



A pilot project implementing the Crisis Plus model with High Intensity Users of a Mental Health Liaison Team.

Journal:	<i>Mental Health Review Journal</i>
Manuscript ID	MHRJ-11-2025-0094.R2
Manuscript Type:	Research Paper
Keywords:	High Intensity Users, Mental Health Liaison Team, Crisis Plus, Crisis



Title

A pilot project implementing the Crisis Plus model with High Intensity Users of a Mental Health Liaison Team.

Abstract

Purpose

This pilot project aimed to implement and evaluate the impact on crisis service use of an intervention based on the Crisis Plus model, with high intensity users to a Mental Health Liaison Team in an Emergency Department in rural East Anglia.

Design/methodology/approach

This service evaluation applied a case series approach and uncontrolled pre-post analysis. High Intensity Users were offered an intervention, focused on the development of a formulation of distress and help seeking behaviour, followed by co-production of a multi-service support plan. Randomisation tests compared the average number of referrals to the mental health liaison and crisis teams in the six months pre and post intervention.

Findings

14 service-users engaged in the intervention. The final sample comprised 100% White British females, ranging in age from 18 to 50, with presenting difficulties relating to Complex Emotional and Relational Needs. Following the intervention, 11 out of 14 service-users had fewer referrals to the mental health liaison team and 9 out of 14 had fewer referrals to the crisis team. Randomisation tests revealed that these average reductions were statistically significant, with large effect sizes.

Practical implications:

This data supports continued use of the intervention within the service. Whilst further effectiveness studies are needed, this project provides tentative evidence that this intervention may help reduce crisis service use for high intensity users. A further larger-scale pilot project is underway.

Originality / value

The findings suggest that the Crisis Plus principles could be applicable to HIUs of mental health liaison teams, through potentially reducing reliance on crisis services and improving clinical outcomes.

Introduction

High Intensity Users of Crisis Services:

The Royal College of Nursing (RCN) reported in May 2025 that at least 1.3 million people have presented to Emergency Departments in a mental health crisis in the last six years, describing increasingly long waiting times for mental health patients (Royal College of Nursing, 2025). The RCN General Secretary described this as a “scandal in plain sight” in a recent keynote speech, emphasising that if the “parity of esteem between mental and physical health is to mean anything, then these utterly degrading waits must end”. Within this context, the challenge of fully understanding and meeting the needs of service-users presenting with mental health difficulties, and particularly High Intensity Users (HIUs) of urgent and emergency care services, such as hospital emergency departments, has been well documented in the UK and internationally (Byrne *et al.*, 2021; Collom *et al.*, 2019; MacDonald *et al.*, 2020); O’Keeffe *et al.*, 2021; Quinlivan *et al.*, 2021; Sirotich *et al.*, 2016; Skinner *et al.*, 2009).

1
2
3 HIUs attending emergency departments have been defined as those who present on
4
5 multiple occasions due to non-random events and those who have attended a certain
6
7 number of times (usually between 3 and 12) in one year (Locker *et al.*, 2007). It is
8
9 acknowledged that different views exist in relation to terminology, therefore in this
10
11 paper, the term HIU is adopted to describe this population, however it is not intended
12
13 to imply any judgement on an individual's possible communication of need which may
14
15 be linked to multiple attendances at emergency departments.
16
17
18
19

20
21 Considering the mental health needs of HIUs of emergency departments,
22
23 studies have suggested some common characteristics of this group, including mood
24
25 disorders, personality disorders, symptoms of psychosis, medically unexplained
26
27 symptoms, comorbid alcohol/substance use, and self-harm (Beck *et al.*, 2016; Jacob
28
29 *et al.*, 2016; Sirotich *et al.*, 2016). In a retrospective 5-year longitudinal study of all
30
31 attenders of four London emergency departments who were referred to a Mental
32
33 Health Liaison Team (MHLT), Beck *et al.* (2017) found that a small proportion of clients
34
35 identified as HIUs (4.7%) were responsible for nearly a quarter of admissions (24.2%).
36
37 Likewise, factors found to be significantly related to attendances included having been
38
39 involuntarily detained under the mental health act, having a higher number of care
40
41 coordinators (from Community Mental Health Teams) and having a diagnosis of
42
43 substance abuse (Beck *et al.*, 2017). However, there is also heterogeneity evident
44
45 from attempts to characterise or profile this group of HIUs (Moore *et al.*, 2009; Wooden
46
47 *et al.*, 2009). Therefore, it may be more helpful to understand this group using
48
49 individualised formulations of unmet needs, which may suggest that current service
50
51 provision does not address these needs, with future interventions needing to “break
52
53 the vicious cycle of desperate visits” (Olson & Hansagi, 2001, p.433). The concept of
54
55 “health care insecurity” may also play a role, referring to “uncertainty and anxiety about
56
57
58
59
60

the ability to access and sustain needed health services” (Tomsik *et al.*, 2014, p.2). Beyond affordability in insurance-led models, such as in the USA, health care insecurity is characterised by factors such as previous system interaction, perceived availability of services, and cognitive barriers such as personal beliefs about care.

