

Partnering for progress: a data-driven analysis of NHS-industry partnerships



October 2024



About this report

This project was commissioned by the Association of the British Pharmaceutical Industry (ABPI). The report was independently researched and developed by Carnall Farrar.



About Carnall Farrar

Carnall Farrar are a values-driven consulting and data science company. We are experts in healthcare and work in partnership with a wide range of clients in both the public and private sectors. We provide a combination of service and products, bringing together expertise and experience from life sciences and health systems, using insights to unlock the potential of data and support the uptake of innovative technologies.

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Glossary of terms

Partnership Working

- **Collaborative Working** – refers to pharmaceutical companies working with other organisations to deliver initiatives which either enhance patient care, are for the benefit of patients, or alternatively benefit the National Health Service (NHS) and maintain patient care as a minimum. (see **page 10** for further details).
- **Joint Working** – between one or more pharmaceutical companies and the NHS is always patient-centred and is an acceptable form of collaborative working providing it is carried out in a manner compatible with the ABPI code (see **page 10** for further details).

Datasets

- **Innovation Scorecard** – the Innovation Scorecard aims to support and drive NHS compliance with NICE Technology Appraisals (TAs) and was designed to help the NHS identify variation which can then be justified, challenged, or acted upon. Data for medicine utilisation is reported at National (England), NHS Region level, Integrated Care Board (ICB), sub ICB locations and Trust organisation level where appropriate.
- **NICE Technology Appraisals** – technology appraisals are recommendations on the use of new and existing medicines and treatments within the NHS, including medicines, medical devices, diagnostic techniques, surgical procedures and health promotion activities.
- **Estimate Reports** – consists of medicines where it has been possible to estimate the number of patients predicted to be treated with the medicines and comparing that to the observed use. To develop estimates of the eligible population, information is required to refine population numbers to the particular circumstances where the medicine is recommended by NICE; from overall disease prevalence to the proportion of patients within a particular stage of a disease and then to the particular indication recommended by NICE.¹

Contents

Executive summary	5
What are NHS-industry partnerships?	9
Approach and methodology	11
Secondary care partnerships and prescribing	16
Analysis of disease management in partnerships for hypercholesterolemia and type 2 diabetes	20
Primary care partnerships	28
Integrated care system and health board partnerships	31
Conclusion	39
Appendix	41
Endnotes	46

Executive summary





Introduction

Partnerships between the NHS and the pharmaceutical industry aim to support NHS priorities, enhance patient outcomes, optimise resource use, and reduce care disparities across the UK.

This report uses published NHS and industry data to examine how partnerships can achieve shared goals of improving population health and enhancing healthcare experiences. While past successes have been demonstrated through individual case studies, this report aims to explore their clinical and performance impacts at a national, aggregate level within a select number of therapy areas.

In 2023, the ABPI reported £24.9 million in UK collaborative efforts. Although modest, scaling these partnerships could deliver a triple win: better patient outcomes, more efficient NHS resource use, and clear impact evidence for the industry. This report emphasises the added value of sustained partnerships, as evidenced by the fact that:

- partnerships in secondary care take place in trusts where prescribing clinically and cost-effective medicines is closer in line with projected NICE recommendations for eligible patients,² and this could deliver improved health outcomes for patients (see **pages 18–28** for further details).
- partnerships in primary care take place where there is improved case-finding and disease management within their localities. (See **page 30** for further details).
- a growing body of evidence suggests that system level partnerships may help deliver improved health outcomes across the four nations of the UK (see **pages 33–39** for further details).

Acknowledging challenges in proving causality, Carnall Farrar employed statistical methods to aggregate and evaluate the impact of NHS–industry partnerships across the UK (see **page 12** for further details). While this does not explore specific improvements in morbidity or mortality, this analysis serves as a foundation for policymakers and health leaders to assess the applicability and scalability of these findings in their regions and local systems.

With this new research, it is hoped that this paper can contribute to a new body of evidence to clearly outline the positive impact that NHS–industry partnerships can play in supporting the NHS to deliver the best possible care for patients across the UK and understand the relationship between partnership working and improved patient outcomes.



Key findings

The overall findings of this report demonstrate that:

Partnerships in secondary care may help improve prescribing for eligible patients and this can deliver better health outcomes:

- Acute trusts that undertake partnerships are twice as likely to prescribe clinically and cost-effective medicines closer in line with projected NICE recommendations for eligible patients based on NICE estimate reports, and this can result in improved health outcomes. (see **pages 18-19** for further details).
- Compared with non-partnering trusts, those partnering with industry show a significantly stronger association (+59 per cent) between prescribing lipid-lowering therapies for hypercholesterolemia and improving cholesterol control (see **page 24** for further details).
- Compared with non-partnering trusts, the data suggests those partnering with industry have a stronger association (30 per cent) between prescribing blood glucose-lowering therapies for type 2 diabetes and improving blood glucose control for frail patients with diabetes (see **page 26** for further details).

Primary care networks (PCNs) that undertook partnerships observed improved health outcomes compared to non-partnering PCNs:

- There is emerging evidence that PCNs that undertake partnerships have a 28 per cent higher level of cardiovascular disease (CVD) control compared to the national average (see **page 30** for further details).

Systems that undertook partnerships observed improved health outcomes:

- There are good examples of system and place-level partnerships across the four nations that have resulted in improved case finding, effective prescribing, reduced waiting times, and improved disease control. One such example showcases a Health Board in Wales that undertook a partnership in head and neck cancer, which reduced diagnostic test turnaround times by 32 per cent (see **page 34** for further details).



Recommendations

In addition to outlining the quantitative impact of NHS-industry partnerships, this report also presents five actionable recommendations:

Secondary care:

- Further research should be conducted to establish the direct causative relationship between partnership working and their impact on patient outcomes across the UK, as well as the improvements they may bring to NHS operational efficiencies.

Primary care:

- There is an opportunity to increase the scale of partnerships taking place in primary care to address unwarranted variations in the prescribing of clinically and cost-effective medicines.
- Partnerships in primary care settings should also be considered to help to identify at-risk patients, initiate treatment, rapid diagnosis, improve chronic disease management and ultimately deliver better health outcomes and reduce health inequalities.

System/place

- To strengthen the impact of NHS-industry partnerships, industry stakeholders and NHS leaders should regularly monitor partnerships documented in the [ABPI's Library of Case Studies](#) to scale the most impactful projects.

National

- The Innovation Scorecard Estimates Report is an important resource for improved support in the identification of geographies where prescribing is misaligned with NICE recommendations. To further enhance the robustness of these sources, these datasets should be expanded in order to enable the identification of more indications at all relevant geographic levels. This will allow for improvements in the visibility of local variation.



What are NHS-industry partnerships?





What forms of NHS–industry partnerships exist?

The [ABPI Code of Practice](#) (see **Appendix 1** for further information) defines two main types of partnerships between local NHS organisations and pharmaceutical companies.

Collaborative working refers to pharmaceutical companies working with other organisations to deliver initiatives which either enhance patient care, are for the benefit of patients, or alternatively benefit the National Health Service (NHS) and maintain patient care as a minimum. As stipulated in the ABPI Code of Practice, Collaborative Working must:

- not constitute an inducement to health professionals or other relevant decision-makers to prescribe, supply, recommend, buy or sell a medicine
- be carried out in an open and transparent manner
- be prospective in nature
- be documented with a formal written agreement which is kept on record
- have a summary of the Collaborative Working agreement publicly available before arrangements are implemented.

Collaborative working, including its implementation, must also have and be able to demonstrate the pooling of skills, experience, and/or resources from all the parties involved for the joint development and implementation of patient and/or healthcare-centred projects. There must be a shared commitment to successful delivery from all parties, and each party must make a significant contribution.

Joint working is a form of Collaborative working between one or more pharmaceutical companies and the NHS is always patient-centred and is an acceptable form of Collaborative working providing it is carried out in a manner compatible with the ABPI code.

All partnerships which record a transfer of value must also be transparently reported and published on [Disclosure UK](#) (for further information on the Disclosure UK process, please refer to **Appendix 2**).

Practical guidance on the implementation of NHS–industry partnerships, entitled “Accelerating Transformation: How to Develop Effective NHS–Industry Partnerships,” was published jointly by the ABPI and NHS Confederation in June 2024 and can be [viewed here](#).

See more on **page 40**.



Approach and methodology



This analysis investigated the relationship between partnerships, prescribing practices for eligible patients, and their impact on health outcomes.

