



# Patient suicide: the impact of service changes

## A UK wide study

**National Confidential  
Inquiry into Suicide  
and Homicide by  
People with Mental  
Illness**

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## REPORT SUMMARY

### What was this study about?

Our previous reports have shown that around 1,585 mental health patients die by suicide in the UK each year. However, there is little evidence for how services reduce suicide. An exception is our recent study which showed a link between changes to mental health care in England and Wales between 1997 and 2006, and a reduction in patient suicide rates.

### How does this study build on our previous work?

This study extends our previous findings in three ways:

- it is UK wide
- it examines a wider range of service changes, and
- it examines patient suicide rates over a longer time period.

### What did we want to achieve?

We wanted to investigate:

- the uptake of recommended service changes over time
- whether patient suicide rates fell after these service changes took place
- whether there was a link between the number of service changes and any fall in suicide
- the effect of individual service changes on specific patient sub-groups.

### How did we do it?

Information collected as part of NCISH for individuals who died by suicide between 1997 and 2011. We did this by:

- obtaining UK national data for all suicides irrespective of mental health care contact,
- identifying individuals who were patients, i.e. in contact with mental health services, with the help of trust records, and
- sending a detailed questionnaire to the mental health team that had been caring for the patient prior to suicide.

We selected 17 key recommendations and service changes in mental health care. They were chosen because of their inclusion in our previous study or because they were in areas of policy or clinical priority.

The recommendations and service changes covered:

- ward safety
- specialist community mental health teams
- information sharing
- multi-disciplinary review of suicides
- NICE guidance of self-harm, depression and schizophrenia (full list in table 3, pg. 6)

### How did we do it? (cont'd)

Information on whether particular service changes had been implemented along with the date of implementation was collected through a survey sent to every mental health service in the UK in 2012.

Rates were calculated using patient population data provided by the mental health trusts and the Mental Health Minimum Dataset (MHMDS).

### What were the key findings?

The implementation of the recommended service changes increased over time. By 2007 over 50% of trusts had made 50% of the service changes; by 2012 40% had implemented all of the service changes.

Trusts that implemented more than 10 recommendations or service changes had lower suicide rates than those that implemented 10 or fewer.

The service changes we studied did seem to have an impact on patient suicide rates. However, this occurred at a time of falling rates of patient suicide overall and this made it more difficult to show the effect of individual changes.

Individual service changes did seem to have an impact on the relevant patient group (e.g. removal of non-collapsible curtain rails reducing in-patient suicide).

Trusts that merged their specialist community teams (e.g. assertive outreach, early intervention) with their generic community mental health services had higher suicide rates in 2012 than trusts that retained their specialist teams, though the difference was not statistically significant.

### What are the key messages for mental health services?

To improve safety, mental health services should:

- 1) provide specialist community services such as crisis resolution/home treatment, assertive outreach and services for patients with dual diagnosis
- 2) implement NICE guidance on depression
- 3) share information with criminal justice agencies
- 4) ensure physical safety, and reduce absconding on in-patient wards
- 5) create a learning culture based on multi-disciplinary review.

## INTRODUCTION

### Mental illness and suicide

- 1.1 Suicide is a global health concern and suicide prevention remains an international health priority.<sup>1</sup>
- 1.2 Most people who die by suicide are suffering from a mental disorder.
- 1.3 One in four people who die by suicide in the UK have a history of contact with mental health services within the previous 12 months.<sup>2</sup> This is 1,585 patient suicides per year on average over the last 10 years.<sup>2</sup>
- 1.4 NCISH monitors key features of patient suicide in our annual reports. Figures suggest a recent rise. Our 2013 report is available at <http://www.bbmh.manchester.ac.uk/cmhr/centreforsuicideprevention/nci/reports/NCIAnnualReport2013V2.pdf>
- 1.5 Few studies have shown a link between specific features of mental health services and suicide prevention. We have previously found an association between: a) more intensive community after-care and reduced patient suicide<sup>3</sup> b) the Care Programme Approach and reduced suicide after hospital discharge<sup>4-5</sup> c) detention under the Mental Health Act and reduced in-patient suicide.<sup>6</sup>
- 1.6 We have reported falling suicide rates in mental health in-patients following improvements in the physical safety of wards.<sup>7</sup>
- 1.7 A study from Finland suggested that areas which had comprehensive outpatient services and 24 hour emergency mental health services had lower rates of suicide than areas which did not.<sup>8</sup>
- 1.8 Many countries now have a national suicide prevention strategy or equivalent initiative, including the four UK countries. Reviews of health service strategies for suicide prevention show that common features are better treatment of mental disorder, improved access to services, and better aftercare.<sup>9-10</sup>

### Our recent study of patient suicide and mental health care

- 1.9 A recent NCISH study using comprehensive data from England and Wales showed an association between

changes to mental health services, especially to community care, between 1997 and 2006 and a reduction in suicide rates.<sup>11</sup> This was a period of rapid change in mental health care and provided an opportunity to compare services at different stages in the change process.

**Table 1.** 9 key recommendations for mental health services

Recommendations
Removal of ligature points on in-patient wards
Community services include an assertive outreach team
Community services include 24 hour crisis teams as a point of access
Follow-up within 7 days of discharge from in-patient care
Written policy on management of patients who refuse treatment
Written policy on patients with a "dual diagnosis" †
Written policy on sharing information about risk with criminal justice agencies
Written policy on multidisciplinary review and information sharing with families after a suicide
Front-line clinical staff receive training in the management of suicide risk at least every 3 years

- 1.10 We considered 9 national recommendations for safer services which emerged from our earlier work (**table 1**).<sup>12</sup> We compared the rates of suicide in NHS mental health trusts before and after the recommendations were implemented.

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† Dual diagnosis refers to patients with a psychiatric illness and co-morbid substance dependence or misuse.

