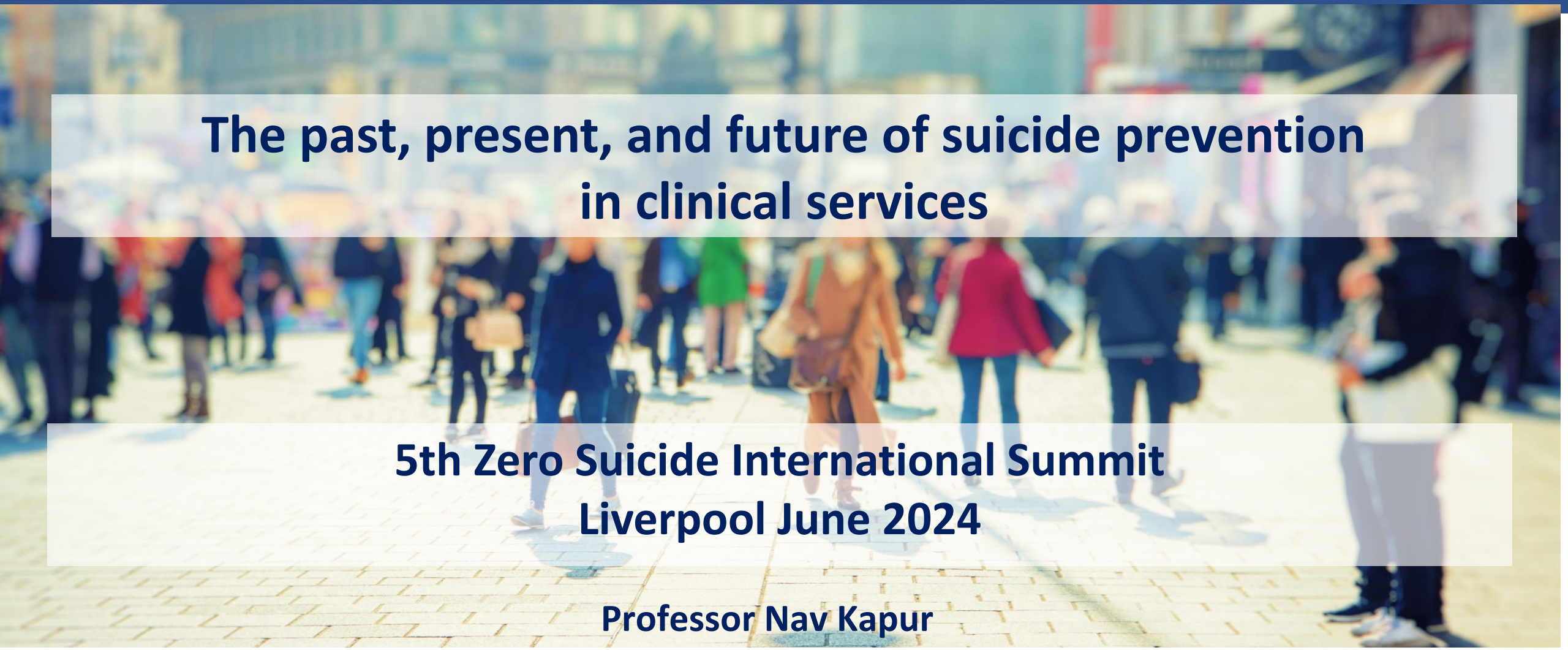

The past, present, and future of suicide prevention in clinical services

5th Zero Suicide International Summit
Liverpool June 2024

Professor Nav Kapur

Disclosures: NK reports no industry funding. NK is employed by the University Of Manchester and Mersey Care NHS Foundation Trust, United Kingdom. NK reports grants and personal fees from the Department of Health and Social Care, National Institute of Health Research, National Institute of Health and Care Excellence. He advises on national clinical guidelines and policy

Outline

- Past
- Present
- Future

Outline

- Past (Research)
- Present (Implementation)
- Future

Outline

- **Past**
- Present
- Future

MANCHESTER 1824
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The role of mental health services in prevention

HQIP
Healthcare Quality Improvement Partnership

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The role of mental health services in prevention

HQIP
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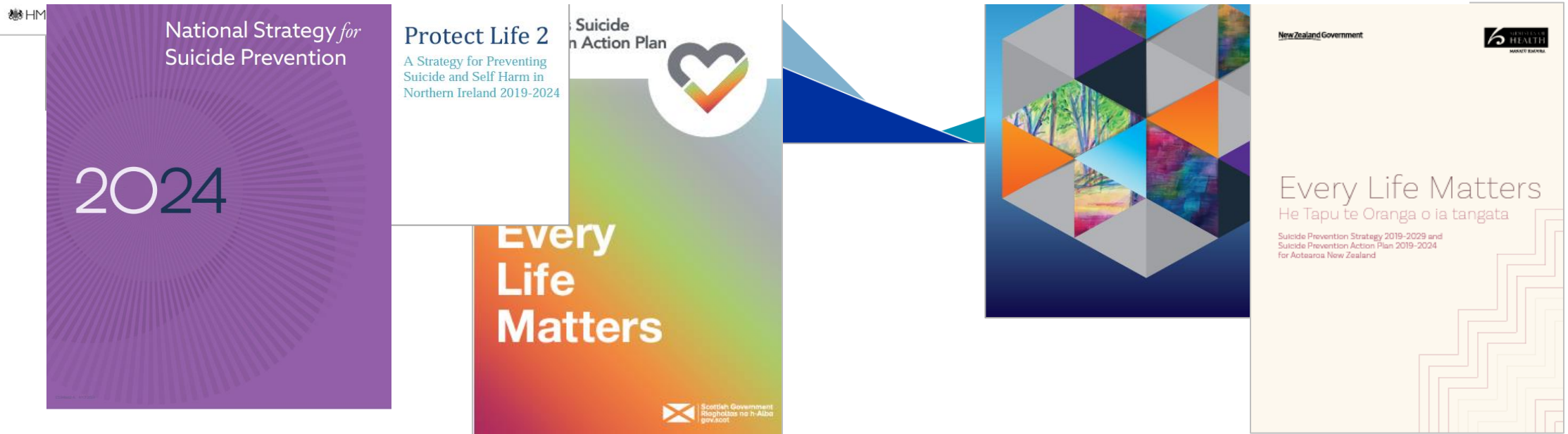
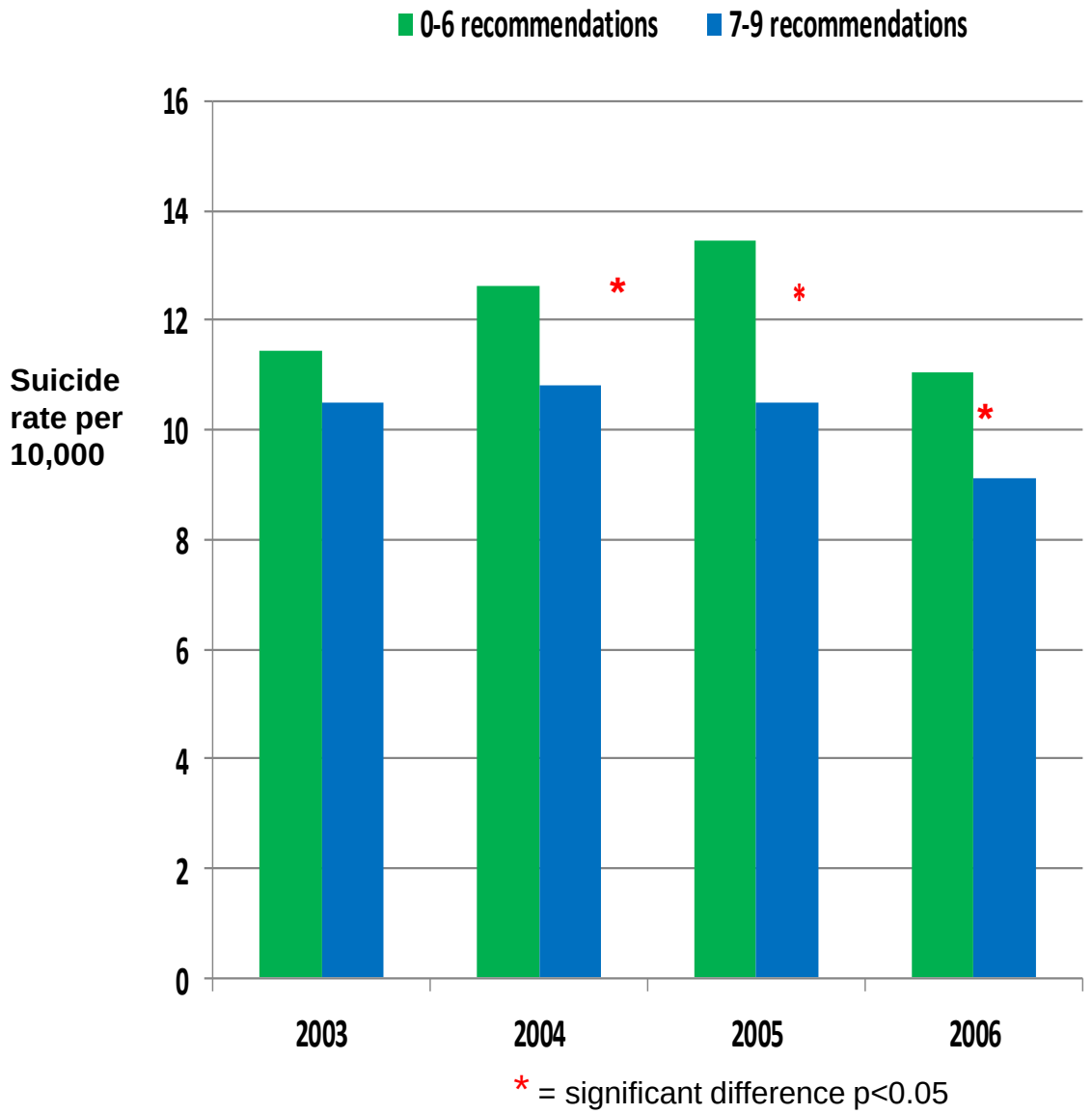
Goal 8: Implement effective suicide prevention services as a core component of health care.



Do NCISH recommendations improve safety?

- Removal of ligature points
- Assertive outreach
- 24-hour crisis team
- 7-day follow-up
- Non-compliance
- Dual diagnosis
- Criminal justice information sharing
- Multi-disciplinary review
- Training in suicide risk management



Source: Lancet, 2012

A focus on organisations…

Articles

Mental health service changes, organisational factors, and patient suicide in England in 1997–2012: a before-and-after study

Nav Kapur, Saied Ibrahim, David While, Alison Baird, Cathryn Rodway, Isabelle M Hunt, Kirsten Windfuhr, Adam Moreton, Jenny Shaw, Louis Appleby

Lancet Psychiatry 2016; 3: 526–34
Published Online April 20, 2016
http://dx.doi.org/10.1016/S2215-0366(16)00063-8
See Comment page 493
This online publication has been corrected. The corrected version first appeared at thelancet.com/psychiatry on June 1, 2016

National Confidential Inquiry into Suicide and Homicide by People with Mental Illness, Centre for Suicide Prevention, Centre for Mental Health and Safety, Manchester Academic Health Sciences Centre, University of Manchester, Manchester, UK (Prof N Kapur FRCPsych, S Ibrahim PhD, D While PhD, A Baird MSc, C Rodway MA, I M Hunt PhD, K Windfuhr PhD, A Moreton MD, Prof J Shaw FRCPsych, Prof L Appleby FRCPsych); and Manchester Mental Health and Social Care Trust, Manchester, UK (Prof N Kapur)
Correspondence to: Prof Nav Kapur, Head of Suicide Research, Centre for Suicide Prevention, Centre for Mental Health and Safety, University of Manchester, Manchester M13 9PL, UK
nav.kapur@manchester.ac.uk

Summary

Background Research into which aspects of service provision in mental health are most effective in preventing suicide is sparse. We examined the association between service changes, organisational factors, and suicide rates in a national sample.

Methods We did a before-and-after analysis of service delivery data and an ecological analysis of organisational characteristics, in relation to suicide rates, in providers of mental health care in England. We also investigated whether the effect of service changes varied according to markers of organisational functioning.

Findings Overall, 19 248 individuals who died by suicide within 12 months of contact with mental health services were included (1997–2012). Various service changes related to ward safety, improved community services, staff training, and implementation of policy and guidance were associated with a lower suicide rate after the introduction of these changes (incidence rate ratios ranged from 0·71 to 0·79, p<0·0001). Some wider organisational factors, such as non-medical staff turnover (Spearman's r=0·34, p=0·01) and incident reporting (0·46, 0·0004), were also related to suicide rates but others, such as staff sickness (–0·12, 0·37) and patient satisfaction (–0·06, 0·64), were not. Service changes had more effect in organisations that had low rates of staff turnover but high rates of overall event reporting.

Interpretation Aspects of mental health service provision might have an effect on suicide rates in clinical populations but the wider organisational context in which service changes are made are likely to be important too. System-wide change implemented across the patient care pathway could be a key strategy for improving patient safety in mental health care.

Funding The Healthcare Quality Improvement Partnership commissions the Mental Health Clinical Outcome Review Programme, National Confidential Inquiry into Suicide and Homicide by People with Mental Illness, on behalf of NHS England, NHS Wales, the Scottish Government Health and Social Care Directorate, the Northern Ireland Department of Health, Social Services and Public Safety, and the States of Jersey and Guernsey.

