



AMA Digital Health Research 2022: Trends, Takeaways and the Transformation of Care

PRESENTED BY

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Our Presenters



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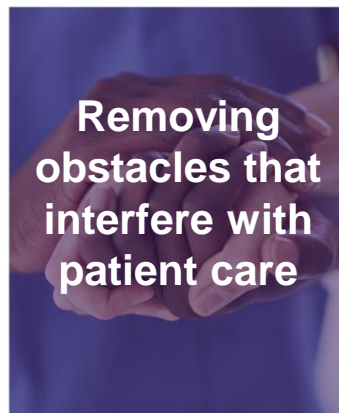
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AMA: The Physicians' Powerful Ally in Patient Care



A Recovery Plan for America's Physicians

The AMA is working at the highest levels to

- **Reform Medicare payments** to promote thriving practices and innovation;
- **Tackle Prior Authorization** to reduce burdens on practices and delays in care;
- **Stop Scope Creep** that threatens patient safety;
- **Reduce burnout** and address stigma around mental health; and
- **Advance Telehealth** to maintain coverage and payment.



Read more about the
AMA Recovery Plan for
America's physicians

#FightingForDocs

AMA: Driving the Future of Digital Health



**AMA DIGITAL
HEALTH RESEARCH**
(2016, 2019, 2022)



**AMA DIGITAL HEALTH
PLAYBOOK SERIES**
(RPM, TELEHEALTH)



**AMA
TELEHEALTH
QUICK GUIDE**



**NATIONAL
TELEHEALTH
IMPACT SURVEYS**



**AMA TELEHEALTH
INITIATIVE**
(AMA TELEHEALTH
IMMERSION PROGRAM)



HEALTH 2047



**AMA RETURN ON
HEALTH RESEARCH
& VALUE
FRAMEWORK**



AI PRINCIPLES



**CPT® CODING &
PAYMENT
GUIDANCE**



**ENSURING EQUITY
IN INNOVATION**



**STATE & FEDERAL
ADVOCACY**



**PRIVACY
PRINCIPLES**
(PRIVACY BY DESIGN)

Making technology an asset in the delivery of healthcare, not a burden.



Let's warm up with a poll

When you see the **poll** appear in the slide window, click on the **answer**, then click **SUBMIT**.



Poll #1

Which of the following questions best encapsulate(s) what physicians want to know before they adopt digital health tools?

- Does it work?
- Will I receive payment?
- Will I be liable?
- Will it work in my practice?
- All of the questions listed above.

Poll #1 Results

Poll results are a function of the live webinar. Please refer to the webinar recording for a snapshot of the live poll results.

AMA Digital Health Research: 2022 Findings

Meg Barron

Vice President, Digital Health Innovations
American Medical Association



AMA Digital Health Strategy

AMA ENTERPRISE GOAL: MAKE TECHNOLOGY AN ASSET NOT A BURDEN FOR PHYSICIANS

Lessons learned from the EHR

Engage and connect critical stakeholders to improve the development, evidence base and quality of digital health solutions

Advance the adoption/optimization/sustainability of proven digital health solutions to support transformation towards digitally enabled care

Research, Resources to Enable, Measure Impact, Collaborate

Digital Health Research: Background and Objectives

- In July 2016, the American Medical Association conducted a comprehensive study of physicians' motivations and requirements for the adoption of digital clinical tools.
- The AMA repeated the study to determine the degree to which adoption has occurred in the past 3 years, and identify attitudinal shifts among physicians towards their use and adoption.
- The goals for this research were to update the 2016 and 2019 studies to determine:
 1. Any change in overall interest in digital health tools and the degree to which physicians believe they will help or hinder their patient care
 2. Current familiarity with 7 specific digital health tools and physician enthusiasm, belief in the relevance to their practice, timeline for incorporating or current use
 3. For each tool, the motivators and level of disruption caused or foreseen
 4. The ideal level of involvement physicians would like to have in adoption decisions
 5. An understanding of enthusiasm, current usage and requirements for emerging technologies

Methodology

- This survey was designed to replicate the 2016 and 2019 surveys exactly, to have a statistically valid and reliable comparative sample.
- The same physician panel was used as in 2016 and 2019, provided by WebMD.
- The 2022 survey is slightly longer than the 2019 survey at around 20 minutes, but new questions were added at the back of the survey to not interfere with the flow of the original questionnaire.
- The basic 2016 survey was followed exactly in wording and question order, with only a few variations, to remove some small questions that were no longer relevant, and to add new questions regarding advanced technologies and information sources.
- The sample used careful quotas to ensure a similar sample composition as in 2016.

	Total	PCPs	Specialists	Solo Practice	Group Practice	Other
2016	1300	650	650	196	879	225
2019	1359	672	687	155	829	375
2022	1300	650	650	144	777	379

Survey Instrument

Digital healthcare: Digital health encompasses a broad scope of tools that engage patients for clinical purposes; collect, organize, interpret and use clinical data; and manage outcomes and other measures of care quality. This includes, but is not limited to, digital solutions involving telemedicine and telehealth, mobile health (mHealth), wearables (Fitbit), remote monitoring, apps and others.

7 Specific Tools	Remote monitoring for efficiency	Remote monitoring and management for improved care	Clinical decision support	Patient engagement
	Tele-visits/ virtual visits	Point of care/ Workflow enhancement	Consumer access to clinical data	

Questions

Overall involvement in Digital Health

- Impact of ability to provide care
- Overall motivators/attractants
- Overall functional requirements

Specific digital tools

- Familiarity
- Current use
- Relevance for practice
- Enthusiasm
- Timeline for incorporating into practice
- Ideal level of involvement in Digital Health in general

Individual tool deep dives

(Ask for up to two relevant solutions, not currently being used)

- Overall motivators/attractants towards solution
- Rank of top 3 motivators/attractants
- Overall functional requirements of solution adoption
- Rank of top 3 functional requirements
- Level of disruption caused by solution
- Ideal level of involvement with decision to incorporate solutions

WebMD recruited a sample of 1,300 practicing US physicians

Requirements for participation:

- Age 28-65
- Practicing physicians including those focused on research, academia or public health
- Full-owner, part-owner or employee of a practice (not an independent contractor)
- Provide a minimum of 20 hours of direct patient care each week

Key Definitions in the Study

- Digital health encompasses a broad scope of tools that engage patients for clinical purposes; collect, organize, interpret and use clinical data; and manage outcomes and other measures of care quality. This includes, but is not limited to, digital solutions involving telemedicine and telehealth, mobile health (mHealth), wearables (e.g., Fitbit), remote monitoring, apps, and others.
- **Seven specific tools:**

Remote monitoring for efficiency	Smart versions of common clinical devices such as thermometers, blood pressure cuffs, and scales that automatically record readings in the patient record so you do not have to type it
Remote monitoring and management for improved care	Apps and devices for use by chronic disease patients for daily measurement of vital signs such as weight, blood pressure, blood glucose, etc. Readings are visible to patients and transmitted to the physician's office. Alerts are generated as appropriate for missing or out of range readings
Clinical decision support	Modules used in conjunction with the EHR or apps that integrate with the EHR that highlight potentially significant changes in patient data (e.g., gain or loss of weight, change in blood chemistry)
Patient engagement	Solutions to promote patient wellness and active participation in their care for chronic diseases (e.g., adherence to treatment regimens)
Tele-visits/ virtual visits	An audio/video connection used to see patients remotely (i.e., simple acute illness, adjusting therapy, etc.)
Point of care/ workflow enhancement	Communication and sharing of electronic clinical data to consult with specialists, make referrals and/or transitions of care
Consumer access to clinical data	Secure access allowing patients to view clinical information such as routine lab results, receive appointment reminders and treatment prompts, and to ask for prescription refills, appointments and to speak with their physician

Summary of Digital Health Trends from 2019 to 2022

01



There has been an increase in the number of physicians that see a definite advantage in digital tools

- There has been growth in those that see an advantage especially among those 51+ years old.
- Those that see no advantage are trending downwards and are concentrated in the Specialist and age 51+ segments.

