



AMA Augmented Intelligence Research

Physician sentiments around the use of AI in health care: motivations, opportunities, risks, and use cases

November 2023

Background and Objectives

- In August 2023, the American Medical Association conducted a comprehensive study of physician's sentiments towards the use of augmented intelligence (AI) in health care including current use and future motivations for use, key concerns, areas of greatest opportunity, and requirements for adoption.
- The objectives for this research include:
 - Capturing the sentiment among practicing physicians regarding the increased usage of AI in healthcare
 - Evaluating AI use cases based on their familiarity, relevance, and usefulness
 - Identifying key resources and areas of need for physicians to consider implementation of AI tools to their practice

Key Definitions

- The American Medical Association uses the term **augmented intelligence** (AI), also commonly known as Artificial Intelligence. AI has a wide range of potential use cases in healthcare, including but not limited to deriving insight for better clinical decisions and relieving physicians and staff from time-consuming and burdensome tasks so they can spend more time with patients.
- **Large language model** is a large deep learning AI model that has the ability to understand and generate human language.
- When “**automation of insurance pre-authorization**” is referenced throughout this study, it is related to the potential impact AI can have on prior authorization within the physician practice/care delivery environment.

Methodology

- The survey was designed leveraging the AMA's Digital Health Research as a foundational template with an updated focus on augmented intelligence.
- The survey was conducted among practicing physicians using the Qualtrics survey platform and the AMA Physician Professional Data file for the sample.
- The survey yielded a respondent base of N=1081.

Total	PCP	Specialist	Physician Practice Owner	Employed Physician	Tech Adopter	Tech Averse
1,081	420	661	305	776	525	556

Summary of Physician Sentiments on AI



There is enthusiasm around augmented intelligence and its role in health care.

- 65% of physicians see an advantage to AI.
- The greatest enthusiasm is around AI tools that can help reduce administrative burdens including documentation (54%) and prior authorization (48%).



There is both excitement and concern about the potential for AI in healthcare.

- 41% of physicians responded that they were both equally excited and concerned.
- Physicians indicated that they see the most promise for AI to support diagnosis (72%) and workflow (69%).
- Physicians are most concerned about the impact to the patient-physician relationship (39%) and patient privacy (41%).



The most common AI tools physicians are using in practice today or plan to soon focus on addressing administrative burden.

- Only 38% of physicians are currently using AI in practice, with the most common uses being for various forms of documentation, translation services, and assisting with diagnosis.
- 56% of physicians indicated that AI can best help with administrative burdens through automation.
- Generation of patient messages and chart summaries, and prediction of demand and associated workforce needs are top areas where physicians plan to implement AI within the next 5 years.



Resources and support will be crucial for physician adoption of AI.

- Data privacy assurances, being not liable for AI model errors, and malpractice insurance coverage are most important for advancing adoption.
- 35% of physician respondents indicated that clinical evidence was the most helpful resource.

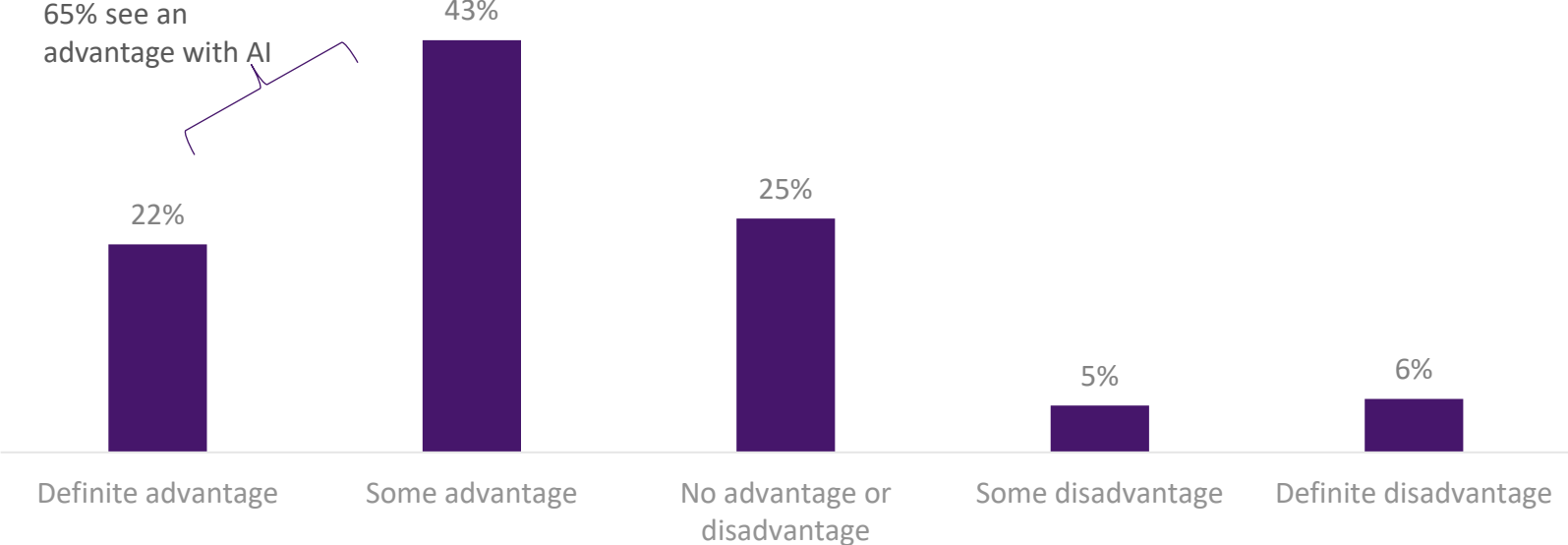
Physicians' sentiments towards AI in health care