Models of intervention for HIUs:

When considering service provision and models of intervention for this population, individualised, consistent and collaborative crisis care planning, with services / professionals working in partnership with service-users, is seen as crucial in ensuring optimal clinical outcomes and managing risk (Flynn *et al.*, 2020; Kromka & Simpson, 2019). Collaborative crisis care planning approaches may also contribute to improved therapeutic relationships and service-users feeling more empowered, respected and experiencing a greater sense of control over their care needs (Henderson *et al.*, 2009; Lequin *et al.*, 2021). The Project Air strategy in Australia emphasised the importance of collaborative care planning for supporting HIUs with complex emotional and relational needs, advocating for the coordination and integration of services, based on a collaborative assessment of needs (Grenyer, 2014). Interventions based on this strategy have resulted in positive outcomes, including reduced bed days, decreased likelihood of service-users re-presenting at emergency departments, and subsequent cost savings (Grenyer *et al.*, 2018).

Over recent years, various approaches have been trialled in the UK to address high intensity use of emergency departments and other crisis services. Whilst further research is needed, various National Health Service (NHS) Trusts have trialled HIU services based on the “Blackpool model”, which showed reductions in emergency department attendances, calls to emergency services, and incidents of self-harm,

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

translating to significant cost savings (Johnson & Monteith, 2015). The Blackpool model is based on the concept of unmet needs, and involves identified HIUs being proactively contacted and offered an approach of empathy and coaching support. However, whilst the Blackpool model recruited HIUs of emergency departments in general, it did not focus specifically on those with mental health needs.

A further approach which gained a lot of critical attention in the UK was Serenity Integrated Mentoring (SIM), which involved the police and mental health crisis services working closer together, shifting from offers of therapeutic engagement with the mental health team, to the use of coercive police measures as an individual increasingly presented in crisis. This controversial scheme was withdrawn due to ethical and legal criticisms, as outlined in various reports and articles (e.g. House, 2023) and also by a user-led campaign group.

An alternative approach, the Crisis Plus intervention model, was developed and piloted in the London borough of Lewisham, by South London and Maudsley Mental Health NHS Foundation Trust, aiming to improve support for HIUs with mental health difficulties in the community and reduce dependency on acute and crisis services (Sonigra *et al.*, 2023). This pilot study targeted an intervention at HIUs with multiple admissions to psychiatric inpatient wards and involved offering HIUs six sessions, with a focus on developing a co-produced multi-service care plan (called an “Anticipatory Management Plan”), in conjunction with the service-user, their Care Coordinator from the Community Mental Health Team (CMHT) and other members of the service-user’s personal support network, if appropriate. Crisis Plus integrates principles associated with good practice alongside a set of guidelines based on trauma-informed practice, focusing on understanding a service-user’s distress, their pattern of help-seeking behaviour, and how services can most helpfully support them during crisis, through a

transdiagnostic formulation driven approach. The service is offered following discharge from crisis services and when the service-user is sufficiently stable to engage, rather than acting as a crisis response intervention. Time frames for the start of the intervention are negotiated with the service-users and their identified care coordinator. The pilot also included a review of patient records and consultation with crisis and care services who had contact with the service-user, with the completed plan being shared with services. Subsequent service use was then tracked, with further sessions being offered in the event of an admission. Initial findings supported the effectiveness of the Crisis Plus model, with statistically significant reductions in inpatient admissions, MHLT referrals and home treatment team referrals (Sonigra *et al.*, 2023). Alongside the impact on service use, there was positive feedback from service-users and services, suggesting that positive outcomes can be achieved with a trauma-informed, collaborative and non-coercive approach.

Aim:

Given the success of Sonigra *et al.* (2023,) a pilot project involving the implementation of an intervention based on the Crisis Plus model, with HIUs of an emergency department / MHLT in rural East Anglia was undertaken. This pilot project aimed to implement and evaluate the impact of this approach with a different cohort of HIUs; those with repeated referrals to a MHLT, rather than those with multiple admissions to psychiatric inpatient wards. This article reports on the results of a service evaluation which sought to answer the following question; how does the frequency of referrals for HIUs to the MHLT, Crisis Resolution & Home Treatment Team (CRHTT) and NHS 111 (option 2) emergency phone line differ in the six months after the crisis plus intervention compared to the six months prior to the intervention?

Method:

Design:

This service evaluation used both a case series approach and an uncontrolled pre-post analysis.

Ethical approval:

Approval for this service evaluation was obtained through the Research and Development department of the host NHS Mental Health Trust. All participants provided written, informed consent, to engage in the intervention and for their anonymised data to be used for service evaluation purposes. Data was stored in accordance with the Trust’s information governance procedures and was anonymised at the earliest possible opportunity during the analysis process to protect confidentiality.

