Service innovations to reduce the risk of premature mortality in NHS Lanarkshire Child and Adolescent Mental Health Services (CAMHS)

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Psychological problems are associated with substantially reduced life expectancy. Addressing the clinical needs of children and young people presenting with suicidal thoughts, self-harm, and eating disorders is critical for preventing premature mortality and promoting wellbeing. However, there may be some uncertainty around how well Scottish Child and Adolescent Mental Health Services (CAMHS) achieve this goal. This article describes some of the key innovations that have been introduced in NHS Lanarkshire CAMHS over recent years to meet the clinical needs of children and young people at risk of premature mortality. As well as being a moral imperative, addressing the needs of this important population is consistent with the CAMHS NHS Scotland national service specification and the Scottish NHS Recovery Plan following the Covid-19 pandemic. We have endeavoured to develop and deliver high-quality clinical services for children and young people at risk of premature mortality and are committed to continually improving the efficiency and effectiveness of the services we offer.
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PSYCHOLOGICAL problems are associated with substantially reduced life expectancy. A recent meta-analysis found that this effect is transdiagnostic in nature – with substance use being the most life-limiting problem, followed by eating disorders – and more years of life are lost to unnatural causes such as suicide than to natural causes (Chan et al., 2023). Indeed, suicide is a leading cause of death in children and young people (CYP)

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globally. Recent figures from the Office for National Statistics (2019) indicated that suicide rates are higher in Scotland (16.1 deaths per 100,000 persons) than in other parts of the UK (12.8 in Wales, 10.3 in England), and between 2011 and 2020, probable suicides accounted for a quarter of all deaths among 5- to 24-year-olds (Public Health Scotland, 2022).

The prevention of premature mortality associated with psychological difficulties has been identified as a global health priority (O'Connor et al., 2023). Efficient and effective Child and Adolescent Mental Health Services (CAMHS) for CYP at particular risk of premature mortality are critical. However, there may be some uncertainty around the functioning and efficacy of Scottish CAMHS for suicidal CYP. For example, a Scottish Government-funded audit of CAMHS services found that CAMHS were not easily accessible and there were large variations in service funding, organisation, and delivery across the country (The Accounts Commission, 2018). A review of referrals for suicidal CYP to two Scottish CAMHS between January and June 2019 also found considerable differences in the delivery of CAMHS services across the country, with one site not assessing or offering treatment to most of the CYP referred for suicidality (Gilmour et al., 2022).

This article describes how we are addressing the clinical needs of CYP at risk of premature mortality from suicide, self-harm, and eating disorders in NHS Lanarkshire CAMHS.

Development of the CAMHS Urgent Intervention Team (CUIT)

CYP presenting in crisis (e.g. with self-harm, suicidal ideation, distressing auditory hallucinations) were historically seen urgently in locality teams (Tier 3 CAMHS) in NHS Lanarkshire. The CAMHS Urgent Intervention Team (CUIT) was formed in 2019 after increasing numbers of crisis presentations began impacting capacity to carry out routine appointments. CUIT staffing comprised 2.0 WTE experienced clinicians, whose remit was to assess and offer a brief intervention to CYP triaged at referral as requiring urgent assessment. During 2019, 58% of referrals accepted by locality teams presented with significant risk to self (45% presented with suicidal intent, 13% presented having taken an overdose). A 'test of change' was conducted in 2019 to evaluate how introducing CUIT impacted locality teams and speed of response. During this period, locality teams offered 70% of urgent referrals an assessment within 14 days, while CUIT saw 96% of CYP within this time period, highlighting the potential value of the CUIT.

At present, CUIT has expanded and currently comprises five WTE clinical staff. CUIT offer assessment of CYP presenting with suicidal ideation, high-risk self-harm, and perceptual disturbances. After an initial assessment, which includes risk assessment and safety planning, service users are offered three intense intervention sessions with approaches that can include distress tolerance and emotion-regulation strategies, mindfulness and relaxation strategies, understanding triggers and warning signs, relapse prevention, and signposting to relevant agencies or supports.