02



Adoption of digital tools has grown significantly among all physicians regardless of gender, specialty or age

- Use of all seven tools has increased significantly.
- Improved clinical outcomes and work efficiency are key drivers.
- Coverage by standard malpractice insurance continues to be the most common requirement and data privacy concerns have increased.

03



Adoption of remote care tools such as tele-visits and remote monitoring had the most movement

- Use of tele-visits/virtual visits has nearly tripled since 2019 and remote monitoring for efficiency has nearly doubled.
- Providing remote care to patients has increased significantly as a motivator of adoption of digital tools.
- Reducing stress/burnout has also gained importance as a driver of digital tool adoption.

04



Growth in enthusiasm has largely been concentrated in tele-visits

- Enthusiasm for virtual visits has increased significantly from 2019, while enthusiasm for most other digital solutions is largely stagnant.
- Enthusiasm for consumer access to clinical data has shifted down since last wave.

05



Plans for adoption of most emerging technologies is high but current usage low

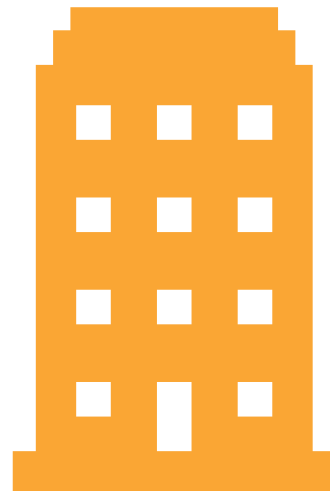
- Nearly 1 in 5 are currently using augmented intelligence for practice efficiencies and 2 in 5 plan to adopt in the next year.
- Nearly 3 in 5 physicians believe technology can most help key areas such as chronic disease patients and preventative care.

1. Does it work?

2. Will I receive proper payment?

3. Will I be liable?

4. Will it work in my practice?



Physicians' key requirements for technology adoption.

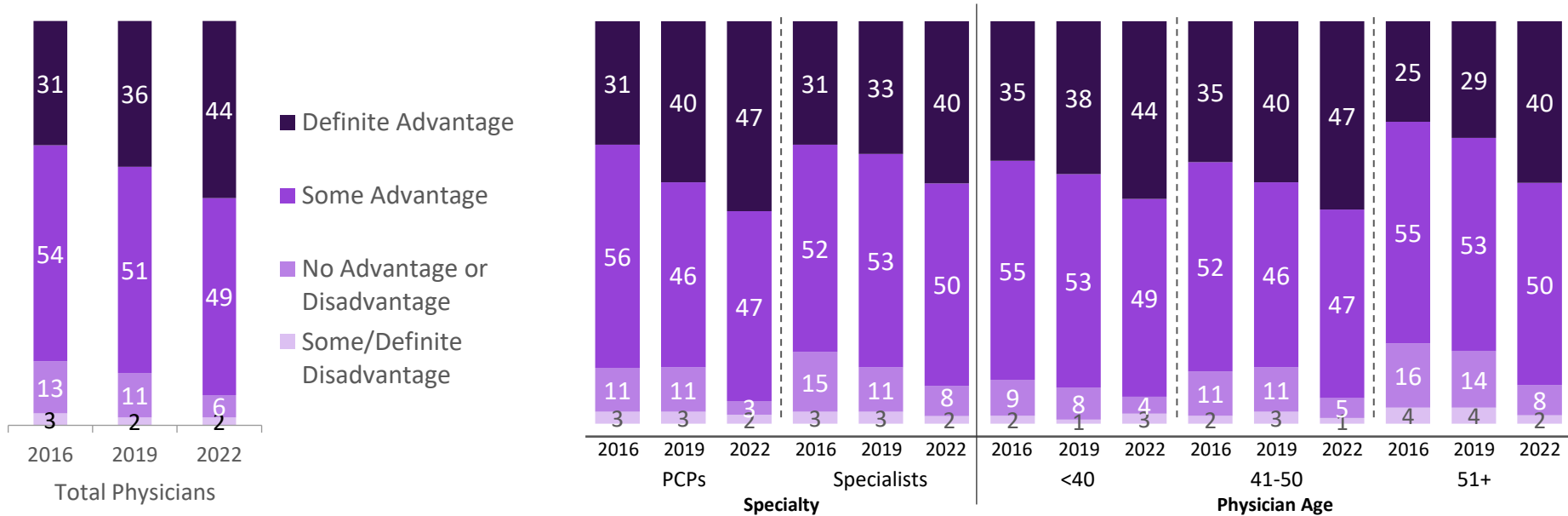
AMA Digital Health research, 2016, 2019, 2022

Digital Health Solution Usage and Attitudes: Shifts from 2016 to 2022



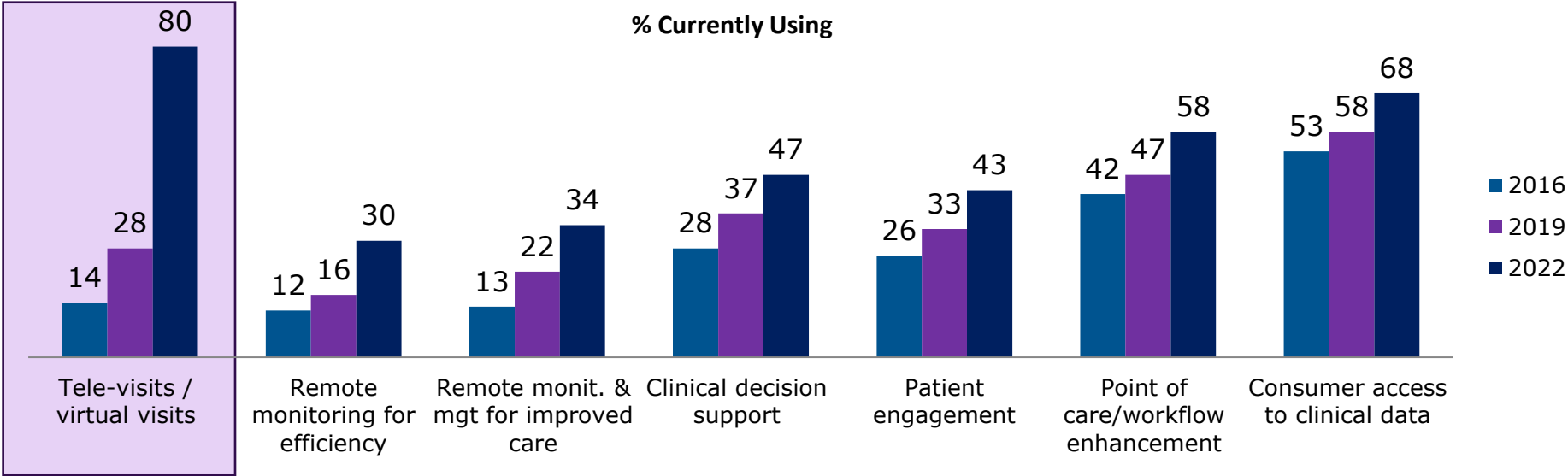
There has been an increase in the percentage of physicians that feel there are advantages in leveraging digital tools for patient care.

- Both PCPs and Specialists feel digital health solutions provide advantages in their ability to care for patients.
- Respondents across all age groups indicate an increase in the perceived advantage of digital health solutions. In particular, the 51+ group experienced the largest increase since 2019.



While adoption of all digital health tools has increased since 2019, tele-visits have increased the most significantly.

