# AMA Digital Health Research

## Physicians' Motivations and Key Requirements for Adopting Digital Health

Adoption and attitudinal shifts from 2016 to 2022

September 2022

# Background and Objectives

- In July 2016, The American Medical Association conducted a comprehensive study of physician's 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 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

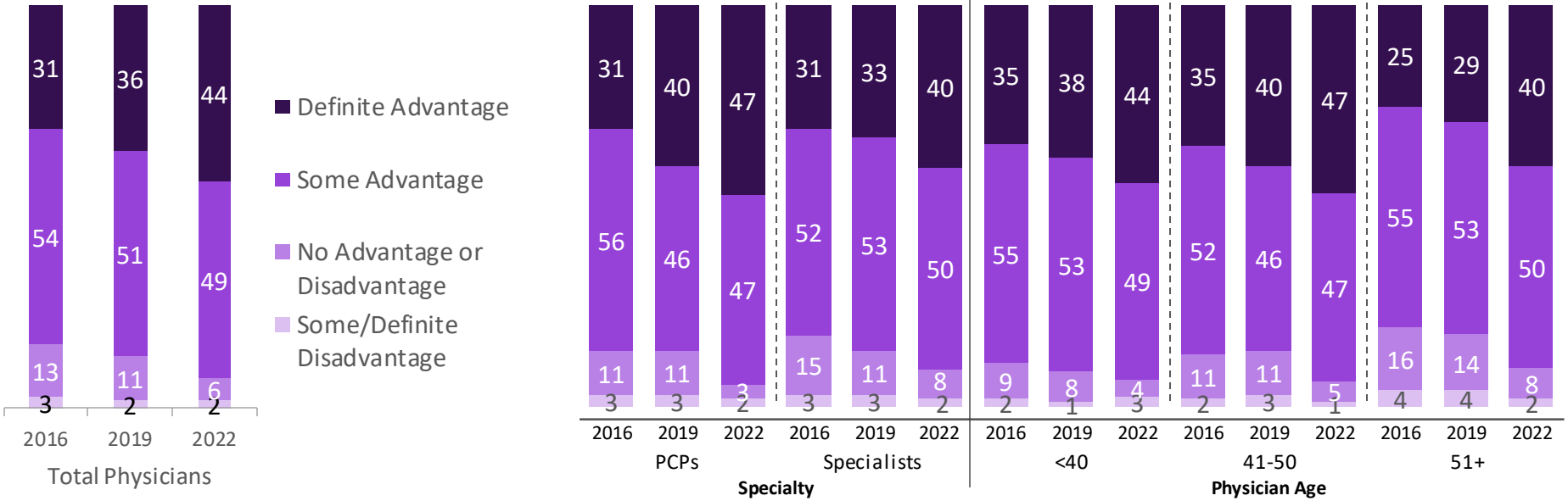
- Nearly 1 in 5 are currently using augmented intelligence for practice efficiencies and 2 in 5 plan to adopt in the next year.
- Nearly 3 in 5 physicians believe technology can most help key areas such as chronic disease patients and preventative care

# Physicians' motivations and requirements for adopting digital health

## 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.

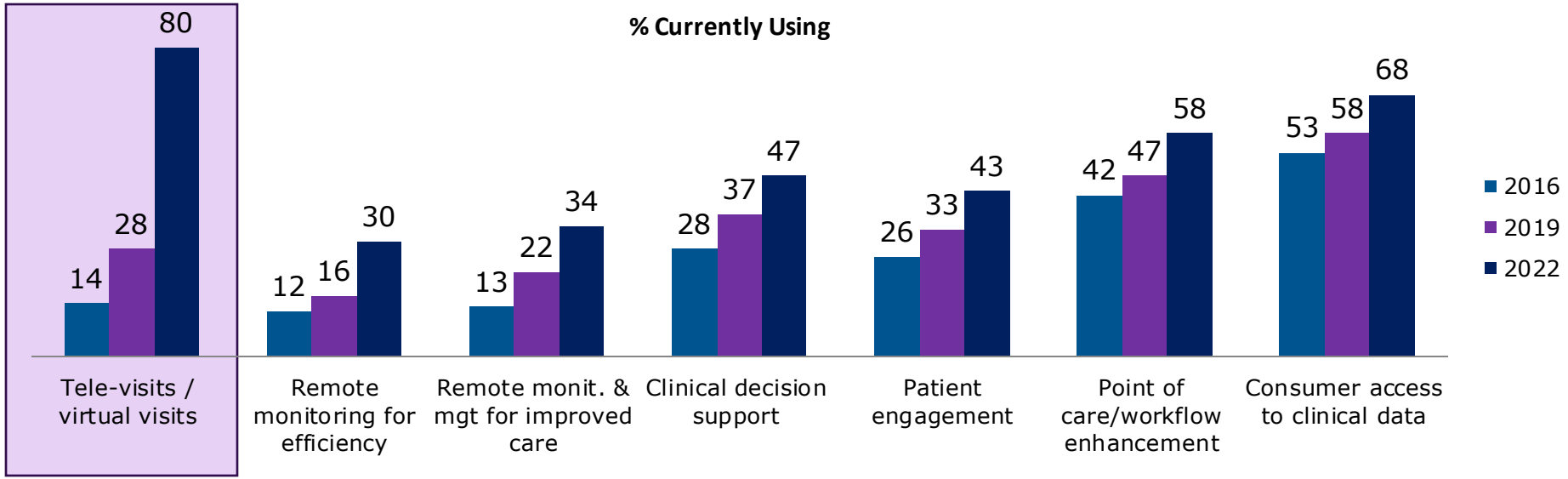





Q16. Considering the overall impact, how much of an advantage do digital health solutions give to your ability to care for your patients?.
Base: Total Physicians (n=1300), PCPs (n=650), Specialists (n=650), Age <40 (n=448), Age 41-50 (n=427), Age 51+ (n=425)

# 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.

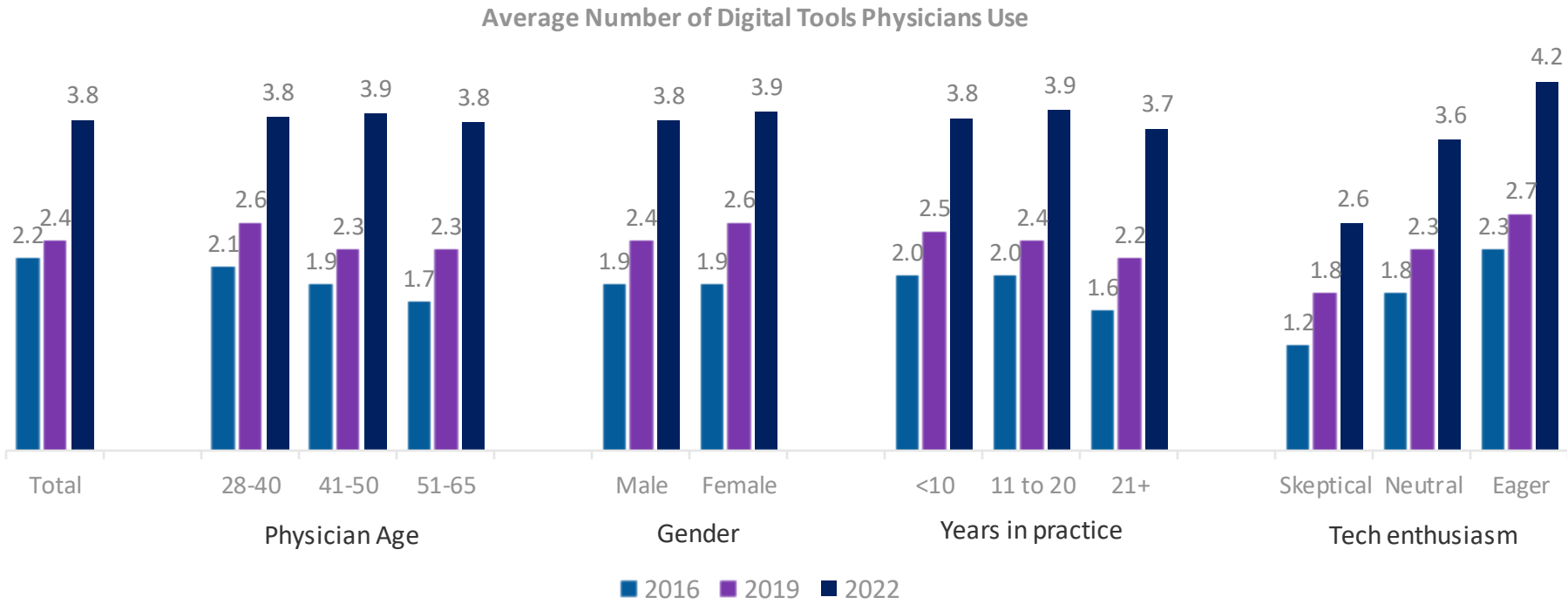





Q20. Which, if any, of these do you currently incorporate into your practice? Base: Total Physicians (n=1300)

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

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

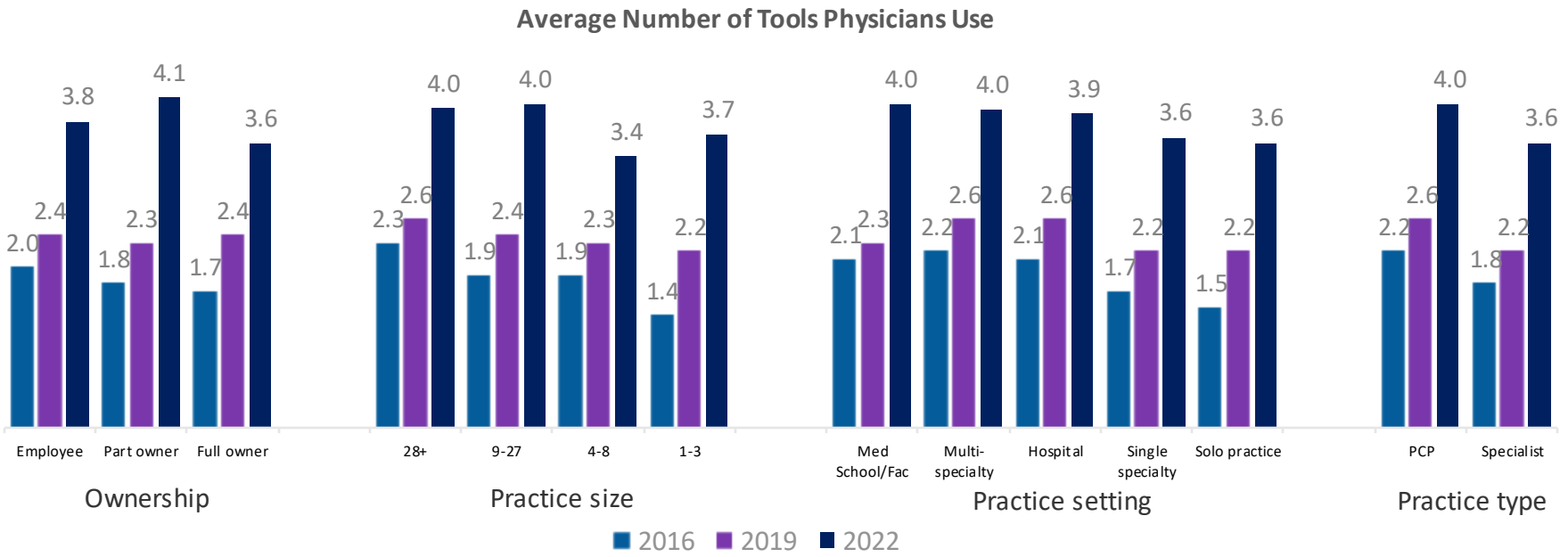





Q20. Which, if any, of these do you currently incorporate into your practice? Base: Total Physicians (n=1300), Age <40 (n=448), Age 41-50 (n=427), Age 51+ (n=425), Gender Male (n=822), Gender Female (n=445), Tenure <10 (n=519), Tenure 11-20 (n=427), Tenure 21+ (n=354), Tech Skep. (n=162), Tech Neut.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

# Use by smaller/mid-sized practices and medical schools has increased the most since 2019

These groups lagged behind other physicians in 2019 and are now closer to the average.

