



AMA Digital Health Research

**Physicians' motivations and requirements for adopting digital health
Adoption and attitudinal shifts from 2016 to 2019**

February 2020

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 study 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 survey exactly, to have a statistically valid and reliable comparative sample.
- The same physician panel was used as in 2016, provided by WebMD.
- The 2019 survey was slightly longer at 18 rather than the original 15 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.
- 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

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: Changes from 2016

1

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

- Growth in those that see an advantage is among PCPs.
- Those that see no advantage are trending downwards and are concentrated in the age 50+ segment.

3

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

- Providing remote care to patients has increased significantly as a driver of adoption of digital tools.
- Use of these tools is still at roughly one quarter of physicians, but this is nearly doubled from 2016.
- Likelihood of adoption has increased significantly.

2

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

- Use of all seven tools has increased.
- Increased efficiency and patient safety are key drivers.
- Tools need to be covered by standard malpractice insurance and data privacy concerns have increased.

4

Awareness of most of the emerging technologies such as artificial or augmented intelligence is fairly high.

- Current adoption of these technologies is however very low.
- Intentions to adopt these emerging technologies is quite high and aggressive timelines are planned.

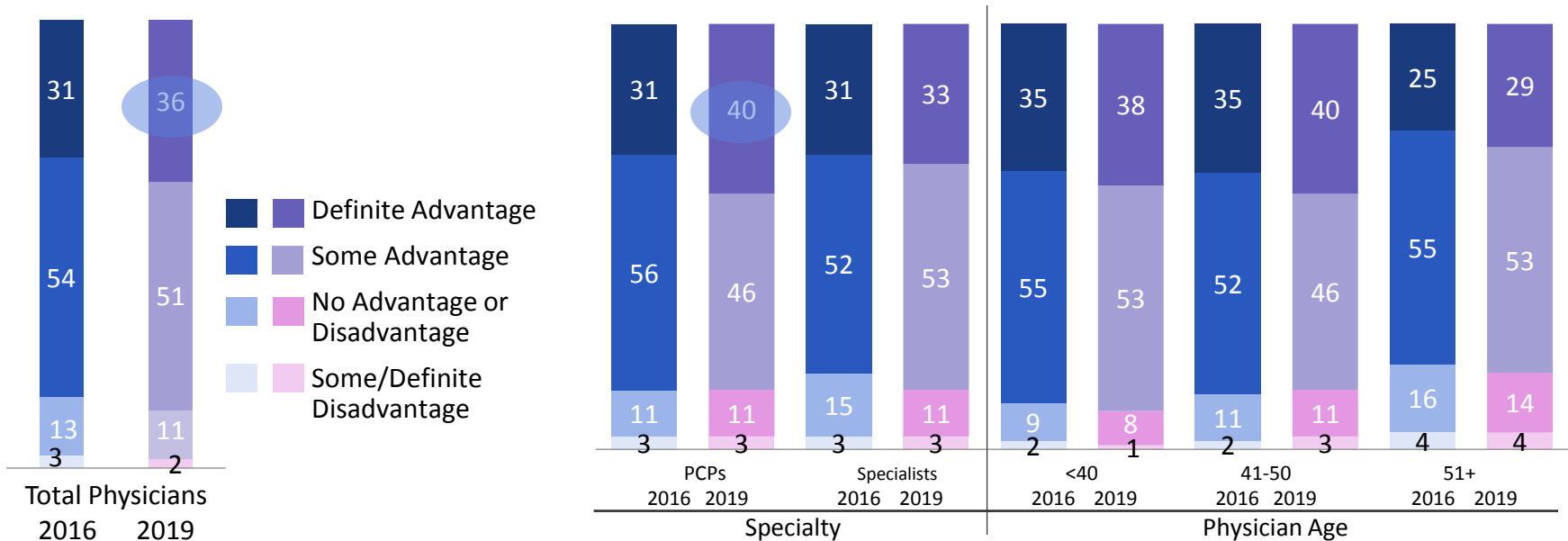
A background network diagram consisting of interconnected nodes and lines. The nodes are represented by small colored circles in shades of blue, cyan, and pink. The lines are thin and grey, forming a complex web of connections across the slide.

Physicians' motivations and requirements for adopting digital health

Shifts from 2016 to 2019

There has been a small but significant increase in the advantage that physicians feel digital health solutions bring to their ability to care for their patients

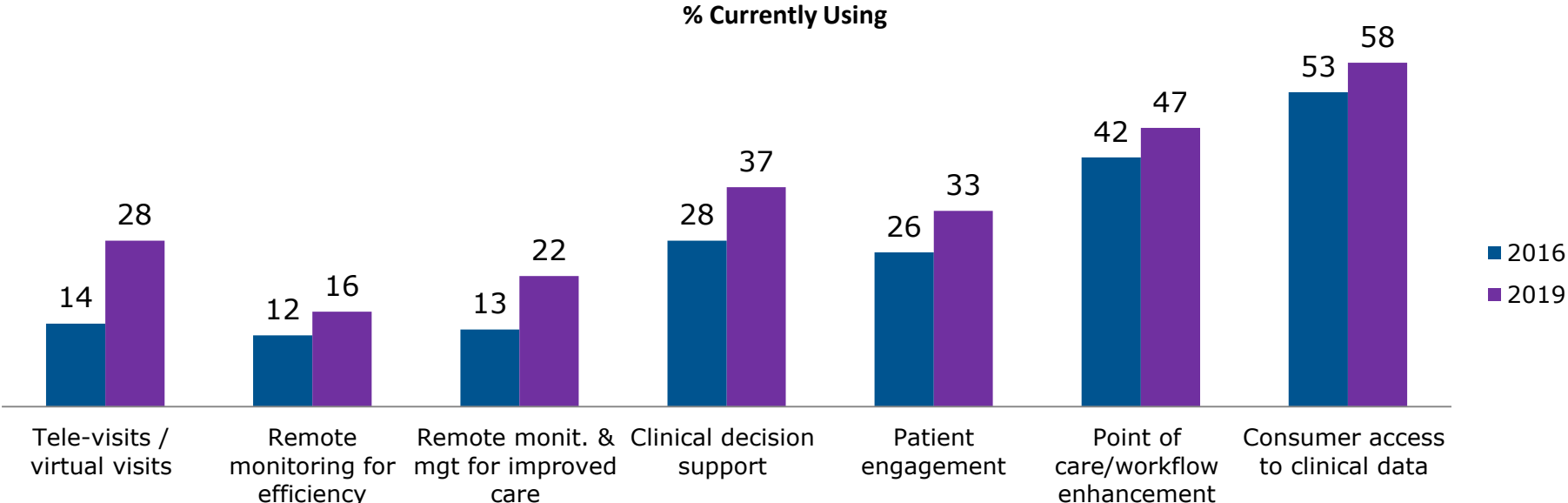
- The most notable increases are among PCPs with specialists moving slightly.
- Those that see no advantage are trending downwards and are concentrated in the age 50+ segment.



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=289), Age 41-50 (n=449), Age 51+ (n=562), Solo Practice (n=196), Group Practice (n=879), Other Practice (n=225), AMA Member (n=359), Non-Member (n=941) *Statistically significantly difference at 95% confidence interval

Use of digital health tools has risen significantly

Tele-visits have seen the greatest growth, doubling in use since 2016.

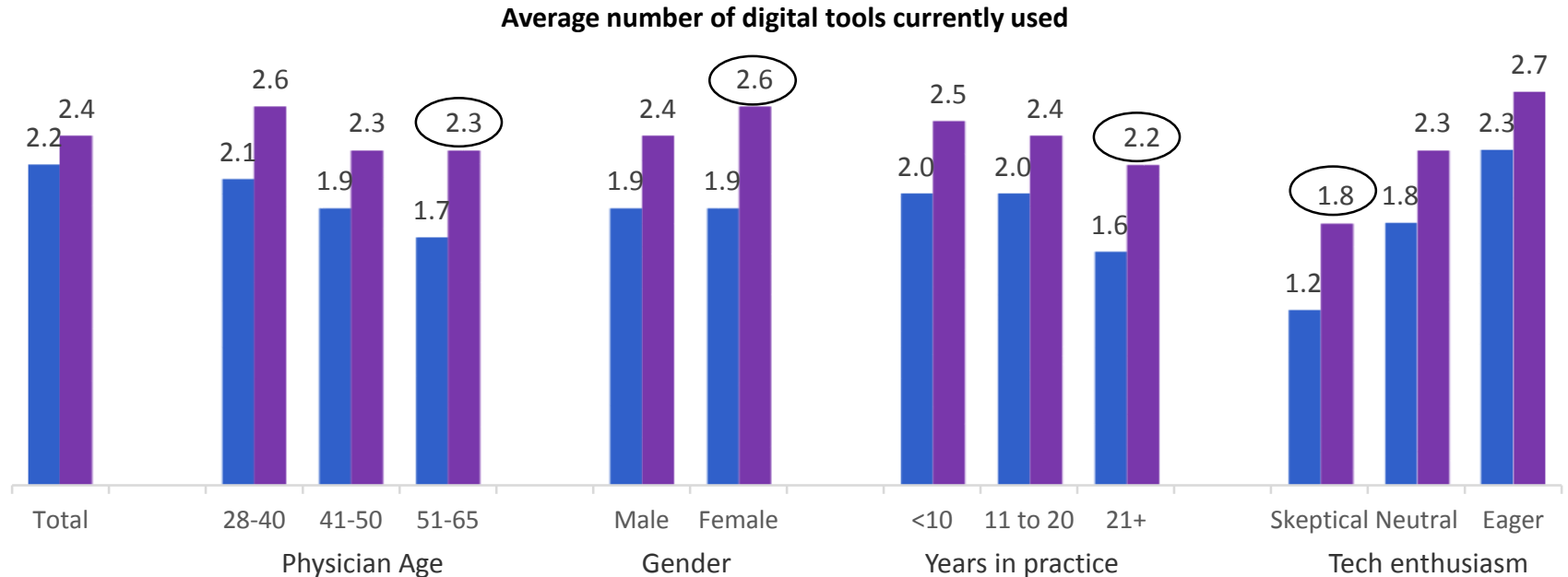


Q20. Which, if any, of these do you currently incorporate into your practice? Base: Total Physicians (n=1300)



The average number of digital tools used has increased

Older physicians and those less enthusiastic about technology (there is a lot of overlap) are catching up in their use.

