Digital Medicine and the National Overprescribing Review

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In September 2022, the Department for Health and Social Care published the National Overprescribing Review


Press release

Government pledges to reduce overprescribing of medicines

Ministers are announcing action to prevent medicines being prescribed unnecessarily, following a new review led by the Chief Pharmaceutical Officer for England.

From: Department of Health and Social Care, NHS England, and The Rt Hon Sajid Javid MP

Published 22 September 2021

https://www.gov.uk/government/news/government-pledges-to-reduce-overprescribing-of-medicines


Department of Health & Social Care

Good for you, good for us, good for everybody

A plan to reduce overprescribing to make patient care better and safer, support the NHS, and reduce carbon emissions

Published 22 September 2021

https://www.gov.uk/government/publications/national-overprescribing-review-report

What is overprescribing?

Overprescribing – the use of a medicine where there is a better non-medicine alternative, or the use is inappropriate for that patients' circumstances and wishes.

It occurs in every healthcare system in the world. It occurs in several ways:

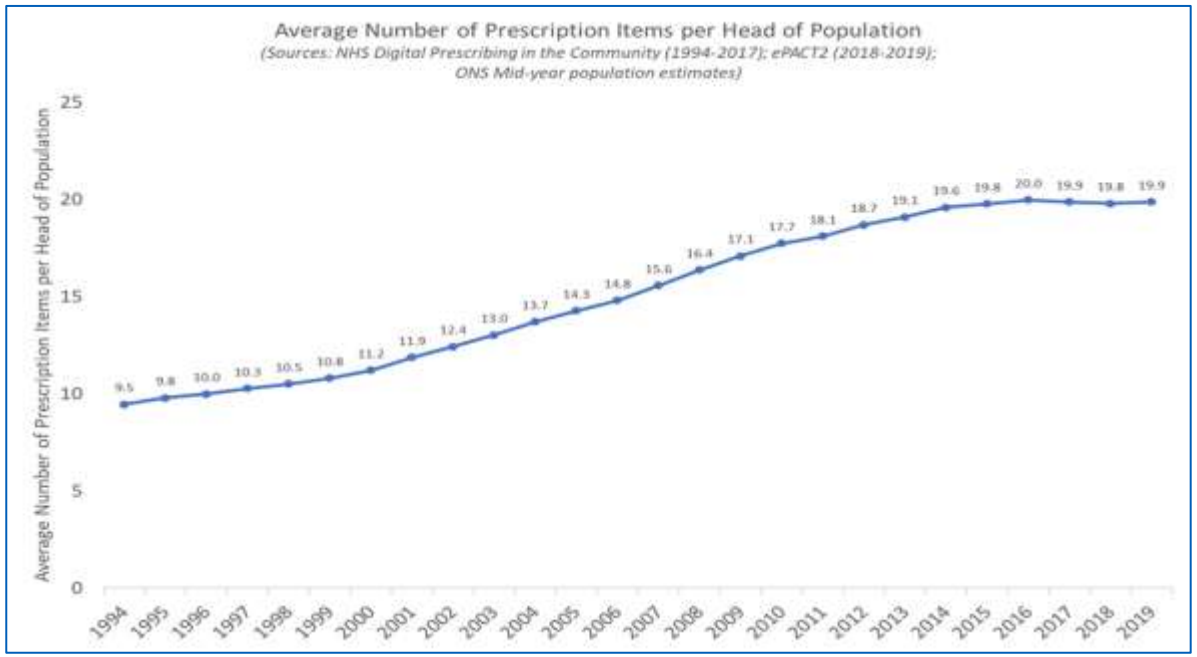
- The patient is prescribed a medicine, when there would have been a better alternative. An example of this would be a patient being given a medicine to reduce their blood pressure when changes to diet and lifestyle would be more appropriate for them.
- The patient is prescribed a medicine which in itself is generally appropriate for that condition, but which is not appropriate for the individual patient. For example, a patient may have a second condition, such as kidney disease, that means the medicine taken for the first one could affect them adversely.
- The patient is prescribed a medicine, their condition changes and the medicine is no longer appropriate, but the prescription is not reviewed. For example, anti-diabetic medicines prescribed to a patient in their 60s might not still be appropriate in their 90s.
- The patient no longer needs or benefits from the medicine but continues to be prescribed it. An example of this would be someone prescribed strong painkillers for the short term who is not offered alternative support to assist with pain management.