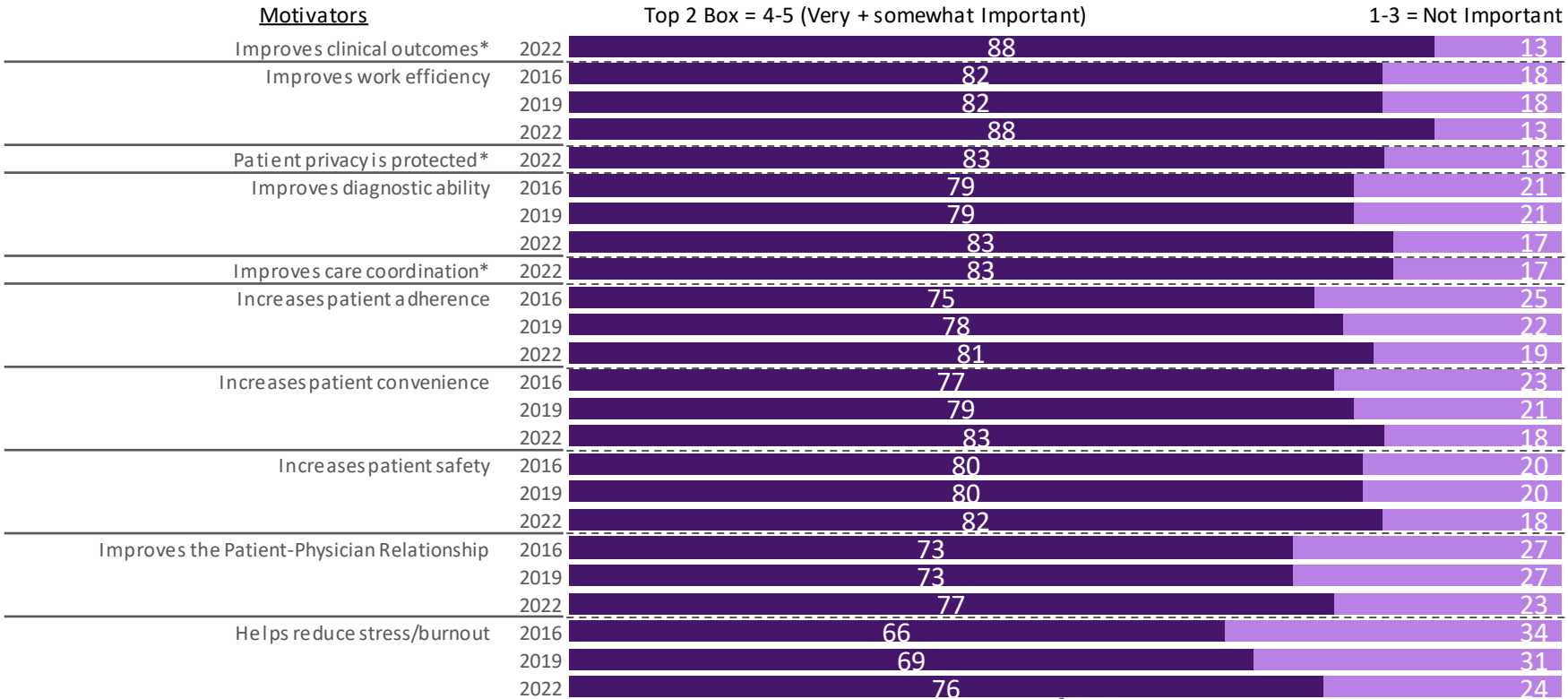





Q20. Which, if any, of these do you currently incorporate into your practice? Base: Total Physicians (n=1300), Own Emp. (n=831), Own Part (n=227), Own Full (n=242), Size 28+ (n=469), Size 9-27 (n=336), Size 4-8 (n=240), Size 1-3 (n=255), Set. Med school (n=45), Set Multi (n=384), Set Hosp (n=255), Set Sing (n=393), Set Solo (n=144), PCPs (n=650), Specialists (n=650)

# 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.

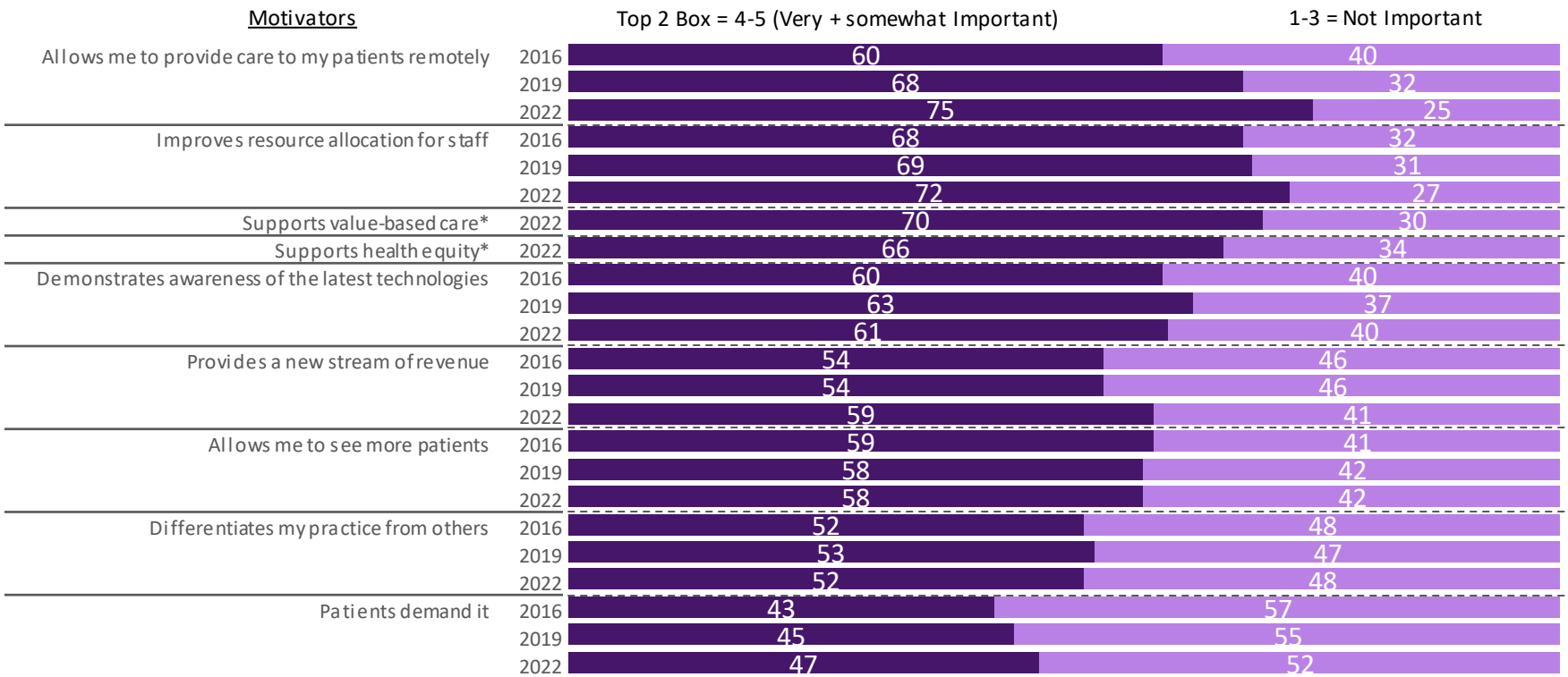





Q17. When thinking about incorporating digital health solutions into your practice, how important would each factor be? Base: Total Physicians (n=1300)
*New attributes added to the 2022 wave

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

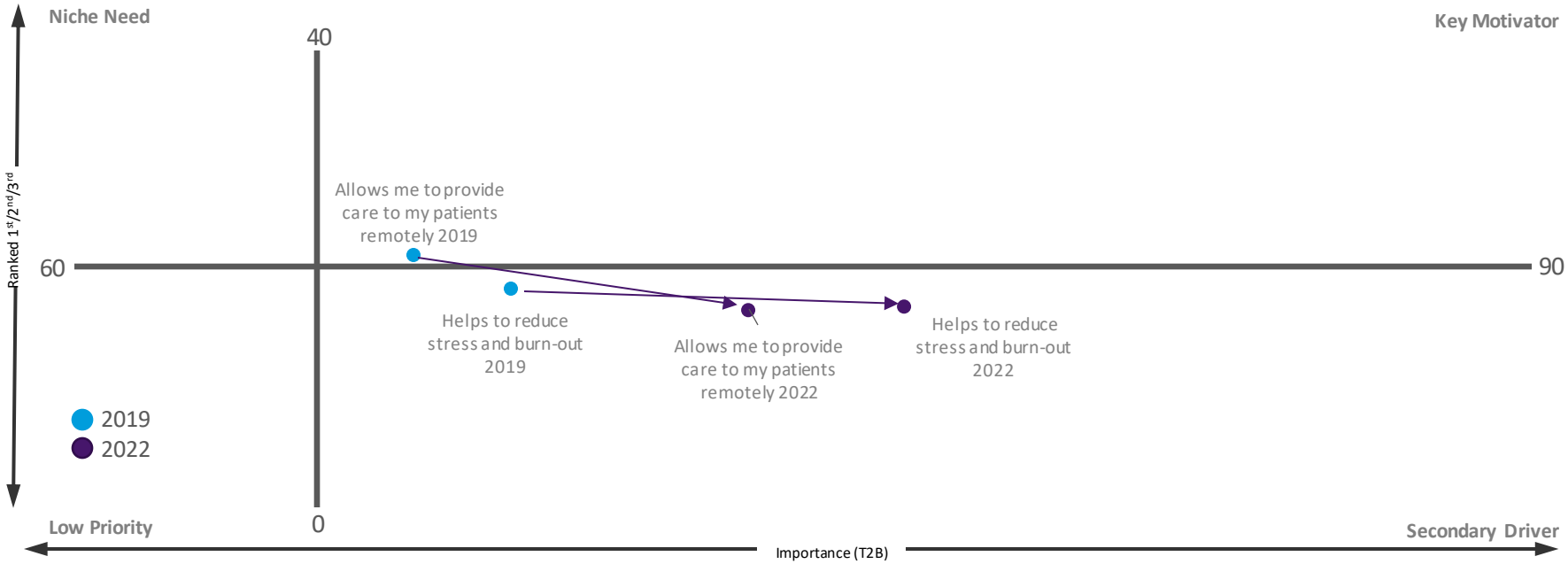
More say it is very important as a reason to be attracted to digital health and fewer think it is not important.






