

Impact of
childhood
adversity
and mental
health on young
person suicide:
The CHASE
Study

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Content warning – hypothetical scenario involving overdose

Imagine a hypothetical scenario, in which a 19 year old young woman – ‘Laila’ – is taken to A&E, having taken too many paracetamol. Laila is crying and distressed, but strenuously denies an intentional overdose, saying it was a mistake. Her Mum is present and says she believes her. A&E staff are unsure and refer onto Psychiatric Liaison, who have no real way of knowing either. Laila is not forthcoming about her life history, and they have not met her before – she had no previous admissions to that A&E and denies any previous overdose attempts. Laila does not have serious physical damage, and so is recorded as ‘accidental poisoning’ and discharged the next day..../

Content warning – hypothetical scenario involving overdose

/...

In fact, Laila had experienced multiple difficulties and trauma in her life. She had been taken into care aged 13 following the death of her biological mother and physical abuse by her stepfather. While in care, Laila developed anxiety and depression, and was referred by social services to mental health services. During this time, Laila overdosed on paracetamol, was treated, and admitted to a psychiatric facility, where she stayed for several weeks. Laila was then placed with her adoptive Mum in a different area 230 miles away where she did not know anyone. Recently she had started dating her first serious boyfriend, but the relationship had deteriorated. Her partner had resorted to blackmail and Laila had been experiencing escalating anxiety and panic attacks..../

Content warning – hypothetical scenario involving overdose

/...

Now imagine most of the above information was available to A&E staff, would a different assessment of 'accidental poisoning' have been made? What would the outcome have been had there been no gaps in information sharing due to geography and communication gaps between different services 230 miles away? Even if this information had been known, would it have made a difference? What combination of events in Laila's and other young peoples' lives are most likely to increase vulnerability to suicide, and therefore should serve as red flags for healthcare staff to use alongside clinical judgement? This was unknown.

Our recent research (The CHASE study) sought to address some of this evidence gap.

The problem

Suicide rates have been increasing in recent years after a period of decline since the 1990s, with notable increases in 15–24 age bracket (except for pandemic decrease). Childhood adversity is a known risk factor for later suicide.



***AIM:** We aimed to find out when young people who died by suicide had previously been in hospital for adversity, mental health or self-harm, a time when healthcare practitioners could intervene.*

What did we do?

We analysed lifespan hospital records belonging to **2,477** people who were born on or after 1981 and who later died by suicide.

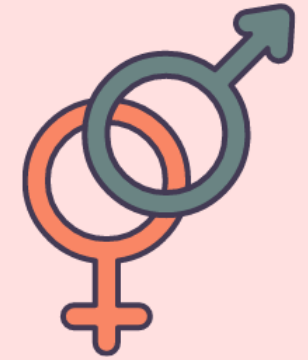


*We compared this group with **24,777** randomly selected people from the general population matched on age, gender and geography at death, and published the study protocol <https://ijpds.org/article/view/1338>*

Study design: A retrospective longitudinal case-control study

Main findings 1

Deaths by suicide (2,477 people)



76%

Men

Average age 23



24%

Women

Average age 22

Main findings 2

Who had hospital records?



85%

Deaths by suicide

85% of young people
had 13,534 hospital records

55%

General population

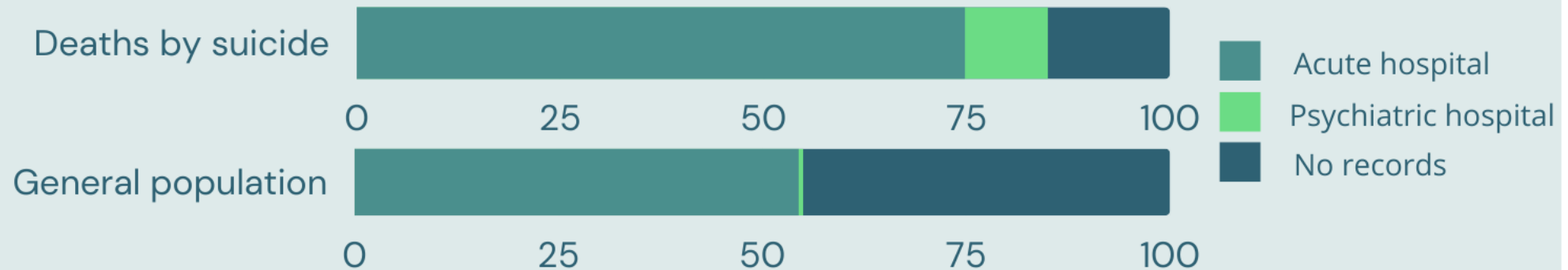
55% of young people
had 46,403 hospital records

Main findings 2

Who had hospital records?