It is often the case that CYP can be discharged from CAMHS following CUIT intervention. When CYP require a longer term intervention, their care is transferred back to their locality team.

A recent audit (September 2023 to November 2023, inclusive) demonstrated that CUIT are triaging approximately 10% of all referrals accepted by CAMHS within 3 days of referral. Triage involves a CAMHS clinician contacting families directly to gather clinical information and conduct risk assessment. Data from March 2024 shows that, following being triaged and accepted by CUIT, CYP are offered an initial appointment an average of 9.5 days from the point of the initial referral being received by CAMHS (range 3–14 days). Length of treatment averages 44 days, with 59% of referrals accepted by CUIT then being discharged from CAMHS. The remaining cases are redirected to other parts of the CAMHS

(e.g. for neurodevelopmental assessment or longer term therapeutic work).

The available data suggest that the introduction of CUIT in Lanarkshire CAMHS has allowed some of the most at risk CYP to be assessed and offered intervention quickly. The number of CYP receiving a fast response has been improved through the introduction of a specialist unscheduled care pathway when compared to the speed of response offered by busy locality teams with a remit for scheduled care. Furthermore, there is an indication that often a brief intervention is sufficient (as seen in CUIT discharge data), thereby freeing up clinical capacity to see more families.

Development of a centralised duty hub

NHS Lanarkshire CAMHS has a longstanding commitment to be responsive to families and professionals in need of advice or support. In particular, there is a recognition that urgent queries regarding the safety of CYP require appropriate and timely responses. As such each locality team has duty clinician rotas and processes refined over many years. However, in-line with increasing numbers of referrals over time and an increase in high-risk presentations to CAMHS, the number of duty calls to teams and the length of time these calls take to manage in order to appropriately support a young person have increased.

An audit was conducted in 2022 to more fully understand the impact of duty calls on clinical capacity. Based on data from one of four locality teams, an average of 53 calls per month were received, with each call averaging 27 minutes. Across three teams, the leading reasons for duty calls were suicidal ideation (22%) and deliberate self-harm (18%), with 7% of calls relating to a young person having taken an intentional overdose, and 7% with eating concerns.

Data gathered at the time was noted to be inconsistent within and across teams in terms of how data was recorded (for example, whether the time recorded for calls included admin time and whether all calls were logged). Therefore, figures for number of calls and time taken to support duty tasks may be inaccurate. Regardless, this initial audit indicated that the duty system was very much in demand in offering immediate assessment and advice around risk to self in CYP to families and professionals. Given this significant demand, the service recognised the need to enhance duty response structures and processes.

A centralised CAMHS 'duty hub' was launched in early 2023. The duty hub is physically located in one building where a duty Team Leader is in post at all times. This allows for an overview of service-wide duty capacity and continuity in duty responses from one day to the next. Implementation of consistent processes such as duty data recording is more feasible within a single hub under a single Team Leader. While the duty hub continues to be staffed by locality clinicians on a rotational basis, the locating of staff in one space with a consistent Team Leader has allowed duty to be managed with fewer clinicians, increasing capacity for scheduled care in other teams. Staff have said that physically going to a different location has better enabled them to protect time specifically for duty in their job plans. This also means that staff are no longer being asked to leave routine duties to support duty in their own teams to the same extent, thus protecting the patient journey.

The most recent audit of duty hub suggests that those families most in need of an urgent response are able to readily access a duty clinician for advice and support. Across the entire service, an average of 202 calls per month were received (Aug-Dec 2023). Table 1 presents the proportions of the most at-risk presentations.

When this same group are considered (primary reason for call only), the two most common primary outcomes were safety planning (33.5%) or discussing care planning with the Team Leader (11.7%). Other outcomes include advice to seek CAMHS referral, urgent appointment being offered, resources sent, signposting to more appropriate services, and liaison with relevant agencies.