Q17. When thinking about incorporating digital health solutions into your practice, how important would each factor be? Base: Total Physicians (n=1300)
*New attributes added to the 2022 wave

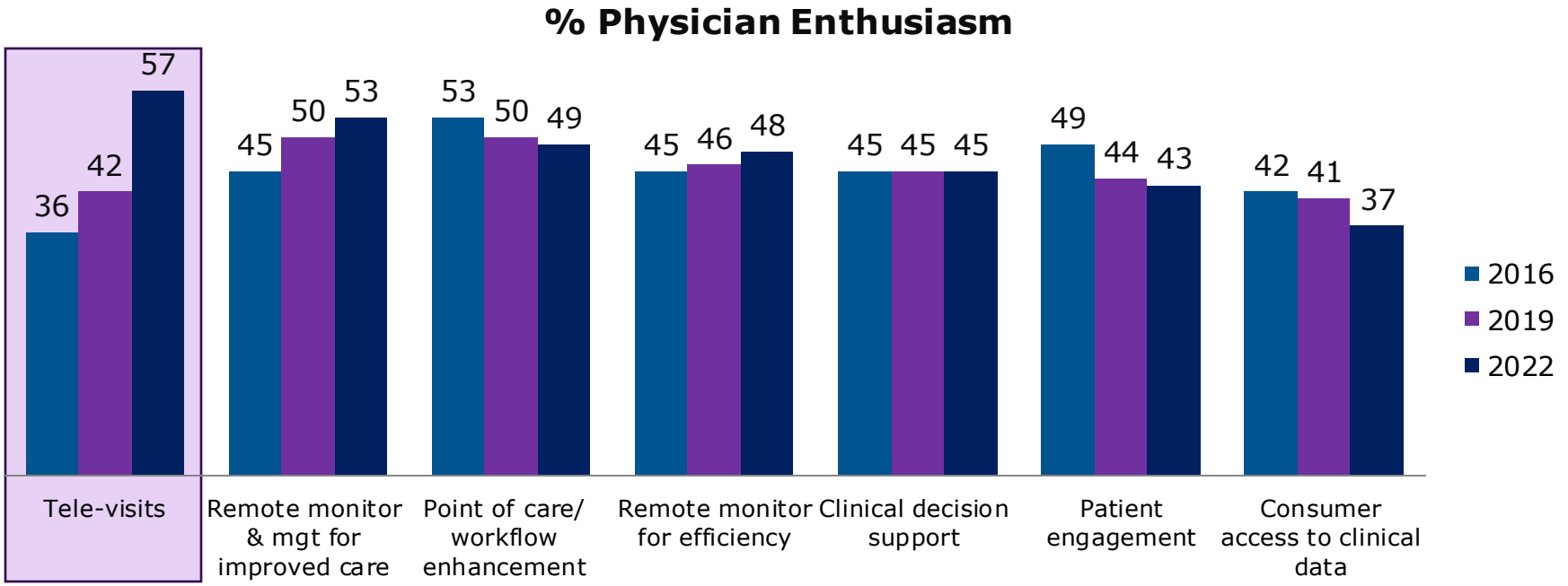
# Reducing burnout and providing remote care had the most movement in importance






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)

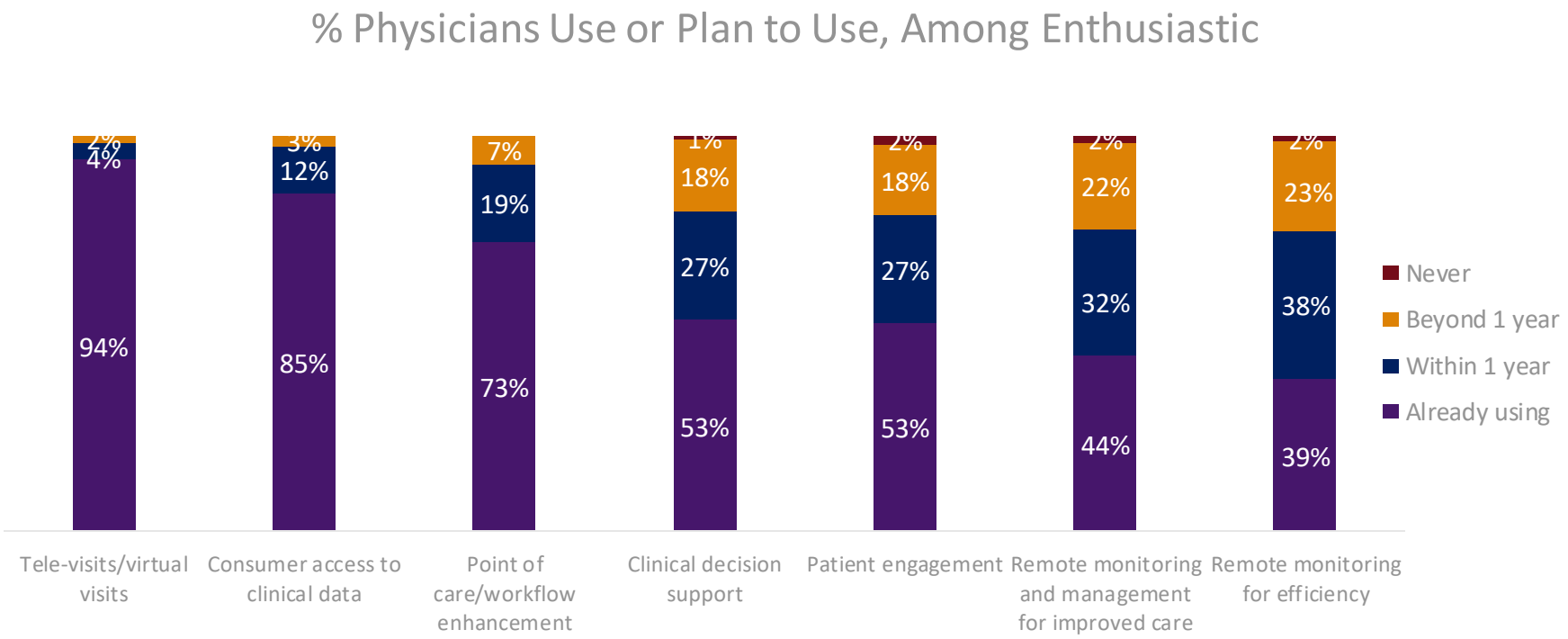
# Physicians' enthusiasm for tele-visits has increased more than other solutions since 2019.






Q22. Which, if any, of the solutions below are you enthusiastic about ? Base: Total Physicians (n=1300)

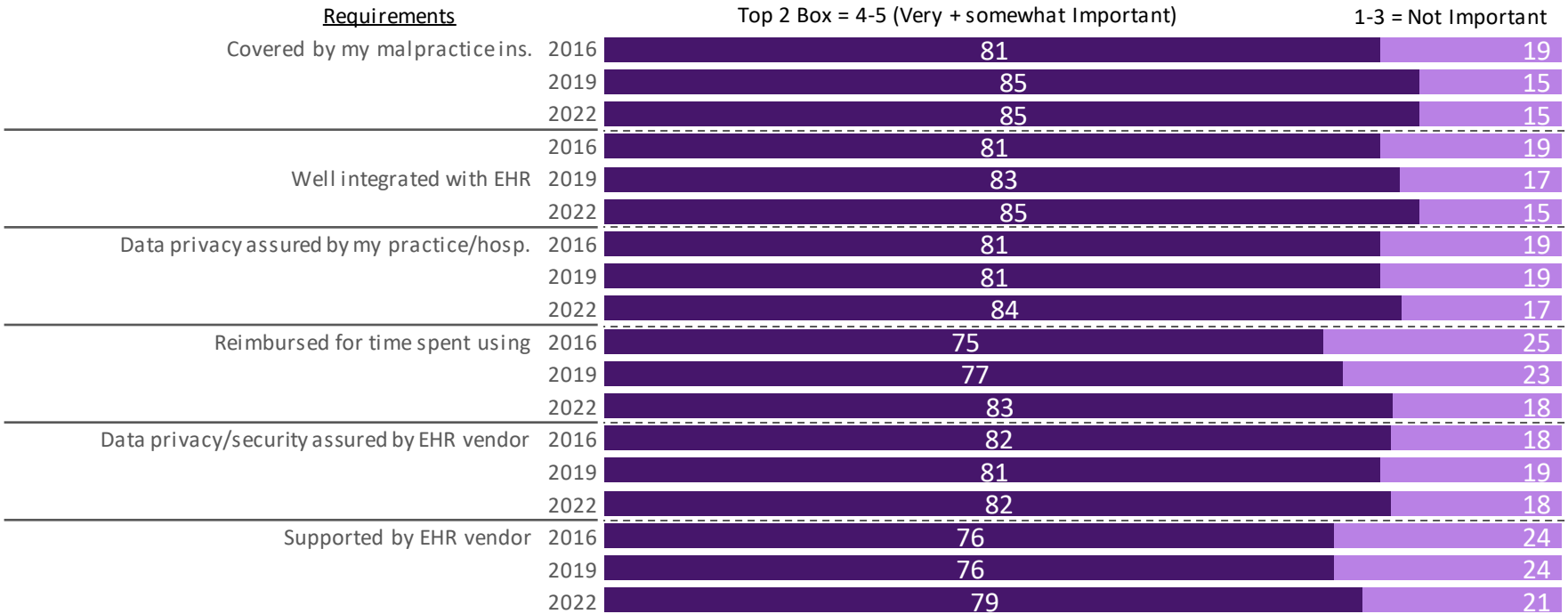
# Among those enthusiastic about each solution, remote monitoring has the least usage but nearly 2 in 5 say they will adopt in the next year






Q13. When would you expect to start incorporating this solution into your own practice?

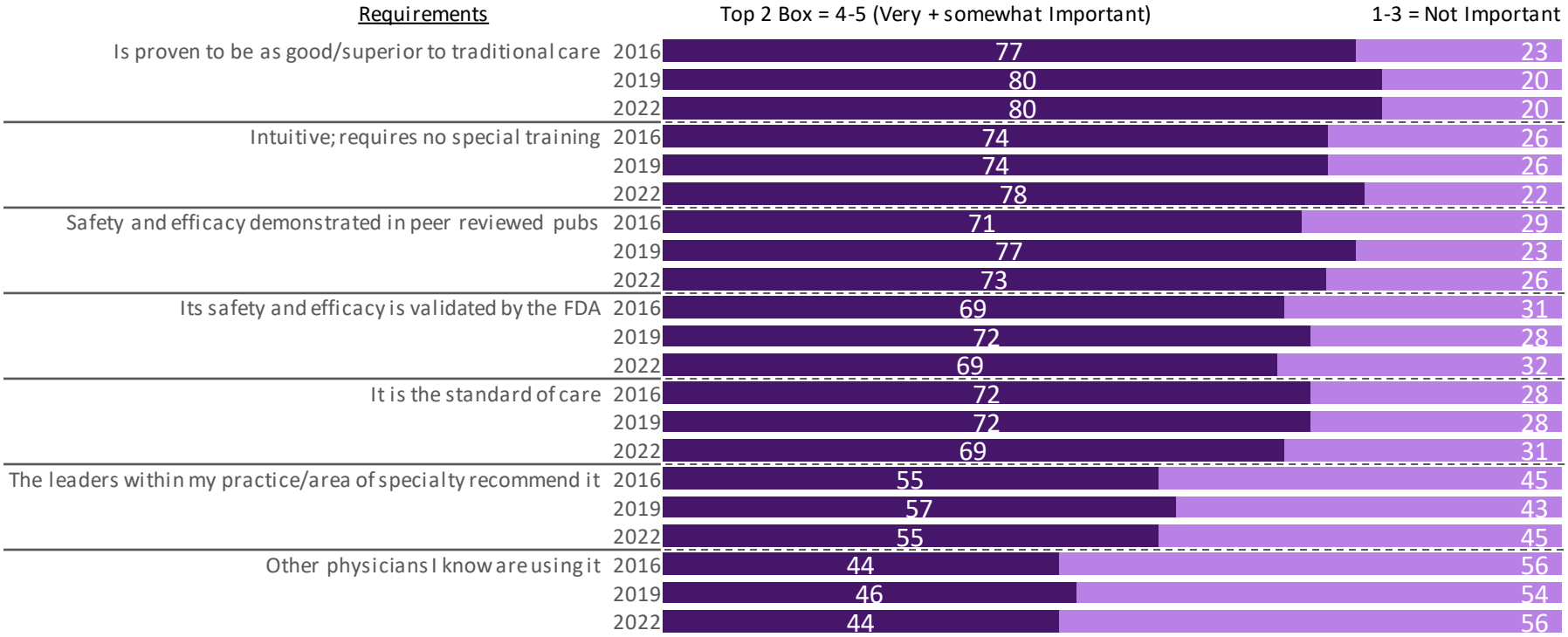
# Malpractice insurance coverage of digital health tools remains the most important factor in adoption, followed by integration with EHR






