Suicide prevention: optimising medicines and reducing access to medicines as a means of suicide

Key therapeutic topic
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Key points

- The NHS Five year forward view for mental health set targets to reduce the number of suicides by 10% by the year April 2020 to March 2021.

- Self-poisoning is the second most common means of suicide, and opiates and opioids (including opioid-containing compounds, as well as prescribed and illicit drugs) are still the main type of drug taken in fatal overdoses in the UK.

- In a large UK observational study in people aged 65 years and over, the risk of suicide was markedly increased in people who had a previous self-harm episode compared with those who did not. Self-poisoning through ingestion of drugs was the most common means of self-harm.

- Evidence suggests that we can prevent suicide by optimising medicines, and multi-agency suicide prevention plans should be developed.

- Reducing access to means of suicide may include:
  - restricting availability of medicines for purchase, prescription and in the home
  - reducing stockpiling
  - carrying out medication reviews in line with the NICE guideline on medicines optimisation.

Options for local implementation:

- When making decisions about prescribing controlled drugs, the risks of prescribing, including dependency, overdose and diversion should be taken into account. Enough of a controlled drug to meet the person's clinical needs for no more than 30 days should be prescribed.

- Ensure local compliance with national guidance to reduce access to methods of suicide. For example, in the community restrict access to painkillers.

- If a person with a common mental health disorder, in particular depression, is assessed to be at risk of suicide, take into account toxicity in overdose when choosing a medicine as well as potential interactions with other prescribed medicines. If necessary, limit the amount of medicine(s) available.

- Monitor people who are prescribed antidepressants for an increased risk of suicide.

- Educate and support health professionals to ensure that people with mental health conditions are treated adequately, in line with national guidance.

Evidence context

The NICE guideline on preventing suicide in community and custodial settings highlights that approximately 6,000 people take their own life each year in the general population in the UK. This accounts for 15.5 deaths per 100,000 UK population in males and 4.9 deaths per 100,000 females (Office for National Statistics [ONS], 2017). Suicide is still the biggest killer of men aged 49 years and younger and is the main cause of death in young people aged 15 to 24 years (House of Commons Health Committee, 2017). The risk of suicide in the UK prison population is considerably higher than among the general population (NICE guideline on preventing suicide in community and custodial settings).

People who have mental health problems are at particular risk of suicide. In 2016, there were 1,612 suicides among people in the UK who had been in contact with specialist mental health services in the previous 12 months (National Confidential Inquiry into Suicide and Safety in Mental Health, 2018). Suicide is also the leading cause of death directly related to pregnancy in the year after birth (House of Commons Health Committee, 2017).

To find out what NICE has said on topics related to the guideline on preventing suicide in community and custodial settings, see the NICE web pages on depression, self-harm, alcohol-use.
disorders, drug misuse and prisons and other secure settings. Appendix 2 of Local suicide prevention planning: a practice resource also provides a comprehensive list of NICE guidelines that are relevant to suicide. The NICE Pathway on suicide prevention brings together everything NICE has said on suicide prevention in an interactive flowchart. See also the NICE key therapeutic topic on medicines optimisation in long-term pain.

**National targets**

Many suicides are thought to be preventable. In 2016, the NHS Five year forward view for mental health set targets to reduce the number of suicides by 10% by the year April 2020 to March 2021 and for every local area to have a multi-agency suicide prevention plan in place by the end of 2017. Also in 2016, Public Health England’s (PHE) Local suicide prevention planning: a practice resource discussed various priorities for suicide prevention action plans. One of these priorities was to ensure that depression in primary care is treated, along with safe prescribing of analgesics and antidepressants. In January 2017, the government’s Preventing suicide in England: third progress report of the cross-government outcomes strategy to save lives (updated in 2019) built on the 2012 Suicide prevention strategy for England by outlining 7 key areas for action:

- reducing the risk of suicide in high risk groups
- tailoring approaches to improve mental health in specific groups
- reducing access to means of suicide
- providing better information and support to those bereaved or affected by suicide
- supporting the media in delivering sensitive approaches to suicide and suicidal behaviour
- supporting research, data collection and monitoring
- reducing rates of self-harm as a key indicator of suicide risk.