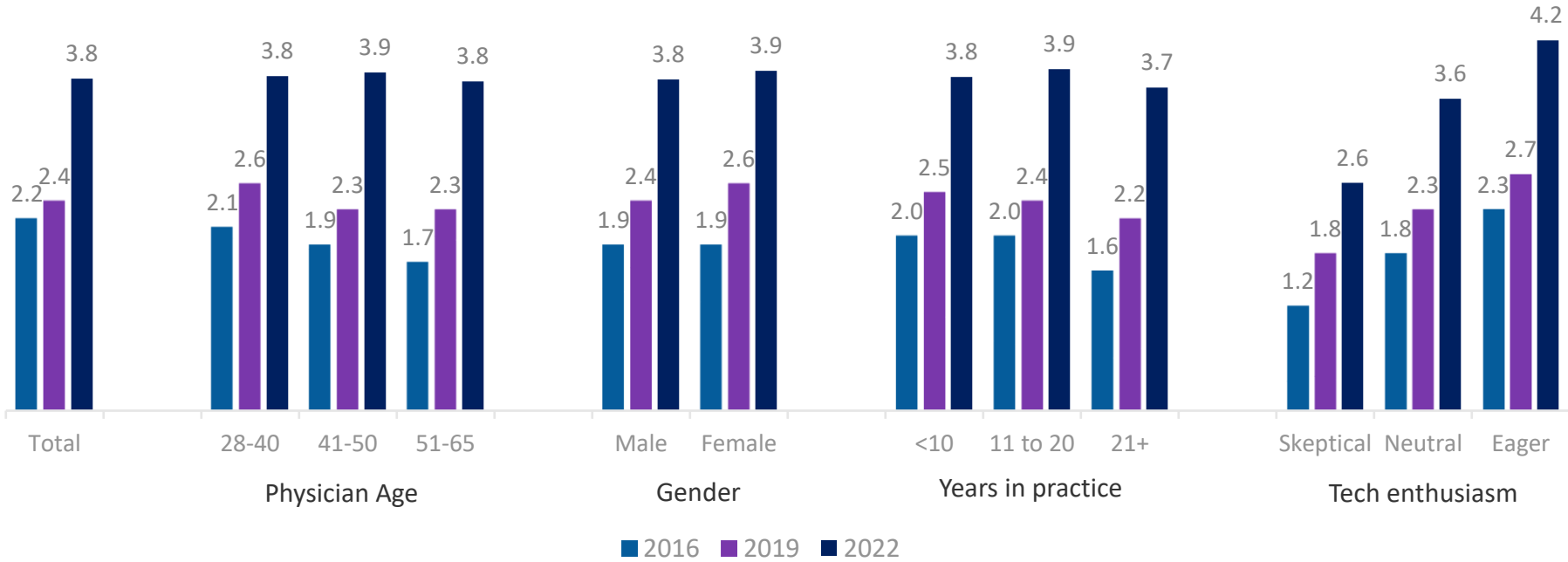
Use of tele-visits/virtual visits and remote monitoring for efficiency and improved patient care has increased significantly.



The average number of digital tools used has increased across the board.

Those less enthusiastic about technology are still lagging behind their counterparts.

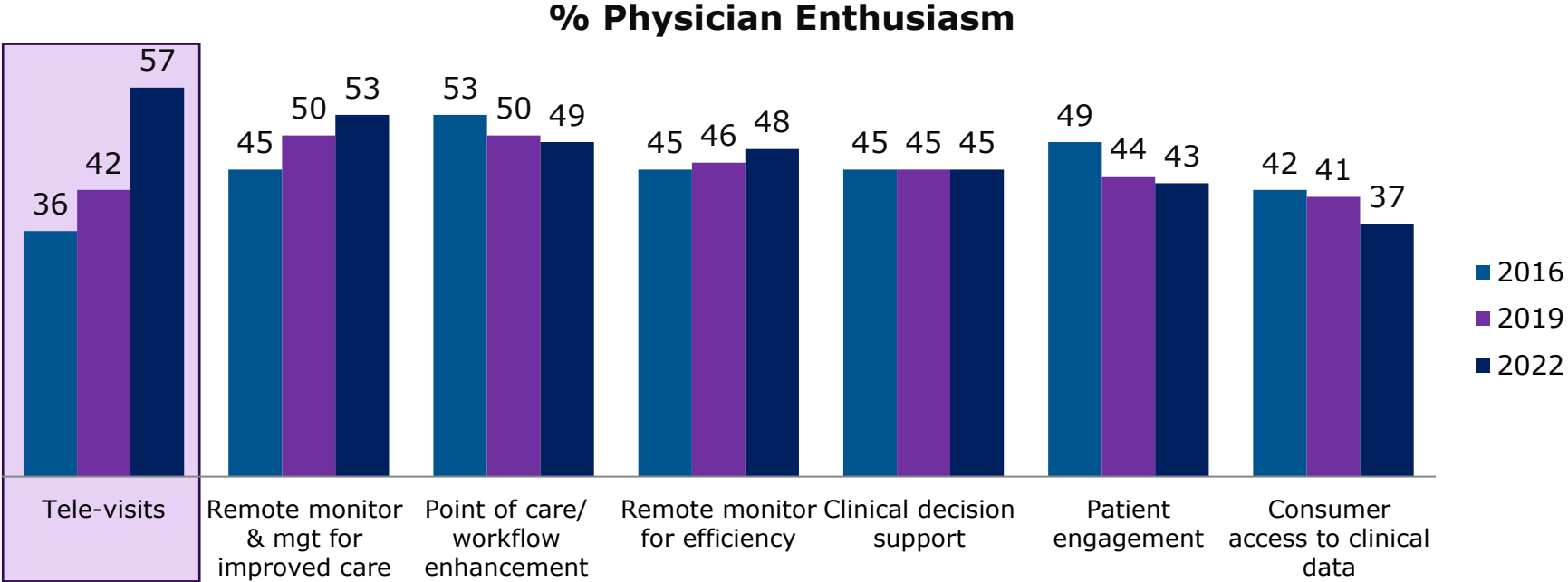
Average Number of Digital Tools Physicians Use



Q20. Which, if any, of these do you currently incorporate into your practice? Base: Total Physicians (n=1300), Age <40 (n=448), Age 41-50 (n=427), Age 51+ (n=425), Gender Male (n=822), Gender Female (n=445), Tenure <10 (n=519), Tenure 11-20 (n=427), Tenure 21+ (n=354), Tech Skep. (n=162), Tech Neut. (n=562), Tech Eager (n=576)



Physicians' enthusiasm for tele-visits has increased more than other solutions since 2019.

