REPORT TO THE TRUST BOARD IN PUBLIC
23 September 2021

Title	Learning from Mental Health Inpatient Deaths
Author	Emily Humphreys, Public Health Registrar Kim MacGillivray, Mortality Reviewer Charlotte Walton, Joint Interim Incidents & Complaints Manager
Accountable Executive Director	Dr Paul Gilluley, Chief Medical Officer

Purpose of the report

The purpose of this paper is to provide assurance that we have reviewed incidents of mental health inpatient deaths over the last five years, considered themes and taken forward learning to improve patient safety within our mental health inpatient services.

The paper summarises findings of this review of unexpected deaths linked to serious incident reviews among adult mental health inpatients. The report is intended to take a broader population health approach rather than focusing on individual cases. The aim is to facilitate shared learning across the organisation and with partners; and also to give assurance to the Board that action will be taken to improve quality and outcomes where areas of improvement have been identified.

Committees/meetings where this item has been considered

06/09/21	Quality Assurance Committee

Key messages

The review looks at the frequency of unexpected deaths in inpatient mental health services over a five year period (2016-2021) Although there was no noted increase in frequency when reviewed by the number of days between incidents there was special cause variation noted in late 2020 and early 2021.

A detailed review of data about the population of mental health inpatients who died unexpectedly between 1 April 2018 to 5 May 2021 (three-year review) was undertaken in June 2021. More than half of these cases occurred in people aged under 45. Physical health problems were the leading overall cause of unexpected deaths and suspected suicides were the leading cause of death amongst those out of hospital whilst on leave or discharged within the past seven days.

In addition to the implementation of lessons learnt from individual case reviews, work is under way to ensure that this broader review informs practice. This includes engagement of staff and service users and ongoing implementation of ELFT's Physical Health Strategy, with a particular focus on staff awareness and learning.

Strategic priorities this paper supports

Improved population health outcomes	☒	This paper aims to improve the patient safety for those who receive care in a mental health inpatient setting.
Improved experience of care	☒	This paper aims to improve the quality of care that service users receive in inpatient mental health services.
Improved staff experience	☒	This paper aims to improve staff learning from this series of inpatients mental health deaths and improve their experience at work.
Improved value	☐	

Implications

Equality Analysis	This report has investigated the possibility of differential outcomes in regard to unexpected inpatient deaths in relation to various characteristics including race and age with a view to reducing any health inequalities that are identified.
Risk and Assurance	The report refers to risks that are already known and have separate governance and action plans in place.
Service User/Carer/Staff	The report has relevance to service users who are admitted to inpatient units across the Trust.
Financial	No specific financial implications
Quality	State any quality implications, particularly links to the Quality Improvement Programme

1.0   Background/Introduction

1.1   There is strong evidence that people with severe mental illness are at increased risk of death, particularly if they are in contact with secondary care services. Inpatients may have co-occurring poor physical and mental health.

1.2   NHS Trusts have responsibilities to learn from deaths of patients in their care, including statutory requirements for reporting to the Care Quality Commission and for coroner's review of deaths among people subject to the Mental Health Act.   ELFT conducts Structured Judgement Reviews [SJRs] for all deaths where the service user is managed by ELFT services at the time of death. Unexpected deaths are usually dealt with through Serious Incident [SI] Reviews.

1.3   This paper presents the findings of two ad hoc reviews of unexpected mental health inpatient deaths leading to serious incident reviews since 2016. This work is intended to complement lessons learnt from individual cases by presenting a higher-level overview.

1.4   This report outlining additional analyses from these deaths are intended to inform assurance and quality improvement. They are not part of ELFT's regular reporting and review of deaths and serious incidents, and are in addition to that systematic process.

2.0   Methods

2.1   The primary data source for both reviews is ELFT's incident reporting system, Datix. Whenever an ELFT service user dies, a Datix incident report is raised.

