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How are GPs using AI?

Insights from the front line

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Executive summary

This study aimed to determine the proportion of GPs in the UK currently using Artificial Intelligence (AI) in their clinical practice, and to explore how they are using it. We sought to understand the range of tasks for which GPs use AI, the perceived benefits and concerns, and the barriers and enablers to greater adoption of AI in general practice.

AI refers to machines that perform tasks normally requiring human intelligence, particularly by learning from data to find patterns and make predictions.[1] This can include tasks such as transcribing speech from patient consultations into summaries and patient notes, producing responses to patient queries, through to tools that identify potentially serious skin conditions from images. We used a mixed-methods approach, combining a nationwide survey (as part of the Royal College of General Practitioners' (RCGP) annual GP Voice Survey), with a series of online focus groups. This research is the largest and most up-to-date survey of general practitioners on this topic, giving insight into AI use just as the NHS 10 Year Health Plan commits to rapid expansion of AI use in the NHS.

Key findings from the survey include:

- Of the 2,108 GP survey respondents, 598 (28%) said they currently use AI tools in their clinical practice. Breaking this figure down, 13% of all GPs use tools provided by their practice, 11% use tools they have obtained independently, and 4% use a combination of both.

- There is significant variation in AI adoption among GPs across different demographic groups:

  - Male GPs were significantly more likely to use AI than female GPs. Of the 848 male GPs who responded to the survey, a third (33%) said they used AI. This compared to a quarter (25%) of the 1,184 female GPs.

  - GPs working in socioeconomically deprived areas were less likely to use AI (and in particular practice-provided AI). Of the 1,046 GPs who said they worked in more deprived areas, just over a quarter (27%) said they used AI tools, compared to over a third (35%) of the 467 GPs who said they worked in more affluent areas.
  - Additionally, GPs in England were more likely to use AI (31%) than those in Scotland and Northern Ireland (20% and 9%, respectively). GPs in Wales were more likely to use AI (28%) than those in Northern Ireland (differences with Scotland were not statistically significant).
  - Younger GPs were more likely to use self-obtained AI tools than relatively older GPs. Of the 461 GPs aged under 35, 15% reported using AI tools they had brought to work compared to 11% of GPs aged 35–54 and 8% of GPs aged 55 or more. GPs aged 45–54 were more likely (15%) to use practice-provided AI tools than those aged under 35 (11%) and those aged 65 or over (6%).

- Among the 597 respondents who reported which tasks they use AI tools for, over half (57%) were using AI tools for clinical documentation and note taking. Around four out of 10 GPs use AI tools for professional development (45%) and administrative tasks (44%), but fewer use AI tools to support clinical decision-making (28%) – though focus groups suggested that GPs are actively testing AI tools for this purpose.

- GPs want AI tools to handle routine time-consuming tasks reliably, allowing them to focus on complex clinical reasoning and meaningful patient relationships. For example, when asked to prioritise up to three areas for AI development to focus on over the next two to three years, the 2,108 GPs selected:

  1 Automating their administrative workflow (54%)
  2 Automating their clinical documentation and note generation (50%)
  3 Providing patient education and self-care guidance (31%)

Regardless of their current use of AI, participating GPs at all career stages expressed concerns about AI adoption in general practice, namely:

- Professional liability and medico-legal issues (89% among non-users, 80% among those who use practice-selected AI tools, and 80% among those who use self-obtained AI tools)

- Lack of regulatory oversight on AI (88% among non-users, 78% among those who use practice-selected AI tools, and 74% among those who use self-obtained AI tools)

- Risks of clinical errors (83% among non-users, 69% among those who use practice-selected AI tools, and 70% among those who use self-obtained AI tools)

- Patient privacy and data security (82% among non-users, 69% among those who use practice-selected and self-obtained AI tools).

Focus groups revealed that the greatest benefit GPs experience from AI is saving time and reducing administrative burden. While policymakers hope that this saved time will be used to offer more appointments, GPs reported using it primarily for self-care and rest, including reducing overtime working hours to prevent burnout.

Focus groups echoed survey findings. GPs emphasised a lack of regulatory oversight of AI as a major concern, as well as misleading or incorrect outputs ('hallucinations'). Beyond ambient voice technologies, for which guidance has been developed for the NHS at the national level, the implementation of AI in general practice appears to depend heavily on local policies developed by individual practices and Integrated Care Boards (ICBs), as well as local staff willing to test tools and share their learning. But practice is inconsistent across the country, with focus group participants suggesting some ICBs forbid all AI use and others actively encourage safe use and piloting. GPs highlighted the need for clear national standards, supported by local policies and aligned training.

To address variation in AI adoption and encourage responsible use, policymakers in England will need to:

- Work towards rapidly establishing **evidence-based national guidance** to address variation and inconsistency across ICBs, avoiding a postcode lottery, which should cover both administrative AI tools and clinical decision-making AI tools, as well as generative AI tools.

- Immediately **clarify professional liability and safe AI use and regulatory and governance frameworks**. This should be done by a consortium of national policymakers, professional and sector regulators and (like the guidance discussed above) should cover AI tools that are considered medical devices, as well as those that are not.

- Develop comprehensive and structured **training and education programmes** during medical education, as well as for postgraduate NHS staff. This should be funded nationally by the Department for Health and Social Care, with regulators and Medical Royal Colleges involved in standardising and specifying the content of this training.

- Use research into the impact of AI to **set realistic ambitions about the potential benefits of AI**. The 10 Year Health Plan suggests AI will radically improve patient access, but this study highlights a need to recognise that some of the time saved will reduce clinician overtime (and/or workforce burnout) rather than immediately equate to more appointments.

- Take actions to **mitigate the risk that AI use can widen health inequalities**. This should include addressing the finding that AI users in more deprived areas were less likely to access practice-based tools, as well as that some AI tools don't support minority languages.

- **Consider the environmental impact**. AI adoption may increase carbon emissions and electronic waste, conflicting with NHS and RCGP net zero goals. National guidance is needed to align AI use with environmental priorities.

These recommendations may also have relevance to policymakers in Scotland, Wales and Northern Ireland.

To ensure that future tools address the needs and concerns of GPs, **AI developers and tech suppliers** will need to:

- Focus on **developing AI tools that save GPs time** in their routine work, assisting with automating administrative tasks and clinical documentation, not replacing clinical judgement.

- **Integrate tools seamlessly with GPs' electronic patient records** rather than tools that are standalones or bolt-ons.

- **Address and reduce hallucinations** and ensure their risks are emphasised in training.

- **Co-design tools for GPs** with diverse groups of GPs and other practice staff.

Given that many GPs are already using AI, in the interim **GP leaders and GPs in practice** will need to:

- **Develop interim local AI practice guidance until clearer national guidance and regulatory and governance frameworks are available**. Encourage open discussion of all AI use within practices, and consider developing clear local protocols which might cover patient consent, approved tools, and reporting of adverse events.

- **Test, learn and share collectively**. Where possible, allocate time to evaluate tools, share learning across networks, report problems with tools and especially those that led to errors in care, and share resources such as policies and case studies.

- **Help to educate patients about the use of AI in practice**. As AI becomes integrated into general practice, it will be important to explain the role that AI is playing in practice while also maintaining the human elements of care that patients value.

The government sees improving access to and experience of general practice as a key priority, with AI expected to play a major role. Our study finds that AI has the potential to enhance patient care and reduce GP workloads, but benefits are not guaranteed, nor is rapid adoption imminent. Currently, 28% of GPs across the UK (and 31% in England) use AI tools, yet guidance varies widely. Some ICBs urge caution, others encourage experimentation with approved tools. Concerns about regulation, liability, as well as a lack of national guidance, remain significant barriers.

Policymakers hope AI will free GPs for more appointments, but most use saved time to reduce overtime and burnout, so expectations may need to be re-examined. Successful implementation will require addressing system-level issues, including clear guidance, training, equity, and safeguarding professional values. Policymakers and those involved in AI innovation need to act now.

1 Introduction

Public satisfaction with general practice is at a record low, and making it easier to get GP appointments is the public's top priority for the NHS.[2] Meanwhile, GPs continue to struggle with unsustainable workloads and significant non-patient facing work, with many reporting work-related physical and mental ill health.[3,4] The government has promised several interventions to enable change: GP practices will be supported to work 'at scale' to improve efficiencies and a 'red tape challenge' was launched to reduce 'needless bureaucracy'. Alongside embedding allied health professionals into primary and community teams and settings, there is also a commitment to grow the number of GPs in order to improve access to general practice.[5]

Few of these changes are new ideas. Successive governments have sought to improve access to general practice, or the working lives of GPs, via a mix of technological, patient self-care, administrative and staffing interventions.[6] Much newer, however, is the idea that artificial intelligence (AI) has a meaningful role to play. AI refers to machines that perform tasks normally requiring human intelligence, particularly by learning from data to find patterns and make predictions.[1] For example, some GPs are using AI-powered transcription tools to automatically convert spoken consultations into written patient notes, aiming to reduce the time spent on manual documentation. Others are leveraging AI-driven image analysis applications to assist in identifying suspicious skin lesions, with the aim of enabling earlier detection and referral of potentially serious conditions.

The extent to which AI features in NHS plans and policies has accelerated rapidly since its initial mentions in the NHS 'digital vision'[7] and the NHS Long-Term Plan.[8] The Topol Review also recommended that the NHS workforce prepare for a digitally enabled future, including the integration of AI.[9] Fast forward to the government's new 10 Year Health Plan, and a raft of uses for AI in general practice are proposed, including for AI-based digital triage and ambient voice technology ('AI scribes').[5] But some vital parts of policy implementation are lagging behind ambition. For example, there aren't yet detailed and comprehensive guidelines for how individual GPs

should be using the various types of AI (despite various documents including CQC guidance for GP practices,[10] BMA principles for AI implementation in health care,[11] MDU statements on generative AI,[12] and GMC Good Medical Practice guidance[13]). Nor is there a single, clear regulatory and governance framework to set out safe and acceptable use – but a broader 'Commission for the Regulation of AI in Healthcare' was announced in late September 2025 and an AI Roadmap is in development.[14] An understanding of how the public view use of AI by their doctors – and what is and isn't acceptable – is also incomplete, albeit some initial research exists on general public acceptance of AI use by clinicians.[15,16]

Despite a potential lack of guardrails around AI use in general practice, the number of GPs using AI has increased over time. From early adopters (in 2018 around 10% of GPs were using some form of AI),[17,18] more recent surveys from 2023 and 2025 indicate growing use of AI in clinical practice. For example, a survey in February 2024 found 20% of GPs using generative AI tools, such as ChatGPT and GoogleBard (which became Google Gemini in 2023) to generate documentation after patient appointments and suggest a differential diagnosis.[19] This figure had risen to 25% by January 2025 for a range of tasks, including those mentioned above and treatment options and referrals.[20]

Gaining a better understanding of how GPs are currently using AI is crucial. Existing studies tend to describe the overall proportion of GPs using AI, with little interrogation of what tasks it is being used for: whether use is 'practice-provided' (for example purchased by a practice lead or ICB and its use encouraged, and thus possibly built into digital triage systems or electronic patient records) or 'unofficial', or supplied by an individual GP (for example used on personal smartphones). In a context where policymakers are keen to roll out AI-based tools,[21] little is understood about what GPs view as barriers or enablers to the use of AI tools – and such research is urgently needed.