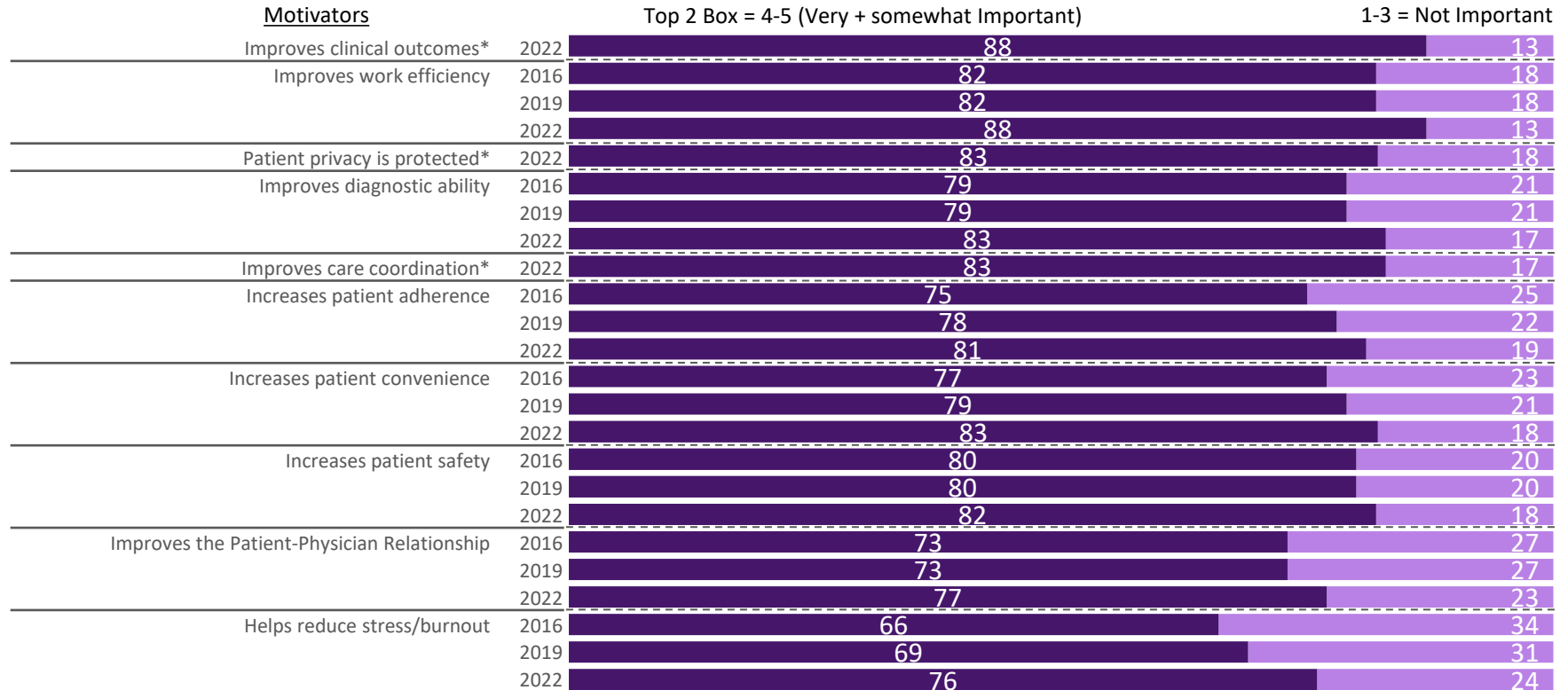


Motivators & Requirements for Adoption



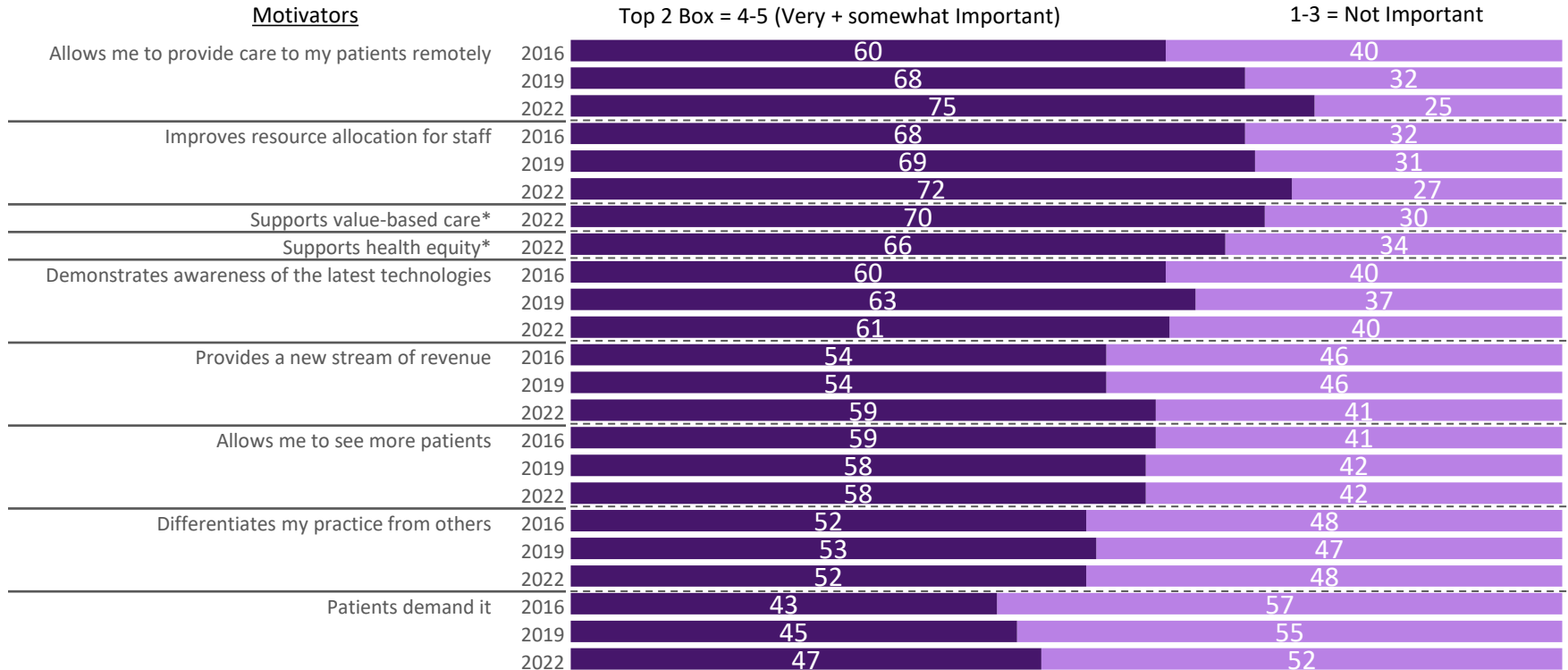
Improved clinical outcomes and improved work efficiency are the top motivators for physicians to use digital health tools.

Nearly all attributes have increased in importance as reasons for attraction.

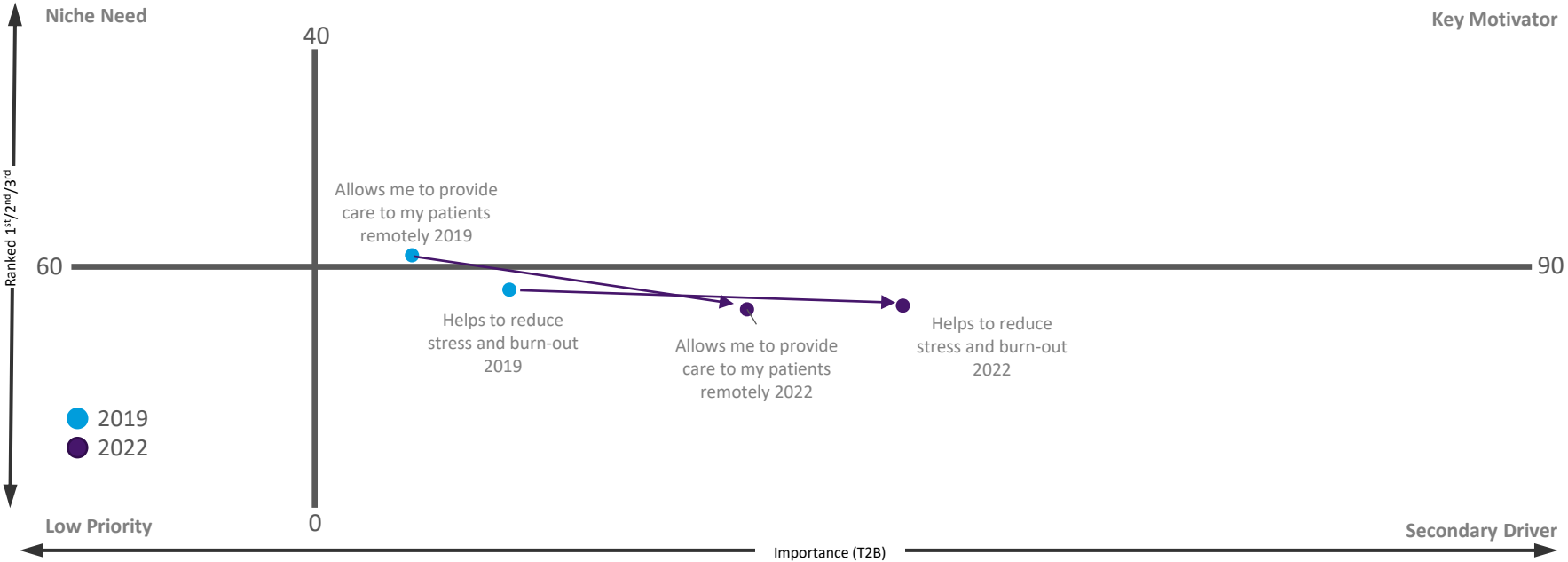


There has been a significant shift in the importance of remote care.

More say it is very important as a reason to be attracted to digital health and fewer think it is not important.