2.2   The first three year review analysed demographic and clinical data for a set of unexpected mental health inpatient deaths occurring between April 2018 and April 2021, intended to develop an understanding about the population of people who have recently died in contact with ELFT inpatient services. Manual data cleansing and coding of age, sex, ethnicity, and provisional categorisation of death (suspected suicide, substance misuse, and physical health) was carried out in order to enable this analysis. Descriptive statistics were prepared.

2.3   Further discussion following this work identified a need for the second five year review to take place. This review is intended to give stronger assurance about trends in unexpected deaths, over a longer time period and a clearer specification of the incidents for inclusion. This review covered all unexpected and patient safety-related mental health inpatient deaths, which occurred between 1 April 2016 and 31 July 2021 and were linked to a serious incident review. Incidents which occurred more than seven days after a patient was discharged were manually excluded but no further coding was carried out. A statistical process control chart (t-chart) was prepared.

2.4   Further methodological details for both reviews, including Datix search terms used for the second review, are available as an appendix to this paper.
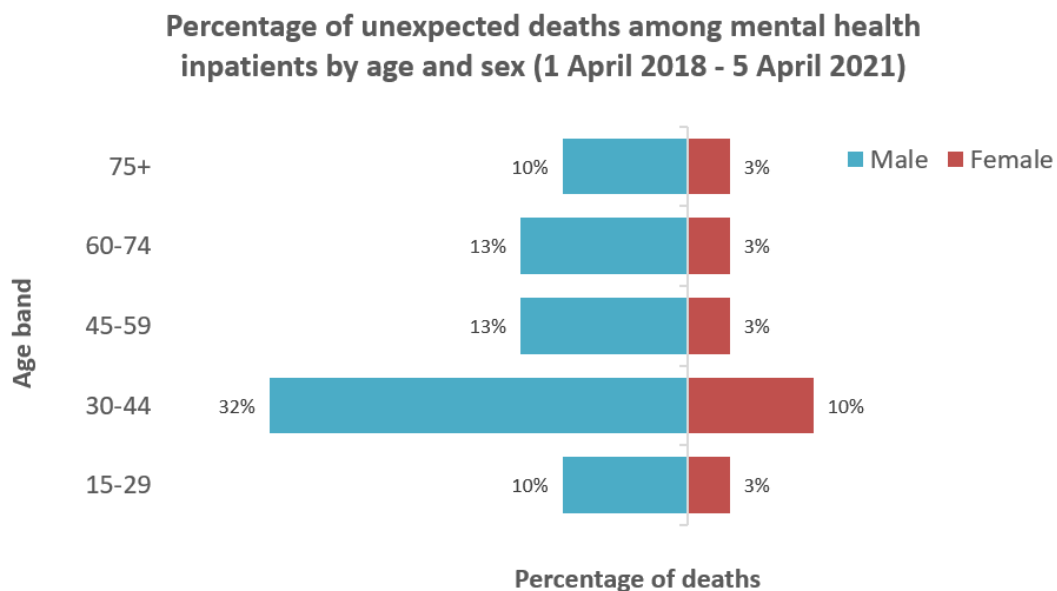
3.0   Findings of population analysis 2018- 2021

3.1   Service user deaths occurring between 1 April 2018 and 5 April 2021 were included in this analysis. The total number of deaths included in this analysis is 31. Numbers in sub group analyses are small so findings are presented as percentages to reduce the risk of identification of individuals.

3.2 Demography and mental health diagnosis

3.2.1 The median age at death was 42 years, with a range from 23 years to 89 years. 23% of people who died were female and 77% were male, with the highest proportion of deaths occurring among males aged 30 – 44 years.