This study combines a large national survey of 2,108 practising GPs, with detailed online focus groups to explore how GPs are currently using AI, barriers and enablers to future use, and their perceptions of where AI has the greatest potential to improve patient care and the working lives of GPs. We set out specific considerations and recommendations with the intention of informing policymakers, AI and tech developers, and GP practice leaders as they navigate the integration of AI into general practice.

Defining AI

AI (Artificial Intelligence) broadly refers to machines that perform tasks normally requiring human intelligence, particularly by learning from data to find patterns and make predictions.[1]

Generative AI (GenAI) is a category of AI that can create new content such as text, images, videos, and sounds. It gained global attention in 2022 with text-to-image generators and large language models (LLMs) trained on vast datasets to simulate human conversation.[22]

When AI is used for medical purposes (diagnosis, prevention, monitoring, treatment of disease or injury etc), it may be classified as software as a Medical Device (SaMD) (or when it uses AI/machine learning (ML) aspects, sometimes called AI as a Medical Device (AIaMD)) and must comply with UK Medical Device Regulations and MHRA requirements.[23] Tools are classified by risk (Class I (lowest), IIa, IIb, III (highest risk),[23] yet it should be noted that Class I tools (which do not technically or directly diagnose or treat) may still inform clinical tasks that would be considered medical purposes (as above).

These definitions provide essential context for interpreting the findings presented in this report, particularly as GPs encounter different types of AI tools in their daily practice.

What did we do?

This study aimed to answer the following research questions:

- What proportion of GPs in the UK are currently using AI in their clinical practice?
- How are GPs using AI, what tools are they using, and for which tasks?
- What benefits do GPs perceive AI to have? And what concerns do they have or challenges do they foresee regarding its use in general practice?

Additionally, we sought to explore variation in AI use across different GP demographics and practice contexts, and to identify training and support needs for successful AI implementation. Ultimately, we hope the findings of these research questions will inform the development of guidance, policy and governance around the use of AI in general practice.

How did we do it?

We used a mixed-methods approach, combining a nationwide survey with a series of online focus group discussions. Nuffield Trust collaborated with the Royal College of General Practitioners (RCGP) to embed AI-related questions, designed by the Nuffield Trust, into RCGP's GP Voice survey 2025. This annual survey was sent to all of the approximately 50,270 members of the Royal College of General Practitioners across all four countries of the UK. Although not all GPs in the UK are RCGP members, the sample was large enough to detect statistically significant variation by demographic and professional characteristics. Our questions were formulated following a review of academic and grey literature and were designed to gather data relevant to our research questions, encompassing GPs' experiences, behaviours, attitudes, and beliefs regarding AI. We piloted and edited them in consultation with five GPs. For a complete list of the AI-related questions included, please refer to Appendix A.

The survey was live between 28 July and 20 August 2025, delivered by RCGP's survey partner, Savanta, an independent market research company. The

survey achieved 2,316 total responses, of which 2,108 were from currently practising GPs, who formed the base of respondents to the questions on AI use.

Survey responses from England were weighted by age, gender and region using data from NHS England GP workforce data, making them thus broadly representative of all GPs on these three characteristics.[24] Responses from the devolved countries were left unweighted due to the limitations of publicly available GP workforce data for each country, but they broadly reflect what we would expect across key demographics. Quantitative elements of the survey were analysed by Savanta using descriptive statistics, presenting frequencies and percentages. UK-wide and country-specific results were provided for all individual questions. Subgroup analyses were also conducted, by demographic variables (e.g. age and gender) and other agreed variables such as job role, geographical region/NHS region and use of AI. Significance testing (Z-test) at the 95% confidence level was conducted to test whether differences between groups were statistically significant or were likely due to chance. The survey was conducted and analysed using built-in tools as part of Savanta's proprietary survey software.

Anonymised and aggregated survey responses to the AI questions only – with breakdowns by demographic and professional characteristics – were shared with the Nuffield Trust. We used these survey questions to gather data on whether GPs are using AI and for which tasks, how they obtain AI tools, frequency of use, influencing factors, and future priorities for AI in general practice. Further information about the RCGP's annual survey can be found on the RCGP website,[25] and a summary report of the 2025 GP Voice survey will be published in early 2026.

GPs completing the GP Voice survey were invited to participate in a focus group, run by the Nuffield Trust, to gain further insights on GP use of AI. We held five focus group discussions with 24 GPs at various career stages across England and Wales, exploring their experiences, perceived benefits and challenges of AI use, as well as barriers to adoption and training needs. Please refer to Appendix B for a detailed topic guide. No GPs from Scotland or Northern Ireland volunteered to take part.

Each focus group lasted up to 90 minutes, and we offered no incentives for participation. We sent participants information about the study in advance and took verbal consent after establishing ground rules for the focus group, which included respect for all perspectives on AI and any information was shared confidentially. No patient identifiable information was shared. Two research team members took part in each focus group discussion and completed rapid assessment procedure (RAP) sheets, on which we captured the key aspects of the conversation and illustrative quotes, alongside recording and transcribing focus groups using MS Teams software. We analysed focus groups by gathering themes from the RAP sheets, re-reading transcripts, and drawing out similarities and differences across career stages, AI users and non-users. We also examined literature, which was systematically identified by librarians at Health Services Management Centre Knowledge and Evidence Service. Our mixed-method research represents the largest and most up-to-date survey of general practitioners on this topic.

Our use of AI

For the focus groups, alongside our own iterative data collection and analysis, we used MS Copilot Enterprise to identify themes and gaps in our data to determine where further probing was needed in future sessions. We identified quotes during data collection noting them in our RAP sheets, and additionally used Copilot to draw out all examples of illustrative quotes related to different themes in the report (e.g., benefits and concerns), which we reviewed while we undertook detailed re-reading of the transcripts. Copilot was also used to edit content covering barriers and concerns, bringing them together as they covered similar themes, as well as to support rewriting of a small number of paragraphs based on the authors' original ideas and proofreading the first full draft for grammatical errors.

Limitations

Several limitations of our work should be acknowledged. First, although we conducted a systematic literature search and asked about tools used among our focus group participants, our approach does not constitute a full systematic review of the literature or an exhaustive mapping of all AI tools

currently in use. Second, participation in the survey and focus groups was voluntary, which may have introduced self-selection bias. GPs with an existing interest in digital health or AI – or who have significant concerns about AI use – may have been more likely to respond to the focus group invitation, over-representing experiences and attitudes of those with strong opinions. Third, our survey sample, while large and demographically diverse, was drawn from members of the Royal College of General Practitioners (RCGP). If GPs who are not RCGP members, or who declined to answer the GP voice survey, have systematically different opinions/experiences to those of the cohort surveyed, then our findings may be biased.

Additionally, to maintain a targeted scope for the study, our sample focused solely on GPs rather than encompassing the wider general practice workforce. Finally, the rapidly evolving nature of AI technologies and policy means that the landscape is likely to change soon. Our findings provide a valuable snapshot, but ongoing research will be necessary to track policy developments and changing attitudes over time.

Who participated?

The survey sample comprised of GPs from across the UK, ensuring a wide demographic and professional spread. A total of 2,108 GPs fully responded to the survey questions relating to AI. Table 1 provides a demographic breakdown of respondents.

Table 1: Description of survey sample

	Demographic characteristic	% of total GP respondents (number)
Gender	Female	56% (1,148)
	Male	40% (848)
	Other/prefer not to say	4% (112)
Role	Salaried GP	29% (608)
	GP Partner	29% (616)
	GP Registrar	28% (580)
	Other (including locum and retainer)	14% (304)
Age group	Under 35	22% (461)
	35–54	61% (1,279)
	55 or older	17% (368)
UK country	England	78% (1,645)
	Northern Ireland	3% (66)
	Scotland	13% (276)
	Wales	5% (115)
Self-perceived affluency/ deprivation of practice geography	Other	0.3% (6)
	More affluent	31% (467)
	More deprived	69% (1,046)

Note: Questions regarding demographic characteristics were optional in the survey. 2,108 respondents provided information about their characteristics, except for 'self-perceived affluence/deprivation' where only 1,519 GPs provided a response.

Alongside the survey, a subset of 96 GPs expressed interest and 24 ultimately participated in a series of focus groups (Table 2). 14 males and 10 females participated who were a mix of early-career (n=9), mid-career (n=9) and senior career GPs (n=6). Only four reported that they had not engaged with or utilised any AI tools in their professional activities. 18 participants were from England, with representation from all NHS regions except the South West, and six participants were from Wales.

Table 2: Description of focus group sample

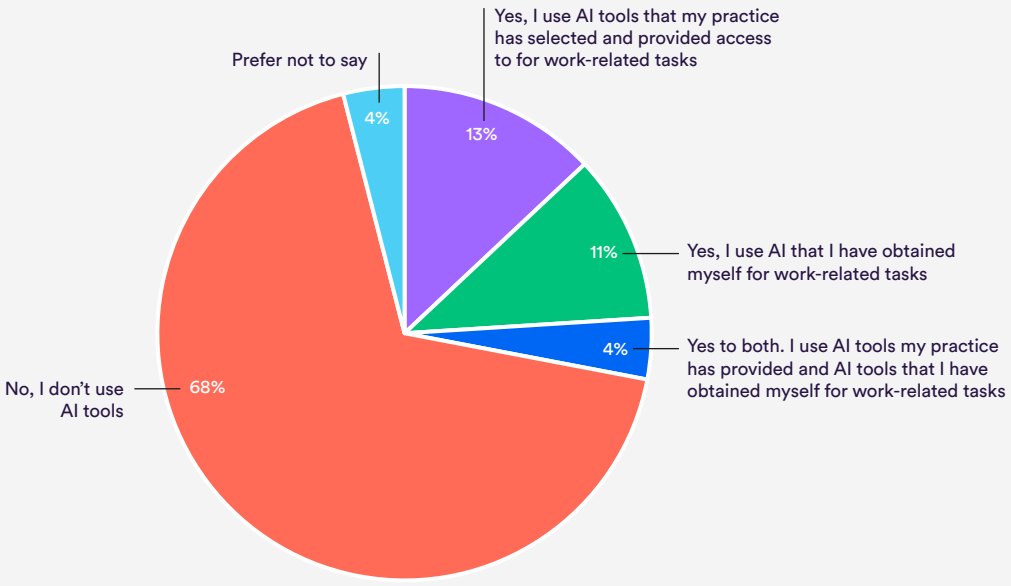
Gender	Male	14
	Female	10
Career stage	Early career (qualified in the last 5 years)	9
	Mid-career (qualified 6–20 years ago)	9
	Senior career (qualified over 20 years ago)	6
	GP Trainee	3
Role	Locum GP	4
	Salaried GP	5
	GP Partner	8
	GP Retainer	1
	Portfolio GP	1
	GP – but role unclear	3
	Trainer	6
	PCN Clinical Director	2
Used AI	Yes	20
	No	4
Geography	Wales	6
	England	
	London	4
	North West	4
	North East	3
	Midlands	2
	Multiple regions/unknown	2
	South East	2
	East of England	1

Note: Denominator for all sample characteristics is 24, except for role. GPs provided multiple roles, of which we described up to two.