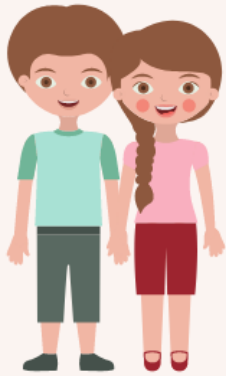


What type of records were the most common in childhood?



Main findings 3

First recorded episode in hospital for childhood adversity



8% of those who died by suicide had a *first* hospital admission for childhood adversity **aged 10–17**, compared with **3%** in the general population.

Main findings 3

First recorded episode in hospital for childhood adversity

Of the men who died, most (81%) *first* episodes were for **assault** serious enough for general hospital admission.



Of the women who died, two thirds (68%) of *first* general hospital admissions had a co-recorded '**adverse social circumstances**'

*Note: Study findings only capture **some types of adversity***

Main findings 4



Maternal death

3.5% females and **2.3% males** who died by suicide experienced maternal death, compared with **0.7%** and **1.1%** in the general population.

Main findings 4

Care experience and institutions

2.5% people who died by suicide were discharged to care/ foster homes or other settings before age 18, compared with **0.2%** general population.

This increased to **8%** after age 18, including discharge to prison, compared with **0.7%** general population.



Homelessness

2% of young person deaths by suicide had a discharge to 'no fixed abode', compared with **0.1%** of general population

Main findings 5

First hospital admission for mental health

22% **Deaths by suicide**
22% had a *first* psychiatric diagnosis aged 10-17.

→ 35% women 18% men

4% **General population**
4% had a *first* psychiatric diagnosis aged 10-17.

→ 6% women 4% men

Main findings 5

First hospital admission for mental health Hospital episodes by age 18

1,599 young men



Deaths by suicide	% diagnosed by age 18	General population
9%	Self-harm/ poisonings*	1%
8%	Alcohol-related	2%
7%	'Other'**	2%
4%	Substance use	0.4%
1%	Mood disorders	0.1%
1%	Anxiety disorders	0.4%

507 young women



Deaths by suicide	% diagnosed by age 18	General population
30%	Self-harm/ poisonings*	3%
14%	'Other'**	2%
12%	Alcohol-related	2%
6%	Substance use	0.3%
6%	Mood disorders	0.6%
3%	Anxiety disorders	0.8%

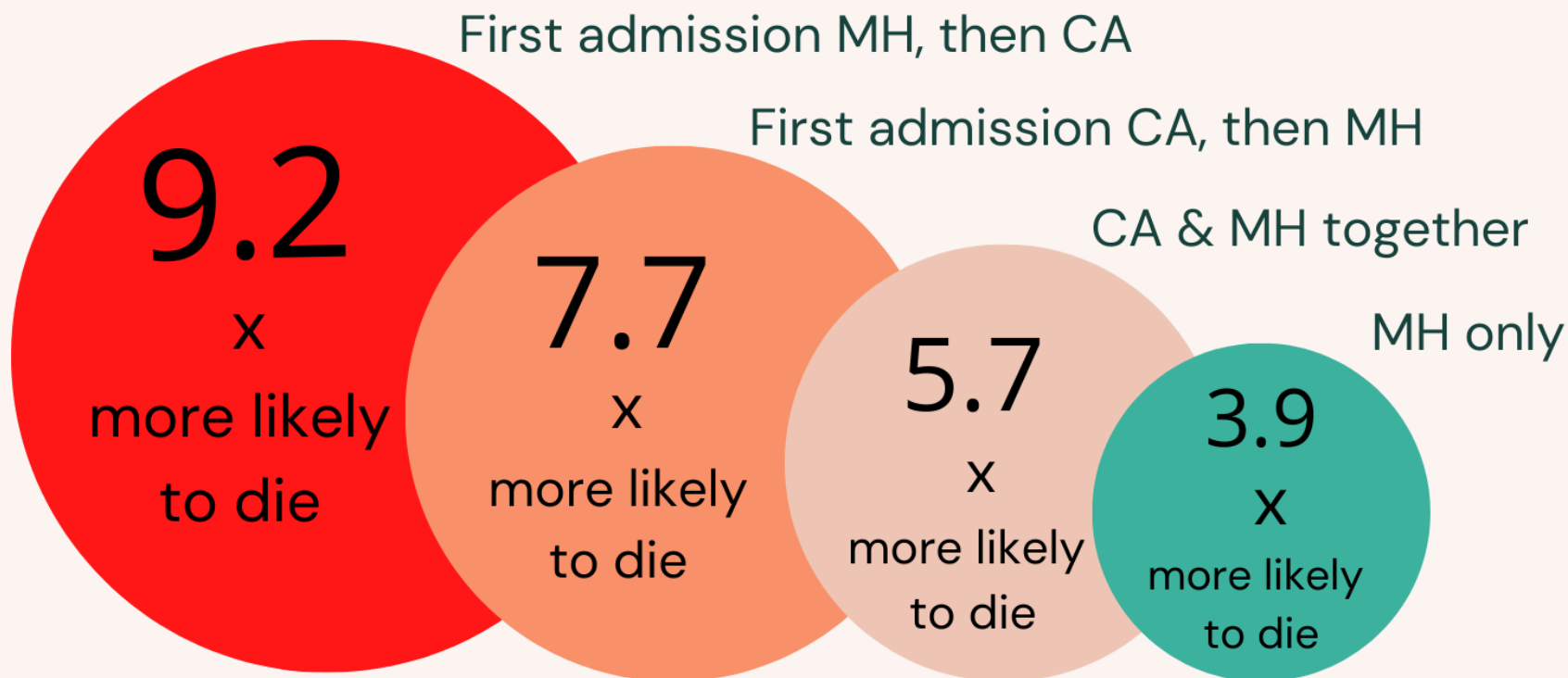
***9% of men & 30% women who died by suicide were admitted for self-harm or poisoning before age 18, almost 10 x more than general population and mostly general hospital.**