3.2.2 Chart 1: percentage of deaths among mental health inpatients by age and sex (source: Datix)

Percentage of unexpected deaths among mental health inpatients by age and sex (1 April 2018 - 5 April 2021)

Age band	Male	Female
75+	10%	3%
60-74	13%	3%
45-59	13%	3%
30-44	32%	10%
15-29	10%	3%

Percentage of deaths

3.2.3 The median age at death in this cohort of ELFT inpatients (42 years) is more than 35 years younger than life expectancy at birth for males or females in any of the geographical areas served by ELFT. It has been reported elsewhere that people with severe mental illness have a life expectancy up to 20 years lower than the general population.

3.2.4 The largest ethnic group was White (48%), followed by Black/ African/ Caribbean/ Black British (26%), mixed/ multiple ethnic groups (10%), Asian/ Asian British (10%) and other ethnic groups (6%). The proportion of deaths among Black/ African/ Caribbean/ Black British people was higher than the overall proportion of these groups in any of the geographical areas that ELFT serves. Ethnic minority groups, particularly Black African and Black Caribbean groups, have higher rates of diagnosis of severe mental illness in England and are more likely to be compulsorily admitted to hospital, so may be over-represented in the inpatient population.

3.2.5 Most of the deaths occurred in males. Male sex is associated with higher rates of hospitalisation for mental health conditions and with higher rates of suicide.

3.2.6 Just under a third (32%) of the people who died had multiple mental health diagnoses; 29% were diagnosed with psychosis alone; 13% were diagnosed with personality disorder, depression and/or anxiety alone; 10% were diagnosed with substance misuse alone and 16% had no diagnosis or a diagnosis of another condition. Research has shown that mental health conditions with the greatest increases in risk for all-cause mortality in comparison with the general population are substance misuse, anorexia nervosa, and schizophrenia.

3.2.7   Without reference to data on the wider inpatient population, it was not possible to identify whether the age, sex, ethnicity distribution, or mental health diagnosis of the group of inpatients who died differed from ELFT inpatients overall.

3.3   Cause and location of death

3.3.1   Physical conditions were the commonest cause of death (61%), followed by suspected suicide (19%) and suspected substance misuse (13%).

3.3.2   65% of the deaths occurred on the mental health ward, 19% occurred out of hospital (absent, on leave or within seven days of discharge) and 16% occurred elsewhere in hospital following a transfer to an acute hospital/ward.

3.3.3   The finding that physical causes of death were most common is consistent with wider evidence that physical health problems are the leading cause of death for people with mental illness, with two thirds of deaths arising from natural causes. Excess mortality among people with mental ill-health is largely driven by cardiovascular, respiratory and metabolic diseases, many of which are related to behavioural risk factors such as smoking and obesity, some of which can be linked to medication. This highlights the importance of capability and capacity to manage physical health conditions in mental health inpatient settings, and the prioritisation of this aspect of care. There is also potential for early intervention to maintain and improve the physical health of people with severe mental illness.

3.3.4   There was only one suspected suicide reported where the death occurred on the ward or in another inpatient setting. However, 16% of all cases were suspected suicides (subject to inquest) among people who had been recently discharged or who were on leave (chart 2). Demographic differences (by age, sex and ethnicity) in the proportion of deaths attributed to suspected suicide were not statistically significant.

3.3.5   Suicide risk among recent mental health in-patients is highest shortly after discharge. UK research has found that suicide in the two weeks after discharge is associated with recent adverse life events, a short final admission, older age, and psychiatric comorbidities; enhanced aftercare is protective. The National Confidential Inquiry into Suicide and Safety in Mental Health identifies a series of actions to reduce suicide risk.