Using the framework below, Carnall Farrar analysed the correlation between NHS-industry partnerships and prescribing closer in line with projected NICE recommendations for eligible patients based on NICE estimate reports. Additionally, Carnall Farrar assessed the impact of these partnerships on health outcomes across healthcare settings in the UK. Carnall Farrar's analysis concentrated on two priority therapy areas: cardiovascular (including hypercholesterolemia) and type 2 diabetes.

These areas were selected for several reasons:

- both are considered NHS priorities (such as through the [NHS Long Term Plan](#)).
- both have clearly defined, up-to-date, and recognised measures of outcomes in primary care data, such as the quality outcomes framework (QOF).
- there were a significant number of partnerships in the therapeutic area to aggregate and compare with non-partnering trusts (see **page 15** for further details).

To support this evaluation, three research questions were identified:

- do NHS organisations that undertake partnerships deliver prescribing closer in line with projected NICE recommendations for eligible patients?
- do NHS organisations that partner have improved patient outcomes relative to those that do not?
- do NHS organisations that undertake partnerships deliver improved patient outcomes in specific therapeutic areas?



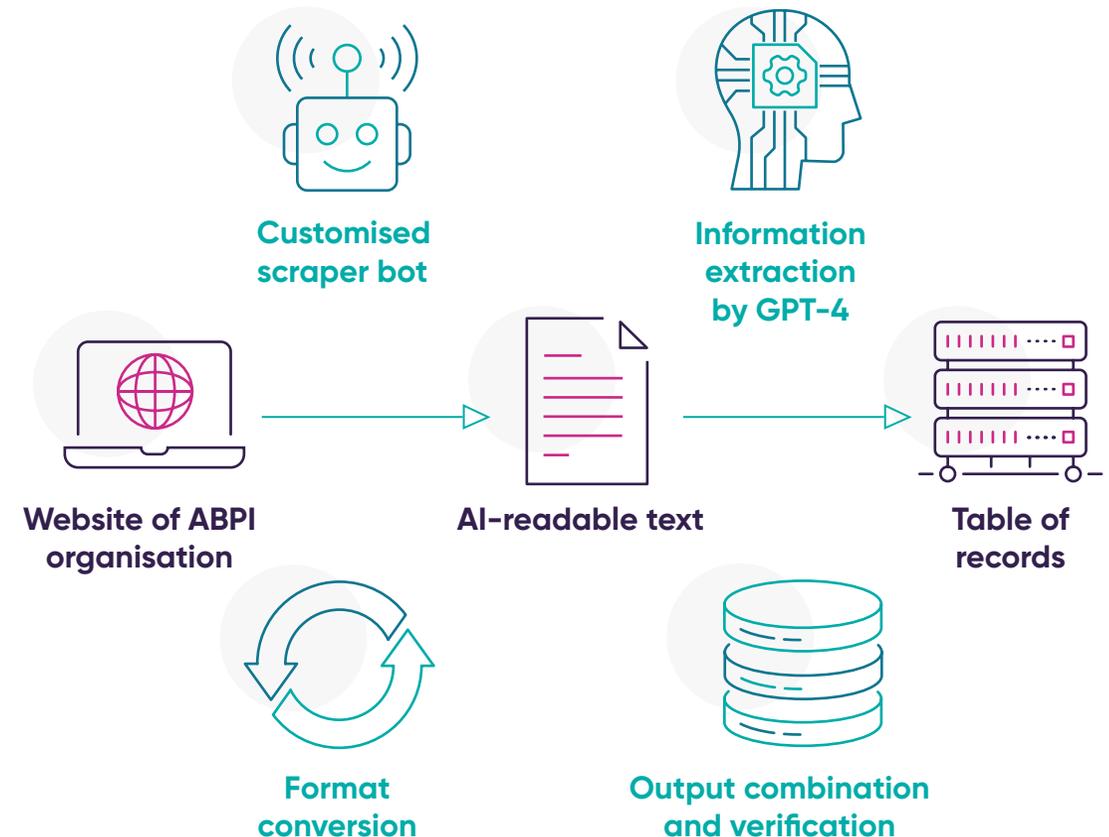


To undertake the collation of data, Carnall Farrar utilised AI to create an NHS-Industry partnership dataset

Carnall Farrar's approach to collating partnership data

- Carnall Farrar aggregated published data across ABPI member organisations since 2019 related to NHS-industry partnerships.
- Data from each file was automatically analysed by artificial intelligence (AI) to extract relevant information related to the NHS organisation involved, the ABPI member the therapeutic area, and the intended benefits of the partnership for the NHS and patients.
- Carnall Farrar then manually verified that the output corresponded with disclosure data to validate the approach.
- Carnall Farrar has extracted data for 441 Joint Working and Collaborative Working projects (see **page 15** for further details) which were validated against the disclosure data – with this dataset representing ~70 per cent of collaborative and Joint Working projects across the UK.³

Automatised data extraction pipeline



Carnall Farrar created a table of record to compare NHS organisations that partnered to organisations that did not

Creating a table of record

Carnall Farrar pulled out a set of distinguishing features for NHS-Industry partnerships which includes:

- the name of industry partner
- the name of NHS partner including organisational level
- the therapeutic area
- the partnership objective
- the intended NHS benefits

To quantify the impact, Carnall Farrar compared aggregated data from partnering and non-partnering organisations. Please note that of the 441 identified partnerships, not all were included in every analysis. This was because a number of these projects were excluded due to insufficient numbers in specific therapeutic areas, which precluded meaningful comparative analysis.

An example table of records can be viewed below:

Industry Partner	NHS Partner	Therapeutic area	Sub-therapeutic area	Collaboration objectives	Intended NHS Benefits
Partner A	NHS foundation trust in England	Cardio-vascular	Heart failure	Improve CVD outcomes and establish joint clinics	Enhanced pathways and management of patients
Partner B	Health Board in Scotland	Cardio-vascular	Hyper-cholesterolemia	Identify high risk patients and improve patient care	Improved patient identification and more appropriate referrals



The ABPI partnerships dataset in numbers

The data gathering exercise returned **441** collaborations from **30** ABPI members, the majority of which occurred **since 2019**.

By nation...

367	England
19	Northern Ireland
17	Scotland
14	Wales
24	Other

By organisation...

209	Trusts
105	PCNs / GP Federations
47	Health board / ICB
34	Cancer Alliance
18	AHSN / Innovation Network
16	Place
33	Other

By therapeutic area...

109	Cardiovascular, renal, metabolic (inc. type 2 diabetes)
98	Cardiovascular
93	Oncology
36	Respiratory
15	Ophthalmology
90	Other



Secondary care partnerships and prescribing





Overarching findings drawn from analysis of innovation scorecard

Partnering trusts in England prescribed closer in line with projected NICE recommendations for eligible patients than trusts that did not partner.

- To determine prescribing practices across a range of available treatment groups,⁴ Carnall Farrar analysed NICE estimate reports and found that neither partnering nor non-partnering trusts exceeded estimated medicine usage among eligible patient populations.⁵
- As outlined in the table below, Carnall Farrar's findings also indicated that trusts that undertook partnerships prescribed closer in line with projected NICE recommendations for eligible patients based on NICE estimate reports (at 53 per cent) compared to trusts that did not (at 42 per cent). (For further details on the methodological approach to this analysis, please refer to **Appendix 3**).
- Having examined the overall estimated prescribing practices among trust populations in secondary care, Carnall Farrar conducted an in-depth analysis of the relationship between the prescribing of specific medicine indicator groups in trusts that engage in partnerships compared to those that do not. This is shown on the following page.

Estimated and observed trust medicine prescribing, partnering acute trusts vs. non-partnering acute trusts.

