



# 2019 surveillance of medicines adherence (NICE guideline CG76) and medicines optimisation (NICE guideline NG5)

Surveillance report

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## Surveillance decision

We will not update the following guidelines on medicines adherence and medicines optimisation:

- [Medicines adherence: involving patients in decisions about prescribed medicines and supporting adherence](#) (NICE guideline CG76)
- [Medicines optimisation: the safe and effective use of medicines to enable the best possible outcomes](#) (NICE guideline NG5).

## *Reasons for the decision*

NICE's guidelines on medicines adherence and medicines optimisation contain recommendations on best practice for use of medicines across the healthcare system, covering all patient populations and healthcare settings. Therefore, many interventions intended to support adherence and optimisation of medicines in specific groups of patients are relevant to these guidelines. The guidelines make overarching recommendations on strategies that are broadly applicable across the healthcare system and do not include recommendations on strategies or interventions for specific diseases or conditions.

Topic experts who advised us on this surveillance review indicated that overall, the recommendations are still valid and the principles underlying them remain unchanged. They also highlighted the increasing use of new technologies, which vary from apps designed for patients through to large health service computer systems.

Although the guideline on medicines adherence was developed before these technologies were widespread, the guideline on medicines optimisation noted that 'Better use of data and technology can give people more control over their health and support the medicines optimisation agenda.' Technological solutions should be appropriate for patients' needs and preferences in line with the principles of care as set out in these 2 NICE guidelines and NICE's guideline on [patient experience in adult NHS services](#).

The new evidence identified in surveillance indicated that many technological interventions may be effective, including individual components such as text messaging, reminders or alerts, and more complex mobile and telehealth interventions. However, specific components of interventions did not consistently show benefit and many interventions may not be directly applicable outside the populations studied. The evidence identified in this surveillance review will also be considered in the context of the relevant disease-specific guidelines during scheduled surveillance of those guidelines.

More complex tools such as clinical decision support, which integrates with local health service processes and systems, need to be kept up to date in terms of clinical information and software versions and be applicable to local healthcare needs, as noted by the medicines optimisation committee when developing recommendations on clinical decision support. This means that evidence on specific aspects of clinical decision support may not be readily implemented in existing systems.

An area of interest is multi-compartment medicines systems. Both topic experts and stakeholders raised concerns about observational and anecdotal evidence suggesting that multi-compartment medicines systems may be overused and associated with inappropriate prescribing. Evidence identified in surveillance suggests that these systems may increase adherence, which supports current guidance. Other evidence in this area is insufficient in quantity and quality to establish whether multi-compartment medicines systems are themselves problematic, or if they are a marker of polypharmacy and possible inappropriate prescribing.

The guideline suggests these systems as one of several options to overcome practical problems associated with nonadherence if a specific need is identified. It also notes that any interventions to support adherence should be considered on a case by case basis and should address the concerns and needs of individual patients. Some of the concerns about multi-compartment medicines systems may be a sign of incomplete implementation of recommendations in NICE's guidelines on [medicines adherence](#), [medicines optimisation](#) and [multimorbidity](#).

## Overview of 2019 surveillance methods

NICE's surveillance team checked whether recommendations in the guidelines on medicines adherence (NICE guideline CG76) and medicines optimisation (NICE guideline NG5) remain up to date. The 2019 surveillance consisted of:

- Feedback from topic experts and NICE's medicines and prescribing team via a questionnaire.
- A search for new or updated Cochrane reviews and national policy.
- Consideration of evidence from previous surveillance.
- Examining related NICE guidance and quality standards and National Institute for Health Research (NIHR) signals.
- A search for ongoing research.
- Examining the NICE event tracker for relevant ongoing and published events.
- Literature searches to identify relevant evidence on approaches to improve medicines adherence and medicines optimisation using digital technologies.
- Assessing the new evidence against current recommendations to determine whether or not to update sections of the guideline, or the whole guideline.
- Consulting on the proposal with stakeholders.
- Considering comments received during consultation and making any necessary changes to the proposal.

For further details about the process and the possible update decisions that are available, see [ensuring that published guidelines are current and accurate](#) in developing NICE guidelines: the manual.