Enthusiasm, use, opportunities, and risks



Two-thirds of respondents say there is an advantage to using tools with AI

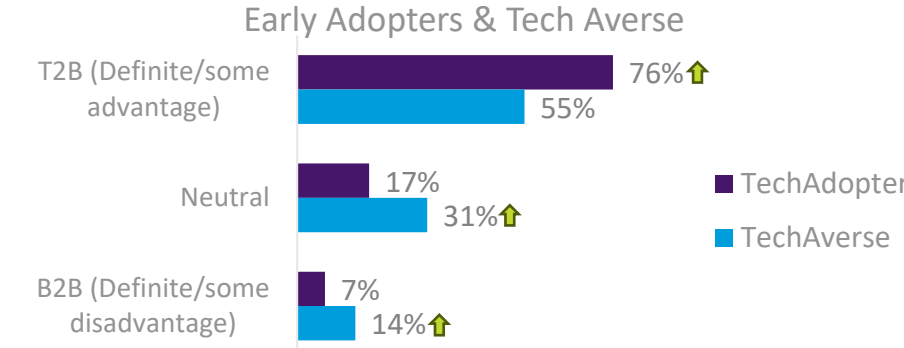
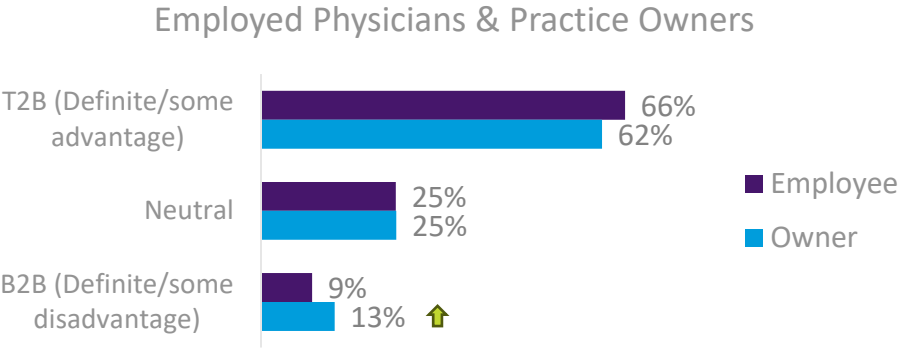
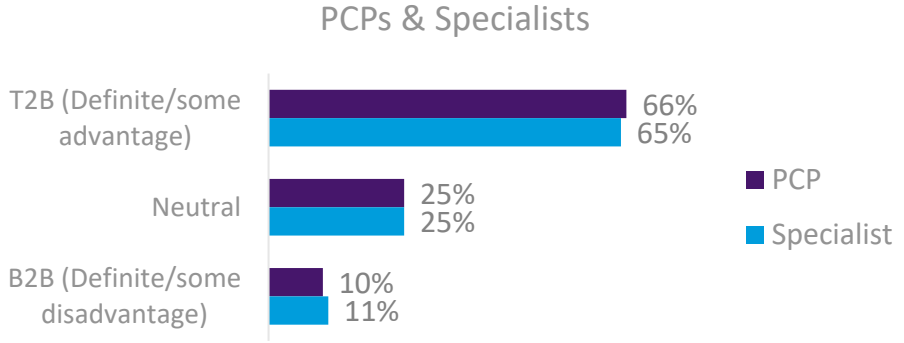
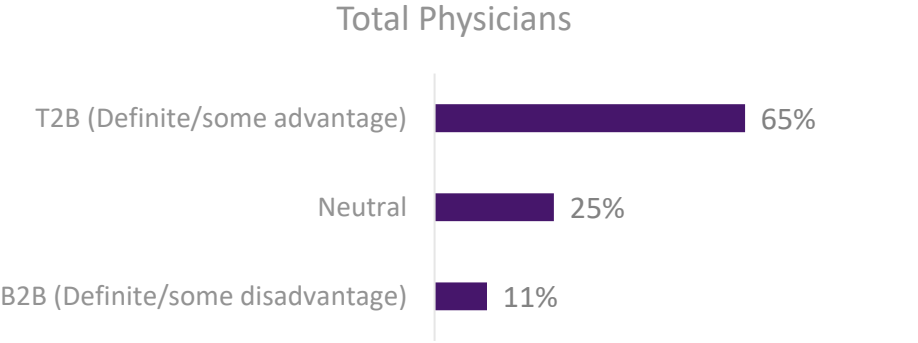
Advantage of Using Tools with AI



There was no significant difference in AI sentiment between PCPs and Specialists and only a minor difference between employed physicians and practice owners

Advantage of Using Tools with AI

Top 2 Box (T2B) = Definite advantage + some advantage
 Bottom 2 Box (B2B) = Definite disadvantage + some disadvantage



↑ Indicates a significant difference between the two sub-groups.
 Considering the overall impact, how much of an advantage do tools using AI give to your ability to care for your patients? N=1081

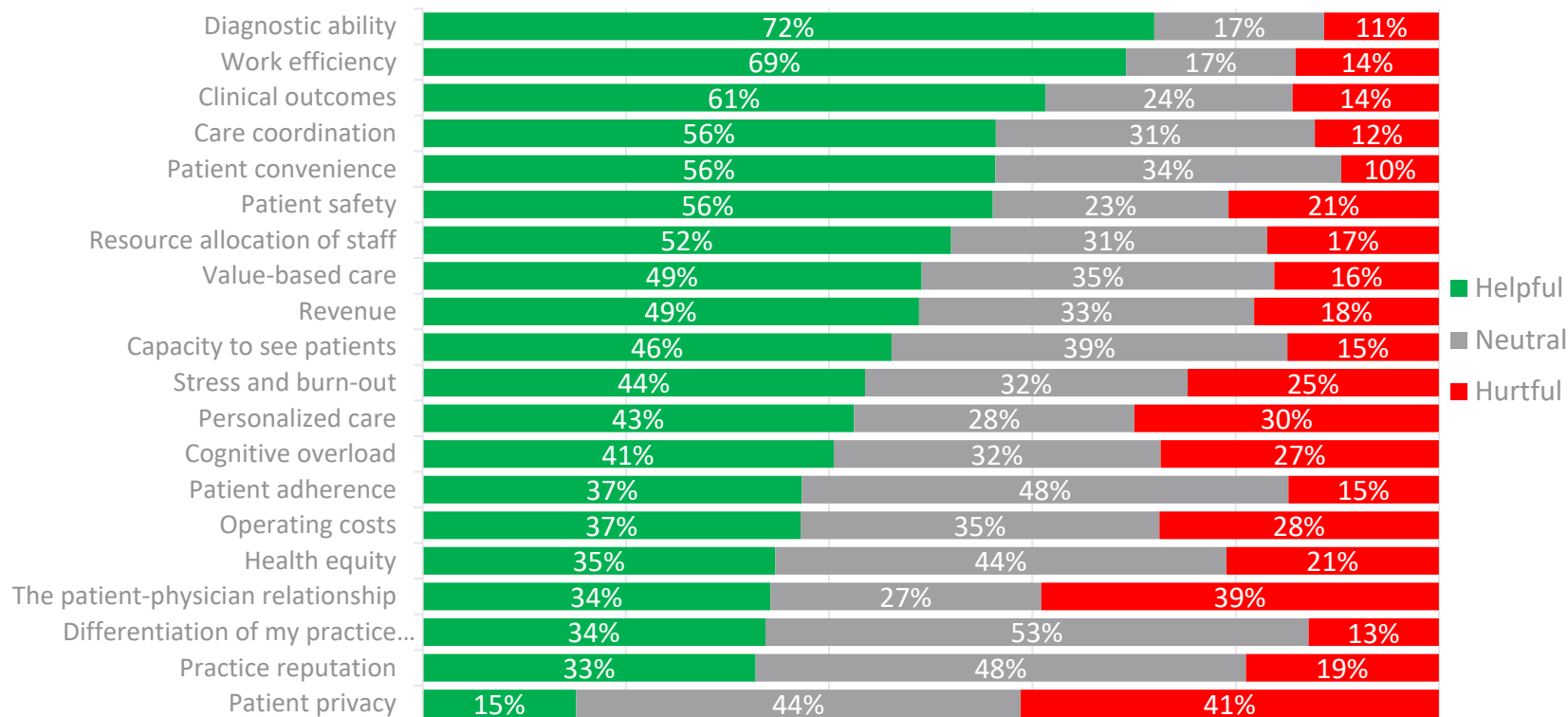


Respondents were split nearly evenly in on the level of excitement and concern over the use of AI