Assumed daily dose (ADD) from July 2022–June 2023 for select medicine indicator groups).⁶

Trust Population	Estimated medicine usage (ADD)	Observed medicine usage (ADD)	Observed usage vs. estimated usage
Collaborating Acute Trusts Population	22,254,696	11,904,349	53%
Non-collaborating Acute Trusts Population	16,304,013	6,863,108	42%

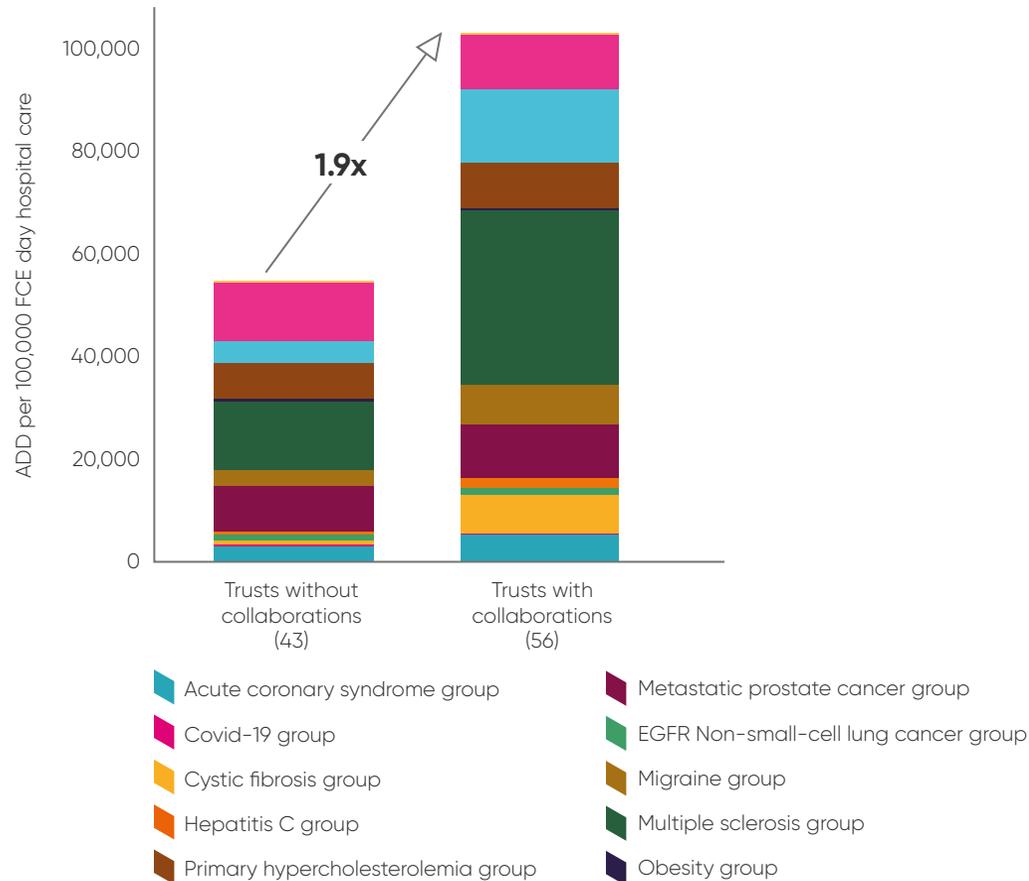
Source: NICE technology appraisals in the NHS in England: Innovation scorecard, Carnall Farrar population analysis.



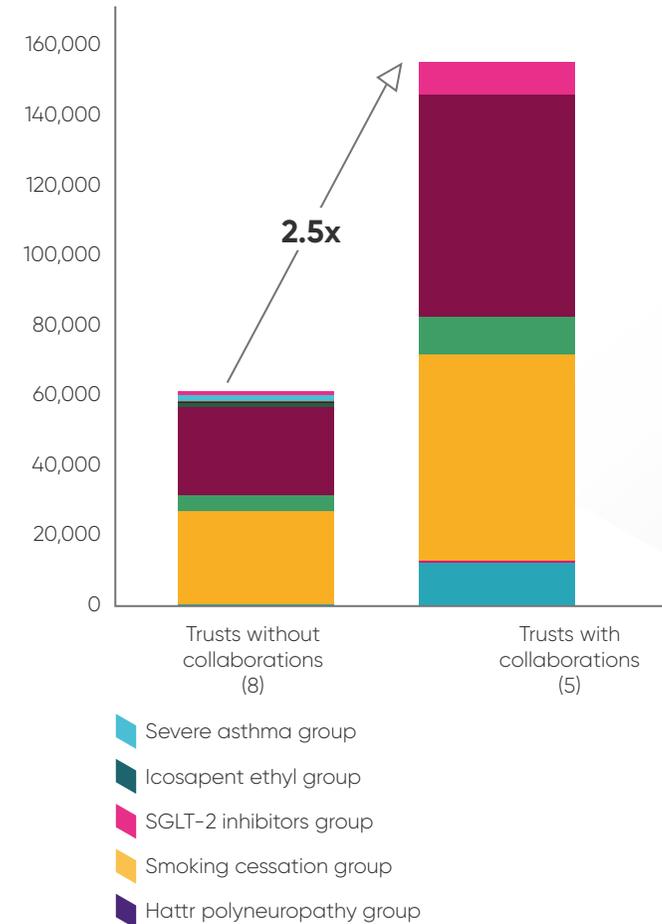
Trust prescribing by medicine indicator group, partnering trusts vs. non-partnering trusts.

(assumed daily dose per 100,000 finished consultant episode day hospital care in 22/23).

Acute trusts, July 2022 - June 2023



Specialist trusts, July 2022 - June 2023



- To further understand the relationship between NHS-industry partnerships in acute and specialist trusts and prescribing practices, Carnall Farrar analysed data from 112 trusts across 15 therapy groups, both partnering and non-partnering.
- While proving a clear causal relationship is challenging, there is a statistically significant trend between partnering trusts and their prescribing practices. As illustrated by the graphs presented, Carnall Farrar's analysis found that trusts participating in partnerships were more likely to prescribe clinically and cost-effective medicines closer in line with projected NICE recommendations for eligible patients based on NICE estimate reports than those that did not.
- Carnall Farrar's analysis, based on NICE estimate reports across medicines indicator groups, found that between July 2022 and June 2023, **acute and specialist trusts that participated in partnerships were 1.9 and 2.5 times more likely to prescribe closer in line with projected NICE recommendations for eligible patients**, compared to those that did not.



Analysis of disease management in partnerships for hypercholesterolemia and type 2 diabetes





Carnall Farrar examined the impact of partnerships on prescribing closer to projected NICE recommendations and the relationship to improved patient outcomes

The previous section illustrated the potential relationship between partnerships and the role they can play in supporting eligible patients to receive the clinically and cost-effective medicines they require. This report will now provide a detailed analysis of two therapy areas: hypercholesterolemia and type 2 diabetes, to determine whether the partnerships in these therapy areas were associated with better health outcomes within the trust's catchment population (please refer to **page 12** for additional information on the rationale behind selecting these two therapy areas for the analysis).

Consequently, 19 projects⁷ were identified and evaluated, each with a wide range of objectives as described below:

9 hypercholesterolemia partnerships aiming to...

- improve identification of patients with cardiovascular disease
- optimise medicine use on the lipid management pathway
- increase diagnosis and follow-up of patients
- support implementation of NICE guidelines

10 type 2 diabetes partnerships aiming to...

- improve long-term cardiovascular outcomes and patient experience
- optimise patient pathway and treatment protocol
- support early diagnosis and management and reduce complications
- develop educational programmes and public health initiatives



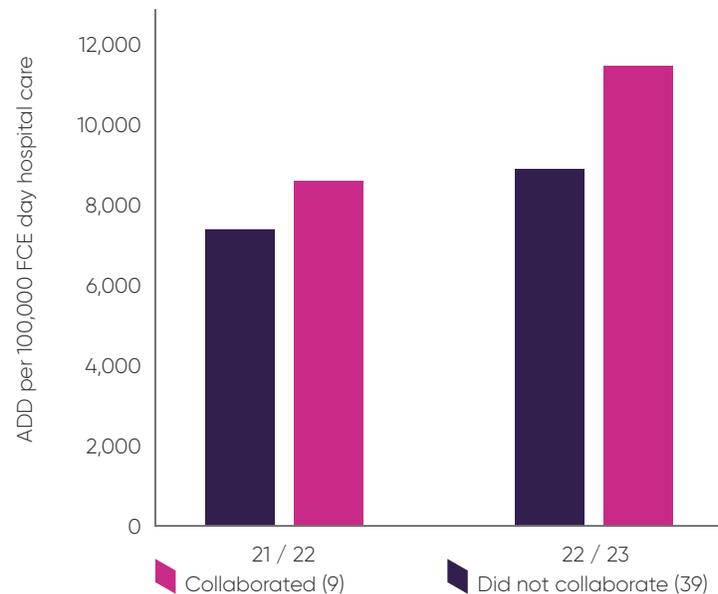


Partnering acute trusts show a higher likelihood of providing clinically effective treatments for hypercholesterolemia and type 2 diabetes to eligible patients than non-partnering trusts

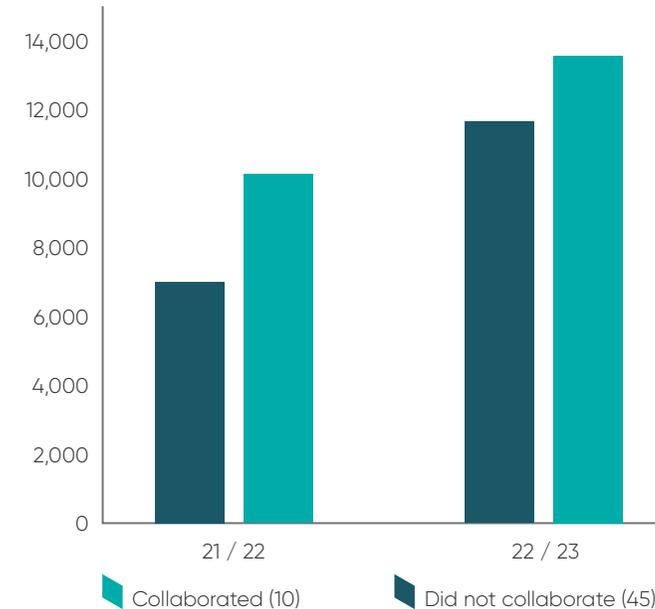
Acute trust medicine prescription by medicine indicator group, partnering acute trusts vs. trusts that did not partner.

