CLINIC
20XX

DESIGNING FOR AN EVER-CHANGING PRESENT
A COVID ERA STUDY

REVISITING THE CHANGE-READY CLINIC, CLINIC 20XX, IN THE COVID-19 ERA

Crystal balls are tricky. Trying to predict the future is tricky. And trying to design facilities, based on a predicted future, is perhaps the trickiest of all.

Back in 2015, along with our colleagues at JE Dunn, Center for Advanced Design Research and Evaluation (CADRE) conducted a study on how we design outpatient clinics, not for a faceless future, but for an ever-changing present. We called this Clinic 20XX [see original report here]. It was a prompt that would prove prescient in 2020.

Five years later, just as we were getting ready for a refresh of our research, COVID-19 struck. On the heels of the pandemic, we repeated our surveys with 330 patients (January 2021) and 103 physicians (May 2020) from internal and family medicine (similar to our original survey). In 2015 we had studied Baby Boomers and Millennials, but in 2021 we added Gen Xers to our panel survey.

As we wrote this report in the end of 2021, we had a chance to further observe how the world of primary care had changed, in large part due to the pandemic. Furthermore, the pandemic brought into sharp relief some of the systemic issues that were underpinning our challenges in healthcare. The lived experiment of the pandemic has once again reinforced the need for change-ready facilities.

In this report we call out nine key drivers of changes in primary care: system reform, technology acceleration, patient expectations, staffing challenges, advances in the field of medicine, climate change, infectious disease breakouts, challenges with health equity and caregiver burnout.

In response to these nine drivers, we identified eight key trends: telehealth (perhaps the trend that saw the biggest booster shot after COVID-19), mobile health, care coordination, population health, retail health, entry of new players in the health market (especially amongst technology and retail giants), a renewed focus on wellness, and a push to home health.

Our survey responses validated the trends. We found some key differences (and surprising similarities) between different generations. Baby Boomers and Millennials were very different in how they see the phone as a portal to access health services, or appetite for virtual care. On the other hand, on most other issues, including the top three considerations (convenience, cost, and cleanliness) they were extremely aligned. Gen Xers were likely to align with Millennials more often than Boomers and might well be the most demanding generation yet. Overall, we found that it is important to excel at the basics, navigate both cloudprint and footprint experiences seamlessly, and position clinics to be the foundation of a lifelong relationship with patients.

Our hope with this report is to give a starting point to our design communities to really think about change-ready clinics in a systemic, agile, and community-centered way. Primary care has never been more important, and clinics are our portals to better quality primary care, which in turn can result in better (and equitable) health outcomes.

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INTRODUCTION: A QUICK LOOK AT PRIMARY CARE

HEALTH CARE SYSTEM PERFORMANCE: AN INTERNATIONAL COMPARISON (2014)

	Quality of Care	Equity	Efficiency	Healthy Lives	Access
Ranking Criteria					

Information Source: Commonwealth Fund [1]
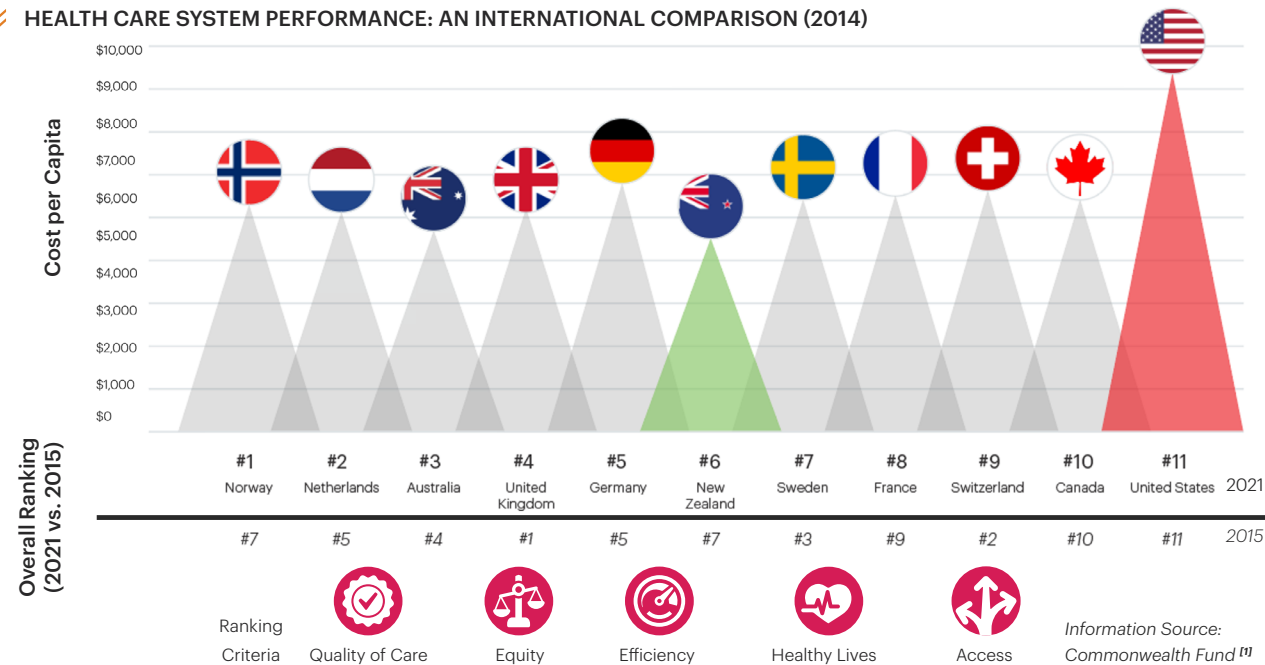
Rising Healthcare Costs

The rising healthcare cost in the United States (U.S.) has been an ongoing concern for policy makers, healthcare providers, and patients. In a 2014 Commonwealth report, the U.S. spent the most on healthcare, compared to 10 other developed countries, while the quality of care was rated among the lowest.[1] When this study was repeated in 2021, [2] our ranking as a country had not changed. Meanwhile countries like Norway and Netherlands had moved significantly higher in ranking on key indicators: quality of care, equity, efficiency, healthy lives and access.

PROJECTED PHYSICIAN SHORTAGE BY 2033

Primary Care Physicians

21,400 - 55,200

Non-Primary Care Specialty Physicians
(Surgical, Medical, & Other Specialties Categories)

33,700 - 86,700

The Complexities of Physician Supply and Demand: Projections from 2018 - 2033. Association of American Medical Colleges (AAMC) [6]

This finding, and many previous reports on escalating healthcare costs, has brought about an urgency for healthcare organizations, patient advocates, and policy makers to change healthcare and bring about systemic and system-wide reform. Needless to say, the ripple effect of the need for systemic change has been felt in the design and construction industry as well.

The challenges with COVID-19, the rising burnout in our health workers, and the fundamental issues with public health bring onto sharp relief the future (and present) of outpatient care today.

"THE GAP BETWEEN THE COUNTRY'S INCREASING HEALTH CARE DEMANDS AND THE SUPPLY OF DOCTORS TO ADEQUATELY RESPOND HAS BECOME MORE EVIDENT AS WE CONTINUE TO COMBAT THE COVID-19 PANDEMIC."

– David J. Skorton, MD, AAMC President and CEO [5]

PROJECTED OUTPATIENT AND INPATIENT GROWTH

+21%
Projected Outpatient Growth (10 years)

-0.5%
Projected Inpatient Growth (10 years)

Advisory Board Market Scenario Planner (2021) [3]

GROSS OUTPATIENT AND INPATIENT REVENUE PERCENT

Year	Gross Outpatient Revenue Percent	Gross Inpatient Revenue Percent
2018	49%	51%
2017	49%	51%
2016	48%	52%
2015	47%	53%
2014	46%	54%
2013	45%	55%
2012	44%	56%
2011	43%	57%
2010	42%	58%
2009	41%	59%
2008	40%	60%
2007	38%	62%
2006	38%	62%
2005	37%	63%
2004	36%	64%
2003	35%	65%
2002	35%	65%
2001	35%	65%
2000	35%	65%
1999	35%	65%
1998	33%	67%
1997	33%	67%
1996	31%	69%
1995	30%	70%

Data from American Hospital Association Annual Survey (2018) [4]

The Rise in Outpatient Care

According to the Advisory Board Market Scenario Planners, we will see a 21 percent increase in outpatient services over the next ten years while there will be a 0.5 percent decrease in inpatient growth.[3] There is no doubt the healthcare landscape is shifting, and that one of the manifestations of this shift is the growth in ambulatory care.

However, this growth has not been as exponential as was projected in the past decade. A sharp decrease in inpatient services was also projected, which has not been witnessed to date. It seems that for the next few years we will see a growth in both inpatient and outpatient, with a more rapid growth trajectory on the outpatient side.

Given the rise in outpatient care and associated building construction, the architecture, engineering, and construction industry is quickly assessing how it can respond to the shifting landscape. Many ambulatory care of the future clinic reports are out there, and each provides a valuable insight for the industry. But what does designing for the future really mean? Many of our assumptions on "future of clinics" were upended during COVID-19. New questions were asked that had not been on the radar. As we navigate the experiment we are in, while juggling hyperconnectivity, personalized medicine, and wellness initiatives on one end and changing health management systems and insurance and reimbursement models on the other, what role do clinics play, and how will our facilities accommodate these roles? Will clinics be larger or smaller, more specialized or diversified? There is an urgent need to investigate the changing expectations for clinics and how the facility design community can position itself for a timely response. To do so we have to start by identifying the drivers of this change.

DRIVERS

In addition to the five drivers identified in 2015 that are still relevant today (system reform, technology, the new patient, the provider, and the field), four new drivers were identified in 2021 (climate change, burnout, infectious diseases, and health equity) as an impetus to the changes we see in primary care today.

The factors driving change are myriad and complex, but at the core reflect what we need to live a quality life.

SYSTEM REFORM
More Access, More Accountability

Following the landmark legislation of the patient protection and affordable care act, there has been a shift to value-based care, accountable care organizations, competitive health insurance marketplace, and patient-centered medical homes. Despite the continued increase in the cost of care, reimbursement levels continue to diminish - a challenging dichotomy in healthcare payment economics.

TECHNOLOGY
Boom, Big Data, Advancements

Perhaps the biggest driver of change, and one impossible to summarize, is technology. From cloud-based computing, internet of things, and artificial intelligence, to robotics and nanomedicine, technology has altered the fabric of how health is studied, delivered, and disrupted.

THE NEW PATIENT
Changing Expectations, Chronic Conditions

Despite the advances in medical science, the health of the average American is not improving. Living longer is not necessarily living healthier, and a rise in complex conditions and comorbidities among a rapidly aging population is evident. Combined with consumer expectations, this poses a unique challenge for primary care.

CLIMATE CHANGE
Respiratory Diseases, Catastrophic Events

There is no denying that long-term shifts in temperatures and weather patterns are occurring and buildings are a significant contributor of those shifts. Moreover, increases in air and water pollution are attributed to both respiratory infections and aggravation of respiratory diseases, making climate change a fundamental health issue. The health effects of these shifts include respiratory and cardiovascular disease, injuries and premature deaths related to extreme weather events, water-borne illness, other infectious diseases, and threats to mental health.[7]

BURNOUT
Staff Burnout and Retention, Mental Health

Healthcare worker burnout is at an all-time high, especially in primary care physicians, nurses, and care team, attributed in large part to the unique stresses of the last two years including unprecedented financial strain. Supporting the mental health of primary care teams and reducing job-related stress is a key driver of change.

THE PROVIDER
Staffing Challenges, Team-Base Care

The overall shortage of health workers, combined with the disproportionate shortage of primary care physicians, poses a unique threat and a driver of many trends we see in the outpatient and primary care landscape. COVID-19 has accelerated this challenge, making it even more acute. At the same time, there has been a growth in team-based care which is changing the composition of the care teams and the reliance on the physician.

THE FIELD
Precise and Personalized Medicine

The field of medicine has been disrupted fundamentally with the advent of new and nuanced technology and data sciences. The most fundamental shift is the ability to move away from a one-size fits all disease-centered approach to a personalized, precise, and predictive person-centered approach.

INFECTIOUS DISEASES
Global Outbreaks

The growth in global connectivity (coupled with the rapid changes in demographics), climate, and technology have ushered an era of infectious disease outbreaks at unprecedented scales, despite significant improvements in sanitation and health. Preparing for outbreaks is a foundational driver for health today.

HEALTH EQUITY
**Access to Care, Treatment Availability, Outcome**

The disproportionate impact of COVID-19 on various socio-economic groups, coupled with an increased sensitivity to equity with the political events of the last two years, make health equity (in terms of access to quality care) a fundamental driver of primary care today.

TRENDS

In addition to the five trends identified in 2015 that are still relevant today (telehealth, coordinated health, population health, retail health, and mhealth), three new trends were identified in 2021 (new players in market, wellness, and home health) in response to the drivers of change in primary care today.

The challenge of the next decade is not in what we can do, but rather, what reimbursements and regulations will allow us to do.