The centralised duty hub is an effective innovation to tackle the demand for unsched-

Table 1: Proportions of at-risk presentations from duty hub calls

Primary reason for duty call (78.5% data complete)	Secondary reason for duty call (36.8% data complete)
Suicidal ideation (11.6%)	Suicidal ideation (20.3%)
Self-harm (9.9%)	Self-harm (20.7%)
Risk assessing (2.2%)	Risk assessing (1.1%)
Deliberate overdose (1.4%)	Deliberate overdose (0.4%)
Eating concerns (2.6%)	Eating concerns (3.7%)
Concerns related to possible psychosis/prodrome (0.7%)	Concerns related to possible psychosis/prodrome (1.1%)

Table 2: Content of IPT-A-SCI sessions

Session	Content
1	Risk assessment and safety planning; introducing the intervention; individualised psychoeducation
2	Mapping out the young person's closeness circle; conducting an interpersonal inventory; collaboratively creating an interpersonal formulation to explain the young person's suicide risk (the focus of the intervention)
3 and 4	Helping the young person develop one of several skills to address mood and/or interpersonal difficulties (including emotional, behavioural, and interpersonal techniques)
5	Reviewing the skills acquired through the intervention and how these can be used for relapse prevention
6 (Follow-up)	Consolidating the skills acquired over the previous five sessions; reviewing the young person's safety plan; reviewing the young person's clinical needs (and signposting accordingly)

uled support to high-risk CYP in NHS Lanarkshire, ensuring that at-risk CYP are receiving appropriate matched care at the point in time when it is needed.

Brief IPT – A protocol (IPT-A-SCI)

Despite an important need for immediate treatment for CYP presenting with suicidal ideation and behaviour, few effective, evidence-based, suicide-specific interventions are available. A large evidence-base has established the use of Interpersonal Psychotherapy (IPT) for a range of mental health problems in different populations. Given many studies linking interpersonal problems and suicide risk, IPT has been adapted and tested as a psychotherapeutic approach to directly target suicidal ideation and risk. The effectiveness of IPT as a treatment for suicidality has been established in several randomised controlled trials (RCT's) of adults (e.g. van Bentum et al., 2021) and adolescents (IPT-A) (e.g. Tang et al., 2009).

A recent study in Israel established the feasibility and effectiveness of a brief IPT-A protocol (IPT-A-SCI) that specifically focuses on the suicide crisis rather than wider mental health issues, aiming to support young people through a high-risk period (Catalan et al., 2020). On the back of these promising findings, several NHS Lanarkshire CAMHS clinicians were trained in and are currently delivering IPT-A-SCI. The original model consists of five weekly 50 minute sessions followed by three months of follow-up emails to the families. In order to adhere to NHS

Lanarkshire clinical governance, the follow up phase consisting of email contact has been replaced with a review session (session 6) two weeks after session 5. Table 2 details the content of each session.

NHS Lanarkshire CAMHS obtained NHS ethical approval to conduct a study exploring the feasibility, acceptability, safety, and preliminary effectiveness of IPT-A-SCI and Treatment as Usual (TAU) with a view to providing data to inform (a) CAMHS planning (e.g. training additional staff in IPT-A-SCI), and (b) a larger, more definitive study (e.g. RCT) testing the effectiveness of IPT-A-SCI. Treatment as Usual (TAU) (which typically involves safety planning to understand and manage risk; Decider Life Skills, which draws on components of Cognitive Behavioural Therapy and Dialectical Behaviour Therapy; and relapse prevention) is being evaluated in addition to IPT-A-SCI for internal, auditing purposes to inform (a). The planned research extends the study conducted by Catalan et al. (2020) by measuring changes in a broader range of mental health variables and examining not just preliminary effectiveness but also the feasibility, acceptability, and safety of the two interventions. Recruitment to the study began in May 2024.