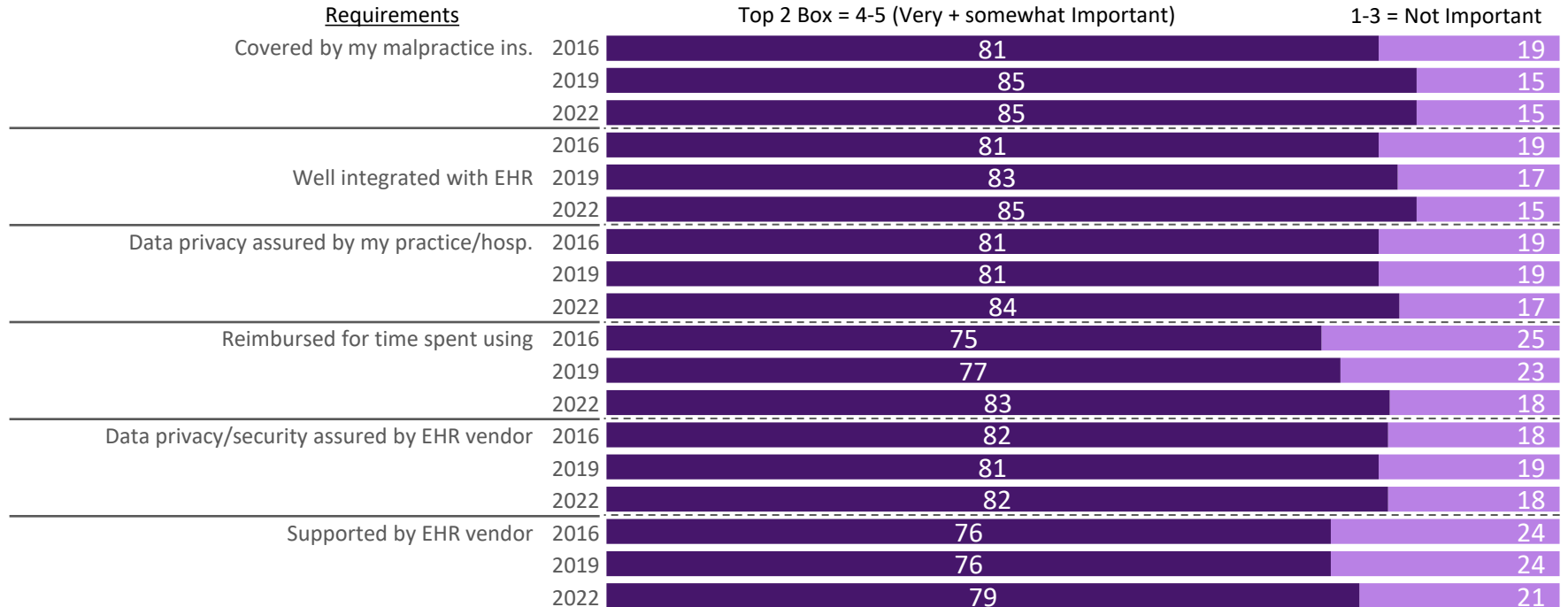


Reducing burnout and providing remote care had the most movement in importance.

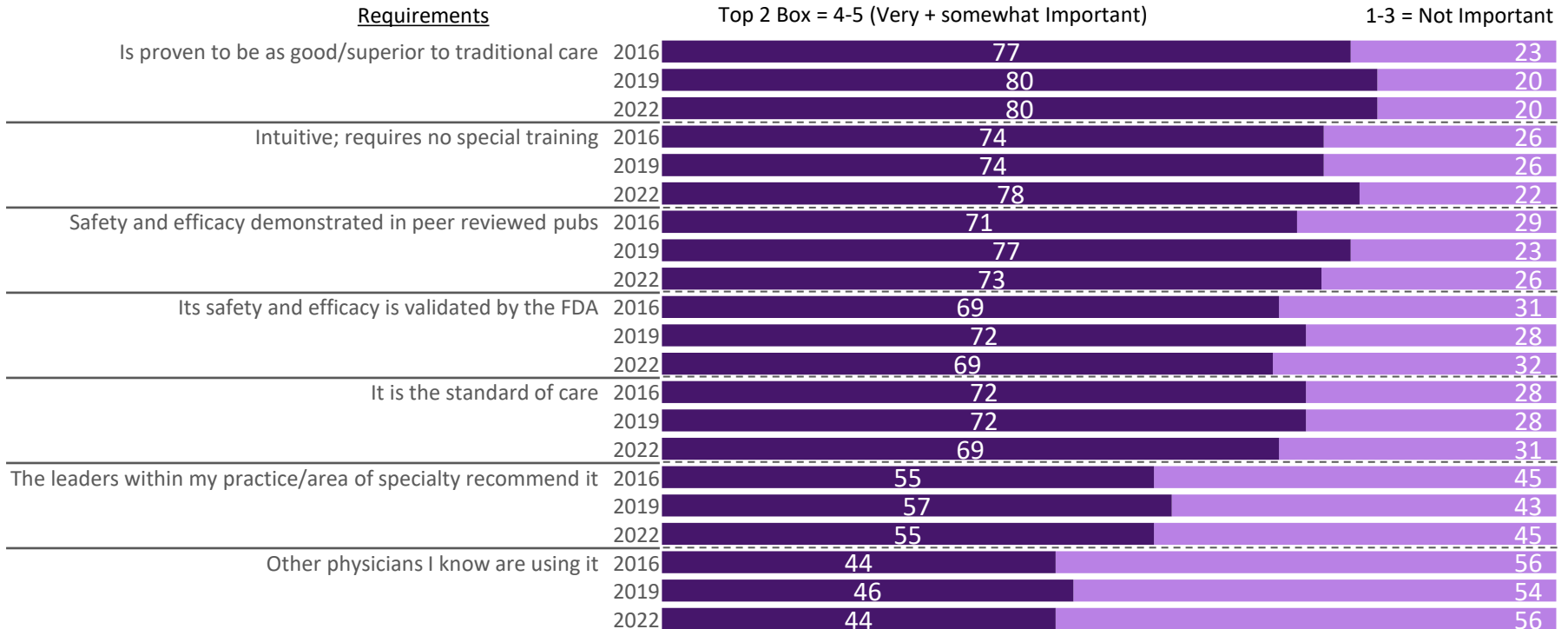


Vertical axis: % of respondents that ranked the item in top 3 most important.
Horizontal axis: % of respondents that rated the item a 4 or 5 out of a 5-point scale.
*New attributes added to the 2022 wave
T2B = Top 2 Box (Very and Somewhat Important)

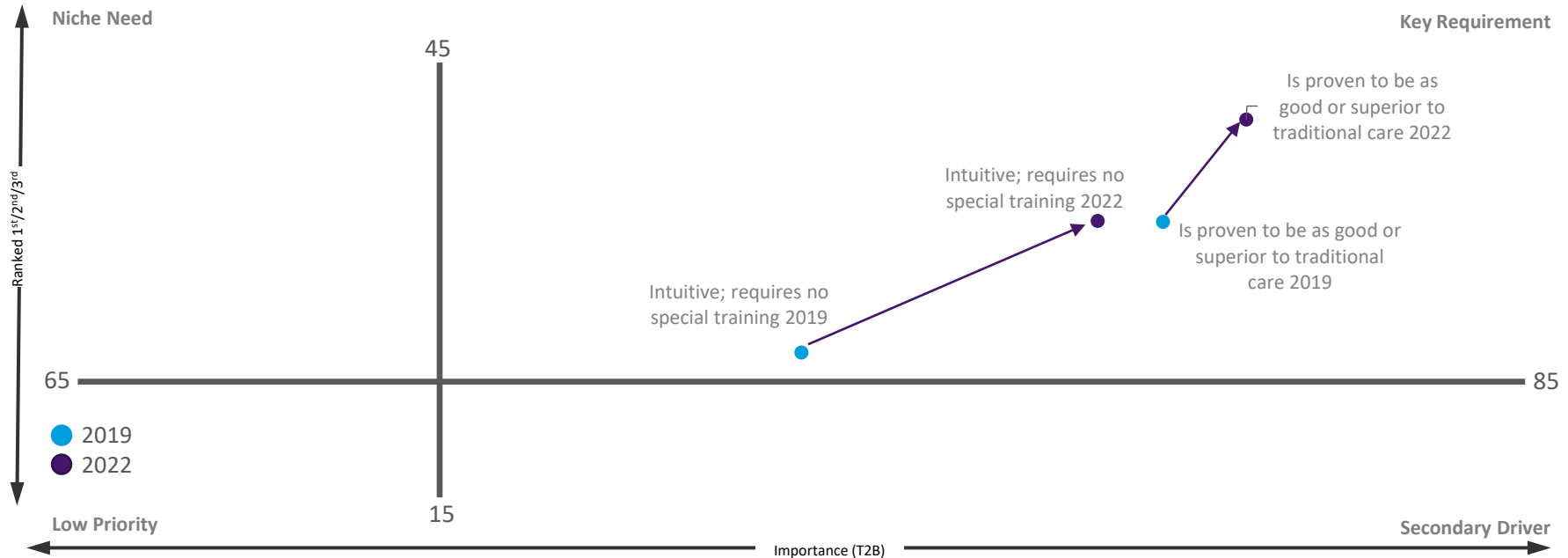
Malpractice insurance coverage of digital health tools remains the most important factor in adoption, followed by integration with EHR.



