



AHEAD OF WHAT'S NEXT.



Taking America's Pulse on Mobile Healthcare

Consumers and Physicians Rate a Range of Concepts

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Taking the Vital Signs of Mobile Healthcare

- Partnership between CTIA and Harris Interactive to study the acceptance of mobile healthcare among the general US population and physicians.

Answer key questions:

- How familiar are consumers and doctors with mobile healthcare?
- Are they interested in mobile healthcare, and if so why?
- How interested are consumers and physicians in emerging mobile healthcare concepts?
- Gauge overall attitudes towards mobile healthcare and how it can improve quality of healthcare. What are the barriers?
- Will mobile healthcare's value proposition work for consumers and doctors?



Presentation Roadmap

- Methodology – How the market research was conducted
- Mobile Healthcare - Is the market ready?
 - Attitudes toward traditional medicine
 - Mobile Healthcare awareness, familiarity
 - Gauging potential and interest
- Attitudes Toward Mobile Healthcare - Consumers and Doctors Tell All
 - Where is the real value?
 - Who will Mobile Healthcare Help Most?
 - Are there concerns?
 - Will consumers switch mobile carriers and even healthcare providers to get Mobile Healthcare services?
- Testing Nine Mobile Healthcare Concepts
 - Which ones have the greatest potential
- Summary and Q&A

Research was conducted amongst Consumers and Physicians

3,229 General US Population Respondents

- General sampling of US population – N=2,899
- Chronically Ill Patients – N=330
 - Cardio – N=261
 - Diabetic – N=189

244 Physician Respondents

- General Practitioners – N=115
- Specialists – N=129
 - Cardiac Specialists – N=66
 - Diabetic Specialists – N=63

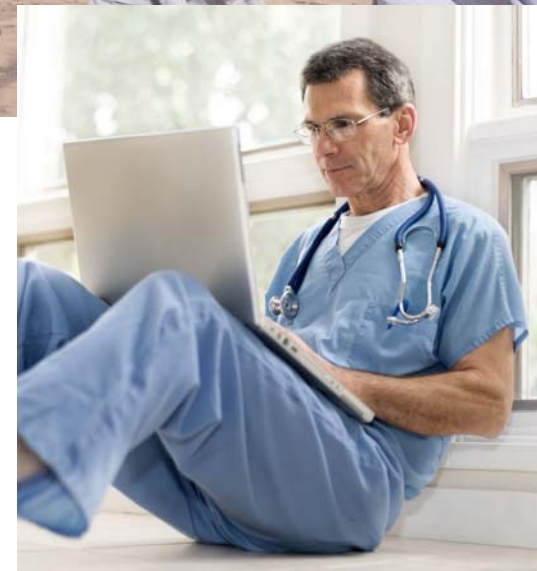
- The survey included questions from the Patient Activation Measure™ (PAM™) from Insignia Health. The tool is used to assess respondents' self-management abilities along a continuum of increasing activation.
- Significance testing is performed at a 95% confidence level, denoted with a*

Mobile Healthcare – healthcare solutions provided via the use of mobile technology

- smart phones
- wireless tablet computers
- wearable wireless bio-sensors, and/or wireless chronic disease monitoring devices

Allows physician to monitor, diagnose conditions, and/or administer medications remotely

Consumers responded as patients and/or caregivers; Physicians responded for fit in their practice



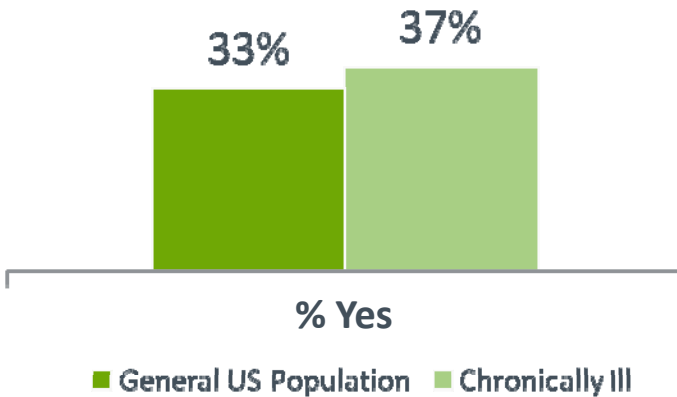


The Mobile Healthcare Landscape

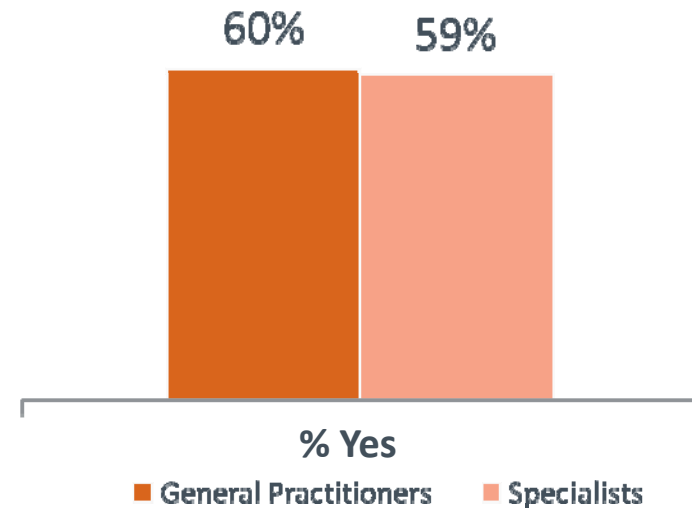
- How much does the market know about mobile healthcare?
- Is there real interest?
- Is the market ready?

About 1/3 of adults and more than half of physicians have heard of Mobile Healthcare

General US Population vs. Chronically Ill



General Practitioners vs. Specialists

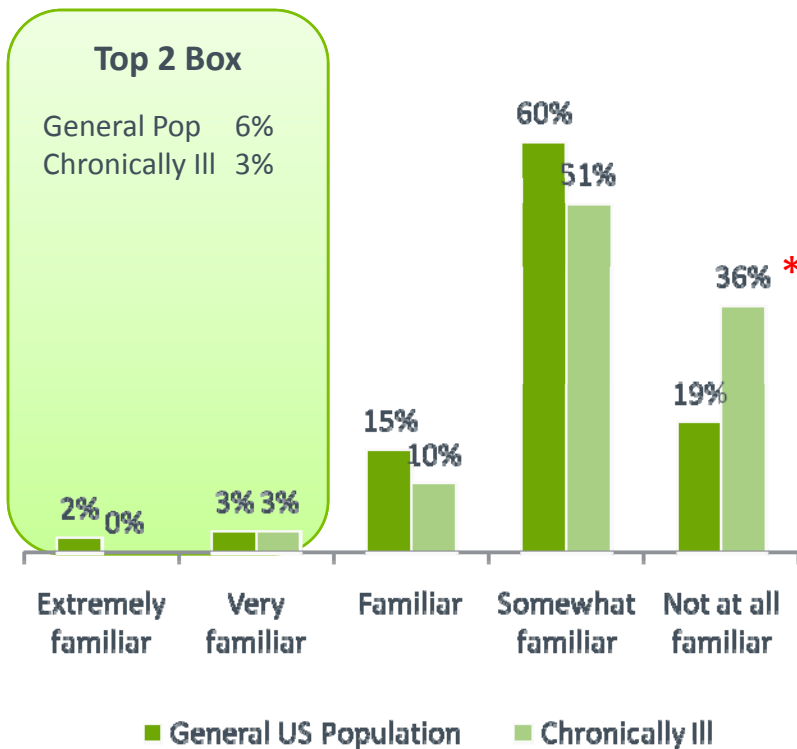


Q800 Have you heard of Mobile Healthcare or a similar concept before today?
(All respondents: base n=3473)