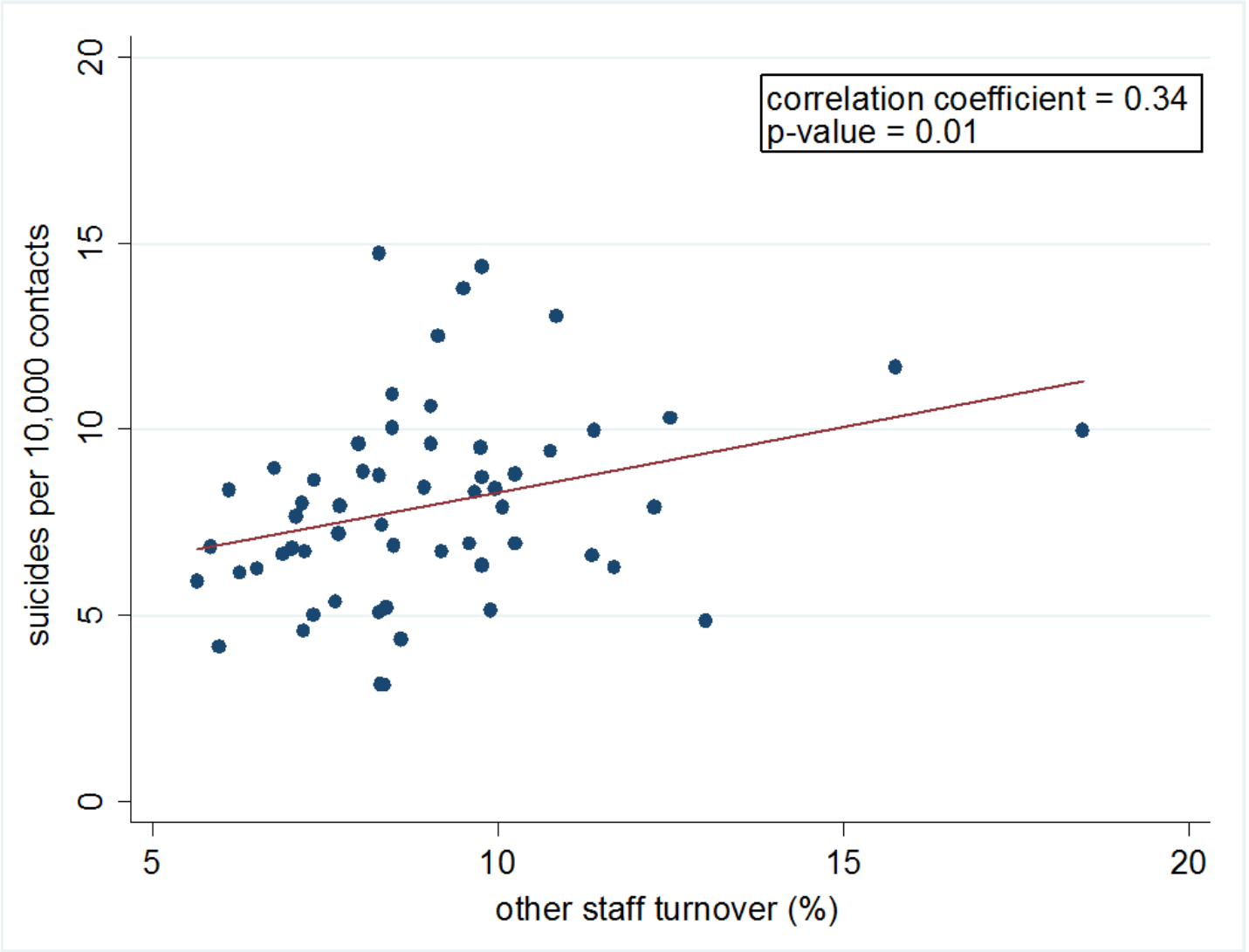
Introduction

Suicide is a major cause of death worldwide and its prevention is an international priority.[1,2] Social factors, such as unemployment and wider economic circumstances, are undoubtedly major determinants of suicidal behaviour, and not only at times of recession.[3–5] However, psychological, biological, and clinical factors are also important.[7,8] In this context, what role do health services have in suicide prevention?

Adequate access to services and effective management of mental and substance-use disorders have been highlighted by WHO in the global attempt to reduce suicide rates and have been examined in recent studies.[4,9,10] Research over many years suggests that most people who die by suicide could be suffering from a psychiatric disorder at the time of death, yet comparatively few are in contact with specialist services.[11,12] Previous research has identified the characteristics of people who die while under the care of services,[13] and the elements of mental health service provision that could be associated with reduced rates of suicide, such as ready access to mental health professionals,[14,15] well developed community services,[16] and specific policies for substance misuse.[17] Our own previous research found that three service changes in particular (provision of 24 h crisis services, policies for people with drug and alcohol misuse, and a system of reviewing care after suicide deaths) were associated with lower suicide rates in England and Wales after their implementation.[18] Other factors, such as absence of continuity of care and short hospital admission of less than a week, might increase suicide risk.[19,20]

However, the evidence base is far from consistent—some studies have found no association between service provision and suicide,[21] whereas others have found that particular service elements, such as levels of compulsory detention, were associated with higher suicide rates.[22] Many studies have been purely ecological and have focused on service provision across large areas (eg, country or region) rather than at the level of the individual service provider.[23] Few studies have examined the impact of service changes over time.

Generally, studies have considered few aspects of mental health service provision and have restricted themselves to delivery of care variables rather than



Kapur et al 2016 https://pubmed.ncbi.nlm.nih.gov/27107805/

Assessments

1.5.1 At the earliest opportunity after an episode of self-harm, a mental health professional should carry out a psychosocial assessment to:

- develop a collaborative therapeutic relationship with the person
- begin to develop a shared understanding of why the person has self-harmed
- ensure that the person receives the care they need
- give the person and their family members or carers (as appropriate) information about their condition and diagnosis.

Psychosocial assessment may reduce the risk of repeat self-harm by **40%**

Source: Kapur et al (2013) https://doi.org/10.1371/journal.pone.0070434

Screening for suicide risk

UK National Screening Committee

Guidance

Criteria for a population screening programme

Updated 29 September 2022

The intervention

9. There should be an effective intervention for patients identified through screening, with evidence that intervention at a pre-symptomatic phase leads to better outcomes for the screened individual compared with usual care. Evidence relating to wider benefits of screening, for example those relating to family members, should be taken into account where available. However, where there is no prospect of benefit for the individual screened then the screening programme should not be further considered.

The screening programme

11. There should be evidence from high quality randomised controlled trials that the screening programme is effective in reducing mortality or morbidity. Where screening is aimed solely at providing information to allow the person being screened to make an 'informed choice' (such as Down's syndrome or cystic fibrosis carrier screening), there must be evidence from high quality trials that the test accurately measures risk. The information that is provided about the test and its outcome must be of value and readily understood by the individual being screened.

Screening for suicide risk

Implementation criteria

15. Clinical management of the condition and patient outcomes should be optimised in all health care providers prior to participation in a screening programme.

16. All other options for managing the condition should have been considered (such as improving treatment or providing other services), to ensure that no more cost effective intervention could be introduced or current interventions increased within the resources available.

17. There should be a plan for managing and monitoring the screening programme and an agreed set of quality assurance standards.

18. Adequate staffing and facilities for testing, diagnosis, treatment and programme management should be available prior to the commencement of the screening programme.

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Risk Tools

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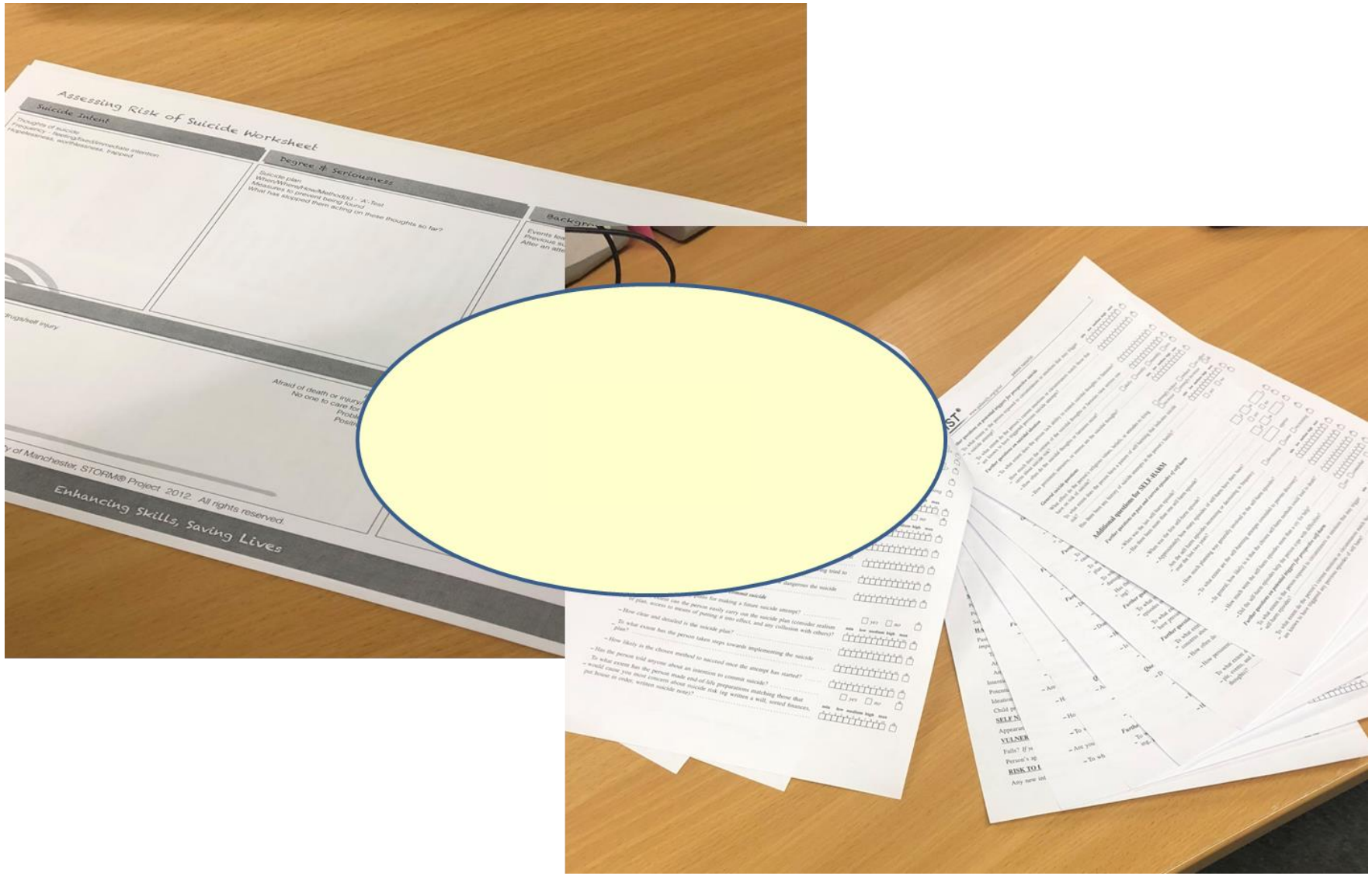

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Not helpful.....

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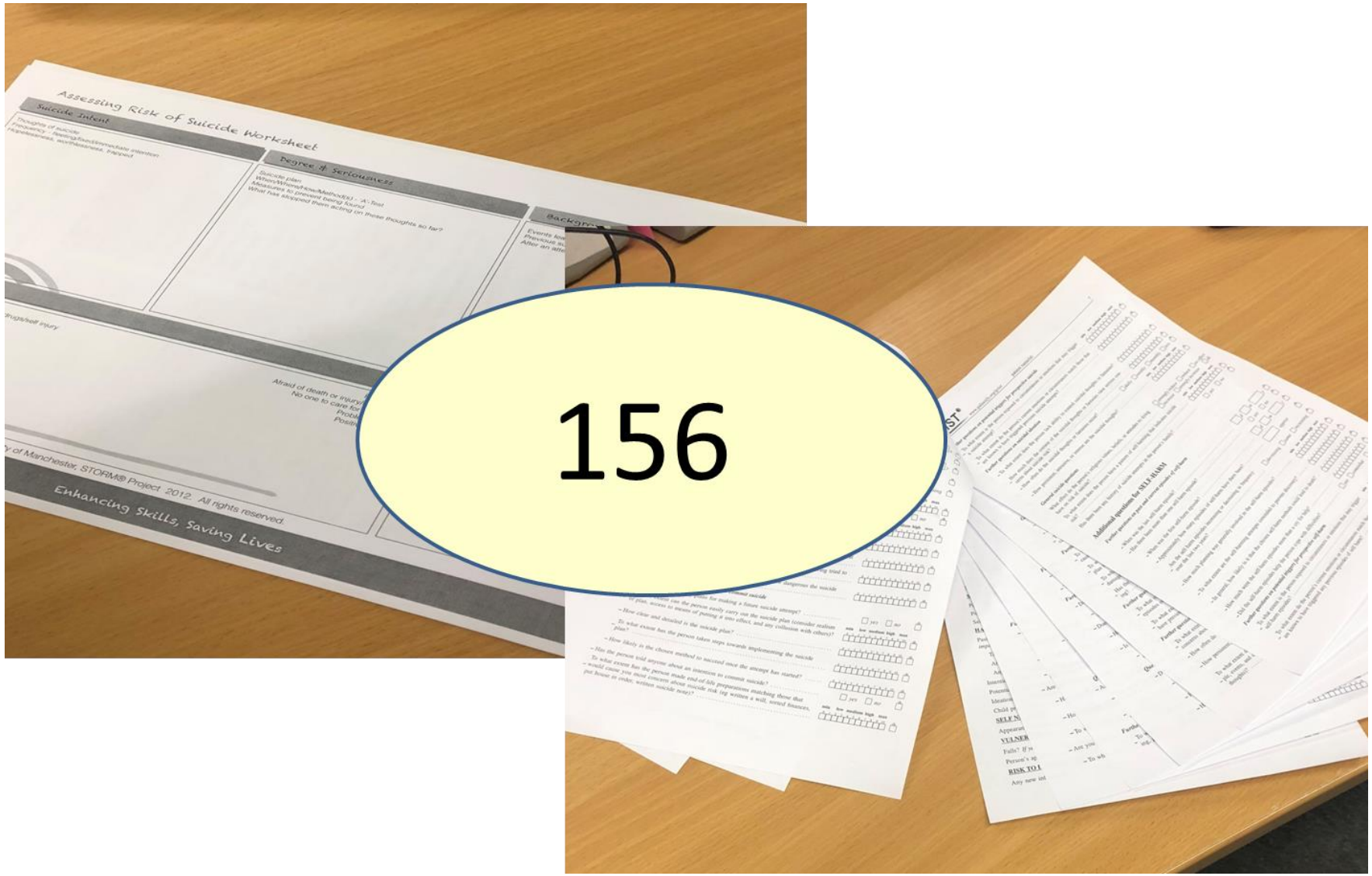

Not helpful….