## *Evidence considered in surveillance*

### Search and selection strategy

We searched for new evidence on using digital technologies for improving medicines adherence and medicines optimisation. This focused search was based on feedback from topic experts indicating that this was an area of interest and growing relevance as NHS systems become increasingly digitised. Additionally, our initial intelligence gathering indicated no changes in the

principles underlying current recommendations, or the context of the guideline as it fits with other current national policies and guidance. Studies were included in the surveillance review if they involved any digital component, including apps for patients or systems for healthcare staff use, and devices such as electronic pill bottles.

One search for randomised controlled trials and systematic reviews, covering both guidelines, found 1,645 studies published before 30 November 2018. For the guideline on medicines adherence, we included studies published after 1 July 2016 (the end search date for previous surveillance). For the guideline on medicines optimisation, we included studies published after 1 May 2014 (the end search date for the guideline).

We also included 1 relevant study from a total of 2 identified by topic experts. Topic experts also highlighted several policy documents. We included 2 studies in response to stakeholders' comments.

From all sources, we considered 153 studies to be relevant to the guidelines. Of these:

- 102 studies were relevant to the guideline on medicines adherence
- 51 studies were relevant to the guideline on medicines optimisation.

See [appendix A1: summary of evidence from surveillance for medicines adherence](#) and [appendix A2: summary of evidence from surveillance for medicines optimisation](#) for details of all evidence considered, and references.

## Cochrane reviews

We searched for new Cochrane reviews addressing any interventions relevant to either guideline and identified 15 reviews that were included in the surveillance review.

## Previous surveillance

The guideline on medicines optimisation has not undergone previous surveillance.

The guideline on medicines adherence has undergone surveillance in 2011, 2014, and 2016. All previous surveillance reviews indicated no need to update the guideline. See the [guideline web page](#) for full details of previous surveillance. Studies identified in previous surveillance were not considered again at this time.

## Ongoing research

We checked for relevant ongoing research; of the ongoing studies identified, 5 studies were assessed as having the potential to change recommendations; therefore, we plan to check the publication status regularly, and evaluate the impact of the results on current recommendations as quickly as possible. These studies are:

- Hospital discharge study ([ISRCTN18427377](#))
  - This study is assessing a systematic medicines review procedure for people being discharged from hospital.
- Northumbria osteoporosis project: group clinics ([ISRCTN56916730](#))
  - This NIHR-funded study is assessing pharmacist-led group clinics for people with high risk of fracture, with outcome measures including adherence to bisphosphonates.
- Medication adherence for patient support ([ISRCTN10668149](#))
  - This NIHR-funded study is assessing interactive text and voice messaging to promote adherence to medicines for type 2 diabetes.
- Supporting medicines management in older adults with multiple medical conditions ([ISRCTN12752680](#))
  - This study is assessing structured medicines review in people prescribed 15 or more medicines.
- The effect of audit and feedback on prescribing behaviour and engagement with data on OpenPrescribing.net – a randomised controlled trial ([ISRCTN86418238](#)).
  - This study is assessing OpenPrescribing.net, an openly accessible service which transforms the monthly national prescribing datasets into meaningful charts on key measures of prescribing safety, efficacy and cost-effectiveness. This study targets general practices in England who are performing in the worst 20% for prescribing broad-spectrum antibiotics. The study aims to find out whether giving feedback on current prescribing performance affects information-seeking and prescribing behaviour.

## Related NICE guidance

No specific overlaps with other NICE guidance were identified.

However, many disease-specific NICE guidelines cross-refer to the guidelines on medicines adherence and medicines optimisation. Additionally, many disease-specific guidelines have recommendations on medicines adherence, medicines optimisation, medicines review, and medicines reconciliation. For example, the NICE guideline on [chronic heart failure in adults](#) has a recommendation on measuring digoxin concentration to confirm a clinical diagnosis of nonadherence. This disease-specific recommendation has no impact on the guideline on medicines adherence because it is not relevant to the wider population of this guideline. Similarly, none of the recommendations in the guideline on medicines adherence has an impact on the recommendation in the guideline on chronic heart failure.

Overall, no impacts were identified between the guidelines on medicines adherence and medicines optimisation and any recommendations dealing with medicines management in disease-specific guidelines.

NICE has also published a guideline on [multimorbidity: clinical assessment and management](#), which covers optimising care for adults with multimorbidity (multiple long-term conditions) by reducing treatment burden (polypharmacy and multiple appointments) and unplanned care. This guideline complements the recommendations in the guidelines on medicines adherence and medicines optimisation.

NICE is developing a guideline on [shared decision making](#), which is expected to publish in April 2021. This new guideline may result in recommendations that supersede the section on patient involvement in decisions about medicines in the guideline on medicines adherence.