Importance of other attributes in the adoption of digital health remains largely unchanged.

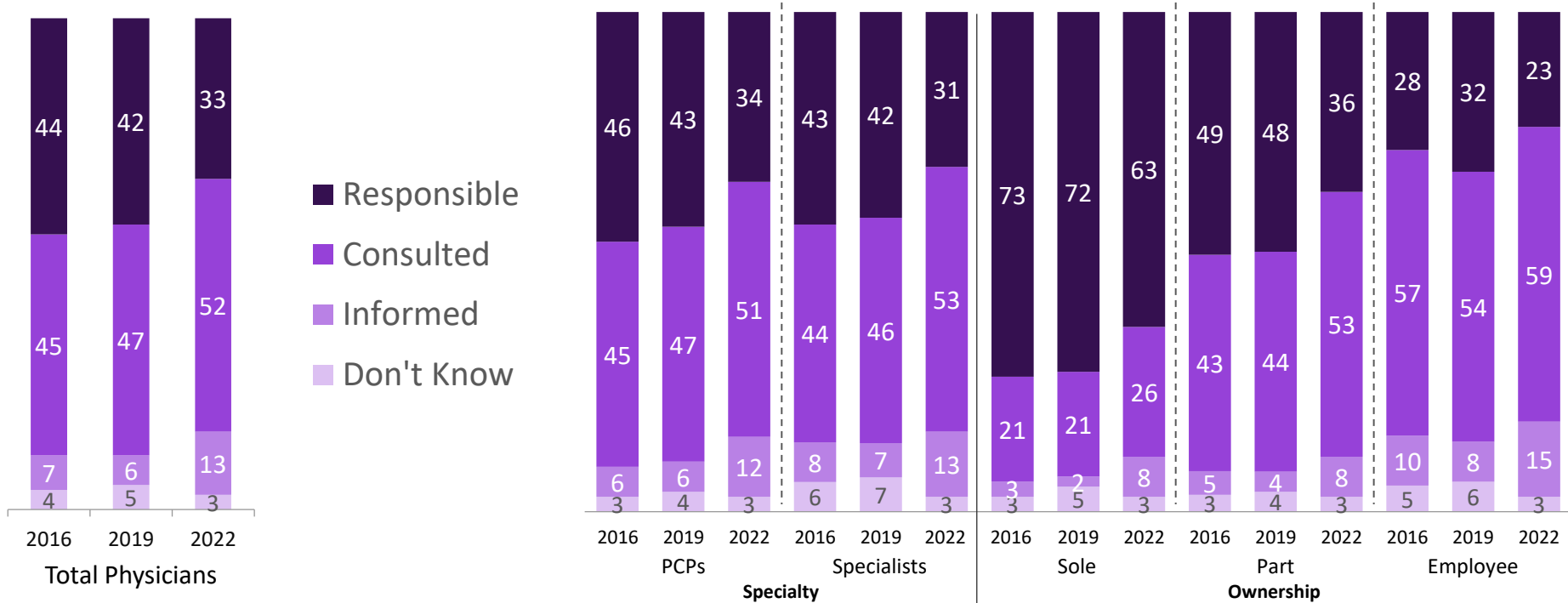


Being intuitive and superior to traditional care have solidified their placement as key requirements.



The desire to be consulted in the decision-making process has increased across the board, while the desire to be responsible has decreased.

Physicians want to be consulted in the decision-making process; owners still largely expect to be responsible.



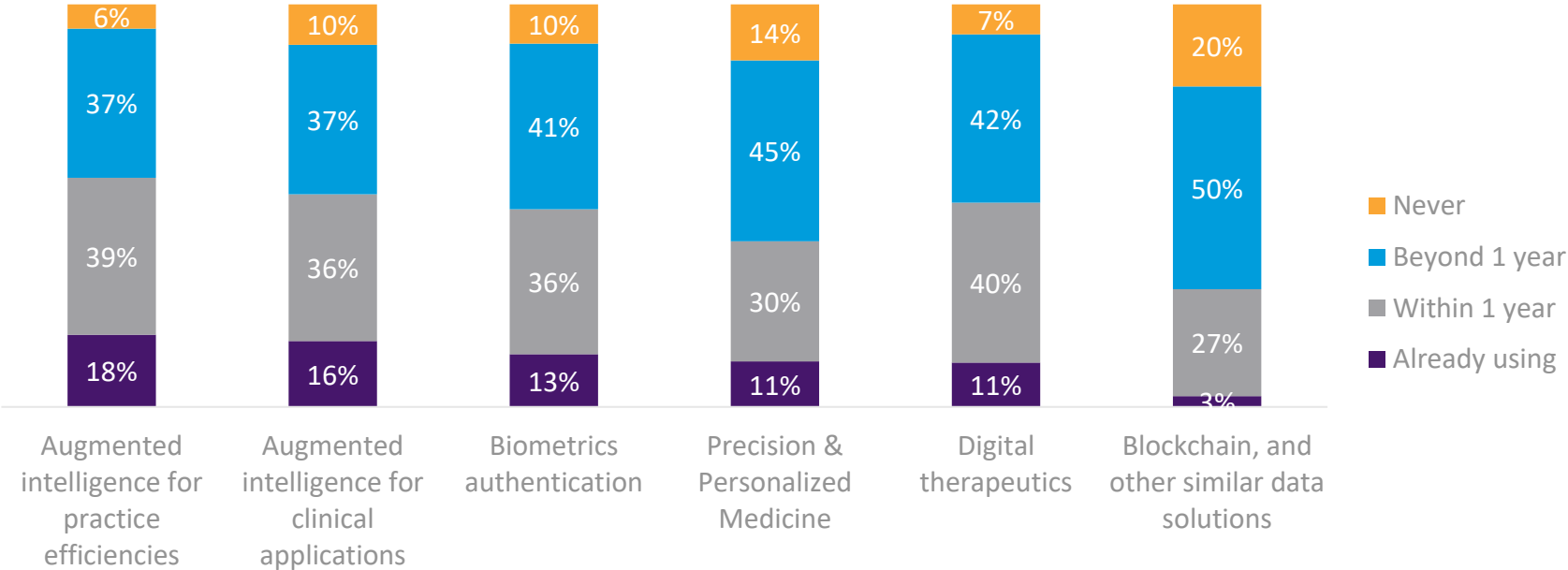
Emerging Technologies



Just under 1 in 5 physicians said their practice incorporates augmented intelligence for practice efficiencies and clinical applications.