**Medicines involved in suicide**

Self-poisoning is the second most common means of suicide, accounting for 18.2% of all suicides among males and 38.3% of all suicides among females (ONS, 2017). Self-poisoning was also the second most common method of suicide in people in the UK who had been in contact with mental health services in the previous year (National Confidential Inquiry into Suicide and Safety in Mental Health, 2018).

Opiates and opioids (including prescribed and illicit drugs) are still the main type of drug taken in
fatal overdoses in the UK. Between 2006 and 2016, for suicide by self-poisoning in people in England who had been in contact with mental health services in the previous year, 33% used opiates or opioids, 11% antipsychotic drugs, 9% tricyclic antidepressants, 9% selective serotonin re-uptake inhibitors (SSRIs) or serotonin and noradrenaline re-uptake inhibitors (SNRIs) and 7% paracetamol and opiate combinations. Non-opiate analgesics were reported to be used in 7% of deaths by self-poisoning; most of these involved paracetamol (6% of deaths).

Between 2012 and 2016, the National Confidential Inquiry into Suicide and Safety in Mental Health collected data on the types of opiates or opioids that were involved in death by self-poisoning in people in England who had been in contact with mental health services in the previous 12 months. The most common was heroin or morphine (40%, 113 people), followed by codeine (19%, 53 people), tramadol (17%, 48 people) and methadone (11%, 31 people). In 61% of deaths from self-poisoning with heroin or morphine (where the source of the drug was known), the drug was not prescribed for the person. For other opiates (where the source of the drug was known), the drug was not prescribed for the person in 27% of cases for methadone, 29% for codeine, 12% for tramadol and 32% for paracetamol/opiate compounds.

NICE’s medicines evidence commentary on substances involved in poisoning among young people discusses a large cohort study that examined the substances involved in self-poisoning episodes among 1.7 million young people aged 10 to 24 years in England between 1998 and 2014. Out of 40,333 self-poisoning episodes identified, the most common substances involved were paracetamol (39.8%), alcohol (32.7%), non-steroidal anti-inflammatory drugs (NSAIDs; 11.6%), antidepressants (10.2%), and opioids (7.6%). During this period, opioid poisonings increased 5-fold, antidepressant poisonings increased 3- to 4-fold, aspirin or NSAID poisonings increased 3-fold and paracetamol poisonings increased 3-fold in females. Rates of self-poisoning were highest at ages 16 to 18 years for young women and 19 to 24 years for young men. It should be noted that these data relate to self-poisoning, not necessarily death due to self-poisoning and some young people had repeated incidents of self-poisoning. Also, this study may have underestimated the self-poisoning from each drug class because only 57.8% of events specified the substances involved.

There is evidence for a small but significant increase in the presence of suicidal thoughts in the early stages of antidepressant treatment. However, this needs to be balanced against evidence suggesting that the risk of clinically important suicidal behaviour is highest in the month before starting antidepressants. It is not clear to what extent suicidal thoughts or behaviour can be attributable to taking an antidepressant as opposed to the timing of when help was sought. A meta-analysis of observational studies in 2009 found that compared with depressed people who did not take antidepressants, adolescents receiving SSRIs had a significantly higher risk of suicide attempts and completed suicide. In contrast adults, especially older adults, had a significantly lower risk of
suicide attempts and completed suicide. The use of antidepressants in the treatment of depression is also not without risk, not least because of their toxicity in overdose (see NICE's full guideline on depression in adults for more details).

In 2016, the ONS found that, out of 3,744 self-poisoning deaths in 2016 in England and Wales, benzodiazepines were mentioned on the death certificate in 406 (11%) cases. Although, less frequent, pregabalin and gabapentin were mentioned on the death certificate in 3% and 2% of people (ONS, 2017).

Reducing means to suicide

The NICE guideline on preventing suicide in community and custodial settings should be read in conjunction with PHE's Local suicide prevention planning: a practice resource. NICE and PHE recommend approaches to reduce the risk of suicide and help people bereaved or affected by suicides. A key priority is to reduce access to the means of suicide. NICE recommends using local data including audit, ONS and NHS data as well as rapid intelligence gathering to:

- identify emerging trends in suicide methods and locations
- understand local characteristics that may influence the methods used
- determine when to take action to reduce access to the means of suicide.