3.3.6   Chart 2: Percentage of mental health inpatient deaths by cause of death and location (source: Datix)

Percentage of mental health inpatient deaths by cause of death and location (1 April 2018 - 5 April 2021)
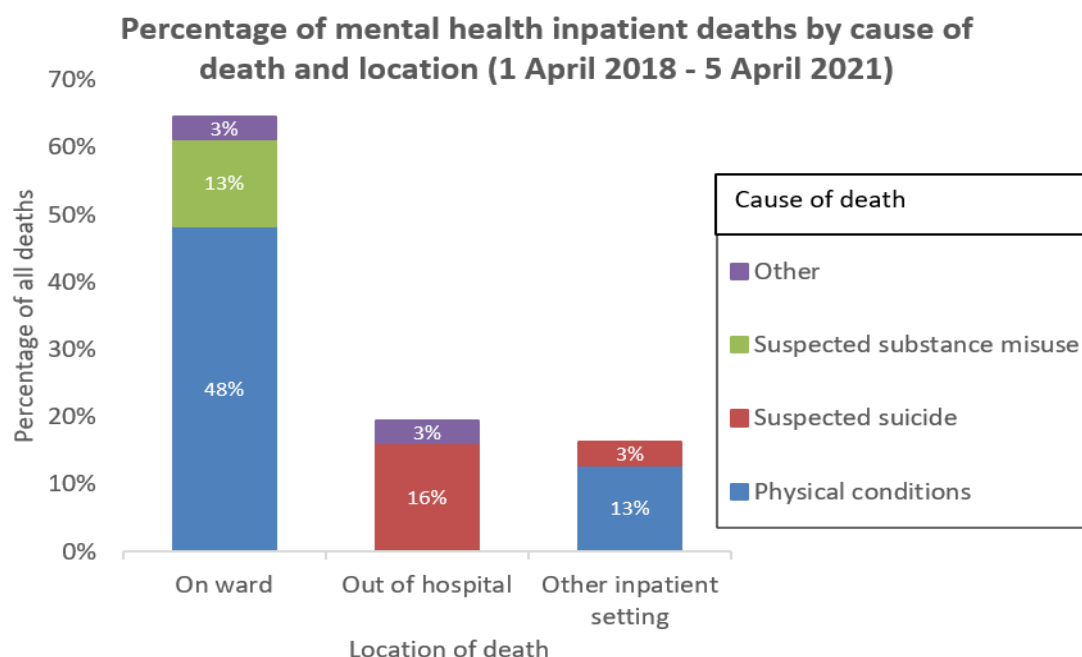
3.3.7   Inpatient deaths occurred in different ELFT directorates and services. Data on the overall number of inpatients would be needed to identify whether there are differences between wards and directorates in rates of death.

3.3.8   Table 1: Percentage of deaths by ELFT Directorate

ELFT Directorate	Percentage of deaths
Bedford Mental Health Services	19%
City and Hackney	6%
Forensic Services	19%
Luton Mental Health Services	19%
Newham (Mental Health)	16%
Tower Hamlets (Mental Health)	19%

3.4   Clinical information, service delivery problems and good practice for each group of causes of death

3.4.1   Among patients who died in hospital, 65% of deaths occurred between 8pm and 8am.

3.4.2   Among those whose death was attributed to physical health, the specific cause of death was not ascertained in all cases. Cases were most commonly reported as breathing difficulties, often with a background of known or suspected heart conditions. There were also a small number of cases of choking. The number of cases in this review who died after a positive COVID-19 test was fewer than five.

3.4.3   Care and service delivery problems identified in at least one of these physical health cases included failure to comply with physical health observations (incomplete, poor quality, or scores not acted upon); observation policy not followed; CPR protocol not followed; lack of basic life support training; and poor risk assessment. Good practice identified in at least one of these cases included fast response to CPR; emergency

protocol followed; internal and external collaborative working; supportive debriefs for staff; compassionate care in mental health care; good physical care in four cases; and family support.

3.4.4   All those whose deaths were attributed to suspected substance misuse were male, White British and aged under 45. Unclear documentation of the rationale for decision making was identified in more than one case.

3.4.5   Among those whose death was attributed to suspected suicide, 50% were female and 83% were White British. Care and service delivery problems identified in more than one of these cases included documentation issues; issues with crisis care plans; lack of follow up in the community; discharge policy not being followed and lack of multi-agency working. Good practice identified in more than one of these cases included patient care and decision making; and post-incident support.