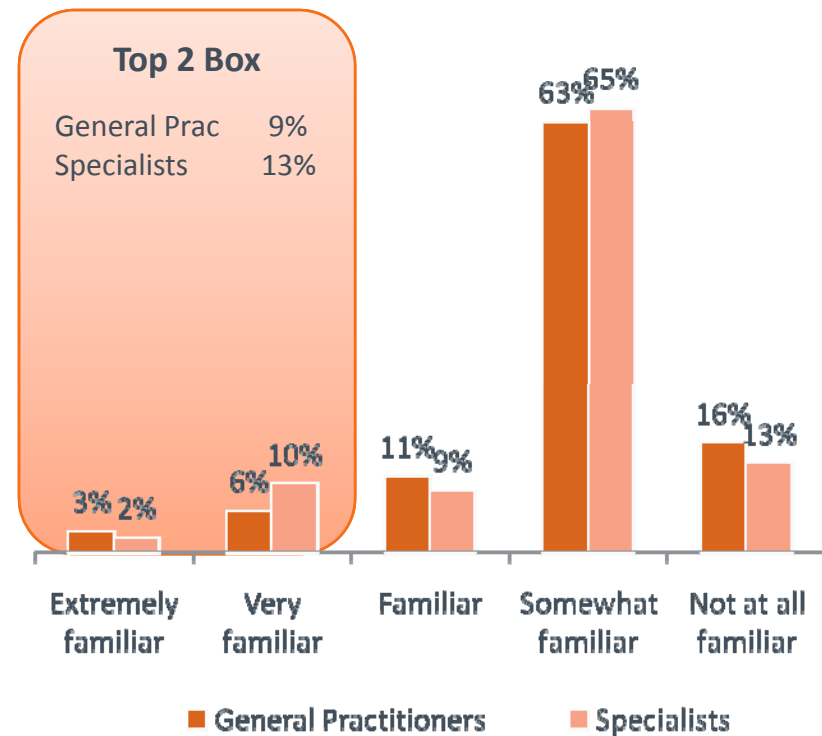
But the details are still a mystery

Only a small fraction of adults and doctors are very familiar with the specifics

General US Population vs. Chronically Ill



General Practitioners vs. Specialists



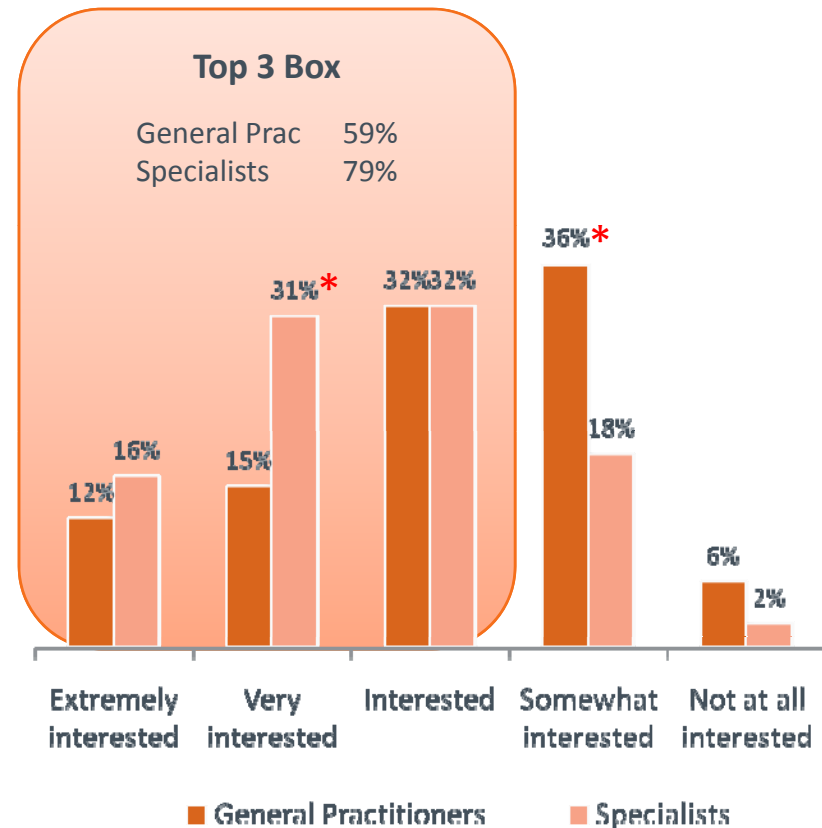
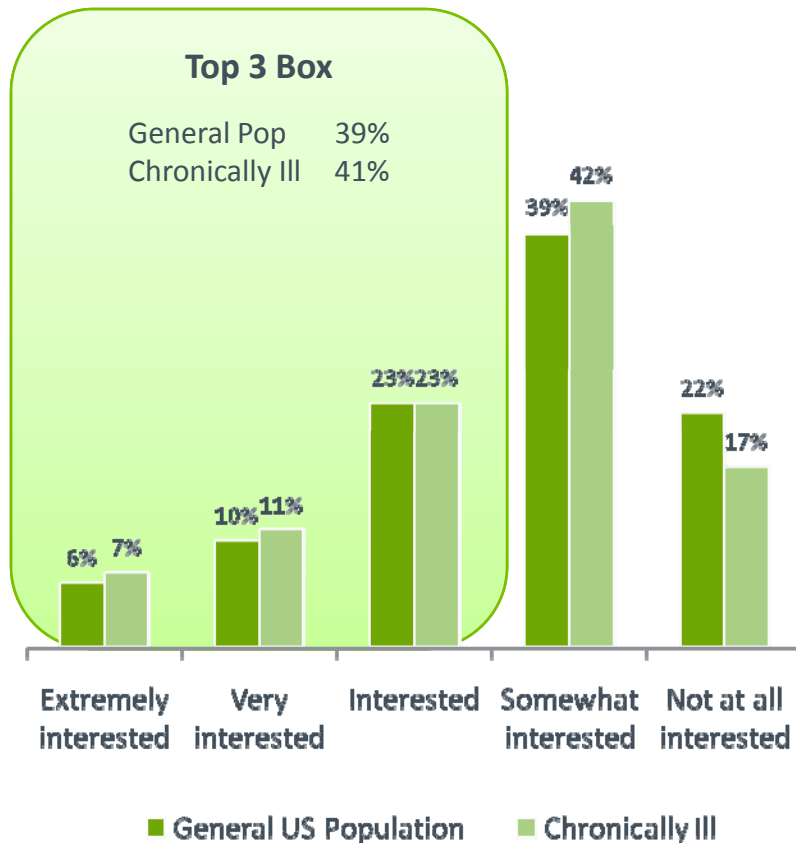
Q805 What level of familiarity do you have of Mobile Healthcare?
 (Respondents aware of mobile healthcare: base n=1225)