***'Other': Adjustment/ attention-deficit/ conduct/ developmental /disorders usually diagnosed in infancy/ impulse control disorders/ personality disorders/ schizophrenia and psychotic disorders, etc.*

Main findings 6

Childhood adversity and mental health

Young people who died by suicide had these hospital admission patterns for mental health (MH) and childhood adversity (CA), in order of being likely to die:



Main findings 6

Childhood adversity and mental health

Relative order of lifespan admissions to hospital under 18y:

Mental health (MH) first, then adverse event: OR=9.2 (95%CI 6.8–12.3)

Adverse event (AE) first, then MH admission: OR=7.7 (95%CI 6.3–9.4)

Simultaneous hospital admission AE & MH: OR=5.7 (95%CI 4.0–8.0)

Mental Health admission(s) only: OR=3.9 (95% CI 3.3–4.5)

There was STRONG evidence for an association between suicide and admissions in childhood for childhood adversity and/or mental health (in either order first admission).

Note: Study findings are for those more severe hospital in-patient admissions, and do not capture A&E, outpatients or GP attendances.

Conclusion

- There was strong evidence that hospital admissions under 18 years with diagnosis related to adversity (maltreatment or violence-related) AND a mental health diagnosis produced the highest odds of later suicide as a young adult.
- More suicide prevention focus should be paid in A&E and general hospital, with interventions focussed on those admitted with childhood adversity if a previous mental health admission has been made, and vice versa.
- More attention should be paid to those attending general hospital with **self-harm poisoning**, even if '**accidental**' (particularly girls), and **assault** (boys). This is especially so if recorded as having '**adverse social circumstances**'.



CONCLUSION - Circling back to Laila....

It is obvious from these research data that our fictitious character Laila was much more vulnerable to suicide given her previous circumstances, some of which may have been recorded in previous healthcare contacts.

Healthcare providers should prioritise suicide prevention activity in adolescents admitted as in-patients with previous childhood adversity and mental health records as these were associated with far higher numbers of young person suicide. This study also demonstrated a need for better information sharing between general and psychiatric hospital systems, [previously reported elsewhere](#)*.

Knowing the warning signs to look for with suicidal thinking and behaviour are key, but much more needs to be done around linking services and their data. If we consider that health data systems are not linked up within and across UK nations, it is inevitable that healthcare staff are missing out on information to better support clinical judgement.

* Dougall N, Lambert P, Maxwell M, Dawson A, Sinnott R, McCafferty S, Morris C, Clark D, Springbett A. Deaths by suicide and their relationship with general and psychiatric hospital discharge: 30-year record linkage study. BJPsych 2014. PMID: 24482439 DOI: [10.1192/bjp.bp.112.122374](https://doi.org/10.1192/bjp.bp.112.122374)

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Dougall N, Savinc J, Maxwell M, Karatzias T, O'Connor RC, Williams B, John A, Cheyne H, Fyvie C, Bisson JI, Hibberd C, Abbott-Smith S, Nolan L, Murray J. The impact of childhood adversity and mental health admissions prior to young person suicide (CHASE): a longitudinal case-control individual-level linked hospital data study, Scotland UK 1981-2017. (Submitted for publication 2023).

The CHASE Study - open access pre-print available on request via link below:

<https://www.researchgate.net/publication/367709185> The impact of childhood adversity and mental health admissions prior to young person suicide CHASE a longitudinal case-control individual-level linked hospital data study Scotland UK 1981-2017

Thank you



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