(Assumed Daily Dose per 100,000 Finished Consultant Episode day hospital care in 21/22 and 22/23 for a given medicine indicator group).

Hypercholesterolemia medicines



SGLT-2 Inhibitors (Diabetes)



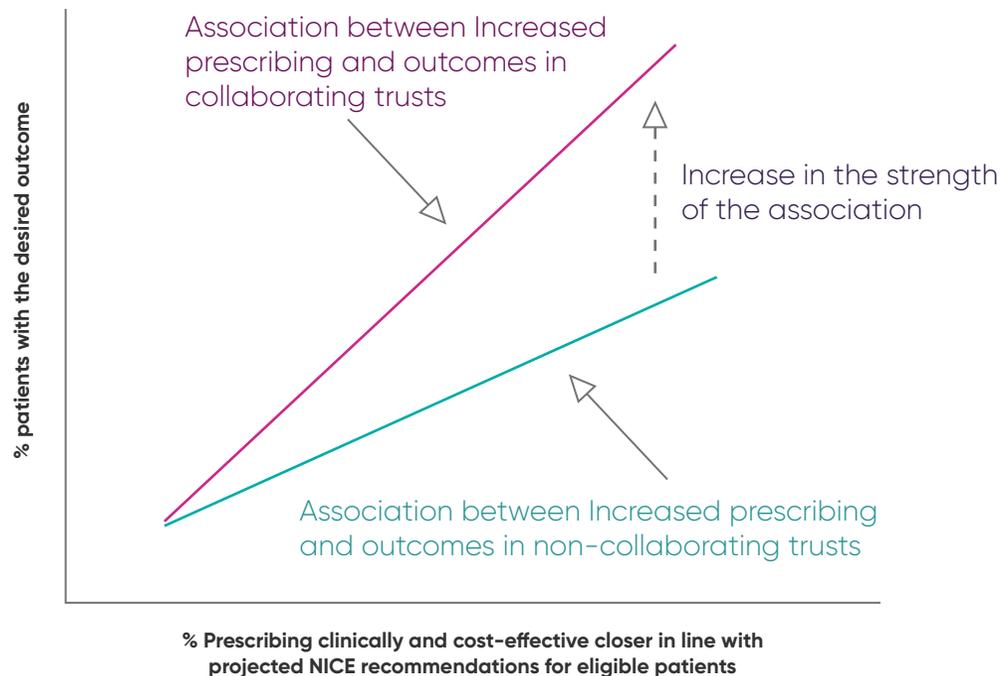
- The results indicate that acute trusts that partnered across two therapeutic areas are potentially more likely to prescribe clinically and cost-effective medicines closer in line with projected NICE recommendations for eligible patients based on NICE estimate reports where data was available, in both 2021/22 and 2022/2023.
- The analysis showed that in partnering trusts, the estimated usage of clinically and cost-effective hypercholesterolemia medicines among eligible populations increased from **12 per cent to 17 per cent between 2021/22 and 2022/23, compared to an increase from 11 per cent to 14 per cent in non-partnering trusts.**⁸
- The next pages explore the potential link between this and health outcomes.



Evidence indicates that partnerships can enhance the relationship between prescribing for eligible patients and result in improved health outcomes

Visual representation of the impact of partnerships on outcomes.

Comparison of prescribing closer in line with projected NICE recommendations for eligible patients, with improvements in health outcomes.



- Having demonstrated the potential relationship between partnerships and prescribing practices, Carnall Farrar investigated the impact this had on health outcomes.²
- To achieve this, Carnall Farrar explored the strength of the association between prescribing clinically and cost-effective medicines closer in line with projected NICE recommendations for eligible patients and health outcomes.
- The illustrative graph highlights that **partnering trusts were found to have a stronger association between prescribing for eligible patients and health outcomes**, highlighting one of the mechanisms by which partnerships can positively impact the NHS.
- This relationship is explored further on **pages 24 and 26**, where a detailed analysis of the impact of partnerships on improving health outcomes for type 2 diabetes and hypercholesterolemia is provided.





Compared with non-partnering trusts, those partnering with industry show a significantly stronger association (+59 per cent) between prescribing lipid-lowering therapies for hypercholesterolemia and improving cholesterol control

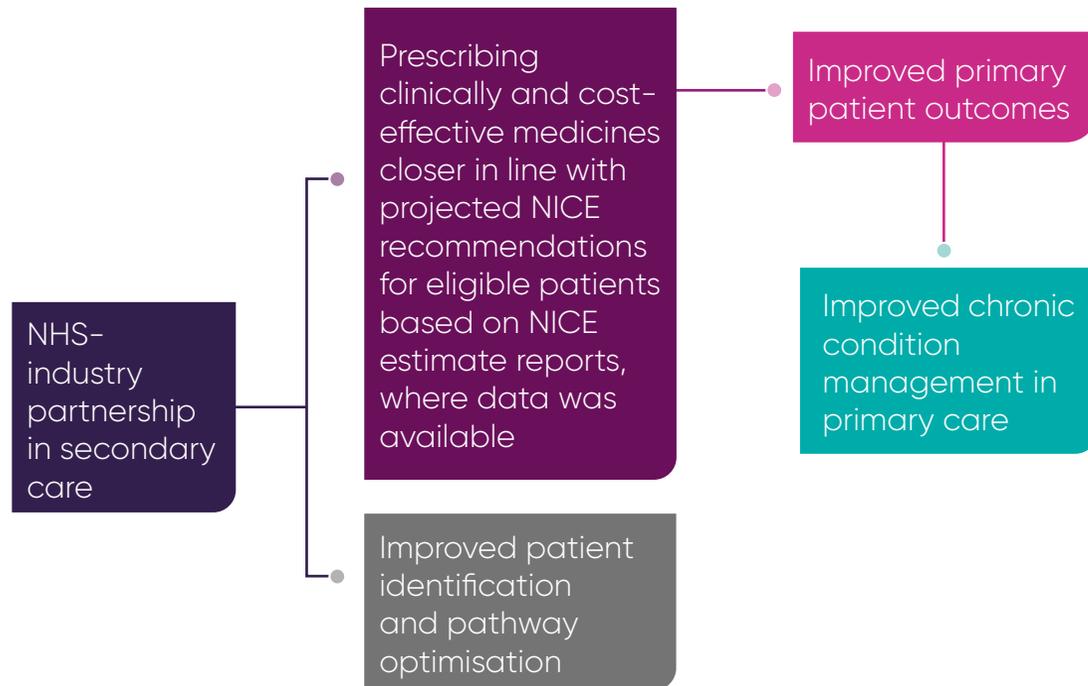
- High lipid levels can lead to cardiovascular risks like heart disease or stroke due to artery blockages and lipid-lowering medicines for hypercholesterolemia help reduce these risks. To explore the relationship between partnerships, lipid-lowering therapy prescribing for hypercholesterolemia, and improved lipid control outcomes at the acute trust level, Carnall Farrar analysed data from the Innovation Scorecard and the QOF.
- To underpin this analysis, statistical methods (see **page 23** for further details) were employed to estimate the relationship between two variables: the change in lipid-lowering therapy prescriptions for hypercholesterolemia over 12 months and the corresponding improvement in cholesterol control among CVD patients within the catchment area. This analysis was conducted across both partnering and non-partnering trusts.
- The evaluation found that trusts partnering with industry show a significantly stronger association (+59 per cent) between prescribing lipid-lowering therapies in secondary care for hypercholesterolemia and improving cholesterol control in trust populations. This finding suggests that partnerships in acute trusts leads to prescribing closer in line with projected NICE recommendations for eligible patients based on NICE estimate reports and may improve population outcomes for hypercholesterolemia.