As TAU and IPT-A-SCI are supervised interventions already being offered in NHS Lanarkshire, the study involves adding quantitative and qualitative data collection to existing CAMHS systems, procedures, and interventions. The study does not involve randomisation: allocation to IPT-A-SCI is based on a trained clinician having capacity to begin treatment within one to two weeks; when clinicians do not have capacity, CYP are allocated to TAU.

Feasibility of the interventions is assessed by the percentage of eligible participants recruited into the study, and the percentage of participants attending the final session. Acceptability is assessed by the percentage of sessions attended by each participant and participants' satisfaction ratings of therapy. Safety is determined by any worsening over time of suicidal ideation and/or behaviour, depressive symptoms, or emotional and behavioural functioning.

The preliminary effectiveness of IPT-A-SCI and TAU are being measured by differences in suicidal ideation and behaviour, depressive symptoms, emotional and behavioural functioning, and interpersonal difficulties over time, and by the percentage of participants being discharged from CAMHS or being offered additional CAMHS intervention(s).

Because participants are not randomised to interventions, statistical analyses will not compare change between the interventions (via interactions effects); analyses will only examine main effects (within-intervention change). Because group-level analyses (i.e. averages) conceal individual-level change, reliable and clinically significant change scores will also be examined for each intervention to understand how many CYP's scores reliably improve and deteriorate over time. Feedback will also be sought from treating clinicians about what it was like to provide each intervention.

CAMHS DBT-A Group

Dialectical Behaviour Therapy for Adolescents (DBT-A) is another promising intervention for addressing suicide risk in CYP. Originally developed for adults with Borderline Personality Disorder (BPD), the dialectical behavioural model has been adapted for CYP presenting with emotional dysregulation, self-harm, and suicidal or risk-taking behaviours that may be associated with emerging BPD (Rathus & Miller, 2015). A growing evidence base demonstrates the effectiveness of DBT-A in reducing self-harm and suicidal ideation in at-risk CYP (Kothgassner et al., 2021).

NHS Lanarkshire CAMHS established a DBT-A group programme in 2018. The service has continued to expand over the years and is currently run by trained clinicians who each have 1.5 days per week of protected time to deliver DBT-A. The group accepts referrals for 14 to 18-year-olds currently open to CAMHS, presenting with severe emotional dysregulation and a recent history of self-harm

Table 3: Content of DBT-A skills group modules

Skills group module	Content
Distress Tolerance	Teaches CYP how to recognise their urges to engage in problem behaviours, and tolerate moments of emotional crisis without making things worse.
Emotional Regulation	Teaches skills to regulate emotions by recognising and naming them, minimising emotional vulnerability and reactivity, and increasing positive emotions.
Interpersonal Effectiveness	Teaches communication strategies to help CYP build positive relationships, reduce conflict escalation, and effectively express their needs to others.
Walking the middle path	Teaches CYP and families how to avoid taking extreme positions, resolve conflict, and maintain relationships during challenging times.

and/or suicide attempt(s). Exclusion criteria include psychosis, learning disability, eating disorder, or currently receiving another therapeutic intervention.

The comprehensive 24-week DBT-A programme involves CYP attending individual therapy (60 minutes/week) and groups skills training (120 minutes/week). Individual sessions aim to help CYP analyse and understand the chain of events surrounding specific problem behaviours, and apply techniques learned in the skills group to achieve their therapeutic goals. The group sessions consist of four modules (five weeks each) on developing skills in emotional regulation, interpersonal effectiveness, distress tolerance, and 'walking the middle path,' with a mindfulness component running throughout (Rathus & Miller, 2015) – see Table 3.

Between sessions, a clinician offers weekly individual phone coaching to apply DBT-A skills when they are required in real-time, before high-risk behaviours occur. To ensure model fidelity and robust clinical governance, DBT-A clinicians attend consultation team meetings (90 minutes/week) and receive ongoing supervision from an external DBT supervisor.