2 AI adoption among GPs

Of the 2,108 GP survey respondents, 28% (598) reported using AI tools in their work as a GP. Figure 1 illustrates that of all respondents, a slightly larger proportion used AI tools selected by their practice (13%, 274) than tools obtained themselves (11%, 238), and 4% (86) used both. 68% (1,432) did not use AI tools, and 4% (78) preferred not to disclose whether they used AI.

Figure 1: Responses to the question 'Are you currently using any AI tools in your work as a GP? (select one answer only)'



Despite smaller sample sizes outside England, there was some statistically significant variation between UK countries. GPs in England were more likely to use AI (31%, 505) than those in Scotland and Northern Ireland (20%, 54 and 9%, 6, respectively). GPs in Wales were more likely to use AI (28%, 32) than those in Northern Ireland (differences with Scotland were not statistically significant).

There were also some statistically significant differences in the use of AI tools by gender. Of the 848 respondents who were male, 33% said they use AI tools, compared with 25% of the 1,148 female respondents who said they use AI tools. Furthermore, male respondents were significantly more likely to use self-obtained AI tools at work (15%, 129) than female respondents (8%, 99).

Differences in how likely GPs of different age categories were to actively use AI overall were not statistically significant, but those aged 55 or more were significantly more likely to respond that they did not use AI at all than under 35s. 72% (263) of those aged 55 or more said they did not use AI compared to 64% (295) of under 35s.

Within the 598 GP respondents who said they use AI, respondents aged under 35 were statistically significantly more likely to use tools they had obtained by themselves than any other age group. 15% (70) of those aged under 35 said they used tools they had obtained themselves, compared to 11% (137) of GPs aged 35–54 and 8% (30) of GPs aged 55 or more. Middle-career GPs aged 45–54 were more likely (15%) to use practice-provided AI tools than those aged under 35 (11%) and those aged 65 or over (6%).

Lastly, there was variation in the levels of AI usage based on whether respondents described the area they worked in as 'more affluent' or 'more deprived'. Of the 1,046 GPs who said they worked in a deprived area, just over a quarter (27%) said they used AI tools compared to over a third (35%) of the 467 GPs who said they worked in more affluent areas.

However, respondents working in more affluent areas were significantly more likely to use practice-selected tools (18%, 82) than those working in more deprived areas (12%, 127). This is a particularly significant finding, as it suggests that – contrary to policy ambitions that use of AI will reduce disparities in care related to access, efficiency, and quality in under-resourced settings – current patterns of adoption may actually risk exacerbating existing inequalities in health care provision.

Thus, while a substantial minority of GPs across the UK report using AI tools in their daily practice, notable disparities in adoption persist between regions, genders, age groups, and self-reported levels of local deprivation.

AI-aided tasks and usage patterns

Among the 597 respondents who reported which tasks they use AI tools for, **clinical documentation and note taking** (using ambient voice technology) was by far the most common use case, with 57% of AI users reporting this. 37% of AI users deployed practice-supplied tools, and 20% used self-obtained tools for this purpose. Focus group participants described using these tools to support the production of summary reports, language translation of communication with patients, and the creation of referral letters.

The high prevalence of clinical documentation and note taking using AI tools is slightly surprising, especially given that in June 2025, NHS England's National Chief Clinical Information Officer, Alec Price-Forbes, instructed providers to cease using non-approved AI scribes during patient consultations.[26] The fact that a fifth of GPs are still using self-obtained scribing tools suggests this guidance was either not heeded, or not effectively communicated.

45% of the 597 respondents who reported which tasks they use AI tools for suggested using them for **professional development** – with 37% deploying self-obtained AI tools and 8% deploying practice-supplied AI tools. In focus groups, we heard that AI was being used for supporting portfolio work and enabling reflection (GP trainees are required to maintain educational portfolios as part of their training, and qualified GPs must maintain portfolios as part of their annual appraisal process). Trainees and early-career GPs also suggested they were using AI to support learning for assessments and appraisals.

A similar proportion reported using AI for **administrative tasks**: 44% of the 597 respondents who used AI tools (and reported their use cases) – with 25% deploying practice-supplied tools and 19% deploying self-obtained tools. The ambient voice technologies described above, alongside general-purpose AI tools, were described in the focus groups as being valued for drafting referral letters in line with differing provider templates and capturing practice meeting notes. AI was also used to create policies and governance documents. Our findings echo previous research which has found that GPs are using AI and

generative AI to assist with their work, particularly for administrative tasks and clinical reasoning support.[19]

AI was used for support in **clinical decision-making** by a much smaller group of the 597 respondents who described their AI use cases (28%, 167), with 9% reporting they used practice-supplied AI tools for this task, and 19% reporting they used self-obtained tools. Focus groups revealed a wide range of tools being tested to support tasks including generating management plans, differential diagnoses, and answering clinical questions. It is important to note that generative AI tools, while increasingly used for administrative and supportive tasks within general practice, have not been specifically developed or approved for direct clinical care or decision-making.

Table 3 shows the AI-supported tasks and tools used by GPs, as described in focus group discussions.

Table 3: AI-supported tasks and the tools used

Cited use	AI tool	Specific tasks
Clinical documentation and note taking	Heidi Health, AccurX Scribe, Lexacom	Ambient voice technologies (AVTs) listen to consultations and support the production of summary reports, translation of communication with patients, and producing referral letters
Professional development/ CPD	ChatGPT	Recording of trainee portfolio and enabling reflection
	ChatGPT study mode	Study mode offers step by step guidance instead of quick answers to learn via testing clinical cases and supporting learning for assessments
	Glass Health	Experiential learning through testing clinical cases
Administrative tasks	Heidi Health, AccurX Scribe, Lexacom	Ambient voice technologies for drafting referral letters and communications
	ChatGPT, Claude, Copilot	Drafting referral letters and communications, and capturing practice meeting notes
	Ankit AI	Creating policies and governance documents
	Patchs	Digital triage – assessing patient requests before appointments to prioritise contacts based on clinical need
Clinical decision-making	ChatGPT, Claude	Answering clinical questions
	Glass Health	Generating management plans, differential diagnoses, and answering clinical questions
	Mediwise	Flagging important guidelines
	C the Signs	Early cancer detection support
	Anima	Managing patient requests and total triage
Patient-facing feedback	ChatGPT	Summarising consultation notes in lay language for patient's own records

Table 4 shows all 10 use cases presented in the survey, ranked by the proportion of respondents who used AI tools for that purpose.

Table 4: AI-aided tasks ranked by total AI usage of those who reported using AI tools in GP Voice survey (practice-supplied and self-obtained)

Rank	Task and frequency of use	Practice-supplied	Self-obtained	Total AI usage	Don't use AI for this task
1	**Clinical documentation and note taking (e.g., ambient listening).** Among the 146 GPs who use AI tools for this purpose and reported their frequency of use, 64% reported daily use, 23% weekly use, 3% monthly use, and 7% reported rarely using AI tools for this purpose.	37% (223)	20% (121)	57% (344)	41% (246)
2	**Professional development/CPD (e.g., staying current with guidelines, research).** Among the 201 GPs who use AI tools for this purpose and reported their frequency of use, 24% reported daily use, 35% weekly use, 25% monthly use, and 14% reported rarely using AI tools for this purpose.	8% (47)	37% (220)	45% (267)	53% (316)
3	**Administrative tasks (e.g., coding, referral letters, practice management).** Among the 142 GPs who use AI tools for this purpose and reported their frequency of use, 50% reported daily use, 26% weekly use, 7% monthly use, and 12% reported rarely using AI tools for this purpose.	25% (149)	19% (115)	44% (264)	52% (310)
4	**Quality improvement projects (e.g., audit preparation, QOF, care pathway optimisation).** Among the 141 GPs who use AI tools for this purpose and reported their frequency of use, 14% reported daily use, 17% weekly use, 36% monthly use, and 29% reported rarely using AI tools for this purpose.	9% (53)	22% (133)	31% (186)	64% (384)
5	**Translation of communication (e.g., language translation services).** Among the 120 GPs who use AI tools for this purpose and reported their frequency of use, 17% reported daily use, 24% weekly use, 28% monthly use, and 25% reported rarely using AI tools for this purpose.	10% (62)	21% (124)	31% (186)	65% (386)

Rank	Task and frequency of use	Practice-supplied	Self-obtained	Total AI usage	Don't use AI for this task
6	**Clinical decision support (e.g., differential diagnosis, treatment planning).** Among the 124 GPs who use AI tools for this purpose and reported their frequency of use, 39% reported daily use, 36% weekly use, 12% monthly use, and 11% reported rarely using AI tools for this purpose.	9% (54)	19% (113)	28% (167)	70% (418)
7	**Non-clinical support documentation (e.g., completion of benefits applications, housing support letters).** Among the 109 GPs who use AI tools for this purpose and reported their frequency of use, 28% reported daily use, 39% weekly use, 21% monthly use, and 7% reported rarely using AI tools for this purpose.	10% (61)	17% (104)	27% (165)	68% (408)
8	**Supervision and training (e.g., identification of training needs, documentation supporting GP trainees or ARRS staff).** Among the 80 GPs who use AI tools for this purpose and reported their frequency of use, 25% reported daily use, 34% weekly use, 15% monthly use, and 16% reported rarely using AI tools for this purpose.	5% (29)	13% (80)	18% (109)	75% (448)
9	**Prevention or population health (e.g., identification of social determinants, targeted prevention population groups).** Among the 53 GPs who use AI tools for this purpose and reported their frequency of use, 13% reported daily use, 24% weekly use, 22% monthly use, and 33% reported rarely using AI tools for this purpose.	8% (47)	6% (35)	14% (82)	79% (472)
10	Remote monitoring of patients*	4% (25)	2% (10)	6% (35)	88% (524)

*Notes: The questions asking about whether GPs use AI tools are used for different tasks and the frequency of use of AI tools were optional for survey respondents. Q = "Which of the following tasks do you use AI tools for?" 'AI tools' in this survey refer to both systems that use AI to perform tasks or make decisions, and generative AI, which aims to create new content through machine learning (single choice). Q = "How often do you use AI tools in your work as a GP?" (single choice). A higher number of GPs provided responses about which tasks they were using AI tools for than how often they used AI tools. Thus, the total number of GPs who use AI for a specific task was 597 and the total number of GPs who described how often they were using AI tools for this specific purpose differed across tasks. Regarding frequency of use, we did not include the 'I don't know' responses in the table, so the percentages across 'daily, weekly, monthly and rarely' may not sum to 100. The frequency of use is not noted in the table for the purpose of remote monitoring of patients due to only 22 survey respondents providing a report on their frequency of AI tools for this purpose.