- 1.11 Those trusts that had implemented most of the 9 recommendations had a lower suicide rate than those that had implemented fewer recommendations.<sup>11</sup>
- 1.12 The recommendations that produced the biggest reduction in patient suicide rates overall were: the introduction of 24-hour crisis teams; policies for drug and alcohol misuse; and multi-disciplinary reviews after suicide (**table 2**).
- 1.13 Specific changes to services were associated with a fall in suicide in particular patient groups - for example, assertive outreach teams and patients who were losing contact with services; 7-day follow-up and patients recently discharged from hospital.<sup>11</sup>

**Table 2.** NCISH recommendations associated with reduced suicide rates after implementation (1997-2006)

Recommendation	% fall in suicide rates
24 hour crisis teams	18%
Policy on multidisciplinary review following suicide	10%
Policy on patients with dual diagnosis	9%

### How does the current study build on our previous work?

- 1.14 The study described in this report extends our previous work in three main ways. First, it is a UK wide study using data from England, Scotland, Wales, and Northern Ireland. Second, it examines a wider range of recommendations and service changes. Third, it examines suicide rates over a longer time period (1997-2011).

## AIMS AND OBJECTIVES

- 2.1 In this study we aimed to examine the relationship between mental health service changes and patient suicide rates in the UK.

- 2.2 Our specific objectives were to investigate:

- the take up of service changes over time
- the association between the number of service changes implemented and suicide rates
- the association between service changes and suicide rates before and after their implementation
- the effect of individual service changes on specific patient sub-groups.

## METHOD

### Information on patients who die by suicide

- 3.1 Suicide data were collected as part of NCISH for individuals aged 10 years and older who died by suicide between Jan 1, 1997 and Dec 31, 2011.
- 3.2 A detailed description of NCISH data collection processes can be found elsewhere.<sup>13</sup> Briefly:
  - NCISH obtain national data for all suicides irrespective of mental health care contact
  - those who were patients i.e. in contact with mental health services, are identified with the help of mental health trust records, and
  - a detailed questionnaire is sent to the mental health team that had been caring for the patient prior to suicide.
- 3.3 The questionnaire collects demographic and clinical information on the person who has died, including method of suicide, in-patient or community status, diagnosis, history of suicidal behaviour, adherence to treatment.
- 3.4 Suicides were defined as deaths that received a suicide or open verdict at coroner's inquest (ICD 10 codes X60-84, Y10-34 [excluding Y33.9], and Y87.0 [excluding Y87.2]).
- 3.5 We selected 17 key recommendations and service changes to study in relation to suicide rates (**table 3**).

### Changes in mental health care

- 3.6 These recommendations were chosen a priori because of their inclusion in our previous study or because they were in areas of policy or clinical priority. We grouped them into domains. Policies here are taken as a marker of clinical activity. The item on service mergers was considered separately for the purposes of the analysis.
- 3.7 Information on whether particular service changes had been implemented along with the date of implementation was collected through a survey sent to every mental health service in the UK in 2012. For English trusts this information was supplemented by earlier waves of data collection that had occurred in 2004, 2006 and 2008.

**Table 3.** Recommendations and service changes investigated in the current study

Recommendations and service changes
<b>Ward safety</b>
Removal of non-collapsible curtain rails
Re-design/removal of low lying ligature points
<b>Community services</b>
Community services include an assertive outreach team (AOT)
Community services include a crisis resolution/home treatment team (CRHTT)
<b>Training</b>
Clinical staff receive training in management of suicide risk
<b>Policies</b>
Policy regarding response to in-patients who abscond
Policy on the follow-up of post discharge patients
Policy on patients who are not taking medication as prescribed
Policy on the management of patients with dual diagnosis
Policy on information-sharing with criminal justice agencies
Policy on multi-disciplinary review & information sharing with families
Policy on the formal transfer of care from child and adolescent mental health services (CAMHS) to adult services
<b>NICE guidance (or equivalent)</b>
Mechanism for implementing NICE guidelines
NICE self-harm guidelines implemented
NICE schizophrenia guidelines implemented
NICE depression guidelines implemented
<b>Policy</b>
Merging of specialist services into generic community mental health teams (CMHTs)

## METHODS SUMMARY

- ❖ The aims of the current study were to build on the findings of our earlier report.<sup>8</sup>
- ❖ A detailed service questionnaire was sent to all mental health services in the UK.
- ❖ The survey questions related to whether specific policies or service changes had been implemented. 17 recommendations and service changes were selected for consideration reflecting their clinical and policy importance.
- ❖ We examined the up-take of recommendations and service changes in UK mental health Trusts. We also analysed suicide rates in services that implemented most compared to few of the recommendations, and suicide rates before and after implementation of recommendations.

## Analysis of the link between services and suicide

- 3.8 Because we wanted to calculate rates of suicide it was necessary to obtain denominator data - principally the number of people seen by each mental health service. We obtained this information by asking trusts to tell us the number of people in contact with their services annually. Where mental health trusts in England were unable to provide this information, figures from the Mental Health Minimum Dataset (MHMDS) were used.<sup>14</sup> For Wales, Scotland and Northern Ireland, when denominator data were not available we estimated figures from national averages.
- 3.9 The Mental Health Minimum Dataset (MHMDS)<sup>14</sup> was also used to provide numbers of specific patient groups such as in-patients or people with depression, to calculate suicide rates in these groups.

- 3.10 A detailed description of the statistical methods we used is given in our earlier paper.<sup>11</sup>
- 3.11 Briefly, we described the uptake of recommendations and service changes over time. Overall, 16 of the 17 service changes were intended to reduce suicide. One service change – the merging of specialist teams (for example, early intervention, assertive outreach, crisis resolution/home treatment) into generic community mental health services could well have had an opposite effect. Therefore this service change was examined separately and not as part of the main analysis.
- 3.12 We then compared suicide rates in trusts that had implemented most service changes (at least 11 of the 16) with those that had implemented fewer.
- 3.13 We went on to compare suicide rates across all trusts before and after implementation of these service changes. Because differences in 'before and after' rates could be due to falling background rates of suicide, we also looked at changes in suicide rates in trusts that had not implemented the service changes.
- 3.14 We identified the five service changes associated with the biggest absolute falls in suicide rates and also the five service changes associated with the biggest falls in suicide rates in implementing relative to non-implementing trusts.
- 3.15 Finally we examined the association between the implementation of specific recommendations and suicide rates in particular patient groups.