Consumers and Physicians are intrigued by mobile healthcare

Almost 80% of specialists want to learn more

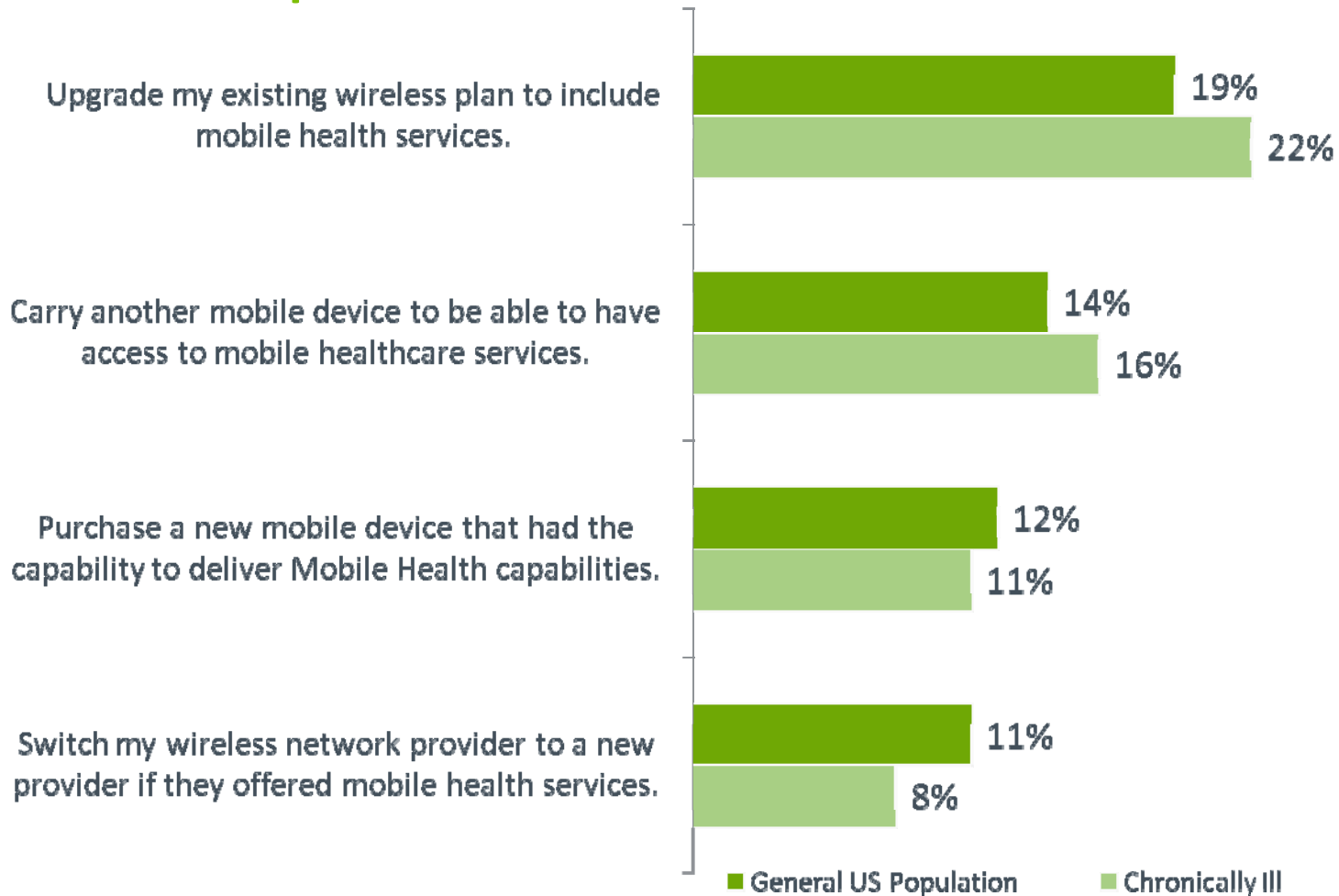
General US Population vs. Chronically Ill

General Practitioners vs. Specialists



Q910 Based on this description of Mobile Healthcare, how interested are you in learning more about it? (All respondents: base n=3473)

Compelling mobile healthcare applications may influence consumer choice of mobile provider or device



Q860 Based on what you now know about Mobile Healthcare, which of the following statements apply to you?
(All General US Population : base n=3229)

What people like and dislike about the concept of Mobile Healthcare

General Population

What They Like ...

- + Convenient/Easy
- + Constant Monitoring
- + Fewer Doctor's Visits
- + Mobility
- + Saves time

What They Dislike ...

- Big Brother/Privacy Invasion
- Cost
- Having to Wear Device/Patch
- Accuracy/Reliability of Info
- Impersonal/No Face to Face

Physicians

What They Like ...

- + Constant Monitoring
- + Track Patients Between Visits
- + Easy to Use/Access
- + Reminds Patients
- + Get Patients Involved

What They Dislike ...