## *Intelligence gathered during surveillance*

### **Government policy and guidance**

We identified several policy documents relevant to the guidelines:

- [Polypharmacy Management by 2030: a patient safety challenge](#) (2nd edition; April 2017) The SYMPATHY consortium, funded by the European Union's Health Programme.
- [Polypharmacy getting our medicines right](#) (Draft for public consultation; July 2018) Royal Pharmaceutical Society.
- [Polypharmacy guidance. Realistic prescribing](#) (3rd edition; September 2018) Scottish Government and NHS Scotland.



- [The Report of the Short Life Working Group on reducing medication-related harm](#) (February 2018) Department of Health and Social Care.
- [Integrating NHS Pharmacy and Medicines Optimisation into Sustainability & Transformation Partnerships and Integrated Care Systems](#) (August 2018) NHS England.

These documents are broadly consistent with NICE's recommendations in the guidelines on medicines adherence and medicines optimisation. Additionally, they indicate that there is interest in system-wide improvement, particularly through the [Medicines Value Programme](#), which may lead to greater implementation of the guidelines.

## Views of topic experts

We considered the views of topic experts recruited to the NICE Centre for Guidelines Expert Advisers Panel to represent their specialty. We sent questionnaires about developments in evidence, policy and services to 19 topic experts and received 9 responses. We had a further 2 responses from NICE staff who work with regional medicines optimisation committees.

Topic experts indicated that the nature of these guidelines meant that recommendations were durable, but that they may not be well implemented in the health system. NICE has published [shared learning examples](#) of how NICE guidance and standards on medicine management have been put into practice in the NHS, local authorities, voluntary sector and a range of other organisations.

## *Digital technologies*

The topic experts highlighted increasing interest in using new digital technologies to support medicines adherence and optimisation. Therefore, we undertook a literature search to identify evidence in these areas as described above.

## *Polypharmacy and deprescribing*

Topic experts noted polypharmacy and deprescribing as areas in which additional guidance would be welcome. The guideline on medicines optimisation already has several recommendations recognising that people on multiple medicines may benefit from interventions such as medicines review or additional support on discharge from hospital.

A few studies reported on deprescribing, such as reducing proton pump inhibitor (PPI) use. However, the evidence was applicable to a few specific populations and was insufficient to indicate a need to update the overarching guidelines on medicines adherence or medicines optimisation.

However, guidance on deprescribing of specific drugs is covered in disease-specific guidelines. For example, NICE's guideline on [gastro-oesophageal reflux disease and dyspepsia in adults](#) recommends reducing the dose or frequency of PPIs in long term use.

NICE has also published a guideline on [multimorbidity: clinical assessment and management](#) which addresses polypharmacy, but no new evidence indicated a need to update this guideline.

### ***Multi-compartment medicines systems***

We also received feedback on concerns about multi-compartment medicines systems, which are used to aid adherence; however, no studies eligible for consideration in surveillance were identified. Observational studies of this issue are limited by the inability to determine whether multi-compartment medicines systems are themselves problematic, or if they are a marker of polypharmacy and possible inappropriate prescribing. The guideline suggests these systems as one of several options to overcome practical problems associated with nonadherence if a specific need is identified.

### ***Shared decision making***

Feedback also suggested that there has been progress in aspects of care covered by the guidelines, including shared decision making. NICE is part of a [shared decision making collaborative](#) that aims to make shared decision making part of everyday care. NICE is also developing a guideline on [shared decision making](#).

### ***Merging the guidelines***

Topic experts indicated that the guidelines would be better presented as a single guideline. The surveillance review confirms that the guideline recommendations are still current. However, if any new evidence becomes available, the guideline will be reviewed before its next scheduled surveillance review. If the guidelines need updating we will consider merging them at that point.

We will also consider merging the guidelines when NICE's guideline on shared decision making publishes (expected in April 2021). This guideline may make recommendations that supersede recommendations on patient involvement in decisions about medicines in the guideline on medicines adherence.

### **Views of stakeholders**

Stakeholders are consulted on all surveillance reviews except if the whole guideline will be updated

and replaced. Because this surveillance proposal was to not update the guideline, we consulted with stakeholders.

## ***Medicines adherence***

Overall, 18 stakeholders commented.

Eight stakeholders agreed with the decision and included 3 professional societies, 2 NHS trusts, 1 patient group, and 1 pharmaceutical company.