## FINDINGS

### Data collection

- 4.1 Between 1997 and 2011 we were informed of 23,406 people who had died by suicide within 12 months of being seen by mental health services. This represented 26% of all 88,696 suicide deaths which occurred in the UK during the same time period. The

deaths occurred across 97 mental health services.

- 4.2 22,264 suicide deaths occurred in trusts that responded to the questionnaire covering the services in **table 3**, equating to 95% of all patient suicide deaths in the time period:
- 16,941 in England
  - 895 in Northern Ireland
  - 3,442 in Scotland, and
  - 986 in Wales.

### When were service changes implemented?

- 4.3 Implementations of the changes did not appear to cluster in any particular year.
- 4.4 The annual number of new implementations peaked in 2004 (135).
- 4.5 By 2007 over 50% of the trusts had made 8 (50%) or more of the 16 service changes.
- 4.6 By 2012 35 trusts (40% of trusts) had implemented all of the service changes.

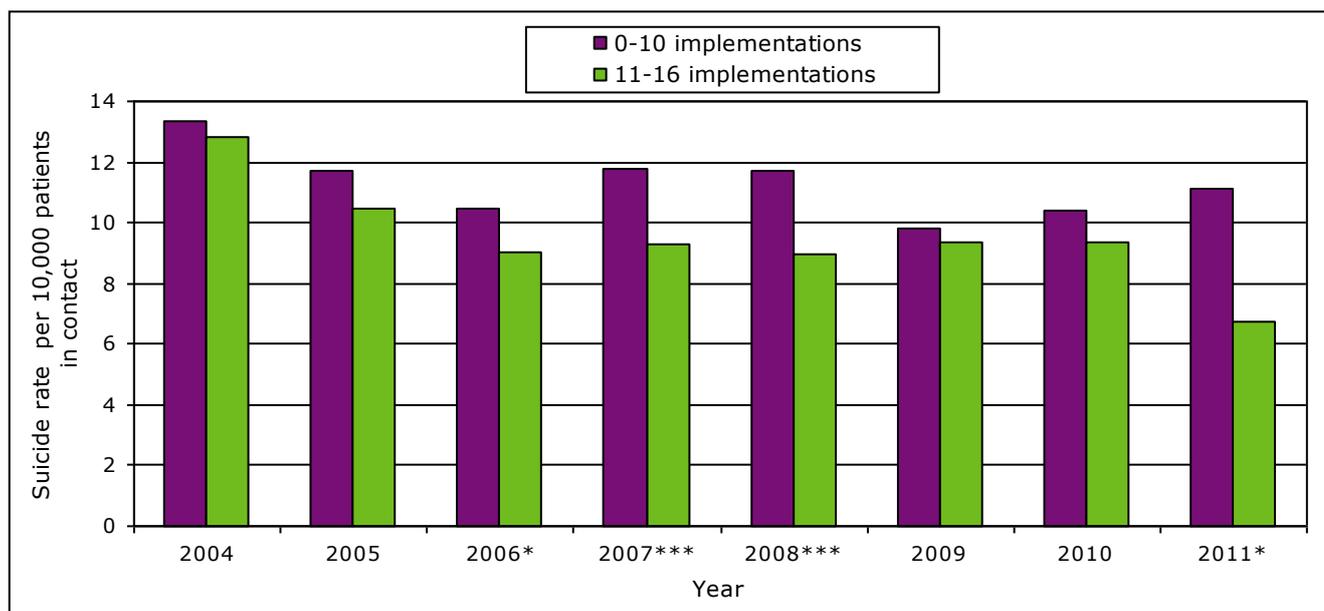
### Did suicide rates differ by the number of service changes implemented?

- 4.7 For each year, trusts that implemented 11 to 16 service changes ("high implementers") had lower suicide rates than trusts that had implemented 0 to 10 service changes ("low implementers") (**figure 1**).
- 4.8 The difference was statistically significant ( $p < 0.05$ ) in 2006 (14% lower in high vs low implementers), 2007 (21% lower), 2008 (24% lower), and 2011 (36% lower) (**figure 1**).

### Did suicide rates differ before and after implementation of service changes?

- 4.9 Implementation of each service change was associated with a statistically significant fall in suicide rates (**table 4**).

**Figure 1.** Suicide rates for trusts that implemented 11-16 service changes compared to trusts that implemented 0-10 changes between 2004 and 2011



**Note.** \* indicates significance at  $p < 0.05$ ; \*\*\* indicates significance at  $p < 0.001$

**Table 4.** Percentage fall in suicide rates per 10,000 patients before and after implementation of individual aspects of services (implementing trusts).