Participants:

HIUs were identified through a review of service-use data (highest attendances to the emergency department over a one-year period at a local rural hospital in East Anglia) within clinical records on the electronic patient record system. The following inclusion criteria was then applied, in line with the original model (Sonigra *et al.*, 2023), to identify service-users who may be appropriate for the Crisis Plus intervention:

- Currently being offered care from their local CMHT and having an allocated Care Coordinator / Lead Care Professional within this team.
- Aged 18 or above.

Individuals who met these criteria were selected in turn based on the highest attendees to the emergency department over the one-year period. Following

1
2
3 identification of HIUs, the care coordinator was contacted by the Crisis Plus
4 practitioner to discuss the intervention and consider the practicalities further, including
5 motivation / willingness to engage. The intervention was then offered to those service-
6
7 users who agreed to participate. Although it is acknowledged that some HIUs may not
8
9 be actively supported by a CMHT and allocated mental health professional, this was
10
11 an important inclusion criterion, as an integral principle of the Crisis Plus model is to
12
13 collaborate and complete crisis planning with the care coordinator.
14
15
16
17
18
19

20 14 service-users engaged in the Crisis Plus intervention during the time of this
21
22 pilot project (late 2020 to 2022). The pilot phase ended after enough data was
23
24 gathered for the purpose of an initial review. The final sample comprised 100% White
25
26 British females with primary presenting difficulties relating to complex emotional and
27
28 relational needs. Ages ranged from 18 to 50, with the most common age bracket being
29
30 18-24 (n=7).
31
32
33

34 *Intervention:*

35
36
37 An intervention based on the principles of the Crisis Plus model was offered to
38
39 the identified HIUs as a voluntary enhancement to usual care, and the service-users
40
41 continued to have access to existing mental health services and interventions. The
42
43 Crisis Plus intervention was delivered by members of the Psychology team working
44
45 within the MHLT, as part of the team's wider remit and intervention pathways. The
46
47 team delivering Crisis Plus consisted of a Clinical Psychologist, a Trainee Clinical
48
49 Psychologist and a Clinical Associate in Psychology. No additional staff were
50
51 employed to provide the intervention. Training and supervision was provided from the
52
53 Crisis Plus lead in South London and Maudsley Mental Health NHS Foundation Trust,
54
55 to support integrity to the model. Briefings were also provided to staff working within
56
57
58
59
60

the local mental health teams / services, to support with awareness and understanding of the model, prior to delivery of the intervention.

Sessions were attended by the Crisis Plus practitioner, the service-user, and the CMHT care coordinator. Where applicable, the intervention also included a member of the service-user's personal support network. The intervention was designed to involve up to six sessions, however the number of sessions required to complete the intervention varied a little and was also adapted to meet individual needs. For example, due to other personal life circumstances, one service-user only felt able to commit to three sessions, and for another service-user, slightly shorter appointments were conducted over seven sessions, to meet their needs relating to neurodivergence. The number of sessions conducted ranged from three to seven, with the majority of service-users completing five (n=5) or six (n=6) sessions. Practical arrangements for sessions were also agreed with the service-user, to promote engagement, with some interventions taking place in a clinic setting and others as home visits.

In line with the Crisis Plus model of Sonigra *et al.* (2023), the intervention focused on the development of a formulation of the service-user's distress and help seeking behaviour, followed by the co-production of a multi-service support plan, with specific sections for the service-user ("I will...." section) as well for other services (e.g. "The crisis team will...."). The plan was called a "Proactive Support Plan" (PSP), which was the preferred title proposed by service-users. The PSP aimed to provide a guide for the service-user, their support network, and professionals / services, in the event of a future crisis. For example, at times the development of a formulation of crisis / distress involved building a shared understanding of the relationship between emotional distress and physical symptoms, possibly resulting in a plan which

1
2
3 highlighted the importance of professionals validating the experience of distress
4 overall and prompting the service-user to utilise strategies relating to pain
5 management as well as emotion regulation. A further example involved the
6 formulation of crisis considering the service-users early experiences and an
7 understanding of how seeking care can be difficult, particularly in busy, noisy hospital
8 environments. Therefore, the PSP included an agreement with hospital staff to try to
9 support the service-user in a quieter space.
10
11
12
13
14
15
16
17
18
19

20 At the end of the intervention, the agreed plan was shared with involved
21 services and uploaded to the service-user's clinical records. Service-users were
22 offered a follow-up session three months later, to review the PSP and make any
23 required amendments.
24
25
26
27
28
29