- Cost/Reimbursement
- Impersonal/No Face to Face
- Accuracy/Reliability of Info
- Creates More Work
- Fewer Patient Visits

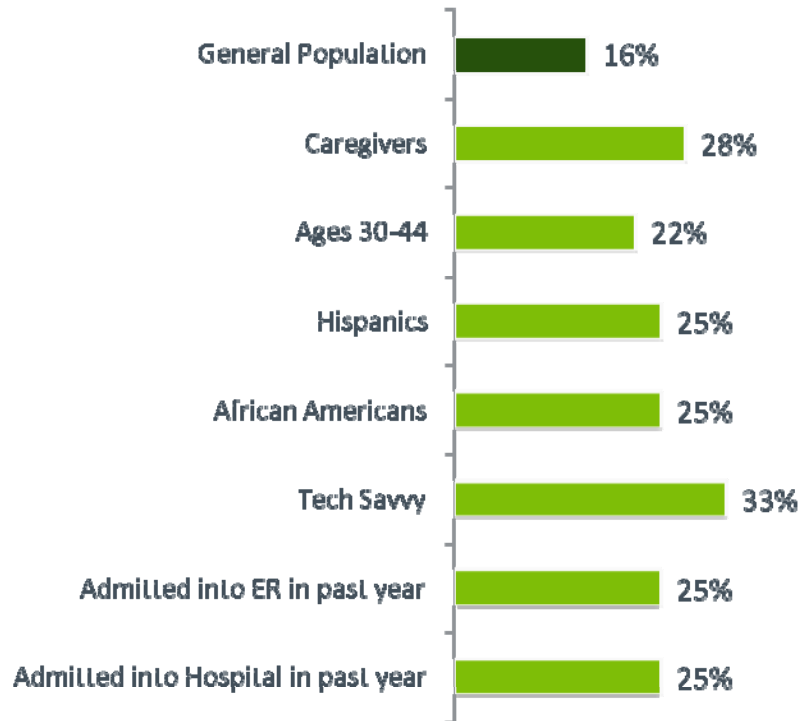
Q817/Q819 Based on your current understanding what do you like most/least about the concept of Mobile Healthcare?

Diverse pockets of the population show potential

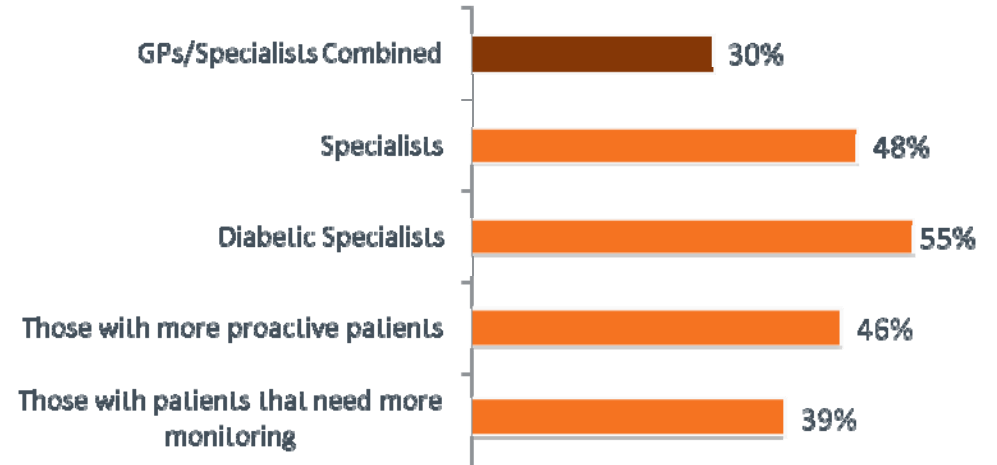
Groups Most Interested In Mobile Healthcare

(Top 2 Box: Extremely/Very Interested)