Recommendation or service change	% fall in suicide rates after implementation
<b>Ward safety</b>	
Removal of non-collapsible curtain rails	17.4%
Re-design/removal of low lying ligature points	22.1%
<b>Community services</b>	
Community services include an assertive outreach team (AOT)	20.6%
Community services include a crisis resolution/home treatment team (CRHTT)	21.9%
<b>Training</b>	
Clinical staff receive training in management of suicide risk	18.9%
<b>Policies</b>	
Policy regarding response to in-patients who abscond	26.6%
Policy on the follow-up of post discharge patients	16.2%
Policy on patients who are not taking medication as prescribed	20.7%
Policy on the management of patients with dual diagnosis	24.9%
Policy on information-sharing with criminal justice agencies	24.0%
Policy on multi-disciplinary review & information sharing with families	23.5%
Policy on the formal transfer of care from child and adolescent mental health services (CAMHS) to adult services	23.1%
<b>NICE guidance</b>	
Mechanism for implementing NICE guidelines	21.2%
NICE self-harm guidelines	22.9%
NICE schizophrenia guidelines	20.9%
NICE depression guidelines	25.5%

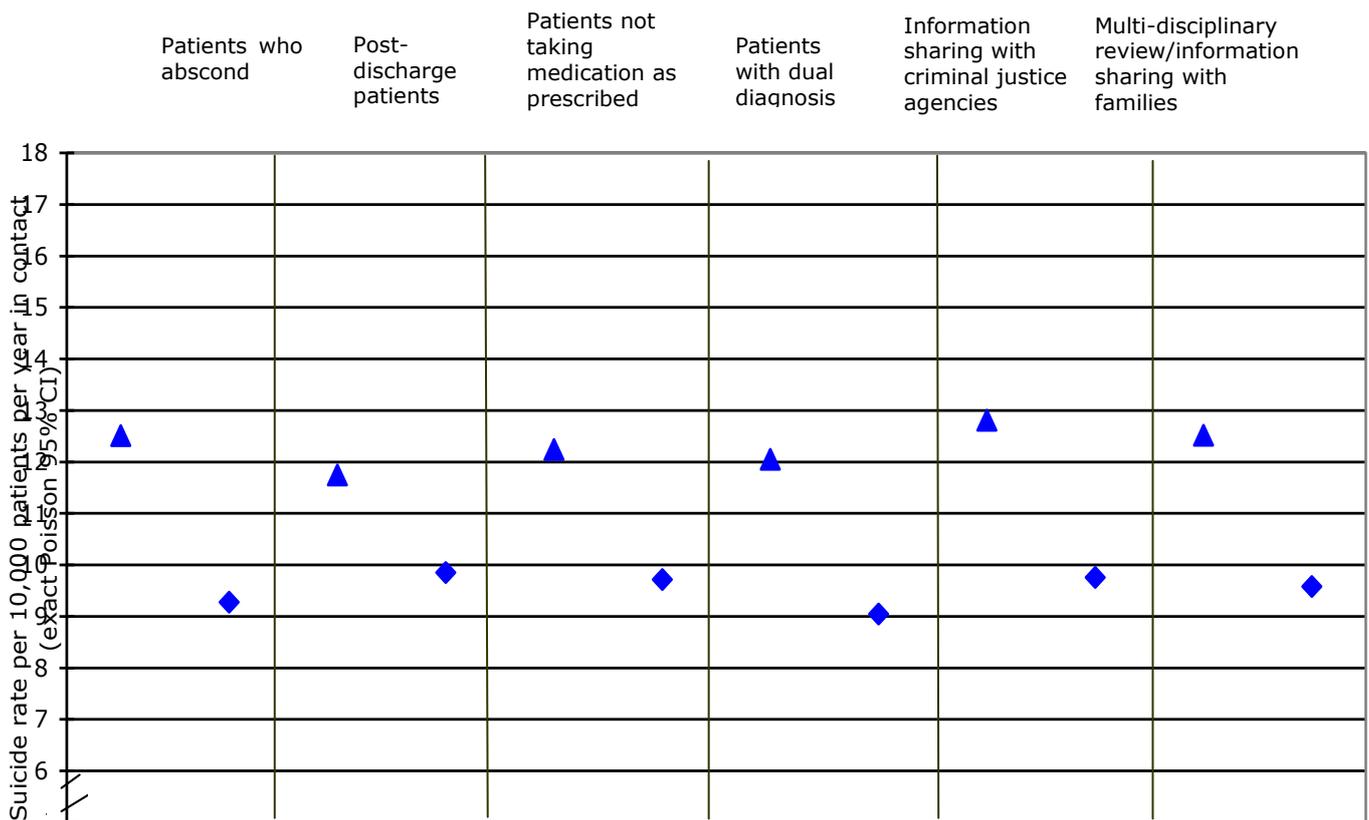
**Note.** All falls were statistically significant ( $p < 0.01$ ).