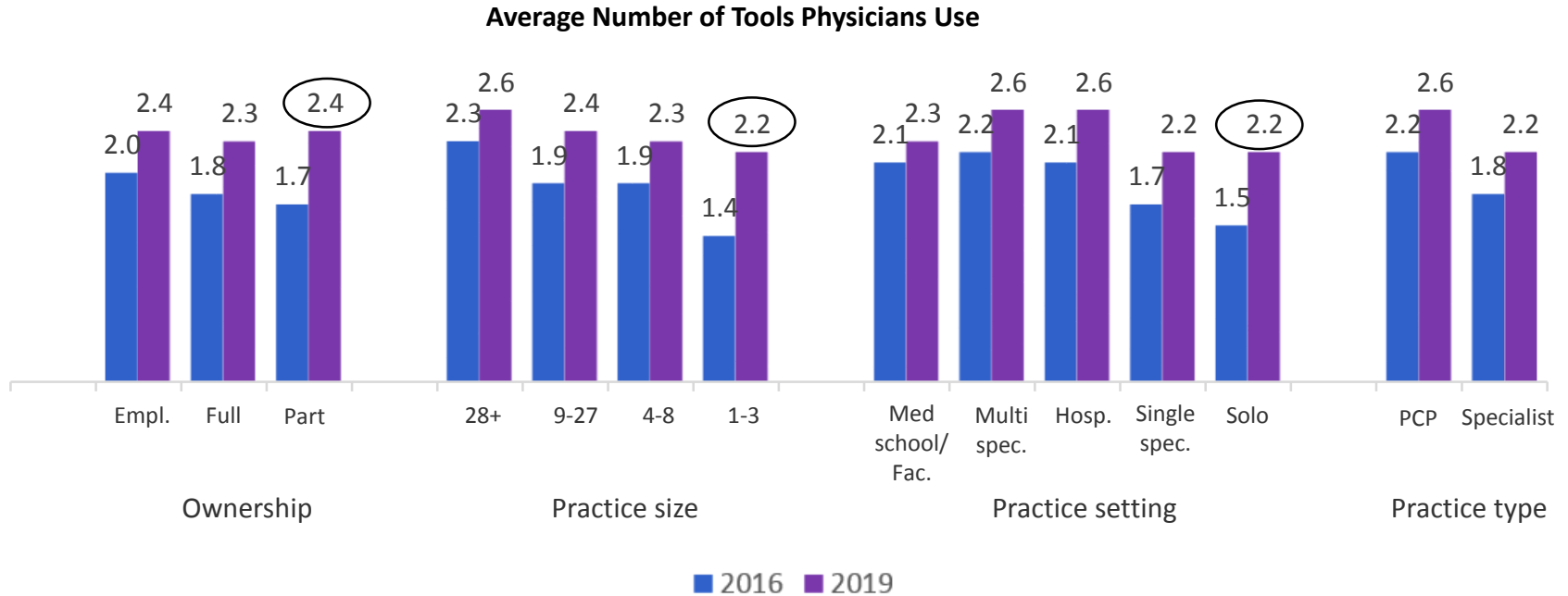


Q20. Which, if any, of these do you currently incorporate into your practice? Base: Total Physicians (n=1300)

■ 2016 ■ 2019

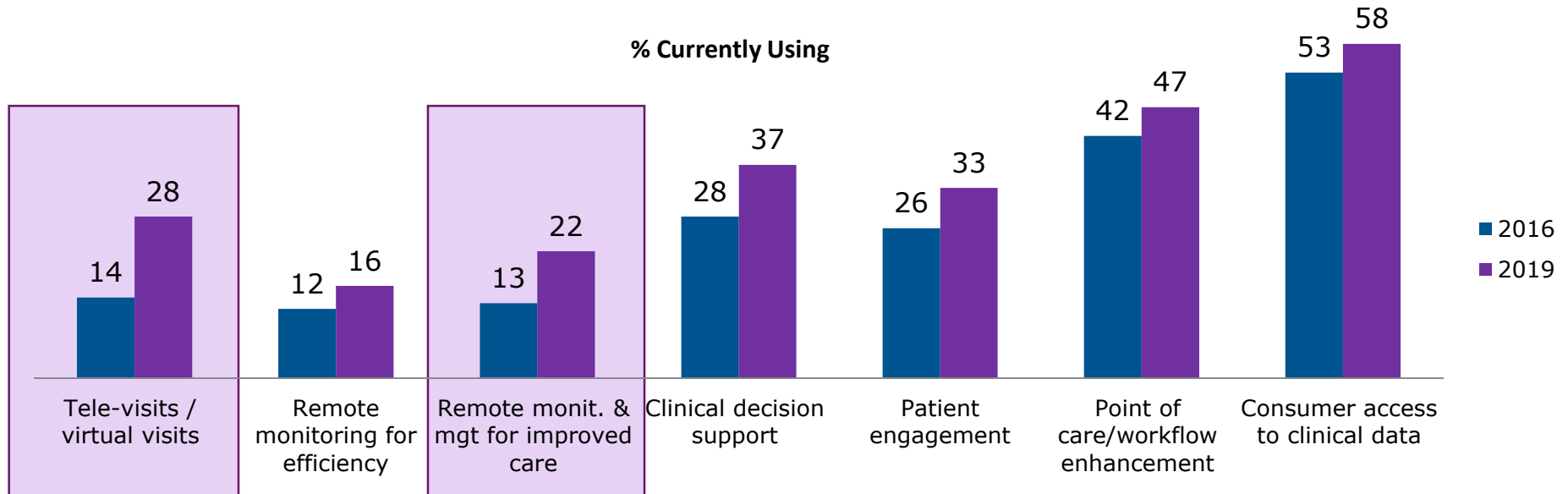
Use by solo practice physicians and partial owners has also increased

These had been lagging behind other physicians in 2016 and are now closer to the average.



While all digital health tools have seen increases in adoption since 2016, remote care tools have seen the biggest moves forward

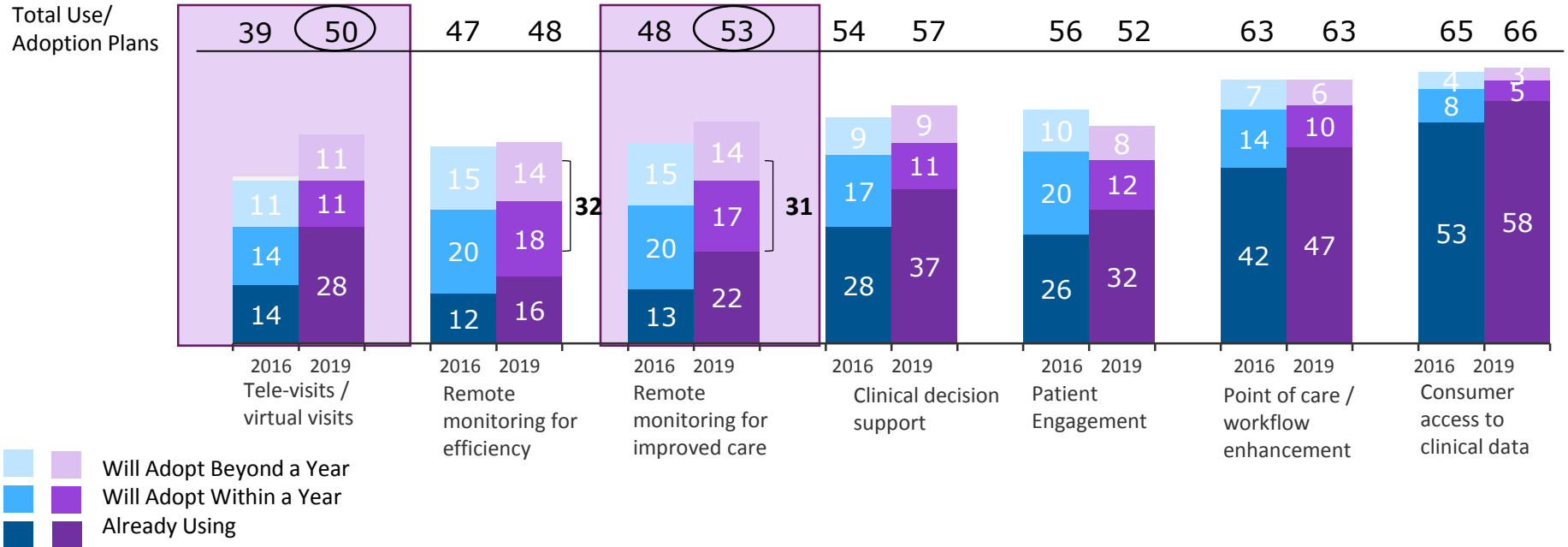
Tele-visits/virtual visits and remote monitoring for improved patient care have seen a significant increase in use.



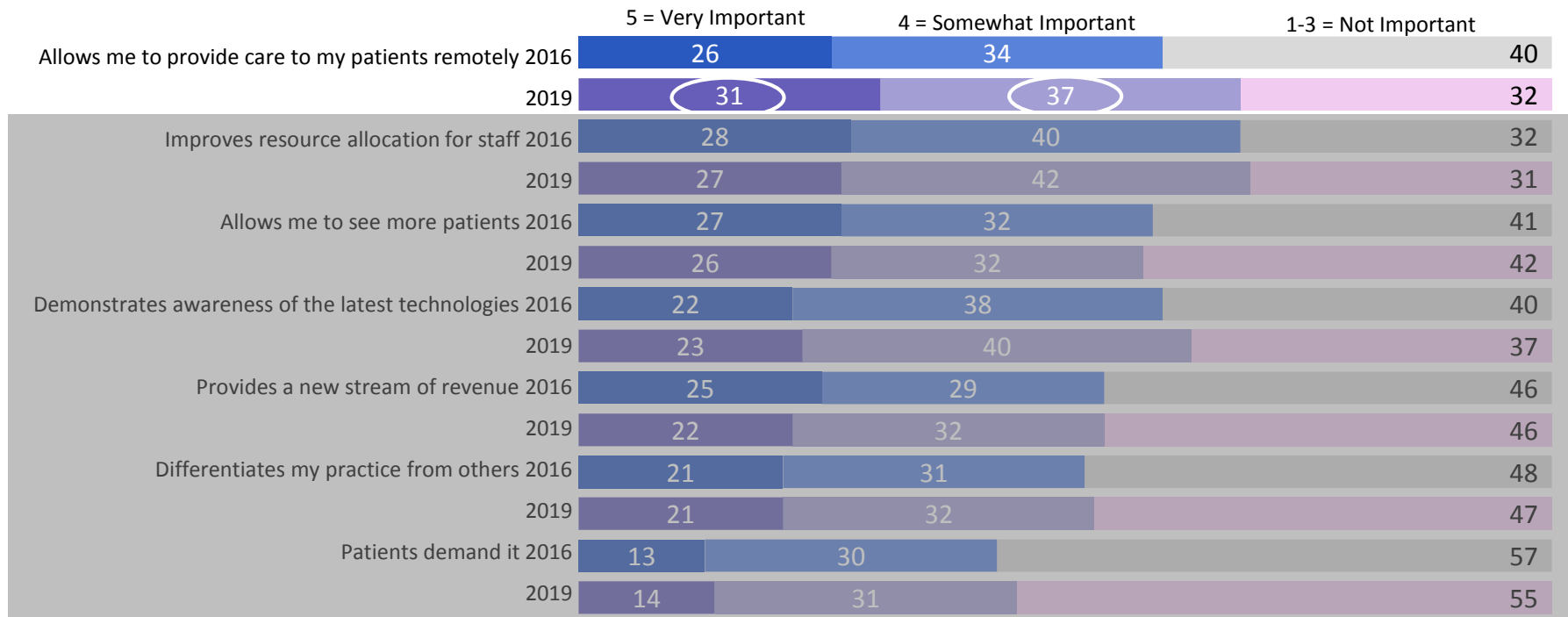
Q20. Which, if any, of these do you currently incorporate into your practice? Base: Total Physicians (n=1300)