General US Population

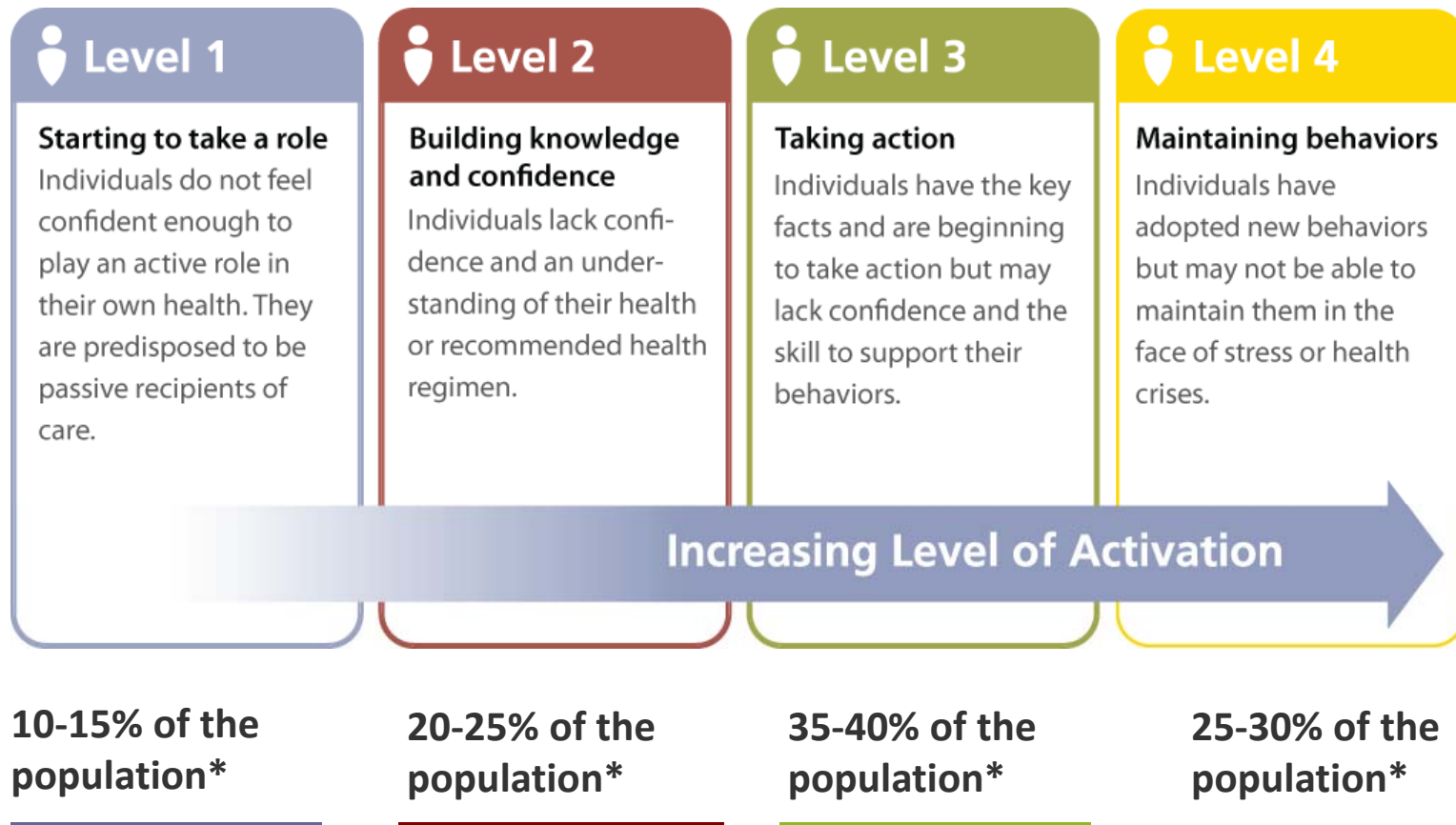


Physicians



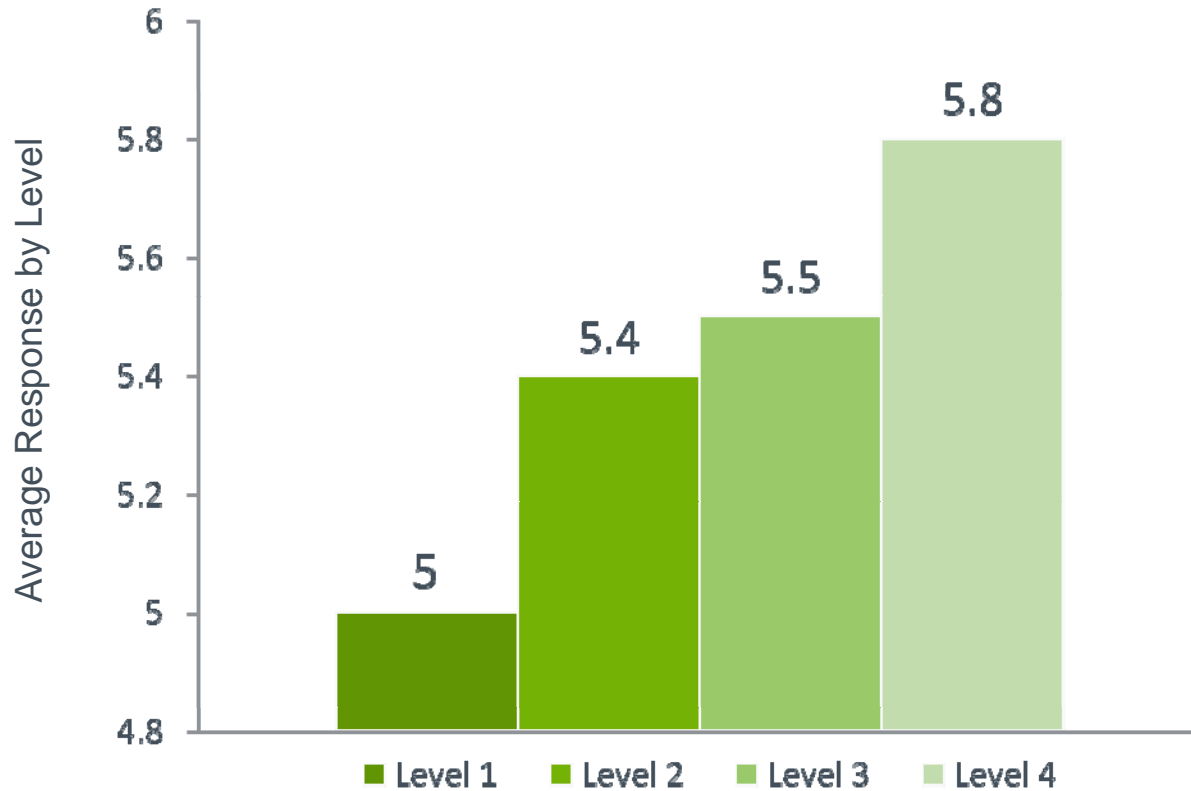
Q910 Based on this description of Mobile Healthcare, how interested are you in learning more about it? (All respondents: base n=3473)

Patient Activation Measure defines four basic segments of 'activation' or self-management competency



* Medicaid and Medicare populations skew lower in activation

Patient Activation is strongly associated with interest in mobile healthcare



Indicate how interested you would be in finding out more about the service (Mobile Exams & Consultations) for your patients/yourself/someone else (e.g. relative or loved one) (1-10 scale)

General Population, n=2,912



Attitudes Toward Mobile Healthcare

- Where do consumers see the real value in Mobile Healthcare?
- Who will mobile healthcare help most?
- What is the physician's viewpoint on value?

Consumers see mobile healthcare offering security and convenience

Top Attributes	Absolutely/Very Necessary	“Implied Benefits”
Allow for more home based care	68%	Control and options
Make the patient feel like they are always being watched	57%	Greater security
Offer a measure of safety for patients or their friends/family	57%	Safety and connectivity
Give patients peace of mind	54%	Filling gaps in traditional care
Enable patients to manage their own care	54%	Control and Independence
Make medical care easier to obtain	51%	Convenience
Give patients more freedom and choices	51%	More options
Help the environment by limiting travel for doctor visits	45%	Greener planet, greener wallet
Improve the overall health and quality of life for everyone	39%	Less Burden on family
Improve my overall health and quality of life	37%	Healthcare my way
Reduce the cost of healthcare and insurance premiums	33%	Efficiency means savings
Improve the personal relationship patients have with their doctor(s)	25%	Better communication

Q935 Please indicate your level of agreement with each of the following statements
(Non-Chronically Ill General US Population: base n=2899)

Mobile healthcare is seen as increasing access to care, at home and while traveling