⌄ THE EXPANDING CARE CONTINUUM
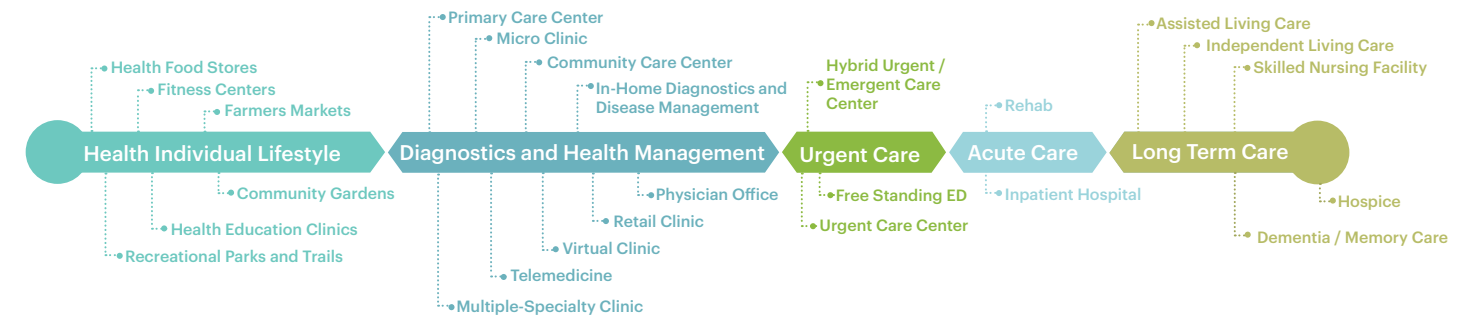
Clinic 20XX: Designing for An Ever-Changing Present. Center for Advanced Design Research and Evaluation (CADRE). (2015) [8]

TELEHEALTH
Remote Access

Catapulted to unprecedented use during the pandemic, telehealth will continue to play an increasingly important role in outpatient and primary care to help meet growing patient demands and healthcare worker shortages. Balancing telehealth's potential benefits of making care more accessible to a greater number of people, more efficient, better coordinated, and closer to home with the risks of fragmented and disproportionate care will continue to be top of mind for health systems moving forward.

COORDINATED HEALTH
Patients, Providers, and Systems

A frequent criticism directed at the U.S. Health System is the lack of coordination between its different parts. Care coordination involves organizing patient care and information sharing among all of the participants concerned with a patient's care to be both safer, and more effective. Given caregiver burnout and caregiver shortage; we are on the cusp of, this coordination is even more critical. This has resulted in new roles such as the nurse practitioner, patient navigator, social worker, health coach, pharmacist, and behavioral therapist, etc. becoming part of the primary care network working with integrated tech platforms to provide seamless coordination.

mHEALTH
Health at Hand

mHealth, or Mobile Health, can be broadly understood as the ecosystem of apps, devices, and other digital connections that allow the user to be mobile, or reach out in a variety of ways for their health needs. The mhealth market is poised to exponentially rise in the next decade, in large part due to the increasing deployment of wearable technologies, pandemic accelerated telehealth access and reliance on digital portals to health, and the entry of large technology giants into the field of primary care.

NEW PLAYERS IN MARKET
Empowering Customers, Removing Traditional Barriers

New entrants from outside the traditional healthcare industry, like Apple, Google, and Amazon, are redefining primary care. These disruptors are bringing customer-centric, innovative business and care models to provide more affordable, convenient care options focused on health and wellness. Next generation primary care startups are leading the evolution by leveraging value-based care and payment models, in addition to advanced technologies, to address long-standing challenges and meet changing customer expectations.

POPULATION HEALTH
Community-based Whole Health

The COVID-19 Pandemic has brought into the forefront, once again, the critical role of primary care to address population health concerns. Primary care physicians are often the first point of contact with health services and the health system, and their awareness of social, environmental and community determinants of health is critical. Increasingly large systems like Kaiser, Geisenger, Mayo Clinic, Promedica, Intermountain Healthcare etc. are making concerted efforts to improve community health through the primary care networks, to reduce healthcare cost, and increase health outcomes long-term.

RETAIL HEALTH
Demand Focused, Choice Based

Driven by growing shortages of primary care physicians and consumers' burgeoning demand for convenient, accessible, and affordable healthcare, retail health continues to play an increasingly visible and influential role in healthcare. Additionally, the convergence of retail giants, payers, and providers through mergers and acquisitions has positioned retail health as a key contributor to population-based health approaches.

WELLNESS
Focus on Exercise, Nutrition, Sleep, and Mental Health

Health has never been more of a product than it is today. In a growingly health-conscious society, consumers spend significantly to take care of their body and mind. In fact, the global health and wellness market is predicted to be worth more than six trillion U.S. dollars by 2025. [9] Wellness amenities are seen as the differentiating value proposition for many primary care clinics, with a potential shift in the role of the primary care team from a provider to a life-partner around health and wellness.

HOME HEALTH
Convenient Health Services at Home

At its foundation, home health is simply the ability to provide medical care in a patient's home. With the rapid acceleration of telehealth, an increasing aging population, and extreme advancements in medical technology, the need and the range of services that can be provided directly at home have only increased. Given the long-ranging effects of COVID-19, this demand (and corresponding supply) will only increase.

SURVEY

To understand the perspective of two key stakeholders—physicians and patients—online surveys were conducted with a nationwide panel.

Methodology

An unbiased, third-party independent vendor conducted both the patient and physician panel surveys. All surveys were sent to patients and physicians in the U.S. Respondents were directly compensated by the survey vendor upon the return of the completed survey to ensure that responses were extensive in both qualitative and quantitative information.

Patient Survey

Baby Boomers
1946-1964
(n=110)

Gen X
1965-1980
(n=110)

Millennials
1981-2000
(n=110)

The patient survey responses were evenly divided across three generations: Baby Boomers, Generation X, and Millennials. The sample (N = 330) included 33.3 percent each for Baby Boomers, Gen Xers and Millennials. The majority of Baby Boomers (73 percent) were female and 27 percent were male. For Gen Xers, 47 percent were female, while 53 percent were male. The majority of Millennials who participated in the survey were male (66 percent), while 32 percent were female and two percent identified as other.

Participants were also asked about the highest level of education attained. The findings showed that the majority of participants (56 percent) earned a higher education degree (Bachelors, Associate, Masters, Doctorate or Professional degree), 21 percent obtained a high school degree or equivalent, and 21 percent went to college but did not obtain a degree. Only two percent of patients surveyed earned less than a high school degree.

Physician Survey

FAMILY PRACTICE
(n=60)

INTERNAL MEDICINE
(n=43)

The physician survey responses were split between those in family practice and internal medicine, with a total of 103 responses. The sample included 58 percent family medicine and 42 percent internal medicine physicians. The majority of physicians, 60 percent, were employed and 40 percent were independent. Of those who participated in the survey, the majority, 76 percent, were male and 23 percent were female. The majority of participants, 77 percent, were between the ages of 46 and 65, with 15 percent 45 and younger and eight percent 66 and older. Also, the majority, 71 percent, were involved in primary care practice, while only seven percent were with an accountable care organization and six percent were part of patient-centered medical home.

Participants were also asked about their practice location and size. The findings showed that the majority of provider practices, 53 percent, were located in a suburban setting, with 33 percent located in urban and 14 percent located in rural settings. The findings also showed 19 percent of physicians were in solo practices, 46 percent in small (2-10 physicians), 22 percent in medium (11-50 physicians), and 13 percent in large (more than 50 physicians) sized practices. Additionally, the majority of physicians surveyed, 93 percent, had been using electronic medical records (EMRs) for a year or more, while only seven percent had not implemented an EMR system into their practice.

Quantitative analysis was conducted using Excel and SPSS software. Qualitative data was exported to Excel and analyzed via a thematic content analysis.

Patient Survey Demographics

This survey was sent to individuals who had a telehealth visit in the last nine months for primary care needs (we focused on telehealth as the primary visit type due to COVID-19). In addition to survey items pertaining to telehealth, participants were also asked questions about their experiences and preferences regarding in-person clinic visits.

Baby Boomers
1946-1964
(n=110)

Gen X
1965-1980
(n=110)

Millennials
1981-2000
(n=110)

42 Older Boomers 1946-1954	68 Younger Boomers 1955-1964	50 Older Gen X 1965-1974	60 Younger Gen X 1975-1980	79 Older Millennials 1981-1994	31 Younger Millennials 1995-2000

27% Male	73% Female	53% Male	47% Female	66% Male	32% Female	2% Other
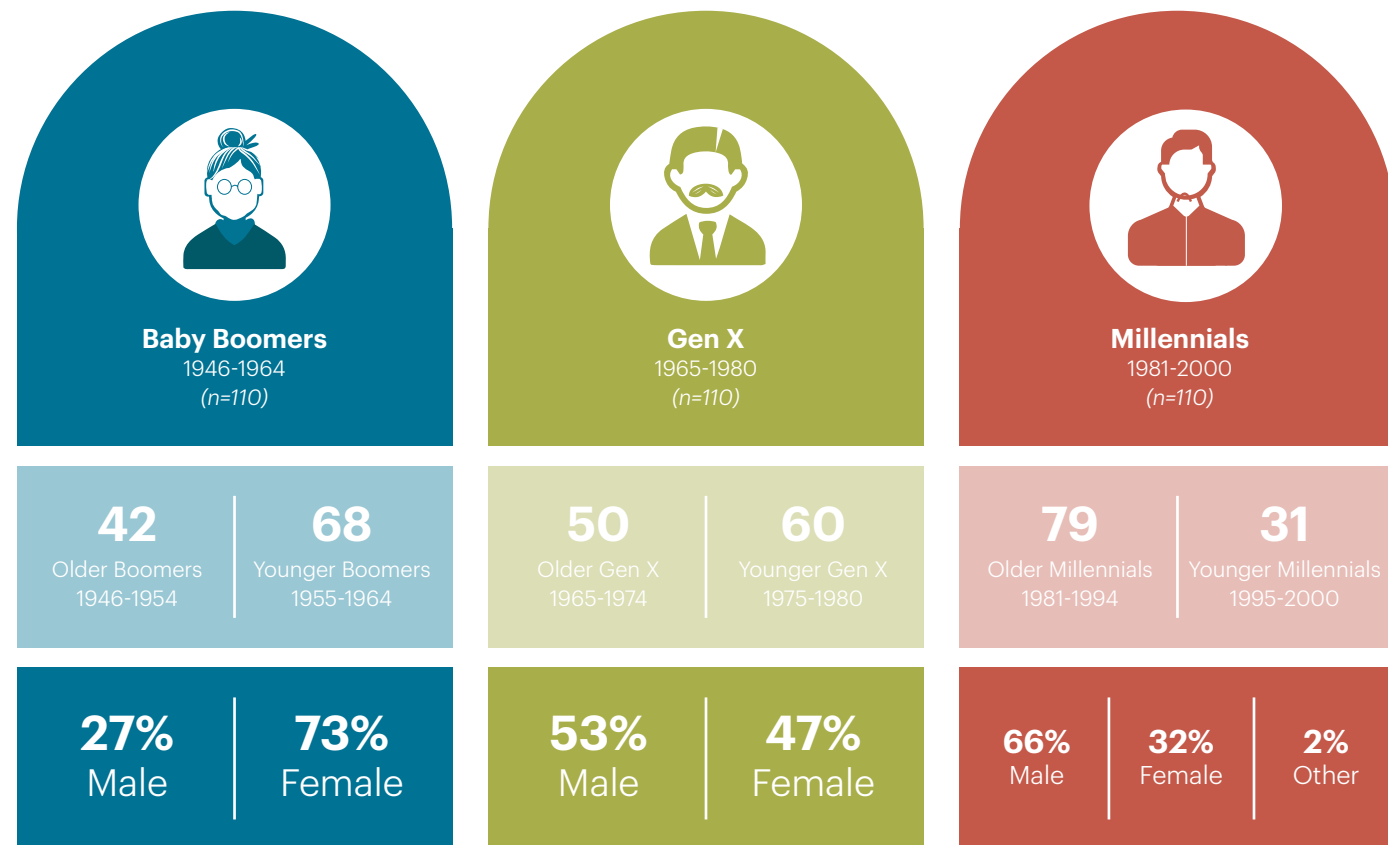
330 Patient Respondents

2% Less than a high school degree	21% Some college but no degree	21% High school degree or equivalent (e.g. GED)	56% Higher education

When was your last visit to your primary care clinic in-person?

LAST IN-PERSON CLINIC VISIT

	Past 18 Months	Past 12 Months	Past 6 Months	I don't have a primary care clinic	NA
Total	20%	24%	51%	4%	2%
Baby Boomers	16%	21%	56%	6%	0%
Gen X	23%	20%	52%	4%	2%
Millennials	20%	30%	45%	2%	4%

● Total ● Baby Boomers ● Gen X ● Millennials

Panel survey polling Baby Boomer (n=110), Gen X (n=110), and Millennial (n=110) patients.