- Carnall Farrar also analysed blood pressure control for patients in the catchment areas of acute trusts that partnered and those that did not. Improved blood pressure control also reduces the risks of cardiovascular disease complications, although this is not expected to be reduced by lipid-lowering therapies directly.
- Improved blood pressure was more strongly and positively correlated with prescribing practices in partnering trusts, with an 8% improvement for those under 79 and a 13% improvement for those over 80, compared to non-partnering trusts. This improvement suggests that partnerships on lipid-lowering therapies initiated in secondary care could have the knock-on benefit of improving management.

Measure	Strength of the association between prescribing and lipid control for collaborating trusts (compared to non-collaborating trusts)	Coefficient p-value for trusts that collaborate (<0.05 taken to be statistically significant)
Patients with cholesterol in healthy range	+59%	0.03
Patients with blood pressure in healthy range (under 79)	+8%	0.04
Patients with blood pressure in healthy range (over 80s)	+13%	0.01

Source: Innovation scorecard prescribing data, QOF measures of cholesterol control and blood pressure control, Carnall Farrar analysis. Cholesterol in the healthy range defined as percentage of patients aged 18 and over, with GP recorded CVD, in whom the most recent blood cholesterol level (measured in the preceding 12 months) is non-HDL cholesterol less than 2.5mmol/l or LDL-cholesterol less than 1.8mmol/l.


 Carnall Farrar's analysis suggests a relationship may exist between secondary care partnerships in hypercholesteremia and improved management of chronic conditions in primary care



- 
 The evidence presented in the previous pages indicates that partnership efforts to prescribe clinically and cost-effective medicines closer in line with NICE recommendations for eligible patients based on NICE estimate reports have the potential to result in a higher proportion of patients achieving better outcomes, such as improved lipid control and diabetes management, alongside enhanced control of blood pressure.
- 
 These emerging hypercholesteremia and cardiovascular disease risk observations suggest a **potential link between NHS-industry partnerships in secondary care and the long-term management of cardiovascular conditions in primary care.**
- 
 Further investigation is needed to establish causative factors underlying this relationship. A possible explanation is that partnerships could lead to increased referrals of statin-resistant patients from primary to secondary care, thereby promoting the use of appropriate second-line lipid-lowering treatments. This in turn would reinforce efforts to manage additional cardiovascular risk factors like blood pressure proactively in primary care.
- 
 The next page will continue the analysis of the impact partnerships can have on improving health outcomes, with a focus on type 2 diabetes.



Compared with non-partnering trusts, the data suggests those partnering with industry show a stronger association (+30 per cent) between prescribing SGLT2 inhibitors for diabetes and improving blood glucose control

- Consistently high blood glucose levels are indicative of uncontrolled diabetes which can lead to a variety of health complications associated with the condition if not properly managed, such a nerve damage, eye damage and kidney damage. SGLT2 inhibitors, a diabetes therapy, can help reduce these risks by preventing excess glucose being reabsorbed back into the bloodstream in the kidneys.
- To explore the relationship between partnerships, SGLT2 prescribing for diabetes, and improved blood glucose control, Carnall Farrar analysed data from the Innovation Scorecard and the QOF.
- To underpin this analysis, statistical methods (see **page 23** for further details) were employed to estimate the relationship between two variables: the change in SGLT2 inhibitor prescriptions for diabetes over 12 months and the corresponding improvement in blood glucose control among patients with frailty and diabetes within the catchment area. This analysis was conducted across both partnering and non-partnering trusts.

- Carnall Farrar's analysis found that acute trusts undertaking partnerships in type 2 diabetes (comprising 50 trusts in total –10 partnering and 40 non-partnering) increased prescribing¹⁰ which correlated with enhanced disease management in the form of improved blood glucose control in patients with frailty and diabetes.
- The data suggests that at increased prescribing levels, partnering trusts experience a **stronger association (+30 per cent) between prescribing diabetes therapies in secondary care and improved blood glucose control in trust populations**. The findings are indicative of an association between partnerships and improved outcomes from increased prescribing but provides limited causative evidence to confirm this.

Measure	Strength of the association between prescribing and blood glucose control vs non- collaborators	Coefficient p-value for trusts that collaborate
Frail Patients with blood glucose in range	+30%	0.09

Source: Innovation Scorecard, Quality Outcomes Framework (Qof), Carnall Farrar analysis. Controlled blood glucose defined in QOF as the percentage of patients with diabetes, on the register, with moderate or severe frailty in whom the last IFCC-HbA1c is 75 mmol/mol or less in the preceding 12 months.





Case study in England: patients with diabetes had improved blood glucose control after an NHS–industry partnership that provided additional clinics and mentoring for healthcare professionals

AstraZeneca partnered with Sheffield Teaching Hospitals NHS Foundation Trust between January 2021 and June 2022 to improve care for eligible patients with diabetes, with a particular focus on the local South–East Asian community. This was part of a local long-term plan to improve patient engagement and reduce observed variations in care and outcomes – and was primarily addressed through three additional clinics.

The project also aimed to provide mentoring services for healthcare professionals delivering diabetes services in the area. This included promoting a training package to help deliver the recommendations of the NG28 NICE diabetes guidelines. It also provided cultural and linguistic support so that reviews in practice could minimise barriers that would limit effective patient care.

A year after the conclusion of the partnership, **a higher proportion of the trust catchment population had improved blood glucose control compared to the national average.** This was associated with improved prescribing of clinically and cost-effective diabetes medicines in secondary care.

It is important to note that the percentage change in prescribing was below the national average though the outcome measures were above the national average. This may reflect the positive impact on health outcomes that partnerships can have above and beyond medicine prescribing.¹¹

Outcome measure	2021/2022	2022/2023	% change (national average)
% change in SGLT2 inhibitors medicine prescribing in secondary care (Assumed Daily Dose per 100,000 Finished Consultant Episode days of hospital care)	2637	3907	+48 (63)
% patients with diabetes without frailty with controlled blood glucose	57.4	68.0	+10.6 (9.5)
% patients with diabetes with frailty with controlled blood glucose	82.9	91.8	+8.9 (7.2)
% patients with diabetes with recorded foot examinations	75	89.9	+14.9 (14.5)*

Primary care partnerships





Partnerships at practice levels have delivered early suggestions that they can improve prescribing for eligible patients and result in better health outcomes

PCNs are a fundamental component of the NHS Long-Term Plan in England. Their primary objectives include stabilising general practice, bridging the traditional gap between primary care and community services, and reducing health inequalities.

Carnall Farrar's analysis identified 105 partnerships at the PCN, GP federation, or GP practice level. Of these, 49 began in 2023 and 45 in 2022, indicating that most of these partnerships have had limited time to achieve a measurable impact.

However, Carnall Farrar's findings indicate **that there are early indications that partnerships at a PCN level have the capacity to improve disease management** and deliver prescribing closer in line with projected NICE recommendations for eligible patients.

It is important to acknowledge that other factors may have contributed to the improved patient outcomes at the PCN level, and that further research is necessary to determine the direct causal relationship between partnership working and these outcomes.

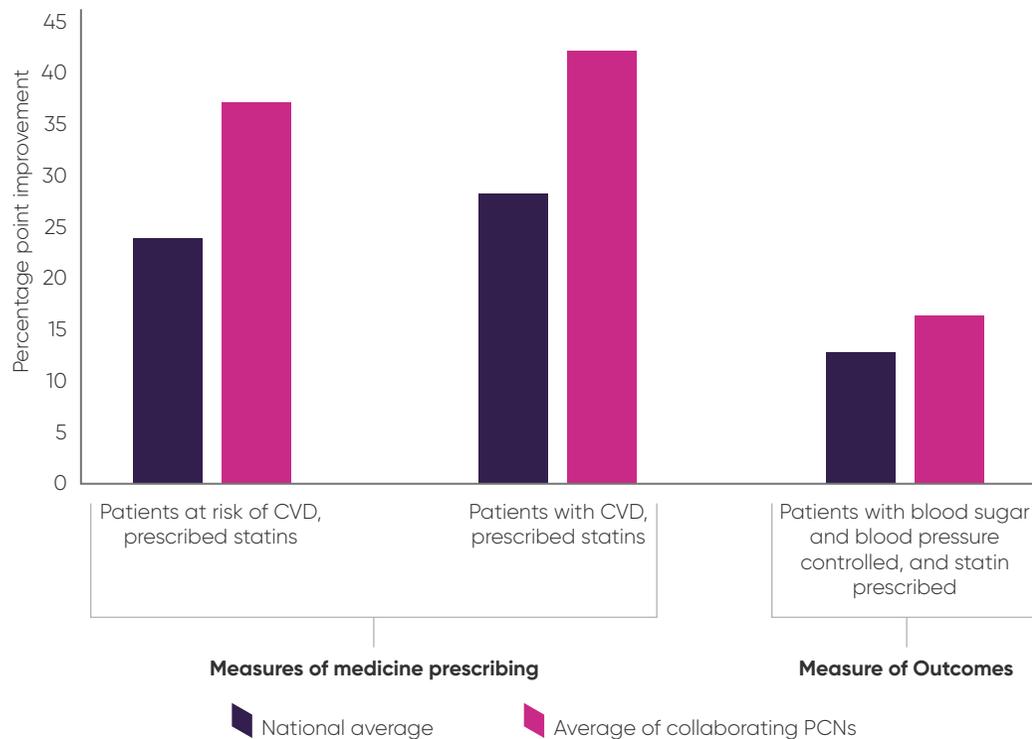




PCNs in England with cardiovascular partnerships show a 28 per cent greater improvement in blood sugar and blood pressure control compared to the national average

Cardiovascular risk in primary care in population with diabetes, PCN partnerships vs. PCN national average.