**Did suicide rates differ before and after implementation of service changes? (cont'd)**

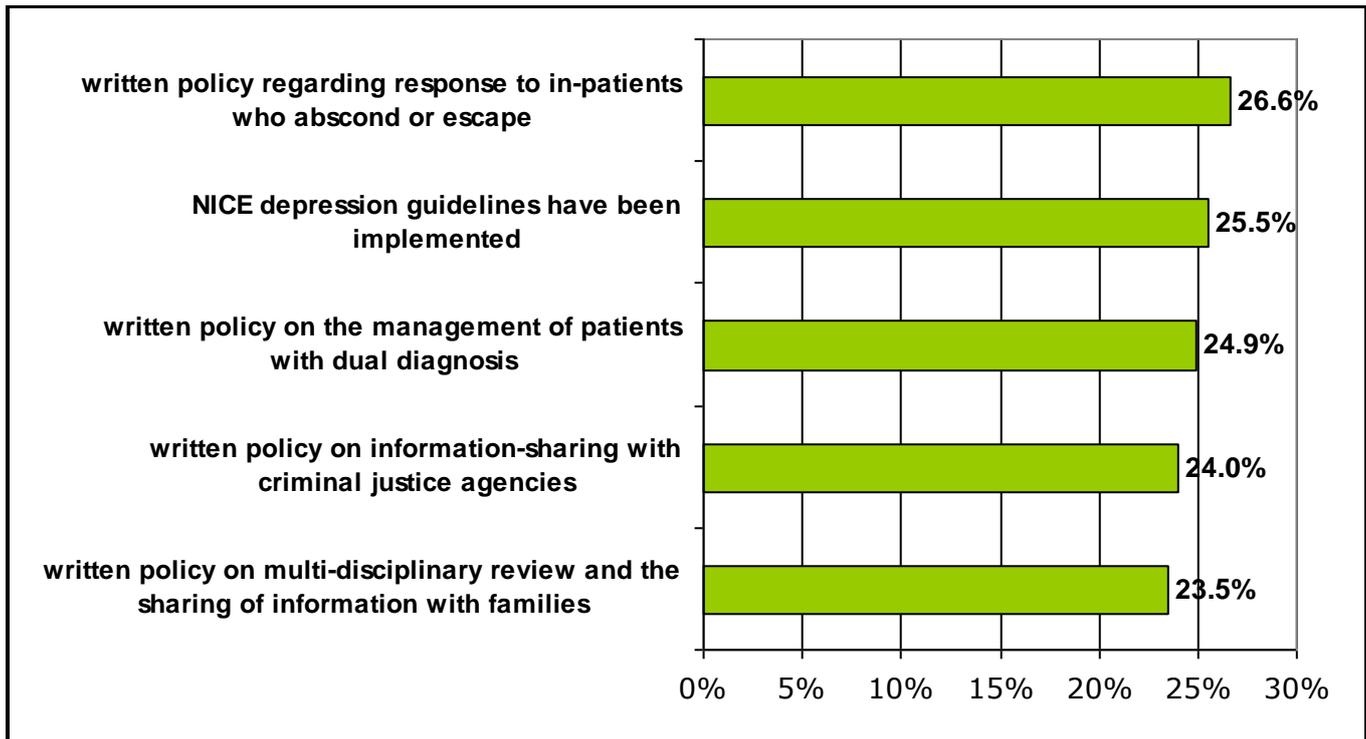
- 4.10 **Figure 2** shows the actual suicide rates before and after implementation in just the policy domain for illustrative purposes.
- 4.11 The five service changes associated with the biggest falls in suicide rates in implementing trusts are shown in (**figure 3**).
- 4.12 However, we also found statistically significant falls in suicide in non-implementing trusts. This was probably because of falling background rates of suicide in mental health patients.

- 4.13 The falls in the non-implementing services were generally less than the falls we saw in implementing services (median fall across all service changes of 14% in non-implementing services vs 22% for implementing trusts).
- 4.14 We examined service changes that were associated with bigger falls in implementers than non-implementers.
- 4.15 The five service changes associated with the biggest fall in implementers vs non-implementers are shown in (**figure 4**).

**Figure 2.** Rates of suicide per 10,000 patients per year before and after implementation of the 7 policies (listed in **table 3**)

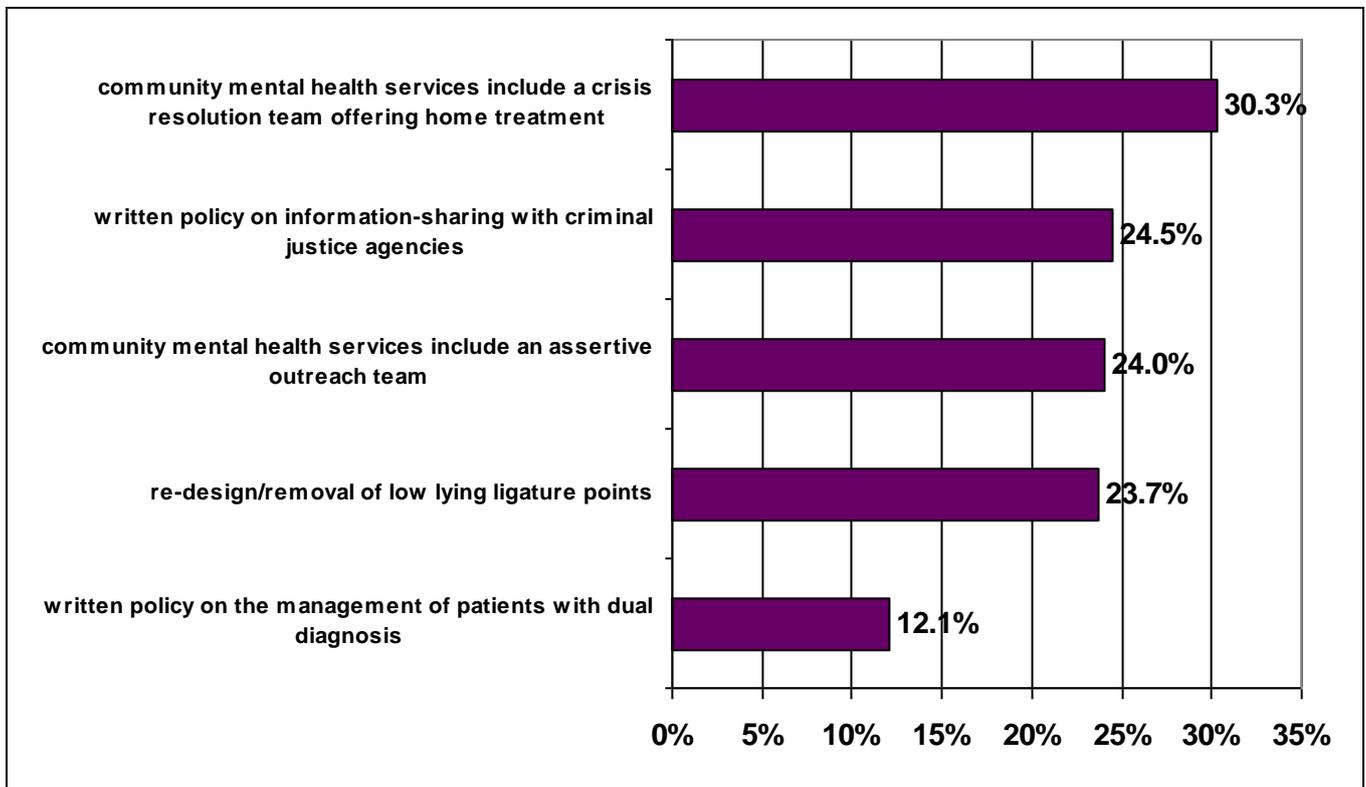


**Figure 3.** Biggest falls in suicide rates in trusts implementing recommendations and service changes



**Note.** The percentage falls in suicide rates were statistically significant at  $p < 0.01$  for all recommendations or service changes.