Q18. How important are each of the attributes below in facilitating the adoption of digital health solutions into your practice? Base: Total Physicians (n=1300)

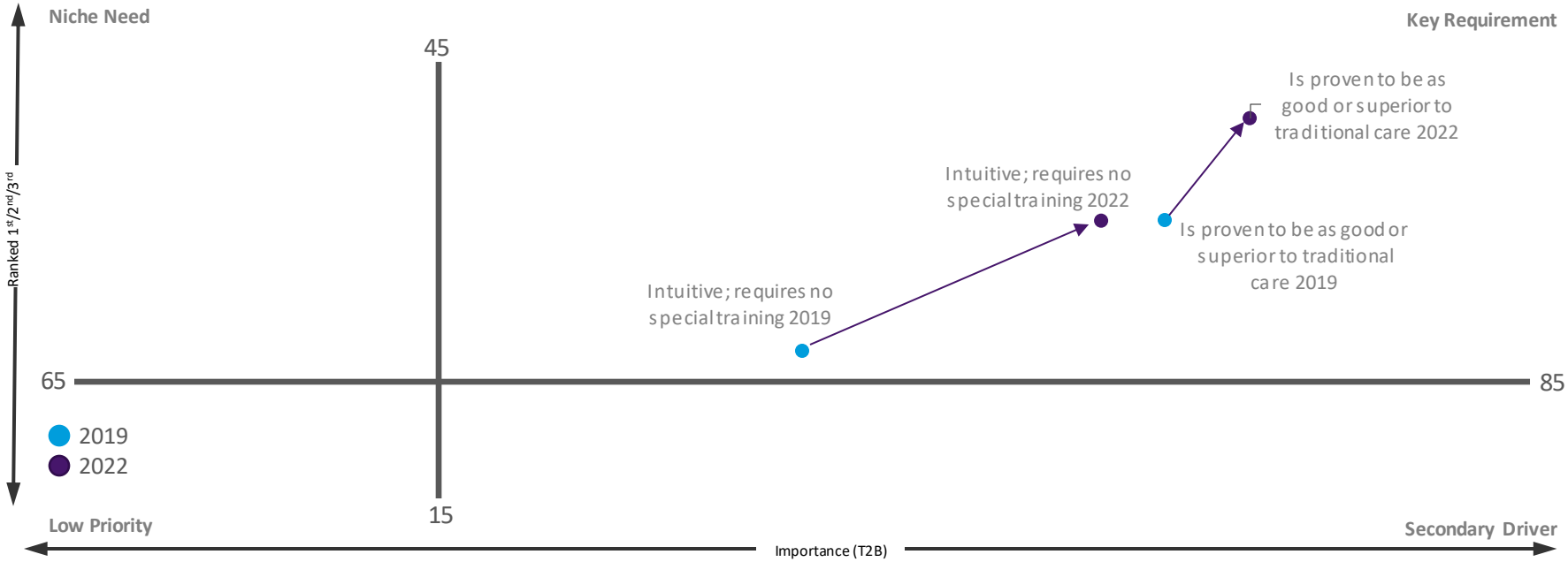
# Importance of other attributes in the adoption of digital health remains largely unchanged






Q18. How important are each of the attributes below in facilitating the adoption of digital health solutions into your practice? Base: Total Physicians (n=1300)

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

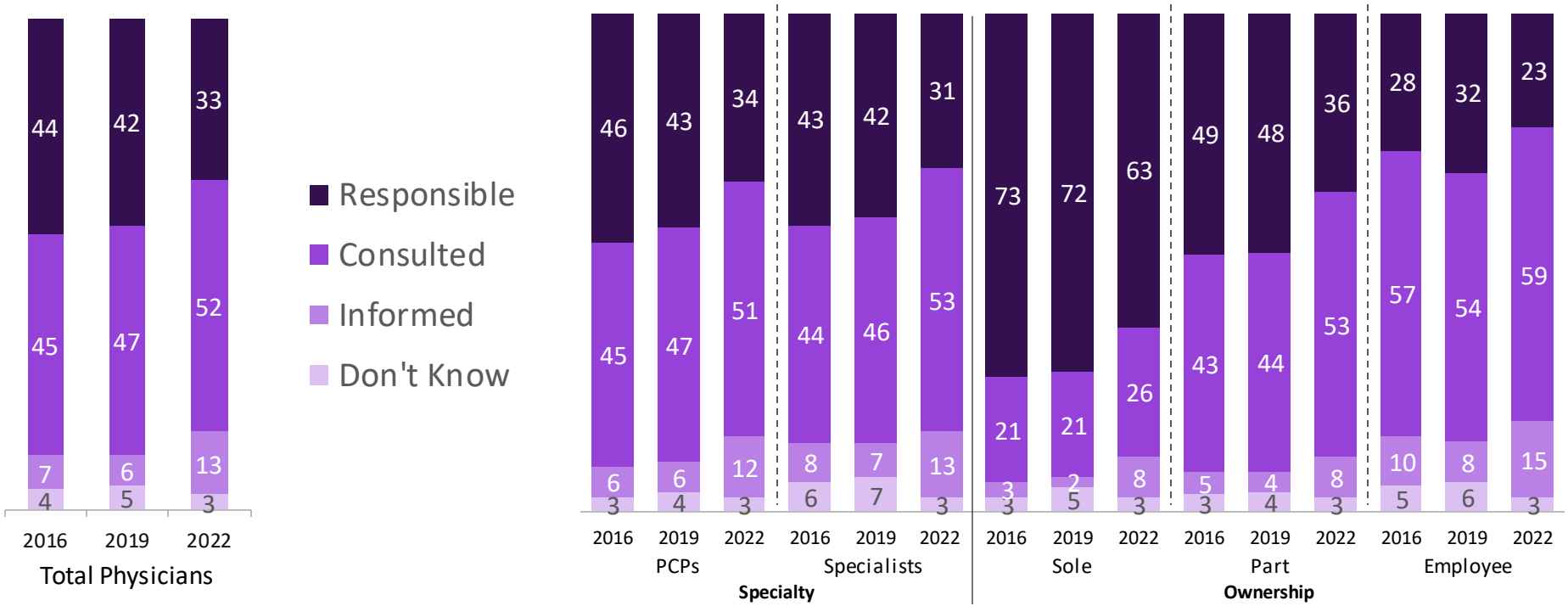





Vertical axis: % of respondents that ranked the item in top 3 most important.
Horizontal axis: % of respondents that rated the item a 4 or 5 out of a 5-point scale.
T2B = Top 2 Box (Very and Somewhat Important)

# 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.



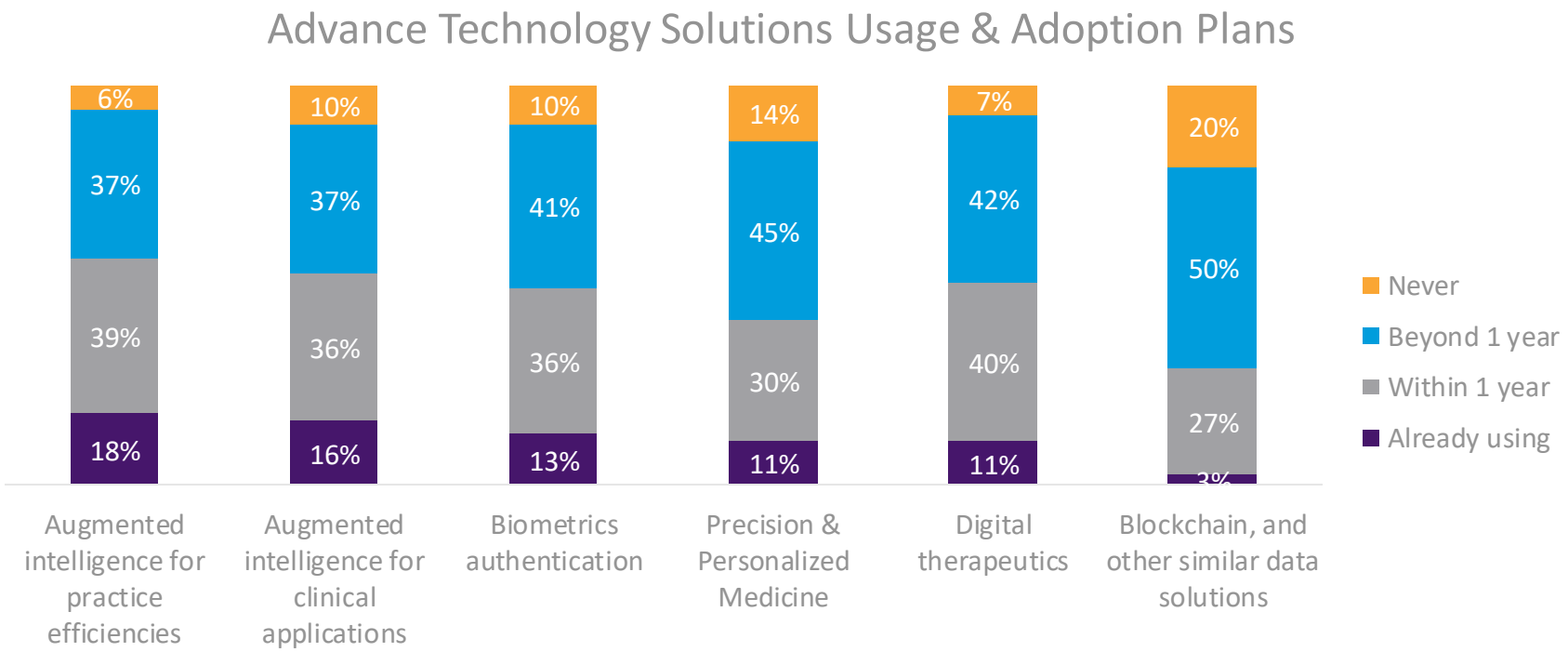



Q40-1. Ideally, how involved would you want to be in the adoption of digital health solutions into your practice? Base: Total Physicians (n=1300), PCPs (n=650), Specialists (n=650), Own Emp. (n=831), Own Part (n=227), Own Full (n=242)

# Emerging Technologies

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

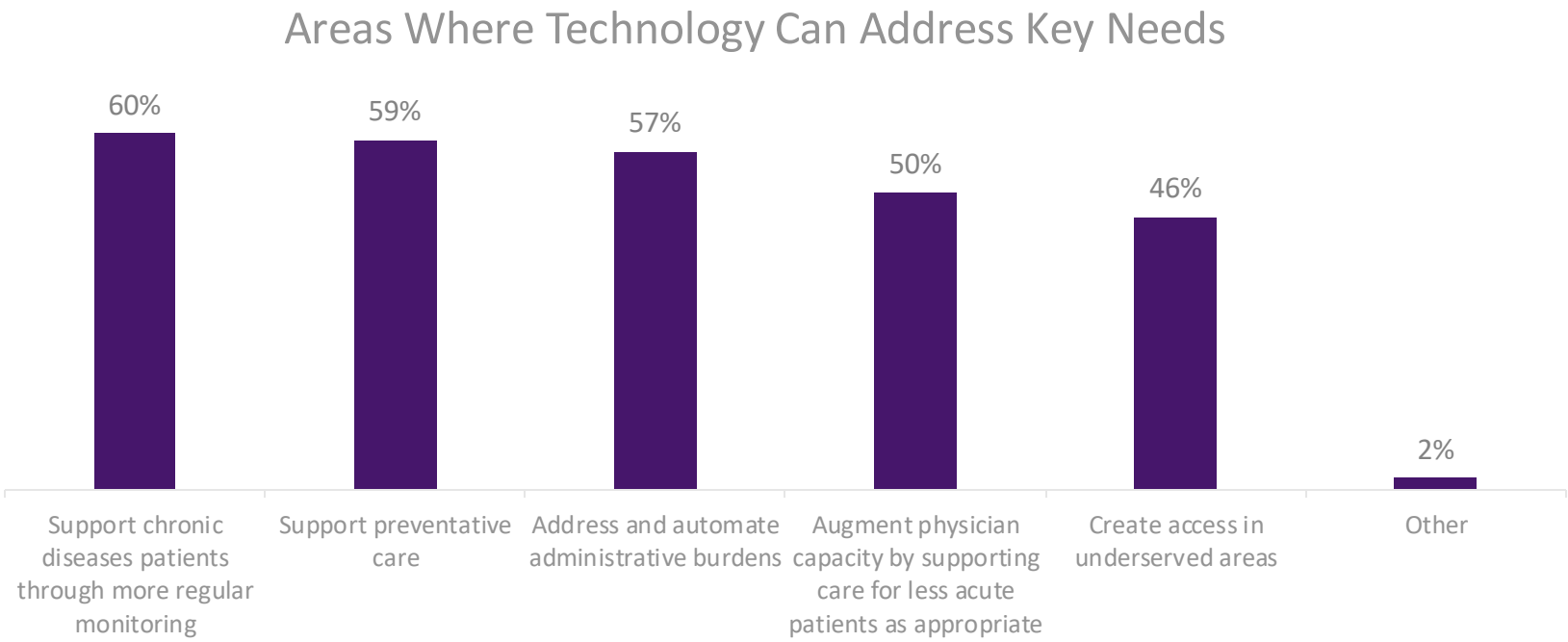
Just over 1 in 10 use biometrics, Precision Medicine or digital therapeutics in their practice