BJPsych The British Journal of Psychiatry (2017) 210, 429–436. doi: 10.1192/bjp.bp.116.189993

Predictive accuracy of risk scales following self-harm: multicentre, prospective cohort study†

Leah Quinlivan, Jayne Cooper, Declan Meehan, Damien Longson, John Potokar, Tom Hulme, Jennifer Marsden, Fiona Brand, Kezia Lange, Elena Riseborough, Lisa Page, Chris Metcalfe, Linda Davies, Rory O'Connor, Keith Hawton, David Gunnell and Nav Kapur

Background
Scales are widely used in psychiatric assessments following self-harm. Robust evidence for their diagnostic use is lacking.

Aims
To evaluate the performance of risk scales (Manchester Self-Harm Rule, ReACT Self-Harm Rule, SAD PERSONS scale, Modified SAD PERSONS scale, Barratt Impulsiveness Scale); and patient and clinician estimates of risk in identifying patients who repeat self-harm within 6 months.

Method
A multisite prospective cohort study was conducted of adults aged 18 years and over referred to liaison psychiatry services following self-harm. Scale *a priori* cut-offs were evaluated using diagnostic accuracy statistics. The area under the curve (AUC) was used to determine optimal cut-offs and compare global accuracy.

Results
In total, 483 episodes of self-harm were included in the study. The episode-based 6-month repetition rate was 30% (*n* = 145). Sensitivity ranged from 1% (95% CI 0–5) for the SAD PERSONS scale, to 97% (95% CI 93–99) for the Manchester Self-Harm Rule. Positive predictive values ranged from 13% (95% CI 2–47) for the Modified SAD PERSONS Scale to 47% (95% CI 41–53) for the clinician assessment of risk. The AUC ranged from 0.55 (95% CI 0.50–0.61) for the SAD PERSONS scale to 0.74 (95% CI 0.69–0.79) for the clinician global scale. The remaining scales performed significantly worse than clinician and patient estimates of risk ($P<0.001$).

Conclusions
Risk scales following self-harm have limited clinical utility and may waste valuable resources. Most scales performed no better than clinician or patient ratings of risk. Some performed considerably worse. Positive predictive values were modest. In line with national guidelines, risk scales should not be used to determine patient management or predict self-harm.

Declaration of interest
D.G., K.H. and N.K. are members of the Department of Health's (England) National Suicide Prevention Advisory Group. N.K. chaired the NICE guideline development group for the longer-term management of self-harm and the NICE Topic Expert Group (which developed the quality standards for self-harm services). He is currently chair of the updated NICE guideline for depression. R.O.C. was a member of the NICE guideline development group for the longer-term management of self-harm and is a member of the Scottish Government's suicide prevention implementation and monitoring group.

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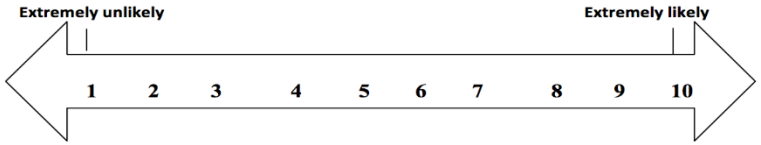
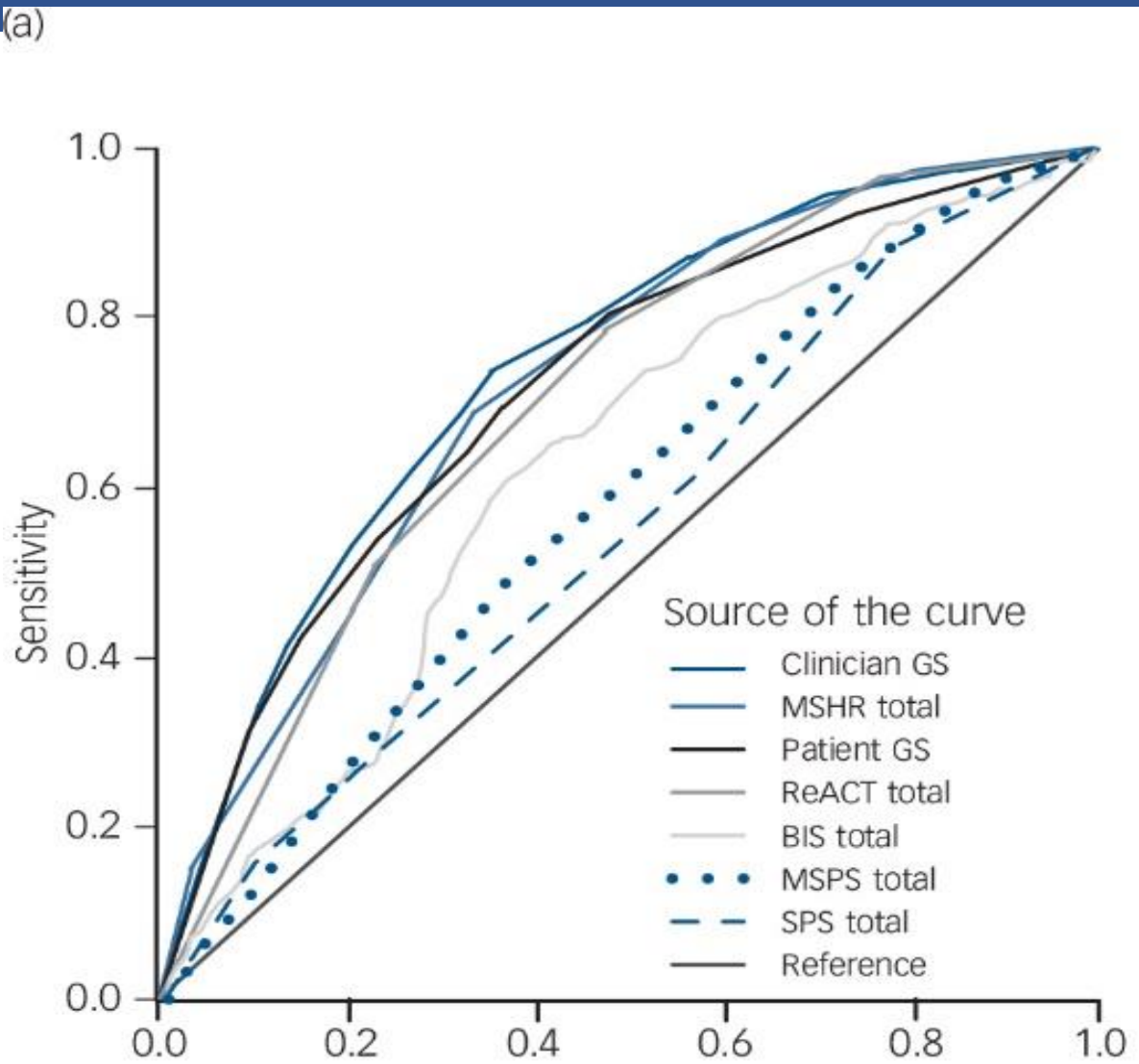
How likely do you think it is, that you will repeat self-harm within the next six months? Please indicate on this scale (with 1 as extremely unlikely and 10 and extremely likely)





https://pubmed.ncbi.nlm.nih.gov/28302702/

Quinlivan et al 2016

What can we do instead?

- Recognise that risk prediction is a fallacy
- Address patient needs with a emphasis on modifiable factors
- Focus on the therapeutic aspects of the assessment
- Use clinical guidelines and make evidence based treatments available
- Individualised assessment and assessments which inform management
- Adopt population approaches to prevention – ‘something for everyone’

Safer systems

Source: NCISH

Outline

- Past
- **Present**
- Future

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A focus on people…

HQIP
Healthcare Quality Improvement Partnership

Mutual Support for Mental Health-Research (MS4MH-R)

Patient and public involvement and engagement in self-harm and suicide prevention.

NCISH Patient and public involvement and engagement strategy (2022-2024)

National Suicide Prevention Alliance

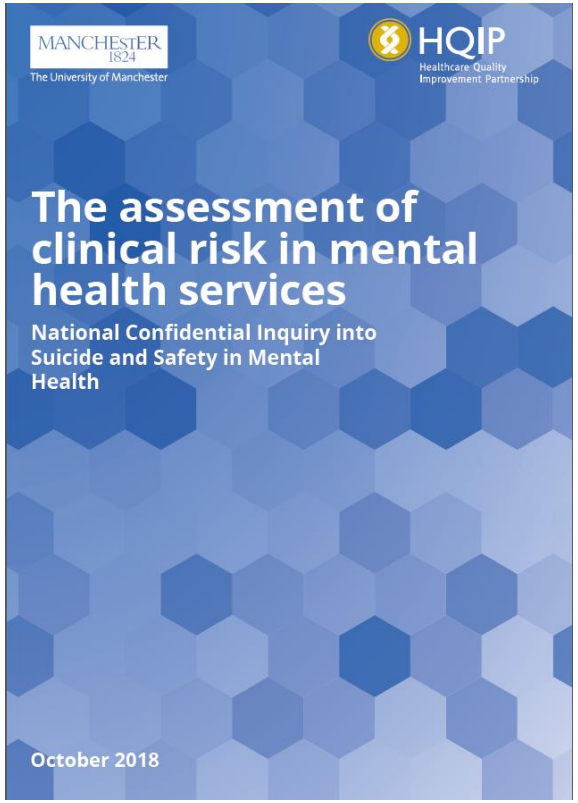
DONATE ›

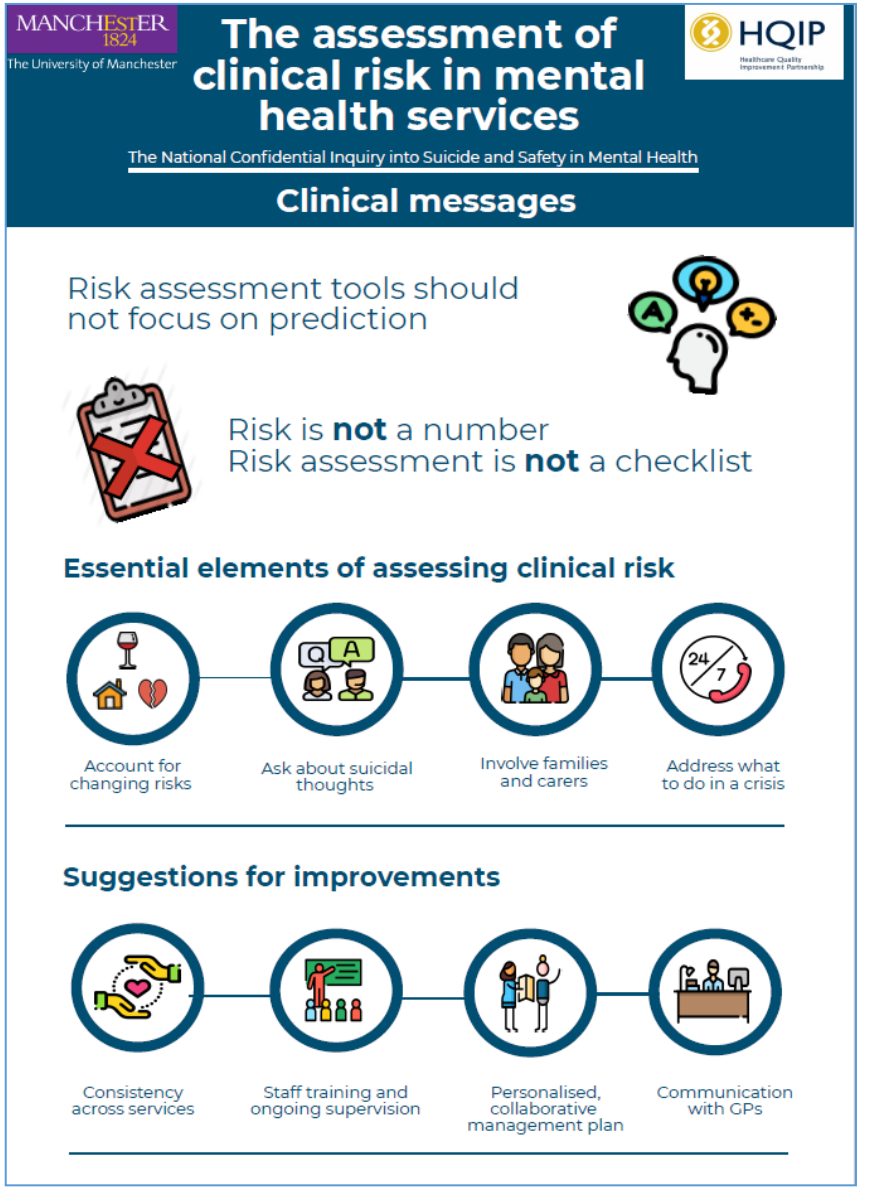
About Us Members Resc

Preventing suicide together

Suicide prevention is everyone's business. The National Suicide Prevention Alliance (NSPA) is an alliance of public, private and voluntary organisations in England who care about suicide prevention and are willing to take individual and collective action to reduce suicide and self-harm, and support those bereaved or affected by suicide.