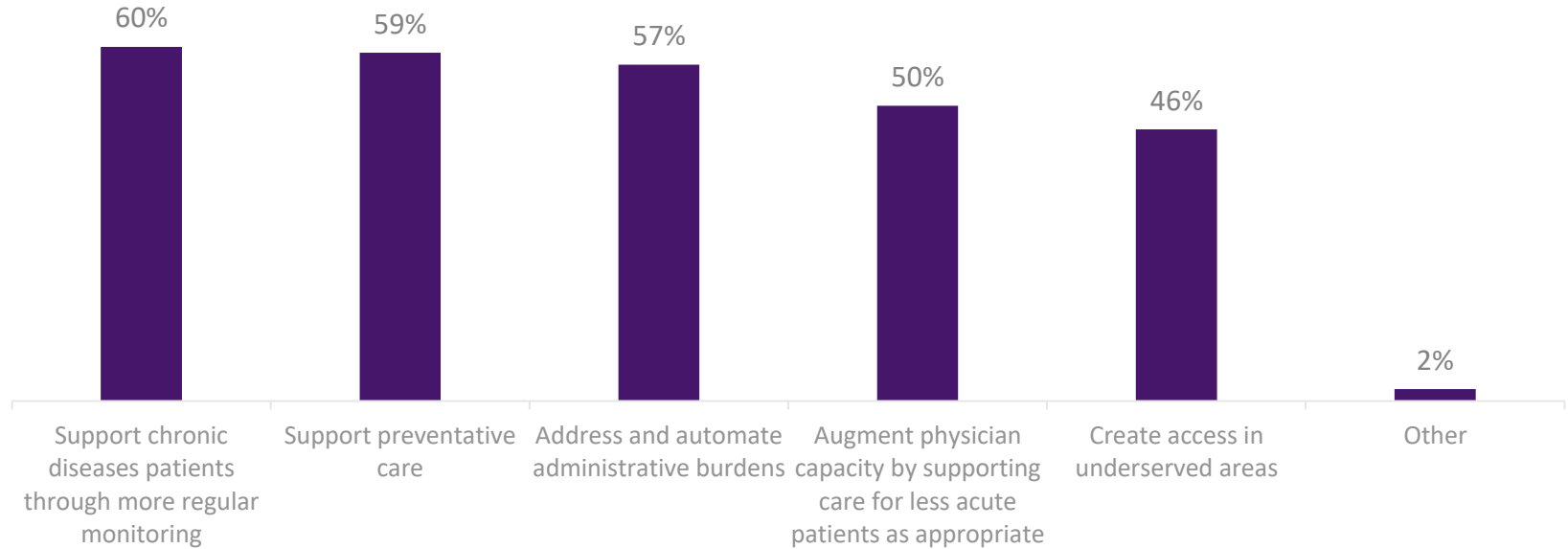
Just over 1 in 10 use biometrics, Precision Medicine or digital therapeutics in their practice.

Advance Technology Solutions Usage & Adoption Plans



About 3 in 5 physicians say technology can help address key needs with chronic disease patients, preventative care and automating administrative tasks.

Areas Where Technology Can Address Key Needs



Digital Medicine: CPT[®] Code Development

Leslie Prellwitz

Director, CPT Content Management and Development
American Medical Association

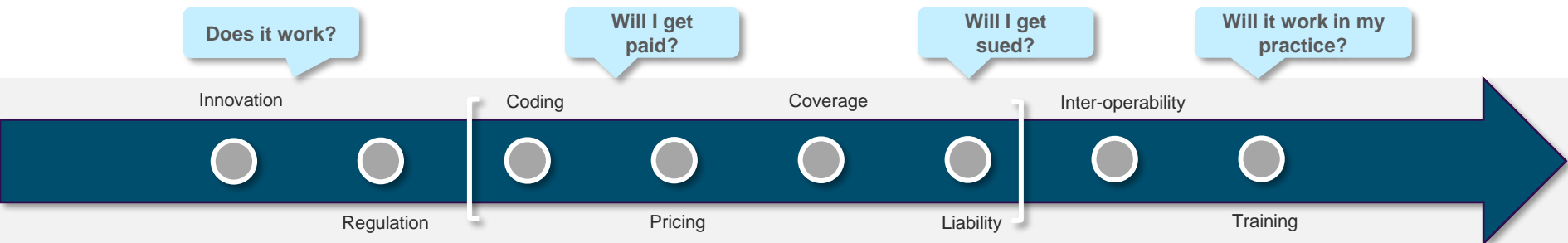


Digital Medicine and CPT®

CPT code set moves at the pace of medicine.

Digital Medicine areas with significant physician interest/confidence/utility in patient care also have significant CPT code representation.

The AMA-Convened Digital Medicine Payment Advisory Group (DMPAG)



Aggregate evidence base

Address gaps in coding

Propagate widespread coverage

- ✔ Engaged the CPT® Editorial Panel by proposing new codes for Remote Physiologic Monitoring, Internet Consultation, eVisit, and Diabetic Retinopathy CPT codes
- ✔ Gained broader coverage of remote monitoring and augmented intelligence services with payers like CMS
- ✔ DMPAG created use cases and consolidated evidence from hundreds of studies

15 nationally recognized advisors

The Seven Specific Tools

- 1 Remote monitoring for efficiency
- 2 Remote monitoring and management for improved care
- 3 Clinical decision support

- 4 Patient engagement
- 5 Tele-visits/ virtual visits
- 6 Point of care/ workflow enhancement
- 7 Consumer access to clinical data

The Seven Specific Tools: CPT[®] Representation

- Remote monitoring for efficiency
- Remote monitoring and management for improved care
- Clinical decision support

- Patient engagement
- Tele-visits/ virtual visits
- Point of care/ workflow enhancement
- Consumer access to clinical data

Digital Tools: Remote Monitoring (for improved care, efficiency)

CPT® Codes

Remote Physiologic Monitoring



99453 | 99454 | 99091 |
99457 | 99458

Remote Therapeutic Monitoring



98975 | 98976 | 98977 |
98980 | 98981

Pulmonary Artery Pressure Sensor Remote Monitoring



93264

Ambulatory continuous glucose monitoring



95249 | 95250 | 95251

External electrocardiographic recording >48hr up to 7 days



93241 | 93242 | 93243 |
93244

General Characteristics

Codes created in groups/families; reflect subsegments of work performed

- Patient education and setup
- Device supply
- Data collection, transmittal, and analysis/interpretation
- Treatment management services

Many placed in Medicine section of the code set

Digital Tools: Patient Engagement

Self-Measured Blood Pressure Monitoring



CPT® Codes

99473 | 99474

General Characteristics

Codes created in groups/families; patient's role highlighted.

- Patient education and setup
- May or may not include device supply
- Data collection and analysis/interpretation
- Treatment plan communication

Digital Tools: Tele-Visits/Virtual Visits

CPT® Codes

Online Digital Evaluation service (e-Visit)



99421 | 99422 | 99423 |
98970 | 98971 | 98972

Telephone Visit Codes



99441 | 99442 | 99443

Modifier 95
(Telemedicine - Audio-Visual)

Modifier 93
(Audio-Only - new for 2023)

General Characteristics

- Highest utilized of all the tools
- Public Health Emergency was a catalyst
- Code groupings primarily in E/M and Medicine
- Modifiers facilitate flexibility in care delivery

Digital Tools: Modifier 93 - Audio Only

New in 2023

- **CPT® Codes That May Be Used For Synchronous Real-Time Interactive Audio-Only Telemedicine Services**
- Expansion beyond E/M visits
- Additional flexibility for patient care modalities beyond Audio-Visual

Code subsets represented in Initial Code List:

- Psychiatry
- Special Otorhinolaryngologic Services
- Medical Genetics and Genetic Counseling Services
- Central Nervous System Assessments/ Tests
- Health Behavior Assessment and Intervention
- Medical Nutrition Therapy
- Preventive Medicine Services
- Advance Care Planning

Digital Tools: Clinical Decision Support

Analytics and Algorithms

CPT® Codes



General Characteristics

- Generally created for analyses, algorithms, applications etc. that assist the physician/ QHP; work is not replaced
- Frequently reflected as a 'Practice expense only' code; utilization acknowledged
- Common group for Category III codes