The NHS Lanarkshire CAMHS DBT-A service has helped many CYP reduce self-harm, suicidal behaviour, impulsive risky behaviour, frequency of hospital admissions, and improve mood, coping strategies and quality of life. One young person fed back that, 'DBT-A is the way to go. DBT-A really changed the way I think and it gives you a sense of a life worth living.' Another young person stated, 'Others have been through the same, so you can hear about their experiences and how they deal with things. I have learned to better deal with everyday situations.' Routine outcome data is being submitted to a national benchmarking website to compare local outcomes against findings from randomised controlled trials, and there are plans to conduct a service evaluation once the current DBT-A group has completed the programme.

CAMHS Eating disorders service

The National Review of Eating Disorder Services reported that the number of patients in Scotland admitted with an eating disorder increased by 28% between 2013 and 2018. The two regional adolescent psychiatric units able to provide data reported a combined 161% increase in eating disorder admissions between 2019 and 2020, along with increases in the complexity and severity of presentations (The Scottish Government, 2021b).

The number of referrals to Lanarkshire CAMHS for eating-related problems also increased over time, including the number of urgent presentations of young people at risk of death through being physically compro-

mised due to disordered eating. This was also reflected in duty calls (6.3% of all duty calls in August-December 2023 regarding eating concerns) and urgent response referrals (8% of all referrals January-July 2019 regarding eating concerns). An eating disorder service was developed in May 2022 to meet this demand.

An audit of CYP referred to CAMHS for eating disorders in 2022 was conducted to determine the numbers and demographics of presenting CYP. This was with a view to tailoring recruitment, staff training and adherence to newly introduced medical emergencies in eating disorders (MEED) guidance (The Royal College of Psychiatrists, 2022) and SIGN 164. This audit highlighted some areas for improvement such as improving consistency of MEED marker recording, along with a commitment to continued evaluation of this new service.

A further audit in 2023 revealed that most referrals to the eating disorder service were girls in their early teens. Diagnoses were as follows; 33% Anorexia Nervosa, 9% Bulimia Nervosa, 9% Avoidant restrictive food intake disorder, 4% Other specified feeding and eating disorders, and 42% with no formal diagnosis (due to the high rate of suspected co-morbidity). Improvements in MEED risk marker recording were observed between 2022 and 2023, including weight changes (42% to 83%), hydration status (39% to 70%), temperature (5% to 61%), bloods (75% to 91%), over exercising (32% to 39%) and purging behaviours (14% to 33%); whilst there were slight reductions in the recording of BP/HR (81% to 74%), ECG (74% to 57%), engagement with services (56% to 50%), SUSS (7% to 0%) and self-harm (42% to 41%).

The median time taken for cases to be seen for assessment is currently 17 days (63% of CYP seen within four weeks). CYP diagnosed with Anorexia Nervosa (N=15) are often the most at risk of mortality within the eating disordered population (Meczekalski et al. 2013); these young people were seen quickly and offered evidenced-based treatment. Any young person who is imminently at risk of death has their care responded to urgently. Some young people require medical stabilisation. The median wait for family-based treatment (FBT) is 46 days. 93% of young people with Anorexia Nervosa were offered FBT (with one young person remaining an inpatient at the time of audit).

Despite increasing demand over time, the most recent audit demonstrates a trend in improving consistent MEED marker recording for some of our most unwell and at-risk young people. First appointments are being offered quickly, with almost all young people with anorexia being offered family-based treatment as a first line intervention. Clinicians perceived that the progress made in delivering high-quality care to CYP presenting with eating problems is due to the development of a specialist, dedicated eating disorder service.

The most recent audit identified several other ways in which services could be made more efficient and effective. For example, it was found that some referrals did not include details of weight and rate of weight loss, which added a delay to the process while this information is gathered. A recent innovation has been to request more detailed eating disorder specific information from referrers; this information has helped ensure appropriate governance, risk management, and matched care. Lack of access to a dedicated treatment room was also identified to be impacting on consistent recording of physical observations. In recognition of this difficulty, treatment room provision has been incorporated into the eating disorder service specification and is now available.