Future priorities: How GPs want to use AI

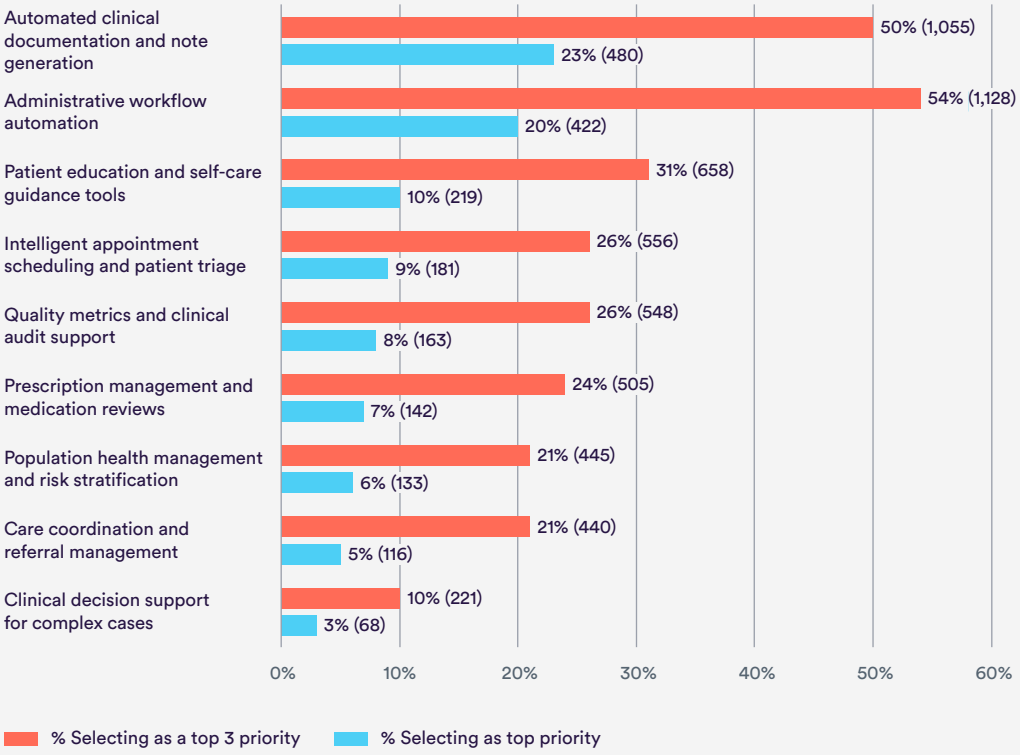
The survey asked respondents to highlight in which areas of clinical care and/or administration would AI tools be most valuable for general practice. Respondents were asked to select up to three areas. GPs in both the survey and focus groups, across all career stages, suggested they most valued AI tools that could handle routine, time-consuming tasks reliably, allowing them to focus on complex clinical reasoning and meaningful patient relationships.

Figure 2 shows that in the survey, the single top priority among the 2,108 GP respondents was 'automated clinical documentation and note generation' – selected by 23% of GPs. Moreover, 'administrative workflow automation' was most likely to be selected among respondents' top three priorities, with 54% GPs selecting it. Patient education and self-care guidance tools were also selected by 10% of GPs as their top priority and by 31% within their top three priorities. The desire for AI tools to help support patient self-care align with NHS App expansion goals[5] and previous research which indicates that two-thirds of UK-based GPs believe generative AI would lead to more patients relying on these tools rather than seeking medical attention,[27] as well as research findings on GP priorities in other international settings.[28]

'Clinical support for complex cases' came out strongly as the least popular option in the survey, suggesting GPs see greater value in AI handling routine tasks rather than supporting complex clinical reasoning. This finding is particularly interesting in light of later results from both the survey and focus groups, which indicate that GPs do, in fact, express a desire to use AI for clinical reasoning. For example, several focus group participants suggested using AI to assist in triaging patients – a complex task often requiring significant clinical experience.

One possible explanation is that, although some GPs recognise the potential for AI to support complex decision-making, their immediate focus is on reducing administrative workloads and simplifying routine tasks. This may be partly due to a sense of caution or scepticism regarding the current abilities of AI in handling complex clinical situations. Ultimately, this tension highlights the differing and potentially evolving attitudes towards AI in health care, and the importance of continued dialogue and research to better understand GP preferences and concerns.

Figure 2: Responses to the question 'Looking ahead 2–3 years, in which areas of clinical care and/or administration would AI tools be most valuable for general practice? (Please select up to 3, or select "None" if you don't see value in AI applications)'



Note: Sample size: n = 2,108 | Base = All practising GPs

Some notable differences were present between respondents in different roles. GP registrars (27%) were significantly more likely than GP partners (20%) and salaried GPs (22%) to select automated clinical documentation and note generation as their highest priority (percentages are based on the total number of respondents within those different GP roles). Meanwhile, GP partners (25%) were significantly more likely than GP registrars (19%), salaried GPs (18%) and GP locums (15%) to select administrative workflow automation as their highest priority. This appears to reflect the main workload pressures that may exist for different roles.

Focus group respondents agreed that using AI for administrative automation is the most consistent priority. GPs want AI to handle documentation, summarise reports, generate referrals, and manage correspondence, and suggested these were tasks that could be safely automated using AI. A key

part of administrative work, and all future priorities for AI tools, was that they should be fully integrated with patient records rather than "bolt-ons" (Participant 17, Early career, Salaried GP, AI user in London region). However, it was suggested that seemed far off from the current systems that feel more "like using Windows XP" (Participant 14, Early career, Salaried GP, AI user in NW region).

Analysis of laboratory results and clinical decision-making were also identified as other high-priority areas from the focus groups. GPs envisioned AI systems that could automatically flag abnormal results and recognise clinically significant patterns to help them overcome the heavy volume of decision-making. One participant described making "a hundred clinical decisions" while on duty, some of which were straightforward and others that were "difficult to manage" (Participant 18, Early-career, GP Trainee, AI user in London). They suggested this could be transformed if AI automated routine aspects, leaving clinicians to "provide some sort of review and checking process" (Participant 22, Senior career, Portfolio GP, Non-user in NE region).

Another participant highlighted the potential for AI to alert clinicians to important clinical connections between past medical history and seemingly unrelated presenting symptoms. GPs spoke to the abilities of AI to support pattern recognition, which they suggested could support risk stratification and promote more consistent practice standards.

3 Benefits and concerns

The research revealed wide-ranging benefits and concerns related to AI in general practice. While benefits included significant time savings, enhanced efficiency, improved clinical quality, and better patient engagement, challenges centred on issues such as the reliability and integration of AI systems, potential over-reliance on technology, concerns about data security and patient confidentiality, and the risk of reducing the human aspects of care. These concerns highlight the need for careful implementation, including ongoing dialogue between GPs, and also with all national stakeholders to ensure that AI tools complement rather than compromise the quality and safety of general practice.

Realised benefits of AI

Some policy documents on AI in health care highlight an even broader spectrum of benefits, including more time for face-to-face and human aspects of care, support for health care professionals to make care faster and more personalised, and improved access to upstream care.[11] These benefits can help health systems and staff better manage demand pressures, potentially leading to improved job quality, recruitment and retention, better care quality, and reduced health system costs. However, our findings indicate that GPs have experienced a narrower set of benefits in practice.

Time savings and reduced administrative burden

The most consistent realised benefit across all GPs in our focus groups who had used AI was time saving and reduced administrative burden. GPs described how AI tools significantly reduced their workload in activities such as documenting consultations for the practice or for patients, and generating referral letters. These were cited as examples of repetitive but

decision-intensive tasks that add to the cognitive load of general practice that AI was already handling. GPs report feeling overburdened by administrative tasks, many of which have ballooned over recent years. Therefore, reducing administrative burden is a key area where AI can have an immediate impact; improving efficiency of care, reducing GP overload and preventing burnout.[29]

It takes away the cognitive burden in your day and it's saving, on average, probably a good 60 minutes of my admin time each day pretty much without much exaggeration.
(Participant 5, Senior career, GP Partner, AI user in Wales)

They went on to suggest that finishing work an hour earlier on a regular basis could support long-term career sustainability and reduce the risk of burnout – benefits found in early evaluations of ambient voice technologies in international settings.[30]

How people use this reclaimed time varied by career stage. Early and mid-career GPs mentioned professional development. One GP shared that AI freed up time during the day for learning that would otherwise be pushed to evenings or weekends.

Because I was able to promptly do my referrals and do my admin work on time, I had some free time in the middle of the day which I was able to sit down and write my reflective case.
(Participant 7, Early career, GP Trainee, AI user in Wales)

Senior career GPs emphasised the importance of using this time for self-care and reflection, and being able to go home earlier and reduce working overtime. In the context of increasing administrative demands, AI offers a chance to pause and take stock.

It just helps to enjoy your day a bit more and just, you know, it helps you breathe and just take a second. And the days that you're not completely back-to-back, it just gives you that time to think and maybe go to the toilet. And I wouldn't necessarily want to cram in any more.
(Participant 17, Early career, Salaried GP, AI user in London region)

These findings are similar to previous survey research, which found that 27% of UK-based primary care clinicians would use an hour saved due to technology to reduce their overtime, followed by delivering 'direct clinical activity/patient care' (23%). This study pointed to the potential for these types of activities to indirectly benefit productivity through supporting staff wellbeing and retention, and argued that a broad view of how freed-up time can contribute to improved NHS productivity was crucial to debates on productivity and technology.[31]

Enhanced patient engagement and rapport

GPs in the focus groups reported that using AI, particularly AI scribes and generative AI, had positive implications for their delivery of patient care. Many GPs said that using AI scribes allowed them to engage more meaningfully during consultations through verbal communication and eye contact, which they suggested strengthened the doctor-patient relationship and allowed for better patient engagement.