**Figure 4.** Biggest differential falls in suicide rates between implementing and non-implementing trusts associated with implementation of 5 recommendations and service changes



**Did suicide rates differ before and after implementation of service changes? (cont'd)**

4.16 **Figure 5** illustrates the differential falls in implementing and non-implementing trusts for a single aspect of service provision (crisis resolution/home treatment) for illustrative purposes.

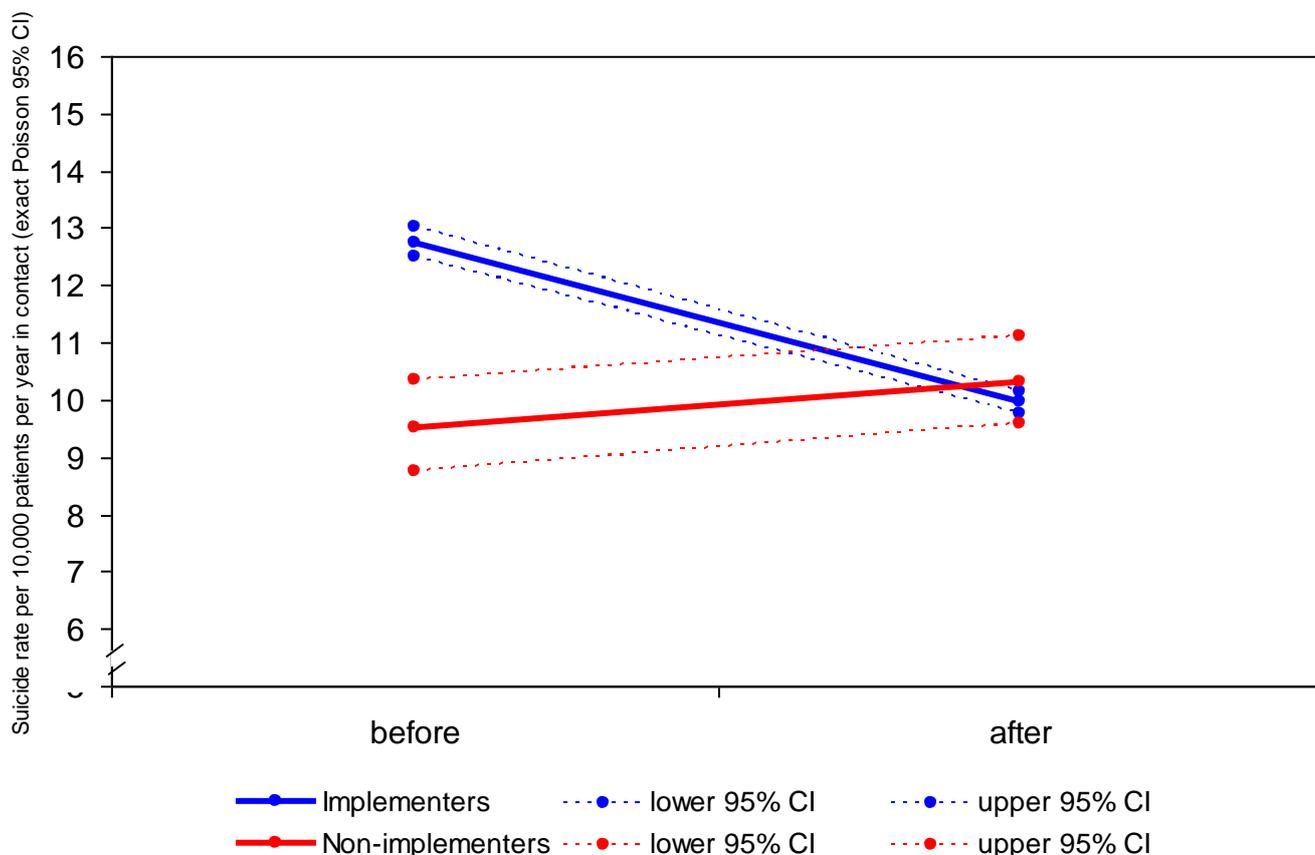
**Did implementation of service changes have a specific impact on the patient sub-group for which they were designed?**

4.17 Some of the recommendations and service changes might have been expected to impact on specific patient sub-groups.

4.18 We examined whether implementation of individual service changes were associated with reduced suicide rates in the relevant patient group.

4.19 This was indeed the case with particularly large falls for in-patient focussed recommendations (**table 5**). We could only do this for England data because of the availability of denominators (from the Mental Health Minimum Dataset).