PATIENT SATISFACTION BY GENERATION

Baby Boomers	Gen X	Millennials
4.48/5.00 Average Score	4.39/5.00 Average Score	4.45/5.00 Average Score
★★★★½	★★★★½	★★★★½

Respondents were asked when their last in-person visit to the clinic was from the survey deployment (Jan.-Mar. 2021). Overall, respondents started to return to the clinic in-person at the end of 2020, and at increased volumes compared to before to COVID-19 at the end 2019. Baby Boomers and Gen X returned at larger volumes than Millennials.

Four percent of respondents indicated they did not have a primary care clinic. Identification of a primary care clinic increased as generations passed with six percent of Baby Boomers not having a primary care clinic to two percent of Millennials.

As COVID-19 eased, patients began to return to the clinic for in-person visits at the end of 2020 through the beginning of 2021 at increased volumes.

How do different generations define themselves?
Baby Boomers vs. Gen X vs. Millennials

Much has been written about how Baby Boomers and Millennials are different, which we first explored in our original Clinic 20XX report. Here, we add Gen X to understand where they stand between the other two.

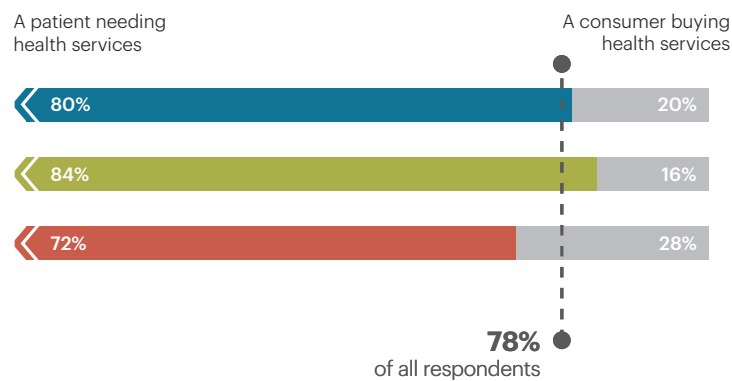To investigate how different the three generations were, we asked all respondents five fundamental questions on what best described them. These forced-choice questions compelled respondents to take a side on whether they thought of themselves as a patient needing health services or a consumer buying health services; whether having a good experience is important or if they were concerned with just having their health issues addressed; whether they trust in people or in information; whether their phone is just a means of communication or their smartphone is their lifeline and they would like to access services through it; and whether they were willing to share their data for continuity in care or if they would like it to stay private to their direct medical provider.
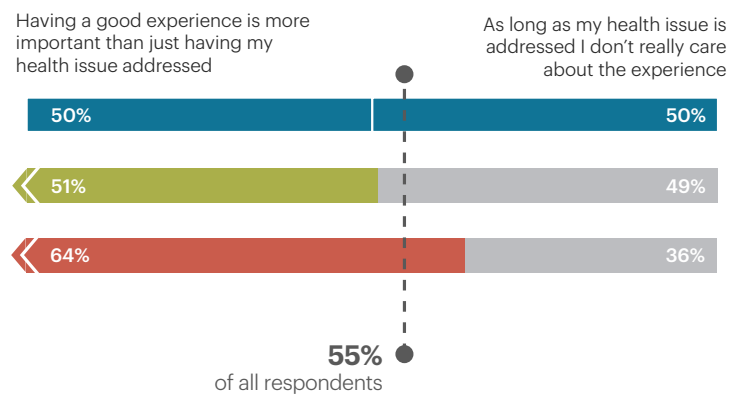
Baby Boomers   **Gen X**   **Millennials**

Patient vs. Consumer

A patient needing health services — A consumer buying health services

80%	20%
84%	16%
72%	28%

78% of all respondents

Patient, Not Consumer

We found that the majority of respondents thought of themselves as patients needing health services more than as consumers buying health services. This trend stayed true for Baby Boomers, Gen X, and Millennials. Millennials leaned most towards consumer and Gen X leaned least.

Experience vs. Service

Having a good experience is more important than just having my health issue addressed — As long as my health issue is addressed I don't really care about the experience

50%	50%
51%	49%
64%	36%

55% of all respondents

Experience AND Service

Having a good experience is more important to Millennials compared to the other generations. However, both having a good experience and having health issues addressed is important to all generations, especially for Baby Boomers and Gen X.
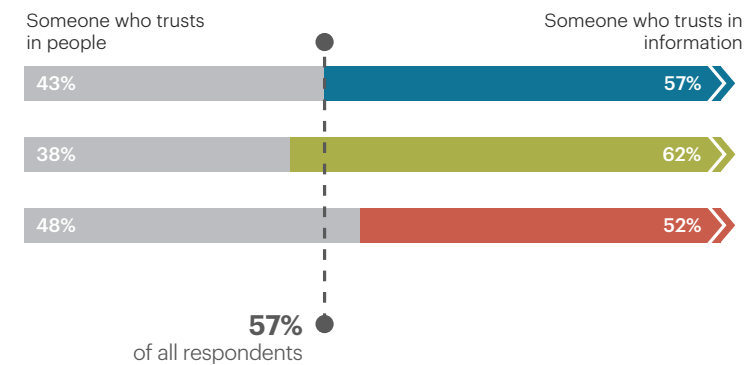
● Baby Boomers   ● Gen X   ● Millennials

People vs. Information

Someone who trusts in people — Someone who trusts in information

43%	57%
38%	62%
48%	52%

57% of all respondents
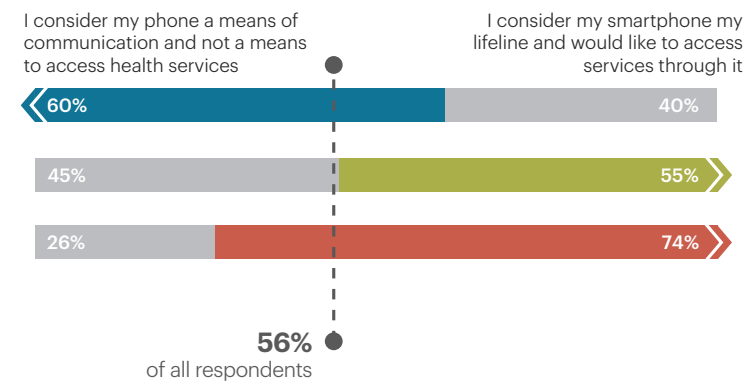
Trust in Information Over People

In the information era, the majority of respondents trust information more than people. This was especially true for Gen X, followed by Baby Boomers and lastly, Millennials who were largely split.

Phone vs. Portal

I consider my phone a means of communication and not a means to access health services — I consider my smartphone my lifeline and would like to access services through it

60%	40%
45%	55%
26%	74%

56% of all respondents

Shift to Phone as a Lifeline

With technological advances, and our increasing reliance during the COVID-19 pandemic, most people consider their phone a lifeline and would like to access health services through it. Baby Boomers consider their phones only a means of communication. In younger generations, the phone becomes more of a lifeline.

Data Sharing vs. Data Privacy

I am open to sharing my data for better care continuity even though I consider my data private — I do not want to share my data with anyone other than my direct medical provider

52%	48%
55%	45%
66%	34%

58% of all respondents
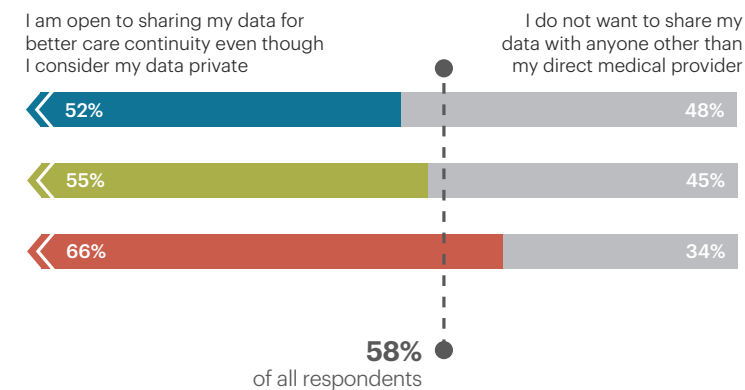
Data Sharing

We also found that the majority of respondents were open to sharing data for care continuity as opposed to those who only wanted to share with their direct medical provider. This was true for all generations, especially Millennials.

While there is a shift in generations to see themselves as a consumer 'buying' health services, the majority still see themselves as patients first.

Panel survey polling Baby Boomer (n=110), Gen X (n=110), and Millennial (n=110) patients.

What type of visits do patients want? How does this change with age?

To investigate differences between Baby Boomers, Gen X and Millennials, participants were asked three forced-choice questions. These questions compelled respondents to choose whether their expectations for healthcare delivery changed in 2020 or remained the same; if they would rather have a virtual visit for their primary care needs or an in-person visit, and if telehealth is an essential component of good healthcare experience or is only required in situations like the pandemic.

Virtual visit versus in-person visit

The majority of Baby Boomers (70 percent) and Gen Xers (55 percent) reported that given a choice they would rather have an in-person visit for their primary care needs vs. a virtual visit. Conversely, the majority of Millennials (58 percent) prefer a virtual visit over an in-person visit if given a choice.
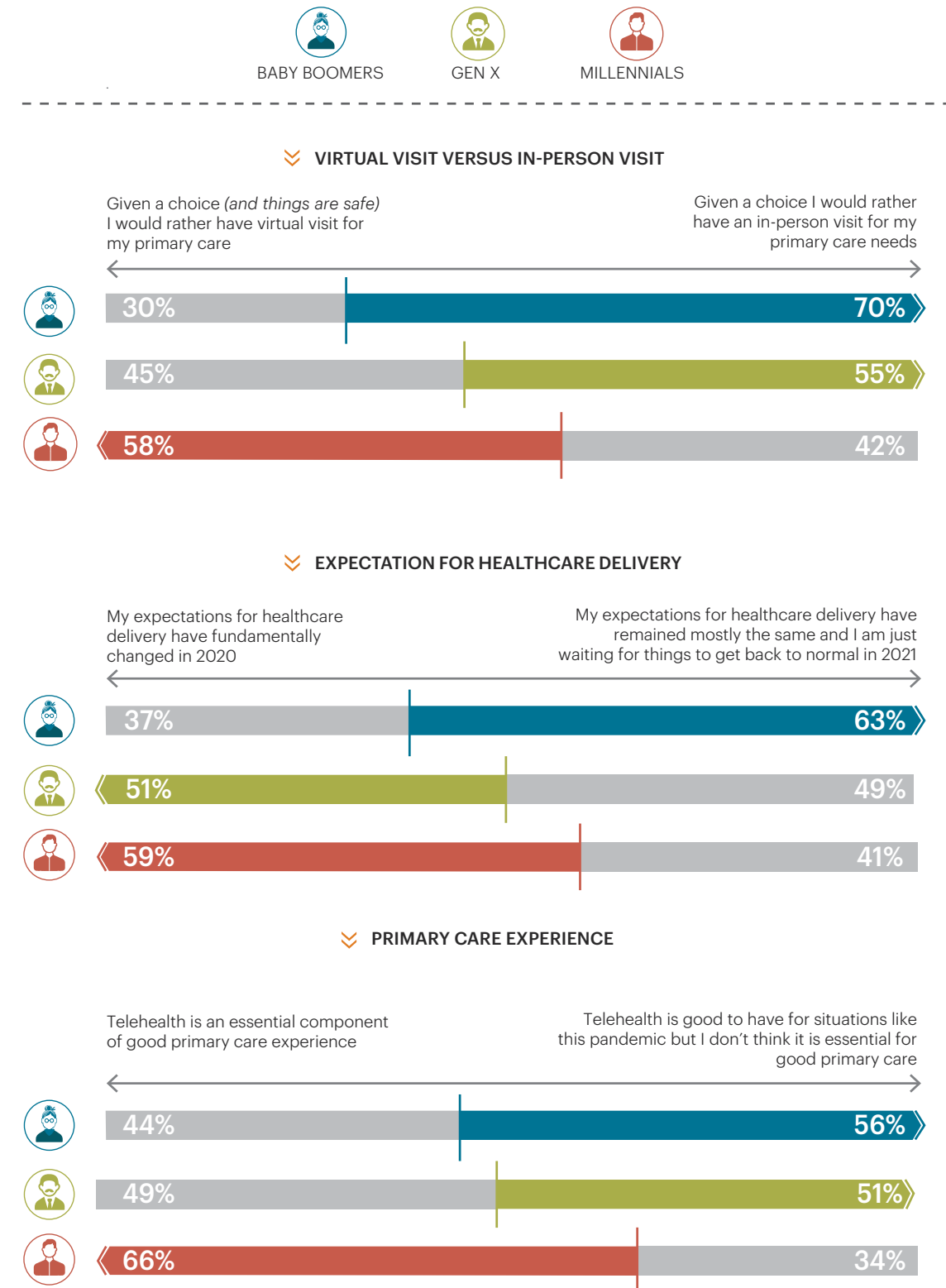
Expectations for healthcare delivery

For the majority of Baby Boomers (63 percent), their expectations for healthcare delivery have remained the same, with the hope of getting back to normal in 2021, whereas 37 percent reported that their expectations for healthcare delivery fundamentally changed in 2020. Responses were divided for Gen Xers, with the majority (51 percent) reporting that their expectations had fundamentally changed in 2020 and 49 percent expressing that their expectations for healthcare have remained mostly the same. Interestingly, the majority of Millennials (59 percent) reported that their expectations had fundamentally changed, while 41 percent expressed that their expectation for healthcare delivery had remained mostly the same.