Digital Tools: Point of Care / Workflow Enhancement

Remote Retinal Imaging

CPT® Codes



92227 | 92228 | 92229

General Characteristics

Codes created in groups/families; reflect level of technology assistance

- Data only
- Analysis
- Treatment

Survey Results: Emerging Technologies

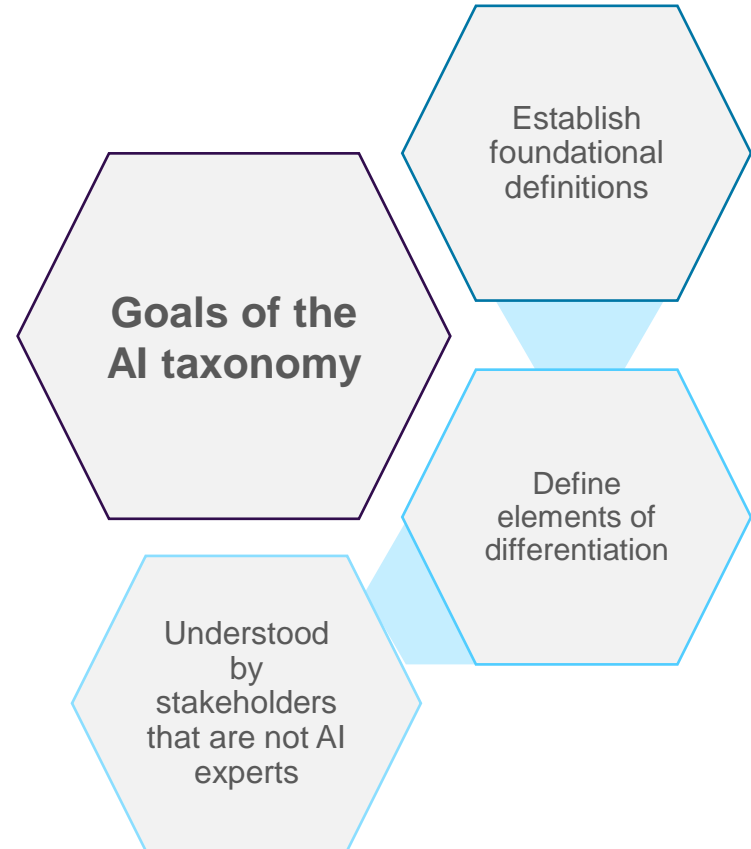
Just under 1 in 5 physicians said their practice incorporates augmented intelligence for practice efficiencies and clinical applications.

- Augmented Intelligence for practice efficiencies
- Augmented intelligence for clinical applications
- Biometrics Authentication
- Prevision & Personalized Medicine
- Digital Therapeutics
- Blockchain/other similar data solutions

New for 2023—CPT® Appendix S: AI Taxonomy for Medical Services & Procedures

The AI Taxonomy provides and defines distinct categories to describe the work done by the machine on behalf of the physician based on:

- Technical features and performance of emerging AI products and services
- Effect on the work of the physician/QHP
- Discrete components of work in order to facilitate valuation



AI Taxonomy: Table

Service Components	AI Category: Assistive	AI Category: Augmentative	AI Category: Autonomous
Primary objective	Detects clinically relevant data	Analyzes and/or quantifies data in a clinically meaningful way	Interprets data and independently generates clinically meaningful conclusions
Provides independent diagnosis and/or management decision	No	No	Yes
Analyzes data	No	Yes	Yes
Requires physician or other qualified health care professional interpretation and report	Yes	Yes	No
Examples in CPT code set	Computer-Aided Detection (CAD) Imaging (77048, 77049, 77065-77067, 0042T, 0174T, 0175T)	Magnetic Resonance Spectroscopy (0612T), external analysis of imaging data sets	Retinal Imaging (92229)

The Digital Medicine Evolution Continues: Sample of CPT® Codes Added in 2023

Advancements made across numerous areas

High level of activity in remote monitoring/treatment and analytical algorithms

Ophthalmology/ Optometry

Remote Optical Coherence Tomography (patient setup/education, data analysis/reports, review/interpretation and report)
0604T | 0605T | 0606T

Remote treatment of amblyopia using an eye tracking device (device supply, surveillance Center technical support, interpretation and report)
0704T | 0705T | 0706T

Psychiatry

Remote therapeutic monitoring of a standardized online digital cognitive behavioral therapy program ordered by a physician or other qualified health care professional (supply and technical support, management services)
0702T | 0703T

Imaging

Automated analysis of an existing computed tomography study for vertebral fracture(s), incl. assessment of bone density when performed, data preparation, interpretation, and report
0691T

The Digital Medicine Evolution Continues: Sample of CPT® Codes Added in 2023

Cardiology

Cardiac acoustic waveform recording with automated analysis and generation of coronary artery disease risk score
0716T

Fractional Flow Reserve with CT – Cat III conversion to Cat I

- Non-invasive estimate of coronary fractional flow reserve derived from augmentative software analysis of the dataset from a coronary computed tomography angiography

0501T – 0504T

Assistive algorithmic electrocardiogram risk-based assessment for cardiac dysfunction (eg, low-ejection fraction, pulmonary hypertension, hypertrophic cardiomyopathy)
0764T

Endocrine

Remote autonomous algorithm-based recommendation system for insulin dose calculation and titration (set-up and patient education, provision of software, data collection, transmission and storage)
0740T – 0741T

Pathology

Digital Pathology: Enable remote examination by pathologist and/or in conjunction with the use of AI algorithms
0751T – 0763T

Oncology

AI-Assisted Oncologic Treatment (Report patient-specific, assistive, rules-based algorithm for ranking pharmacologic treatment options)

Source: CPT 2023 Professional, CPT Summary of Panel Actions, September 2022 and May 2022

Questions?



AMA Digital Health Research: 2022 Findings

- > Digital Health Solution Usage and Attitudes: Shifts from 2016 to 2022
- > Motivators & Requirements for Adoption
- > Emerging Technologies



Digital Medicine: CPT® Code Development



Stay informed with AMA resources

AMA Digital Health Research surveyed 1,300 physicians in three regular intervals between 2016 and 2022 to investigate physician motivations and requirements for integrating digital health tools into their practices. Explore insights from the AMA's updated study, which includes emerging technologies such as various applications of augmented intelligence.

ama-assn.org/digital-health-study

The **AMA Telehealth Immersion Program** is a comprehensive curriculum of curated webinars, interactive peer-to-peer learning sessions, virtual discussions, bootcamps and resources available on demand and designed to enable practices.

ama-assn.org/telehealth-immersion

Designed to address the needs of developers and creators of health technology and services, the **CPT® Developer Program** offers access to AMA-published content from Current Procedural Terminology (CPT) during the crucial stages of development.

developer.ama-assn.org

The CPT® Editorial Panel has responded to the fast pace of digital health innovation with two taxonomies. **Appendix R** is a taxonomy for **digital medicine services** that supports increased awareness and understanding of approaches to patient care through the multifaceted digital medicine services available for reporting in the CPT code set. **Appendix S** provides guidance for classifying various **AI-powered medical service applications**, such as expert systems, machine learning, or algorithm-based solutions, into one of three categories: assistive, augmentative, or autonomous.

ama-assn.org/cpt-ai-taxonomy

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InFullHealth.org

The **AMA Ed Hub™** is a unified education portal that provides a personalized experience for physicians and their care teams to keep current, increase their professional satisfaction, claim continuing education credits and continuously improve the care they provide. Enhance your understanding of AI with the **Artificial and Augmented Intelligence in Health Care** module.

amaedhub.com

Physicians' powerful ally in patient care

2023 CPT[®] AND
RBRVS
ANNUAL
SYMPOSIUM

Nov. 16–18
Online



Prepare for 2023
with the authority
on the CPT[®] code set

LEARN MORE



ama-assn.org/cpt-symposium

Next Steps



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Your feedback helps us deliver expert perspective on topics you want to learn more about.



Stay tuned for our next CPT® Webinar!

**Communicating Social Determinants
of Health: A Role for Coding**

December 2022



Physicians' powerful ally in patient care