It creates a better rapport with the patients because you're giving those cues, like you're looking at the patients, you're looking at their non-verbal cues because you're less focused on maybe doing your notes.
(Participant 15, Early career, Salaried GP, AI user in Midlands)

I've used Chat GPT to summarise consultations for the patient specifically, that can be quite beneficial for the patient because sometimes it's just they're overwhelmed with the amount of information. If they sometimes forget what we've told them, ChatGPT is able to sort of convert into a text format which I can then send to the patient as a reminder of what's been discussed.
(Participant 18, Early career, GP Trainee, AI user in London region)

AI scribes were also credited with improving the comprehensive capture of consultations. This was seen as a benefit among most GP participants, two of whom additionally commented that their peers who could not touch type were particular beneficiaries of AI scribes. One participant suggested the output avoided typos and spelling mistakes, and freed the GP from remembering or noting the many details covered in the consultation.

Clinical decision support, learning, and practice-level benefits

GPs also reported using tools for guidance checks and assisting decisions around clinical cases, for example, in breaking down complicated lab results.

Sometimes I can't get my head around a blood result and you just write them in [ChatGPT] and it will break it down.
(Participant 17, Early career, Salaried GP, AI user in London region)

AI tools were described as helpful with managing decision-making and mitigating decision fatigue. Research has already shown that AI tools can automatically calculate disease-related risk scores to guide drug prescriptions or referrals,[23] although we did hear from focus group participants about their experiences of errors being produced when testing out generative AI's interpretation skills of x-ray images and blood results.

Early career GPs also talked about using AI for learning about challenging topics or self-perceived weak points and cited ChatGPT's study mode as a source for learning, suggesting "it sticks in my brain better" (Participant 18, Early career, GP Trainee, AI user in London region). Others found AI beneficial

in preparing their portfolios, namely their reflections. Research literature has already spoken to the potential for generative AI to create data-driven learning plans and collate bespoke learning resources for trainees.[29,33,34]

Beyond individual tasks, AI was also seen as beneficial at the practice level, helping to plan and manage partners' meetings and note actions more effectively, which reportedly helped practice managers as well.

A disconnect between policy and practice

Notably, the perceived benefits for GPs – time saved, reduced administrative burden, and improved wellbeing – do not appear to fully align with the government's stated ambitions for scaling up the use of AI, which are largely focused on boosting productivity and enabling GPs to see more patients.[5] The BMA's outcomes framework for AI mentions wellbeing and retention benefits, but also suggests increased productivity and cost savings,[11] which were not mentioned at all by participants in this research. There is an apparent disconnect between policy ambitions and what practitioners value most in AI adoption.

Implementation challenges and quality concerns

The benefits described above were not experienced consistently by all GPs. While only a minority of survey respondents expressed concern about the time required to learn and implement AI tools, focus group participants cautioned against overestimating the time-saving potential of these technologies.

If you're spending the time to check things in a lot of detail, the time saving benefits from the tools might be diminished.
(Participant 14, Early career, Salaried GP, AI user in NW region)

Learning curves and resource requirements

Participants noted that to use AI well takes significant time to gain approvals to use AI tools, learn the software, and share learning with colleagues. The learning curve and initial implementation was described as resource intensive and often required individual motivation and efforts outside of working hours.

Inconsistent outputs and hallucinations

Even once an AI tool is familiar and being used regularly, outputs from tools were not consistent, making them difficult to trust. Knowledge of hallucinations, where large language models (LLMs) create outputs that are inaccurate, was widespread among participants. Examples were provided of inaccurate interpretations of blood tests and x-ray images when GPs described testing AI tools. Errors in AI outputs like these have also been found in other studies, where LLMs often produced errors of omission and incorrect facts in clinical case notes.[35]

Participants described that all outputs required checking and tailoring so that they reflected patient experiences and the desired request of the AI tool.

I have to go back and look at the referrals [produced by AI] to review what's written. Does it include all that we need? Do we need to add something more? Sometimes it does a marvellous job, some other times it doesn't.
(Participant 5, Senior career, GP Partner, AI user in Wales)

You're still having to re-read and just move things around....I would never just put it in and not read through what's written. So I think it's really helpful and time saving on those specific consultations that may be really long. You're going around the houses and summarising those notes, but I still think there is a certain amount of admin that goes into it if you're using it in what I would perceive to be a safe way.
(Participant 17, Early career, Salaried GP, AI user in London region)

Broader concerns about AI adoption

GPs across all career stages, regardless of whether they had used AI or not, expressed concerns about the impact of AI use on patient safety, professional liability, data privacy and consent, the doctor-patient relationship, and digital exclusion. Table 5 illustrates these concerns quantitatively, showing that survey respondents were most likely to be concerned about professional liability and medico-legal issues, followed by lack a of regulatory oversight on AI.

Almost nine in 10 non-users of AI tools were concerned about professional liability and medico-legal issues. The non-user group exhibited a statistically significant higher likelihood of being concerned about all factors than users of AI. For most factors, there was no statistically significant disparity between respondents who used practice-selected and self-obtained AI tools. However, respondents using practice-selected AI tools were more likely than those using self-obtained tools to be concerned about cost and resource requirements, and time required for learning and implementation.

Other options offered in free-text comments referred to concerns around environmental impacts, as well the ‘black box’ of AI which refers to the lack of transparency around the internal logic that informs the decision-making processes and outputs of AI tools.

Table 5: GPs concerns about AI adoption

	% of users of practice-selected AI tools who reported concerns	% of users of self-obtained AI tools who reported concerns	% of non-users of AI tools who reported concerns
Professional liability and medico-legal issues	80% (287)	80% (258)	89%* (1271)
Lack of regulatory oversight on AI	78% (280)	74% (241)	88%* (1265)
Risk of clinical errors or misdiagnosis	69% (247)	70% (228)	83%* (1187)
Patient privacy and data security	69% (248)	69% (224)	82%* (1179)
Concerns about supplier reliability	60% (217)	62% (200)	78%* (1116)
Patient acceptance, trust issues, and consent requirements	57% (206)	61% (198)	76%* (1084)
Integration and interoperability challenges with existing systems	62% (222)	64% (208)	72%* (1031)
Over-reliance on technology affecting clinical skills	53% (191)	49% (158)	67%* (957)
Lack of evidence for effectiveness	46% (166)	43% (140)	65%* (925)
Cost and resource requirements	55% (198)	48% (155)	59%* (847) (statistical significance vs own tools only)
Impact on doctor-patient relationship	37% (132)	35% (112)	60%* (864)
Time required for learning and implementation	38% (138)	32% (102)	53%* (762)

Sample size: n = 2,108 | Base = All practising GPs | Q = "To what extent does any of the following concern you about adopting AI in your work?" (single choice). Values marked with * indicated statistical significance relative to other results in the same row.

Patient safety, professional liability, and a lack of regulation and governance

Focus group participants reported experiences of AI providing different answers when they repeated the same question, creating uncertainty about the correct answer and the accuracy of AI tools. Many participants also described hallucinations which they described as risks to patient safety, which they linked to feelings of anxiety around professional liability and accountability. GPs felt that ultimately, they remained responsible for AI-generated content, even when tools fail – which is in line with Good Medical Practice guidance[13] and the Medical Defence Union[12] – although no participants mentioned this guidance by name.

Currently the safeguards are not adequately in place from a patient safety and clinician medical legal safety perspective to recommend wholeheartedly using AI in a clinical setting.
(Participant 22, Senior career, Portfolio GP, Non-user in NE region)

Data governance, privacy and confidentiality, and patient consent

Data governance, privacy and confidentiality, and patient consent were significant concerns, as were the financial risks associated with potential errors. Focus group participants described being transparent about their use of patient-facing AI, but there was less consistency about transparency when AI tools were used outside of consultations. A few participants questioned where data entered in AI tools was stored and whether sharing patient data genuinely benefits individuals, such as in population health planning. They also expressed apprehension about commercial exploitation and raised concerns about future access to health care if data is sold to third parties, such as private insurers.

There are some people in my practice that are definitely worried about that. And you know, the idea of recording patients to transcribe, they can't quite get their head around that. And, you know, they say that the data is deleted in 30 days. But how do you know that the data is deleted?
(Participant 17, Early career, Salaried GP, AI user in London region)

I would be very concerned if that data was used for commercial benefit.
(Participant 22, Senior career, Portfolio GP, Non-user in NE region)

While our research did not involve patients, recent survey evidence from the Care Quality Commission (CQC) among 2,000 people who visited a GP in England in the last year found a mixed picture of support for the use of AI by clinicians. 47% of people surveyed had negative feelings towards AI, 35% had positive feelings, and 19% were unsure. Those surveyed also expressed mixed feelings towards GPs using AI to support decision-making, whereby 41% felt positive and 42% negative.[16]

Equity and digital exclusion

Concerns were raised about AI potentially widening health inequalities related to language, socioeconomic status, and digital exclusion. For instance, AI tools do not necessarily support minority languages, such as Welsh. GPs in deprived areas were also concerned that patient-facing tools are being designed for the digitally savvy and may exclude the most vulnerable patients. This includes those who might struggle with digital front doors of practices, for example by lacking the broadband access, digital skills or data allowance required to access care in this way.

How is this benefiting my patient? My patient, who's actually deprived, they're giving their data. What's in it for them?
(Participant 24, Early career, Salaried GP, AI user in London region)

There was also scepticism about whether AI tools would actually free up GP time to work with the most complex patients in deprived areas, where many patients have significant medical needs and some have limited digital literacy.

These concerns are well-founded. Other research has identified a range of AI-driven inequities, including algorithmic bias where ethnic minorities or other underrepresented groups receive unequal treatment and less accurate outcomes from AI-enabled tools that are trained on unrepresentative datasets.[36,37] The digital divide presents another barrier, excluding those without adequate digital access or literacy. Additionally, AI-driven triage systems can dehumanise and over-medicalise care when making decisions based on complexity and urgency for vulnerable patients who struggle to articulate their health concerns.[36,38]

Maintaining the human element

While some GPs felt that AI improved their experience of the patient-doctor relationship, others were sceptical about its capacity to fully support the relational aspects of care. An enhanced doctor-patient interaction through AI comes with important considerations about maintaining clinical relationships.