Remote care tools are also those with the highest likelihood of adoption within the next three years

% Physicians Use or Plan to Use

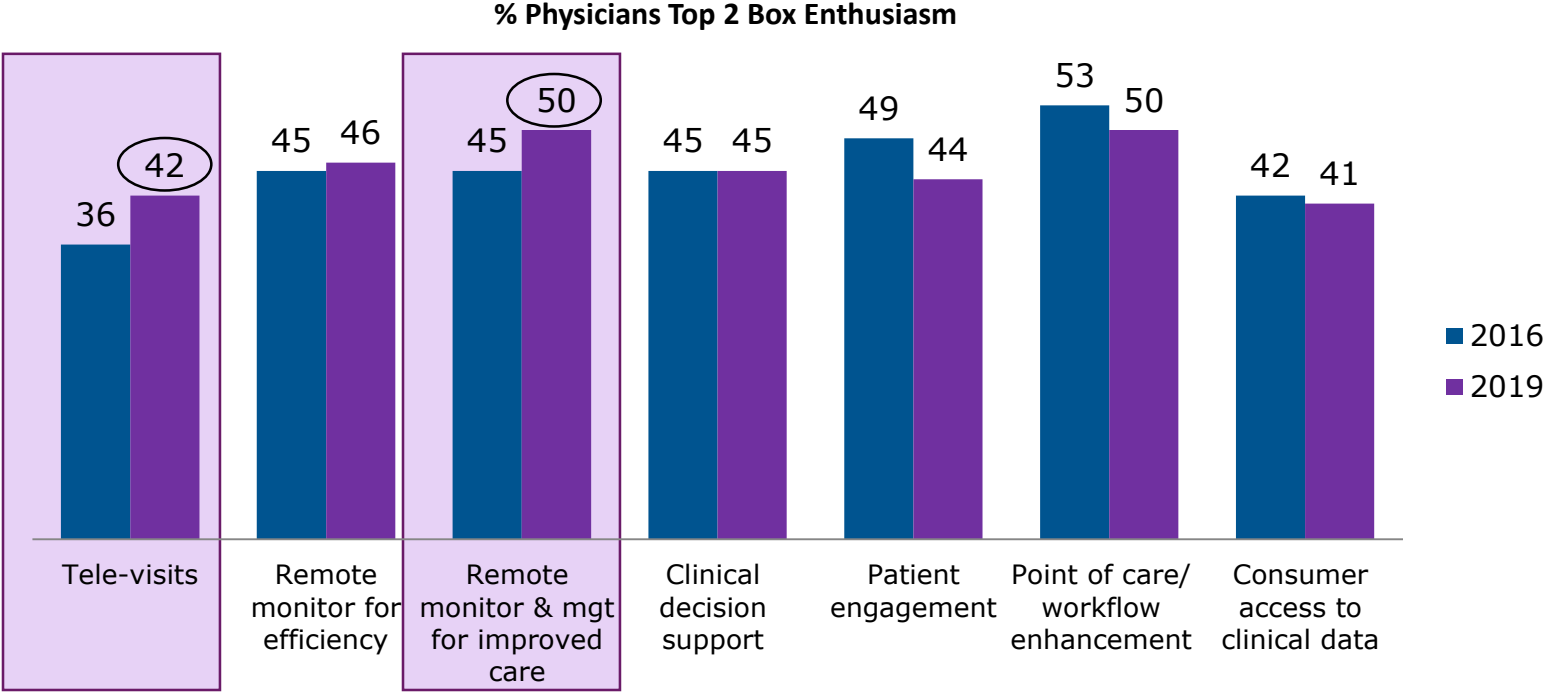


Providing remote care is also a driving force for adoption, and the only motivator that has seen upward movement in the past three years



Q17. When thinking about incorporating digital health solutions into your practice, how important would each factor be? Base: Total Physicians (n=1300)

When asked what digital health tools they are most enthusiastic about, remote tools are the two that gained traction since 2016

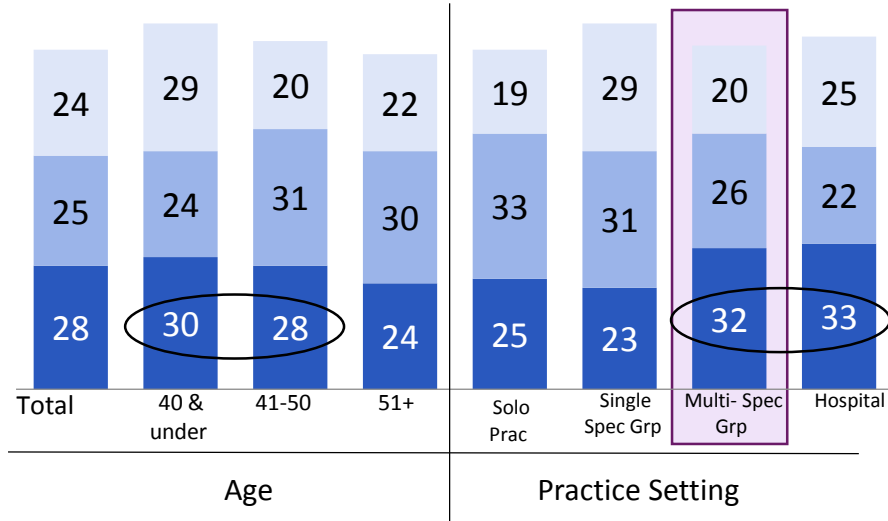


Q22. Which, if any, of the solutions below are you enthusiastic about? Base: Total Physicians (n=1300)

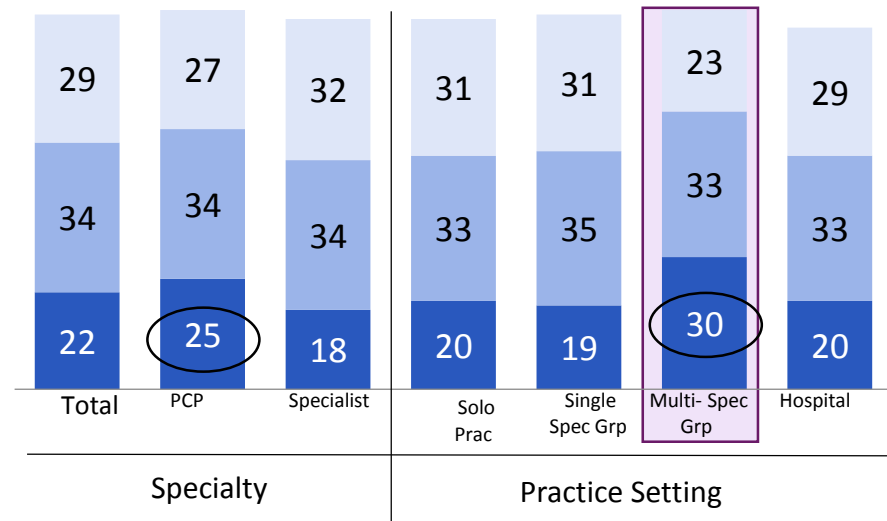
Multi-Specialty Groups are currently the heaviest users of remote digital health tools

Other groups that showed relatively heavier usage of remote digital health tools are hospitals, physicians under 50, and PCP's.