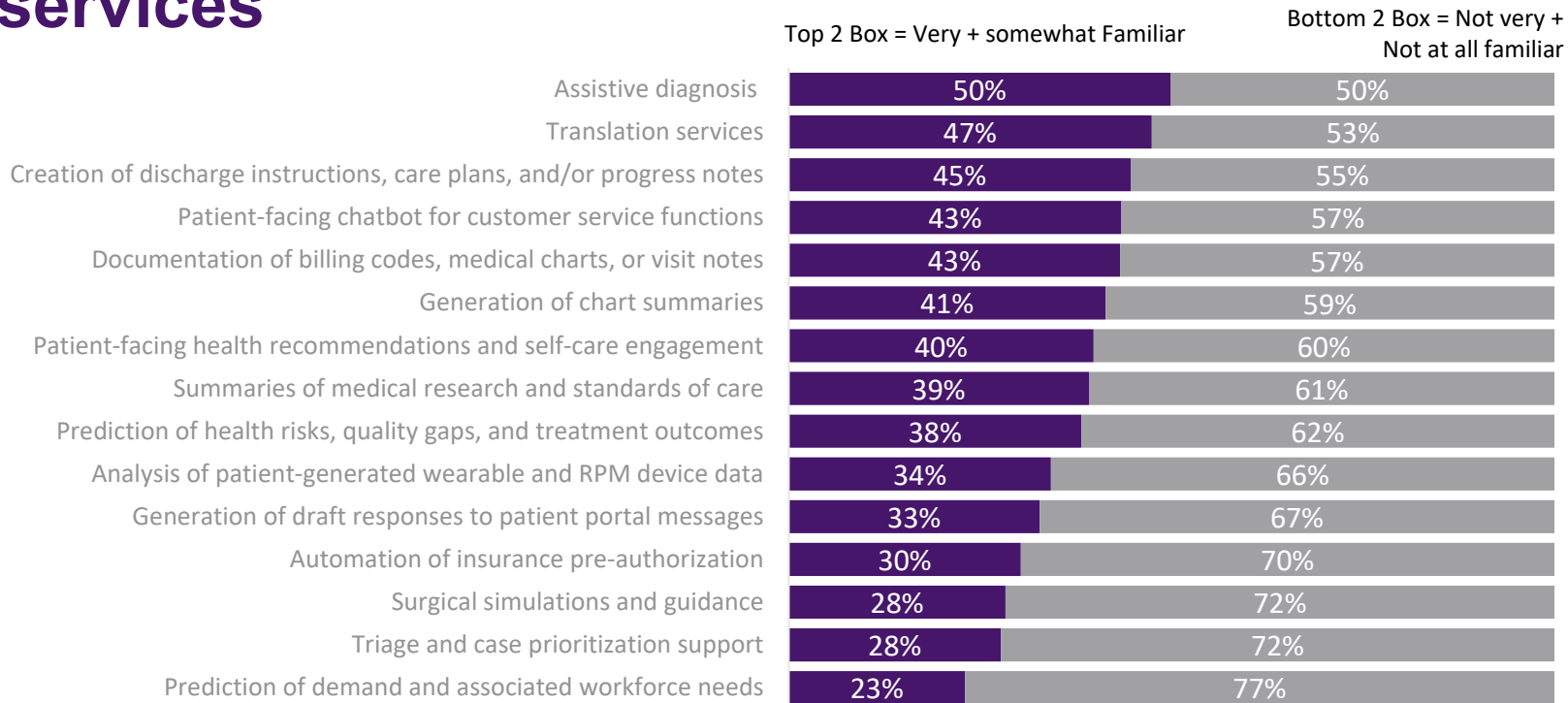
Increased use of AI makes you feel...



Respondents thought AI would be most helpful with diagnostic ability and overall efficiency, while there are concerns around the impact on patient privacy and the patient-physician relationship



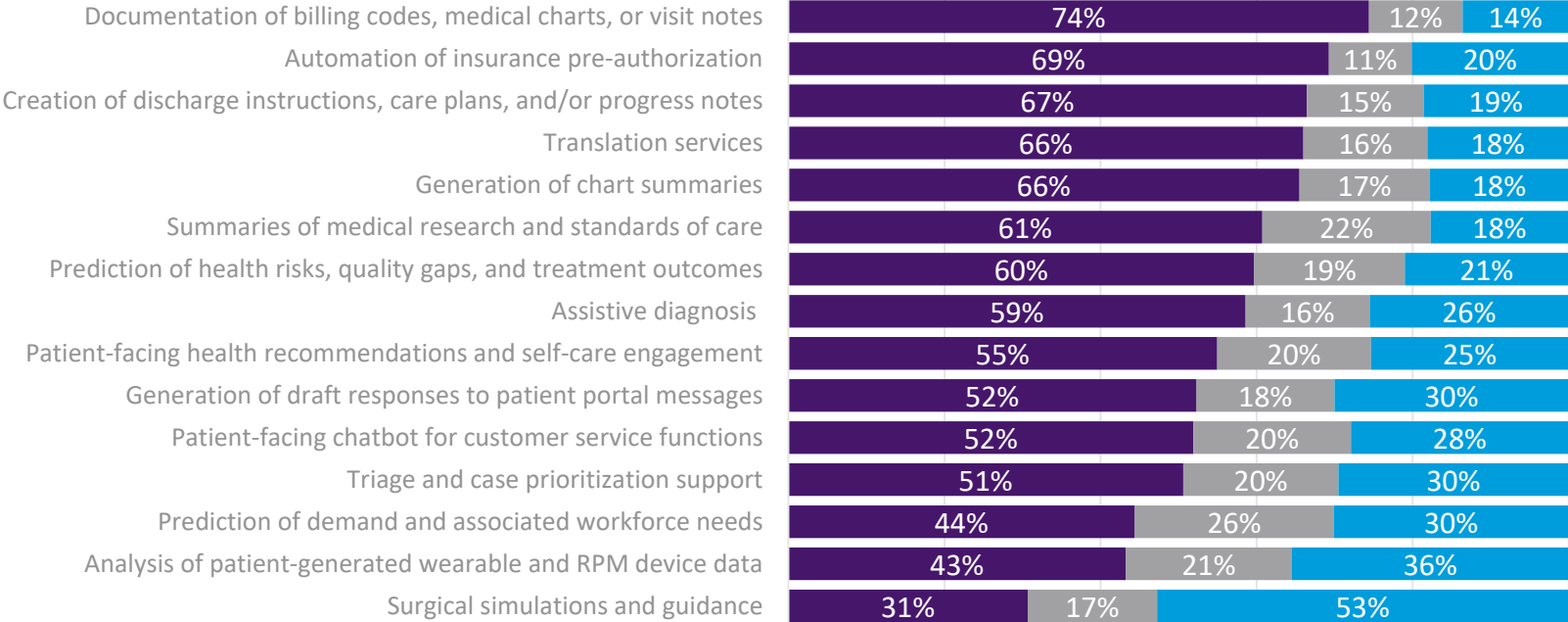
Respondents were most familiar with AI being used for assistive diagnosis and translation services