General US Population

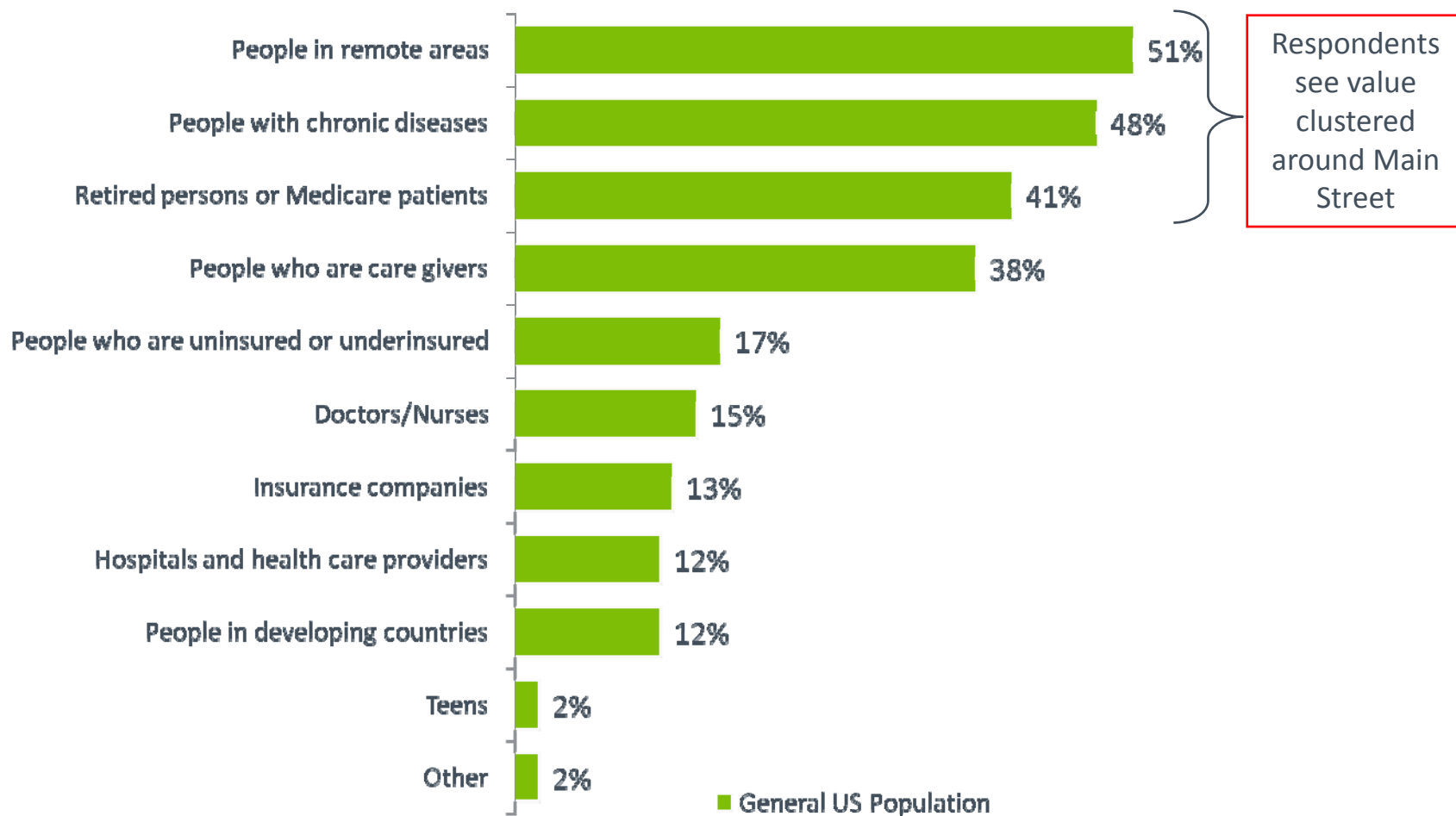
Top 2 Box
Excellent/Good



Q825 Based on your current understanding, how well do you think mobile medical services would rate on providing each of the following benefits.

*Data collected from a study run in September 2009. (n=2334)

Consumers see Mobile Health helping people like themselves



Q850 Which, if any, of the following types or groups of people do you feel will be most helped by Mobile Healthcare?
 (All General US Population: base n=3229)

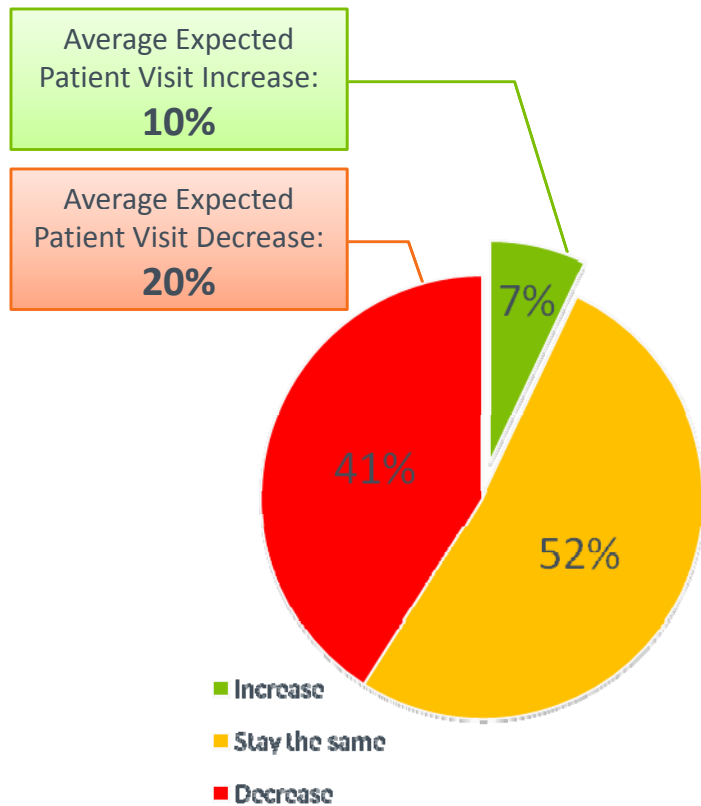
Physicians see mobile healthcare as a way to increase efficiency while benefiting patients

Top Attributes	Absolutely/Very Necessary		Implied Benefits
	General Practitioners	Specialists	
Allow for more home based care	78%	86%	Less burden on facilities
Reduce the number of office visits necessary for some patients	72%	73%	Reduce workload
Offer a measure of safety for patients or their friends/family	64%	73%	A safety net for me
Give patients peace of mind	63%	68%	Reduce needless calls/visits
Give patients more freedom and choices	56%	55%	Choice is good for all
Enable patients to manage their own care	56%	68%	Mobile tools create power
Improve the overall health and quality of life for my patients	50%	65%	Being part of real medical advancement
Make medical care easier to obtain	43%	54%	Doctor/patient partnering
Improve the overall health and quality of life for everyone	42%	46%	More patient quality time
Improve the personal relationship patients have with their doctor(s)	40%	46%	Create new trust levels
Help the environment by limiting travel for doctor visits	33%	44%	Less office hours
Reduce the cost of healthcare and insurance premiums	23%	27%	A win/win for all

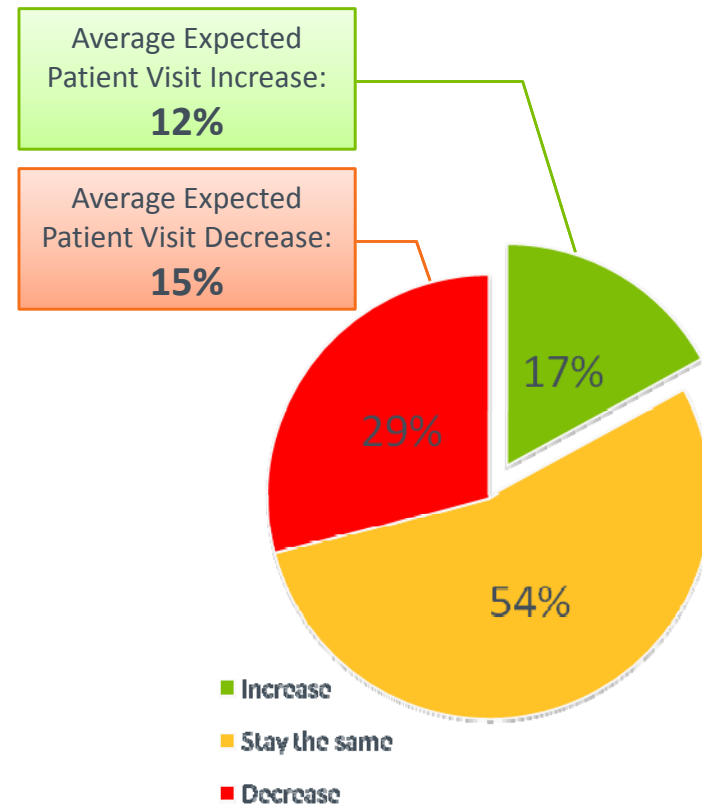
Q935 Please indicate your level of agreement with each of the following statements.
 (All General Practitioner: base n=115 – All Specialists: base n=129)