NICE recommends reducing access to methods of suicide by ensuring local compliance with national guidance, including restricting access to painkillers in the community.

Minimising the risk of harm from opioids, other analgesics and mental health medicines is important when trying to prevent suicides in custodial settings. The NHS England document Health and Justice mental health services: Safer use of mental health medicines provides a background to prescribing and mental health medicines in secure environments to support safer practice. A national pain-management formulary for use in prisons supports clinicians in managing acute or persistent pain and neuropathic pain, taking account of the specific challenges of prescribing pain medicines in prisons. An implementation guide is also available.

Among the medicines listed in NHS England’s Items which should not be routinely prescribed in primary care: guidance for CCGs, co-proxamol (paracetamol and dextropropoxyphene combination) and dosulepin are particularly relevant to risk from self-poisoning. Co-proxamol was withdrawn from the UK market in 2007, because of safety concerns. In 2011 the Medicines and Healthcare products Regulatory Agency (MHRA) reported that the withdrawal of co-proxamol
from the UK had saved an estimated 300 to 400 lives each year from self-poisoning, around a fifth of which were accidental.

The MHRA advises that restricting the availability of pain relief medicines for purchase and in the home is effective in reducing the number of hospital admissions and deaths from accidental or impulsive overdose. The MHRA recommends that sales of medicines for pain relief should be restricted to a maximum of 2 packs in any 1 transaction and that the sale of more than 1 pack should be discouraged. The MHRA recommends some tools to implement this best practice including:

- till bars to prevent purchase of more than 2 packs
- regular training for staff on the restrictions, the reason for them, and how to respond to customers who want to buy larger quantities
- notices on shelving for customers and in the payment area for staff to raise awareness.

In order to reduce the risks from accidental or intentional overdose, the legal requirement for the maximum pack size of pain relief medicines in a general sale outlet is 16 tablets or capsules. A pharmacy may sell larger packs containing up to 32 tablets or capsules only under the supervision of a pharmacist. In addition, it is illegal to sell more than 100 tablets or capsules of either paracetamol or aspirin in any 1 retail transaction (Best practice guidance on the sale of medicines for pain relief [2012] appendix 4 in the Blue guide).

Evidence supporting restricting access to lethal means in order to prevent suicide has strengthened since 2005. This is especially true with regards to controlling analgesics (PHE guidance on Suicide prevention: developing a local action plan, 2016). Interrupted time series analyses found that, following UK legislation in 1998 to reduce pack sizes of paracetamol, there were 765 fewer deaths due to paracetamol self-poisoning (and some indication of fewer registrations for transplantation at liver units) in England and Wales during the subsequent 11 years. The authors found that substantial numbers of deaths due to paracetamol self-poisoning still occurred annually, and so further preventive measures were needed (Hawton et al. 2013).

One of the key clinical messages arising from the findings of the 2017 National Confidential Inquiry into Suicide and Homicide by People with Mental Illness was to reduce suicide by opiate overdose. It recommends that clinicians and pharmacists should be aware of the potential risks of opiate and opiate-containing analgesics. Safer prescribing remains crucial, particularly for people with chronic pain, a group at high suicide risk. This should include prescribing only short-term supplies and enquiring about opiate-containing painkillers kept at home.
The Faculty of Pain Medicine's Opioids Aware outlines good practice in prescribing opioid medicines for pain. Recommendations for pharmacists include ensuring that analgesics available over the counter (OTC) containing codeine or dihydrocodeine are only used for acute pain of short duration (less than 3 days); ensuring that the prescribed dose is appropriate for an individual patient and any increases are proportionate to the current dose; carrying out medicines use reviews to support treatment monitoring; highlighting excessive or unusual doses and potential drug interactions and requesting a review by the primary prescriber.