Primary care experience

The majority of Baby Boomers (56 percent) felt that telehealth is good to have in situations like the pandemic, but don't think it's essential for good primary care, whereas 44 percent felt that telehealth is an essential component of good primary care experience. Responses were divided for Gen Xers, with the majority (51 percent) reporting that telehealth is good for situations like the pandemic, but not essential, and 49 percent expressing that telehealth is an essential component of a good primary care experience. Conversely, the majority of Millennials (66 percent) felt telehealth is an essential component of a good primary care experience, while 34 percent thought telehealth was not essential to good primary care.

To learn more about the telehealth findings [click here].

Younger patients lean towards having a virtual visit vs. an in-person visit for their primary care needs.

BABY BOOMERS   GEN X   MILLENNIALS

VIRTUAL VISIT VERSUS IN-PERSON VISIT

Given a choice (and things are safe) I would rather have virtual visit for my primary care

Given a choice I would rather have an in-person visit for my primary care needs

	Virtual	In-person
Baby Boomers	30%	70%
Gen X	45%	55%
Millennials	58%	42%

EXPECTATION FOR HEALTHCARE DELIVERY

My expectations for healthcare delivery have fundamentally changed in 2020

My expectations for healthcare delivery have remained mostly the same and I am just waiting for things to get back to normal in 2021

	Changed	Same
Baby Boomers	37%	63%
Gen X	51%	49%
Millennials	59%	41%

PRIMARY CARE EXPERIENCE

Telehealth is an essential component of good primary care experience

Telehealth is good to have for situations like this pandemic but I don't think it is essential for good primary care

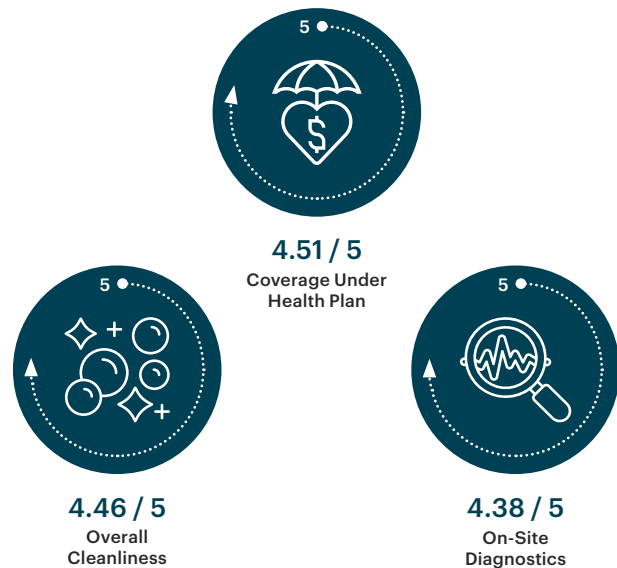|	Essential	Good to have
Baby Boomers	44%	56%
Gen X	49%	51%
Millennials	66%	34%

**Telehealth refers to the use of electronic information and telecommunications technologies to support and promote long-distance clinical health care, patient and professional health-related education, public health and health administration. Primary care refers to a patient's main source for regular medical care that can be preventative or curative
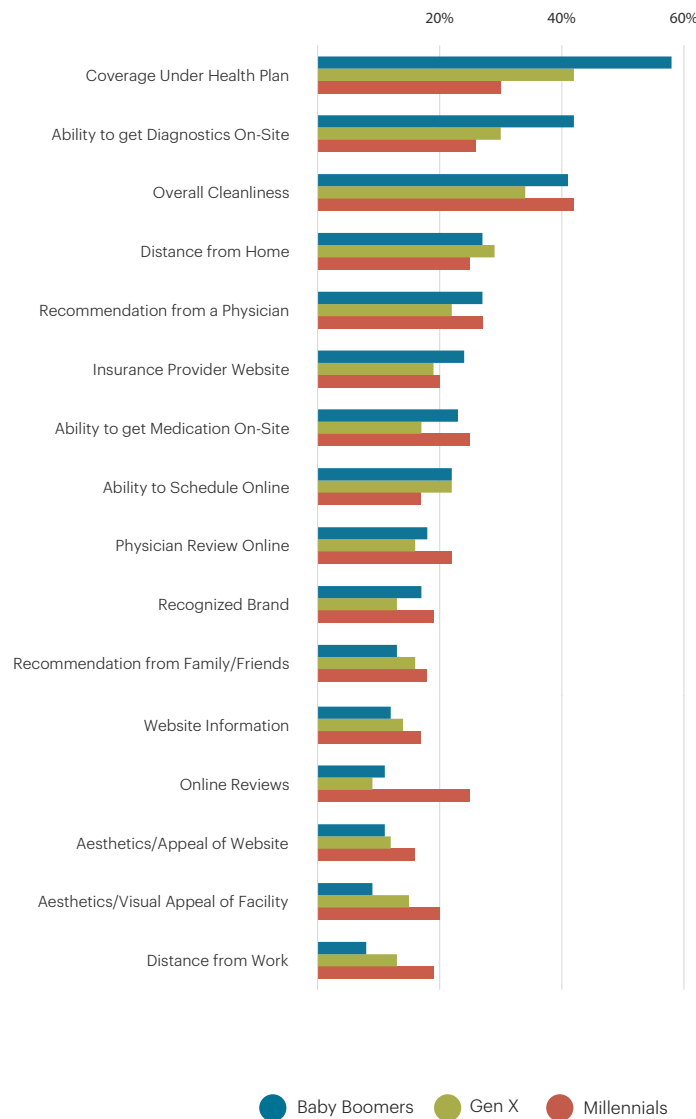
What made patients select their clinic?

Participants were asked to rate the important factors for their clinic selection on a scale of one to five. The descriptive results showed that on average for all respondents, the top three important factors were rated as coverage under health plans, overall cleanliness, and access to diagnostic services at the same location.

Top-box comparison is the analysis of factors rated highest (five out of five) by Baby Boomers versus Gen X versus Millennials.

⌄ TOP SELECTION FACTORS (AVERAGE SCORE)

5
4.51 / 5
Coverage Under Health Plan

5
4.46 / 5
Overall Cleanliness

5
4.38 / 5
On-Site Diagnostics

⌄ TOP SELECTION FACTORS (TOP-BOX SCORE)

20%   40%   60%

- Coverage Under Health Plan
- Ability to get Diagnostics On-Site
- Overall Cleanliness
- Distance from Home
- Recommendation from a Physician
- Insurance Provider Website
- Ability to get Medication On-Site
- Ability to Schedule Online
- Physician Review Online
- Recognized Brand
- Recommendation from Family/Friends
- Website Information
- Online Reviews
- Aesthetics/Appeal of Website
- Aesthetics/Visual Appeal of Facility
- Distance from Work

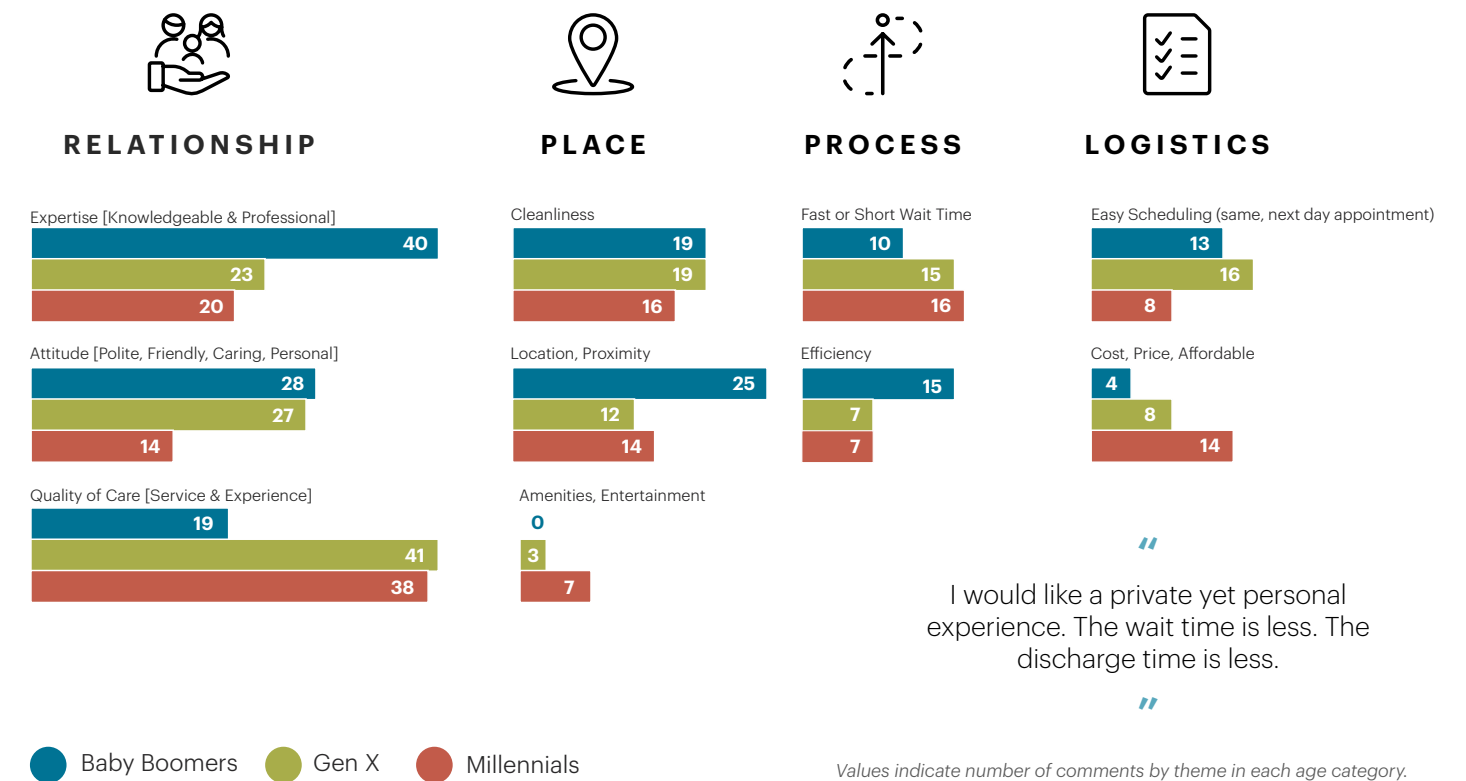● Baby Boomers ● Gen X ● Millennials

Panel survey polling Millennials (n=110), Gen X (n=110), and Baby Boomer (n=110) patients.

Healthcare coverage, overall cleanliness, and on-site diagnostics are important for all generations.

What are the top considerations for visiting and returning to the clinic?