Physicians anticipate a net decrease in patient visits due to mobile healthcare technology adoption

General Practitioners



Specialists



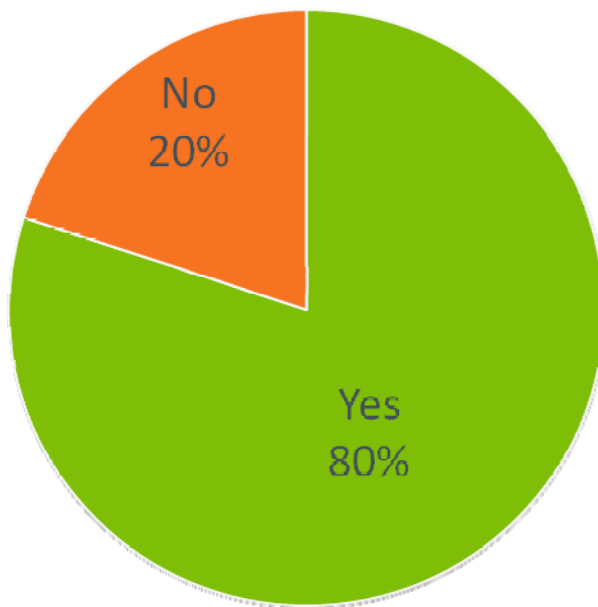
Q920 With Mobile Healthcare, do you think the total number of patients visiting your office each week will decrease, stay the same, or increase?

Q922 By what percent would you expect Mobile Healthcare to decrease/increase the number of patients you see each week?
(All Physicians: base n=244)

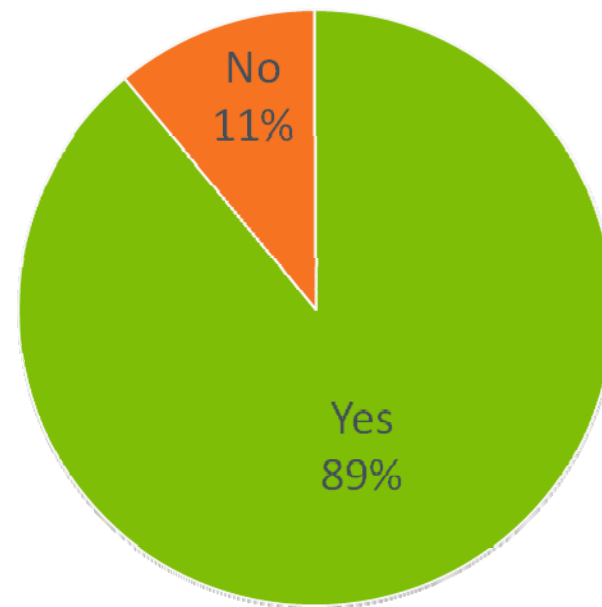
Doctors support continued Mobile Healthcare investment

8 in 10 doctors and nearly 9 in 10 Specialists support investments to drive Mobile Healthcare

General Practitioners

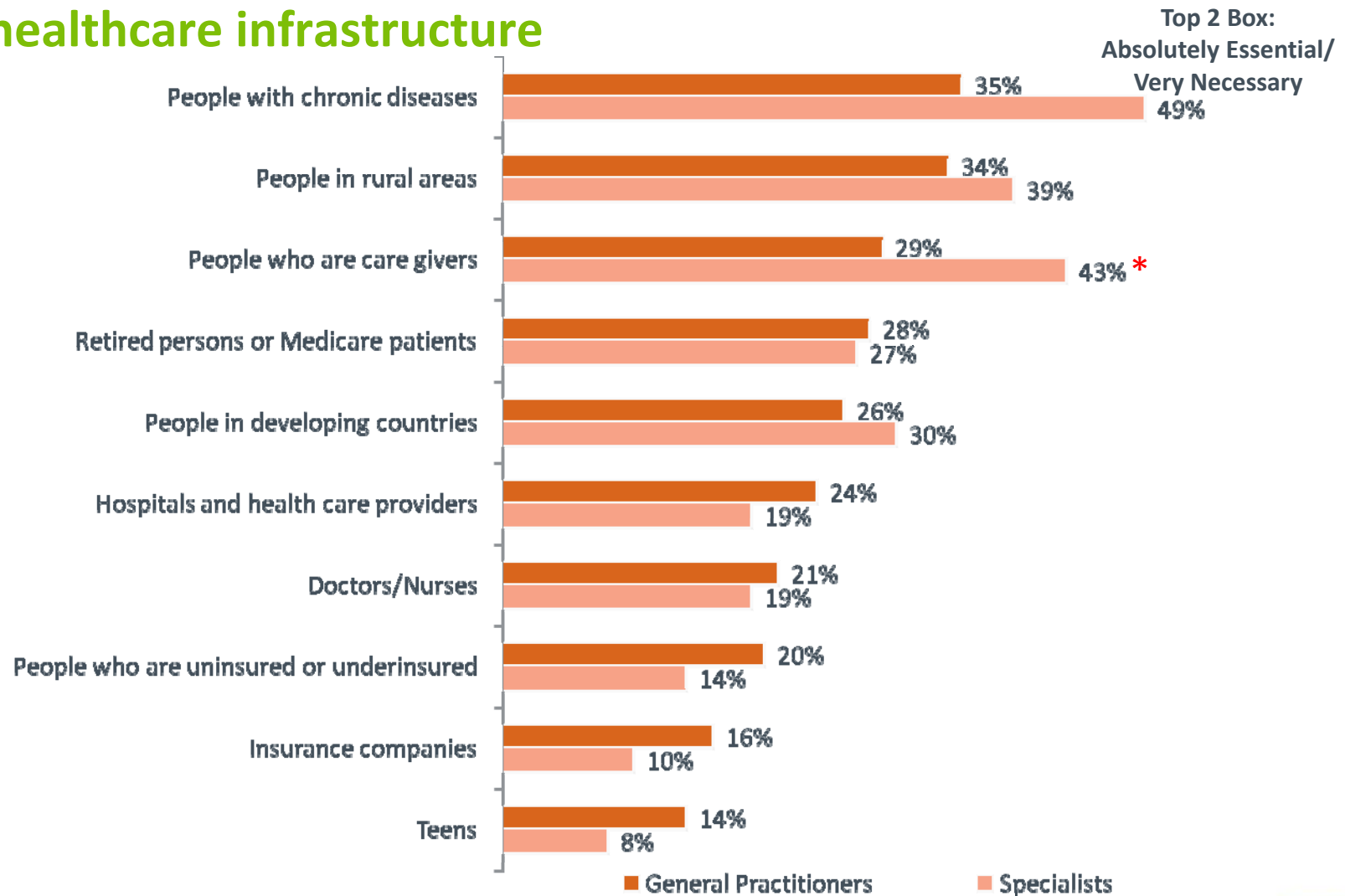


Specialists



Q950 Do you support the continued investment in developing Mobile Healthcare
(All Physicians: base n=244)

Doctors, and especially specialists, see broad value for patients and healthcare infrastructure



Q940 Please indicate how necessary you feel Mobile Healthcare is in improving the quality of care for each of the following individuals. (All Physician: base n=244)



Mobile Healthcare Concepts

- Examine nine Mobile Healthcare concepts in detail
- Which ones should be in your business plan?