Better dissemination





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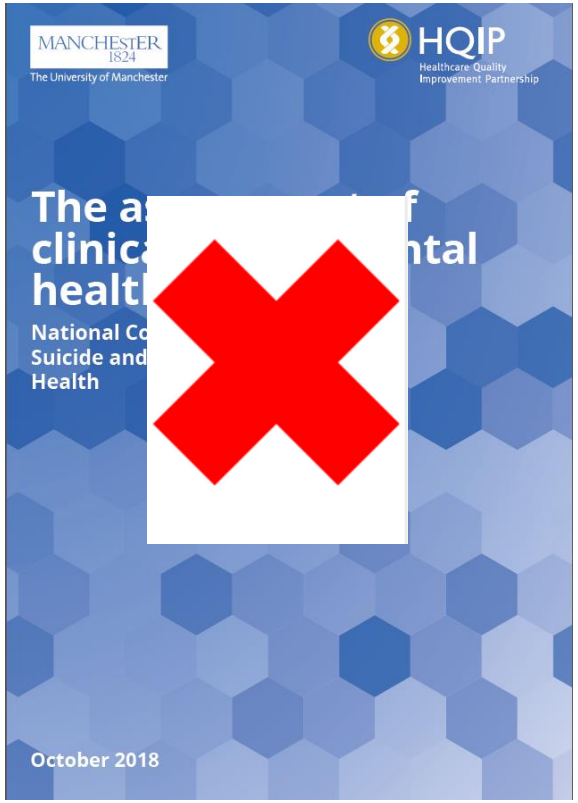

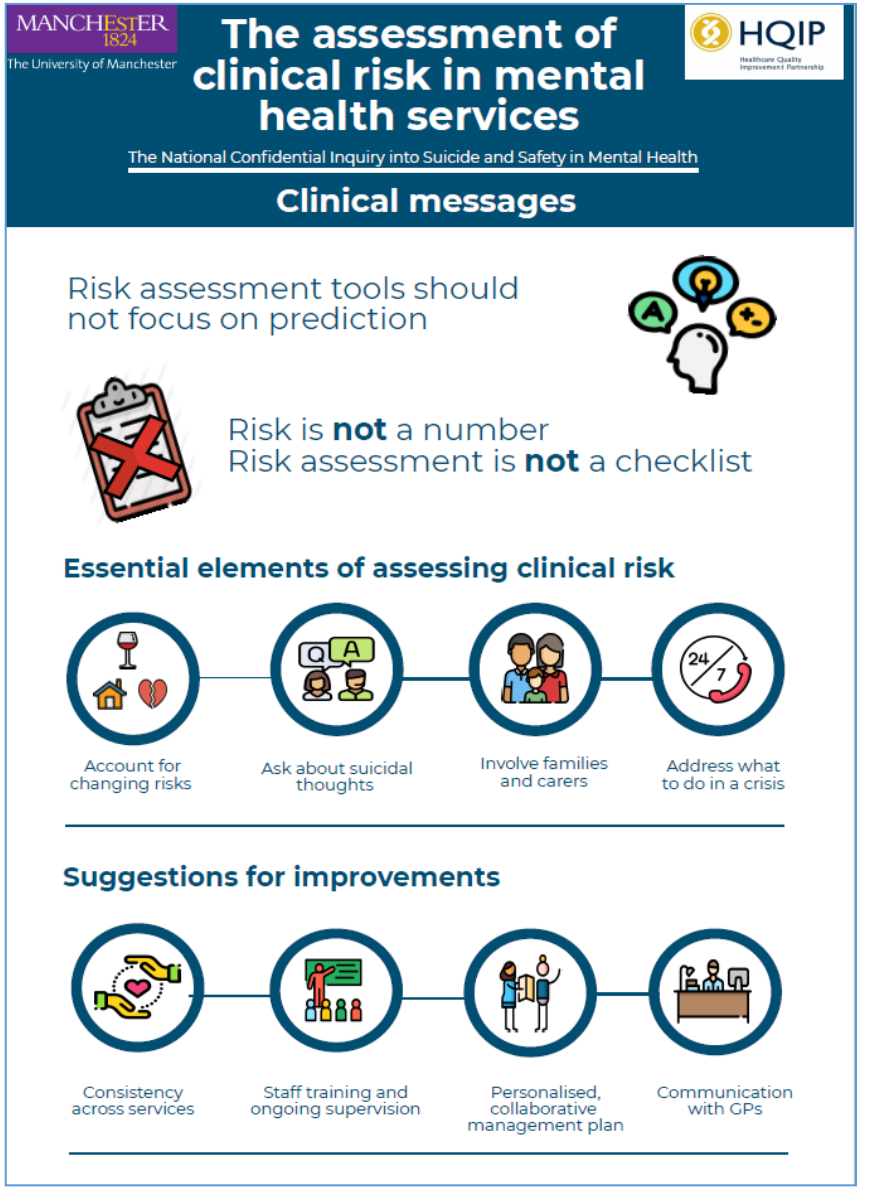

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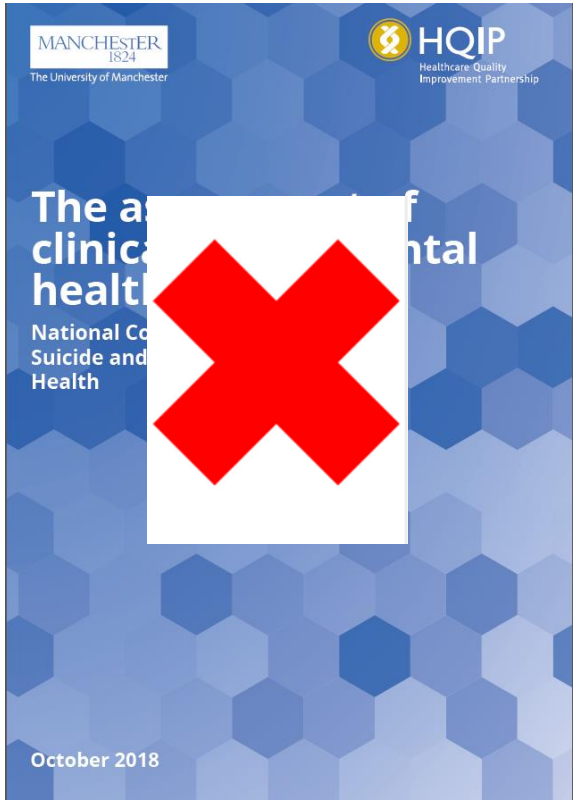