The NICE guideline on safe use and management of controlled drugs covers systems and processes for using and managing controlled drugs safely in all NHS settings except care homes. It recommends that the risks of prescribing, including dependency, overdose and diversion should be considered and enough of a controlled drug to meet the person’s clinical needs for no more than 30 days is prescribed. If, under exceptional circumstances, a larger quantity is prescribed, the reasons should be documented in the person's care record. Since many opioids used in self-poisoning have not been prescribed, guideline recommendations on destruction and disposal of controlled drugs are particularly important. When supplying controlled drugs, people should be advised how to safely dispose of them when they are unwanted or used.

The NICE guideline on managing medicines for adults receiving social care in the community aims to ensure that people who receive social care are supported to take and look after their medicines effectively and safely at home. Several recommendations may be helpful when trying to reduce the risk of self-poisoning. In particular, it recommends that care workers should raise any concerns about a person’s medicines with the social care provider. Concerns may include stockpiling of medicines, medicines not being taken in accordance with the prescriber’s instructions and the person’s mental capacity to make decisions about their medicines.

The NICE guideline on medicine optimisation covers safe and effective use of medicines in health and social care. One important aspect of a structured medication review is to take into account all prescribed, OTC and complementary medicines that the person is taking or using, and what these are for. This might help to reduce duplication of medicines and the risk of accidental self-poisoning. Additional care might also be needed where more than 1 drug associated with suicide risk (a drug associated with an increased risk of suicidal thoughts) or increased toxicity in overdose (a drug that is particularly dangerous in overdose) is prescribed concomitantly. For example, opioids or benzodiazepines in combination with pregabalin or gabapentin can increase the risk of respiratory depression. The government guidance, Widening the availability of naloxone, discusses the supply and use of naloxone without a prescription for opioid toxicity in an emergency situation.

Reducing stockpiling of unwanted medicines is an important aspect of reducing means to suicide
and people should be encouraged to return any unwanted medicines to their pharmacy for safe disposal. This is addressed in more detail in several NICE guidelines, such as safe use and management of controlled drugs and managing medicines for adults receiving social care in the community. One of the objectives of medication review described in the NICE guideline on medicines optimisation is to reduce waste. This should also help to minimise stockpiling.

Several NICE guidelines give recommendations about both limiting the availability or access to medicines where people are at risk from suicide, and considering toxicity in overdose of medicines that are prescribed. The NICE guideline on common mental health problems recommends that if a person with a common mental health disorder, in particular depression, is assessed to be at risk of suicide, take into account toxicity in overdose, if a drug is prescribed, and potential interaction with other prescribed medicines. If necessary, limit the amount of drug(s) available.

PHE's Local suicide prevention planning: a practice resource emphasises the importance of the safe prescribing of both painkillers and antidepressants in people who have depression. The NICE guideline on depression in adults recommends that if a person with depression is assessed to be at risk of suicide: take into account toxicity in overdose if an antidepressant is prescribed or the person is taking other medicines and, if necessary, limit the amount of drug(s) available. It recommends that the tricyclic antidepressant dosulepin should not be prescribed because evidence supporting its tolerability relative to other antidepressants is outweighed by the increased cardiac risk and toxicity in overdose (see NICE's full guideline on depression in adults). It also advises that:

- compared with other equally effective antidepressants recommended for routine use in primary care, venlafaxine is associated with a greater risk of death from overdose
- tricyclic antidepressants (TCAs), except for lofepramine, are associated with the greatest risk in overdose.

With regards to limiting access to medicines, the NICE guideline on self-harm in over 8s: long term-management recommends when assessing risk, consider asking the person who self-harms about whether they have access to medicines used by family members, carers or significant others. In the initial management of self-harm in children and young people, advise parents and carers of the need to remove all medicines or, where possible, other means of self-harm available to the child or young person. In addition, a risk management plan should be a clearly identifiable part of the care plan and should address the specific factors (psychological, pharmacological, social and relational) identified in the assessment as associated with increased risk, with the agreed aim of reducing the risk of repetition of self-harm or the risk of suicide.
The NICE guideline on mental health of adults in contact with the criminal justice system recommends that risks associated with in-possession medicines are taken into account.

Due to evidence for a small but significant increase in the presence of suicidal thoughts in the early stages of antidepressant treatment, several NICE guidelines (including depression in adults, depression in adults with a chronic physical health problem and depression in children and young people) advise monitoring for this when antidepressants are prescribed (see individual guidelines for more detail).