4.0   Findings of time series analysis 2016- 2021

4.1   The longer time series analysis was performed on a different dataset to the population analysis presented above. A total of 51 deaths meeting inclusion criteria were identified for the period April 2016 to July 2021. The total number of cases per year has a range from 5 and 12 over the last five full financial years.

4.2   Table 2: number of unexpected mental health inpatient deaths leading to a serious incident review, by financial year

Dates	Number of incidents
April 2016 - March 2017	7
April 2017 - March 2018	12
April 2018 - March 2019	5
April 2019 - March 2020	10
April 2020 - March 2021	12
1 April - 31 July 2021	*5*
Total	**51**

4.3   Statistical process control methods were applied to examine the number of days between incidents. Using the first 20 incidents to set a baseline identified an average of 31.5 days between incidents. Plotting the data on a T chart (chart 3) did not identify any evidence of shifts or trends in the data. However, some incidents occurring in late 2020 and early 2021 are close to or below the lower control limit, meeting criteria to be considered special cause variation; that is, meriting a conversation with staff.

4.4   Chart 3: T-chart showing the number of days between unexpected mental health inpatient deaths leading to a serious incident review between 1 April 2016 and 31 July 2021

Days between inpatient deaths - T Chart
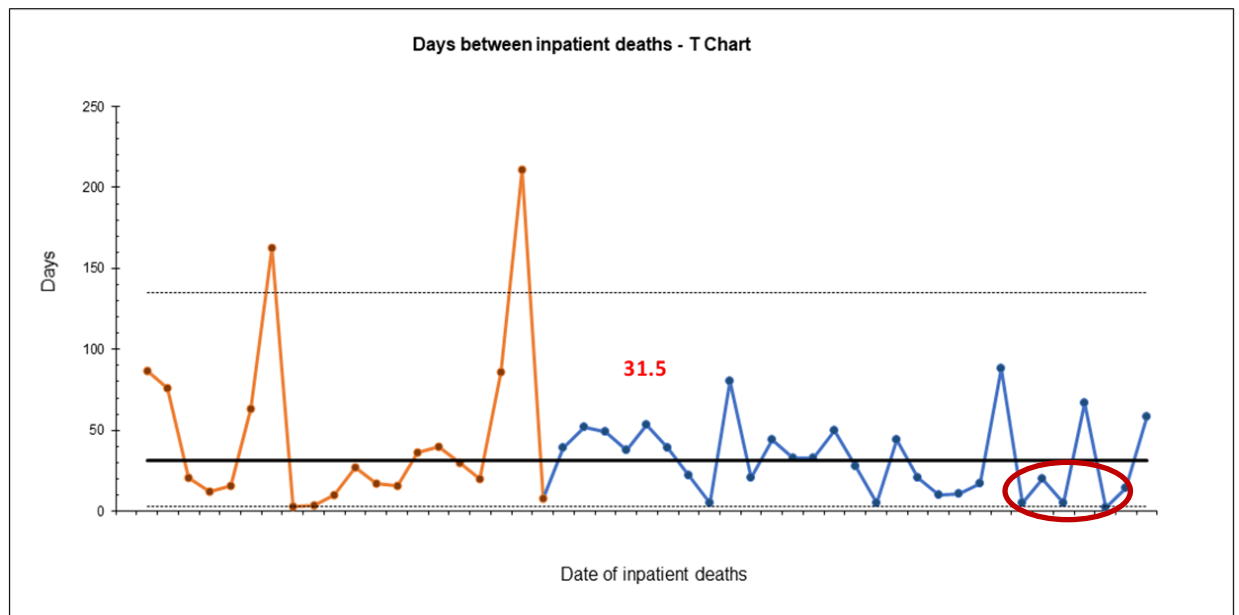
5.0   Strengths and limitations of this report

5.1   A key strength of this analysis lies in its population health approach. In reviewing themes in the data, it has highlighted that the largest absolute number of unexpected or patient safety related deaths among ELFT mental health inpatients occurred among males aged 30 – 44; among people of White or Black ethnicity; and among people with multiple diagnoses or psychosis. It has also identified that physical health conditions are the leading cause of death overall but that suspected suicides are the leading cause of death among current and recent ELFT inpatients in the community.