When a clinician issues a prescription, it is usually because they genuinely believe that it is something the patient needs. Overprescribing is rarely the result of a faulty diagnosis. The extent of overprescribing is a result of weaknesses in the healthcare system and culture, not the skills or dedication of individual healthcare professionals.

Key findings: scale of overprescribing

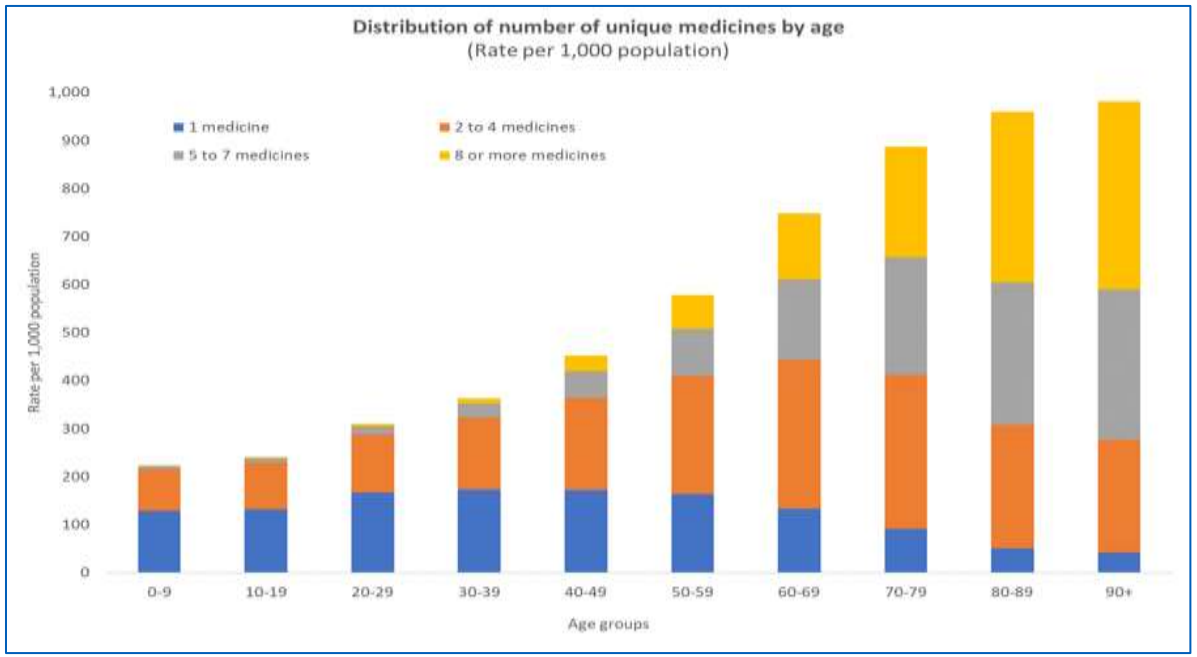
Prescribing in primary care has increased over time

In 1996, the number of prescription items dispensed in primary care and the community in England was 10 per head. By 2016, it had doubled to 20



Polypharmacy increases with age

Older people are much more likely to be prescribed multiple and long-term medication and so are more likely to experience overprescribing.



Overprescribing directly affects some protected characteristic groups

Groups at heightened risk, include Black, Asian and Minority Ethnic communities, those living in areas of high deprivation and those with a learning disability.

Currently, around 15% of people in England are taking 5 or more medicines a day, with 7% on 8 or more

8.4m people are regularly prescribed 5 or more medicines

Key findings: why does overprescribing happen?