In January 2018, NHS England and NHS Improvement wrote to Mental Health Trust Chief Pharmacists and Mental Health Trust Medical Directors asking them to raise awareness about potential risks of suicide associated with benzodiazepine prescribing and withdrawal. People who are receiving benzodiazepines for extended periods of time should be reviewed by their prescribers on a regular basis so that their suitability for long-term prescribing can be assessed. Best practice in the management of benzodiazepine withdrawal is available through the NICE clinical knowledge summary on benzodiazepine and z-drug withdrawal.

**Addressing mental and physical health**

It is important to ensure that people with mental health conditions are treated adequately in order to prevent suicide. One of the priorities in PHE's Local suicide prevention planning: a practice resource is to tailor approaches to improve mental health in specific groups. In addition to education of doctors, effective pharmacological and psychological treatment of depression are important in preventing suicide. This report highlights the importance of treating depression in primary care, as well as preventing and responding to self-harm, according to NICE guidance. The House of Commons Health Committee Suicide prevention: sixth report of session 2016–17 recommends that suicide awareness training should encourage the implementation of NICE guidelines to improve the identification, treatment and management of depression in primary care. It also recommends that all patients who present with self-harm receive a psychosocial assessment in accordance with NICE guidelines.

NICE's medicines evidence commentary on self-harm in older people discusses a large UK observational study in people aged 65 years and over. The study found that the risk of suicide was markedly increased in people who had a previous self-harm episode compared with those who did not. Self-poisoning through ingestion of drugs was the most common means of self-harm.

A chronic physical health problem can both cause and exacerbate depression: pain, functional impairment and disability associated with chronic physical health problems can greatly increase
the risk of depression in people with physical illness. Depression can also exacerbate the pain and distress associated with physical illnesses and adversely affect outcomes, including shortening life expectancy. The NICE guideline on depression in adults with a chronic physical health problem aims to improve the care of people with a long-term physical health problem, which can cause or exacerbate depression.

**Practice examples and shared learning**

A NICE shared learning case study relating to suicide, Treatment Occurring in Paediatrics (STOP) – Assessing and monitoring risk of suicide in children and adolescents, shows how NICE guidance and standards have been put into practice by an NHS organisation.

**Prescribing data, metrics or supporting resources**

The selection of metrics to support key therapeutic topics is overseen by the NHS England Medicines Optimisation Intelligence Group, and work is ongoing in this area.

The Medicines optimisation dashboard, which brings together a range of medicines-related metrics from across sectors, includes the following comparators:

- hypnotics ADQ/STAR PU (ADQ based)
- depression (DEP003) % achieving upper threshold or above
- depression (DEP003) % underlying achievement.

The medicines optimisation dashboard helps NHS organisations to understand how well their local populations are being supported to optimise medicines use and inform local planning. The dashboard allows NHS organisations to highlight variation in local practice and provoke discussion on the appropriateness of local care. It is not intended as a performance measurement tool and there are no targets.

See the medicines optimisation: key therapeutic topic on medicines optimisation in chronic pain for prescribing data and metrics relating to prescribing controlled drugs.

Health Education England and the National Collaborating Centre for Mental Health have launched a series of self-harm and suicide prevention competency frameworks. These describe activities that need to be brought together to support people who self-harm and/or are suicidal. The frameworks, help describe the work that is required within the following populations and contexts:
In 2017, Public Health England (PHE) published guidance on commissioning and providing better care for people with co-occurring mental health, and alcohol and drug use conditions. PHE is completing an evidence review of some prescribed medicines, which will include opioid pain medicines and opioids that are commonly used in drug-related suicide.

PHE has produced the Suicide Prevention Profile to help develop understanding at a local level and support an intelligence driven approach to suicide prevention. It provides planners, providers and stakeholders with the means to profile their area and benchmark against similar populations.

About this key therapeutic topic

This document summarises the evidence base on this key therapeutic topic that has been identified to support medicines optimisation. It is not formal NICE guidance.

For information about the process used to develop the key therapeutic topics, see the integrated process statement.