Q39. When would you expect to start incorporating this into your own practice? Base: Total Physicians N=1300

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






Q40. With workforce shortages increasing and physician burnout a key concern, what are the biggest areas of opportunity for technology and virtual care to address key needs?
Base: Total Physicians N=1300

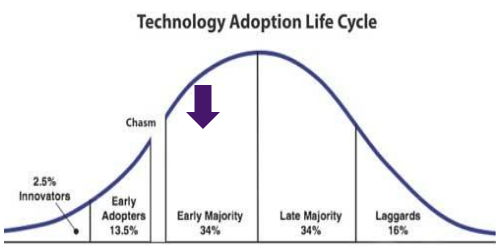
# Appendix

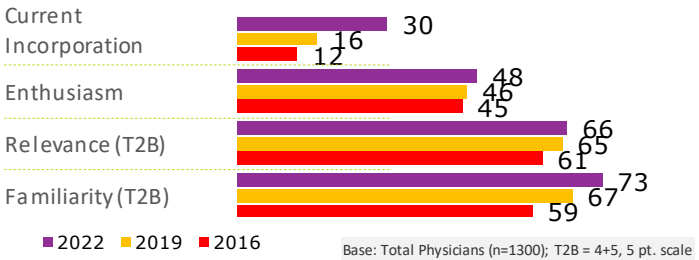
# Remote Monitoring for Efficiency

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.

Evaluation among Total Physicians

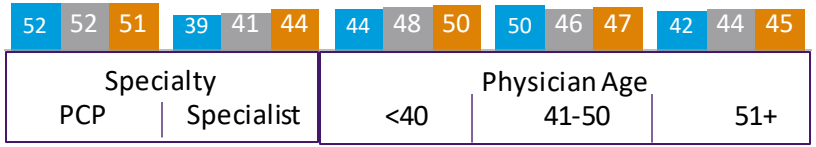
## Current State

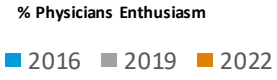


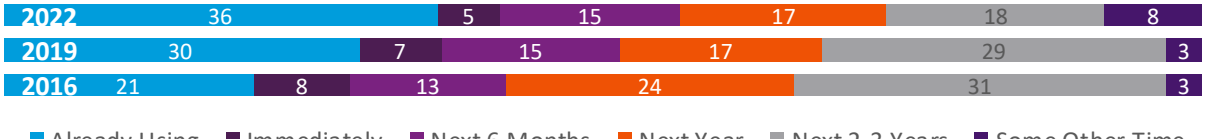

Base: Total Physicians (n=1300); T2B = 4+5, 5 pt. scale

## Enthusiasm




## Timeline of Adoption Among Enthusiastic




Base: Total Physicians, Excited About Solution: Remote Monitoring for Efficiency (n=617)

## Drivers among physicians where tool is relevant, but not yet used

**Most Attractive Elements**
Above average importance & ranking

| | |
|---|---|
| 1. | Improves health outcomes |
| 2. | Improves work efficiency |
| 3. | Improves diagnostic ability |
| 4. | Increases patient adherence |
| 5. | Provide care remotely |

**Key Functional Requirements**
Above average importance & ranking

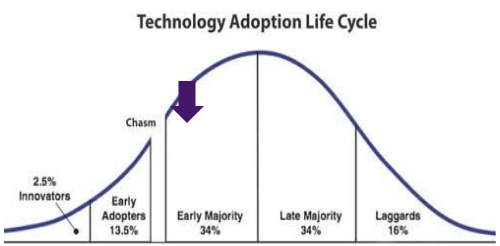
| | |
|---|---|
| 1. | Well integrated with EHR |
| 2. | Requires no special training |
| 3. | As good as traditional care |
| 4. | Can be reimbursed for time |
| 5. | Covered by standard malpractice insurance |

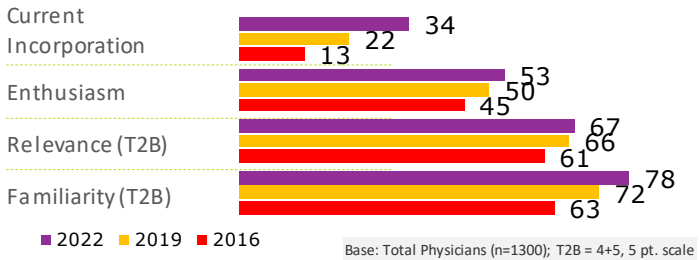
# Remote Monitoring for Improved Care

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.

Evaluation among Total Physicians

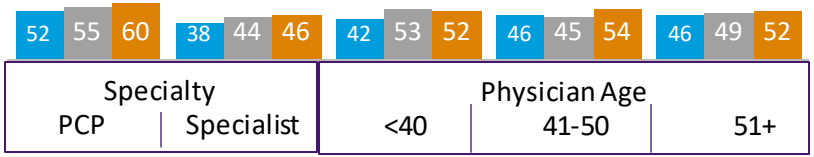
## Current State

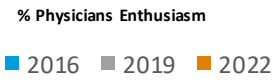


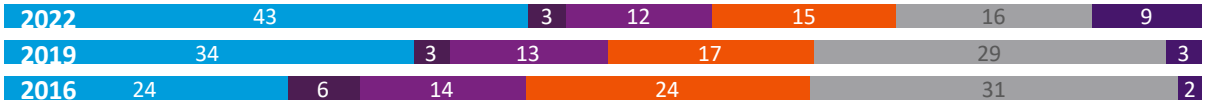

Base: Total Physicians (n=1300); T2B = 4+5, 5 pt. scale

## Enthusiasm




## Timeline of Adoption Among Enthusiastic




Already Using | Immediately | Next 6 Months | Next Year | Next 2-3 Years | Some Other Time

Base: Total Physicians, Excited About Solution: Remote Monitoring for Improved Care (n=684)

## Drivers among physicians where tool is relevant, but not yet used

**Most Attractive Elements**
Above average importance & ranking

| | |
|---|---|
| 1. | Improves health outcomes |
| 2. | Improves diagnostic ability |
| 3. | Improves work efficiency |
| 4. | Increases patient adherence |
| 5. | Improves patient safety |

**Key Functional Requirements**
Above average importance & ranking

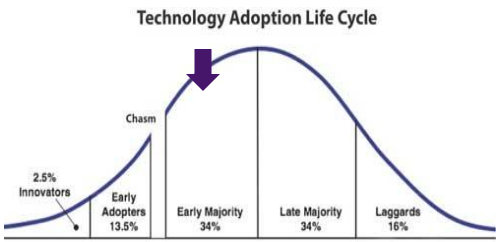
| | |
|---|---|
| 1. | As good as traditional care |
| 2. | Well integrated with EHR |
| 3. | Can be reimbursed for time |
| 4. | Requires no special training |
| 5. | Covered by standard malpractice insurance |

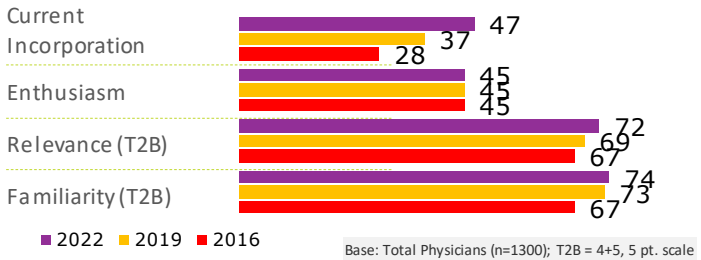
# Clinical Decision Support

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).

Evaluation among Total Physicians

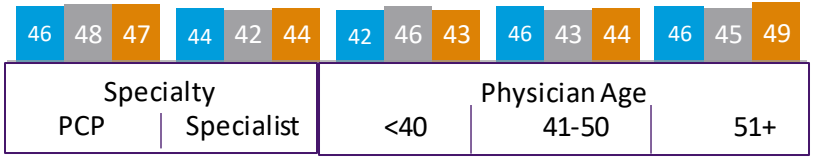
## Current State

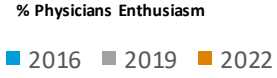


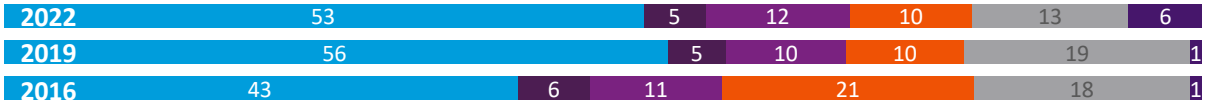

Base: Total Physicians (n=1300); T2B = 4+5, 5 pt. scale

## Enthusiasm




## Timeline of Adoption Among Enthusiastic




Already Using | Immediately | Next 6 Months | Next Year | Next 2-3 Years | Some Other Time

Base: Total Physicians, Excited About Solution: Clinical decision support (n=590)

Drivers among physicians where tool is relevant, but not yet used

**Most Attractive Elements**
Above average importance & ranking

| | |
|---|---|
| 1. | Improves health outcomes |
| 2. | Improves diagnostic ability |
| 3. | Improves work efficiency |
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| 5. | Increases patient adherence |

**Key Functional Requirements**
Above average importance & ranking

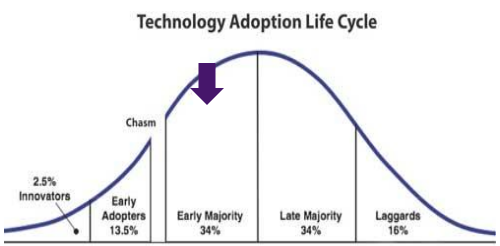
| | |
|---|---|
| 1. | Well integrated with HER |
| 2. | As good as traditional care |
| 3. | Requires no special training |
| 4. | Can be reimbursed for time |
| 5. | Covered by standard malpractice insurance |

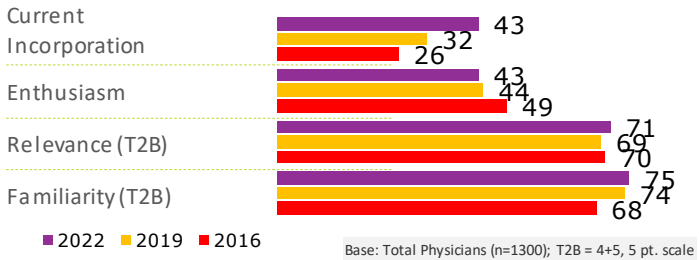
# Patient Engagement

Communication and sharing of electronic clinical data to consult with specialists, make referrals and/or transitions of care.