Tele-Visits/Virtual Visits



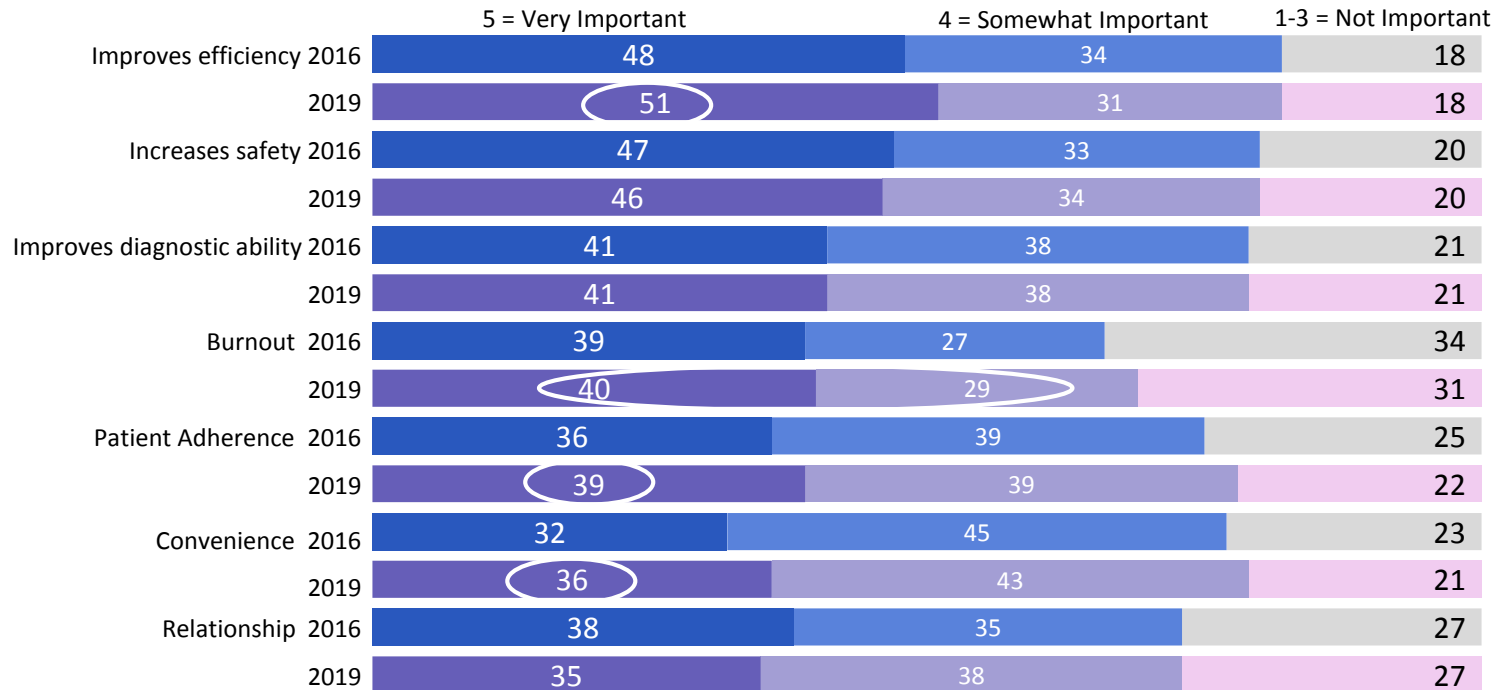
Remote Monitoring for Improved Care



- Will Adopt Beyond a Year
- Will Adopt Within a Year
- Already Using

Improved efficiency and increased patient safety remain the top motivators for physicians to use digital health tools

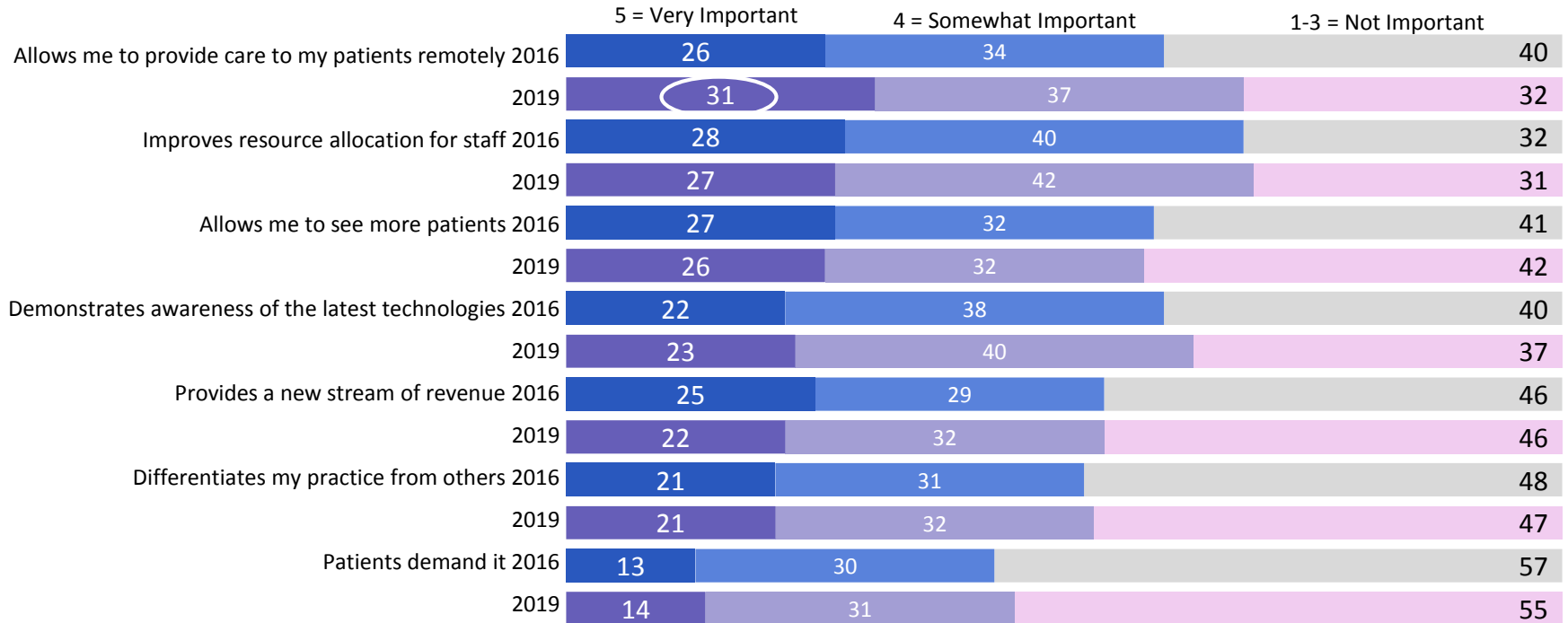
Patient adherence, convenience, and helping address physician burnout have increased in importance as reasons for attraction.



Q17. When thinking about incorporating digital health solutions into your practice, how important would each factor be? Base: Total Physicians (n=1300)

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

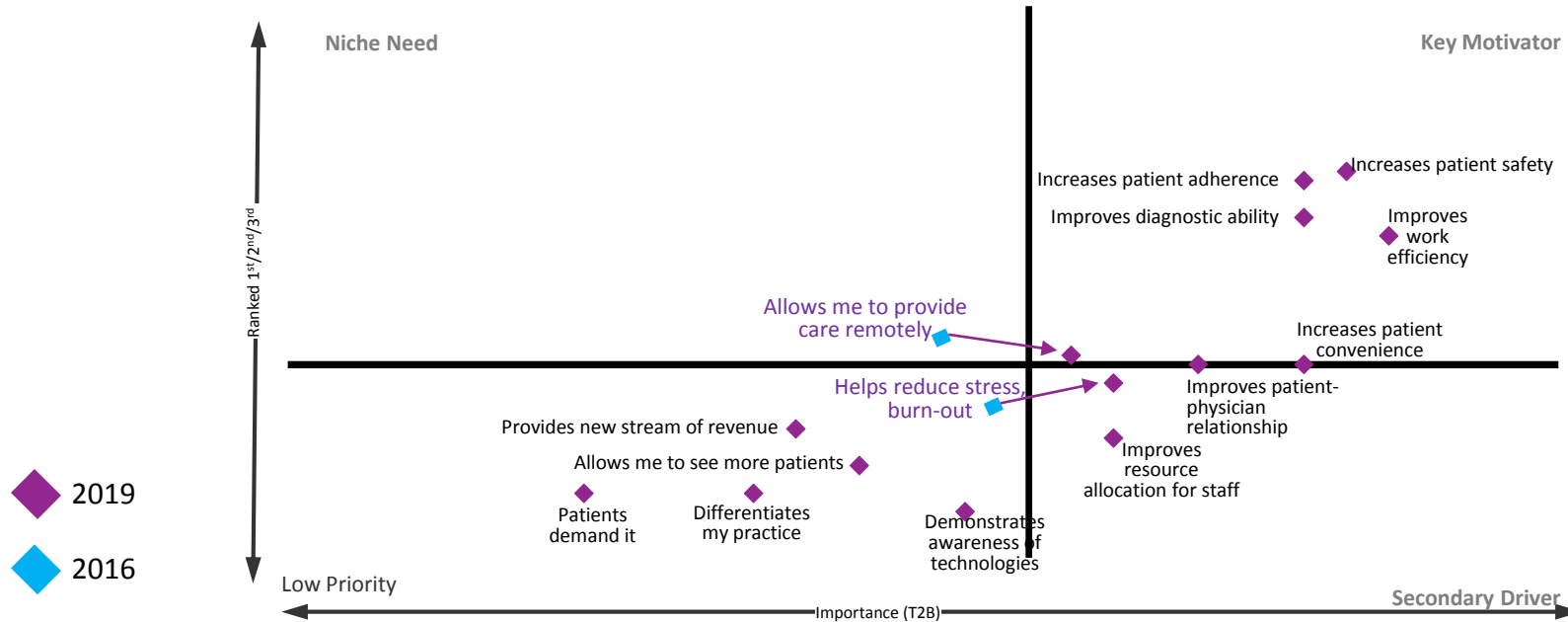
More say it is very important as a reason to be attracted to digital health and fewer think it is not important.



Q17. When thinking about incorporating digital health solutions into your practice, how important would each factor be? Base: Total Physicians (n=1300)

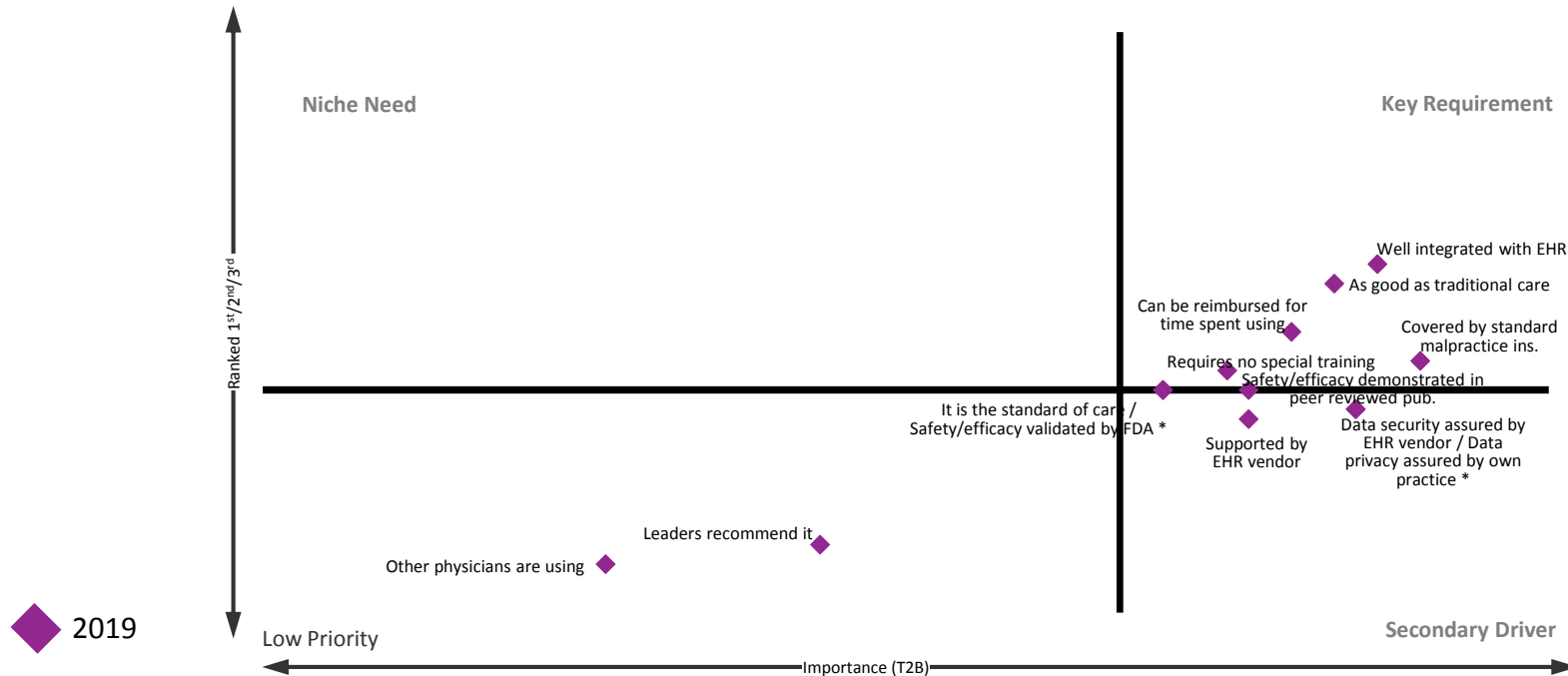
Two elements that attract physicians to digital health tools have shifted in importance