5.2   The demographic and clinical analysis has several important limitations. Firstly, some aspects of coding were subjective and some were based on incomplete data. Serious incident reviews triggered by some cases are in the early stages of completion, meaning that some information is incomplete and some categorisation of causes of death cannot be determined accurately until review at Coroner's Inquest.

5.3   Second, it was not possible at this time, to obtain data on the overall population of mental health inpatients. This means that it was not possible to calculate death rates, or make comparisons between those who died and the total population of mental health inpatients, or of ELFT's wider service users. This means it is not clear whether the pattern of age, sex and ethnicity reported here reflects inequalities in risk of death.

5.4   Third, some variables reflecting wider social determinants of health which may contribute to risk of death were not available. Further analysis of data including factors such as employment, housing, relationship status, deprivation and other vulnerabilities would help to develop a more comprehensive understanding of risk factors for death among mental health inpatients, and build on a population health approach.

5.5   Fourth, numbers are small, which means that differences between groups of inpatients may not have been apparent in the available data, or that apparent differences may have arisen by chance.

5.6 Finally, the initial (three year) analysis was conducted on a dataset that was not systematically defined, leading to some differences in the cases included in this review and in the time trend analysis. Nevertheless, findings of the review were consistent with other sources of published evidence.

6.0 Implementing learning from these findings

6.1 These findings reinforce the case for ELFT's population health strategy and a focus on long-term preventative work to actively improve the physical health as well as the mental health outcomes of our service users. There remains a strong emphasis to work to reduce inequalities in health within the communities which we serve. Social determinants of health and poor health behaviours, such as smoking and obesity, are inextricably linked and even more so for people experiencing serious mental illness. Learning from people with lived experience on what works and being at the forefront of ways to address these issues should be a key part of ELFT's future strategy.

6.2 Four sets of action are underway to ensure lessons are learnt from these findings:

6.2.1 First, findings are being shared with staff and service users. Specific feedback is being sought to inform potential quality improvement projects focused on three key questions: (i) how to help people reduce their risk of developing physical health problems (including medication side effects); (ii) how to improve physical health monitoring and treatment of mental health inpatients; and (iii) how to improve discharge and leave arrangements to reduce suicide risks. Any projects arising from these consultations will be incorporated into ELFT's quality improvement programmes and will be subject to QI governance processes.

6.2.2 Further work around care planning and co-production of safety plans - as inpatients and on discharge - is underway. In progressing this work, consideration will be given to physical health needs for patients of all ages, and ways to work in partnership to minimise suicide risk among those newly discharged, following the recommendations of the National Confidential Inquiry into Suicide and Safety in Mental Health and the Trust's Suicide Prevention initiatives.

6.2.3 Second, ELFT will continue to implement its Physical Health Strategy, focused on the principles of holistic care and working in partnership. The finding that physical health problems were a leading cause of death and that the median age at death was under 45 years indicate a need to sustain attention on the physical health of mental health service users. This includes early intervention to maintain good health and minimise the physical health consequences of some mental health treatments.

6.2.4 The Physical Health Strategy prioritises staff education; high standards of physical health care; joint pathways with primary care; local public health expertise; communication of the importance of physical health of our service users; and compliance with relevant national guidance.