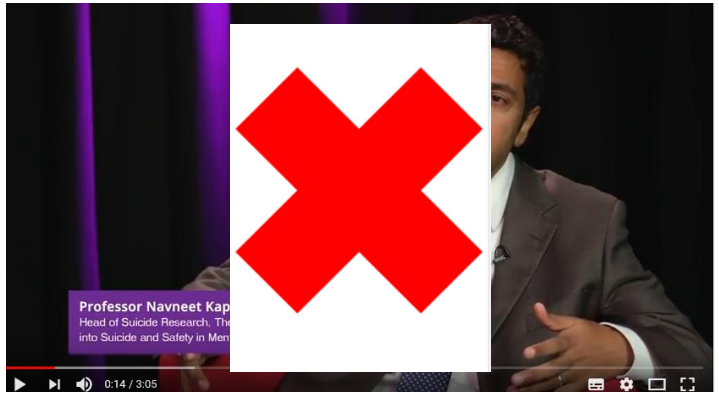

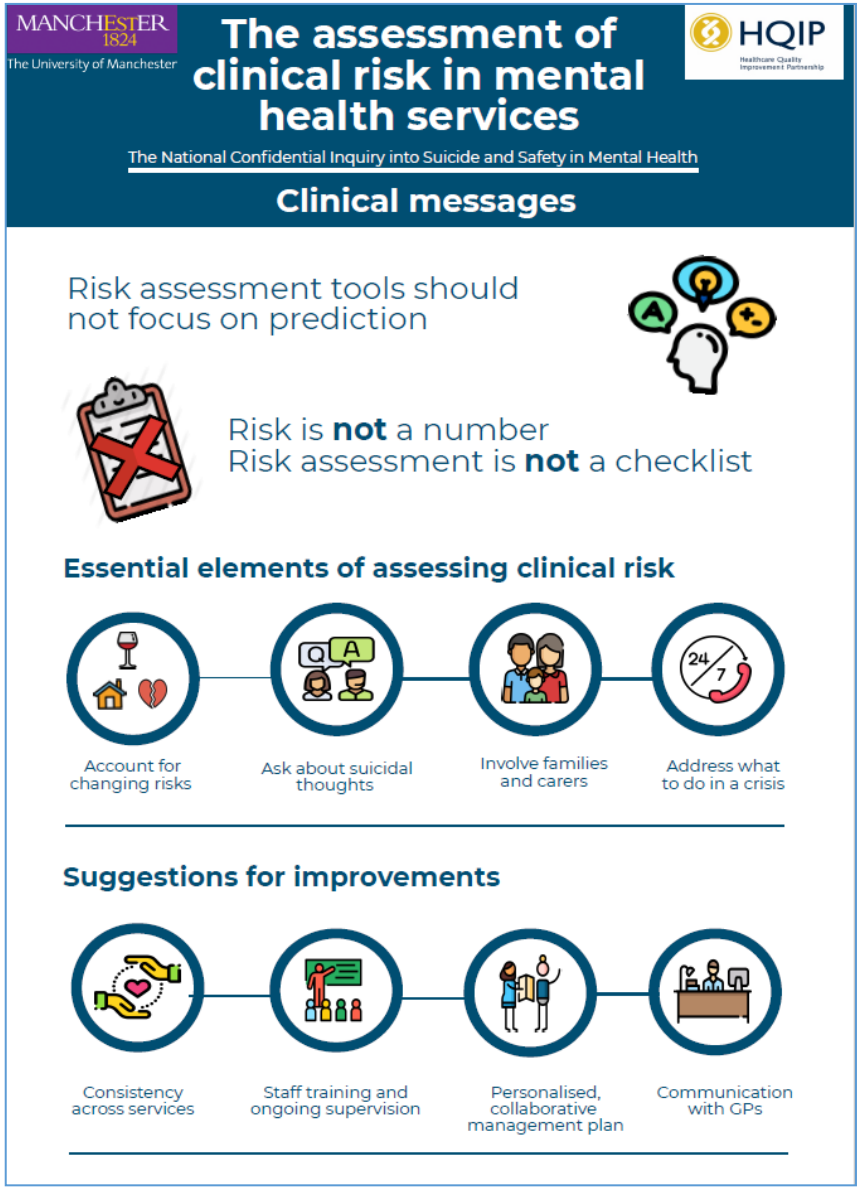

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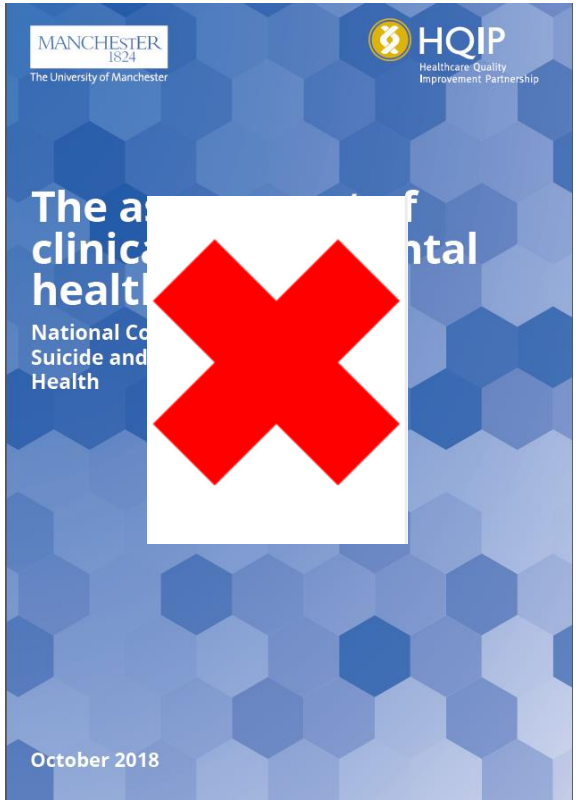
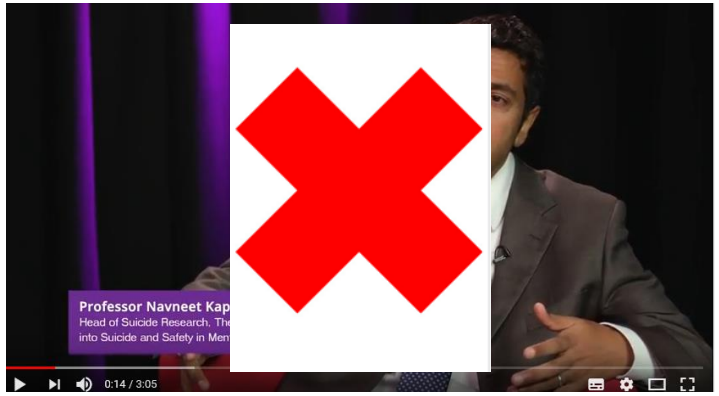
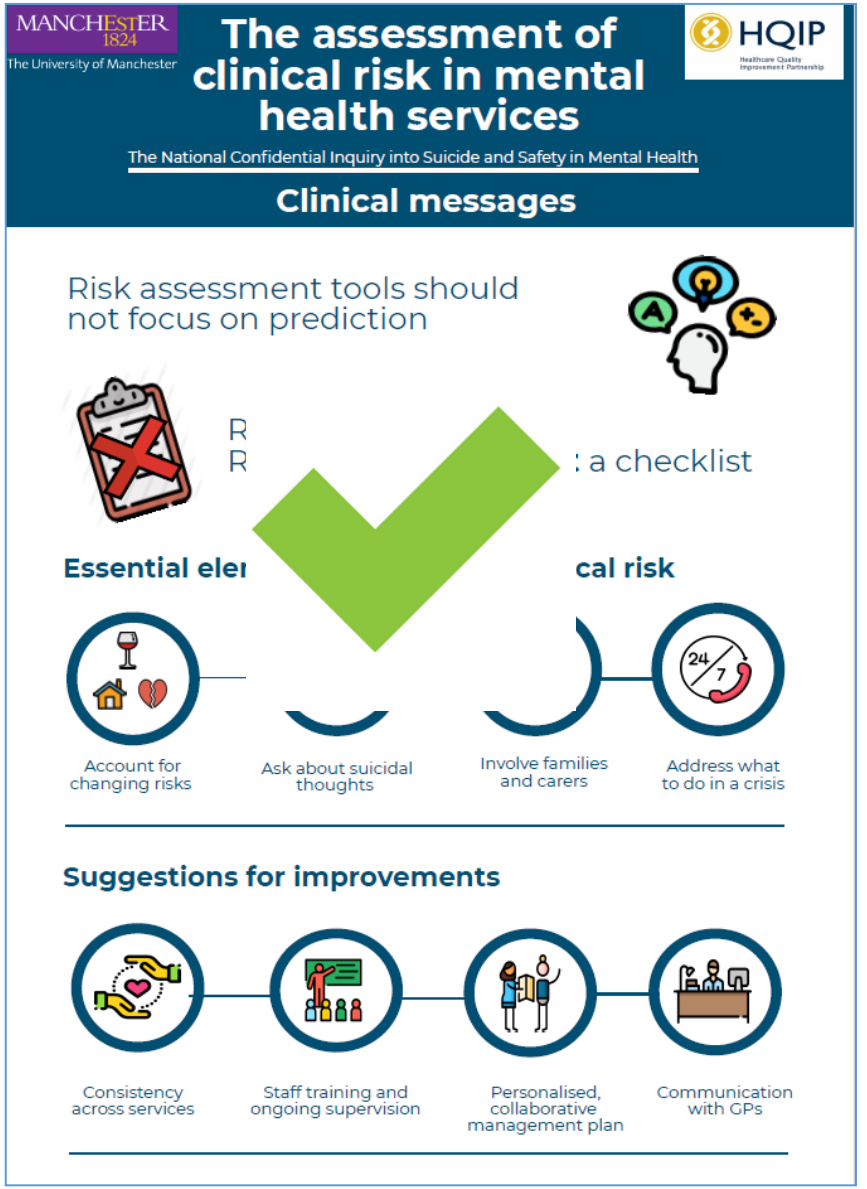
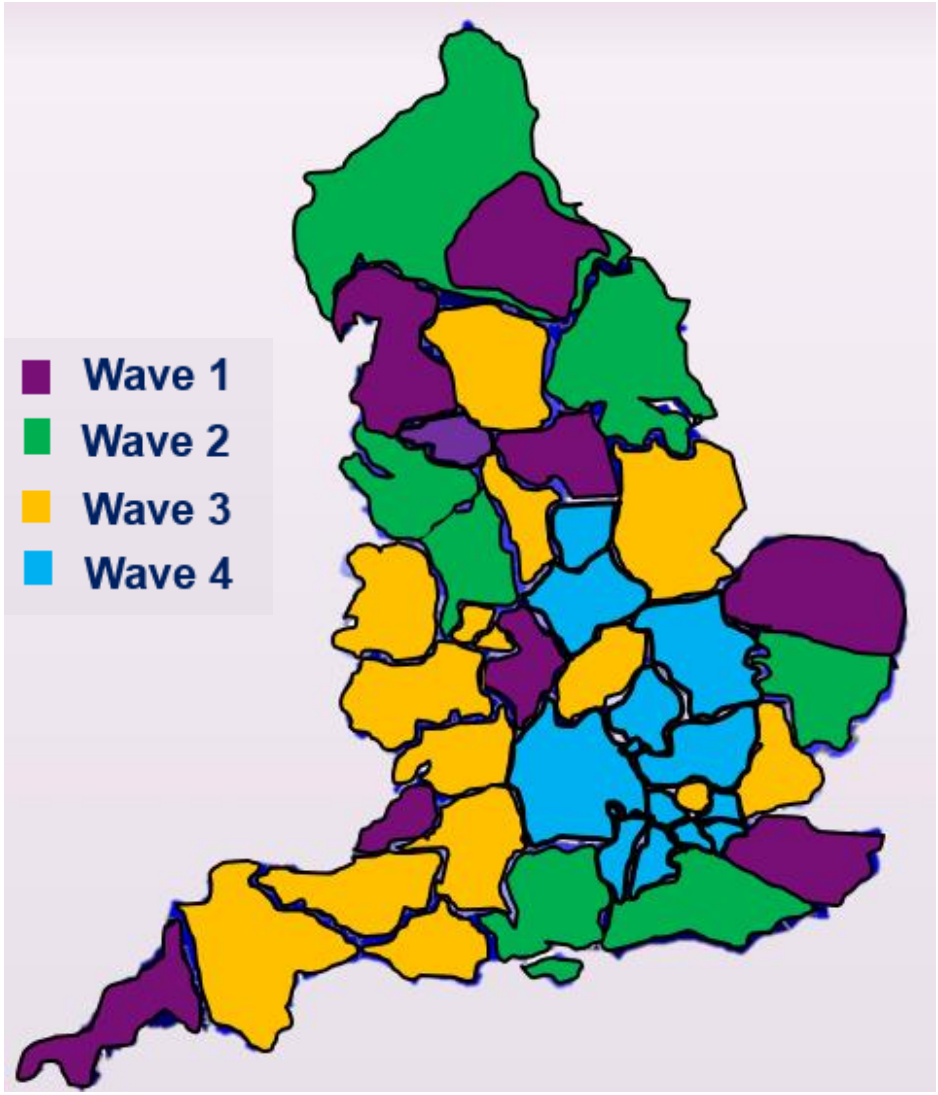


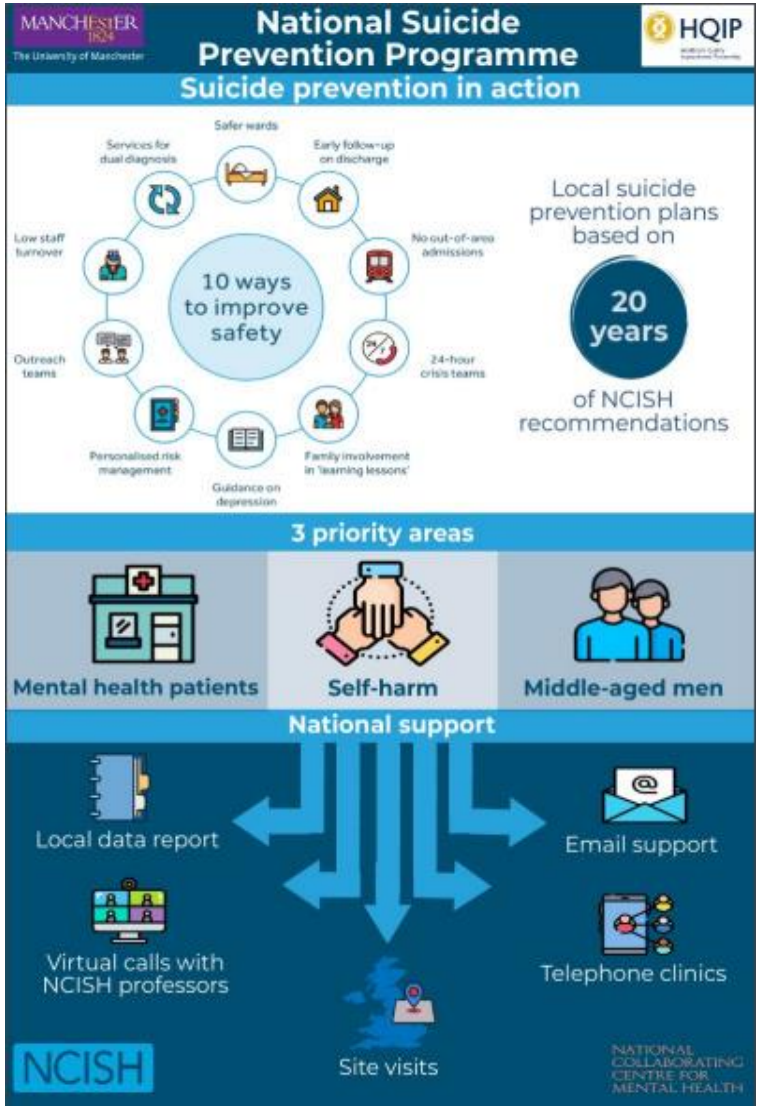




QI for suicide prevention



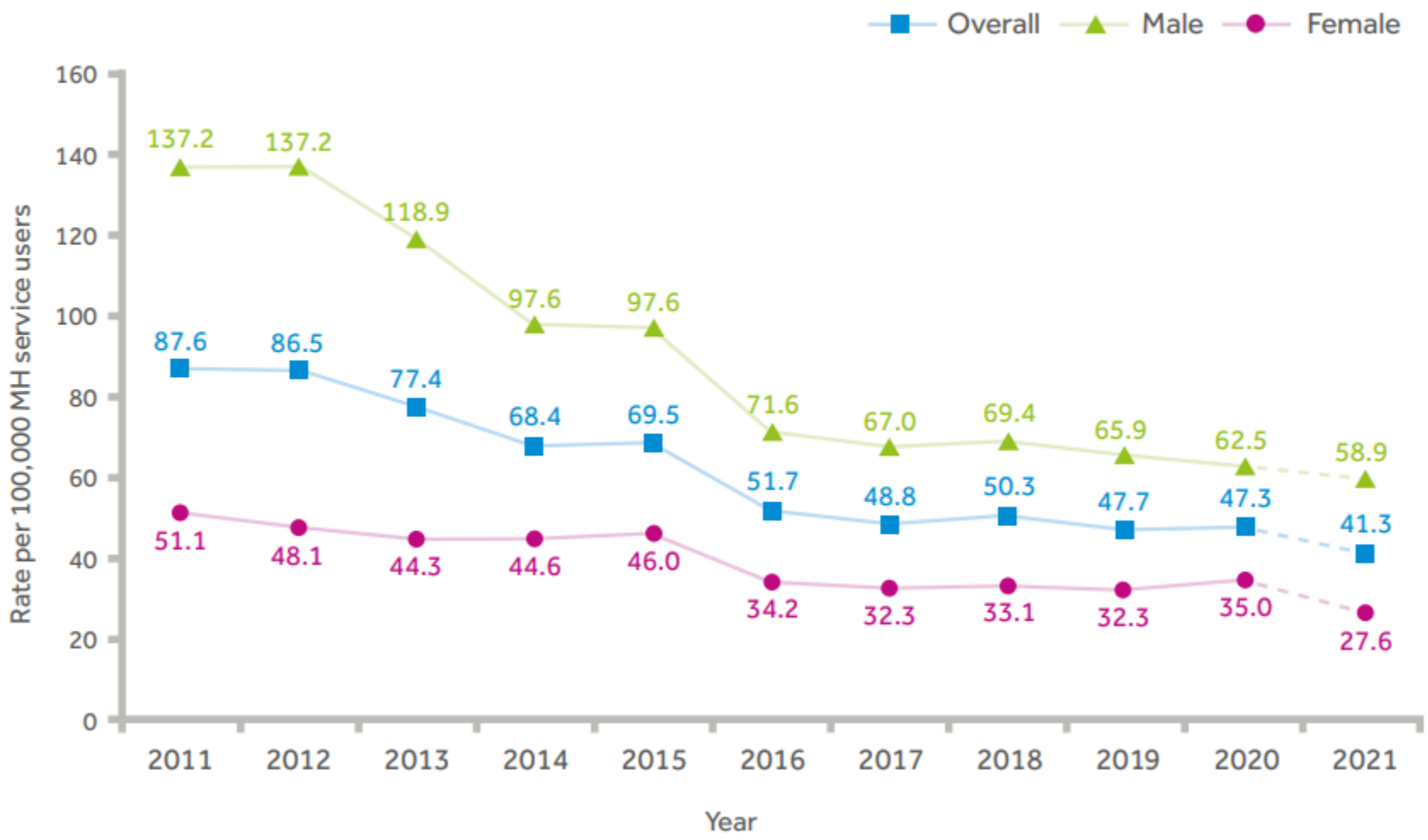
https://www.rcpsych.ac.uk/improving-care/nccmh/national-suicide-prevention-programme



https://sites.manchester.ac.uk/ncish/research-projects/

Patient suicide

Figure 8: Rates of suicide per 100,000 mental health service users† in England



Quality improvement

MindStance

mind for better mental health | Coventry and Warwickshire

cgl change, grow, live

Why did we take action?