(Average percentage point change between January 2021 and September 2023).



Source: National Diabetes Audit, Carnall Farrar analysis.

- Since 2022, 15 PCNs have partnered with industry to improve cardiovascular control in patients with diabetes. These initiatives aimed to improve primary care management for cardiovascular, renal, and metabolic (CVRM) conditions through increasing PCN clinical capacity to review the backlog of patients caused by COVID-19 and improve understanding of CVRM patients in primary care.
- This analysis found that PCNs that have partnered have had a greater proportion of eligible patients being prescribed therapeutics to reduce cardiovascular risks compared to the national average.
- During the same period, **PCNs with partnerships had a higher proportion of patients meeting NHSE targets for blood sugar and blood pressure control compared to the national average (28 per cent improvement vs. national average).**
- Together this provides early evidence that partnerships focused at the PCN level may lead to prescribing closer in line with projected NICE recommendations for eligible patients and can result in better outcomes for patients.



Integrated care system and health board partnerships





System level partnerships

Partnerships between the NHS and the pharmaceutical industry extend beyond secondary and primary care. With the introduction of system-level care in 2022, such partnerships have increasingly been observed across Integrated Care Systems and Health Boards throughout the UK. Carnall Farrar's analysis found that since their establishment, 47 system-level partnerships have occurred.

Although this number is relatively small compared to the 209 partnerships at the secondary care level, the following section highlights clear, local examples from across the UK where **partnership working has improved patient outcomes and optimised NHS resources**. Additionally, these examples show potential for replication and scaling across the health systems of the entire UK.



Case Study from Scotland: A partnership with NHS Lothian improved heart failure services for patients

Between June 2022 and December 2023, AstraZeneca undertook a partnership with NHS Lothian. The aim of this project was to:

- redesign the HF service to incorporate a dedicated HF pharmacist clinic.
- identify and refer appropriate HF patients to this clinic.
- provide appropriate and dedicated pharmaceutical care to these patients aligned with local/guidelines protocols.

As a result of the project, the following benefits were realised:

Patient Benefits:

- By week **24, 75 per cent of eligible patients were fully optimised for their treatment compared to 59 per cent prior to the project.**
- A patient satisfaction questionnaire was developed, **100 per cent of eligible patients rated the overall consultation as excellent** and no serious adverse events were recorded.

NHS Benefits:

- Pharmacist led optimisation clinics were established throughout NHS Lothian**, with referrals via the HF multidisciplinary team meetings and directly from the HF Specialist nurses.
- The average monthly caseload was 50 patients, which **released 138 Specialist Heart Failure appointments per month.**
- A 4-pillar optimisation scoring system was developed** to capture data at 8,16, and 24-weeks post-referral.

“Through this collaborative project we showed how adding a specialist pharmacist to the heart failure team can improve treatment for patients with heart failure whilst freeing up other members of the team to respond more rapidly to deteriorating patients.”
Dr Alan Japp, Consultant Cardiologist & Clinical Lead for Heart Failure, NHS Lothian.





Case study from Wales: a partnership across Aneurin Bevan University health board resulted in an optimisation of the patient pathway and reduced burdens on the NHS

Between February 2022 and February 2023, MSD undertook a project aimed to optimise the **head and neck cancer pathway** across Aneurin Bevan University Health Board (ABUHB) through service redesign. The partnership with the head and neck cancer multidisciplinary team focused on the pathway from suspicion of recurrence through to subsequent treatment.

MSD provided project management support to the ABUHB team to assess the current state of the recurrent head and neck cancer pathway. MSD then supported the implementation of improvement initiatives to close these gaps. The project was focused on the standardisation of PDL-1 test requests and processing. PD-L1 is a biomarker present in some lung cancer tumours. The presence of PDL-1 in cancer patients may help provide information about whether a patient would benefit from immunotherapy to treat their lung cancer.

As a result of the project, the following benefits were realised:

Patient Benefits:

- Optimisation of the pathway which allowed eligible patients to navigate through the more efficiently, potentially increasing the chance of a successful outcome.

NHS Benefits:

- The request for PDL-1 tests were standardised of through the multidisciplinary team (MDT) referrals team rather than the pathology team, to minimise patient delays.
- PDL-1 test requests are now taken at the point of MDT after imaging review **potentially reducing the pathway by up to 7 days.**
- PDL-1 test results are now sent back to ABUHB via email and to Oncology at the same time as pathology to ensure treatment decisions can be made as quickly as possible, potentially **reducing the pathway by up to 2 days.**
- Tissue biopsies identified are now marked at initial pathology diagnostics to show which would be best for preparing pages for PDL-1 testing. This **reduced the pathway by 2 days.**
- Tissue biopsies are now sent to an alternative reference centre for PDL-1 testing rather than ABUHB having to prepare pages. This has alleviated preparation capacity for ABUHB.
- The average turnaround time for PDL-1 tests being received has **reduced from 40 days (Apr 2022) to 27.2 days (June 2023), a 32 per cent reduction.**

Case Study from Northern Ireland: a partnership resulted in greater identification and optimisation of a risk-stratified cohort of patients with type 2 diabetes

The East Belfast population accounts for 25 per cent (115,459) of the total patients in the Belfast Local Commissioning Group. A total of 15 general practices participated in the current project, which includes approximately 4,000 people living with type 2 diabetes (T2D).

Locally the East Belfast Federation practices had faced considerable challenges in managing the increasing number of people living with T2D, including, for example, the attainment of treatment targets in T2D patients. To address the care gap, [Boehringer Ingelheim](#) developed a new model of care to increase management capacity for T2D patients was proposed and implemented. A joint working project was undertaken between a pharmaceutical company and East Belfast GP Federation with the aim of improving the care of patients with T2D through an integrated pharmacist-led service that worked across a group of practices in East Belfast GP Federation.

The objectives of the project included:

- Improved adherence to the latest update of NICE T2D (NG28, 2022), with a focus on eligible patients with chronic kidney disease (CKD) & cardiovascular disease (CVD).
- Upskilling of diabetes teams, to create a legacy effect and ensure improved holistic management will continue beyond the project period.
- Use a clinical audit tool to identify, stratify, and optimise T2D patients.
- Improved identification, coding, and recall of patients with non-diabetic hyperglycaemia (NDH).

As a result of the project, the following benefits were realised:

Better for Patients

- **266 additional patients achieved their three treatment targets (3TT).**
- **A 53.6 per cent and 38.6 per cent increase in eligible patients receiving SGLT2 inhibitors and Glucagon-like peptide-1 receptor agonists** respectively, were observed.

Better for NHS

- **44 per cent increase in the number of referrals to the NHS Diabetes Prevention Programme.**
- Comparison between participating and non-participating GP practices within the East Belfast GP Federation suggested an increase in SGLT2 uptake during the project period, with an increase in the proportion of SGLT2i prescribed (as a proportion of all T2D preparations prescribed) from 12.7 per cent in January 2022 to 20.7 per cent November 2023.

Case Study from England: a heart failure partnership in Hillingdon led to a reduced number of A&E attendances and improved control for patients relative to peers

Between 2018 – 2022, Novartis partnered with NHS Hillingdon Clinical Commissioning Group (CCG). The aim of this project was to:

- improve the detection and treatment of HF in primary care
- identify eligible patients with stable HF not optimised on therapy
- provide optimisation of HF therapy.