Staff retention and turnover continue to impact wait times in CAMHS, and often new members of staff require significant training in order to support the Eating Disorder pathway. Lanarkshire CAMHS have a proactive training strategy and partnership with NHS Education for Scotland to ensure clinicians access relevant training and supervision to deliver quality-assured Eating Disorder interventions.

Conclusion

This article described some of the key innovations that have been introduced in NHS Lanarkshire CAMHS over recent years to meet the clinical needs of CYP at risk of premature mortality. As well as being a moral imperative, addressing the needs of this important population is consistent with the CAMHS NHS Scotland national service specification (The Scottish Government, 2020) and the Scottish NHS Recovery Plan following the Covid-19 pandemic (The Scottish Government, 2021a). We have endeavoured to develop and deliver high-quality clinical services for children and young people at risk of premature mortality and are committed to continually improving the efficiency and effectiveness of the services we offer.

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References

Catalan, L.H., Frenk, M.L., Spigelman, E.A. et al. (2020). Ultra-brief crisis IPT-A based intervention for suicidal children and adolescents (IPT-A-SCI) pilot study results. *Frontiers in Psychiatry, 11,* 553422.

Chan, J.K. W., Correll, C.U., Wong, C.S.M., et al. (2023). Life expectancy and years of potential life lost in people with mental disorders: A systematic review and meta-analysis. *eClinicalMedicine, 65,* 102294.

Gilmour, L., Best, C., Duncan, E. & Maxwell, M. (2022). Characteristics and outcomes of referrals to CAMHS for children who are thinking about or attempted suicide: A retrospective cohort study in two Scottish CAMHS. *Frontiers in Psychiatry, 13,* 914479.

Kothgassner, O.D., Goreis, A., Robinson, K. (2021). Efficacy of dialectical behaviour therapy for adolescent self-harm and suicidal ideation: A systematic review and meta-analysis. *Psychological Medicine, 51,* 1057–1067.

Meczekalski, B., Podfigurna-Stopa, A., Katulski, K. (2013). Long-term consequences of anorexia nervosa. *Maturitas, 75,* 215–220.

O'Connor, R., Worthman, C., Abanga, M., et al. (2023). Gone too soon: Priorities for action to prevent premature mortality associated with mental illness and mental distress. *Lancet Psychiatry, 10,* 452–464.

Office for National Statistics. (2019). *Suicides in the UK: 2018 registrations.* UK: OGL.

Public Health Scotland. (2022). *Suicide among young people in Scotland: A report from the Scottish Suicide Information Database.* UK: OGL.

Rathus, J.H., Miller, A.L. (2015). *DBT skills manual for adolescents.* New York: Guilford Press.

Tang, T.C., Jou, S.H., Ko, C.H. et al. (2009). Randomized study of school-based intensive interpersonal psychotherapy for depressed adolescents with suicidal risk and parasuicide behaviors. *Psychiatry and Clinical Neurosciences, 63,* 463–470.

The Accounts Commission. (2018). Children and young people's mental health. UK: Audit Scotland.

The Royal College of Psychiatrists. (2022). *Medical emergencies in eating disorders: Guidance on recognition and management.* UK: The Royal College of Psychiatry.

The Scottish Government. (2020). *Child and Adolescent Mental Health Services (CAMHS): NHS Scotland National Service Specification.* UK: OGL.

The Scottish Government. (2021a). *NHS Recovery Plan 2021–2026.* UK: OGL.

The Scottish Government. (2021b). *National Review of Eating Disorder Services: Report and recommendations.* UK: OGL.

van Bentum, J.S., van Bronswijk, S.C., Sijbrandij, M. et al. (2021). Cognitive therapy and interpersonal psychotherapy reduce suicidal ideation independent from their effect on depression. *Depression in Vulnerable Populations, 38*(9), 940–949.