Substance misuse is a risk factor for suicide

To join up working between services

Increase understanding of addiction & impact on mental health

Increase coping skills to improve well-being

What did we do?

6 week course

Multi-disciplinary team trained

Education

Peer support

Therapeutic conversation

What has the impact been?

2018/2019

Increase in well-being scores

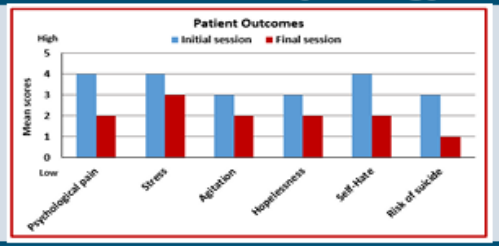
Improved insight

Improved access to support & information

Embed course in existing partnership

Coventry & Warwickshire STP

Psychiatric Liaison Suicide Prevention Psychology Pilot



Why did we take action?

High suicide risk in those who self-harm

Implement NICE guidelines following self-harm

Provide support for individuals presenting to ED

Reduce psychological distress, self-harm & suicide

What did we do?

Psychologist delivered brief intervention in GP practice

Initial contact within 7 days; engage client

Collaborative Assessment & Management of Suicide Framework

6-10 sessions & follow-up

What has the impact been?

Mar 2019-Apr 2020

Reduction in suicidal behaviour

Improved wellbeing

Enhanced joint working (MH, 3rd sector, GPs)

Cornwall and the Isles of Scilly STP

Release the pressure: Targeted intervention to reduce suicide in men

Why did we take action?

High suicide rates in middle-aged men

Address life problems (e.g. divorce, money issues)

Increase awareness of 24/7 support-line

Increase willingness to use helpline

What did we do?

Awareness campaign: TV, radio, pubs, service stations

Mental Health Matters provide:

Helpline with trained counsellors

Webchat

Shout provide:

Crisis text service

What has the impact been?

2018/2020

49,000+ calls answered

1,500+ webchats

45,000+ website visits

Kent and Medway STP

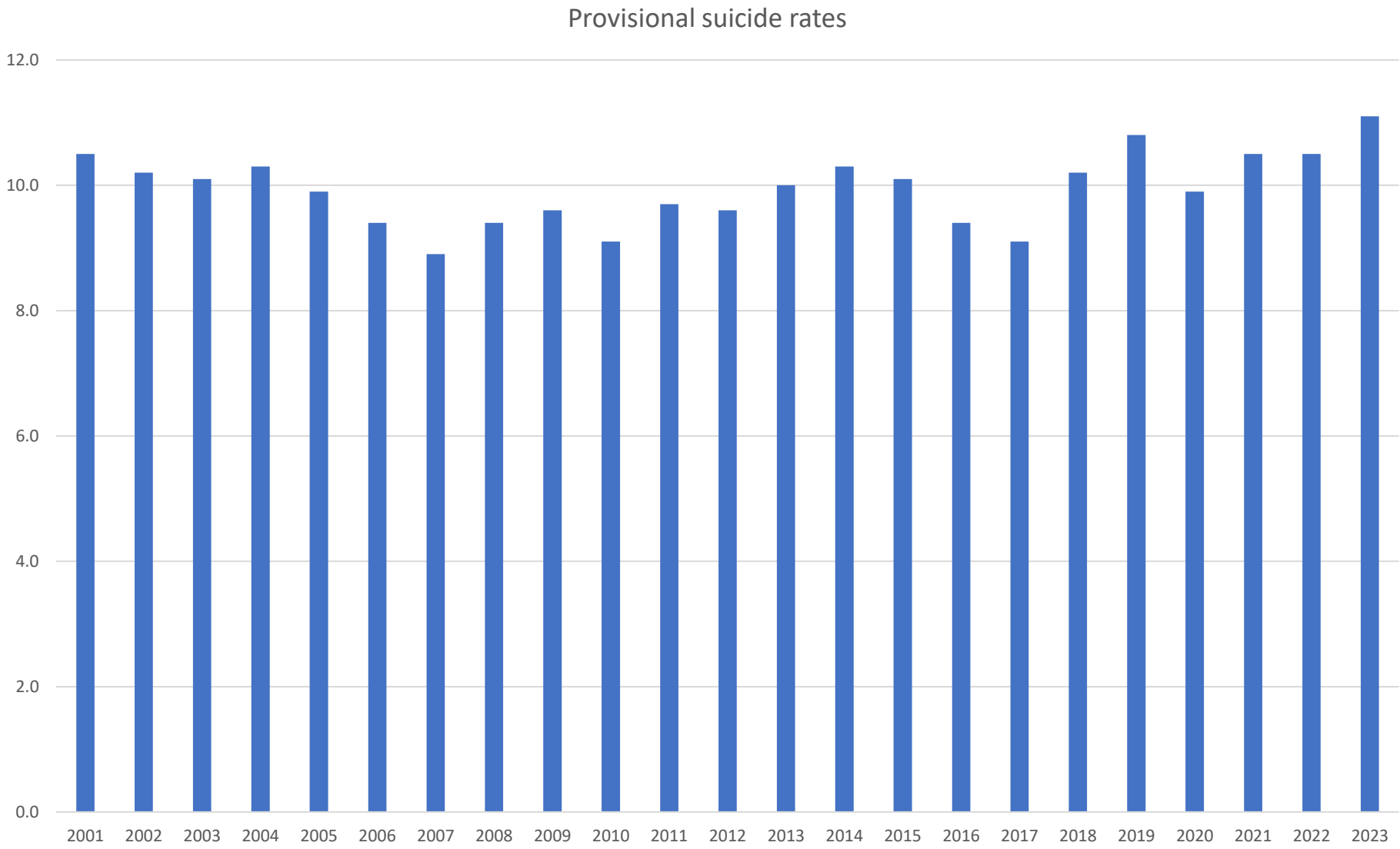
https://sites.manchester.ac.uk/ncish/research-projects/examples-of-good-practice-suicide-prevention-initiatives/

Outline

- Past
- Present
- **Future**

Suicide Prevention Strategy 2023

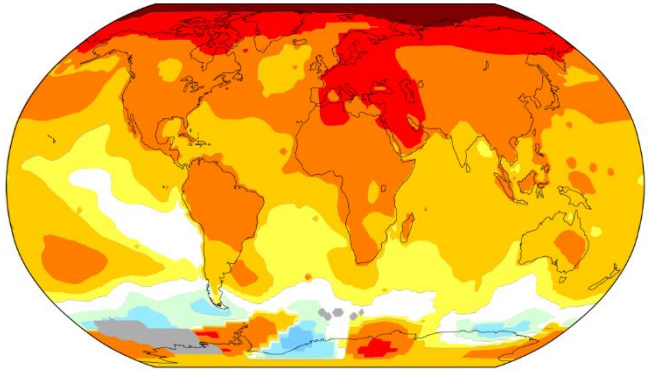
Suicide rates in England and Wales



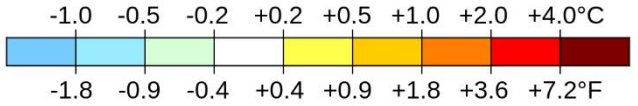
Source: ONS

Challenges

Temperature change over the past 50 years



Trend from 1973 to 2023



Suicide as a global challenge

Seminar

Suicide and self-harm

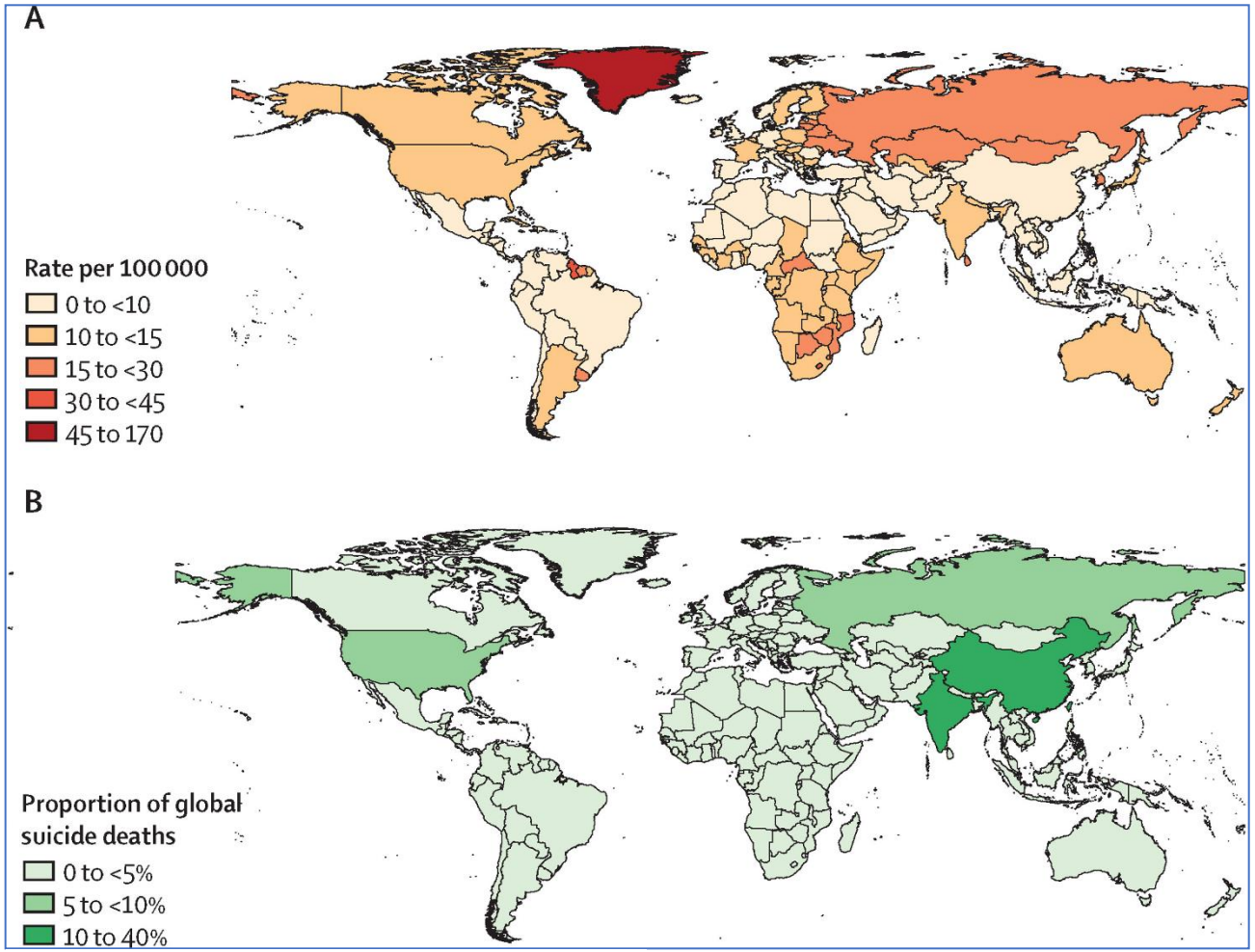
Duleeka Knipe, Prianka Padmanathan, Giles Newton-Howes, Lai Fong Chan, Nav Kapur

Suicide and self-harm are major health and societal issues worldwide, but the greatest burden of both behaviours occurs in low-income and middle-income countries. Although rates of suicide are higher in male than in female individuals, self-harm is more common in female individuals. Rather than having a single cause, suicide and self-harm are the result of a complex interplay of several factors that occur throughout the life course, and vary by gender, age, ethnicity, and geography. Several clinical and public health interventions show promise, although our understanding of their effectiveness has largely originated from high-income countries. Attempting to predict suicide is unlikely to be helpful. Intervention and prevention must include both a clinical and community focus, and every health professional has a crucial part to play.