Evaluation among Total Physicians

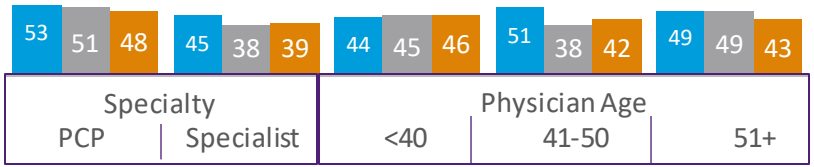
## Current State

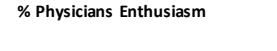


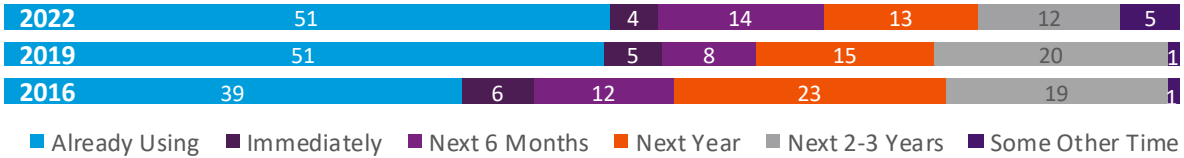

Base: Total Physicians (n=1300); T2B = 4+5, 5 pt. scale

## Enthusiasm




## Timeline of Adoption Among Enthusiastic




Base: Total Physicians, Excited About Solution: Point-of-care / Workflow Enhancement (n=563)

Drivers among physicians where tool is relevant, but not yet used

**Most Attractive Elements**
Above average importance & ranking

| | |
|---|---|
| 1. | Improves health outcomes |
| 2. | Improves work efficiency |
| 3. | Increases patient adherence |
| 4. | Improves diagnostic ability |
| 5. | Increases patient safety |
| 6. | Helps reduce stress, burn-out |

**Key Functional Requirements**
Above average importance & ranking

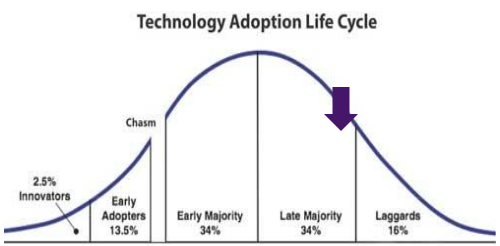
| | |
|---|---|
| 1. | As good as traditional care |
| 2. | Well integrated with EHR |
| 3. | Can be reimbursed for time spent |
| 4. | Requires no special training |
| 5. | Covered by standard malpractice insurance |

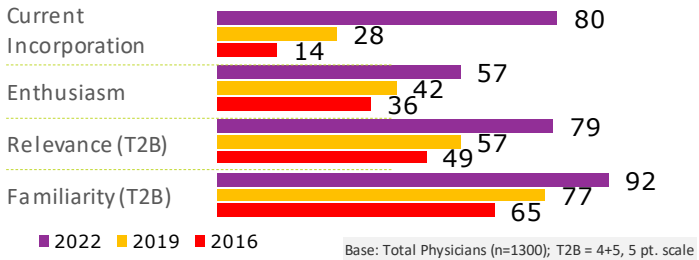
# Tele-Visits/Virtual Visits

Communication and sharing of electronic clinical data to consult with specialists, make referrals and/or transitions of care.

Evaluation among Total Physicians

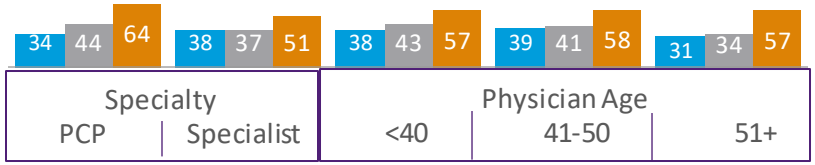
## Current State

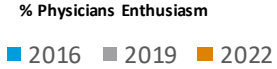


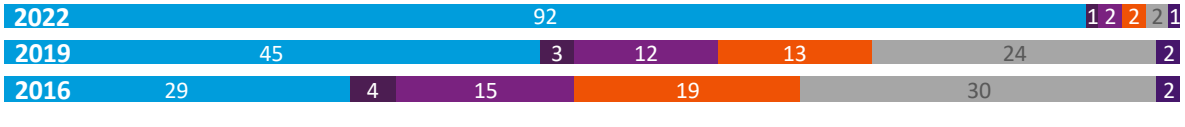

Base: Total Physicians (n=1300); T2B = 4+5, 5 pt. scale

## Enthusiasm




## Timeline of Adoption Among Enthusiastic




Base: Total Physicians, Excited About Solution: Point-of-care / Workflow Enhancement (n=743)

Drivers among physicians where tool is relevant, but not yet used

**Most Attractive Elements**
Above average importance & ranking

| | |
|---|---|
| 1. | Improves health outcomes |
| 2. | Improves work efficiency |
| 3. | Provide care remotely |
| 4. | Increases patient convenience |
| 5. | Increases patient safety |
| 6. | Improves diagnostic ability |

**Key Functional Requirements**
Above average importance & ranking

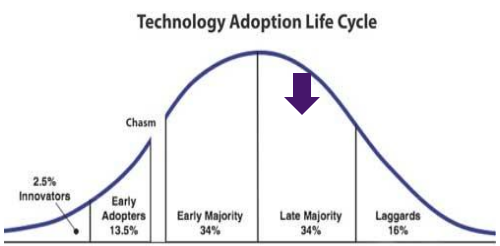
| | |
|---|---|
| 1. | Can be reimbursed for time spent |
| 2. | Well integrated with EHR |
| 3. | As good as traditional care |
| 4. | Covered by standard malpractice insurance |
| 5. | Requires no special training |

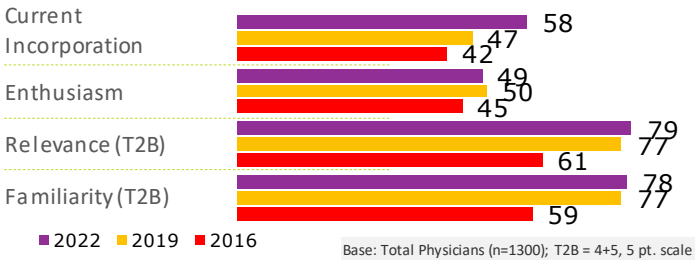
# Point-of-Care/Workflow Enhancement

Communication and sharing of electronic clinical data to consult with specialists, make referrals and/or transitions of care.

Evaluation among Total Physicians

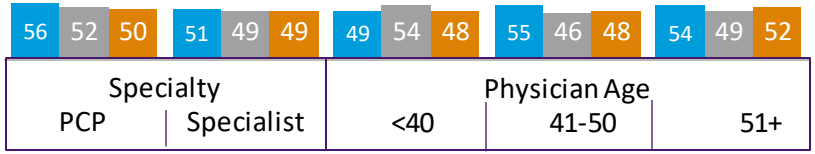
## Current State



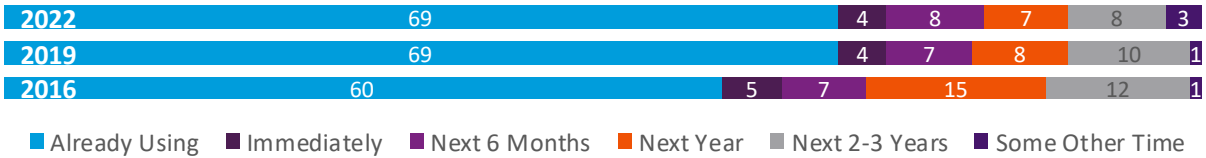

Base: Total Physicians (n=1300); T2B = 4+5, 5 pt. scale

## Enthusiasm





## Timeline of Adoption Among Enthusiastic




Already Using | Immediately | Next 6 Months | Next Year | Next 2-3 Years | Some Other Time

Base: Total Physicians, Excited About Solution: Point-of-care / Workflow Enhancement (n=642)

Drivers among physicians where tool is relevant, but not yet used

**Most Attractive Elements**
Above average importance & ranking

1. Improves health outcomes
2. Improves work efficiency
3. Improves care coordination
4. Improves diagnostic ability
5. Increases patient safety

**Key Functional Requirements**
Above average importance & ranking

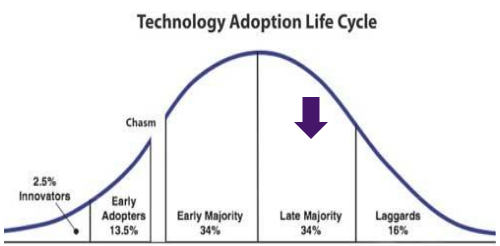
1. Well integrated with EHR
2. Requires no special training
3. As good as traditional care
4. Can be reimbursed for time spent
5. Covered by standard malpractice insurance

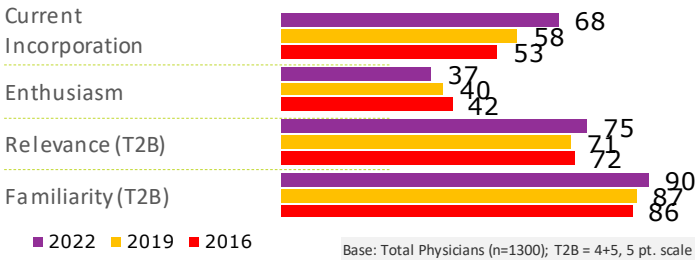
# Consumer Access to Clinical Data

Communication and sharing of electronic clinical data to consult with specialists, make referrals and/or transitions of care.

Evaluation among Total Physicians

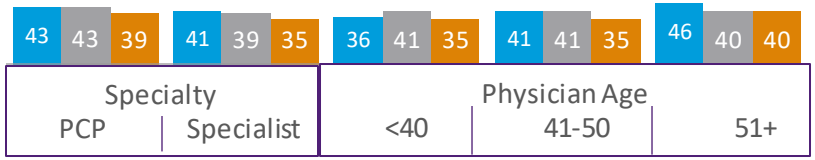
## Current State

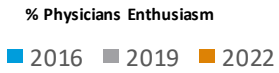



Base: Total Physicians (n=1300); T2B = 4+5, 5 pt. scale

## Enthusiasm




## Timeline of Adoption Among Enthusiastic


Already Using | Immediately | Next 6 Months | Next Year | Next 2-3 Years | Some Other Time

Base: Total Physicians, Excited About Solution: Point-of-care / Workflow Enhancement (n=476)