The review has found that **overprescribing is a serious problem in health systems internationally** that has grown dramatically over the last 25 years. It has 2 main causes:

1) Systemic

- Single-condition clinical guidelines
- Lack of alternatives to prescribing a medicine
- Discharge letters not available to all that need them
- Clinical indication for the medicine not always documented
- Variable approaches to repeat prescribing,
- Insufficient medication review
- Clinical trials and guidance don't provide evidence to deprescribe
- Errors during care transitions
- Inability to access comprehensive patient records
- Lack of digital interoperability

2) Cultural

- The biomedical model favours medicines over alternatives
- Inadequate shared decision making
- Patients struggle to be heard and are reluctant to challenge
- More transparency of pharmaceutical sponsorship needed

Research was commissioned from The Policy Research Unit in Economic Methods of Evaluation in Health and Social Care Interventions Universities of Sheffield and York (EEPRU).

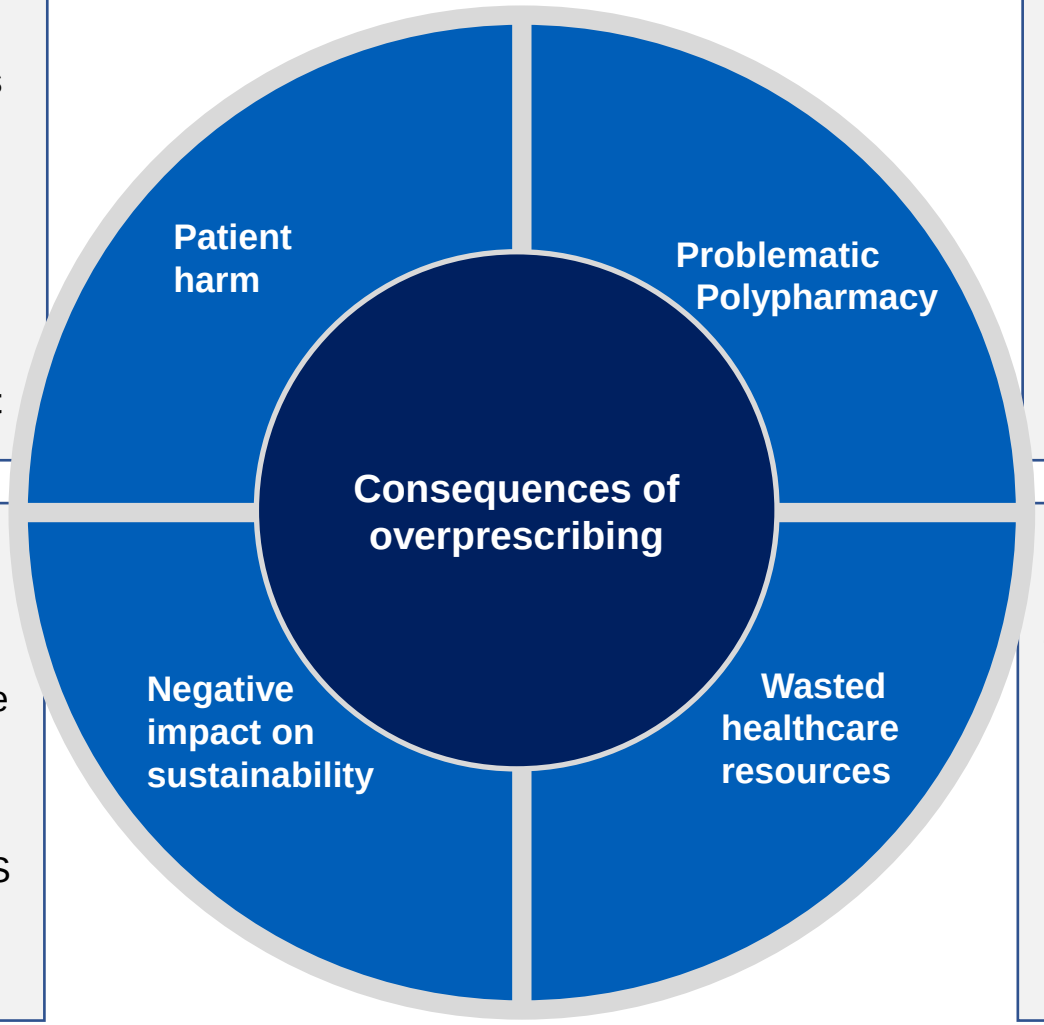
Faria, R., Martyn-St James, M., Wong, R., Scope, A., Sculpher, M., (2019) Evidence for the impact of interventions for, and medicines reconciliation in, problematic polypharmacy: a rapid review of systematic reviews and scoping searches. Research Report 062