Ten stakeholders disagreed with the decision to not update the guideline:

- 7 patient groups sent coordinated and similar responses highlighting evidence that prescription charges inhibit adherence to medicines in long-term conditions. Because decisions about prescription charges are made by the Department of Health and Social Care, we have not covered this issue in the summary of evidence and it is outside the remit of the guidelines.
- 1 stakeholder suggested that recommendations should be more specific on the use of community pharmacy services and on capabilities of pharmacy systems. The guidelines provide general guidance for implementation in the most appropriate way and because these issues are dependent on local availability and circumstances, no update is necessary. NICE also has a guideline on [community pharmacies: promoting health and wellbeing](#), which aims to encourage more people to use community pharmacies by integrating them within existing health and care pathways and ensuring they offer standard services and a consistent approach.
- 1 stakeholder provided evidence on multi-compartment medicines systems, which had contradictory findings on whether these systems improved adherence and resulted in adverse events and therefore the evidence was insufficient to support an update in this area. This stakeholder also highlighted a tool to identify people at risk of nonadherence to their medicines. However, the evidence highlighted was a validation study that included a sample with high adherence so not the typical population. Additionally, the results of the study resulted in changes to the tool that have not been tested. Thus, the findings are insufficient to support an update to the guideline.
- 2 stakeholders did not explain why they disagreed with the surveillance decision.

Additionally, 2 stakeholders highlighted issues with the scope of the guideline:

- 1 stakeholder noted the exclusion of children from the scope. However, the scope noted that

- 'the guideline recommendations may be considered for a child or young person who is deemed competent to express a view on their prescription' so the issue is addressed where appropriate.
- 1 stakeholder suggested including stronger guidance on deprescribing. However, we consider that deprescribing may be the result of a medicines review, rather than the focus of a review. Additionally, we have not identified evidence indicating that deprescribing would be suitable for specific drugs, drugs classes or indications (see [polypharmacy and deprescribing](#) above). Therefore, no update in this area is necessary.

One stakeholder suggested that 'polypills' should be covered in response to the question on equalities. We consider the recommendation on simplifying the dosing regimen to apply to this subject, if the prescriber considers an available product to be appropriate for the patient. Additionally, the issue of polypills does not meet the criteria for an equalities issue because it does not affect a group with a [protected characteristic](#).

## ***Medicines optimisation***

Overall, 6 stakeholders commented.

Four stakeholders agreed with the decision. These were the Department of Health and Social Care, 2 professional bodies and 1 NHS trust.

Two stakeholders disagreed with the decision:

- 1 stakeholder commented on deprescribing and multi-compartment medicines systems. These comments were generally the same as those submitted on the guideline on medicines adherence addressed in the [previous section](#).
- 1 stakeholder suggested adding a recommendation advising that specialist teams should be contacted when a patient is admitted. The guideline has a section addressing medicines-related communication systems when patients move from 1 care setting to another, and this covers admission to hospital and sharing information about medicines. Communication about non-medicines aspects of care is outside the remit of the guideline but services following the advice on communication have the opportunity to share other information pertinent to the patient's care.

See [appendix B1 for full details of stakeholders' comments and our responses for medicines adherence](#) and [appendix B2 for full details of stakeholders' comments and our responses for medicines optimisation](#).

See [ensuring that published guidelines are current and accurate](#) in developing NICE guidelines: the manual for more details on our consultation processes.

## Equalities

No equalities issues were identified during the surveillance process.

## Editorial amendments

### *Medicines adherence (NICE guideline CG76)*

The reference to the Disability Discrimination Act (2005) in the preamble to the recommendations should be updated to refer to the Equalities Act (2010).

In recommendation 1.1.31, the reference to NHS Choices should be updated to the NHS website.

In recommendation 1.1.16, a cross reference should be added to the NICE guideline on [decision-making and mental capacity](#).

### *Medicines optimisation (NICE guideline NG5)*

In the footnote to recommendation 1.2.1, the hyperlink to the Health and Social Care Information Centre's [A guide to confidentiality in health and social care \(2013\)](#) should be updated to reflect its current home on the [NHS Digital website](#). The Health and Social Care Information Centre website has been archived.

A cross reference to the NICE guideline on [decision-making and mental capacity](#) should be added in the sections dealing with self-management and patient decision aids.

## Overall decision

After considering all evidence and other intelligence and the impact on current recommendations, we decided that no update is necessary.

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