⌄ QUALITATIVE COMMENTS ON TOP CONSIDERATIONS

RELATIONSHIP

Expertise [Knowledgeable & Professional]
- 40
- 23
- 20

Attitude [Polite, Friendly, Caring, Personal]
- 28
- 27
- 14

Quality of Care [Service & Experience]
- 19
- 41
- 38

PLACE

Cleanliness
- 19
- 19
- 16

Location, Proximity
- 25
- 12
- 14

Amenities, Entertainment
- 0
- 3
- 7

PROCESS

Fast or Short Wait Time
- 10
- 15
- 16

Efficiency
- 15
- 7
- 7

LOGISTICS

Easy Scheduling (same, next day appointment)
- 13
- 16
- 8

Cost, Price, Affordable
- 4
- 8
- 14

"
I would like a private yet personal experience. The wait time is less. The discharge time is less.
"

● Baby Boomers ● Gen X ● Millennials

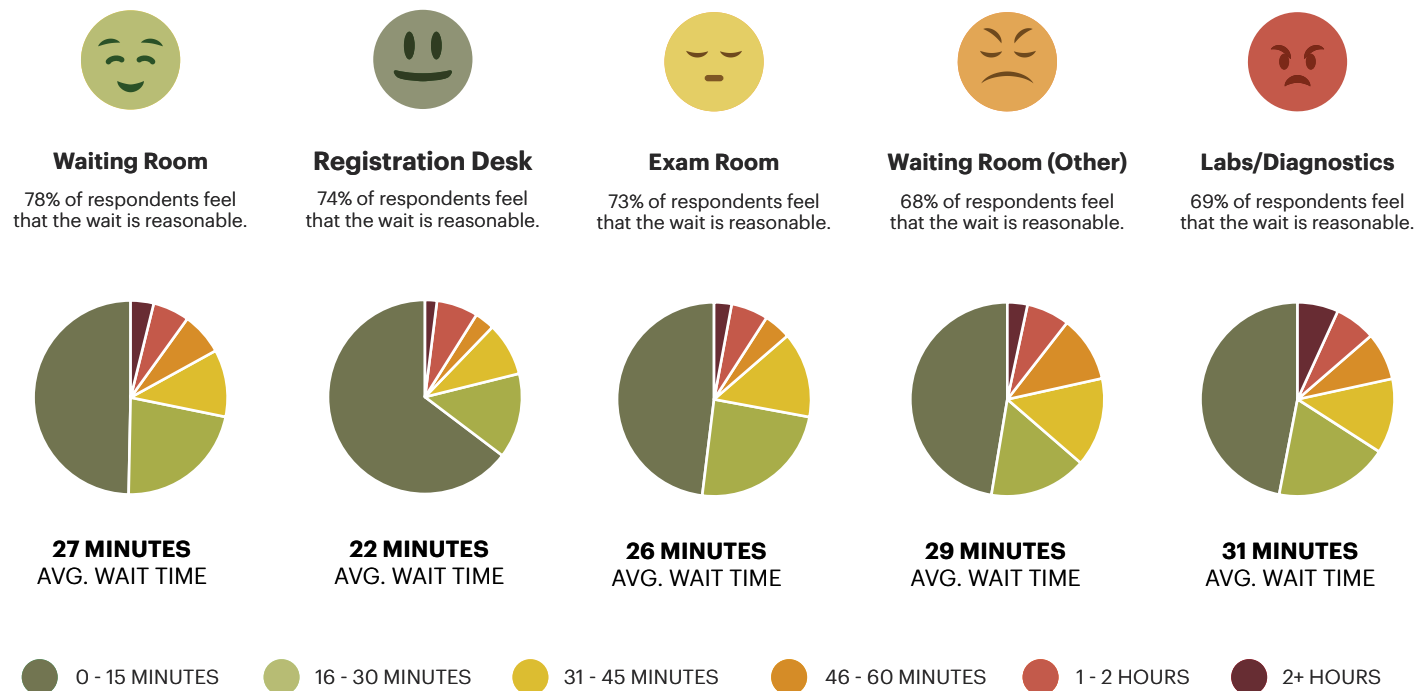*Values indicate number of comments by theme in each age category.*

Participants were asked to report their top considerations in selecting and returning to a clinic. Qualitative analysis showed that patients were looking for clinics providing knowledgeable and friendly doctors and staff, high-quality of care, customer service and a positive overall experience, cleanliness, convenient location, low wait time, efficiency, easy scheduling, and affordable pricing. Respondents shared that they look for trust with their providers through an established relationship where their concerns are heard. Gen X and Millennials were most closely aligned in their top considerations, except when considering staff attitude, scheduling, and cost. Baby Boomers prioritized knowledge and professional doctors and staff as well as close proximity of the clinic while cost and overall experience were less important in selecting and returning to a clinic.

Provider relationships, expertise, and attitude are the most important factors for patients visiting a clinic.

Where are patients waiting? What is their level of frustration while they wait?

⌄ TIME SPENT WAITING AND FRUSTRATION LEVELS AS RANKED BY RESPONDENTS

Waiting Room
78% of respondents feel that the wait is reasonable.

Registration Desk
74% of respondents feel that the wait is reasonable.

Exam Room
73% of respondents feel that the wait is reasonable.

Waiting Room (Other)
68% of respondents feel that the wait is reasonable.

Labs/Diagnostics
69% of respondents feel that the wait is reasonable.

27 MINUTES AVG. WAIT TIME

22 MINUTES AVG. WAIT TIME

26 MINUTES AVG. WAIT TIME

29 MINUTES AVG. WAIT TIME

31 MINUTES AVG. WAIT TIME

● 0 - 15 MINUTES ● 16 - 30 MINUTES ● 31 - 45 MINUTES ● 46 - 60 MINUTES ● 1 - 2 HOURS ● 2+ HOURS

Patients were asked to rank their wait time in waiting rooms, miscellaneous waiting areas that were utilized during COVID-19 (e.g. car), registration desks, exam rooms, and labs/diagnostic areas. In terms of duration, labs/diagnostic areas were ranked as the location with highest wait time of 31 minutes, followed by miscellaneous waiting areas with 29 minutes. Sixty-five percent of respondents had less than 15 minutes of wait time at the registration desk. The findings 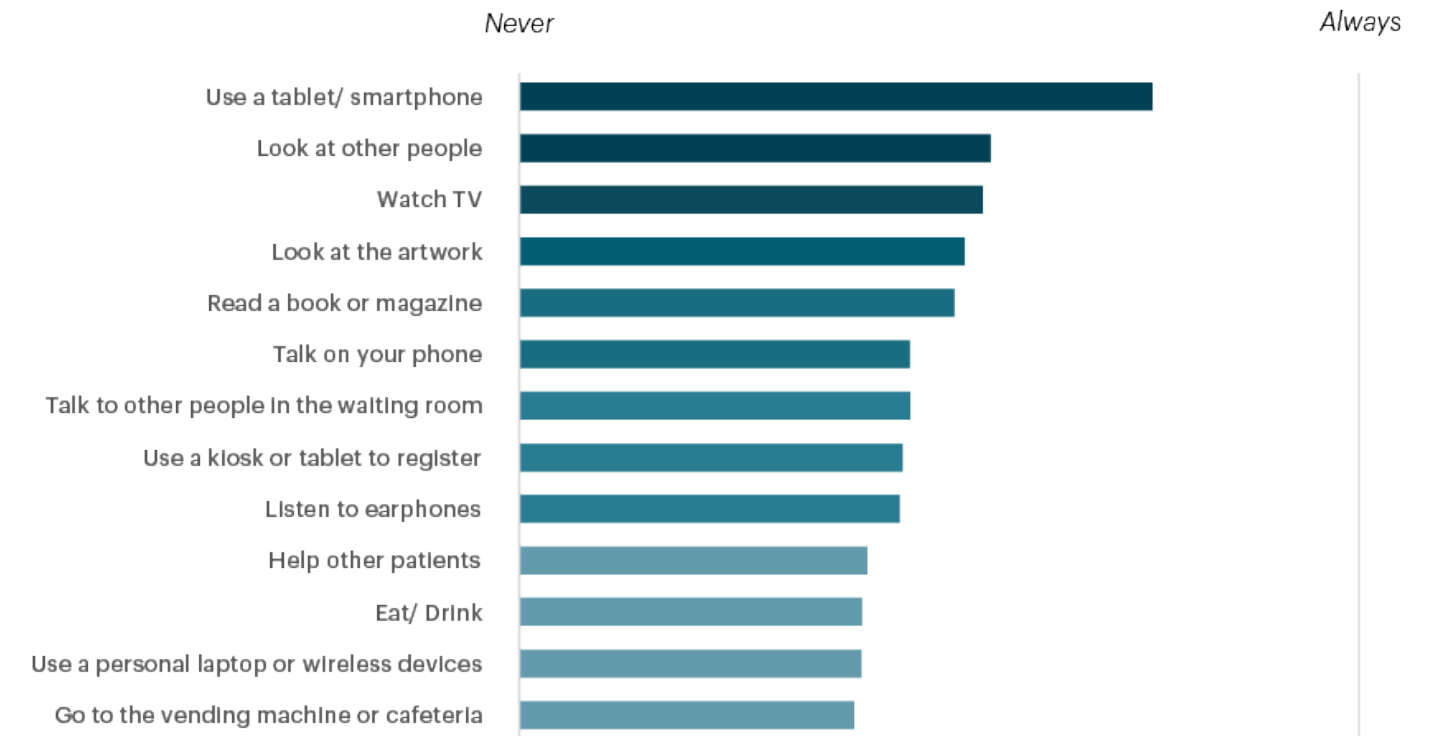also showed the majority of respondents spend more than 30 minutes in exam rooms, miscellaneous waiting areas, and lab/diagnostic areas.

Patients were also asked to rate their level of frustration in five areas of the clinic on a 1-5 scale. Lab/diagnostics areas was rated as the most frustrating (69 percent), followed by the miscellaneous waiting areas (68 percent), the exam room (73 percent), the registration desk (74 percent), and the waiting room (78 percent).

Patients find waiting for labs and diagnostics to be the most frustrating, followed by waiting in non-traditional areas out of the waiting room due to COVID-19.

What do they do while in waiting areas?

⌄ WAITING AREA ACTIVITIES

Never   *Always*

- Use a tablet/ smartphone
- Look at other people
- Watch TV
- Look at the artwork
- Read a book or magazine
- Talk on your phone
- Talk to other people in the waiting room
- Use a kiosk or tablet to register
- Listen to earphones
- Help other patients
- Eat/ Drink
- Use a personal laptop or wireless devices
- Go to the vending machine or cafeteria

Patients were asked about how they spend their time in waiting areas. Overall, the top three activities were rated as using a tablet or smartphone, looking at other people, or watching TV. For the participants that selected other miscellaneous activities they do while they wait, they shared that they will look around the room either at what is hanging or written on the walls, or read various educational pamphlets that are available. With online games becoming more readily available through phone apps, several participants indicated that they will play various games while they wait as well. Lastly, some participants indicated that they are often restless while waiting and will choose to walk within the space, to other accessible spaces, or outside if possible.

When waiting, patients most often use their tablets or smartphones, look at other people, or watch TV.

What features make a clinic more appealing?

⌄ **AVERAGE SCORE FOR TOP FEATURES OF A MORE APPEALING CLINIC**

4.01 / 5
Cleanliness and Hygiene

4.00 / 5
Same day appointment

**3.84 / 5**
Walk-in appointment (with less than 30-min wait)

Patients were asked about attributes that could make a clinic more appealing for their future visits. Overall, the top three attributes were rated as facility cleanliness and hygiene (4.01), same-day appointments (4.00), and availability of walk-in (less than 30-minute wait) appointments (3.84). While our findings showed that walk-ins with a wait of less than 30 minutes were a priority, walk-ins with a wait of an hour or more dropped to the bottom of the list. This finding varied between Baby Boomers, Gen X, and Millennials.

Top-box comparison showed that while cleanliness, same day appointments, and walk-in appointments were important for Baby Boomers, this shifted more with each younger generation. Gen X was most closely aligned with Baby Boomers, prioritizing cleanliness, same day appointments, and walk-in appointments. However, they also equally prioritized online registration capabilities. Millennials thought that cleanliness, online registration, and mobile apps to track your health would make a clinic more appealing.

In their own words, we asked patients to describe what facility features they felt would improve their experiences in a clinic. A content analysis of their responses revealed that, overall, patients are looking for a clean, comfortable, and safe environment; the availability of entertainment and amenities while waiting such as snacks, reading material or a TV to distract them as they wait as well as having plenty of room and comfortable furniture; and the availability of technology in the space, such as Wi-Fi access.