Key findings: consequences of overprescribing

Adverse drug reactions: increase with more medicines taken:

- Occur in 10 - 20% of hospital admissions.
- Person taking 10 or more medicines is 300% more likely to be admitted to hospital.
- Around 6.5% of hospital admissions are caused by adverse effects of medicines rising up to 20% in over 65 age group

Increased risk of becoming dependent on certain medicines



Problematic polypharmacy People who are taking multiple medicines are more likely to be older, have worse health conditions, be taking medicines for longer, face more difficult decisions about treatment and find the cumulative burden of their medication harder to bear than the average.

Overprescribing does not optimise:

- Patient outcomes
- Positive patient experiences
- Personalised approach

Waste medicines are a significant burden and need to be disposed of carefully, to avoid harm to patients and the public, and to minimise harm to the environment

Wasted medicines do not support the NHS commitment to become carbon net zero.

In 2010 it was been estimated **£300 million of NHS prescribed medicines are wasted** each year.

It is thought this figure may have now doubled.

It is It is estimated that at least 10% of the current volume of medicines may be overprescribed.

Key messaging from the review

- Medicines do people a lot of good and the report is **absolutely not about taking treatment or services away from people** where they are effective. But medicines can also cause harm and be wasted.
- The key to stopping overprescribing is **ensuring that patients are prescribed the right medicines, at the right time, in the right doses**.
- Overprescribing is not a new problem and a **lot of great work has been done** to address the issue, on which the programme will build.
- Overprescribing **involves systems and culture as well as individuals**. Tackling it needs:

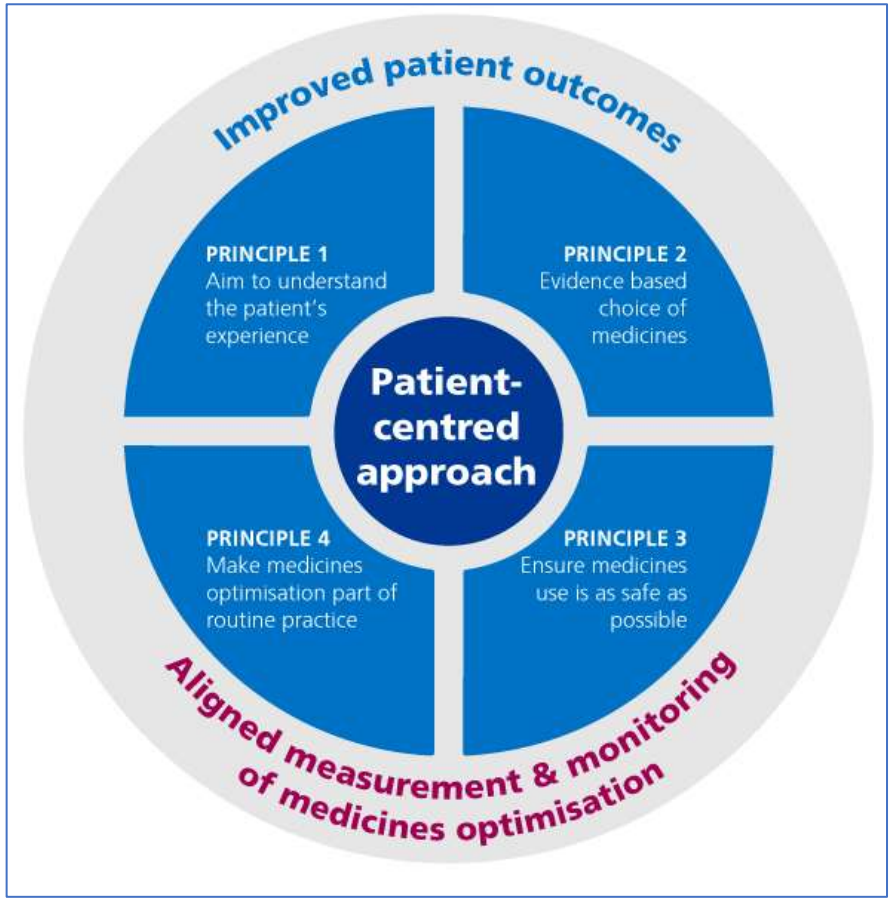
A system-wide response, with clinicians and patients both receiving more support to ensure the NHS is getting prescribing and shared decision-making right.