30 *Data collection:*

31
32

33 For each service-user, reviews of the electronic patient record system took
34 place, with data collected on service-use within a time period of 6 months pre-PSP
35 and 6 months post-PSP (1 year total). The 6 months before the development of the
36 plan included the intervention period, as the plan was finalised and shared with
37 services at the end of the intervention. Each time a service-user is referred to one of
38 these services, or in the case of the phone line, each time a service-user calls the
39 service, an electronic referral is logged on the electronic patient record system.
40 Service-use included the number of referrals logged to the MHLT, CRHTT and NHS
41 111 (option 2) crisis phone line. NHS 111 (option 2) is a telephone help line which can
42 be used by service-users, family / carers and professionals, to seek advice and
43 support for a service-user who may be experiencing a mental health crisis.
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58

59 *Data analysis plan:*

60

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

To compare each participant’s number of referrals to the MHLT, CRHTT, and NHS 111 crisis line in the 6 months pre and post Cisis Plus intervention, grouped bar charts were created for visual analysis. These included the frequency of the variable on the Y axis and each of the participants in the sample on the X axis.

To assess within group differences, randomisation tests were carried out to compare the average number of referrals in the six months before and after the intervention (Craig & Fisher, 2019; Nuzzo, 2017). Given the small sample size, randomisation tests were appropriate as this method does not require the assumption that the data from the groups being compared are normally distributed and the test is relatively robust when applied to small data sets (Craig & Fisher, 2019). To carry out the randomisation tests the web-based statistical app StatKey was used (Nuzzo, 2017). To estimate the effect sizes for within group differences, Cohen’s *d* was calculated (Cohen, 1988) using the paired design method recommended by Cumming (2013), which divides the mean of the difference scores by the pooled standard deviation of the difference scores. 95% confidence intervals for the effect sizes were then estimated using the method described by Cumming (2013).

Results:

Figures 1 to 3 show the number of each participant’s referrals to the MHLT, CRHTT and NHS 111 phone line. Across Figures 1 to 3 all participants had lower or equal post intervention scores compared to pre-intervention, apart from participants four and twelve for the referrals to the MHLT, participant six for referrals to CRHTT and participants nine and fourteen for referrals to NHS 111.

Insert Figure 1 here

Insert Figure 2 here

Insert Figure 3 here

Table 1 shows the mean pre and post scores for each group as well the p values (using a two tailed hypothesis) from randomisation tests of 10,000 random reshuffles of the pre-post data and an effect size estimate (Cohen's d). These p values can be multiplied by 100 to show the percentage of pre-post difference values from the 10,000 random reshuffles, that were at least as extreme as the observed pre-post scores. Following analysis of Figure 3, it was decided not to compare the means for the NHS 111 referrals given that the means would have been so heavily influenced by participant 1 and not representative of the sample overall (see Figure 3). As can be seen in Table 1, for the MHLT referrals, this was only 0.31% ($p < .01$) and for the CRHTT referrals this was only 0.36% ($p < .01$). The effect size of both differences based on Cohen's d were "large" (Cohen, 1998). However, as a likely result of the small sample sizes, the confidence intervals were wide.

Insert Table 1 here

Discussion:

This service evaluation demonstrated that in the six months following an intervention based on the Crisis Plus model, 11 out of 14 service-users had fewer referrals to the MHLT, 9 out of 14 had fewer referrals to the CRHTT and 6 out of 14 made fewer calls to NHS 111, compared to the six months prior to the intervention. A

randomisation test to compare pre to post means, revealed that the average reductions in MHLT and CRHTT referrals in the six months after the intervention were statistically significant, with large effect sizes. Whilst the findings did not demonstrate a reduction in referrals to the NHS 111 mental health emergency phone line, only one participant out of the 14 was showing a high use of this service at baseline. Nonetheless, it appeared that whilst the intervention did reduce participant 1's referrals to NHS 111, referrals in the six months after the Crisis Plus intervention were high, suggesting further work may have been helpful with this participant.

Whilst it is not possible within this evaluation to establish the possible mechanisms of action for this intervention, it is possible that the individualised formulation approach and co-created plan, as a means of understanding the participant's service use in the context of unmet needs, may have contributed to increased collaboration and engagement between service-users and professionals / services. It is possible that this may have supported existing services to use a different approach to meet service-users' needs. This may have also reduced the participant's sense of "health care insecurity" (Tomsik *et al.*, 2014), where participants experienced greater clarity or confidence in relation to the agreed plan to meet their healthcare needs. Although feedback forms were provided to HIUs and care coordinators who engaged in the current pilot, the responses were limited and therefore it was not possible to formally analyse or interpret this data. Nevertheless, the feedback that was offered suggests that participants did experience greater clarity around the care offer, with one participant noting "I felt listened to with understanding and not judged / dismissed", and another reporting "crisis services can support me in a more helpful way now".