Respondents say documentation uses would be most relevant to them – about 3 in 4 saying it would be highly or somewhat relevant

Top 2 Box = Highly + somewhat Relevant

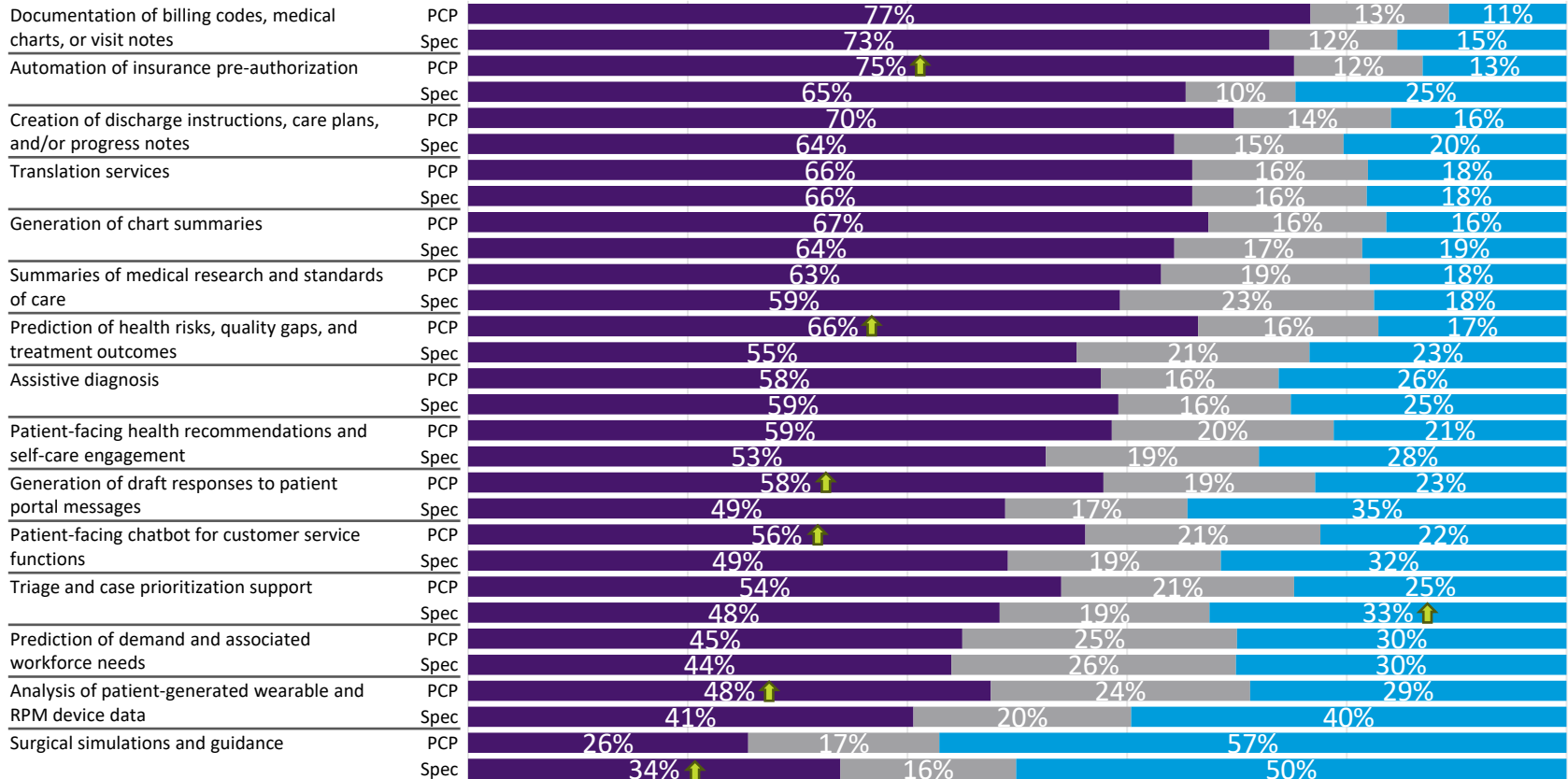
Bottom 2 Box = Not very + Not at all relevant



There were several use cases that were more relevant to PCPs than specialists

Top 2 Box = Highly + somewhat Relevant

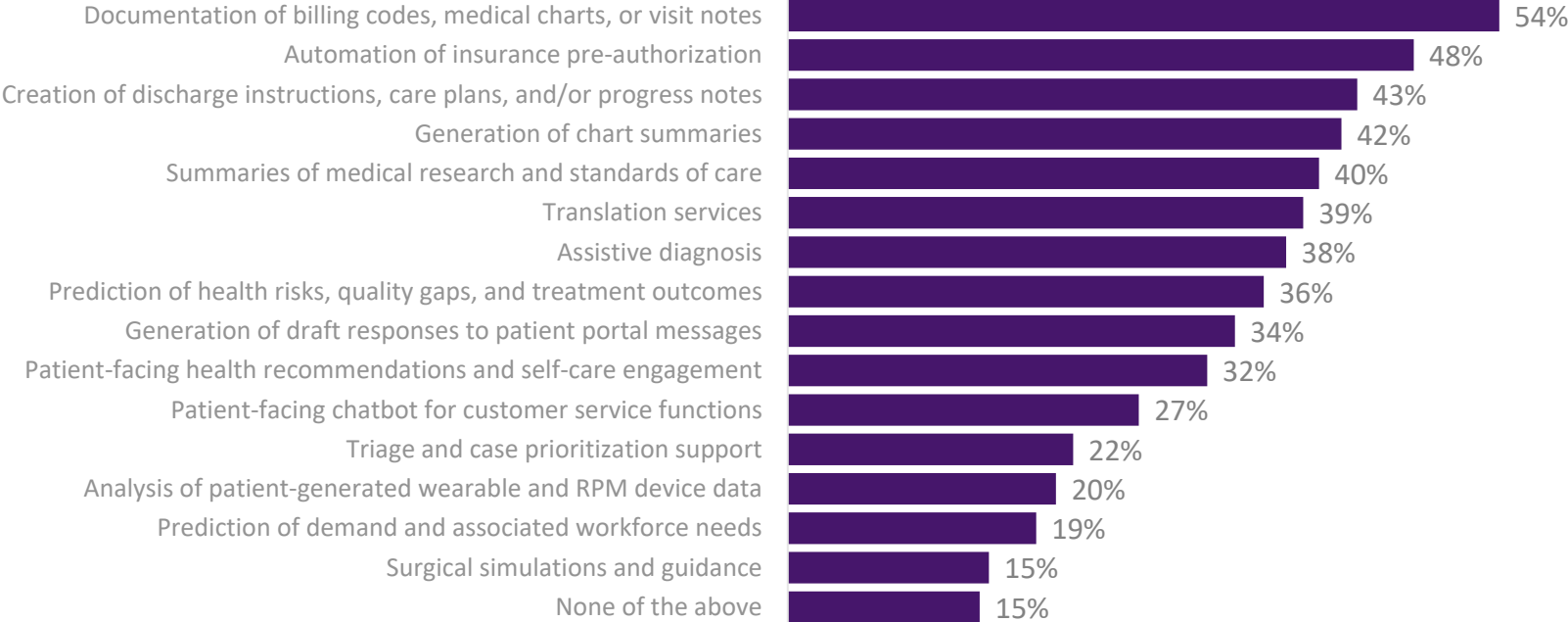
Bottom 2 Box = Not very + Not at all relevant