Drivers among physicians where tool is relevant, but not yet used

**Most Attractive Elements**
Above average importance & ranking

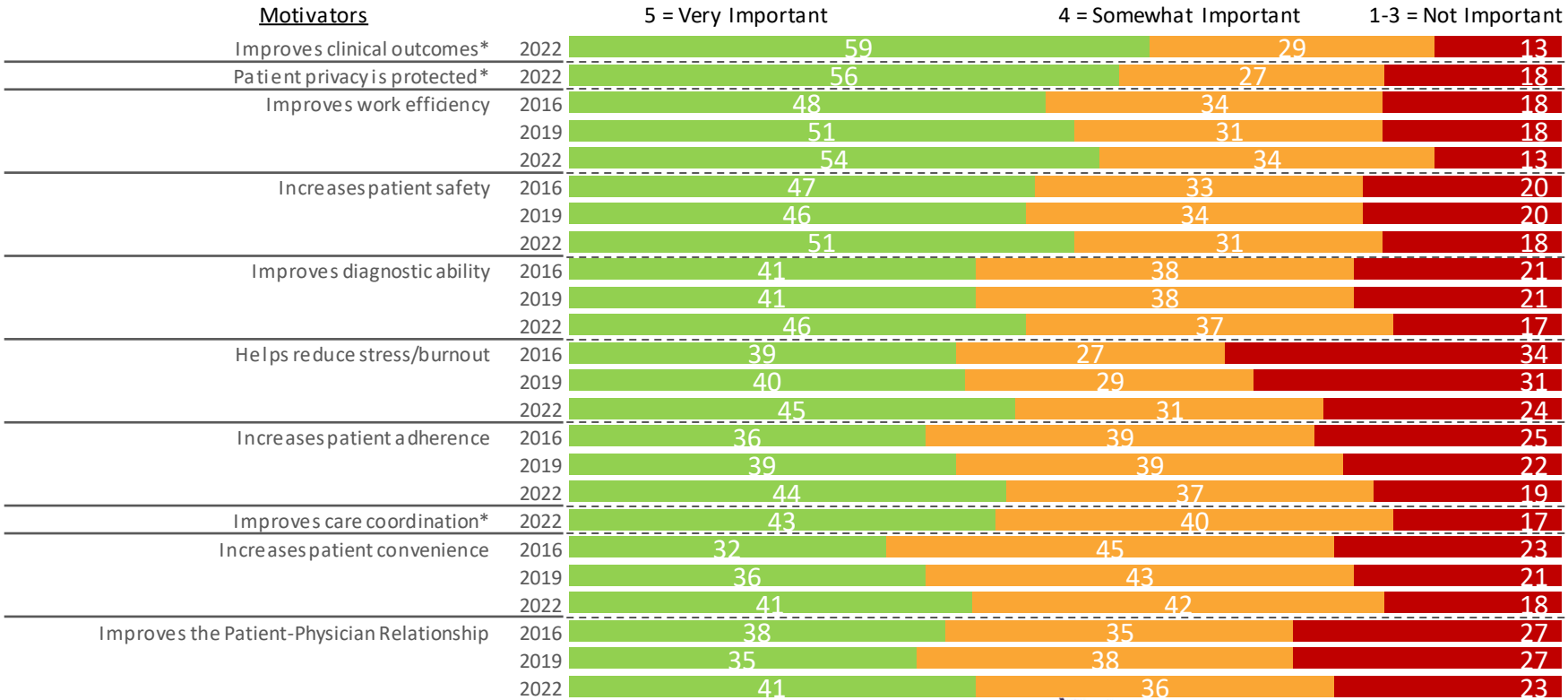
| | |
|---|---|
| 1. | Improves health outcomes |
| 2. | Improves work efficiency |
| 3. | Increases patient safety |
| 4. | Increases patient convenience |
| 5. | Increases patient adherence |
| 6. | Improves diagnostic ability |

**Key Functional Requirements**
Above average importance & ranking

| | |
|---|---|
| 1. | As good as traditional care |
| 2. | Well integrated with EHR |
| 3. | Requires no special training |
| 4. | Can be reimbursed for time spent |
| 5. | Covered by standard malpractice insurance |

# Improved clinical outcomes and patient privacy protection are the top motivators for physicians to use digital health tools

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

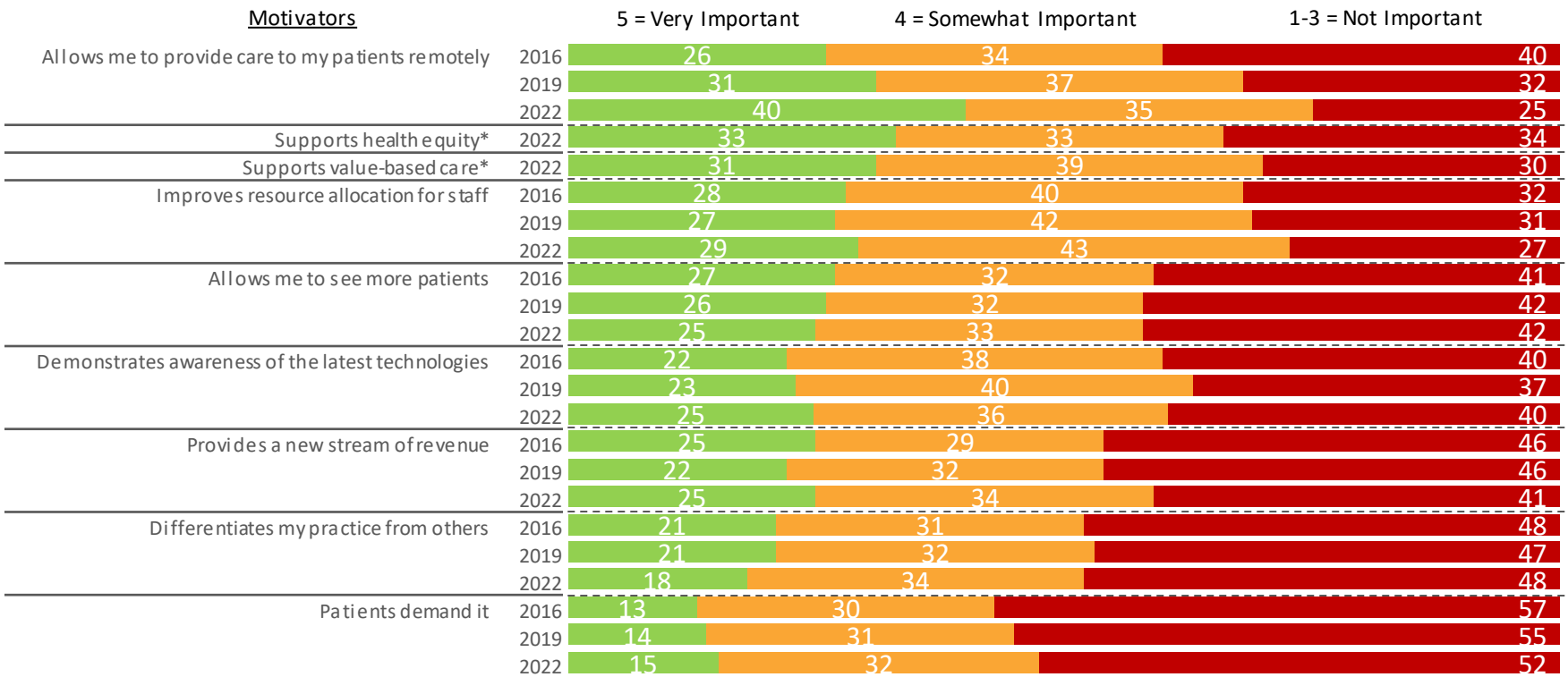





Q17. When thinking about incorporating digital health solutions into your practice, how important would each factor be? Base: Total Physicians (n=1300)
*New attributes added to the 2022 wave

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

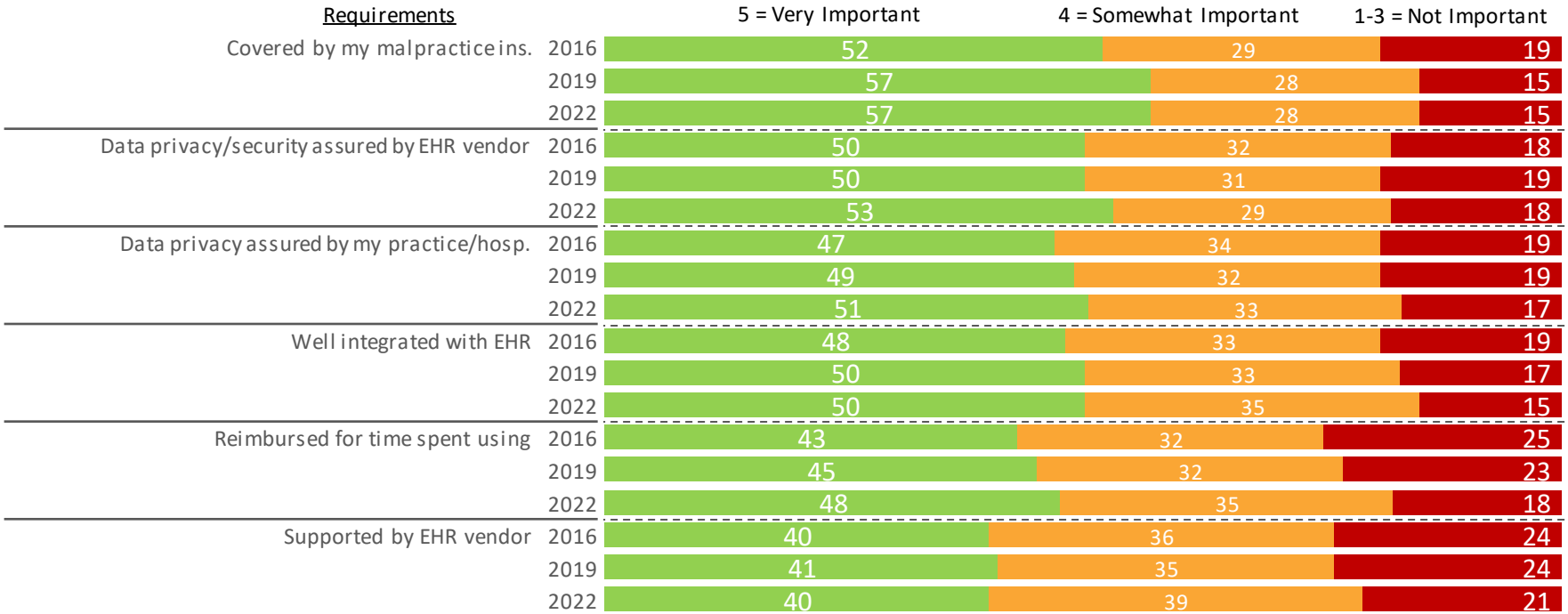
More say it is very important as a reason to be attracted to digital health and fewer think it is not important.






Q17. When thinking about incorporating digital health solutions into your practice, how important would each factor be? Base: Total Physicians (n=1300)
*New attributes added to the 2022 wave

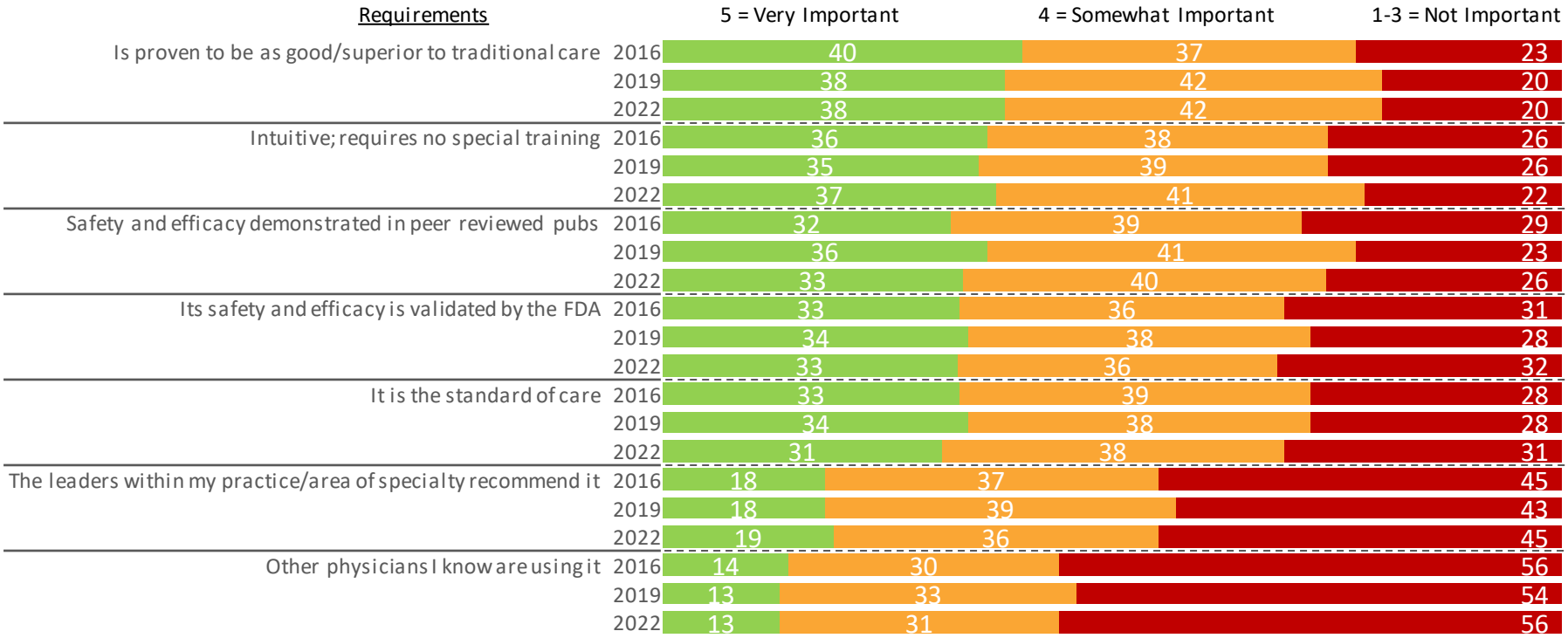
# The importance of digital health tools being covered by standard malpractice insurance has remained the most important followed by data privacy/security assurance