This is the first evaluation of the Crisis Plus intervention outside of Sonigra *et al.* (2023). The findings here were consistent with Songira *et al.*'s study by reporting reductions in referrals to mental health services. Likewise, this evaluation extended the intervention to use with those with mental health needs attending hospital emergency departments (rather than psychiatric inpatient wards). These findings therefore tentatively suggest the utility of the Crisis Plus intervention across other parts of the crisis pathway, where repeated use of services is a concern.

The sample from this pilot project also showed demographic similarities with common characteristics of HIUs in the literature, including presentations related to complex emotional needs / personality disorders (e.g. Jacob *et al.*, 2016; Sirotich *et al.*, 2016). However, it is acknowledged that the sample was 100% White British and all female, with the demographic homogeneity of the participants limiting interpretation of the findings.

Another strength of this evaluation is that it used behavioural data (i.e., referrals to services) over a long time period (i.e., six months). Fewer referrals to services may indicate improvements in the participant's mental health. Whilst self-report data (i.e., use of questionnaires of mental health) may have been a useful additional source of data for this project, questionnaire items can be prone to reliability (or error) issues and increase burden for participants. Use of behavioural data taken from an electronic record system may reduce this potential error and participant burden. The six-month time period also accounts for the stability of the behavioural data over time, which increases confidence that the number of referrals before and after the intervention are representative trends of the participant's behaviours over time. Aside from the inferred improvement in mental health of most of the participants, there is also a likely economic / financial benefit from the reduction in referrals, with the cost of referral to

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

a MHLT within the local Mental Health Trust being estimated at £388 per person, according to the National Cost Collection (NCC) publication for 2024-25 (NHS England, 2026).

Limitations of the current evaluation are also acknowledged, including the small sample size, the lack of control or treatment as usual group, and the lack of qualitative data to further understand the findings. The small sample size affects the confidence that can be had in the findings as evidenced by the wide confidence intervals around the effect size estimates. Likewise, the lack of a control group affects confidence in any claims that the results are due to the intervention alone, as it is possible that other external factors may have influenced outcomes. Furthermore, whilst adaptations to the model (e.g. number of sessions) may be important to meet individual needs, it is unclear how such adaptations may influence outcomes, therefore further evaluation could analyse these factors.

The intervention was also only offered to HIUs who were being supported by a CMHT, had agreed to participate, and displayed motivation to engage in the process, as the intervention requires active collaboration with the service-user. It is therefore acknowledged that HIUs who presented with more significant engagement difficulties, and perhaps a higher level of need, may not have accessed the intervention, potentially leading to some selection bias. Further evaluation could look at options for HIUs who may not be ready to engage in Crisis Plus and data relating to the number and characteristics of service-users who declined the intervention, considering any possible differences between groups, for example demographics. However, the current project was a service evaluation and therefore we are not looking to generalise the results, as would be the case with larger scale “research”. Rather the approach was taken to explore if this intervention merits further exploration in the NHS service

in which the evaluation was undertaken. We suggest that visual analysis of the raw data in Figures 1 and 2 alone, merits further exploration of the Crisis Plus intervention in the service.

Likewise, we suggest the results merit further evaluation of the Crisis Plus model, with larger samples and more experimental designs (e.g. using comprehensive single case experimental designs, a randomised controlled trial etc.), in order to draw firmer conclusions about the effects of the intervention. It would also be important to qualitatively explore and understand the experiences of HIUs and care coordinators who engage in the intervention, particularly to understand whether the concept of health insecurity aids in understanding and conceptualising some of the difficulties that HIUs experience. In terms of future directions, the results of this pilot project have led to a larger-scale pilot project, involving the training of additional clinicians in the intervention across further areas and teams locally.

Overall, the data from this evaluation justifies continued use of the intervention (based on the Crisis Plus model) within the service. Whilst further effectiveness studies are needed, this project provides some tentative evidence that this intervention may help to reduce crisis service use for this group of HIUs in emergency departments.

References:

Beck, A., Harris, V., Newman, L., Evans, L.J., Lewis, H. and Pegler, R. (2016).

“Statistical approaches for identifying heavy users of inpatient mental health services”, *Journal of Mental Health*, Vol. 25 No. 5, pp.455-460, doi: 10.1080/09638237.2016.1207221

Beck, A., Sanchez-Walker, E., Evans, L.J., Harris, V., Pegler, R. and Cross, S. (2017),

“Frequent users of Mental Health Liaison Services within Emergency

Departments”, *Psychiatry Research*, Vol. 258, pp.194-199, doi: 10.1016/j.psychres.2017.08.006

Byrne, S.J., Bellairs-Walsh, I., Rice, S.M., Bendall, S., Lamblin, M., Boubis, E., McGregor, B., O’Keefe, M. and Robinson, J. (2021), “A qualitative account of young people’s experiences seeking care from Emergency Departments for self-harm”, *International Journal of Environmental Research and Public Health*, Vol. 18 No. 6, doi: [10.3390/ijerph18062892](https://doi.org/10.3390/ijerph18062892)

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.), Lawrence Erlbaum, Hillsdale, NJ.