To build on important initiatives now underway, e.g. the rapid expansion of clinical pharmacists working alongside GPs to review medication

To move away from the biomedical model to one of personalised care, shared decision making and the scaling up of social prescribing.

To recognise how much more we need to know: our recommendations on research are fundamental to our ability to continue to reduce overprescribing.

Effective use of digital systems to improve prescribing and improvements in data transparency and analysis



The review's 20 cross-system recommendations for improvements span 3 broad areas of focus

1 System
R1 - Patient records and discharge letters
R2 - Clinical indications
R3 - Treatment guidelines
R4 - Clinical evidence
R5 - Alternatives to medicine
R6 - Transfer of care
R7 - Repeat prescriptions
R8 - Regular reviews

2 Culture
R9 - Awareness and behavioural change
R10 - Patient engagement and cultural competence
R11 - Human factors
R12 - Industry transparency

3 Implementation
R13 - Leadership
R 14 & 15 - Research and evaluation
R16,17,18 - Workforce, Education & Training
R19 - Data analytics
R20 - Sustainability

Many the recommendations either explicitly have a digital component, or may be facilitated by the use of digital technology

The National Overprescribing Review Implementation Programme

- The implementation programme **was launched in March 2022** following the first Implementation Oversight Group.
- Led by NHSEI through the Medicines Policy & Analysis Unit, a 3 year **cross-organisational programme** brings together 15 lead organisations, along with partners from across the health system to implement the review's recommendations.
- The programme aims to **achieve long term sustainable reductions to overprescribing via delivery of systemic and cultural improvements** within the NHS.
- As the new National Clinical Director for Prescribing I will **drive the cross-system implementation programme** and provide the **clinical leadership** for the programme.
- Some of the 20 recommendations are being **led specifically by a single organisation**, whilst others require **leadership from more than one organisation**.
- **NHSX and NHS Digital** are named in the Review **as organisational leads for 6 recommendations** – currently being remapped following changes to these organisations to become part of NHSEI.

Effective use of digital systems is key to improving prescribing, as will be improvements in data transparency and analysis

Interoperability and shared care medication record

Clinical indications documented at point of care

Allow patients to feedback on their medication

Decision support tools and shared medication record

Data analysis

Cross-organisational leadership and a system wide response is needed

Delivery plans are being developed for each Review recommendation by lead organisations and will require close working with other national programmes, initiatives and stakeholders:

- ICSs – new opportunity for medicines optimisation at a system level
- Medicines Safety Improvement Programme (MedSIP)
- Dependence and Withdrawal Forming Medicines Implementation Programme
- Medicines Sustainability Programme
- Fighting antimicrobial resistance
- Digital medicines and interoperability programmes

- NHSEI
- NHSX & NHSD
- DHSC
- NHSX
- MHRA
- NICE & professional bodies
- Health professional regulators
- HEE
- NIHR
- RPS
- ABPI

Digital technologies can help transformation, including patient safety

There are many medication safety tools currently available and being utilised in primary care including:

- PRIMIS, which utilises CHART online software and used in the PINCER study
- Eclipse Live - RADAR
- ScriptSwitch- Optum
- Audit + - Informatica
- Optimise RX – First Data Bank
- SMASH – Utilising the Salford Integrated Care Record

Each tool offers a range of different options and benefits, and in many instances is used for wider purposes than medication safety indicators only, many offer support for clinical pathways and links to a number of datasets.