Indicates a significant difference between the two sub-groups.

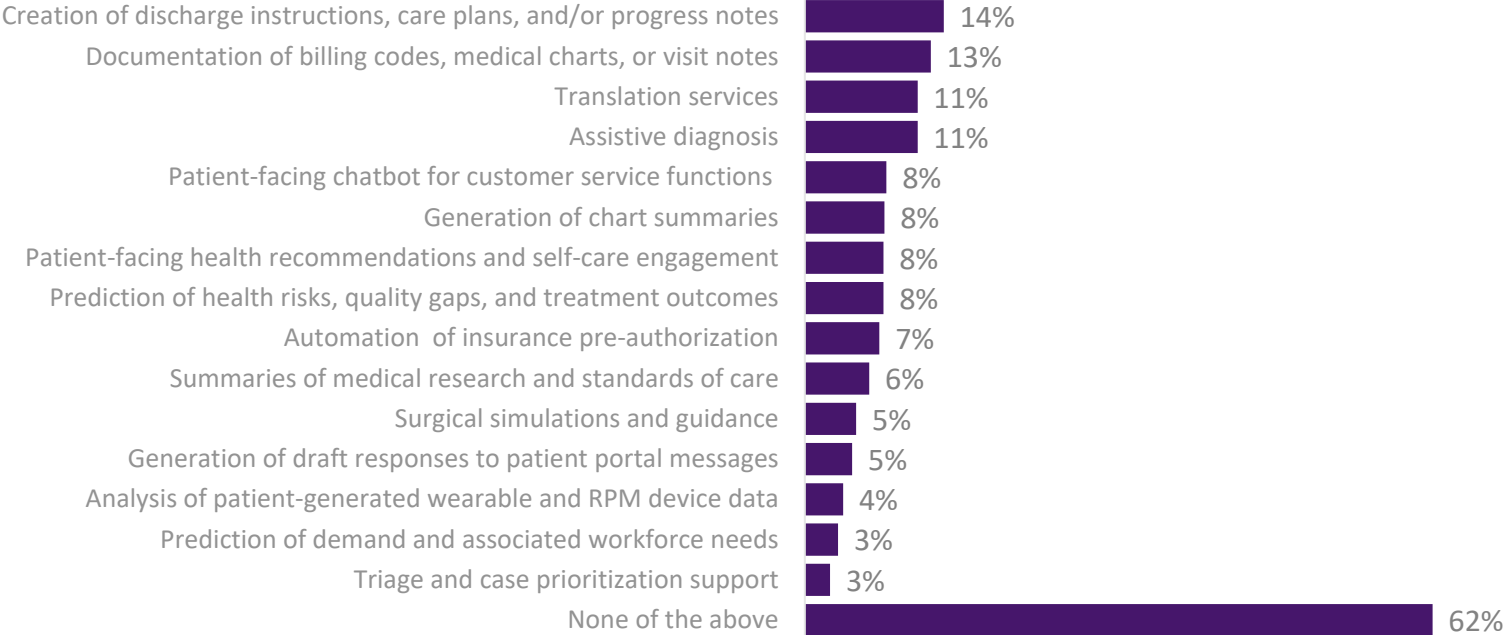
Documentation and automating insurance pre-auth had the highest enthusiasm among respondents

AI Use Case Enthusiasm



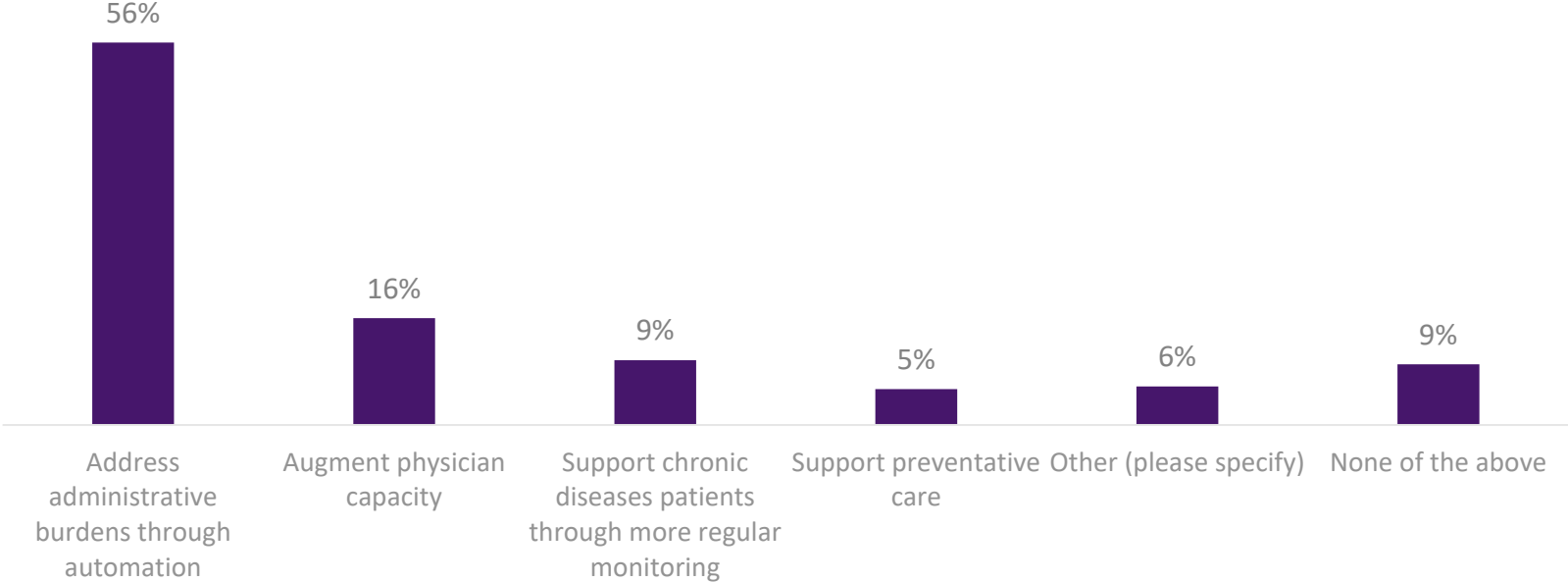
Just under two-thirds of respondents do not currently incorporate any of these AI use cases