Lancet 2022; 399: 1903–16
Published Online
May 2, 2022
https://doi.org/10.1016/
S0140-6736(22)00173-8

Population Health Sciences, Bristol Medical School, University of Bristol, Bristol, UK (D Knipe PhD, P Padmanathan MSc); South

eventbrite.co.uk
Preventing suicide and self-harm: a global challenge too far?
Suicide and self-harm are intensely individual experiences but ones which occur in a global context. Is prevention at scale even possible?



THE LANCET
Volume 399, Issue 10338, 14–20 May 2022, Pages 1903-1916

https://www.sciencedirect.com/science/article/pii/S0140673622001738

Better, more timely data

Articles

Suicide trends in the early months of the COVID-19 pandemic: an interrupted time-series analysis of preliminary data from 21 countries

Jane Pirkis, Ann John, Sangsoo Shin, Marcos DelPozo-Banos, Vikas Arya, Pablo Analuisa-Aguilar, Louis Appleby, Ella Arensman, Jason Bantjes, Anna Baran, Jose M Bertolote, Guilherme Borges, Petrana Brečić, Eric Caine, Giulio Castelpietra, Shu-Sen Chang, David Colchester, David Crompton, Marko Curkovic, Eberhard A Deisenhammer, Chengan Du, Jeremy Dwyer, Annette Erlangsen, Jeremy S Faust, Sarah Fortune, Andrew Garrett, Devin George, Rebekka Gerstner, Renske Gilissen, Madelyn Gould, Keith Hawton, Joseph Kanter, Navneet Kapur, Murad Khan, Olivia J Kirtley, Duleeka Knipe, Kairi Kolves, Stuart Leske, Kedar Marahatta, Ellenor Mittendorfer-Rutz, Nikolay Neznanov, Thomas Niederkrotenthaler, Emma Nielsen, Merete Nordentoft, Herwig Oberlerchner, Rory C O'Connor, Melissa Pearson, Michael R Phillips, Steve Platt, Paul L Plener, Georg Psota, Ping Qin, Daniel Radeloff, Christa Rados, Andreas Reif, Christine Reif-Leonhard, Vsevolod Rozanov, Christiane Schlang, Barbara Schneider, Natalia Semenova, Mark Sinyor, Ellen Townsend, Michiko Ueda, Lakshmi Vijayakumar, Roger T Webb, Manjula Weerasinghe, Gil Zalsman, David Gunnell, Matthew J Spittal**

Summary

Background The COVID-19 pandemic is having profound mental health consequences for many people. Concerns have been expressed that, at their most extreme, these consequences could manifest as increased suicide rates. We aimed to assess the early effect of the COVID-19 pandemic on suicide rates around the world.

Methods We sourced real-time suicide data from countries or areas within countries through a systematic internet search and recourse to our networks and the published literature. Between Sept 1 and Nov 1, 2020, we searched the official websites of these countries' ministries of health, police agencies, and government-run statistics agencies or equivalents, using the translated search terms "suicide" and "cause of death", before broadening the search in an attempt to identify data through other public sources. Data were included from a given country or area if they came from an official government source and were available at a monthly level from at least Jan 1, 2019, to July 31, 2020. Our internet searches were restricted to countries with more than 3 million residents for pragmatic reasons, but we relaxed this rule for countries identified through the literature and our networks. Areas within countries could also be included with populations of less than 3 million. We used an interrupted time-series analysis to model the trend in monthly suicides before COVID-19 (from at least Jan 1, 2019, to March 31, 2020) in each country or area within a country, comparing the expected number of suicides derived from the model with the observed number of suicides in the early months of the pandemic (from April 1 to July 31, 2020, in the primary analysis).

Findings We sourced data from 21 countries (16 high-income and five upper-middle-income countries), including whole-country data in ten countries and data for various areas in 11 countries). Rate ratios (RRs) and 95% CIs based on the observed versus expected numbers of suicides showed no evidence of a significant increase in risk of suicide since the pandemic began in any country or area. There was statistical evidence of a decrease in suicide compared with the expected number in 12 countries or areas: New South Wales, Australia (RR 0·81 [95% CI 0·72–0·91]); Alberta, Canada (0·80 [0·68–0·93]); British Columbia, Canada (0·76 [0·66–0·87]); Chile (0·85 [0·78–0·94]); Leipzig, Germany (0·49 [0·32–0·74]); Japan (0·94 [0·91–0·96]); New Zealand (0·79 [0·68–0·91]); South Korea (0·94 [0·92–0·97]); California, USA (0·90 [0·85–0·95]); Illinois (Cook County), USA (0·79 [0·67–0·93]); Texas (four counties), USA (0·82 [0·68–0·98]); and Ecuador (0·74 [0·67–0·82]).

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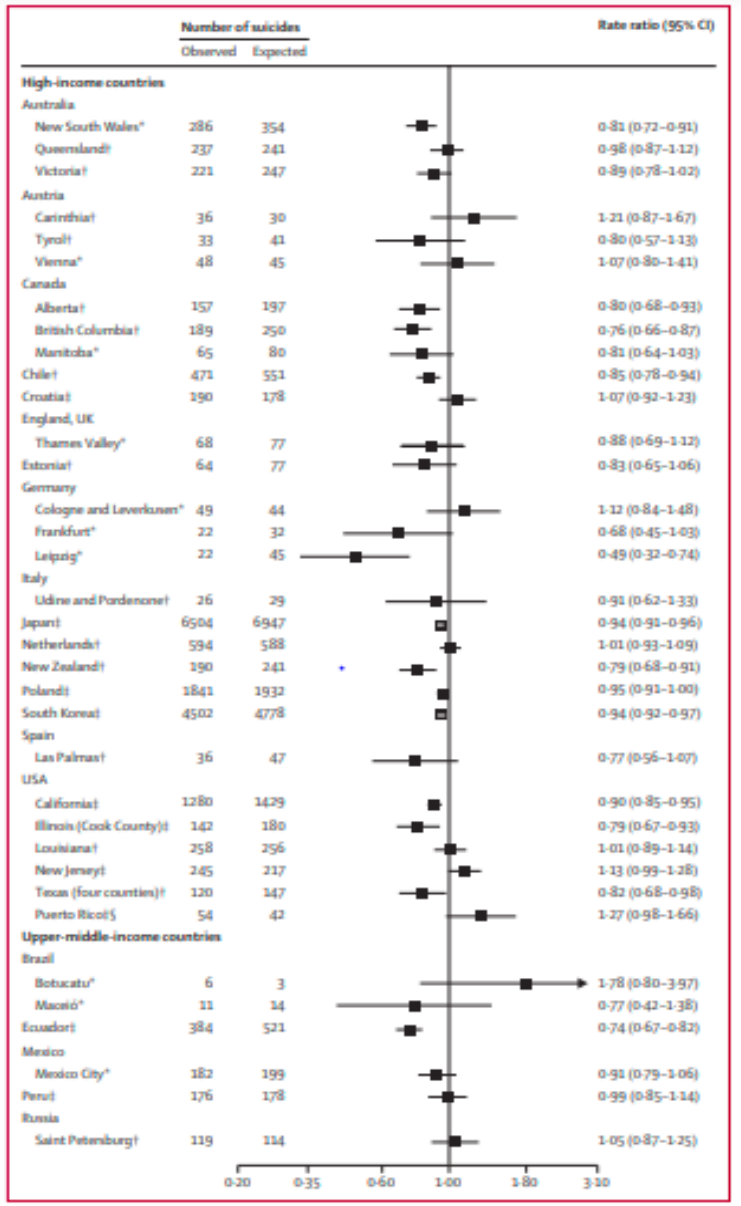
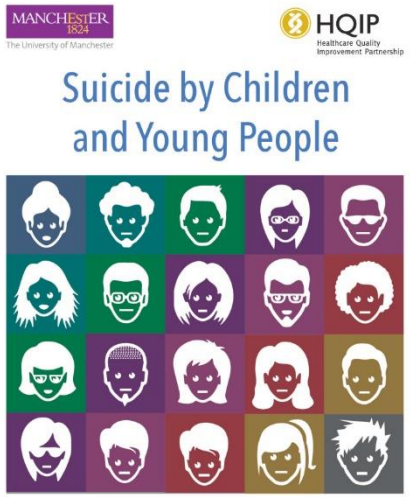
*Joint last authors

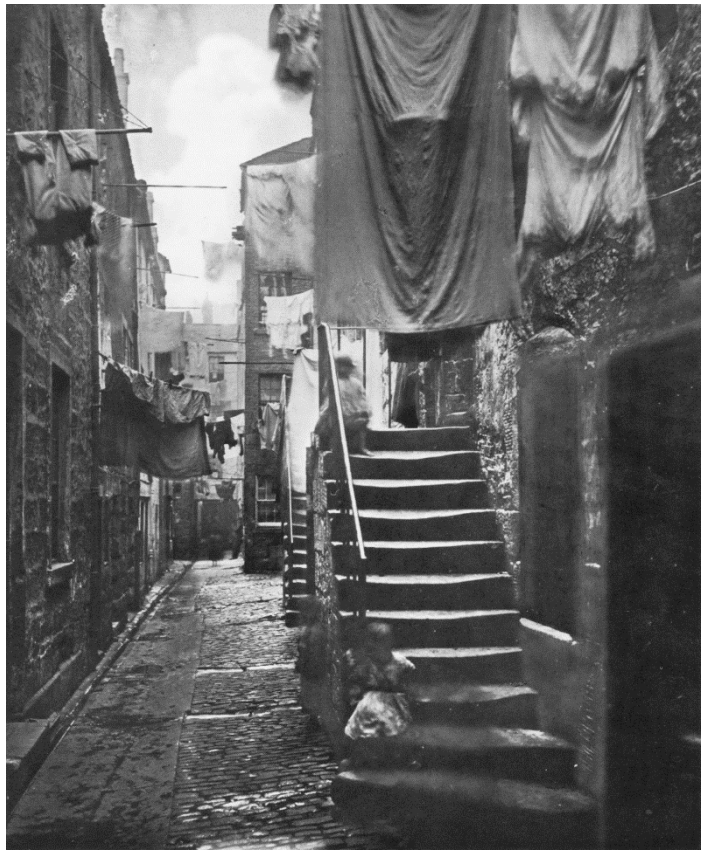
Centre for Mental Health, Melbourne School of Population and Global Health, University of Melbourne, Melbourne, VIC, Australia (Prof J Pirkis PhD, S Shin MPH, V Arya MRes, J Dwyer PhD, M J Spittal PhD); **Swansea University Medical School, Swansea, UK** (Prof A John MD, M DelPozo-Banos PhD); **Translational Health Research Institute, Western Sydney University, Campbelltown, NSW, Australia** (V Arya); **Ministry of Public Health, Department of Health Promotion, Quito, Ecuador** (P Analuisa-Aguilar MPH); **National Confidential Inquiry into Suicide and Safety in Mental Health** (Prof L Appleby FRCPsych) **and**



Source: DOI:https://doi.org/10.1016/S2215-0366(21)00091-2

Vulnerable groups





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Different settings

HQIP
Healthcare Quality Improvement Partnership

Mutual Support for Mental Health-Research (MS4MH-R)

Patient and public involvement and engagement in self-harm and suicide prevention.

SAMARITANS

SAMH
for Scotland's mental health

Prediction as a fallacy and using AI properly

Review

Translating promise into practice: a review of machine learning in suicide research and prevention

Olivia J Kirtley, Kasper van Mens, Mark Hoogendoorn, Navneet Kapur, Derek de Beurs

In ever more pressured health-care systems, technological solutions offering scalability of care and better resource targeting are appealing. Research on machine learning as a technique for identifying individuals at risk of suicidal ideation, suicide attempts, and death has grown rapidly. This research often places great emphasis on the promise of machine learning for preventing suicide, but overlooks the practical, clinical implementation issues that might preclude delivering on such a promise. In this Review, we synthesise the broad empirical and review literature on electronic health record-based machine learning in suicide research, and focus on matters of crucial importance for implementation of machine learning in clinical practice. The challenge of preventing statistically rare outcomes is well known; progress requires tackling data quality, transparency, and ethical issues. In the future, machine learning models might be explored as methods to enable targeting of interventions to specific individuals depending upon their level of need—ie, for precision medicine. Primarily, however, the promise of machine learning for suicide prevention is limited by the scarcity of high-quality scalable interventions available to individuals identified by machine learning as being at risk of suicide.