Example: PINCER

PINCER is the Pharmacist-led Information technology iNtervention for the reduction of Clinically important ERrors in medicines management

- A methodology for reducing hazardous prescribing and improving patient safety.
- Outcomes of a trial published in the Lancet showed a reduction in error rates of up to 50% following adoption of PINCER – a pharmacist-led IT intervention for reducing clinically important errors in general practice prescribing.
- NICE medicines optimisation guideline (NG5) recommends organisations and health professionals should consider applying the principles of the PINCER intervention to reduce the number of medicines-related patient safety incidents, taking account of existing systems and resource implications. These principles include:
  - using information technology support
  - using educational outreach with regular reinforcement of educational messages
  - actively involving a multidisciplinary team, including GPs, nurses and support staff
  - having dedicated pharmacist support
  - agreeing an action plan with clear objectives
  - providing regular feedback on progress
  - providing clear, concise, evidence-based information.
- Over 2,250 health care professionals trained to deliver PINCER
- PINCER has been rolled out nationally through AHSNs; reduction of almost 20,000 instances of hazardous prescribing in a sample of 1,677 practices

Identifying when medicines are being overprescribed is a key part of the 2022/23 AHSN polypharmacy programme

AHSN Polypharmacy Programme - Getting the Balance Right

- A polypharmacy programme co-funded by Innovation, Research and Life Sciences (NHSEI, Transformation Directorate) within the Accelerated Access Collaborative, to be developed and delivered by the AHSN Network with the input of all programme members.
- Pillar 1: Population Health Management - using data (NHS BSA Polypharmacy Comparators) to understand PCN risks and identify patients for prioritisation for a Structured Medication Review

Support Implementation of **NOR recommendations 8 & 19** and elements of the PCN DES (service requirement 1: identification of patients)

NHS Business Services Authority (BSA) Polypharmacy Prescribing Comparators

Freely available to all 42 ICSs in England and their constituent PCNs and GP Practices.

The role of the NHS BSA Polypharmacy Comparators:

1. Benchmarking polypharmacy prescribing
2. Prioritise and identify those at risk from harm
3. Measure the impact of interventions

Watch how the NHS BSA Polypharmacy Comparators are used in practice here

Case study: North East Hampshire and Farnham CCG – use of polypharmacy prescribing comparators in care homes

- The CCG Medicines Management team used the NHS BSA Polypharmacy Prescribing comparators to identify patients who may be at risk of harm from inappropriate polypharmacy.
- The CCG has had a full-time Care Homes Pharmacist undertaking face to face medication reviews with residents and/or their carers in conjunction with GPs.
- As a result the average number of medicines per patient reduced from 9.4 to 7.6 and the average anticholinergic burden score has reduced from 1.39 to 1.00.
- A further focus on the use of medicines in patients at increased risk of Acute Kidney Injury demonstrated that the % of patients prescribed two or more unique medicines likely to cause kidney injury (DAMN medicines) decreased from 31.12 to 30.9.

Further implementation plans for R19 will strengthen how we identify when medicines are being overprescribed

R19 – Data Analytics
Leads: NHSX & NHSEI Lead on **improving appropriate access to data on patient treatment**, engaging early on with patients and patient groups on risks and benefits; **help empower staff to become confident navigating the IG landscape**; foster a diverse data analytics community and further research; and **support the development of data analysis skills across all care settings**.