General practice is a vocation where we are actually healing and looking after people. It's human-to-human contact, and sometimes the unspoken word does a lot for the patient... we must be extra careful and not lose that human touch.
(Participant 10, Mid-career, Salaried GP, AI user in Midlands region)

Over-reliance and professional standards

Some GPs who had used AI expressed concerns about over-reliance and loss of skills.

My worry with it is that there's an over-reliance on it and I found myself asking it everything... I do think you need to have the basic skills and the good foundation to be able to use it in a safe way.
(Participant 17, Early career, Salaried GP, AI user in London region)

Over-reliance on AI not only risks deskilling but also increases susceptibility to automation bias, where humans have an inclination to favour decisions generated by machines, often disregarding conflicting human decisions or contrary data[39,40] (for which GPs would ultimately still be responsible for).

There were particular concerns from trainers about trainees being over-reliant on AI to fulfil their training requirements, especially their reflections, which are an essential part of training for GPs. Some mid and senior career GPs were worried about future GP competence.

I'm worried about the future generation of GPs...who actually on the face of it, are reflective, but they actually are not because they're using these tools.
(Participant 10, Mid-career, Salaried GP, AI user in Midlands region)

While the use of AI was understood to be a part of general practice moving forward, there were pleas in the survey and focus groups to ensure that the key skills required of a GP are preserved.

So I think when I talk to my trainees, the particular skillset we need to really teach well is critical reflection and appraisal of facts and bits that are present to us in whatever form, and AI needs to be part of that in a way that it supports that, but also, we need to make sure that that critical thinking is still preserved.
(Participant 23, Senior career, GP Partner, AI user in SE region)

I prefer to use my own skills and clinical judgement. I haven't spent years working as a doctor and an independent thinker to allow an AI to do it for me. Hard work, whether it's physical or mental, is important for continued personal and professional development.
(Survey respondent, GP)

Cost sustainability

Those who had not used AI suggested they were concerned about the cost sustainability of AI, including the cost of regulatory compliance. Currently AI is available at a low cost or free, which participants suggested was "to get our attention" (Participant 1, Mid-career, GP Partner, AI user in SE region), but it was unclear at what point costs might rise. The cost of AI tools has been noted as an issue internationally. For example, in a study in France, 86% of GP respondents said they would be interested in an AI-enabled diagnostic tool for skin cancers, but 68% said they would not be willing to pay for this kind of software.[41]

We stopped using AI as the new guidance from NHS England made it too difficult and expensive to implement, despite it being good for us and patient care. Illogical policymaking. Why the NHS can't do this centrally I have no idea, but this is pretty typical experience of local innovation being stifled by inadequacies at the centre.
(Survey respondent, GP)

International perspectives

These themes are not unique to the UK or unique to this study. Research with GPs in Denmark[42] echoes much of what was heard in our focus groups, including that:

- AI should be developed for routine and administrative tasks and be adaptable to individual clinics and GPs

- AI must support GP work and reflection, adding to quality rather than quantity, and GPs must be able to decide when to use AI, be adequately trained, and be informed about research findings, legal, and economic aspects

- The GP-patient relationship must be maintained, with a preference for using AI to analyse historical data rather than during in-person consultations

- AI should be a free, active, and integrated option within the electronic health record (EHR).

This international alignment underscores the importance of focusing AI development and policy on the real-world needs and values of GPs. Our focus groups revealed a nuanced picture of the benefits and concerns of AI in general practice. While AI offers benefits centred around time-saving, efficiency, and patient satisfaction, these come with important caveats, including the need for training, the risk of overburdening clinicians through checking requirements, concerns about professional standards, digital exclusion and variability in patient acceptance.

4 Factors influencing adoption of AI, and how to overcome barriers

Despite a range of policy developments encouraging AI use in the NHS,[5] GPs identified substantial barriers preventing wider adoption and implementation across practices. These obstacles span regulatory, organisational, resource, and cultural dimensions.

Survey respondents who did not use AI tools were significantly more likely than those who used AI tools to select 'Professional liability and regulatory clarity' and 'Reassurance about the accuracy and reliability of AI for clinical tasks' as their most important factor influencing decisions about AI adoption or expansion. This further points to concerns about the risks of using AI tools as a key barrier to adoption.

Conversely, respondents who used AI tools were significantly more likely than those who did not use AI tools to select 'Evidence of time-saving and efficiency benefits' as their top factor influencing decisions about AI adoption or expansion. This suggests that AI adoption rates could be influenced by the existence of a robust evidence base on the impact of AI tools, and by how the balance of benefits and risks of AI tools are communicated.

Table 6 shows the proportion of survey respondents who selected each factor as the top factor influencing their decision about AI adoption or expansion, broken down by their AI usage category.

Table 6: Factors influencing GP's decisions about AI adoption

	% top influencing factor among practice-selected AI tool users	% top influencing factor among self-obtained AI tool users	% top influencing factor among non-users of AI tools
Professional liability and regulatory clarity	12% (43)	16% (51)	21%* (307)
Reassurance about the accuracy and reliability of AI for clinical tasks	10% (37)	12% (40)	16%* (233)
Evidence of time-saving and efficiency benefits	26%* (93)	21%* (68)	9% (133)
Supplier credibility and data security	13% (48)	11% (36)	12% (172)
Ease of use, integration, and interoperability with existing systems	10%* (36)	11%* (37)	7% (96)
Personal skills or confidence in using AI	7% (27)	10% (31)	9% (132)
Practice approval and peer acceptance	8% (27)	5% (17)	7% (98)
Patient acceptance and trust	5% (17)	4% (13)	5% (67)
Cost-effectiveness and technical support	6%* (22)	6%* (21)	3% (40)

Note: Sample size: n = 2,108 | Base = All practising GPs, separated into practice-selected AI tool users n=360, self-obtained AI tool users n = 324, and non-users of AI tools = 1,432 | Q = "What are the most important factors influencing your decision about AI adoption or expansion? (Please select up to 3)". * highlights statistically significant differences between GPs who are AI users (including practice-provided and self-obtained) and non-users.

Focus groups revealed two primary barriers that need to be addressed to expand the use of AI: a lack of national level guidance and a clear training offer.

Multiple focus group participants from across England described being contacted by their ICBs and directed to only use software the ICB had approved or were endorsing. Survey respondent free text responses illustrated these differences too.

I would like to use it but we are waiting for ICB approval.
(Survey respondent, GP)

Would need to be part of primary care network decision. Not happened yet.
(Survey respondent, GP)

Our [name of ICB] seems so reluctant to accept that AI can be such a useful tool for GPs. I tried to approach them, I was sent an Excel information governance spreadsheet to complete that would need a Master's in IT to complete, even the AI representative could not fathom it. Another example of bureaucracy that GPs are expected to absorb and manage.
(Survey respondent, GP)

It appeared this localised approach to governance has created a fragmented landscape where approval and adoption depend heavily on local policies developed by ICBs rather than national standards. Participants illustrated how system-level decisions create practical constraints.

For example, in [our local area] all the practices use EMIS because that's the only clinical system we're funded for. So you know, if AI comes in and it's marvellous on System One…we're not going to be able to adopt it because we're restricted in what we can do.
(Participant 2, Senior career, Portfolio GP, Non-user in NE region)

This ‘postcode lottery’ means practices face different rules and access depending on their location.

Training and support deficits represent another critical barrier. No participants in our research reported having formal AI training, and GPs consistently expressed feeling underprepared to navigate the AI landscape. The same participant articulated the need for reliable guidance.

We’re all going to need a lot of…reliable advice in this arena. We’re going to need simplification. We really haven’t got a lot of time and very few of us are going to be AI development specialists. So we’re going to need quite a bit of hand holding, but we’re going to need that to feel really reliable and that’s, you know, backed up by the right people.
(Participant 22, Senior career, Portfolio GP, Non-user in NE region)

Some participants in our research were among the first in their practice to adopt AI and they had all gained their AI-related knowledge outside of working hours through informal networks, including the 10,000-member AI Ambassador Network run jointly by the Department of Health and Social Care and NHS England. This lack of an overarching strategy on formal training infrastructure is particularly concerning given that CQC requires the responsible clinical safety officer and digital lead for AI technologies and related clinical governance to complete ‘relevant training’.[10] Yet our participants suggested there was little clarity about what training is available and how it can be accessed.

These findings align with recent UK-based research showing that institutional support for AI adoption remains limited, with only 11% of GPs reporting that their employer encourages the use of generative AI tools, and just 5% having received formal training.[43] Without access to structured training programmes and trusted advisory support, GPs suggested they would feel ill-equipped to make informed decisions about AI adoption, and the intense pressures facing general practice mean timely service delivery takes precedence over exploring or experimenting with new technologies.

These primary barriers were ultimately underpinned by resource constraints. One participant highlighted competing priorities in their ICB where AI was not being prioritised.

The biggest barrier at the moment is I don't think the priority for our ICB down here is not about developing services. The priority is to save money.
(Participant 23, Senior career, GP Partner, AI user in SE region)

These barriers highlight that expanding AI use in general practice requires not just technological development, but comprehensive support, infrastructure, clear regulatory frameworks, and adequate resources.

5 Overarching themes and recommendations

This research reveals that 28% (598) of UK GPs who responded to our survey said they were currently using AI tools. Of all respondents, 13% (274) of GPs were using practice-provided systems and 11% (238) were obtaining these tools independently (with 4% (86) using both practice-provided and independently sourced AI tools). This widespread but often informal adoption pattern signals both a moderately strong demand among GPs as well as significant gaps in systematic implementation.

Notable disparities exist between the four UK countries (with Northern Ireland and Scotland showing lower adoption of AI), gender (women were less likely to adopt AI tools), age groups (older GPs were less likely to adopt AI tools), and deprivation levels (practices in self-perceived deprived areas were less likely to have practice-supplied AI tools).

To address the variation visible in the adoption of AI and to encourage responsible use, **policymakers in England** will need to consider the following (and these may have relevance to policymakers in all devolved countries):

- **National guidance**: NHS England (NHSE) and the Department of Health and Social Care (DHSC) should work towards rapidly establishing national guidance to replace the current 'postcode lottery' where ICBs take different approaches to AI use: some pausing AI adoption, others encouraging it. This variation and inconsistency in implementation approaches (alongside the various existing statements and principles for AI use in health care from different national bodies) creates confusion among practices and GPs, risking inequitable adoption and unrealised benefits. GPs need consistent, evidence-based national guidance (beyond the national guidance produced on AI-enabled ambient scribing products[44]) covering

both administrative AI tools (e.g., MHRA Class I) and clinical decision-making AI tools (e.g., MHRA Class II), as well as generative AI tools. Guidance developed by DHSC and NHSE, which is due to include an AI Roadmap, should specify the role that ICBs are expected to play in defining and encouraging use of the range of approved AI tools for GPs and GP surgeries. Expecting individual practices or GPs to make these decisions – often based on peer-experience, or direct marketing from AI companies – is insufficiently rigorous.