Collom, J., Patterson, E., Lawrence-Smith, G. and Tracy, D.K. (2019), “The unheard voice: a qualitative exploration of companions’ experiences of liaison psychiatry and mental health crises in the emergency department”, *BJPsych Bulletin*, Vol. 43, pp.204-209, doi: [10.1192/bjb.2019.2](https://doi.org/10.1192/bjb.2019.2)

Craig, A. R., and Fisher, W. W. (2019), “Randomization tests as alternative analysis methods for behavior-analytic data”, *Journal of the Experimental Analysis of Behavior*, Vol. 111 No. 2, pp.309–328, doi: [10.1002/jeab.500](https://doi.org/10.1002/jeab.500)

Cumming, G. (2013). *Understanding the new statistics: Effect sizes, confidence intervals, and meta-analysis*, Routledge, New York, NY.

Flynn, S., Graney, J., Nyathi, T., Raphael, J., Abraham, S., Singh-Dernevik, S., Williams, A., Kapur, N., Appleby, L. and Shaw, J. (2020), “Clinical characteristics and care pathways of patients with personality disorder who died by suicide”, *BJPsych Open*, Vol. 6 No. 2, p.29, doi: [10.1192/bjo.2020.11](https://doi.org/10.1192/bjo.2020.11)

- Grenyer, B. (2014), "An integrative relational step-down model of care: The Project Air Strategy for Personality Disorders", *Australian Clinical Psychologist*, Vol. 9, pp. 8-13.
- Grenyer, B., Lewis, K., Fanaian, M., Kotze, B. (2018), "Treatment of personality disorder using a whole of service stepped care approach: A cluster randomized controlled trial", *PLoS ONE*, Vol. 13(11), doi: 10.1371/journal.pone.0206472
- Henderson, C., Flood, C., Leese, M., Thornicroft, G., Sutherby, K. and Szmukler, G. (2009), "Views of service users and providers on joint crisis plans: single blind randomized controlled trial", *Social Psychiatry and Psychiatric Epidemiology*, Vol. 44 No. 5, pp.369–376, doi: 10.1007/s00127-008-0442-x
- House, A. (2023). "Serenity Integrated Mentoring and the High Intensity Network: A scheme that raises serious questions for practice and governance in UK psychiatry", *British Journal of Psychiatry*, Vol. 47 No. 1, pp.325-29, doi: 10.1192/bjb.2022.6
- Jacob, R., Luen Wong, M., Hayhurst, C., Watson, P. and Morrison, C. (2016), "Designing services for frequent attenders to the emergency department: a characterisation of this population to inform service design", *Clinical Medicine*, Vol. 16 No. 4, pp.325–329, doi: 10.7861/clinmedicine.16-4-325
- Johnson, M. and Monteith, R. (2015), "Commissioning for Value: Reducing the number of High Intensity Users of Unscheduled Services", *Right Care Casebook*. Available at <https://www.england.nhs.uk/rightcare/wp-content/uploads/sites/40/2016/11/casebook-blackpool-tackling-frequent-callers.pdf> (accessed 31 October 2025).

Kromka, W. and Simpson, S. (2019), “A Narrative Review of Predictors of Adult Mental Health Emergency Department Return Visits and Interventions to Reduce Repeated Use”, *The Journal of Emergency Medicine*, Vol. 57 No. 5, pp.671–682, doi: 10.1016/j.jemermed.2019.08.005

Lequin, P., Ferrari, P., Suter, C., Milovan, M., Besse, C., Silva, B., Golay, P., Bonsack, C. and Favrod, J. (2021), “The Joint Crisis Plan: A Powerful Tool to Promote Mental Health”, *Frontiers in Psychiatry*, Vol. 12, doi: 10.3389/fpsy.2021.621436

Locker, T.E., Baston, S., Mason, S.M. and Nicholl, J. (2007), “Defining frequent use of an urban emergency department”, *Emergency Medicine Journal*, Vol. 24 No. 6, pp.398-401, doi: 10.1136/emj.2006.043844

MacDonald, S., Sampson, C., Turley, R., Biddle, L., Ring, N., Begley, R. & Evans, R. (2020), “Patients' Experiences of Emergency Hospital Care Following Self-Harm: Systematic Review and Thematic Synthesis of Qualitative Research”, *Qualitative Health Research*, Vol. 30 No. 3, pp.471-485, doi: 10.1177/1049732319886566

Moore, L., Deehan, A., Seed, P. and Jones, R. (2009), “Characteristics of frequent attenders in an emergency department: analysis of 1-year attendance data”, *Emergency Medicine Journal*, Vol. 26 No. 4, pp.263-267.