“Allows me to provide care remotely” and “Helps reduce stress/burn-out” have moved into the quadrants for drivers, now closely hovering along the line between key motivators and secondary drivers. The movements are small but meaningful.



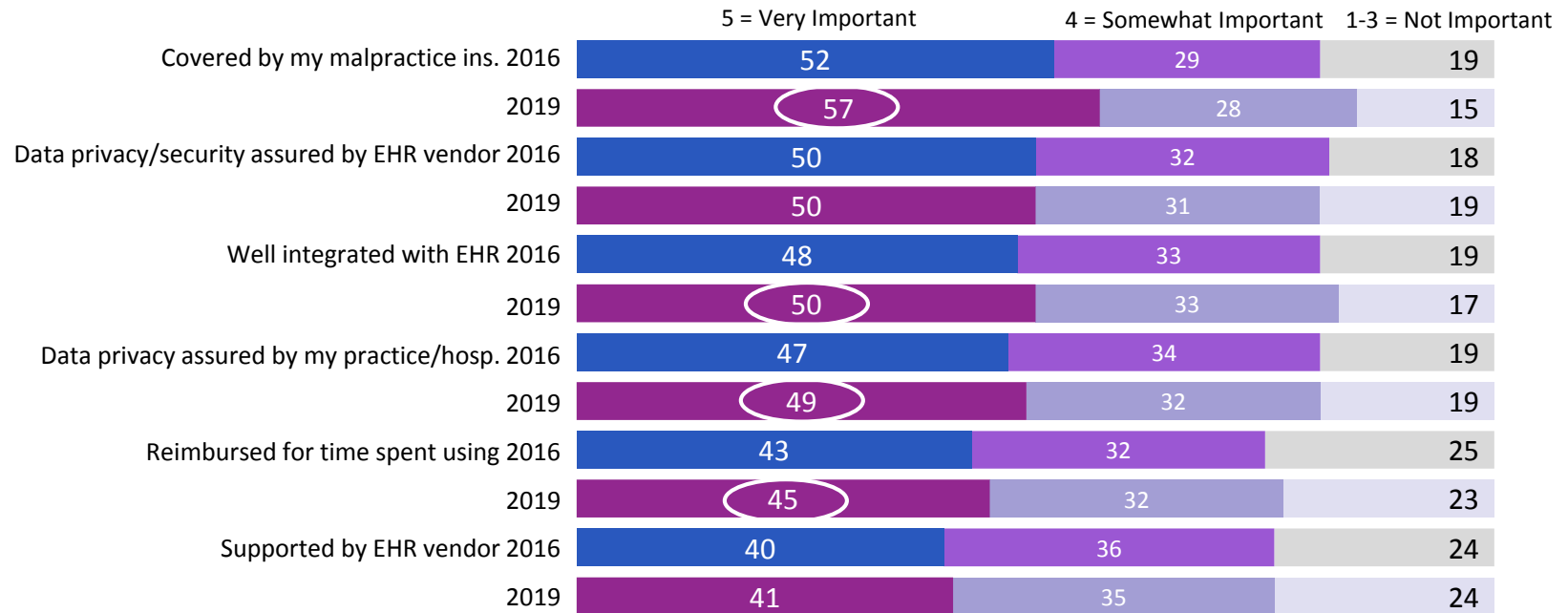
Requirements for adopting digital health tools have remained unchanged

Integration with EHR and being as good as traditional care are the two key requirements.



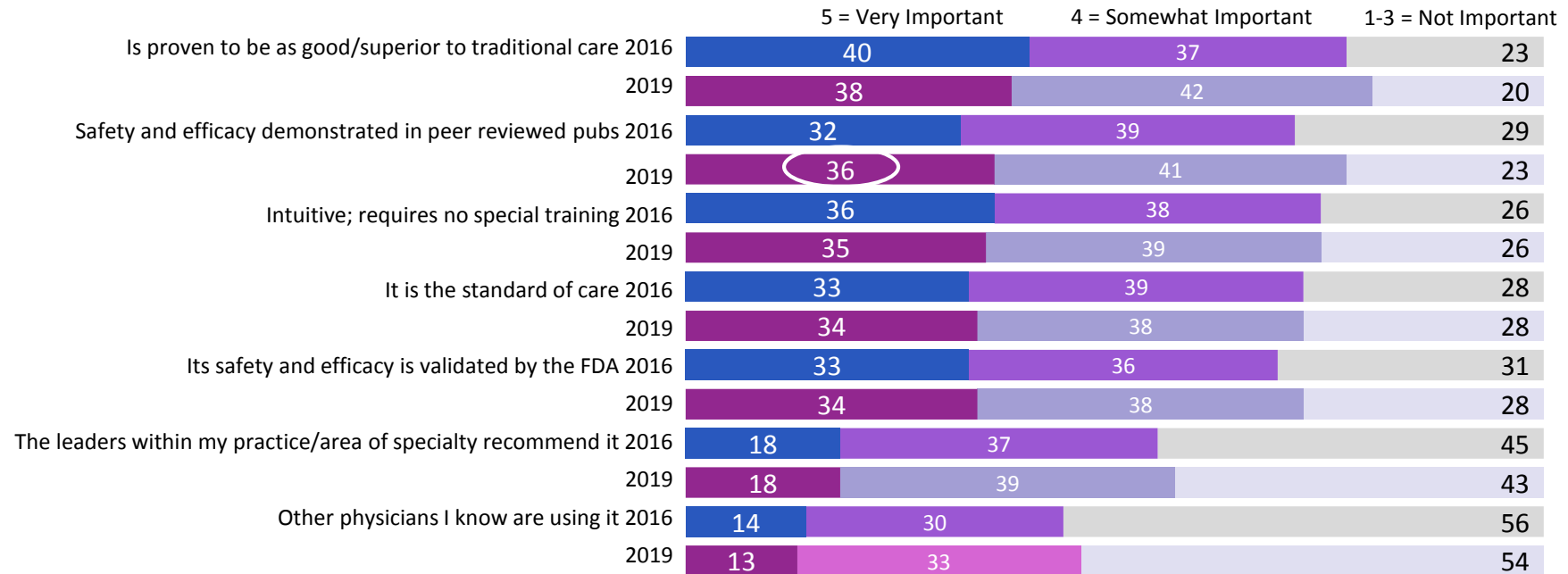
* Those marked with an asterisk indicate that those 2 requirements are hovering on the same exact coordinates

The importance of digital health tools being covered by standard malpractice insurance has increased significantly as a requirement



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)

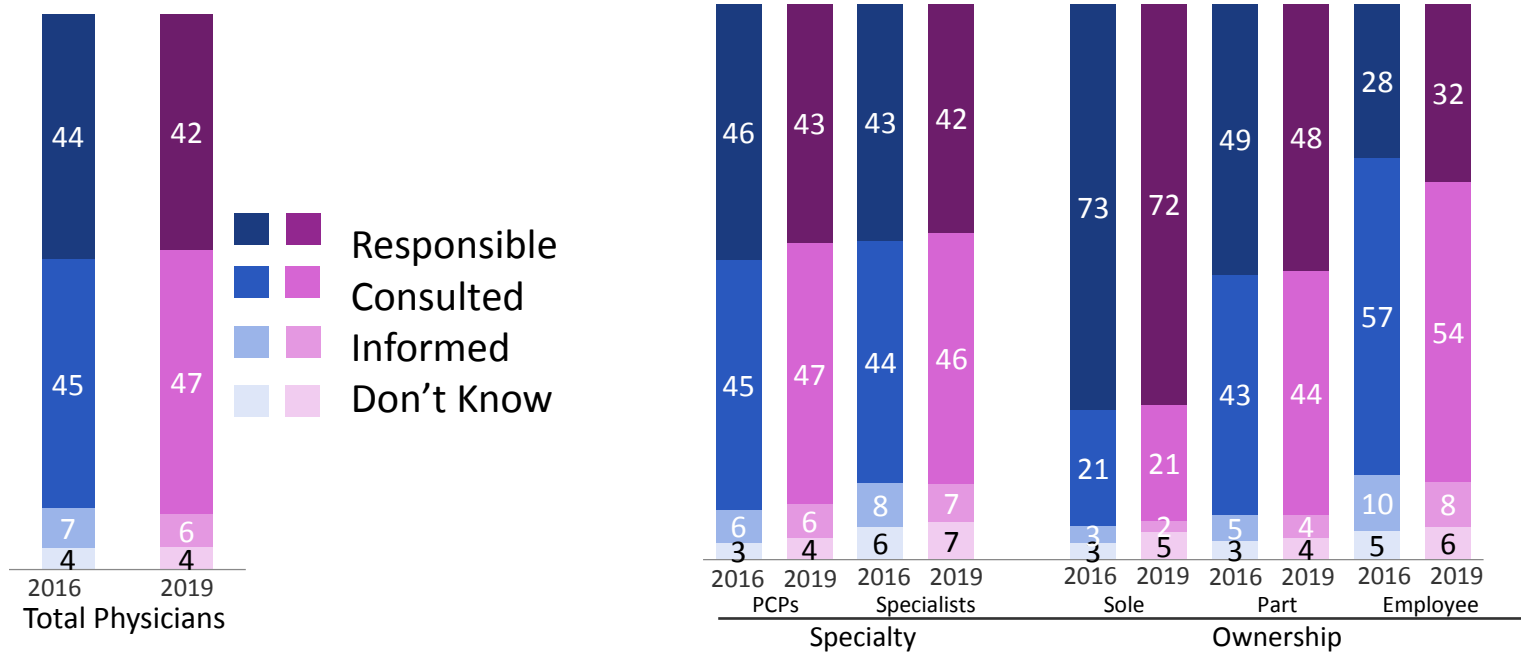
Demonstration of safety and efficacy in peer reviewed publications has also increased in importance