- **Regulation and governance**: A consortium of national policymakers, professional and sector regulators should clarify professional liability and safe use of AI and regulatory and governance frameworks immediately (as part of the ongoing AI commission but also outside of it if necessary). This should cover AI tools that are considered medical devices as well as those that are not (and thus likely to fall outside of the remit of the MHRA). Professional liability concerns ranked as the top barrier influencing AI adoption decisions. GPs repeatedly mentioned the need for clear guidance on accountability when AI systems fail, particularly as the BMA, GMC and MDU have specified that clinicians remain personally responsible for AI-generated content regardless of tool accuracy. But how liability works in practice has not yet been tested to our knowledge.

- **Education and training**: To prepare GPs (and all members of general practice teams as well as the wider NHS workforce) for the use of AI in a safe and efficient way, there is a need for comprehensive, structured training and education programmes during medical education as well as for postgraduate NHS staff, in line with the promises made in Chapter 7 of the NHS 10 Year Health Plan.[5] Overall responsibility for funding training should lie with DHSC and NHSE, with involvement in specifying and standardising the content of this training from regulators and Medical Royal Colleges. Delivery responsibility and the ability to flex training to the local context could be held locally. Investment in accessible, practice or primary care network-based training is essential beyond that which is offered by AI developers.

- **Using research into the impact of AI to set realistic ambitions**: The 10-Year Health Plan suggests AI will radically improve patient access, but this study highlights a need to recognise that some of the time saved

will reduce clinician overtime (and/or workforce burnout) rather than immediately equating to more appointments. Realising the benefits of AI will also require proper training about the risks and how to embed it in daily work among all staff, and therefore realistic implementation timelines are needed.

- **Tackling inequities driven by AI**: Policymakers must take actions to mitigate the risk of AI-use widening health inequalities. Our research found that some AI tools don't support minority languages (e.g. Welsh), and practices in deprived areas where patients often have the most complex needs have least access to practice-funded tools. Because primary care can both drive and mitigate inequities, any national guidance on AI needs to consider the impacts of AI on inequities at the primary care level and include actions to address identified risks.

- **Environmental impact**: The energy demands of AI models and data centres raise sustainability concerns. AI adoption may increase carbon emissions and electronic waste, conflicting with the NHS and RCGP net zero goals. National guidance is needed to align AI use with environmental priorities.

To ensure that future tools address the needs and concerns of GPs, **AI developers and tech companies ('suppliers')** will need to consider the following:

- **Focus on AI tools that save GPs time on their routine work**: GPs consistently prioritised AI use for administrative automation and clinical documentation as well as complex clinical decision support. They want AI tools to handle repetitive, time-consuming tasks with high reliability, some of which may involve complex clinical decision-making. They also want AI to help them manage the volume of decisions they are required to make each session, as well as provide 'checklists' to remind clinicians to carry out required tasks. They do not want AI to replace clinical judgement. AI development should focus on tools that demonstrably save time on routine work, preserving GP time for the parts of their roles that allow them to deliver person-centred care and healing.

- **Integrate tools within GPs' electronic patient records to realise benefits**: GPs are asking for tools to improve their workflow integrated within their existing systems and existing electronic patient records that practices have invested in, not as standalones or bolt-ons.

- **Address hallucinations and emphasise risks in training**: Tool developers must address concerns around the accuracy of AI transparently. AI hallucinations (often shared in an authoritative tone) erode trust and time-efficiency savings and create safety risks for GPs. For those developing MHRA Class II medical devices for clinical decision-making (or even MHRA Class I tools that support learning which could inform clinical decisions), this research suggests the outputs produced, which relate to clinical decision-making will not be adopted widely until the rate at which hallucinations arise can be decreased. Developers should clearly communicate limitations and describe the risks of hallucination in any training they provide, as well as build in reminders for GPs to check outputs to avoid automation bias and reduce the risk of errors.

- **Co-design tools for GPs with GPs**: Some GPs want to be involved in co-design and AI tool development. They have a strong sense of which tasks AI can safely automate and where human judgement remains essential. As AI tools take the next steps, it is essential to engage a diverse range of GP and other clinical voices, particularly from underserved areas, to ensure AI tools meet real-world needs and address clinicians' concerns around patient safety and data confidentiality. It is important to remember that GPs make up around half the general practice workforce, so co-design should bring in all staff members who are likely to use the AI tools under development.

The above recommendations should be implemented with urgency, but we recognise they will still take time. Given that many GPs are already using AI, in the interim, we recommend that **GP leaders and GPs in practice** take the following actions to engage with AI as safely and effectively as possible:

- **Develop interim local AI practice guidance until national guidance is available**: Considering a lack of (urgently needed) clarity from NHSE, DHSC and ICBs regarding guidelines for and regulation of AI in general practice, GPs should ensure that they are having open and honest

conversations about AI use in their practice. Given the number of GPs who are using tools they have independently sourced, these conversations would ideally include all types of AI tools, creating a culture of openness, evaluation, and learning. Where applicable – and until more standardised guidance is available – GPs should consider developing local protocols at practice and/or Primary Care Network level. These might be wide-ranging, covering for example: how to check whether AI tools meet regulatory supplier obligations, how to inform and consent patients for AI use, the range of tools 'allowed', and how adverse events involving AI should be reported.

- **Test, learn, and share collectively**: Where possible, dedicate time during working hours for teams to test and evaluate tools, determine what works best for their practice, submit reports to the MHRA's Yellow Card scheme[45] when hallucinations and other challenges arise in tools, and share learning through communities like the AI Ambassadors Network (10,000 members across England, accessible via the Futures Platform).[46] Different tools may suit different practitioners, but agreeing which are in scope is essential. Developing shared resources across local networks of practices may be useful, such as policies, case studies, and business cases.

- **Help to educate patients about the use of AI in practice**: As AI becomes integrated into general practice, it will be important to prioritise maintaining the human elements of care that patients value. Where possible, explain to patients the role that AI is playing in the practice.

6 Conclusions

The government knows that improving the public's access to and experience of general practice will be key to their success at the next election. Policymakers hope that AI will have a large role to play in improving experience of care. This study shows that while AI has considerable potential to improve patient care in general practice, and the working lives of GPs, these benefits are far from guaranteed. Nor is widespread adoption of AI tools across general practice imminent.

Depending on perspective, the 28% of GPs using AI in their clinical practice could be considered a lot (or at least an increase over the past few years) or nowhere near enough (if rapid roll-out is envisaged as the cure to general practice's crises). The 10 Year Health Plan envisages rapid roll-out of AI tools across large swathes of the NHS in England. But we heard that in general practice (traditionally a leader in adoption of digital technology in the NHS), there is significant variation in the guidance GPs are getting from their ICBs – some of whom are asking GPs to pause all AI use, while others are encouraging practice-level experimentation and adoption. Many GPs have a range of concerns about AI use in various aspects of their clinical practice – and it's hard to envisage widespread roll-out of AI tools until these are addressed, particularly the uncertain regulatory environment and lack of national guidance.

Our study also finds that some assumptions made by policymakers may be more complex than anticipated. For example, the government hopes that wider roll-out of AI in general practice will free up GPs to deliver more appointments, but we heard that GPs are predominantly using any time freed to reduce their overtime working hours and risk of burnout. While this should have important longer-term benefits in retaining GPs, it is unlikely to deliver a short-term boost in the number of GP appointments.

While this study has focused on understanding the attitudes of GPs to AI, understanding patients' views on acceptable AI use is vital, as well as how it might be used by wider general practice staff. AI is coming to general

practice, and our recommendations set out suggestions for its successful implementation. Harnessing the potential of AI to solve the challenges facing NHS general practice depends on addressing current system-level barriers, including establishing comprehensive national guidance, clarifying liability, funding training, ensuring equity, and protecting core professional values. Policymakers and those involved in AI innovation need to act now to ensure that AI fulfils its potential to strengthen general practice for the long term, or risk it being an unwelcome source of risk and inequity for GPs and their patients.

Appendix A: GP Voice Survey Questions

2025 GP Voice Survey Questions

1 **Are you currently using any AI tools in your work as a GP?** (Please select one answer only)
Note: 'AI tools' in this survey refer to: systems that use AI to perform tasks or make decisions, and generative AI, which aims to create new content (e.g. text, image) through machine learning.

- ☐ Yes, I use AI tools that my practice has selected and provided access to for work-related tasks (e.g., ChatGPT Enterprise, MS Copilot Enterprise, AI scribes/ Ambient Voice Technologies such as TORTUS or Heidi Health, etc.)
- ☐ Yes, I use AI that I have obtained myself for work- related tasks (e.g., personal ChatGPT account, MS Copilot, Google Gemini, Claude, etc.)
- ☐ Yes to both. I use AI tools my practice has provided and AI tools that I have obtained myself for work-related tasks
- ☐ No, I don't use AI tools
- ☐ Prefer not to say

2 **Which of the following tasks do you use AI tools for?**
'AI tools' in this survey refer to both systems that use AI to perform tasks or make decisions, and generative AI, which aims to create new content through machine learning.