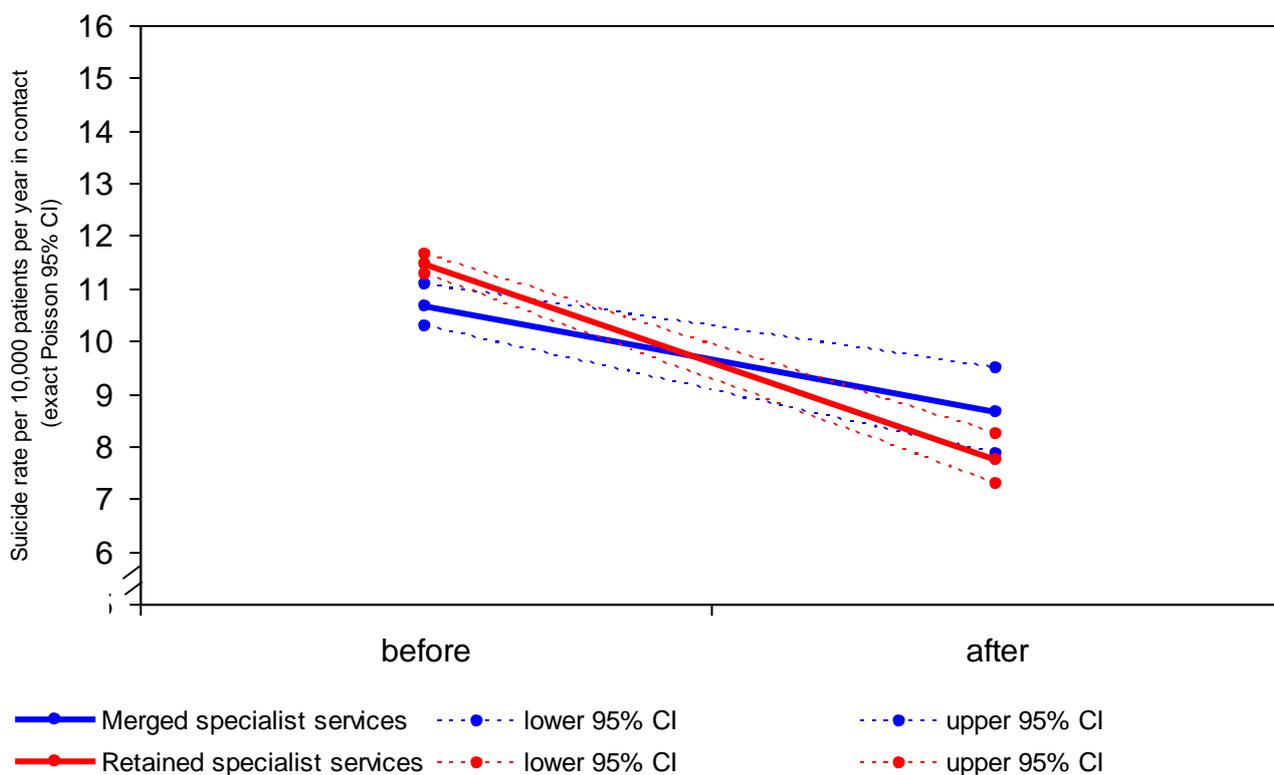
**Figure 5.** Falls in suicide rates for implementing and non-implementing trusts associated with provision of crisis resolution/home treatment service



**Table 5.** Percentage falls in suicide rates in patient sub-groups before and after implementation of individual service changes

Service change	Patient group	% fall
re-design/removal of low lying ligature points	Patients who died by hanging on the ward	55
removal of non-collapsible curtain rails	Patients who died by hanging on the ward	50
written policy regarding response to in-patients who abscond or escape	In-patients	42
re-design/removal of low lying ligature points	In-patients	34
community mental health services include a crisis resolution/home treatment team (CRHTT)	In-patients	30
written policy on patients who are not taking medication as prescribed	Patients who were non-adherent with medication	29
removal of non-collapsible curtain rails	In-patients	28
written policy on the follow-up of patients discharged from psychiatric in-patients	Patients who died within 3 months of discharge from an in-patient unit	25
NICE depression guidelines have been implemented	Patients with a primary, secondary or tertiary diagnosis of depression	22
NICE schizophrenia guidelines have been implemented	Patients with a diagnosis of schizophrenia	21
NICE schizophrenia guidelines have been implemented	Community mental health patients with a diagnosis of schizophrenia	21
NICE depression guidelines have been implemented	Patients with a primary diagnosis of depression	20
written policy on the follow-up of patients discharged from psychiatric in-patients	Patients who died within 7 days of discharge from an in-patient unit	19
NICE self-harm guidelines have been implemented	Patients with a history of self harm	16
written policy on information-sharing with criminal justice agencies	Patients under the care of forensic services	15
community mental health services include an assertive outreach team	Community mental health patients	14
community mental health services include a crisis resolution/home treatment team (CRHTT)	Community mental health patients	10
written policy on the management of patients with dual diagnosis	Patients with dual diagnosis	7
NICE schizophrenia guidelines have been implemented	In-patients with a diagnosis of schizophrenia	6

**Figure 6.** Suicide rates in trusts that did and did not merge specialist services into community mental health services



### Merging specialist services into general community mental health teams

- 4.20 This service change was considered separately to the others as it might be expected to increase rather than decrease suicide rates.
- 4.21 By 2011, 20 (23%) trusts had merged their specialist teams (e.g. early intervention, assertive outreach, crisis resolution/home treatment) into their general community mental health teams rather than retained them as specialist teams.
- 4.22 In 2011, suicide rates were 7% higher in trusts that had merged their specialist teams than in trusts that had not, but this difference was not statistically significant.

- 4.23 Trusts that had retained their specialist teams saw a larger fall in patient suicide than trusts that merged them.
- 4.24 Trusts that merged their specialist teams also had higher suicide rates after merging compared to those trusts that kept these teams, although the absolute difference was small (13%) and did not reach statistical significance (**figure 6**).

## DISCUSSION

### Main findings

- 5.1 Mental health trusts in the UK appear to have implemented key service changes and recommendations, and implementation has increased over time.
- 5.2 Trusts that implemented more service changes had lower suicide rates than trusts which implemented fewer service changes.
- 5.3 Rates of suicide fell following implementation of the service changes and there was evidence that the changes also had an impact on specific patient sub-groups, such as in-patients and patients refusing treatment.
- 5.4 However, rates of suicide also fell in non-implementing trusts. This was probably a reflection of falling rates of suicide among mental health patients more generally.
- 5.5 It was difficult to be certain of which service changes had the biggest impact, but the service changes associated with the largest fall in suicide are:
- policies for absconding
  - policy for dual diagnosis patients
  - information-sharing with criminal justice agencies
  - multi-disciplinary reviews after suicide, and
  - implementation of NICE depression guidelines.
- 5.6 The five service changes associated with the biggest fall in suicide rates in implementing relative to non-implementing trusts are:
- crisis resolution/home treatment or assertive outreach teams
  - information sharing with criminal justice agencies
  - removal of low lying ligature points, and
  - policy for dual diagnosis patients.
- 5.7 Trusts that merged their specialist services into generic teams saw less of a fall in suicide and had a higher suicide rates but the differences were small and these findings are inconclusive at this stage.