All the generations value aspects of the environment, their priorities differ a bit. Though both groups find quiet environments and access to daylight and views to the outdoors appealing, these environmental characteristics are desired more by a greater percentage of Gen X, followed by Millennials, then Baby Boomers. Further, Millennials and Gen X desire more integration of technology into their visits (e.g., mobile apps to track their health or book appointments, and the ability to virtually visit with physicians, RNs, and PAs).
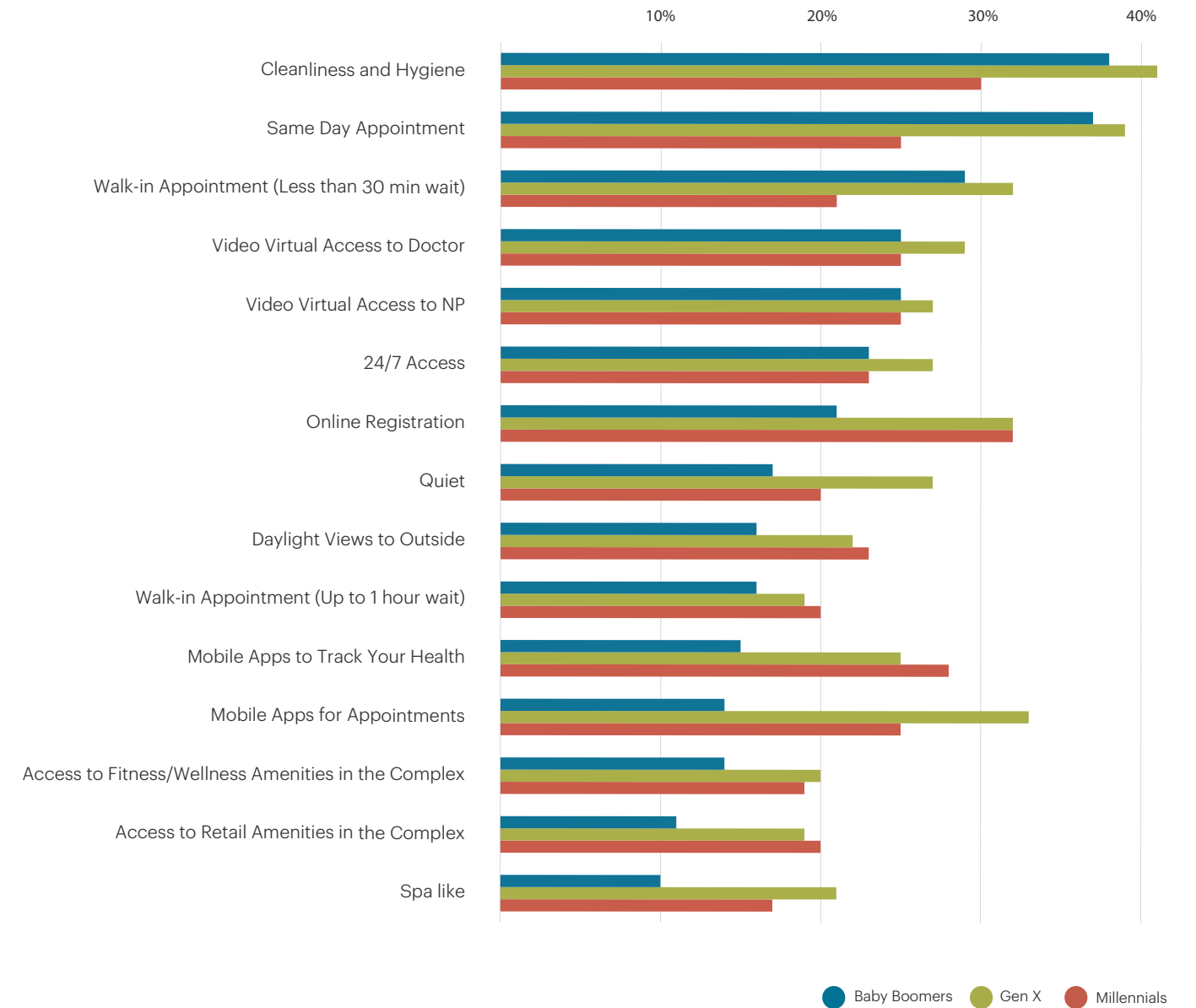
Panel survey polling Baby Boomer (n=110), Gen X (n=110), and Millennials (n=110) patients.

Legend: ● Baby Boomers ● Gen X ● Millennials

Chart categories (top to bottom):
- Cleanliness and Hygiene
- Same Day Appointment
- Walk-in Appointment (Less than 30 min wait)
- Video Virtual Access to Doctor
- Video Virtual Access to NP
- 24/7 Access
- Online Registration
- Quiet
- Daylight Views to Outside
- Walk-in Appointment (Up to 1 hour wait)
- Mobile Apps to Track Your Health
- Mobile Apps for Appointments
- Access to Fitness/Wellness Amenities in the Complex
- Access to Retail Amenities in the Complex
- Spa like

Cleanliness and safety have been top of mind during COVID-19. Convenience and technological integration also make a clinic more appealing.

While Boomers have clear priorities for what makes a clinic appealing, Gen X and Millennials want more, especially around digital pathways to experience and efficiency.

What would an ideal clinic experience look like for in-person primary care?

In an open-ended question, patients were asked to describe what the ideal clinic experience for in-person primary care would look like. Thematic content analysis was used to understand the perception of those who expressed that an ideal in-person clinic experience included process enhancements, improved environmental qualities, improvements to care quality, and those who felt provider characteristics were central to an ideal virtual clinic experience. It is important to note that about 20 percent of Baby Boomers, 32 percent of Gen Xers, and 28 percent of the Millennials were unsure or did not have on opinion about what the ideal clinic experience for in-person primary care would look like.

Baby Boomers

Process enhancements such as, on time appointments that are quick and easy to access, reduced wait times, and easy access to complimentary services (e.g., diagnostics and labs) were considered by 52 percent of Baby Boomers as a central component to the ideal in-person clinic experience. Many boomers (28 percent) also expressed the desire for improved environmental qualities described as "clean", "bright", "modern", "calming", "organized", and "comfortable". Boomers (23 percent) also noted compassionate, reliable, and knowledgeable professionals as important components of an in-person clinic experience. Some (six percent) Baby Boomers felt that the in-person care currently being delivered is ideal.

"The ability to not have to wait for long periods of time in every aspect of the clinic. The staff to be knowledgeable in treating me. The clinic to be well-lit and clean."

Gen X

Many Gen Xers (42 percent) noted process enhancements, such as on time appointments and reduced waiting times, as primary components for an ideal in-person clinic experience. Gen Xers also expressed a desire for environmental improvements (23 percent), such as parking availability, access to amenities like a television or magazines while waiting, provision of adequate space for social distancing, and environmental cleanliness. Provider characteristics (17 percent), such as having quality time with their physician to discuss their care needs without feeling rushed and improved care quality (10 percent) in terms of having a warm and inviting experience were reported, as key components for an ideal in-person clinic experience. Some (six percent) Gen Xers expressed that the in-person care currently being delivered is ideal.

"Safety and cleanliness, these are top priority. I would look for best advice and treatment, access to amenities, and cost effectiveness as well."

Millennials

Millennials also considered process enhancements (39 percent), such as the timely appointments and quick and simple check-in options, as essential components to an ideal in-person clinic experience. Additionally, Millennials expressed that provider characteristics (16 percent), such as compassionate and knowledgeable staff and feeling respected and heard during the in-person visit, as key components for an ideal in-person clinic experience. A desire for improved care quality (13 percent) in terms of delivering reliable, effective, and high-quality care would make an ideal care experience. Environmental qualities that some Millennials (15 percent) seek in their ideal clinic experience are well-kept, clean, and comfortable waiting and exam rooms. Some (six percent) Millennials expressed that the in-person care currently being delivered is ideal, whereas three percent of the respondents preferred the use of telehealth instead of in-person visits.

"Good attention with some empathy and where the doctor can explain to you what is happening with your body."

TOP 3 COMPONENTS OF AN IDEAL CLINIC EXPERIENCE FOR PRIMARY CARE IN-PERSON

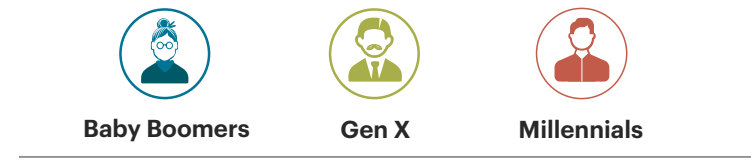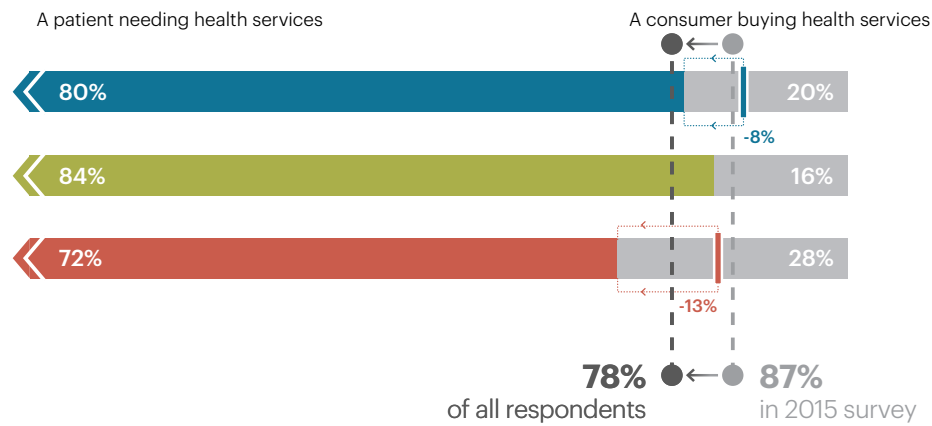|		
STREAMLINED PROCESS	**44%** of participants
EMPATHETIC & KNOWLEDGEABLE PROVIDERS	**27%** of participants
AMENITY-RICH, SAFE, AND CLEAN ENVIRONMENT	**21%** of participants

Percentages indicate the number of comments by theme in each age category. Total number of comments: 331

Provider attitude and expertise is even more important for younger generations compared to Baby Boomers, and a core component of enhanced experience.

Participants across all generations expressed that process enhancements are an essential tenet of an ideal in-person clinic experience for primary care.

Shifts in Patient Perceptions
How have patients' perceptions changed since 2015?

Baby Boomers

Gen X

Millennials

Patient vs. Consumer

A patient needing health services

A consumer buying health services

80%	20%
	-8%
84%	16%
72%	28%
	-13%

78%
of all respondents

87%
in 2015 survey

Shift towards Consumer

While patients still think of themselves as patients needing health services overall, both Boomers and Millennails shifted in the last six years towards seeing themselves less strongly as a patient and more strongly as a consumer.
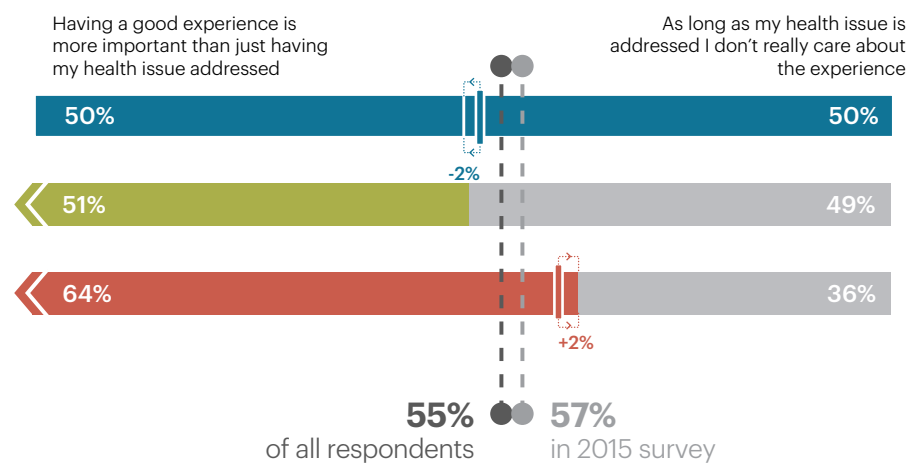
People vs. Information

Someone who trusts in people

Someone who trusts in information

43%	57%
	-12%
38%	62%
48%	52%
	-7%

57%
of all respondents

45%
in 2015 survey
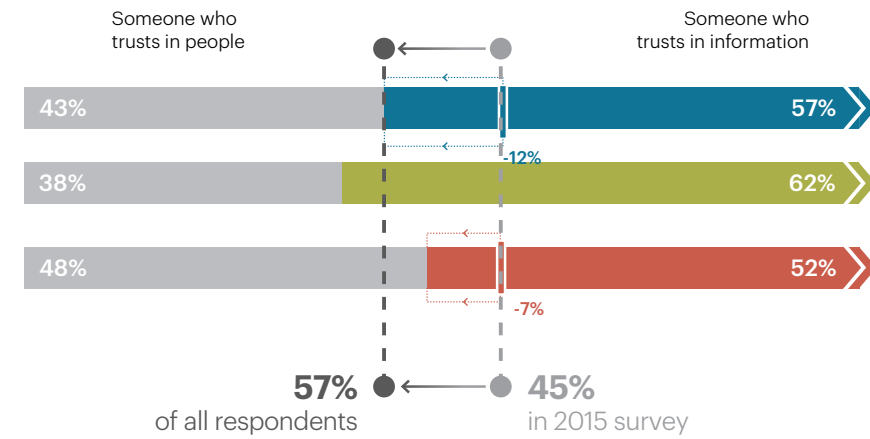
Information Over People

In 2015, both generations, Baby Boomers and Millennials, trusted in people over information. Since the COVID-19 pandemic, both generations have shifted to trusting information more. Gen X, while new, feels more strongly than Boomers and Millennials.
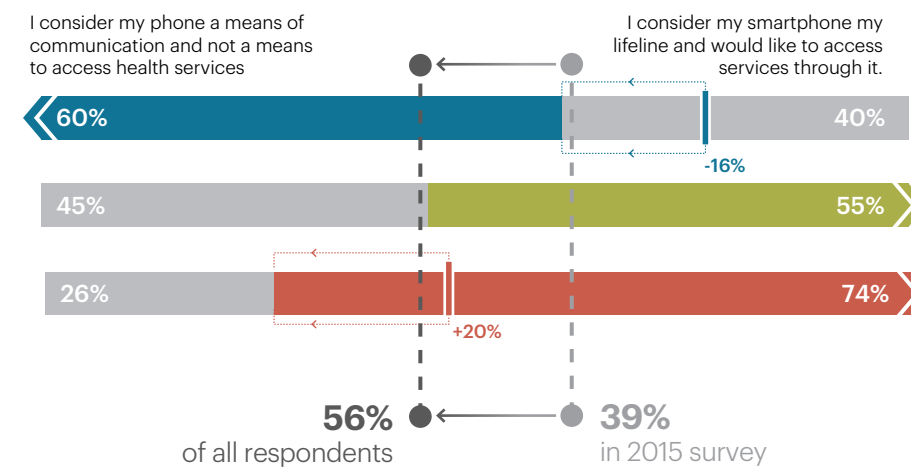
Experience vs. Service

Having a good experience is more important than just having my health issue addressed

As long as my health issue is addressed I don't really care about the experience

50%	50%
-2%	
51%	49%
64%	36%
+2%	

55%
of all respondents

57%
in 2015 survey

Older Generations Split

In 2015, both Boomers and Millennials desired having a good experience on top of just having their health issue addressed. Boomers have shifted to being divided between the two and Millennials have maintained wanting a good experience.