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)

The degree of responsibility that physicians desire to have in the adoption of digital health solutions in their practice has not changed

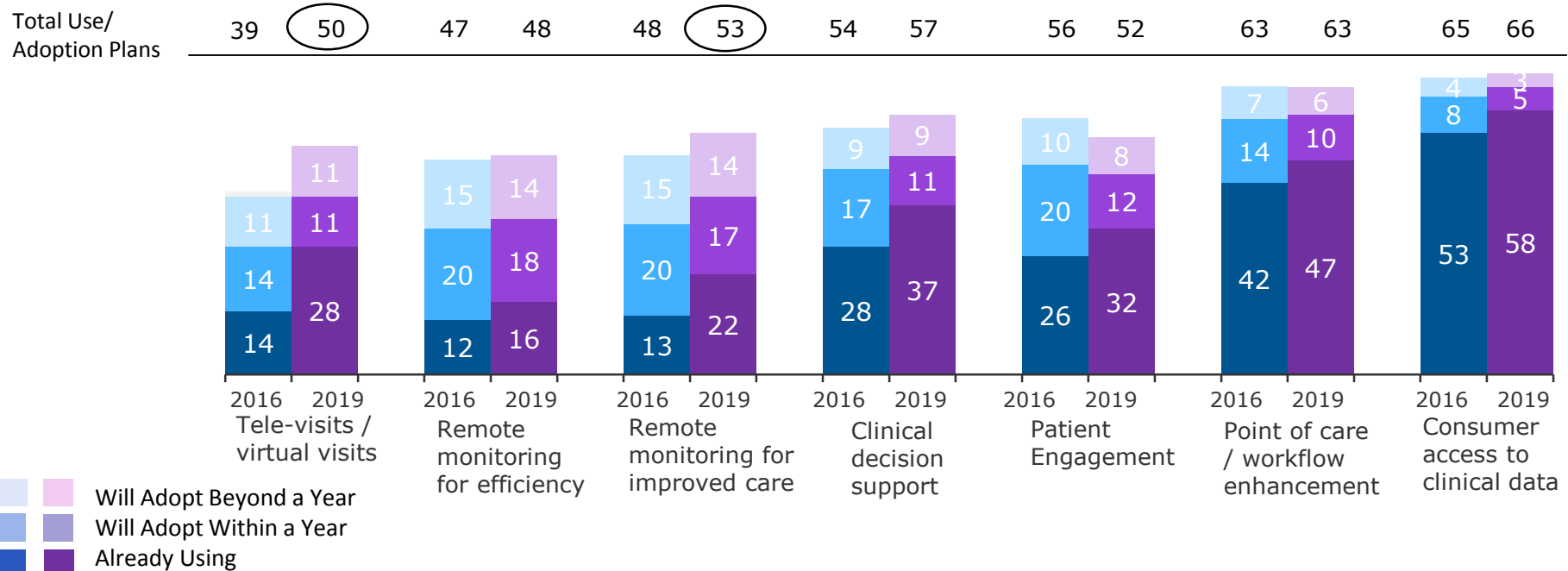
Physicians want to be part of the decision-making process; owners expect to be responsible.



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), Solo owner (n=329), Part owner (n=319), Employee (n=652)

Current or planned future use of digital health tools is also slightly up; most growth is in tele-visits/virtual visits and remote monitoring for improved care

% Physicians Use or Plan to Use

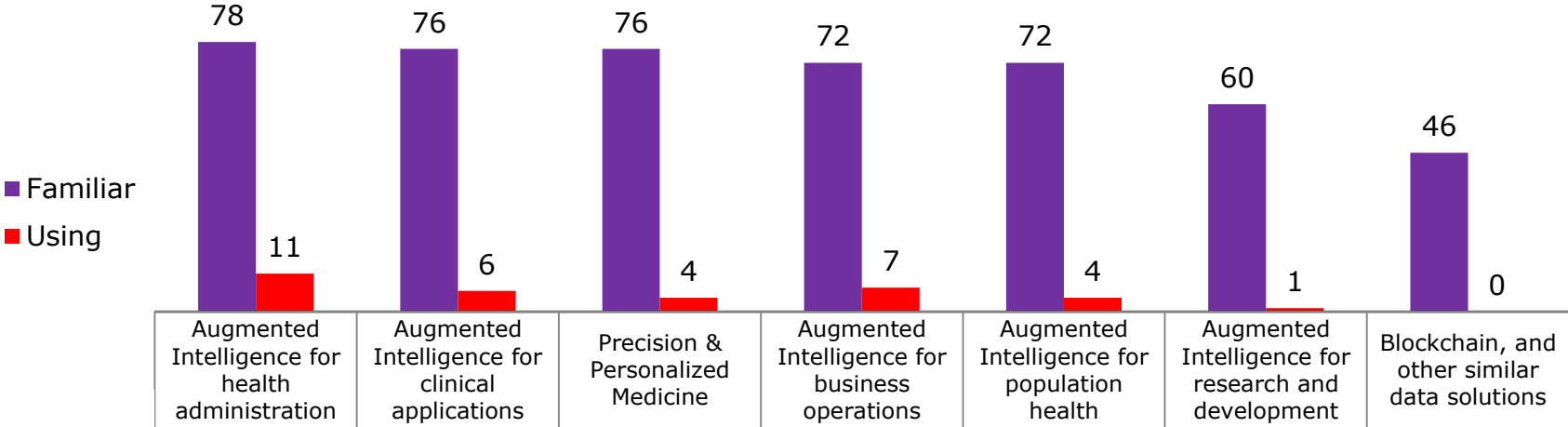


A man in a white lab coat is looking down at a tablet computer. He is in a laboratory setting, with a microscope and other equipment visible in the background. The lighting is dim and blue-toned.

Emerging Technologies

Awareness of augmented intelligence technologies is high, though adoption remains in single digits for almost all tools

% Physicians Familiar with and Using Advanced Technology

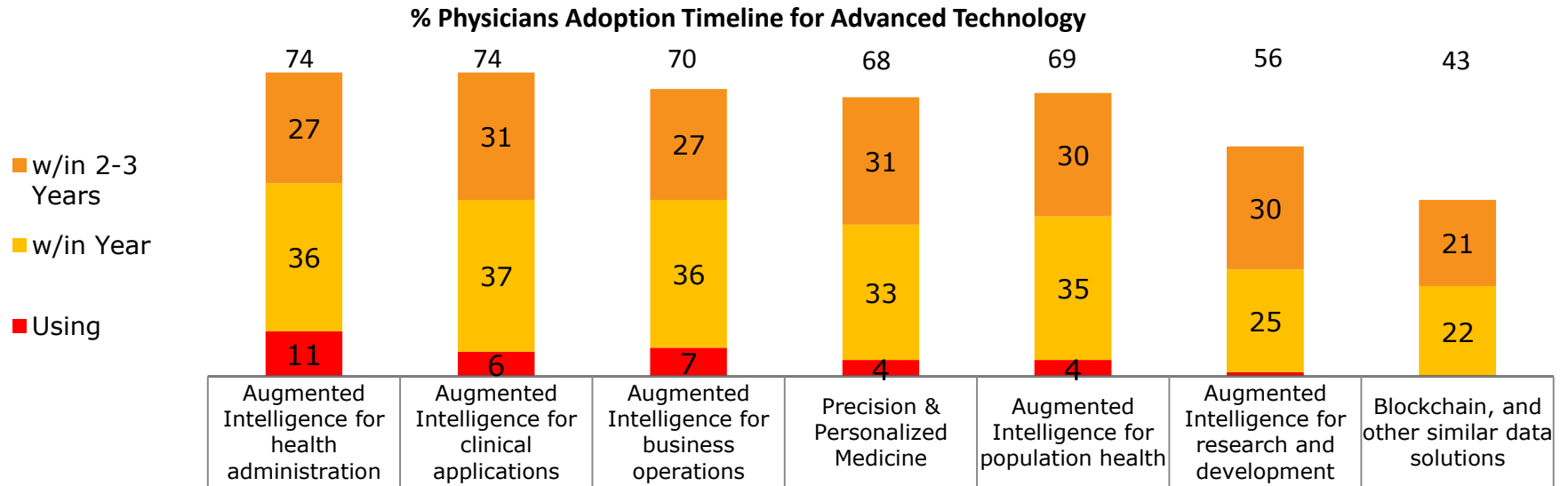


Q39. When would you expect to start incorporating this into your own practice?