### LIMITATIONS

- ❖ Comparing implementing Trusts with non-implementing Trusts may not be a like-for-like comparison.
- ❖ Service changes were assessed by self-report from NHS Trusts and policies were taken as indicating clinical activity.
- ❖ Observational studies of this kind can not demonstrate causation.
- ❖ Many of the service changes and recommendations were inter-related and it was not possible to tease out what the 'active ingredients' were with respect to reducing suicide.
- ❖ Some data used to determine rates were collected as part of routine national data collection rather than collected especially for this study. Coverage and quality of routine data can be problematic.

### RESEARCH IMPLICATIONS

- ❖ Our study illustrates how difficult it is to show the causal impact of national policies and service changes on patient suicide rates, especially when population rates are changing.
- ❖ Future studies could use more complex statistical techniques, e.g. difference-in-difference methods or interrupted time series analyses<sup>13</sup> or alternative study designs e.g. cluster randomised trials.
- ❖ We did not include wider measures of organisational health and functioning (e.g. staff and service user satisfaction, staff turnover, complaints and compliments). We plan to examine these in future studies.

## Clinical implications

- 5.8 We found that implementation of service changes and recommendations was associated with a lower suicide rate in mental health trusts.
- 5.9 However, this was at a time of falling rates of patient suicide overall and this made it much more difficult to show the effect of individual service changes. Of course, falling rates of suicide within services may be a welcome reflection of improved safety more generally.
- 5.10 We analysed our findings in different ways but there was clear consistency in the key measures that are most closely linked to suicide prevention (see **Key Measures** box).
- 5.11 Specific policies (for example, for patients who abscond, patients with drug and alcohol problems, policies on information sharing) were associated with large falls in suicide rates as were changes relating to the increased provision of specialist care (for example, assertive outreach, crisis resolution teams). Environmental safety and the implementation of guidelines also seemed important. Services might wish to focus their efforts in these areas in order to most effectively prevent suicide.
- 5.12 There was a suggestion that trusts which saw specialist services merged with generic mental health services experienced less of a fall in their suicide rate. This finding was not definitive, but suggests the need for caution in services considering re-absorbing assertive outreach and early intervention services back into community mental health teams.
- 5.13 These results support and expand on findings from our previous study. This consistency in evidence for suicide prevention measures emphasises the case for specialist rather than generic care in the community, a physically safer ward environment, and a learning culture based on multi-disciplinary review.

### KEY MEASURES TO IMPROVE SAFETY

- ❖ Provide specialist **community services** such as crisis resolution/home treatment, assertive outreach and treatment for patients with dual diagnosis
- ❖ Implement **NICE guidance** on depression
- ❖ **Share information** with criminal justice agencies
- ❖ Ensure physical safety, and reduce absconding on **in-patient wards**
- ❖ Create a learning culture based on **multi-disciplinary** review.

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## Appendix A

### MEMBERSHIP OF NCISH INDEPENDENT ADVISORY GROUP

**Ben Thomas** (Chair), Director of Mental Health and Learning Disability Nursing, Department of Health, England

**Richard Bunn**, Consultant Forensic Psychiatrist, Belfast Trust, Shannon Clinic, Northern Ireland

**Jeremy Butler** (lay representative), Non-executive Director at the National Patient Safety Agency and the Berkshire Healthcare NHS Trust, retired pilot and General Manager for British Airways, advisor to Boeing on aircraft accidents

**Jonathan Campion**, Visiting Professor of Population Mental Health, University College London; Director of Population Mental Health, UCL Partners; Director for Public Mental Health and Consultant Psychiatrist, South London and Maudsley NHS Foundation Trust

**Moira Connolly**, Principal Medical Officer for Mental Health, Scottish Government, Consultant Psychiatrist

**Mick Dennis**, Professor of Old Age Liaison Psychiatry, Honorary Consultant, University of Swansea, Wales

**Michael Holland**, Consultant Psychiatrist and Associate Medical Director for Revalidation and Quality at South London and Maudsley NHS Foundation Trust

**Helen Laing**, National Clinical Audit Lead, HQIP

**Ian McMaster**, Medical Officer, Department of Social Services and Public Safety (DHSSPS) Medical Policy Advice, Northern Ireland

**Jenny Mooney**, Business Manager, Clinical Outcome Review Programme, HQIP

**John Morgan**, Consultant General Adult Psychiatrist

**Sian Rees**, Interim Director, University of Oxford Health Experiences Institute, Department of Primary Care Health Sciences

**Geraldine Strathdee**, National Clinical Director for Mental Health, NHS England, Consultant Psychiatrist

**Sarah Watkins**, Senior Medical Officer, Department for Health and Social Services and Children (DHSSC) and Department of Public Health and Health Professions (DPHHP), Welsh Government

## **APPENDIX B:**

### **ETHICAL AND OTHER APPROVALS**

We received permission from the MHMDS to use their data.

NCISH had ethical approval from South Manchester Medical Research Ethics Committee, the North West Research Ethics Committee, the National Information Governance Board for Health and Social Care, the Patient Information Advisory Group and approval under Section 60 (now Section 251) of the Mental Health and Social Care Act.

### **STATISTICAL ANALYSES**

All analyses were carried out using STATA / IC version 12.1 for Windows.<sup>15</sup> Rates of suicide were expressed per 10,000 patients with 95% confidence intervals.