The partnership sought to achieve this by reducing hospital admissions, improving the relationship between community HF teams and GP practices, and better integrating acute and community HF teams.

During this time, improved outcomes were observed in Hillingdon compared to its peers in the Northwest London (NWL) ICB.

Benefits for Patients:

- NHS Hillingdon CCG had a 23 per cent increase in the identification of eligible HF patients compared to the 9 per cent national average between 2020 and 2023.

Benefits for the NHS:

- NHS Hillingdon CCG had an above-average increase in patients that are being reviewed to ensure that medicines optimisation is at maximally tolerated doses.
- NHS Hillingdon CCG had seen a slower rate of increase in A&E attendance for HF compared to peers. (A comparison of Hillingdon peers can be found in Appendix 4).

"The project showcased outstanding collaborative efforts across primary care, community care, and secondary care. It also offered the specialist nursing team an opportunity to enhance their partnership with GP colleagues, a partnership that has continued to grow even after the project's conclusion."

Georgina Priestley, Community Cardiac Nurse Specialist and Team Lead, Central and North West London NHS Foundation Trust.

"This project was exciting from the start, as it brought primary, secondary and community care together to help improve the care of heart failure patients in our area. The results were remarkable with many new patients being identified and added on the heart failure registers, which led to them receiving optimal medical therapy."

Dr Georgios Karagiannis, Consultant Cardiologist, Hillingdon Hospital.

"I'm so glad to have had the time to speak to someone about my condition and allow me to ask questions and answer me in terms that I could understand." **Patient feedback on the project.**

Heart failure prevalence compared to peers

Place	Heart Failure Prevalence (%)			
	2020/21	2021/22	2022/23	% change from 20/21
Hillingdon	0.54	0.70	0.70	23%
Ealing	0.66	0.60	0.63	-5%
Hounslow	0.57	0.62	0.63	10%
National Average	0.91	0.95	1.00	9%

Improved detection of heart failure

Maximal tolerated medicine dose reviews compared to peers

Place	% of HF patients reviewed for maximal tolerated medicine dose		
	2020/21	2021/22	2022/23
Hillingdon	51.75	93.47	41.72
Ealing	49.39	92.89	43.50
Hounslow	49.42	89.28	39.87
National Average	45.50	84.76	39.25

Prescribing closer to projected NICE recommended levels of therapies

A&E attendance rate for HF patients in compared to peers

Place	A&E attendance rate per 100,000 population for heart failure		
	2020	2023	% change from 2020
Hillingdon	3.6	8.1	125%
Ealing	3.2	11.5	259%
Hounslow	1.0	5.9	490%

Comparative rate of A&E attendance

Source: QOF, Hospital Episodes Statistics, Carnall Farrar analysis.



Case Study from England: A partnership with Hull University Teaching Hospitals NHS Trust and Humber Coast and Vale Integrated Care System improved review of patients with severe asthma

Humber Coast and Vale Integrated Care System partnered on a Joint Working project with GSK¹² between December 2021 and February 2024. The project aimed to improve patient care through the identification and review of patients with uncontrolled asthma within primary care, facilitate their referral to severe asthma services, and improve uptake of biologic treatments for eligible patients with severe asthma.

Participating GP practices within the ICS had a remote search run on their system to identify patients with uncontrolled asthma. The remote search identified patients with asthma who were receiving ICS/LABA combination therapy and who had been prescribed 3 or more courses of prednisolone in the past 12 months or maintenance prednisolone for 6 months or more. respiratory nurse advisors virtually reviewed identified patients using a detailed clinical assessment sheet and referral criteria which was developed by the severe asthma leads at Hull University Teaching Hospital.

The eligible patients identified from the search were invited for up to 3 virtual reviews with a respiratory nurse advisor. Patients whose asthma remained uncontrolled after virtual reviews were referred to the severe asthma service at Hull for ongoing management and biologic initiation if appropriate.

Partnership Outcomes:

- Of the 608 patients who were reviewed, 464 reviews were completed with a new or updated written asthma management plan (76 per cent).
- Following the reviews 188 (31 per cent) patients received escalation of treatment, 441 (68 per cent) maintained their current treatment and 9 (1 per cent) patients had their treatment de-escalated
- 31 patients were referred to the severe asthma clinic where 7 received biologic treatment and 13 received another form of pharmacological intervention.
- All referrals for severe asthma clinic review were assessed as appropriate and patients experience was scored at 96.9 per cent.

Whilst all patients identified met criteria for a trial of treatment with biological therapies, treatment optimisation/advice led to improved asthma control for most patients. **A large proportion of patients were optimised and maintained on treatment in primary care and not referred to the severe asthma service or progressed to biological therapy.**

Outcomes would suggest **most asthma patients can remain controlled in primary care with the correct asthma education** if enough time is given for a thorough asthma review. This demonstrates the potential of partnerships to benefit patients and reduce capacity pressures and improve operational efficiencies across the entire system.

Conclusion





Conclusion

The evidence presented in this report indicates that where NHS-industry partnerships take place in acute trusts, prescribing of clinically and cost-effective medicines is closer in line with projected NICE recommendations for eligible patients and this can result in improved health outcomes.

At a secondary care level, compared with non-partnering trusts, those partnering with industry show a significantly stronger association (+59 per cent) between prescribing lipid-lowering therapies for hypercholesterolemia and improving cholesterol control. Additionally, this research observed that partnering trusts may experience a 30 per cent improvement of eligible frail diabetes patients within the required range for blood glucose, compared to trusts that did not undertake partnerships.

At a primary care level, targeted partnerships show evidence of potential improvements in initiation of statins in patients with cardiovascular disease or those at risk, resulting in a 28 per cent greater improvement in cardiovascular disease control among partnering PCNs compared to the national average. Lastly, at the system level, there are examples of partnerships across the UK leading to enhanced case finding, more effective prescribing, reduced health inequalities and improved disease control as evidenced by a range of case studies.

Having highlighted the potential value offered by NHS-Industry partnerships, there is now a significant opportunity to leverage these advantages across all four nations. The five recommendations outlined in this report at secondary, primary, system and national levels offer a clear and effective framework for enhancing and scaling these partnerships to improve health outcomes for the benefit of patients.



Appendix



Appendix 1: How are NHS-Industry Partnerships Governed? – The ABPI Code of Practice

The [ABPI Code](#) embodies the pharmaceutical industry's commitment to operate in a professional, ethical, and transparent manner. It is the cornerstone of the UK system of industry self-regulation. The ABPI Code regulates the promotion of prescription medicines to UK health professionals, industry interactions with health professionals, and the provision of information about prescription-only medicines to the public, including patients, journalists, and patient organisations. All forms of NHS-industry partnerships are bound by the ABPI Code.

The [Prescription Medicines Code of Practice Authority \(PMCPA\)](#) is responsible for administering the ABPI Code of Practice for the pharmaceutical industry at arm's length of the ABPI itself.

Underpinning this are the ABPI Principles, which sit alongside the Code. These set out the behaviours that embody the spirit of the Code, and the ABPI expects that companies build these into their culture and approach. The four key principles are as follows:

- Commitment to benefiting **patients** and ensuring patient safety by operating in a professional, ethical, and transparent manner to ensure the appropriate and rational use of medicines and to support the provision of high-quality healthcare
- Acting with **integrity** and committing to engaging in relationships that are responsible, professional, ethical, and transparent
- Commitment to ensuring that **transparency** is respected
- Interact with all stakeholders with **respect**.

The ABPI Code is regularly reviewed, consulted upon, and refreshed to reflect the changes in the wider healthcare policy landscape. The most recent ABPI Code was published in September 2024.

The ABPI Code is also supplemented by [Disclosure UK](#), a Europe-wide initiative to increase transparency between pharmaceutical companies and the organisations they work with.