Opportunities

- We already have incredible access to data on patient treatment, particularly in primary care, and now have opportunity for a further step change through initiatives such as OpenSAFELY.
- To capitalise on what we already have, and benefit from what will become available in the future, it is important to ensure that reporting systems are well designed (as they generally are already) and that training and support is available to help ensure that staff can make best use of these systems to improve care.

R1 is progressing through the Interoperable Medicines Programme

R1 – Patient records and discharge letters

Lead: NHSX (Supporting organisations: NHSD & Professional Record Standards Body)

NHSX should **develop open standards and guidelines** to ensure that records can be safely shared and accessed across care settings by patients and health and care professionals ultimately creating **an interoperable consolidated patient medication record**, and work with the Professional Record Standards Body to develop **further mandatory standards for discharge letters.**

Aims

The definition and adoption of interoperable medicine standards is supporting safer, more joined up patient care, contributing to reduced risks to patient safety and burden on staff, and laying the foundations for a single consolidated patient medication record.

PRSB to review and revise all transfer of care standards and guidance to highlight over-prescribing

Mandatory standards for discharge letters are key to making shared decision-making a reality

R1 – Patient records and discharge letters
Lead: NHSX (Supporting organisations: NHSD & Professional Record Standards Body) NHSX to work with the Professional Record Standards Body to develop **further mandatory standards for discharge letters.**

- If we are to make shared decision-making a reality, there are symbolic and **practical changes that need to be made to discharge letters** to involve patients and carers. But they will remain a vital channel to communicate clinical information to GPs and others.
- The universal availability of a single, consolidated patient record which can be accessed and amended by all those providing health and social care **may allow the clinical and patient facing elements of a discharge letter to be separated at some future point**.
- **For now, we can only set the desired outcome**, which is that discharge letters and similar clinical communications are:
  - Addressed to the patient
  - Written in clear, non-clinical language
  - Sent within the specified time
  - Shared with all those providing care as appropriate
  - Use mandated fields to ensure continuity of care on medicines
- There is work underway on the guidance for adoption to reflect how overprescribing can be supported.

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Digital solutions are supporting the NHS net zero carbon ambition

R20 – Sustainability

Leads: NHSEI & DHSC

Assess the carbon impact of unnecessary prescribing and medicines waste to help target interventions to support the net zero carbon ambition, using procurement leverage to influence medicines manufacturers, suppliers and distributors. DHSC should continue to support NHS England and NHS Improvement's important work on sustainable medicines use across Government.

Digital solutions for:

- Identifying potential medication waste:
  - Contribution to R7: review of repeat prescribing
  - Could patients contribute to this?
- Encouraging prescribing of inhalers that are least harmful to the environment, i.e. dry powder inhalers rather than metered dose (metered dose inhalers responsible for 2% of NHS carbon emissions so this is an important target for action).

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Next steps for NOR implementation – digital recommendations

Specific delivery plans to be developed for other key digital recommendations including:

R2 - Clinical indications
Work with stakeholders and system vendors to support the recording of indications within digital systems.

R11 – Human Factors
Commission research teams to review, develop and evaluate digital decision-support tools; and work with GP IT system providers to ensure that these products support safe and appropriate prescribing. They should also ensure that digital systems and records make structured medication reviews a simple task.

R10 - Patient engagement and cultural competence
Ensure the NHS website and the NHS App give people culturally competent information about their medication, initially covering the majority of medicines being prescribed in primary care and allowing them to feedback adverse reactions and effectiveness.

Summary

- Digital medicine is transforming healthcare, giving clinicians access to the information and support they need to provide high-quality patient care; enabling better and more efficient communication, and allowing us to focus our resources on where we can make the biggest difference.
- Implementation of the National Overprescribing Review, launched in March 2022, provides further impetus to drive forward a number of digital initiatives to improve patient care and avoid waste whilst also protecting the environment.
- Through all our efforts we will achieve:
  - Better sharing of information on medicines through **transformative** improvements in interoperability
  - Better access to information at the point of decision making for clinicians and patients
  - Better use of NHS data to help drive further improvements in care

Any Questions?