Phone vs. Portal

I consider my phone a means of communication and not a means to access health services

I consider my smartphone my lifeline and would like to access services through it.

60%	40%
	-16%
45%	55%
26%	74%
+20%	

56%
of all respondents

39%
in 2015 survey

Shift to Phone as Lifeline

Similar to 2015, Boomers consider their phones a means of communication while Millennials consider it a lifeline for services. However, both generations have shifted more towards considering it a lifeline to access services.

Shifts in perception in what makes a clinic appealing from 2015 to 2021

Participants were asked to rate the attributes that would make their clinic visits more or less appealing in the future on a scale of 1-5 with one (1) being much less appealing to five (5) being much more appealing. The following tables show the rankings and shift in rankings based on top-box percentages for the appeal factors for Baby Boomers and Millennials from 2015 to 2021. Data about appeal factors for Gen Xers was captured only in 2021.

Across all generations, cleanliness and hygiene (4.0/5.0), same day appointments (4.0/5.0), walk-in appointments (3.8/5/0), 24/7 access (3.8/5.0), and virtual access to physicians (3.8/5.0), followed by online registration (3.7/5.0), video/virtual access to nurse practitioner/physician assistant (3.7/5.0), quiet environments (3.7/5.0), and mobile apps to make appointments (3.7/5.0) were attributes that make a clinic most appealing in 2021.

Baby Boomers

Baby Boomers have streamlined priorities with operational considerations being top appeal factors. Operational considerations like same day appointments, walk-in appointments with less than 30-min wait time, as well as cleanliness and hygiene remained as the top three appeal factors in 2015 and 2021. Access to doctors and nurse practitioners via digital platforms are increasingly appealing for Baby Boomers. Access to amenities still remains as the lowest ranking factors that make a clinic appealing for Baby Boomers.

"Shorten the process, shorter waiting times in exam room, easier registration."

Gen X

Gen Xers are divided in what attributes of the clinic appeal to them. Environmental conditions like cleanliness and hygiene, operational considerations like same day appointments and walk-in appointments with less than 30-min wait time, and digital integration (mobile apps to make appointments, online registration, and virtual access to physicians and NP) are top of mind for Gen Xers in 2021.

"One time they didn't notify my doctor that I was waiting. It took almost an hour before he came to my room. So improved communication is the only thing that would improve my experience."

Millennials

Millennials are divided in what attributes of the clinic are appealing to them and want both physical and digital experiences. There is a clear upward shift in ranking attributes pertaining to digital experiences including online registration, mobile apps to track health and make appointments and virtual access to physicians and NP among Millennials.

"Not waiting so long, access to internet, and a mobile app for scheduling appointments would be great."

LEGEND

No change in rank from 2015 to 2021	—
Rank went **UP** from 2015 to 2021	▲
Rank went **DOWN** from 2015 to 2021	▼

Baby Boomers

2015	2021	Change in ranks
1. Cleanliness and Hygiene	1. Cleanliness and Hygiene	—
2. Walk-in appointment (<30-min wait)	2. Same day appointment	▲
3. Same day appointment	3. Walk-in appointment (<30-min wait)	▼
4. Quiet environment	4. Video/Virtual access to physician	▲
5. Walk-in appointment (1-hr wait)	5. Video/Virtual access to NP/PA	▲
6. 24/7 access	6. 24/7 access	—
7. Online registration	7. Online registration	—
8. Daylight and views to outside	8. Quiet environment	▼
9. Video/Virtual access to physician	9. Daylight and views to outside	▼
10. Video/Virtual access to NP/PA	10. Walk-in appointment (1-hr wait)	▼
11. Access to fitness/wellness amenities in the complex	11. Mobile Apps to track your health	▲
12. Mobile Apps to make appointments	12. Mobile Apps to make appointments	—
13. Mobile Apps to track your health	13. Access to fitness/wellness amenities in the complex	▼
14. Access to retail amenities in the complex	14. Access to retail amenities in the complex	—
15. A spa-like environment	15. A spa-like environment	—

Gen X

2021
1. Cleanliness and Hygiene
2. Same day appointment
3. Mobile Apps to make appointments
4. Walk-in appointment (<30-min wait)
5. Online registration
6. Video/Virtual access to physician
7. Video/Virtual access to NP
8. 24/7 access
9. Quiet environment
10. Mobile Apps to track your health
11. Daylight and views to outside
12. A spa-like environment
13. Access to fitness/wellness amenities in the complex
14. Walk-in appointment (1-hr wait)
15. Access to retail amenities in the complex

*No Gen X data was collected in 2015

Millennials

2015	2021	Change in ranks
1. Cleanliness and Hygiene	1. Online registration	▲
2. Same day appointment	2. Cleanliness and Hygiene	▼
3. Walk-in appointment (<30-min wait)	3. Mobile Apps to track your health	▲
4. 24/7 access	4. Same day appointment	▼
5. Online registration	5. Video/Virtual access to physician	▲
6. A spa-like environment	6. Video/Virtual access to NP	▲
7. Quiet environment	7. Mobile Apps to make appointments	▲
8. Mobile Apps to track your health	8. 24/7 access	▼
9. Mobile Apps to make appointments	9. Daylight and views to outside	▲
10. Daylight and views to outside	10. Walk-in appointment (<30-min wait)	▼
11. Video/Virtual access to physician	11. Walk-in appointment (1-hr wait)	▲
12. Walk-in appointment (1-hr wait)	12. Quiet environment	▼
13. Access to fitness/wellness amenities in the complex	13. Access to retail amenities in the complex	▲
14. Video/Virtual access to NP	14. Access to fitness/wellness amenities in the complex	▼
15. Access to retail amenities in the complex	15. A spa-like environment	▼

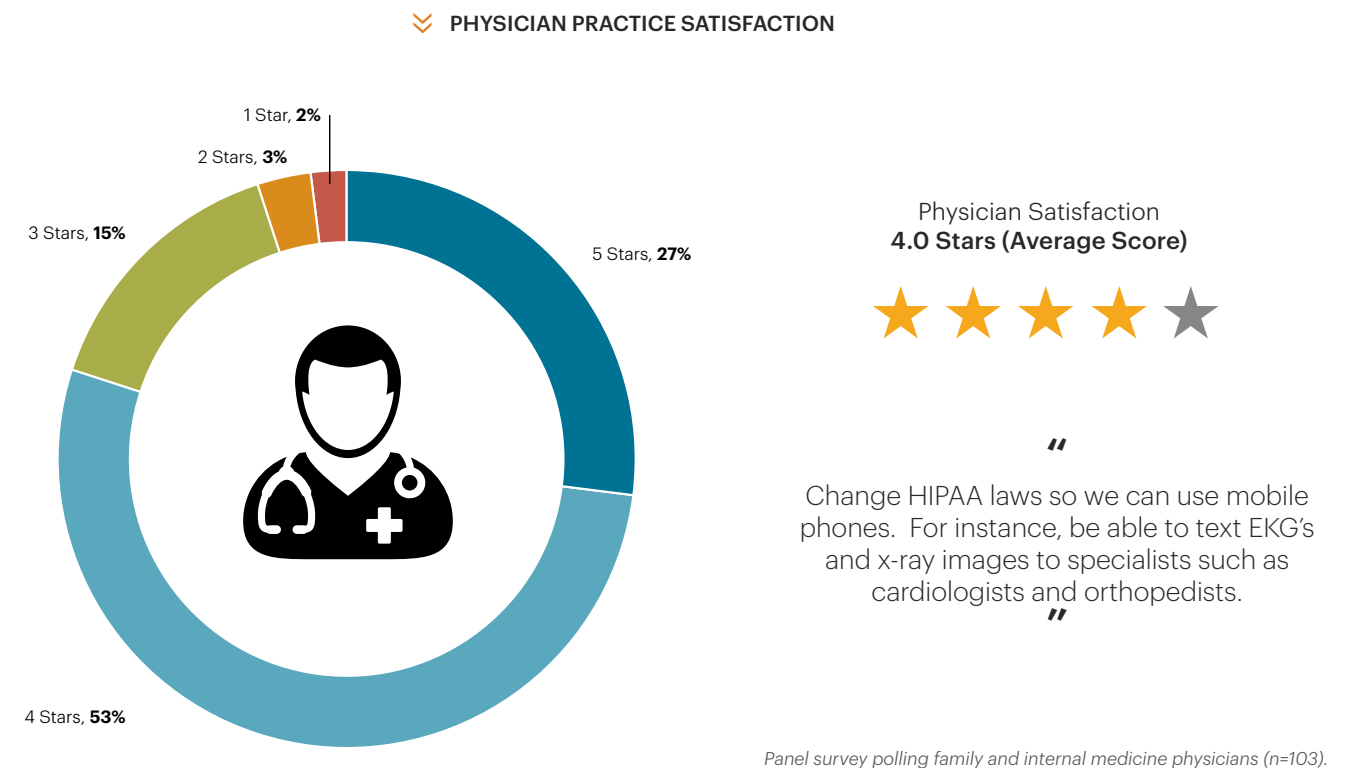Cleanliness and hygiene remain a top attribute in making a clinic more appealing for all generations.

There is marginal increase in digital health as an appeal factor for Baby Boomers. There is a clear upward shift prioritizing digital experiences for Millennials.

Physician Survey Demographics

This survey was sent to physicians who transitioned to or expanded telehealth services during the COVID-19 crisis. The survey was divided into two sections on the primary care experience: telehealth and in-person clinic visits.

FAMILY PRACTICE
(n=60)

INTERNAL MEDICINE
(n=43)

103 Physician Respondents

33%
Urban Physicians

53%
Suburban Physicians

14%
Rural Physicians

8%
66 Years and Older

15%
45 Years and Younger

77%
46-65 Years Old

How satisfied are physicians with their practice? What is the one thing that would make physicians more satisfied?

⌄ **PHYSICIAN PRACTICE SATISFACTION**

1 Star, **2%**
2 Stars, **3%**
3 Stars, **15%**
5 Stars, **27%**
4 Stars, **53%**

Physician Satisfaction
4.0 Stars (Average Score)

★ ★ ★ ★ ★

"
Change HIPAA laws so we can use mobile phones. For instance, be able to text EKG's and x-ray images to specialists such as cardiologists and orthopedists.
"

Panel survey polling family and internal medicine physicians (n=103).

Physician Satisfaction of Practice
Overall, physicians reported being satisfied with their practice today (with a mean rating of 4.0 out of 5 stars).

**The One Thing Physicians Would Change**
Physicians were also asked what is the "one thing" that they would change to improve their practice. Responses to this open-ended question were varied, but the following were the most frequent items mentioned:

1. **Less government regulation (HIPAA and Medicare)**
2. **Liability associated with patient non-compliance**
3. **Improved information gathering and sharing**
4. **Increased time with patients**

Other considerations that were mentioned include communication between health systems, a more equitable distribution of quality measures across primary care physicians (PCPs), and specialty care providers as opportunities for improvement.

Physicians want less regulation, especially as telehealth grows, less liability in regards to patient non-compliance, more time with patients, and improved information gathering and sharing with other health systems.

How do physicians spend their time?