Appendix 2: Disclosure UK provides a mechanism for creating transparency

The relationship between the pharmaceutical industry and healthcare professionals and healthcare organisations plays a vital role in the development of life-enhancing and life-saving medicines. At the core of the relationship is sharing knowledge to improve patient outcomes. To ensure that this relationship is open and transparent, the pharmaceutical industry has taken the lead on disclosing 'transfers of value' – payments and benefits-in-kind – made by industry to healthcare professionals and healthcare organisations through [Disclosure UK](#); a public, searchable database, hosted by the ABPI. Disclosure UK launched in 2016 and is part of a [Europe-wide initiative](#) to increase transparency between pharmaceutical companies and healthcare professionals and organisations. Data shown on Disclosure UK covers certain key areas of cross-sector working between industry, healthcare professionals and healthcare organisations, including:

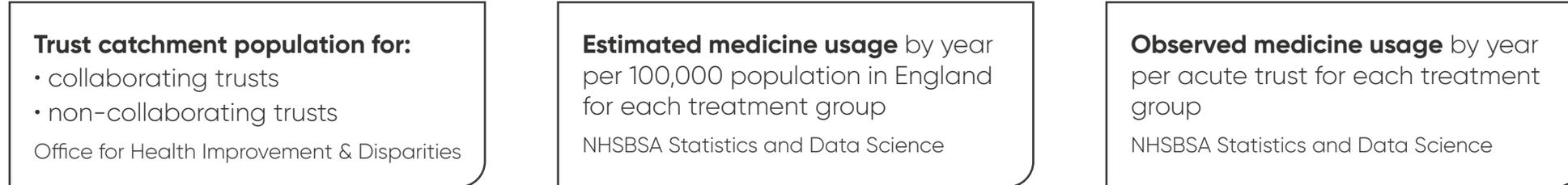
- ◆ Participation in advisory boards
- ◆ Speaking at or chairing meetings
- ◆ Working with and advising doctors and scientists in pharmaceutical companies
- ◆ Speaking at conferences and symposia
- ◆ Attending and contributing to national and international conferences
- ◆ Participating in medical education and training funded by pharmaceutical companies
- ◆ Provision of grants and donations to healthcare organisations
- ◆ Sponsorship of healthcare organisation events for the provision of medical education to healthcare professionals.

Details of Collaborative and Joint Working projects, amongst other things, are disclosed individually on the database. Certain research and development transfers of value are also disclosed in aggregate. Disclosure UK also hosts two 'gateways' to information about pharmaceutical companies' partnerships with patient organisations and certain members of the public. The ABPI Code requires pharmaceutical companies to publish this information on their corporate websites, annually. The gateways built into Disclosure UK comprise a list of links, submitted by the relevant pharmaceutical companies, which take visitors to published disclosure information about either patient organisations or members of the public. The disclosure gateways are updated annually at the end of June, in-line with the publication of data about healthcare professionals and healthcare organisations. Visit [Disclosure UK](#) for more resources and to search the database.



Appendix 3: Methodology to calculate observed vs. estimate medicine usage

Inputs



Calculations

Estimated medicine use by Treatment Group for:

- collaborating trusts
- non-collaborating trusts

$$= \left(\begin{array}{l} \text{Estimated medicine usage by year} \\ \text{per 100,000 population in England} \\ \text{for each treatment group} \end{array} \times \left(\begin{array}{l} \text{Trust catchment population by} \\ \text{treatment group for:} \\ \bullet \text{ collaborating trusts} \\ \bullet \text{ non-collaborating trusts} \end{array} \div 100,000 \right) \right)$$

% Observed medicine usage vs. estimated usage:

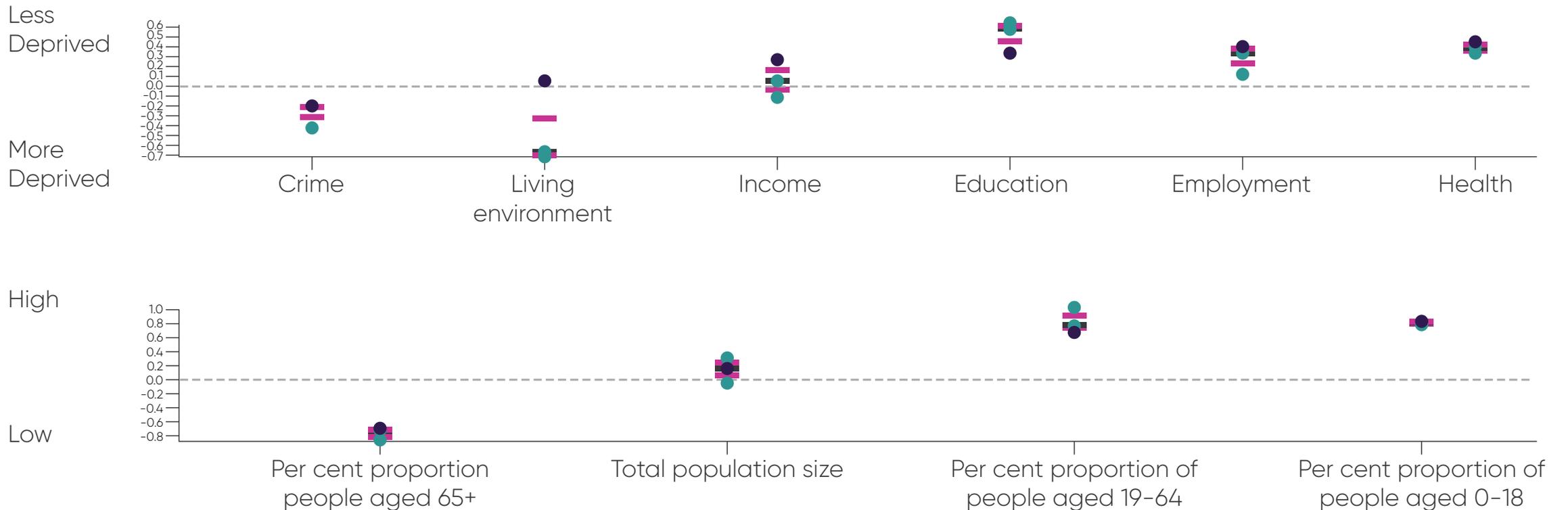
- collaborating trusts
- non-collaborating trusts

$$= \left(\begin{array}{l} \text{Sum estimated medicine use for all} \\ \text{treatment groups:} \\ \bullet \text{ collaborating trusts} \\ \bullet \text{ non-collaborating trusts} \end{array} \div \begin{array}{l} \text{Sum observed medicine use for all} \\ \text{treatment groups for:} \\ \bullet \text{ collaborating trusts} \\ \bullet \text{ non-collaborating trusts} \end{array} \right) \times 100$$

Appendix 4: Hillingdon, Ealing, Hounslow are statistical peers across a range of deprivation and population metrics

● Selected Place ● Peer ■ Peers upper & lower quartile ■ Peers median - - - National median

For the deprivation indices below, the further below the dotted line the dot is, the more deprived the area is on that index.



Endnotes



- 1 NICE Technology Appraisals in the NHS in England (Innovation Scorecard), To June 2023, Frequently Asked Questions.
- 2 NICE recommendations for eligible populations projected at a local level using the estimate reports incorporated within the innovation scorecard. (See page 3 for a definition of key terms).
- 3 Projects validated against 2022 Disclosure UK Transfers of Value related to NHS-Industry Partnerships
- 4 Medicine indicator groups: primary hypercholesterolaemia group, hepatitis c group, cystic fibrosis group, EGFR non-small-cell lung cancer group, metastatic prostate cancer group, severe asthma group. Treatment groups with less than 2 per cent observed usage were not included. Please also note that the estimate data for diabetes is not available on the Innovation Scorecard.
- 5 Estimate reports are not publicly available for all treatment groups, and there are several reasons why expected and observed usage may differ such as clinical judgment and patient choice, changes in prevalence or incidence, assumptions about the average length of treatment used to develop predictions of use and known gaps in the medicine prescribing data. Nevertheless, this suggests that partnerships are associated with closer alignment with NICE guidelines compared to trusts that did not partner.
- 6 Medicine indicator groups: primary hypercholesterolaemia group, hepatitis c group, cystic fibrosis group, EGFR non-small-cell lung cancer group, metastatic prostate cancer group, severe asthma group. Treatment groups with less than 2 per cent observed usage were not included. Please also note that the estimate data for diabetes is not available on the Innovation Scorecard.
- 7 A breakdown of the industry partners involved in these projects is as follows: Hypercholesteremia – Amgen, Daiichi Sankyo, and Sanofi. Type 2 Diabetes – AstraZeneca, Boehringer Ingelheim, Novo Nordisk and Sanofi.
- 8 There are currently no estimate reports available for type 2 diabetes.
- 9 Carnall Farrar analysed data from the Innovation Scorecard and the Quality Outcomes Framework to determine desired outcomes.
- 10 As noted by data sources from Diabetes UK and NHSE in 2023, diabetes medicines have generally been under-prescribed across England. Therefore, improvements in prescribing practices will enable more eligible patients to receive the clinically and cost-effective treatments that they require.
- 11 It should be noted that while prescribing is significant, other activities are also important. Moreover, the partnership identified here appears to have an impact beyond the prescribing patterns.
- 12 This information has been produced independently by the ABPI. GSK have reviewed for factual accuracy only upon request by the ABPI.





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