AI Use Cases in Practice



Respondents believe AI can best help addressing administrative burdens

Biggest Area of Opportunity for AI to Address



With workforce shortages increasing and physician burnout a key concern, what is the biggest area of opportunity for AI to address key needs? N=1081



Physicians' powerful ally in patient care

Translation services and draft response generation seem to have the closest timeline to adoption

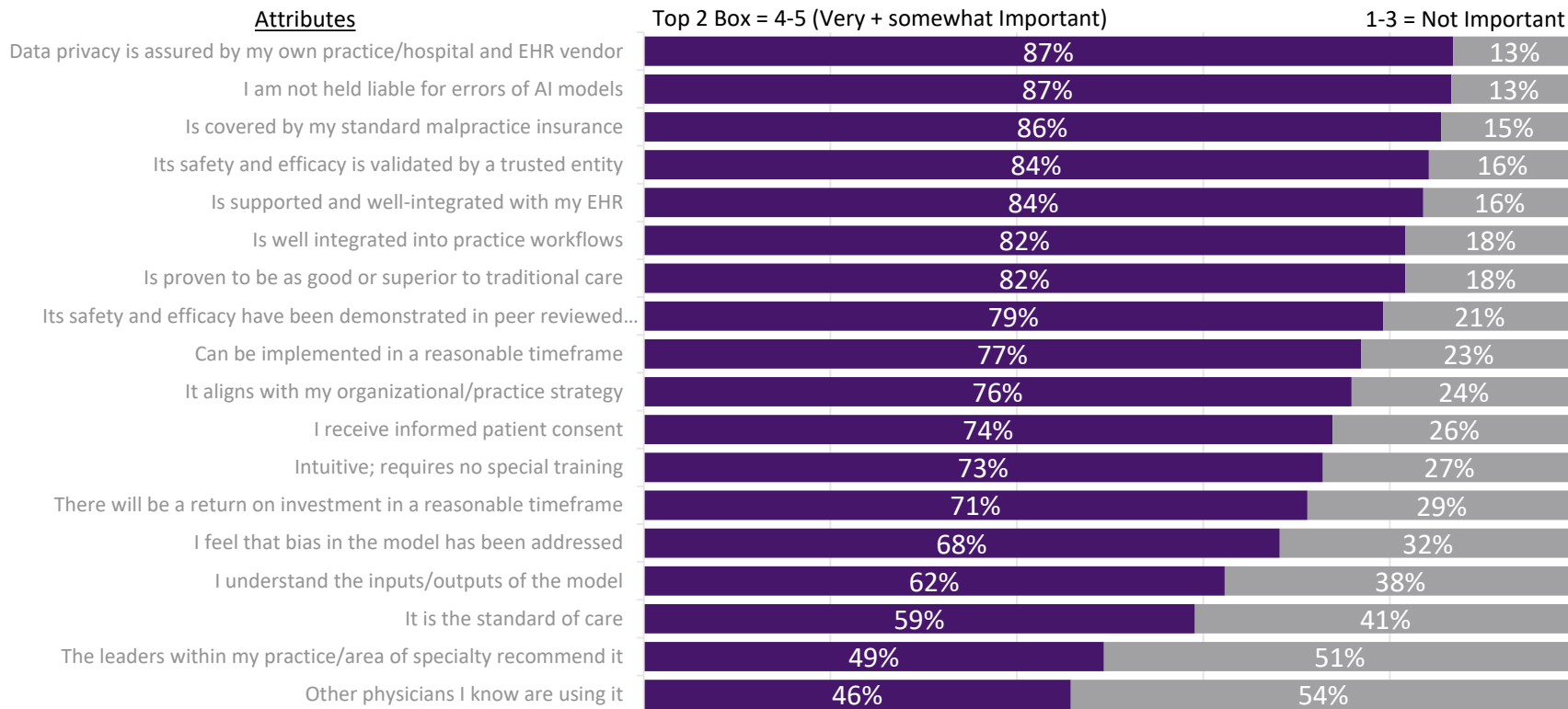
Use Case Adoption Timeline	Immediately	Within Next Year	Within 2-5 years	Within 5-10 years	No plans to incorporate
Automation of insurance pre-authorization	11%	15%	42%	13%	11%
Documentation of billing codes, medical charts, or visit notes	11%	16%	39%	14%	9%
Creation of discharge instructions, care plans, and/or progress notes	11%	18%	36%	14%	9%
Patient-facing chatbot for customer service functions	14%	15%	37%	18%	6%
Patient-facing health recommendations and self-care engagement	13%	18%	36%	17%	10%
Summaries of medical research and standards of care	12%	18%	38%	13%	12%
Translation services	16%	17%	33%	14%	10%
Prediction of demand and associated workforce needs	16%	11%	43%	17%	9%
Assistive diagnosis	12%	15%	36%	15%	8%
Generation of chart summaries	13%	20%	39%	14%	8%
Triage and case prioritization support	13%	18%	37%	17%	10%
Prediction of health risks, quality gaps, and treatment outcomes	12%	18%	39%	16%	10%
Analysis of patient-generated wearable and RPM device data	13%	16%	36%	17%	11%
Surgical simulations and guidance	13%	14%	35%	14%	12%
Generation of draft responses to patient portal messages	15%	22%	40%	12%	5%

Advancing augmented intelligence in health care

*Key physician requirements and desired support
for adoption*



Data privacy assurances, being not liable for AI model errors, and malpractice insurance coverage are the most important attributes for AI adoption

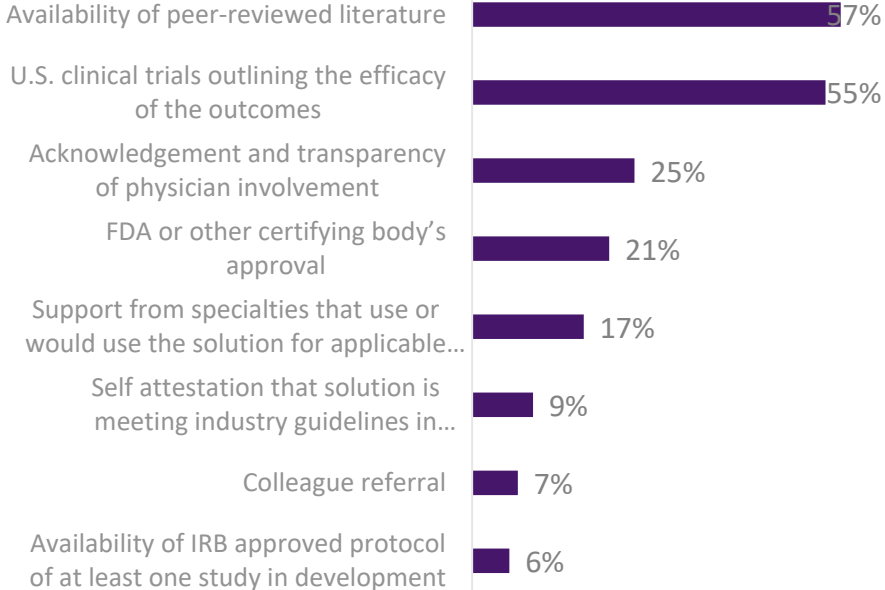


Over a third of respondents said having clinical evidence for AI tools would be most helpful, specifically peer-reviewed literature and clinical trials