	I don't use AI tools for this task	I use AI-powered tools that my practice has supplied	I use AI tools that I have obtained myself	I don't know
Clinical decision support (e.g., differential diagnosis, treatment planning)	☐	☐	☐	☐
Clinical documentation and note taking (e.g., ambient listening)	☐	☐	☐	☐
Administrative tasks (e.g., coding, referral letters, practice management)	☐	☐	☐	☐
Professional development/ CPD (e.g., staying current with guidelines, research)	☐	☐	☐	☐
Quality improvement projects/ activity (e.g., audit preparation, QOF, care pathway optimisation)	☐	☐	☐	☐
Supervision and training (e.g., identification of training needs, documentation supporting GP trainees or ARRS staff)	☐	☐	☐	☐
Prevention or population health (e.g., identification of social determinants, targeted prevention population groups)	☐	☐	☐	☐
Remote monitoring of patients	☐	☐	☐	☐
Non-clinical support documentation (e.g., completion of benefits applications, housing support letters)	☐	☐	☐	☐
Translation of communication with patients	☐	☐	☐	☐
Other	☐	☐	☐	☐

3 How often do you use AI tools in your work as a GP?

	Daily	Weekly	Monthly	Rarely	I don't know
Clinical decision support (e.g. differential diagnosis, treatment planning)	☐	☐	☐	☐	☐
Clinical documentation and note taking (e.g., ambient listening)	☐	☐	☐	☐	☐
Administrative tasks (e.g., coding, referral letters, practice management)	☐	☐	☐	☐	☐
Professional development/ CPD (e.g., staying current with guidelines, research)	☐	☐	☐	☐	☐
Quality improvement projects/activity (e.g., audit preparation, QOF, care pathway optimisation)	☐	☐	☐	☐	☐
Supervision and training (e.g., identification of training needs, documentation supporting GP trainees or, ARRS staff)	☐	☐	☐	☐	☐
Prevention or population health (e.g., identification of social determinants, targeted prevention population groups)	☐	☐	☐	☐	☐
Remote monitoring of patients	☐	☐	☐	☐	☐
Non-clinical support documentation (e.g., completion of benefits applications, housing support letters)	☐	☐	☐	☐	☐
Translation of communication with patients	☐	☐	☐	☐	☐
Other (from Q53)	☐	☐	☐	☐	☐

4 **What are the most important factors influencing your decision about AI adoption or expansion?** (Please select up to 3)

- [ ] Reassurance about the accuracy and reliability of AI for clinical tasks
- [ ] Ease of use, integration, and interoperability with existing systems
- [ ] Evidence of time-saving and efficiency benefits
- [ ] Patient acceptance and trust
- [ ] Professional liability and regulatory clarity
- [ ] Practice approval and peer acceptance
- [ ] Cost-effectiveness and technical support
- [ ] Supplier credibility and data security
- [ ] Personal skills or confidence in using AI
- [ ] Don't know
- [ ] Other, please specify:

5 **To what extent does any of the following concern you about adopting AI in your work?**

	Very concerned	Moderately concerned	Not very concerned	Not at all concerned	Don't know
Risk of clinical errors or misdiagnosis	☐	☐	☐	☐	☐
Lack of evidence for effectiveness	☐	☐	☐	☐	☐
Professional liability and medico-legal issues	☐	☐	☐	☐	☐
Patient privacy and data security	☐	☐	☐	☐	☐
Over-reliance on technology affecting clinical skills	☐	☐	☐	☐	☐
Lack of regulatory oversight on AI	☐	☐	☐	☐	☐
Cost and resource requirements	☐	☐	☐	☐	☐
Integration and interoperability challenges with existing systems	☐	☐	☐	☐	☐
Patient acceptance, trust issues, and consent requirements	☐	☐	☐	☐	☐
Time required for learning and implementation	☐	☐	☐	☐	☐
Concerns about supplier reliability	☐	☐	☐	☐	☐
Impact on doctor-patient relationship	☐	☐	☐	☐	☐

6 **Looking ahead 2–3 years, in which areas of clinical care and/or administration would AI tools be most valuable for general practice?** (Please select up to 3, or select 'None' if you don't see value in AI applications)

- [ ] Automated clinical documentation and note generation
- [ ] Intelligent appointment scheduling and patient triage
- [ ] Clinical decision support for complex cases
- [ ] Population health management and risk stratification
- [ ] Patient education and self-care guidance tools
- [ ] Administrative workflow automation
- [ ] Quality metrics and clinical audit support
- [ ] Prescription management and medication reviews
- [ ] Care coordination and referral management
- [ ] Other, please specify:
- [ ] Don't know
- [ ] None, I don't see any value in AI applications for general practice

Appendix B: Focus Group Topic Guide

Duration: 90 minutes
Participants: aiming for 6-8 GPs per session (invited up to 14)
Format: Semi-structured discussion

Project introduction (5 minutes)

Welcome and Introductions

- Welcome, brief team introduction, and thanks for participating
  - In this study we're interested in understanding how GPs across the UK are currently using – or thinking about using – AI tools in their daily practice.
  - When we talk about AI we mean 'technologies that simulate human intelligence to perform complex tasks by learning from data on how to complete those tasks'.[47] This can include everything from generative AI like ChatGPT or the Google Gemini 'AI mode' in the Google browser to specialised AI tools like an AI scribe such as Heidi Health or Tortus.
  - During today's session we will share GP Voice survey results and ask you questions to better understand your views, as well as ask for your interpretation of results.

Key definitions (if asked during the session):

- AI-powered tools are designed to learn from data to generate dynamic responses based on different patterns, contexts, and a variety of inputs. Their outputs may differ even with similar inputs, adapting over time or based on training data.
- Rules-based automation tools are different to AI as they follow fixed, rule-based logic using pre-defined algorithms or conditions. They produce the same outcome for a given input every time, with no capacity to learn or adapt unless manually updated.

Before we begin, we want to assure you that your participation in this research is entirely confidential. We will record the conversation for research purposes. All information shared in this group and in the transcript will be anonymised, and no identifiable details will appear in any reports or publications. Your contributions will be used to help inform best practice and policy in the use of AI in general practice.

- To ensure a respectful and productive discussion, we ask that everyone follows a few ground rules:
  - Please respect all viewpoints and allow others to speak without interruption.
  - You can use the chat function if you'd rather write than speak. One of us will be keeping an eye on the chat and reading out your contributions wherever possible.
  - There are no right or wrong answers. Your honest experiences and opinions are valued.
  - Anything discussed in this session, including unpublished findings from the recent GP Voice survey that we share, should remain confidential and not be discussed or shared outside this focus group.
  - We recognise that some participants may describe experiences involving uncertain or evolving regulatory guidance on AI. The intent of this session is to understand real-world practice and help shape support and policy accordingly.

Thank you for helping create a safe and open environment for our discussion.

****Turn on recording****

Participant introduction (3 minutes)

- Could each of you please introduce yourself by sharing your name, approximate practice location (ICB or region), your role within the practice, and any additional responsibilities outside of the practice (such as PCN or place lead, commissioner, trainer, assessor, etc.)?

Section 1: Current AI use and awareness (25 minutes)

The GP Voice survey you recently completed revealed that 30% (642) of respondents are using AI tools. Similar proportions used AI tools selected by their practice (13%, 283) and ones obtained themselves (12%, 261), and 5% (98) used both.

We asked about your use of AI for 11 tasks.

- The top three most common tasks – used by over 40% of AI users – were: clinical documentation, professional development/CPD, and administrative tasks.
- The next four most common tasks where AI was used were quality improvement projects, translation of communication, non-clinical support documentation, and clinical decision support – all used by between 20 and 40% of AI users.
- The bottom three uses were for supervision and training, prevention and population health, and remote monitoring – used by less than 20% of AI users.

If queries arise about examples of each task or exact percentages, see our detailed table:

Summary of results.docx

1. **Let's start by going around the group...can each of you describe in a minute your current relationship with AI in your work? Could you tell us which tools you're using, for which tasks, and how often? And if you're not currently using AI in your clinical work, please tell us why. I'll then follow up with a few questions afterwards.**

   Essential follow-up questions:
   - In addition to the tools you're using, which others are you aware colleagues or peers are using? (Are these practice-provided or personally obtained?)
   - Has anyone been encouraged by their practice to pilot or use any AI tools? If so, for which tasks?
   - How do you decide when to use AI versus when not to use it?
   - For the tasks where AI is not being used (e.g., remote monitoring), why do you think that is?
   - Could it be that the tools don't exist or that they exist but people are uncomfortable using them?
   - For non-users: What's prevented you from trying AI tools so far?

Section 2: Benefits (10 minutes)

In this part of the focus group, we'll examine your views on the benefits of AI in general practice. There will be an opportunity to discuss concerns soon after.

2. **What benefits have you experienced, or would you expect, from using AI for you, your practice, and for patients?**

   Probes/prompts:
   - Administrative burden reduction – leading to time saving and efficiency gains
     - **Essential follow-up question**: What have you done with any time freed up?
   - Clinical decision support experiences
   - Quality of work/documentation
   - Professional development applications

Section 3: Concerns, challenges, and barriers (20 minutes)

Now we'll examine your concerns, challenges and barriers around the use of AI in general practice.

The GP Voice survey asked about your concerns surrounding AI and found that respondents had four main concerns:

- The most common concern was around professional liability and medico-legal issues (85%) – which also was the top influencing factor on decisions about AI adoption or expansion
- The second highest area of concern was a perceived lack of regulatory oversight on AI (83%)
- The third concern was around the risk of clinical errors or misdiagnosis (78%)
- Patient privacy and data security (77%) was also a concern

3. **In light of these survey findings, could you share more specifically what concerns or challenges you personally experience regarding the use of AI in general practice?**

   Probes: Are there particular areas – such as clinical safety, professional liability, regulatory gaps, patient privacy or impact on doctor-patient relationship, the 'black box of AI and lack of transparency, or even practical implementation challenges – that you find especially significant or would like to discuss in greater depth?

Follow-up question: What would you consider unacceptable/ inappropriate use of AI to be?

4. **In light of these survey findings, what are the biggest barriers preventing wider adoption of AI in your practice/surgery or general practice more broadly? And how might these be overcome?**

   Prompts:
   - Individual vs. system-level barriers?
   - Training and confidence needs?
   - Organisational support?
   - Digital infrastructure?

Section 4: Future priorities for AI (10 minutes)

5. **Digital tools are sometimes developed without aligning with the needs of end users. What are the specific tasks in your daily workflow where you think existing or future AI could provide the most value?**

   Prompts:
   - Automated clinical documentation
   - Intelligent appointment scheduling and triage
   - Clinical decision support for complex cases
   - Population health management
   - Patient education tools
   - Administrative workflow automation
   - Care coordination and referrals

Section 5: Policy, guidance, and training (20 minutes)

6. **What kind of guidance or regulation do you think is needed around AI use in general practice? And who should be responsible for providing this guidance? (Prompts: NHS England, RCGP, NICE, GMC)**

7. **Who here has received training on AI use in general practice? Who provided it? What learning did you gain from the training?**

8. **Regardless of whether you've had training or not, what training or support would be most valuable for GPs regarding AI? What types of content would you consider beneficial, which delivery formats would you prefer?**

9. **Does your practice have an 'AI strategy' that you are aware of?**
10. **In what ways are you informing patients about your use of AI tools, if at all? What informed your approach?**
11. **Any final thoughts or advice for policymakers thinking about AI guidance for general practice?**

Section 6: Final reflections (5 minutes)

12. **Is there anything important about AI in general practice that we haven't discussed?**

END **Turn off recording**

- Thank you
- Please continue thinking about the topic and get in touch with any new thoughts or ideas, but do not share any details about who attended and what was discussed with people outside of this focus group.
- We are carrying out five focus groups over the first half of September and summarising the survey and discussions in a report, which we'll send to you around the end of October
- If you have any follow-up questions or concerns about this study, please contact me, or if preferred the Nuffield research address, and we'll make sure someone gets back to you as soon as possible.
- Thank you again – we'll be in contact again next month.

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