Mobile Healthcare Concepts Tested

A wide array from relatively simple to complex

- **Mobile Medical Reminder** - A short message (text messages/SMS) sent to a patient's mobile device **with reminders**. These reminders could be for an upcoming doctor's appointment, taking medication, immunization updates, refill prescriptions, etc.
- **Mobile Monitoring** - A small patch worn on the skin capable of wirelessly linking to a patient's mobile device. The patch could **monitor heart rate, EKG, respiration, and blood pressure**. This information would allow the patient to manage their therapies as well as wirelessly transmit information to doctors or a monitoring station to keep them up to date.



Mobile Healthcare Concepts Tested

A wide array from relatively simple to complex

- **Mobile Monitoring of Elderly** - A small patch worn on the skin capable of wirelessly linking to a patient's mobile device. The mobile device would precisely track the location of the wearer and would be able to tell if the person was standing, sitting, lying down, or fell down. This could be used to monitor elderly patients, those with dementia or Alzheimer's and related illnesses. Alerts would be sent to doctors or caregivers if the patient left a designated area or experienced a fall or other medical emergency. Monitoring of some vital signs could also be incorporated.
- **Mobile Medicine/Administration** - Via a patch on the skin linked to a mobile device a patient could manage their therapy as well as transmit information to a physician (such as blood pressure, heart rate, respiration, etc.). If levels indicated that a change in medication was necessary an alert would be sent to the patient or care giver. Medication could also be administered remotely by a doctor. The medication would be activated by a mobile signal and absorbed into the patient's skin (smart bandage/patch). This service could help diabetics monitor insulin, cardiac patients monitor blood levels and avert heart attacks, or monitor children with critical medication needs.



Mobile Healthcare Concepts Tested

A wide array from relatively simple to complex

- **Mobile Skin Screening** - If an individual discovered a potential skin irregularity, they could **use the camera in their medical device to take a photo and send it to a doctor/specialist** who would provide professional screening and possible follow up action.
- **Infant Monitoring** - Mobile sensor that could include **video, sound, and motion detection to monitor infants and give direct information to parents or caregivers.** Similar to short range baby monitors today but use the mobile network. Advanced sensors **could also monitor respiration rates and heart rate** to help with sleeping disorders.
- **Mobile Exams and Consultations** - A video link with the mobile device could provide a virtual doctor's visit with a physician or a specialist, enabling evaluation of specific conditions. Additional sensors to transmit **blood chemistry, EKG and respiration** could also be evaluated in **real time.** These virtual doctor visits could supplement regular checkups or monitor specific conditions.



Mobile Healthcare Concepts Tested

A wide array from relatively simple to complex

- **Mobile Care in Remote Areas** – Many locations have sparse medical resources. Even going on vacation to remote locations and foreign countries raises concerns. **This service would provide a degree of mobile monitoring and access to familiar healthcare personnel and facilities.** This service could also be purchased for short amounts of time based on length of stay or special circumstances.
- **Mobile Wellness Care** - A mobile device can become a personal trainer and coach, monitoring exercise routines and designing custom workouts to meet fitness levels and goals. The device would track diet and nutrition and also incorporate social networking sites. The mobile device could **download progress reports to doctors, physical therapists or health clubs.**



Mobile exams, monitoring, and wellness care are the most appealing concepts

Relative Appeal of Concepts
Index Scores

	US Gen Pop (Self Use)	US Gen Pop (Someone Else)	Chronically Ill	General Practitioners	Physician Specialists
Mobile Exams and Consultations	144 #1	138 #1	168 #1	116	128
Mobile Wellness Care	137	121	130	123	125
Mobile Monitoring	113	116	127	143	186 #1
Mobile Monitoring of Elderly	112	134	123	151 #1	107
Mobile Medical Reminder	100	101	91	120	131
Mobile Medicine/Administration	88	90	98	92	127
Mobile Care in Remote Areas	87	82	73	94	68
Mobile Skin Screening	68	58	61	34	15
Infant Monitoring	52	60	30	27	13

Key	
> 99	Strong Performers
75 – 99	Good Performers
< 75	Secondary Concept

Q1002-Q1010 Concepts displayed throughout these questions

Doctors and Consumer in their own words

Specialist – Mobile Wellness Care -*In my field, diabetes, obesity, and exercise are major concerns that need to be addressed continually not just during office visits! Many patients are well-intentioned but poorly compliant; this would an additional degree of motivation.*

General Practitioner – Monitor *Elderly*-*Because they can't easily or impossible to come to my office!!!!!!*

Consumer Self – Mobile Monitoring -*I like the fact that I could be monitored 24/7 and feel like if something went wrong they could catch it in time*

Consumer Self– Chronically Ill – Mobile Monitoring -*Big brother has his fingers on my pulse and wants to tell me what do.*

Consumer – Chronically Ill- *Southern Arizonaparticularly the rural area .. is desperately underserved for health care. It takes 3 months to get an appt with my primary care doctor six months or more with a specialist. Often I forego medical care rather than go to urgent care or the ER but if I could consult with a doctor for mobile exam or consultation that would be an immense help. ...*



Conclusions and Implications

- 1. Mobile Healthcare's future looks bright based on this study**
 - Consumers and Doctors show high interest
 - Plenty of potential "hot" segments to explore
 - Most Mobile Healthcare concepts tested score highly
 - Consumers see solid benefits that directly impact their lifestyles while physicians see value for their patients and their practice
- 2. Macro market conditions are favorable for Mobile Healthcare to flourish**
 - an aging population with increasing needs that Mobile healthcare can fill
 - lifestyles that demand more choices, freedoms and options for care
 - medical / insurance infrastructure that needs efficiencies and new options
- 3. Mobile Healthcare means opportunity**
 - today's findings should help you ask better questions
 - winning solutions will be based on solid market insights

Thanks for Attending!

Q&A

Copies of our report are FREE
Please see us or visit our website (harrisinteractive.com)

Need more details on how your business is impacted?
Let us slice the data for you and discuss implications

Contact our thought leaders to discuss the results in more detail.

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