NHS England (2026). *National Cost Collection Data Publication 2024/25*. Available at <https://www.england.nhs.uk/publication/2024-25-national-cost-collection-data-publication/> (Accessed: 16 April 2026).

- Nuzzo, R.L. (2017), "Randomization Test: An Alternative Analysis for the Difference of Two Means", *Physical Medicine and Rehabilitation*, Vol. 9 No. 3, pp.306–310, doi: 10.1016/j.pmrj.2017.02.001
- O’Keeffe, S., Suzuki, M., Hunter, J. and McCabe, R. (2021), "Experiences of care for self-harm in the emergency department: comparison of the perspectives of patients, carers and practitioners", *BJPsych Open*, Vol. 7 No. 5, doi: [10.1192/bjo.2021.1006](https://doi.org/10.1192/bjo.2021.1006)
- Olsson, M. and Hansagi, H. (2001), "Repeated use of the emergency department: qualitative study of the patient’s perspective", *Emergency Medicine Journal*, Vol. 18 No. 6, pp.430–434, doi: 10.1136/emj.18.6.430
- Quinlivan, L.M., Gorman, L., Littlewood, D.L., Monaghan, E., Barlow, S.J., Campbell, S.M., Webb, R.T. and Kapur, N. (2021), "Relieved to be seen – patient and carer experiences of psychosocial assessment in the emergency department following self-harm: qualitative analysis of 102 free-text survey responses", *BMJ Open*, Vol. 11, doi: 10.1136/bmjopen-2020-044434
- Royal College of Nursing (2025), "Mental Health wait times in A&E a ‘scandal in plain sight’ says RCN", available at <https://www.rcn.org.uk/news-and-events/news/uk-mental-health-wait-times-130525> (accessed 31 October 2025).
- Sirocich, F., Durbin, A. and Durbin, J. (2016), "Examining the need profiles of patients with multiple emergency department visits for mental health reasons: a cross-sectional study", *Social Psychiatry and Psychiatric Epidemiology*, Vol. 51 No. 5, pp.777–786, doi: 10.1007/s00127-016-1188-5

1
2
3 Skinner, J., Carter, L. and Haxton, C. (2009), "Case management of patients who
4 frequently present to a Scottish emergency department", *Emergency medicine*
5
6 *journal*, Vol. 26 No. 2, pp.103–105, doi: 10.1136/emj.2008.063081
7
8
9
10
11 Sonigra, K.R., Mclvor, L., Payne-Gill, J., Smith, T. and Beck, A. (2023), "A preliminary
12 evaluation of Crisis Plus: a model for working with frequent users of psychiatric
13 crisis and inpatient services", *Mental Health Review Journal*, Vol. 28 No. 4,
14
15 pp.350–361, doi: 10.1108/MHRJ-05-2022-0031
16
17
18
19
20
21 Tomsik, P., Smith, S., Mason, M.J., Zyanski, S.J., Stange, K.C., Werner, J.J. & Flocke,
22
23 S.A. (2014), "Understanding and measuring health care insecurity", *Journal of*
24
25 *Health care for the poor and underserved*, Vol. 25 No. 4, pp.1821-1832, doi:
26
27 10.1353/hpu.2014.0180
28
29
30
31 Wooden M.D., Air, T.M., Schrader, G.D., Wieland, B., and Goldney, R.D. (2009),
32
33 "Frequent attenders with mental disorders at a general hospital emergency
34 department", *Emergency Medicine Australasia*, Vol. 21 No. 3, pp.191-195, doi:
35
36 10.1111/j.1742-6723.2009.01181.x
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

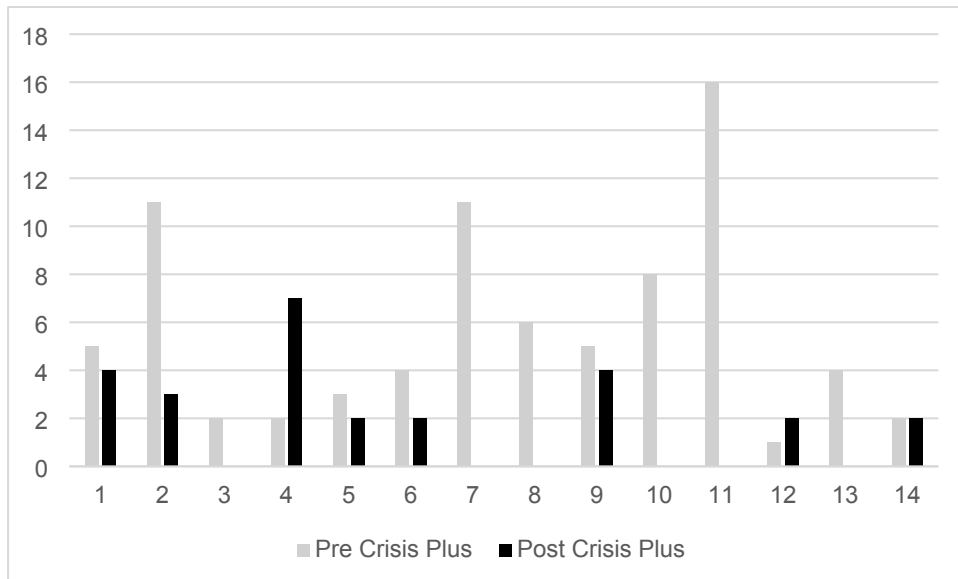
Figure 1*Referrals to Mental Health Liaison Team*