Most Helpful Resources



Clinical Evidence Needed



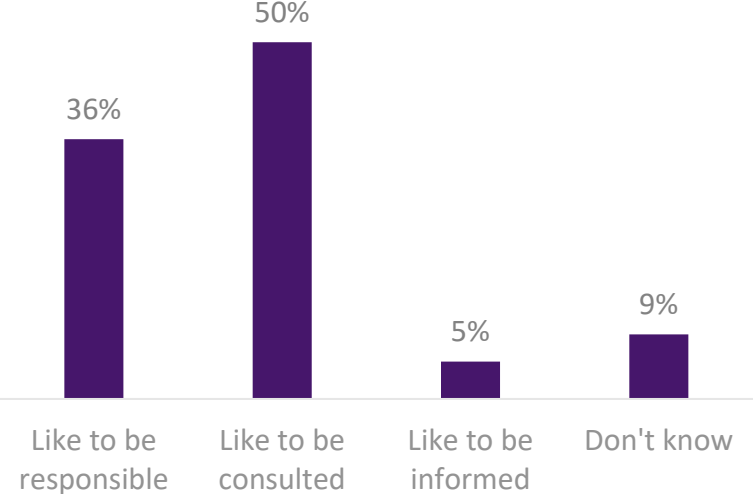
[LEFT] What would be most helpful when evaluating or implementing tools using AI in your practice? N=1081

[RIGHT] What level or type of evidence do you look for in deciding whether and when to use a tool with AI? N=378

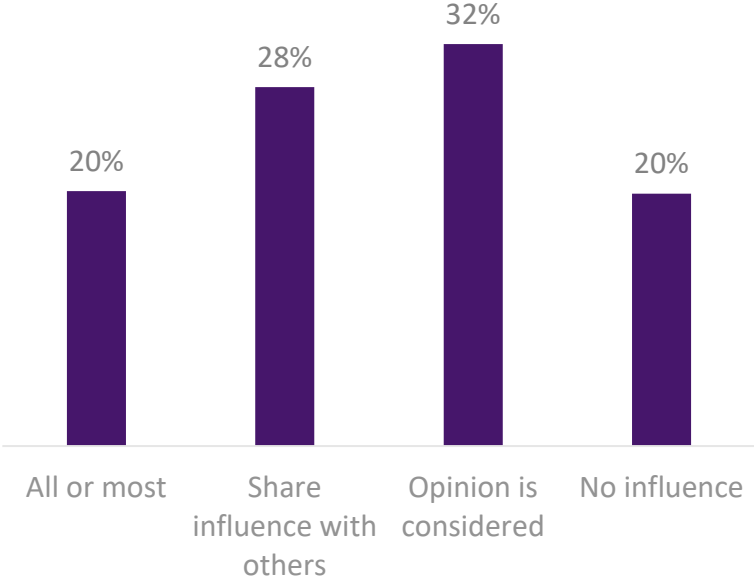


Most respondents would prefer to be at least consulted on tech decisions while just about half have any influence on those decisions

Ideal Level of Involvement in Tech Decisions



Current Level of Influence

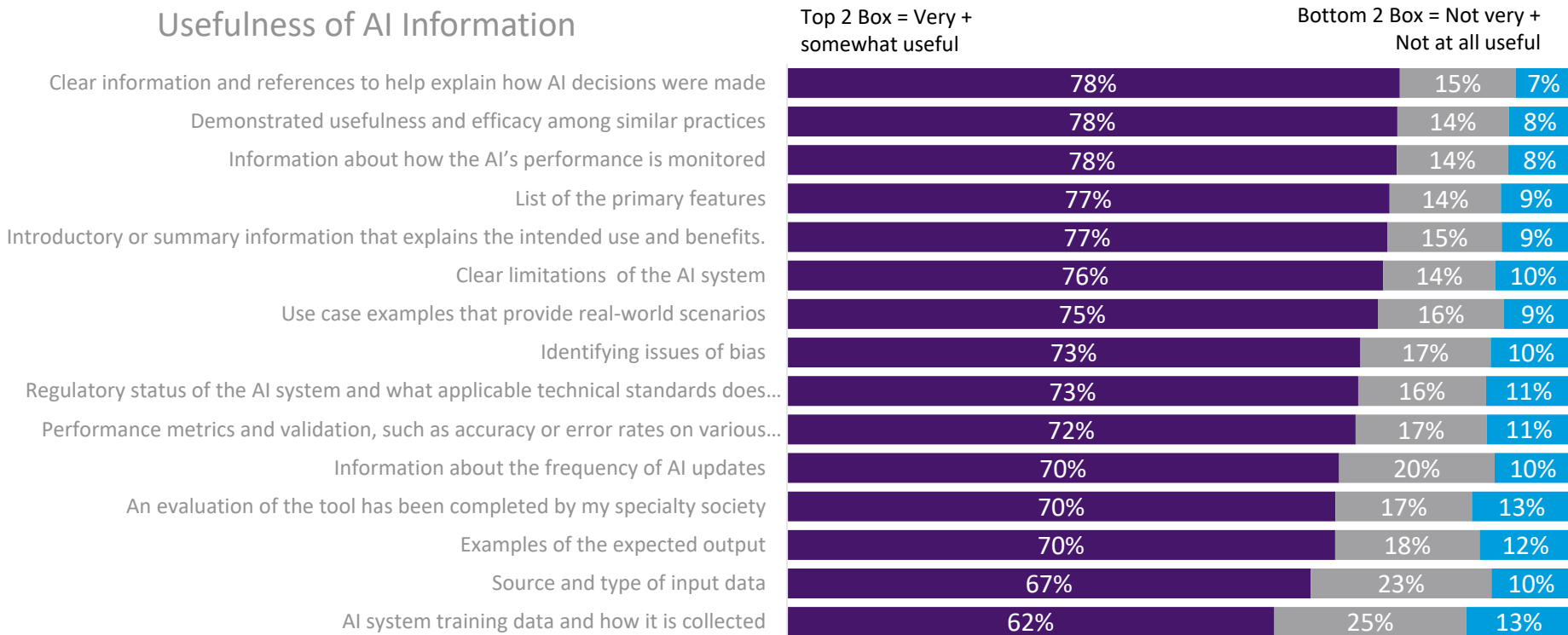


[LEFT] Ideally, how involved would you want to be in the adoption of tools using AI into your practice?

