who have self-harmed.

Four services (AS 1, 5, 11 and 12) reported that they were developing pathways and protocols. AS 1 provided little detail. AS 5 described a project where callers would be triaged in the call centre and referred to a mental health crisis team if appropriate. AS 11 was developing a street triage project with a response team comprising paramedic, police officer and psychiatric nurse to assess patients in the pre-hospital setting. AS 12 reported developing a referral pathway which they hoped to implement fully by 2021; once established that there is no immediate threat to life, patients would be referred through the pathway avoiding ED admission; a 24-hour service in partnership with police, NHS Health Boards, ED and general practitioners (GPs).

Six services (AS 6, 7, 8, 9, 10 and 11) had no current service-wide nor local pathways for the management of patients who have self-harmed. Despite this, each of these services provided details of service-wide or local initiatives relevant to this group including: use of a self-harm risk assessment tool; access to mental health crisis teams for those who do not need to travel to ED for care of injuries; availability of mental health nurses in the ambulance call centre; or clinical hub in the call centre with option to refer to ED or minor injuries unit for treatment of injuries with follow-up by mental health service or GPs. Several services highlighted the prioritisation of care of physical injuries.

AS 2, 3, 6, 8, 9 and 10 highlighted the need for training and education for ambulance clinicians on underlying causes and the management of patients who have self-harmed.

Two services reported audits of care of patients who have self-harmed (AS 10, AS 13); one service reported evaluation activity (AS 7) and another reported plans for evaluation (AS 2).

DISCUSSION

We found variation and a lack of clarity, across and within AS, in the provision of care to patients who have self-harmed. Alternative pathways for those patients started in some services in the ambulance call centre through signposting or targeted responses; and sometimes on scene, by paramedics who were able to assess and triage patients to ED or community referral or by a 'street triage' team, in partnership with mental health providers and the police. Where pathways were in place their operation was dependent on availability of mental health professionals, so access was reported to be variable. Respondents highlighted the need for training and education covering the underlying reasons and management of self-harm presentations, to enable ambulance clinicians to consider options of ED avoidance confidently. With such a lack of underpinning evidence for new models of care it was surprising that very little evaluation was in place.

Strengths and limitations

We had a 100% response to this survey but there was a lack of detail in some responses. AS may have developed new pathways since this survey was conducted.

Implications

Despite UK national guidelines indicating the need for appropriate care pathways for ambulance clinicians to refer on people who self-harm,^{4,9} services are still a long way from having universal access to such pathways. There are various challenges to achieving this. Each AS works across the footprint of multiple mental health providers, meaning that a range of local arrangements needs to be set up and maintained. Emergency AS operate 24 hours a day, while many local mental health responses may be available for much more restricted times.

There is currently a paucity of evidence about the safety and effectiveness of care delivered by emergency AS for patients who

have self-harmed.^{4 10} While three of the services were auditing self-harm data none of the pathways was being evaluated at the time of the survey in terms of uptake, safety, clinical or cost-effectiveness. It is important that any new pathways undergo robust evaluation to assess safety, clinical and cost-effectiveness.

Contributors JJ, TH, AP, HS and AJ developed the questionnaire for the survey. VW and AG contacted ambulance services and conducted telephone interviews and collected the data. MGZ, HS and AJ contributed in literature search, design of the manuscript, analysis of survey data and writing the manuscript. AP and HS revised the manuscript critically. All authors reviewed the final manuscript and contributed with comments and amendments and approved the final version.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests AJ chairs the National Advisory Group on Suicide and Self-harm prevention to Welsh Government.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not required.

Ethics approval As this study was a survey of usual service provision within the ambulance service, there was no requirement for institutional ethical approval as stated in the Health Research Authority website. <https://www.hra.nhs.uk/approvals-amendments/what-approvals-do-i-need/research-ethics-committee-review/non-nhs-research-projects/> (PAGE 5, 9)

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available upon reasonable request. All data relevant to the study are included in the article or uploaded as supplementary information. Detailed survey anonymised questionnaire responses are available upon request from the corresponding author, however all responses are already summarised in table 1 included in the article.

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REFERENCES

- 1 RCP. Royal college of Psychiatrists' report on self-harm, suicide and risk, 2010. Available: <https://www.rcpsych.ac.uk/docs/default-source/improving-care/better-mh-policy/college-reports/college-report-cr158.pdf> [Accessed 01 Feb 2019].
- 2 Rees N, Rapport F, Snooks H, *et al*. How do emergency ambulance paramedics view the care they provide to people who self harm?: ways and means. *Int J Law Psychiatry* 2017;50:61–7.
- 3 Rees N, Rapport F, Thomas G, *et al*. Perceptions of paramedic and emergency care workers of those who self harm: a systematic review of the quantitative literature. *J Psychosom Res* 2014;77:449–56.
- 4 NICE. Self-Harm in over 85: short-term management and prevention of recurrence. clinical guideline. Available: <https://www.nice.org.uk/guidance/cg16> [Accessed 02 Feb 2019].
- 5 Carter G, Page A, Large M, *et al*. Royal Australian and New Zealand College of Psychiatrists clinical practice guideline for the management of deliberate self-harm. *Aust N Z J Psychiatry* 2016;50:939–1000.
- 6 Bouveng O, Bengtsson FA, Carlborg A. First-Year follow-up of the psychiatric emergency response team (PAM) in Stockholm County, Sweden: a descriptive study. *Int J Ment Health* 2017;46:65–73.
- 7 Rees N, Rapport F, Snooks H. Perceptions of paramedics and emergency staff about the care they provide to people who self-harm: Constructivist metasynthesis of the qualitative literature. *J Psychosom Res* 2015;78:529–35.
- 8 Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006;3:77–101.
- 9 Brown SN, Kumar D, James C, eds. *UK ambulance services clinical practice guidelines. 2019 (JRCALC)*. Bridgwater: Class Professional, 2019.
- 10 NCCMH. *National collaborating centre for mental health (UK). self-harm: the short-term physical and psychological management and secondary prevention of self-harm in primary and secondary care*. Leicester, UK: British Psychological Society, 2004. <https://www.ncbi.nlm.nih.gov/books/NBK56398/pdf>