Figure 2
Referrals to CRHTT

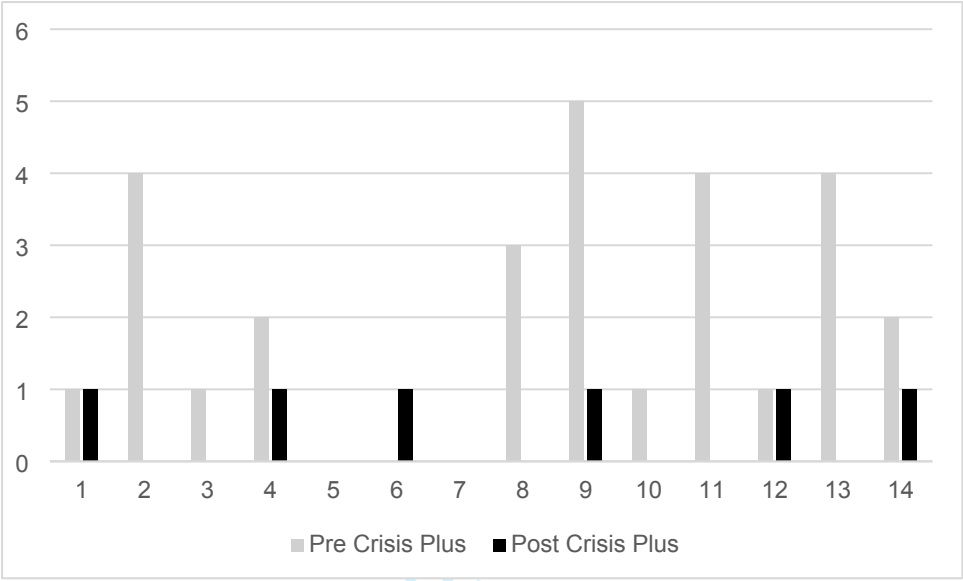


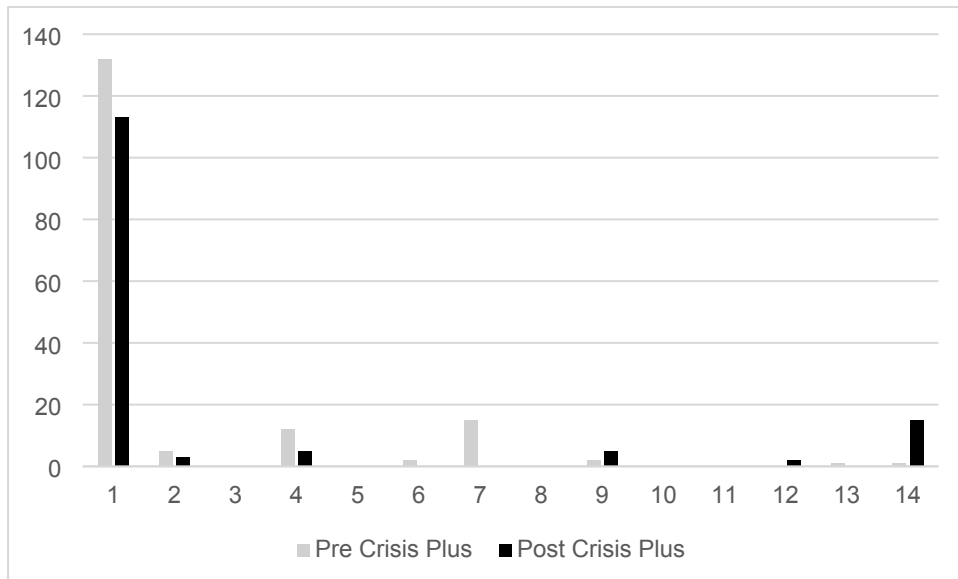
Figure 3*Referrals to NHS 111 crisis phone line*

Table 1

Randomisation Test Results and Effect Sizes Comparing Group Mean Differences

	Pre (SD)	Post (SD)	Observed Score Difference	P value	Cohen's d (95% CIs)
MHLT	5.71 (4.34)	1.86 (2.10)	3.86	0.0031	-1.13 (-2.05, -0.17)
CRHTT	2.00 (1.71)	0.43 (0.51)	1.57	0.0036	-1.24 (-2.12, -0.33)