Intentions to adopt augmented intelligence tools within the next three years are very high even if current use is low

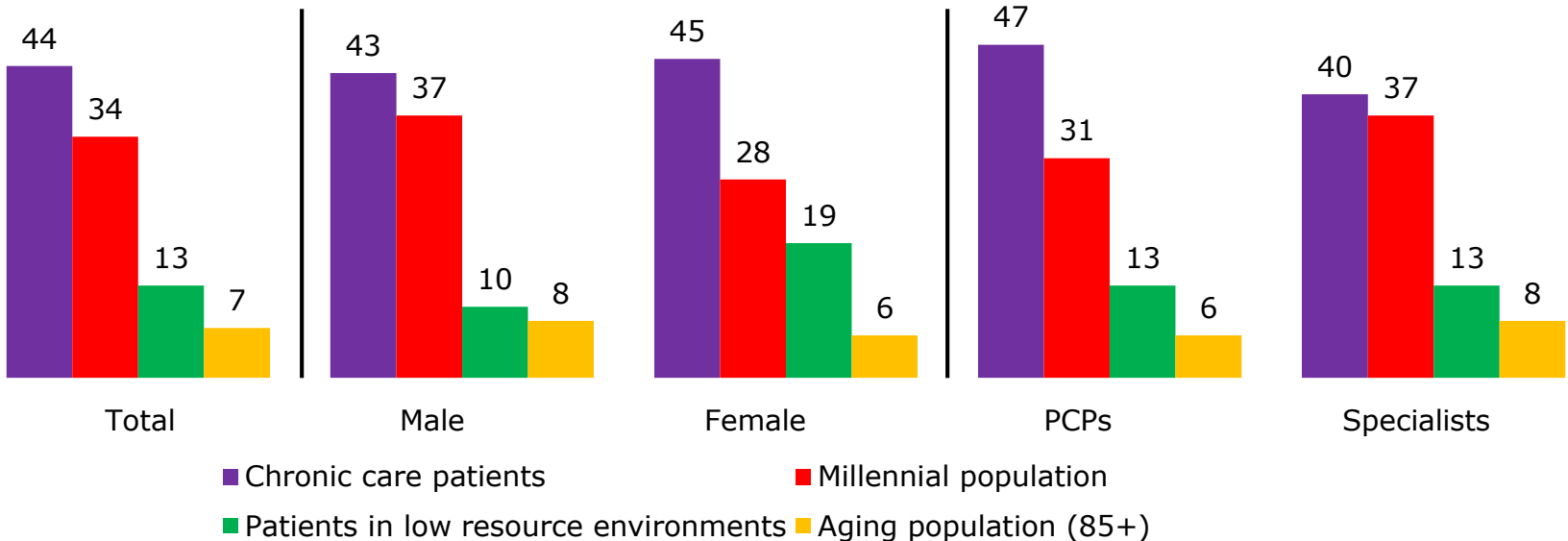
One-third of physicians plan to adopt most of these technologies within the next year.



Q39. When would you expect to start incorporating this into your own practice?

Physicians are most interested in these emerging technologies to help them serve chronic care patients

Markets % Physicians Want New Technology to Serve



Q40. What audience would you most desire new technology or solutions to better serve?





Appendix

Key Definitions in the Study

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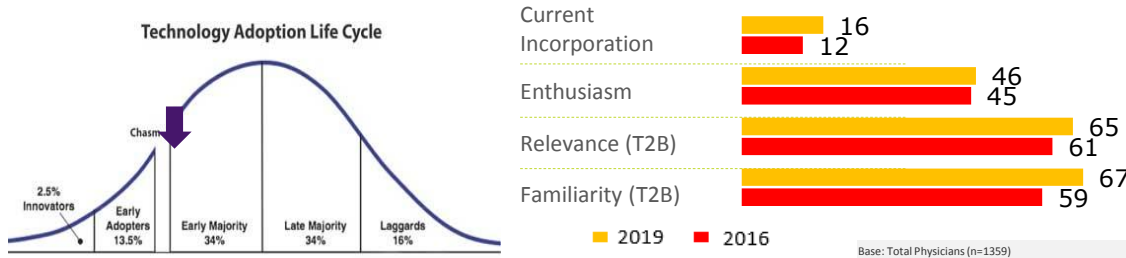
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Remote Monitoring for Efficiency

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

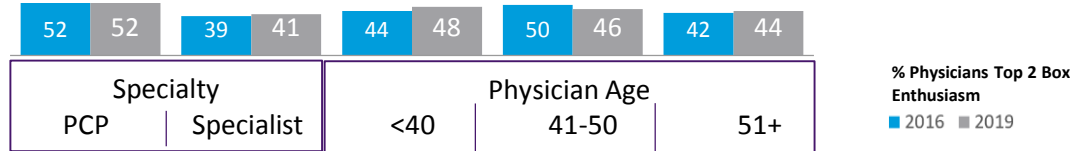


Drivers among Physicians where Tool is Relevant, but Not Yet Used

Most Attractive Elements Above average importance & ranking

1. Improves work efficiency
2. Improves diagnostic ability
3. Increases patient safety
4. Increases patient adherence
5. Improves resource allocation for staff * New in 2019

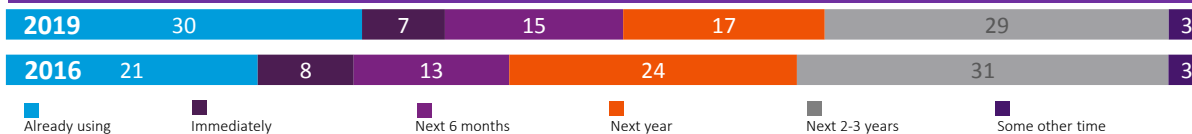
Enthusiasm



Key Functional Requirements Above average importance & ranking

1. Well integrated with EHR
2. As good as traditional care
3. Covered by standard malpractice * New in 2019
4. Requires no special training
5. Can be reimbursed for time * New in 2019

Timeline of Adoption Among Enthusiastic



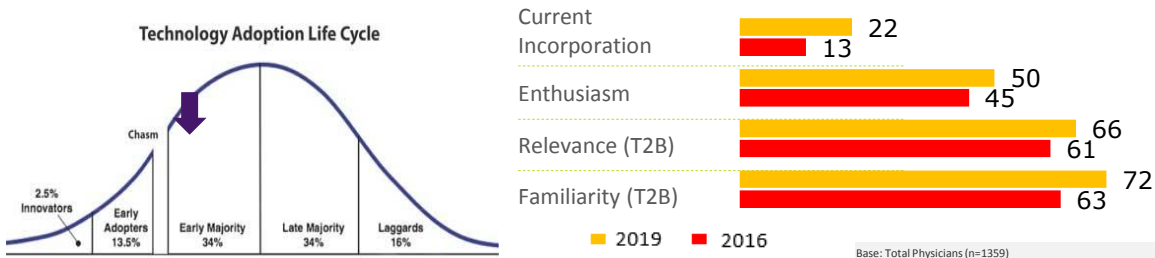
Base: Total Physicians, Excited About Solution: Remote Monitoring for Efficiency (n=630)

Remote Monitoring for Improved Care

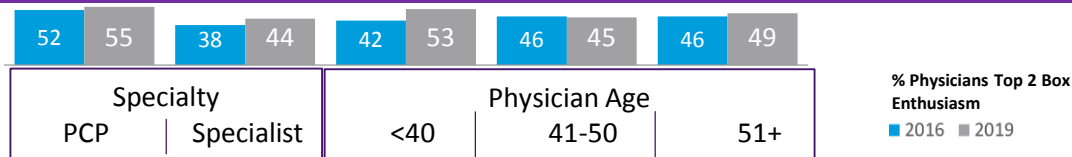
Apps and devices for use by chronic disease patients for daily measurement of vital signs such as weight, blood pressure, blood glucose, etc. Readings are visible to patients and transmitted to the physician's office. Alerts are generated as appropriate for missing or out of range readings.

Evaluation among Total Physicians

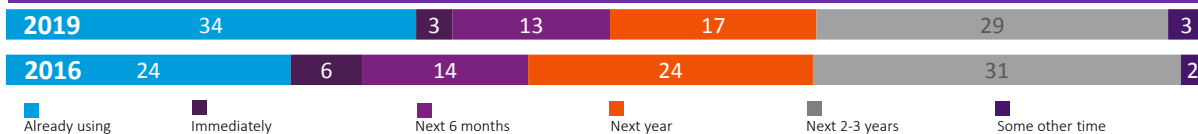
Current State



Enthusiasm



Timeline of Adoption Among Enthusiastic



Drivers among Physicians where Tool is Relevant, but Not Yet Used

Most Attractive Elements Above average importance & ranking

- Increases patient safety
- Increases patient adherence
- Improves diagnostic ability
- Improves work efficiency
- Improves patient-doc relationship
- Allows me to provide care remotely

Key Functional Requirements Above average importance & ranking

- Well integrated with EHR
- As good as traditional care
- Covered by standard malpractice * New in 2019
- Requires no special training
- Can be reimbursed for time * New in 2019

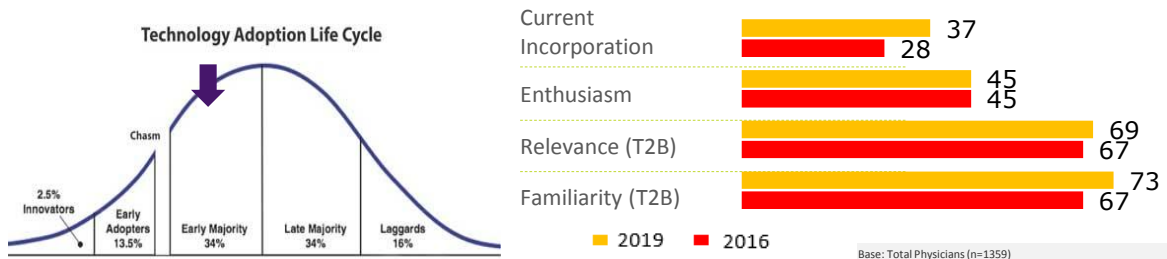
Base: Total Physicians, Excited About Solution: Remote Monitoring for Improved Care (n=674)

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

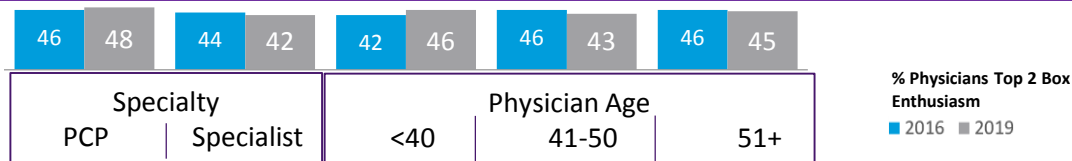


Drivers among Physicians where Tool is Relevant, but Not Yet Used

Most Attractive Elements Above average importance & ranking

- Increases patient safety
- Improves work efficiency
- Improves diagnostic ability
- Increases patient adherence
- Improves patient-doc relationship

Enthusiasm



Key Functional Requirements Above average importance & ranking

- As good as traditional care
- Well integrated with EHR
- Covered by standard malpractice
- Requires no special training
- Can be reimbursed for time * New in 2019
- It is the standard of care * New in 2019

Timeline of Adoption Among Enthusiastic



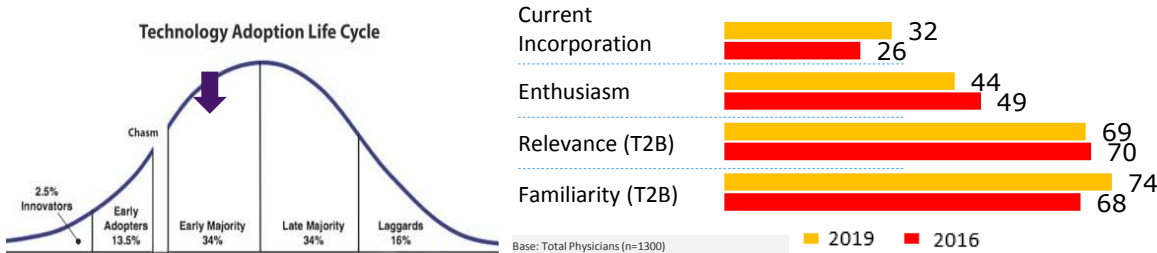
Base: Total Physicians, Excited About Solution: Clinical decision support (n=611)