Q18. How important are each of the attributes below in facilitating the adoption of digital health solutions into your practice? Base: Total Physicians (n=1300)

# Additional requirements have remained stagnant from 2019

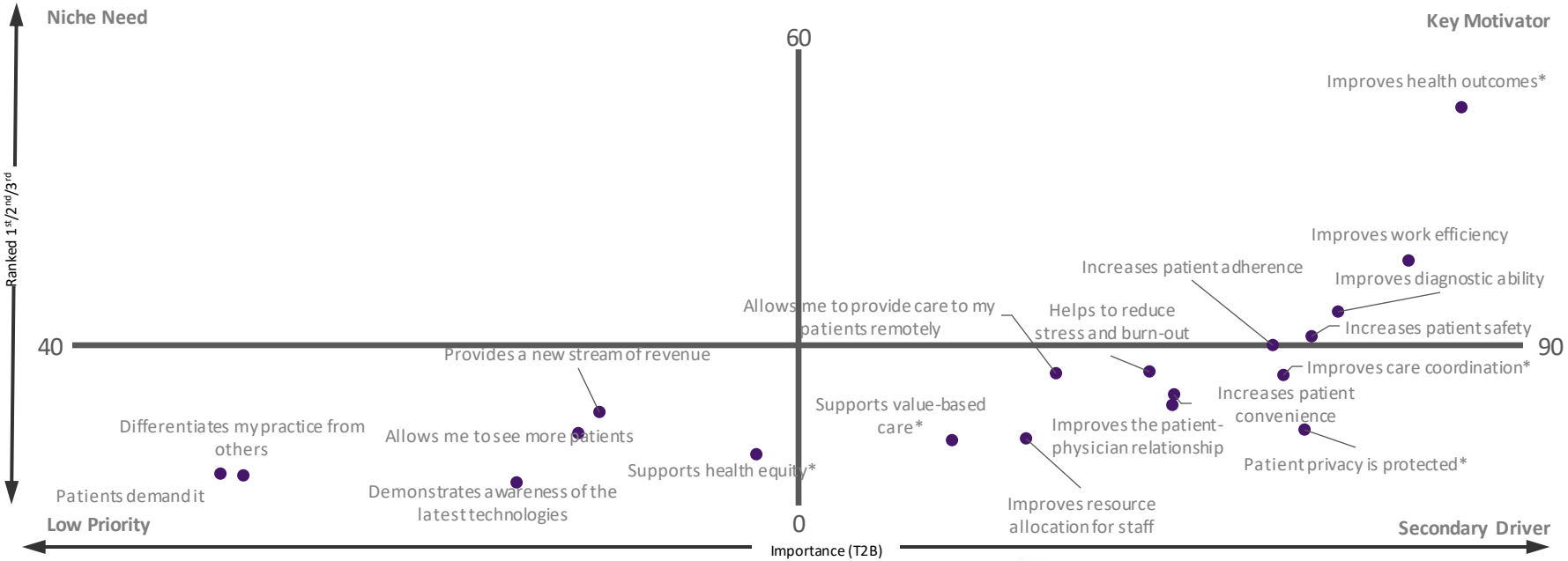





Q18. How important are each of the attributes below in facilitating the adoption of digital health solutions into your practice? Base: Total Physicians (n=1300)

# Improved health outcomes stands out as the largest driver of new technology adoption

Improved work efficiency, diagnostic ability, patient safety and adherence have remained key motivators from 2019. Reducing stress/burnout and improving care coordination have moved into the key motivators group from secondary drivers.

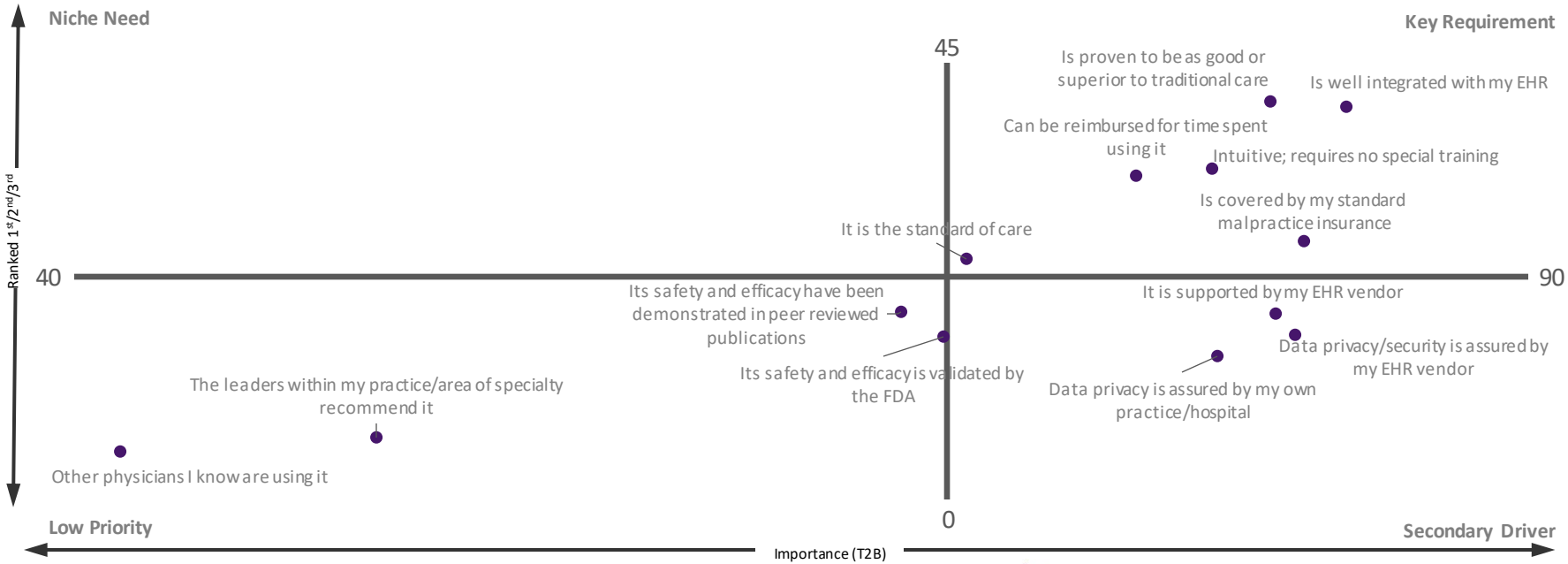





Vertical axis: % of respondents that ranked the item in top 3 most important.
Horizontal axis: % of respondents that rated the item a 4 or 5 out of a 5-point scale.
*New attributes added to the 2022 wave

# Requirements for adoption have largely remained unchanged since 2019

EHR integration, benefits over traditional care, reimbursement, ease of use, and insurance coverage are still the main requirements for adopting new technologies

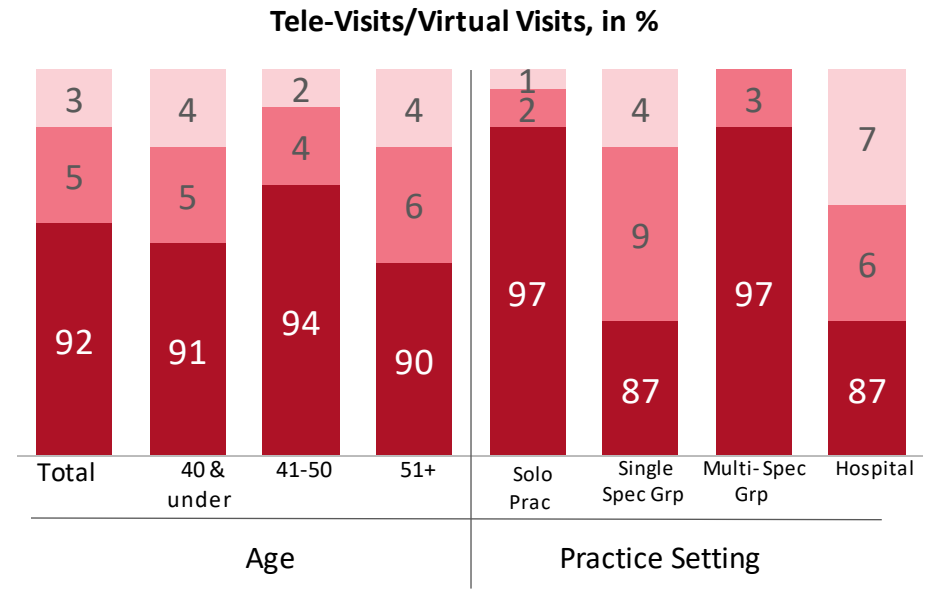


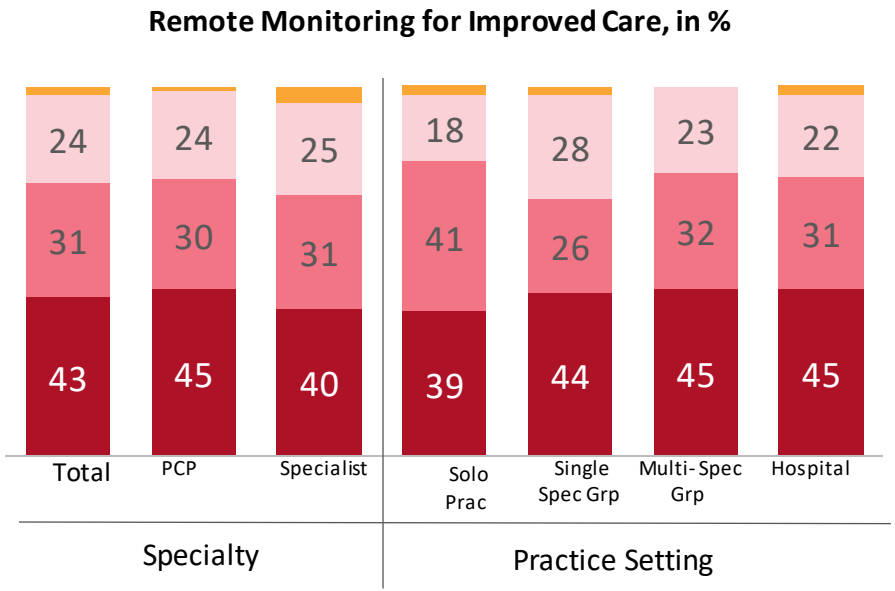



Vertical axis: % of respondents that ranked the item in top 3 most important.
Horizontal axis: % of respondents that rated the item a 4 or 5 out of a 5-point scale.

# Multi-Specialty Groups and solo practices are currently the heaviest users of tele-visits while solo practices lag behind for remote monitoring

PCP's were more likely to use remote monitoring for improved care over specialists.




Will Adopt Beyond a Year
Will Adopt Within a Year
Already Using
Never



Q13. When would you expect to start incorporating this solution into your own practice?


# Physicians' powerful ally in patient care