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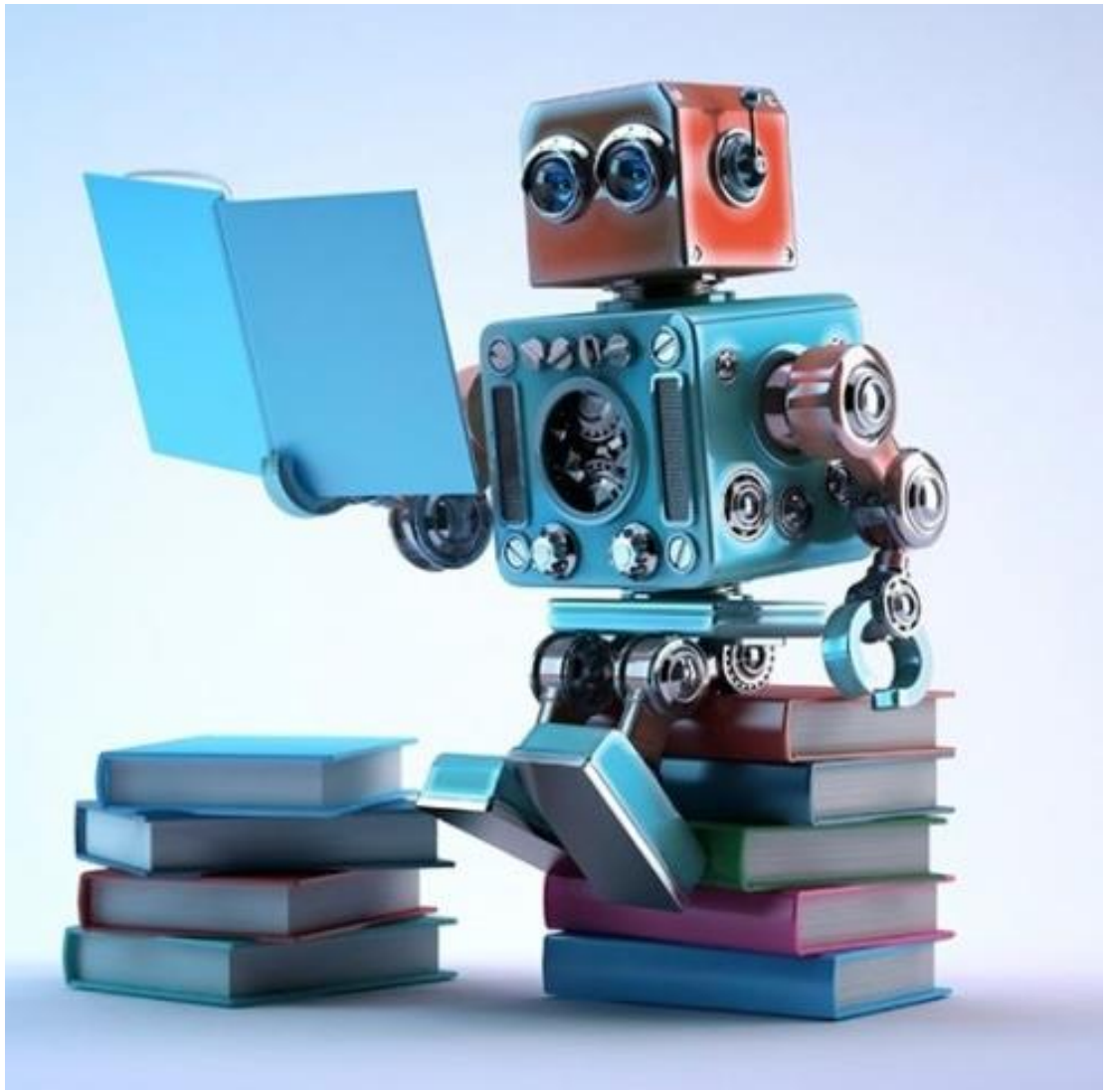
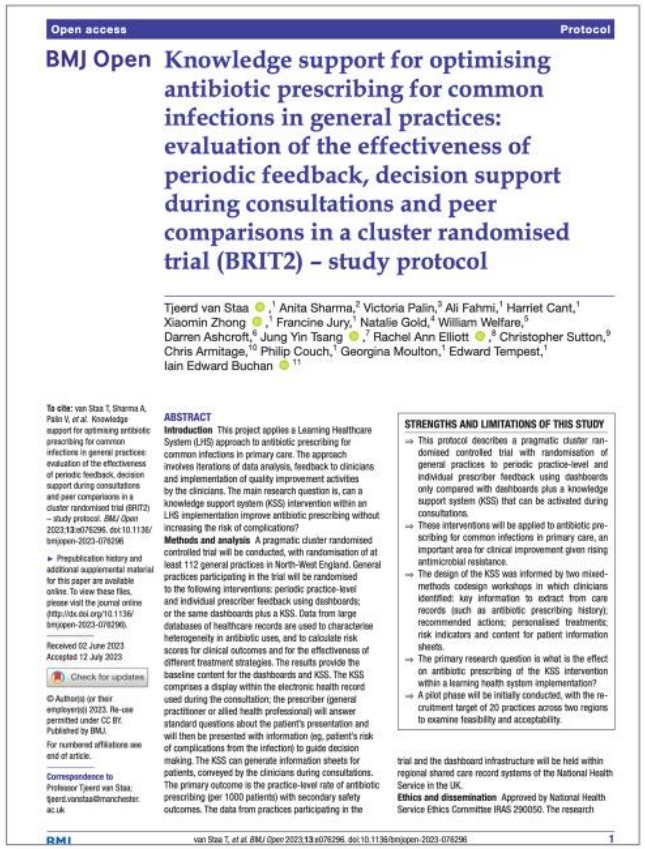
Center for Contextual Psychiatry, KU Leuven, Leuven, Belgium (O J Kirtley PhD); Altrecht Mental Health Care, Utrecht, Netherlands (K van Mens MSc); Department of Computer Science, Vrij Universiteit Amsterdam, Amsterdam, Netherlands (Prof M Hoogendoorn PhD); Centre for Mental Health and Safety and Greater Manchester National Institute for Health Research Patient Safety

https://www.thelancet.com/pdfs/journals/lanpsy/PIIS2215-0366(21)00254-6.pdf



Knowledge Support Systems for Primary Care



Open access Protocol

BMJ Open

Knowledge support for optimising antibiotic prescribing for common infections in general practices: evaluation of the effectiveness of periodic feedback, decision support during consultations and peer comparisons in a cluster randomised trial (BRIT2) – study protocol

Tjeerd van Staa ,[1] Anita Sharma,[2] Victoria Palin,[3] Ali Fahmi,[1] Harriet Cant,[1] Xiaomin Zhong ,[1] Francine Jury,[1] Natalie Gold,[4] William Welfare,[5] Darren Ashcroft,[6] Jung Yin Tsang ,[7] Rachel Ann Elliott ,[8] Christopher Sutton,[9] Chris Armitage,[10] Philip Couch,[1] Georgina Moulton,[1] Edward Tempest,[1] Iain Edward Buchan [11]

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For numbered affiliations see end of article.

Correspondence to
Professor Tjeerd van Staa; tjeerd.vanstaa@manchester.ac.uk

ABSTRACT

Introduction This project applies a Learning Healthcare System (LHS) approach to antibiotic prescribing for common infections in primary care. The approach involves iterations of data analysis, feedback to clinicians and implementation of quality improvement activities by the clinicians. The main research question is, can a knowledge support system (KSS) intervention within an LHS implementation improve antibiotic prescribing without increasing the risk of complications?

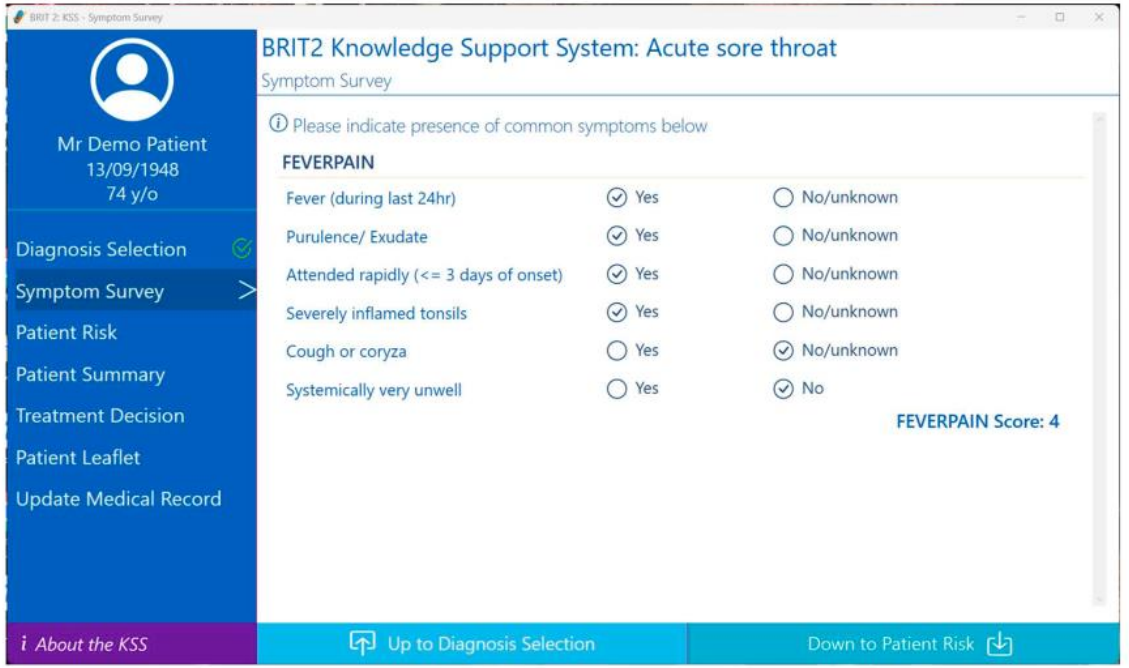
Methods and analysis A pragmatic cluster randomised controlled trial will be conducted, with randomisation of at least 112 general practices in North-West England. General practices participating in the trial will be randomised to the following interventions: periodic practice-level and individual prescriber feedback using dashboards; or the same dashboards plus a KSS. Data from large databases of healthcare records are used to characterise heterogeneity in antibiotic uses, and to calculate risk scores for clinical outcomes and for the effectiveness of different treatment strategies. The results provide the baseline content for the dashboards and KSS. The KSS comprises a display within the electronic health record used during the consultation; the prescriber (general practitioner or allied health professional) will answer standard questions about the patient's presentation and will then be presented with information (eg, patient's risk of complications from the infection) to guide decision making. The KSS can generate information sheets for patients, conveyed by the clinicians during consultations. The primary outcome is the practice-level rate of antibiotic prescribing (per 1000 patients) with secondary safety outcomes. The data from practices participating in the trial and the dashboard infrastructure will be held within regional shared care record systems of the National Health Service in the UK.

Ethics and dissemination Approved by National Health Service Ethics Committee IRAS 290050. The research

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ This protocol describes a pragmatic cluster randomised controlled trial with randomisation of general practices to periodic practice-level and individual prescriber feedback using dashboards only compared with dashboards plus a knowledge support system (KSS) that can be activated during consultations.
- ⇒ These interventions will be applied to antibiotic prescribing for common infections in primary care, an important area for clinical improvement given rising antimicrobial resistance.
- ⇒ The design of the KSS was informed by two mixed-methods codesign workshops in which clinicians identified: key information to extract from care records (such as antibiotic prescribing history); recommended actions; personalised treatments; risk indicators and content for patient information sheets.
- ⇒ The primary research question is what is the effect on antibiotic prescribing of the KSS intervention within a learning health system implementation?
- ⇒ A pilot phase will be initially conducted, with the recruitment target of 20 practices across two regions to examine feasibility and acceptability.

Appendix 2: Examples of KSS screens and personalised patient leaflet



Sources: Van Staa T et al. Knowledge support for optimising antibiotic prescribing for common infections in general practices: evaluation of the effectiveness of periodic feedback, decision support during consultations and peer comparisons in a cluster randomised trial (BRIT2)–study protocol. BMJ open. 2023 Aug 1;13(8):e076296.

Economic turmoil and suicide

https://doi.org/10.1038/s44220-023-00042-y

The coming global economic downturn and suicide: a call to action

Check for updates

Following the onset of the COVID-19 pandemic, there was no evidence of a worldwide increase in suicides[1], although data from low- and middle-income countries (LMICs) remain scarce[2]. This encouraging finding may be in part a result of enhanced labor market programs and income protection policies implemented in many countries, along with wider social and health care support. However, current economic forecasts present a new challenge. Extensive evidence, including studies of the 1930s Great Depression, 1997 Asian economic crisis and 2008 global financial crisis, shows that severe economic downturns and subsequent unemployment are often accompanied by increases in suicide rates, particularly in working-age males[3].

Today, there is general consensus that the world is entering a period of poor economic growth and that there is a substantial risk of a global recession. Stagflation and a potential recession will have wide-ranging and long-term impacts. Suicide risk may increase in groups shown to be at increased risk in previous downturns (i.e., working-age males), groups already experiencing negative mental

https://www.nature.com/articles/s44220-023-00042-y

Outline

- Past
- Present
- Future

Summary

- Suicide prevention is a core component of health care
- Good data are vital and can really help drive prevention
- High quality assessment and aftercare in mental health services are essential. System-wide approaches are key. Risk screening tools are not.
- Lived experience involvement, guidelines, dissemination, and real world Quality Improvement initiatives lead to better implementation
- Multiple challenges but even more opportunities - a global approach, better data, helping vulnerable individuals, a focus on multiple settings, technology, and of course the economy.

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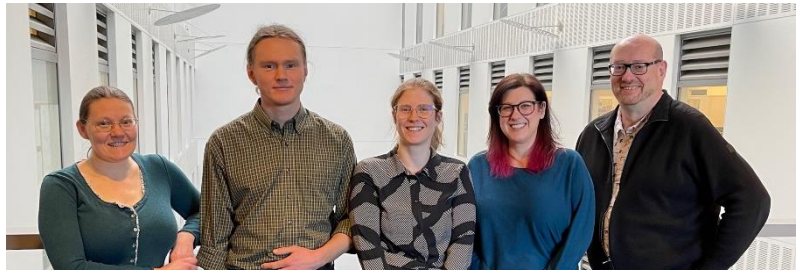

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