6.2.5 This particularly includes highlighting nursing staff education on physical health management and monitoring. ELFT already has a range of trainings on physical health monitoring and conditions and is now focusing on ensuring scope and uptake are more consistent. During the COVID-19 pandemic, all registered nurses had to undertake training in physical deterioration. This will now be further aligned with knowledge of the most common long-term conditions, developing greater knowledge and confidence in the associated care and treatment of these. Strategies for assessment of dysphagia, risks of falls, management of the intoxicated patient and escalation of concerns using structured communication are all in development and will be rolled out during the summer and autumn.

6.2.6 Work to improve physical health also includes reduction of smoking, which is known to be an important driver of reduced life expectancy for people with severe mental illness. ELFT is an NHS England National Pilot site for reducing smoking among mental health inpatients and will now offer post discharge support as part of this approach. Development of further proposals for behaviour change to support health and wellbeing is also underway.

6.3 Third, systematic changes previously initiated in response to individual incidents will continue. This includes development of an e-observations platform to replace a paper-based system and nurse training.

6.4 Fourth, feasibility of improvements to assurance systems to enable more sophisticated and consistent analysis in future are also under investigation.

7.0   Action being requested

7.1 The Board is asked to
- **RECEIVE** and **DISCUSS** the report
- **NOTE** the assurance provided and **CONSIDER** if further sources of assurance are required.

References

1. John, A. *et al.* Premature mortality among people with severe mental illness — New evidence from linked primary care data. *Schizophr. Res.* **199**, 154–162 (2018).
2. National Quality Board. *National Guidance on Learning from Deaths National Guidance on Learning from Deaths Contents.* (2017).
3. Public Health England. *Health matters: reducing health inequalities in mental illness - GOV.UK.* (2018).
4. Halvorsrud, K., Nazroo, J., Otis, M., Brown Hajdukova, E. & Bhui, K. Ethnic inequalities in the incidence of diagnosis of severe mental illness in England: a systematic review and new meta-analyses for non-affective and affective psychoses. *Social Psychiatry and Psychiatric Epidemiology* **54**, 1311–1323 (2019).
5. Barnett, P. *et al.* Ethnic variations in compulsory detention under the Mental Health Act: a systematic review and meta-analysis of international data. *The Lancet Psychiatry* **6**, 305–317 (2019).
6. Thompson, A. *et al.* Patterns of hospital admission for adult psychiatric illness in England: Analysis of Hospital Episode Statistics data. *Br. J. Psychiatry* **185**, 334–341 (2004).
7. O'Connell, P. H., Durns, T. & Kious Brent M.; ORCID: http://orcid.org/0000-0003-3477-5659, B. M. A. O.-K. Risk of suicide after discharge from inpatient psychiatric care: a systematic review. *Int. J. Psychiatry Clin. Pract.* (2020). doi:http://dx.doi.org/10.1080/13651501.2020.1800043
8. Chesney, E., Goodwin, G. M. & Fazel, S. Risks of all-cause and suicide mortality in mental disorders: A meta-review. *World Psychiatry* **13**, 153–160 (2014).
9. Walker, E. R., McGee, R. E. & Druss, B. G. Mortality in mental disorders and global disease burden implications a systematic review and meta-analysis. *JAMA Psychiatry* **72**, 334–341 (2015).
10. WHO. *Information Sheet: Premature death among people with severe mental disorders.*
11. Jayatilleke, N. *et al.* Contributions of specific causes of death to lost life expectancy in severe mental illness. *Eur. Psychiatry* **43**, 109–115 (2017).
12. Swaraj, S. *et al.* Meta-analysis of natural, unnatural and cause-specific mortality rates following discharge from in-patient psychiatric facilities. *Acta Psychiatr. Scand.* **140**, 244–264 (2019).
13. Bickley, H. *et al.* Suicide within two weeks of discharge from psychiatric inpatient care: A case-control study. *Psychiatr. Serv.* **64**, 653–659 (2013).
14. Healthcare Quality Improvement Partnership & University of Manchester. *The National Confidential Inquiry into Suicide and Safety in Mental Health Safer services.* (2019).