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

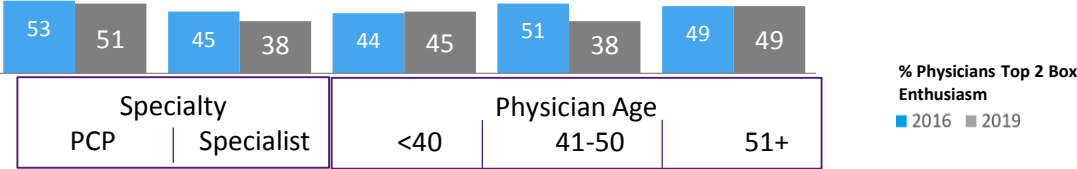


Drivers among Physicians where Tool is Relevant, but Not Yet Used

Most Attractive Elements Above average importance & ranking

- Increases patient adherence
- Increases patient safety
- Improves work efficiency
- Improves patient-doc relationship
- Improves diagnostic ability
- Helps reduce stress, burn-out

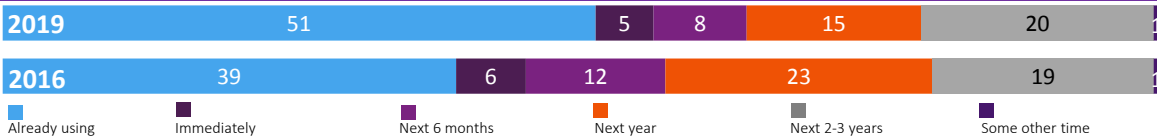
Enthusiasm



Key Functional Requirements Above average importance & ranking

- Well integrated with EHR
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- Can be reimbursed for time spent

Timeline of Adoption Among Enthusiastic



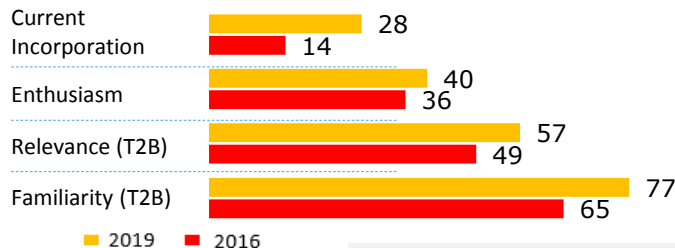
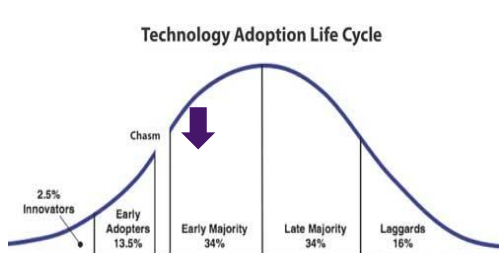
Base: Total Physicians, Excited About Solution: Point-of-care / Workflow Enhancement (n=694)

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



Drivers among Physicians where Tool is Relevant, but Not Yet Used

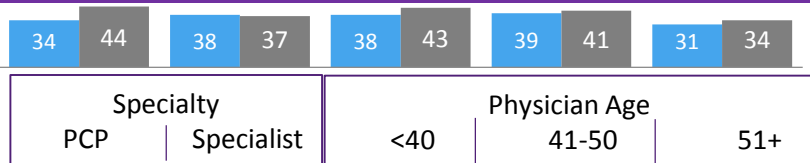
Most Attractive Elements Above average importance & ranking

1. Increases patient convenience
2. Improves work efficiency
3. Allows me to provide care remotely
4. Improves patient-doc relationship
5. Increases patient safety
6. Provides a new stream of revenue

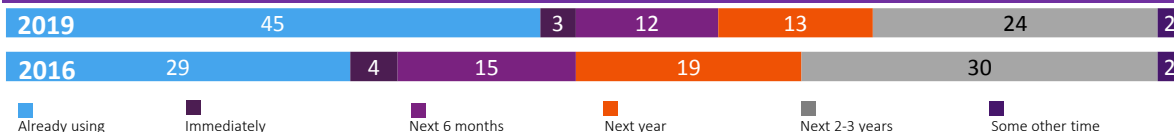
Key Functional Requirements Above average importance & ranking

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

Enthusiasm



Timeline of Adoption Among Enthusiastic



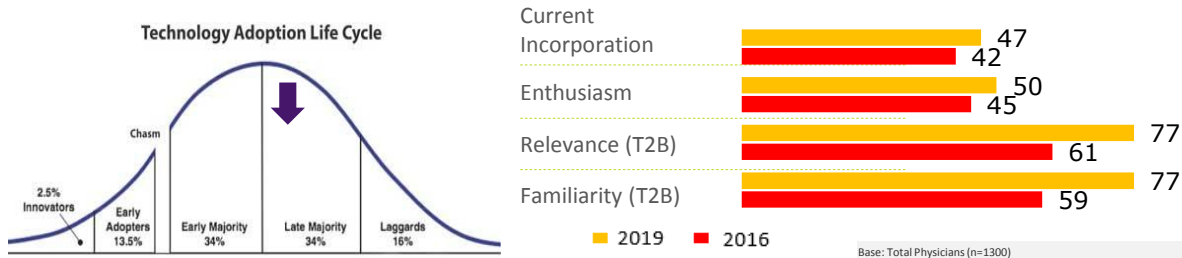
Base: Total Physicians, Excited About Solution: Point-of-care / Workflow Enhancement (n=694)

Point-of-Care/Workflow Enhancement

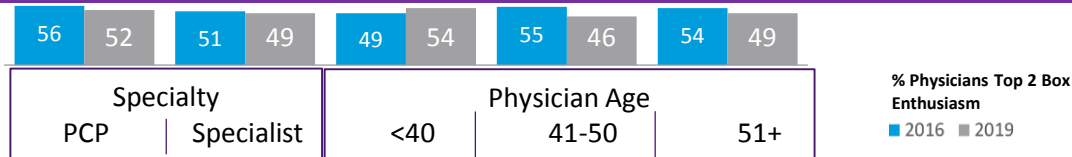
Communication and sharing of electronic clinical data to consult with specialists, make referrals and/or transitions of care.

Evaluation among Total Physicians

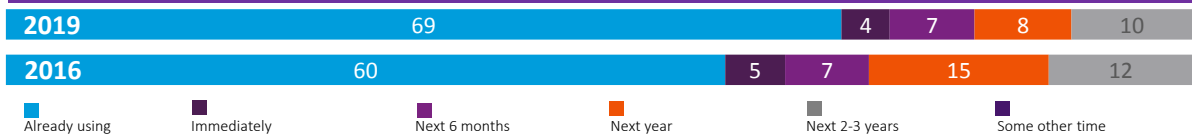
Current State



Enthusiasm



Timeline of Adoption Among Enthusiastic



Drivers among Physicians where Tool is Relevant, but Not Yet Used

Most Attractive Elements

Above average importance & ranking

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3. Improves diagnostic ability
4. Improves patient-doc relationship
5. Increases patient convenience * New in 2019
6. Helps reduce stress, burn-out

Key Functional Requirements

Above average importance & ranking

1. Improves work efficiency
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5. Increases patient convenience * New in 2019
6. Helps reduce stress, burn-out

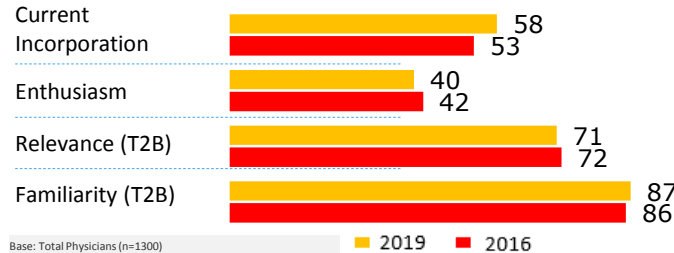
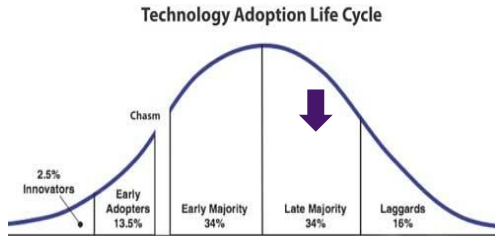
Base: Total Physicians, Excited About Solution: Point-of-care / Workflow Enhancement (n=694)

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

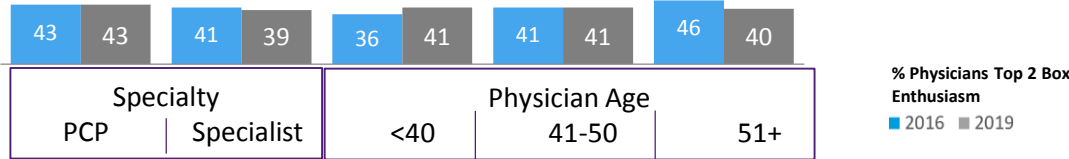


Drivers among Physicians where Tool is Relevant, but Not Yet Used

Most Attractive Elements Above average importance & ranking

1. Increases patient safety
2. Increases patient convenience
3. Improves work efficiency
4. Improves patient-doc relationship
5. Increases patient adherence
6. Improves diagnostic ability *New in 2019

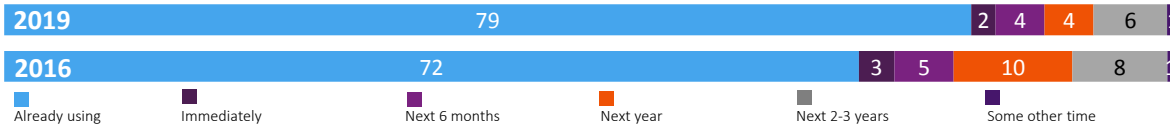
Enthusiasm



Key Functional Requirements Above average importance & ranking

1. Data security assured by EHR vendor
2. Requires no special training
3. Well integrated with EHR
4. As good as traditional care

Timeline of Adoption Among Enthusiastic



Base: Total Physicians, Excited About Solution: Point-of-care / Workflow Enhancement (n=694)