[RIGHT] How much influence do you have on the technology-related decisions made for your practice? N=1081

More information is better when it comes to understanding an AI tools capabilities

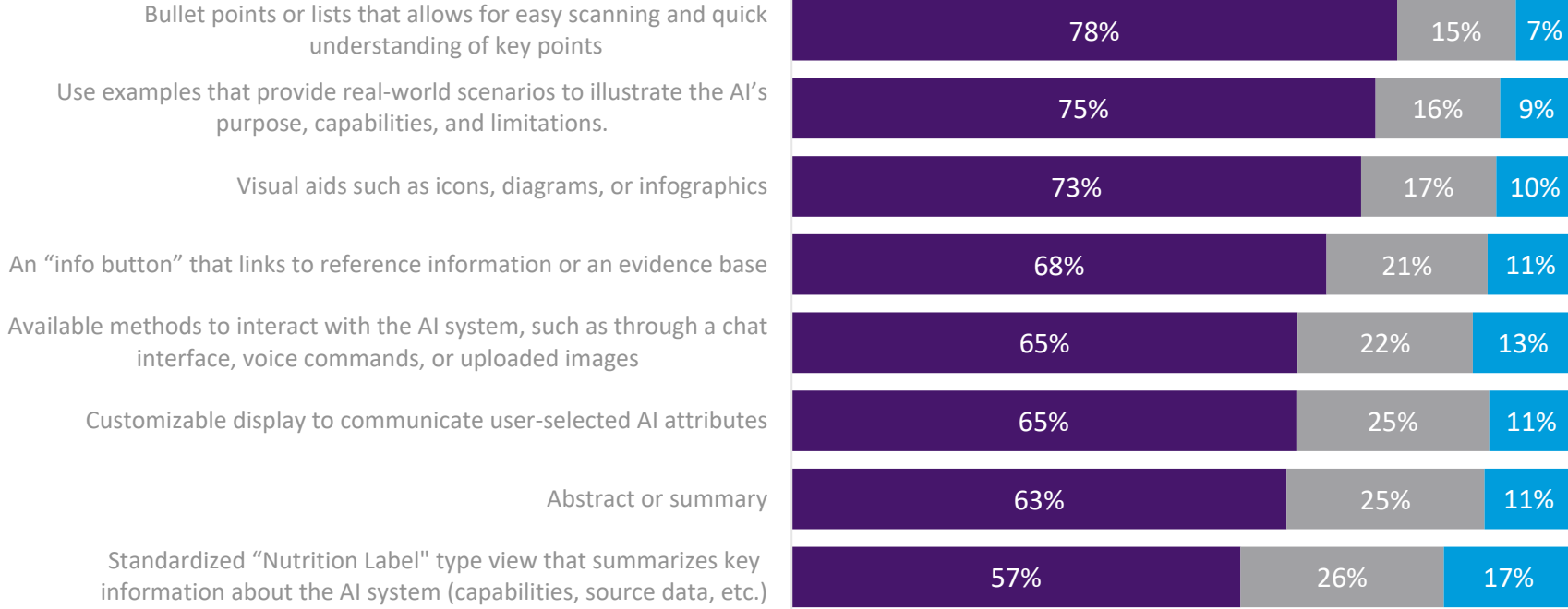
Usefulness of AI Information



A summarization of key points and examples of real-world scenarios are the most useful method of delivering information

Usefulness of Information Delivery

Top 2 Box = Very + somewhat useful
 Bottom 2 Box = Not very + Not at all useful





Physicians' powerful ally in patient care

Appendix



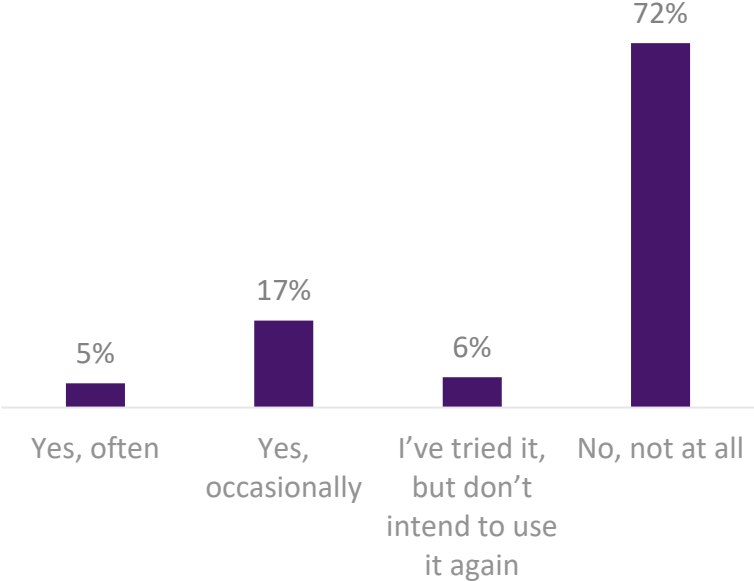
Overall, respondents lean towards being more tech early adopters than tech averse

Tech Adoption Behavior

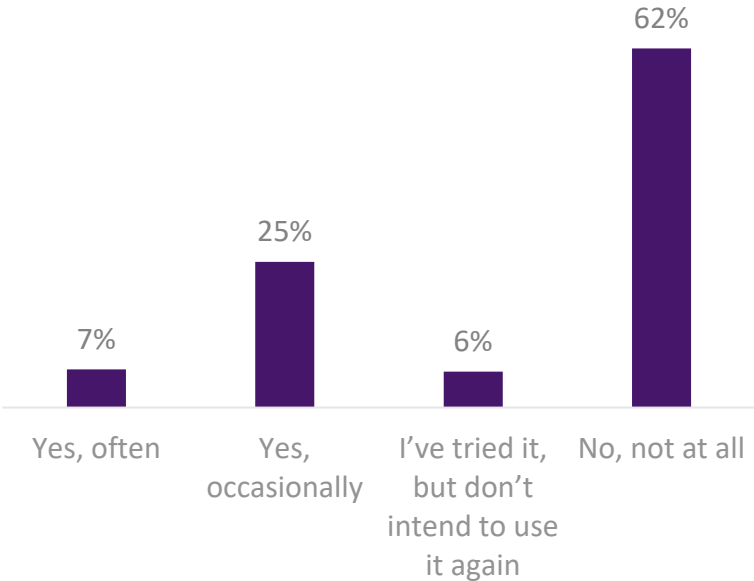


Just over 1 in 5 use ChatGPT in their professional life and a third use it in their personal life

Professional ChatGPT Usage



Personal ChatGPT Usage



Are you currently using ChatGPT, Bard, or another commercially available large language model in your professional/personal day-to-day activities? N=1081