⌄ **CHANGE IN PHYSICIAN'S TIME SPENT**

■ Typical
■ Since COVID-19
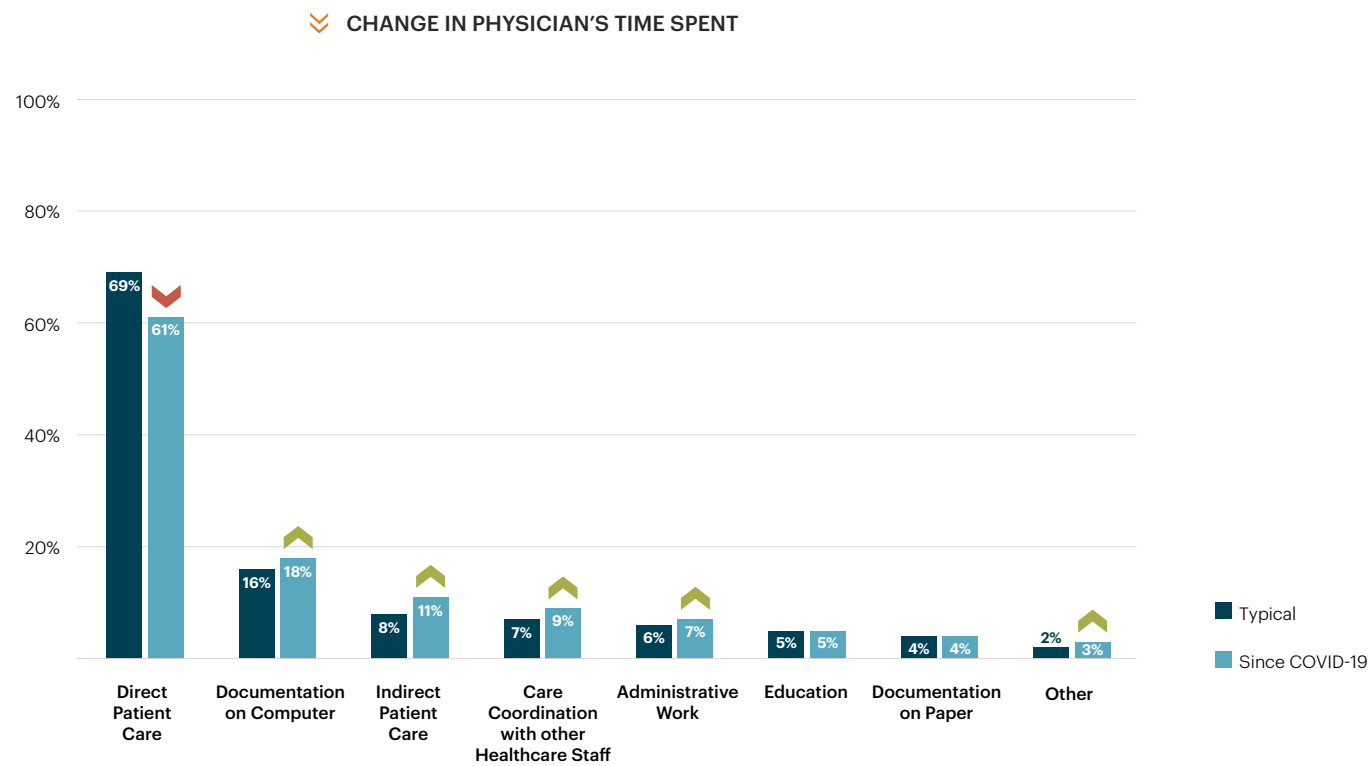
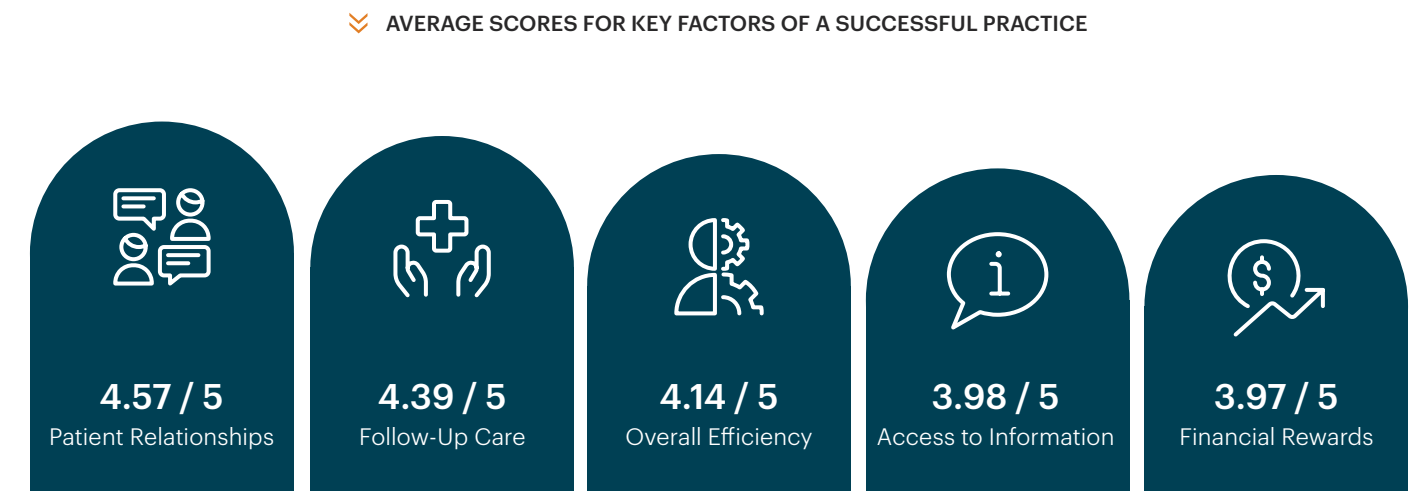*Panel survey polling family and internal medicine physicians (n=103).*

To understand the facility needs of physicians, it is important to know how they spend their time. Physicians were asked to divide how they spend their time on key activities identified from the literature during both a typical work week, and since COVID-19 began. On average during a typical week, physicians estimated that they spend more than 60 percent of their time on direct patient care. This is unsurprising, given how many patients a typical family practice/internal

medicine physician sees in a day (on average 25 to 30 patients a day) with approximately 15-minute appointments.

When asked about how their time is spent since COVID-19 began, physicians indicated that their time with patients has decreased by eight percent. They are spending more time documenting on the computer, indirectly caring for patients, coordinating with other healthcare staff, administrative work, and miscellaneous tasks.

Physicians spend the majority of their time directly caring for the patient. During COVID-19, time with patients went down while time doing other tasks went up.

What makes a successful practice?

⌄ **AVERAGE SCORES FOR KEY FACTORS OF A SUCCESSFUL PRACTICE**

| 4.57 / 5 | 4.39 / 5 | 4.14 / 5 | 3.98 / 5 | 3.97 / 5 |
| Patient Relationships | Follow-Up Care | Overall Efficiency | Access to Information | Financial Rewards |

On being asked about the importance of key factors in how they run a successful practice, patient relationships trumped all other concerns, followed by the ability to provide follow-up care, overall efficiency of the practice, access to information, and financial rewards. Access to information was rated surprisingly higher than intellectual stimulation (3.89), working with other healthcare professionals (3.71), and interaction with colleagues (3.63). Prestige of the field (3.19) and integrating their practice with the hospital system (3.22) were rated lowest out of key factors in running a successful practice.

» **TOP CONSIDERATIONS FOR A SUCCESSFUL PRACTICE (QUALITATIVE)**

Physicians were also asked to talk about their top three considerations in an open-ended question. Patient relationship was the most prominent in these responses as well. This was followed by quality of care, good staff members, patient satisfaction, and affordability, among other themes.
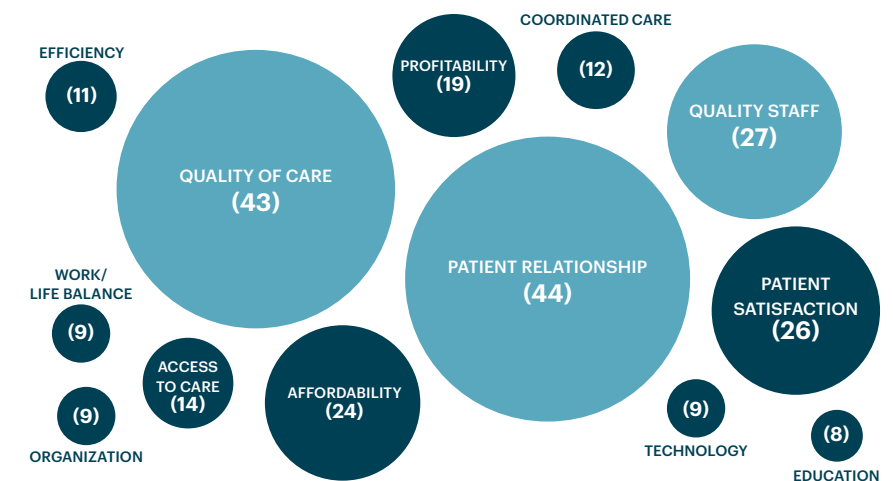
For physicians, the most important factor of a successful practice is building relationships and trust with patients.

What are physicians most excited and skeptical about?

EXCITED		SKEPTICAL
44 *reach*	Telehealth	**17** *reimbursement*
16 *new treatments*	Care Quality / Performance	**17** *time intensive documentation*
8 *increase reimbursement*	Cost / Reimbursement	**33** *telehealth reimbursement*
5 *communication*	Coordinated Care	**3** *reliance in technology*
3 *prevention, education*	Population Health	**8** *scare of getting sick*
1 *powerful tool*	Retail / Concierge	**2** *no details provided*
	Government Regulations / ACA	**11** *government intervention*

Values indicate number of physicians comments in each topic area.

Physicians were asked to state in their own words some of the changes in healthcare delivery they saw today about which they were the most excited and the most skeptical. These comments were analyzed by the research team and sorted into key themes.

Physicians identified telehealth and the integration of new technologies such as wearables, new treatments that include targeted therapies and personalized medicine, concierge medicine that places an emphasis on chronic care as the trends they are most excited about. Many physicians also indicated that there wasn't anything they were excited about in how things were trending.
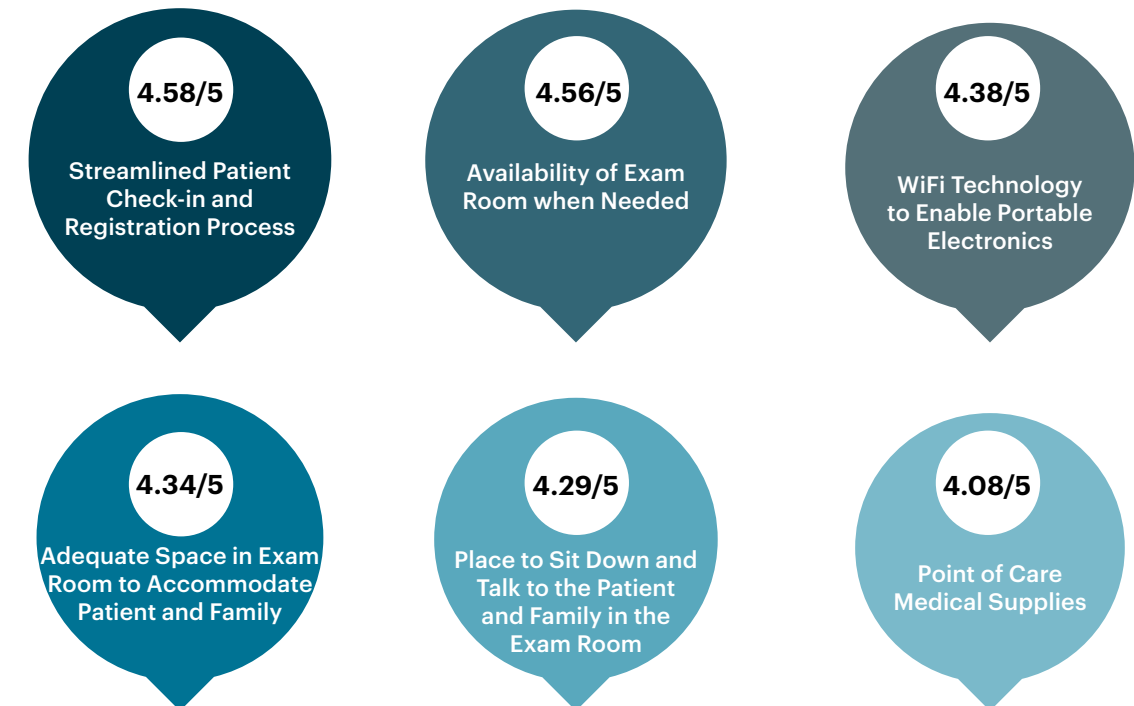
Physicians expressed skepticism about the future viability of primary care, especially telehealth, due to payment structures, liability and litigation issues, as well as whether the next generation of physicians will be adequately equipped to provide care. Providers also questioned the feasibility of governmental interventions and their ability to fix an already broken system and improve patient health outcomes. Further consolidation of health systems and the onset of corporate medicine were also concerns for providers.

Physicians are excited about telehealth but are skeptical about reimbursements related to virtual visits.

What facility features help physicians run a successful practice?

4.58/5 Streamlined Patient Check-in and Registration Process

4.56/5 Availability of Exam Room when Needed

4.38/5 WiFi Technology to Enable Portable Electronics

4.34/5 Adequate Space in Exam Room to Accommodate Patient and Family

4.29/5 Place to Sit Down and Talk to the Patient and Family in the Exam Room

4.08/5 Point of Care Medical Supplies

In rating the importance of different facility design factors that emerged from our literature, physicians prioritized streamlined check-in and registration, having an exam room available when needed, and using Wi-Fi technology to enable portable electronics use.

In the middle order were considerations of spatial requirements of the exam room, point of care supplies, proximity to labs, access to electronic health records, and flexibility to respond to changing program and space requirements.

Amenity space and additional services, such as consult spaces, community education, mental health, lifestyle coaching, fitness, and wellness were ranked lowest in the priority list of design factors needed to run a successful practice.

Physicians want ease and connectivity, as well as space and spatial affordances to accommodate interactions with patients and family members.

What type of workspace do physicians work in? What are the advantages and disadvantages of their workspace?
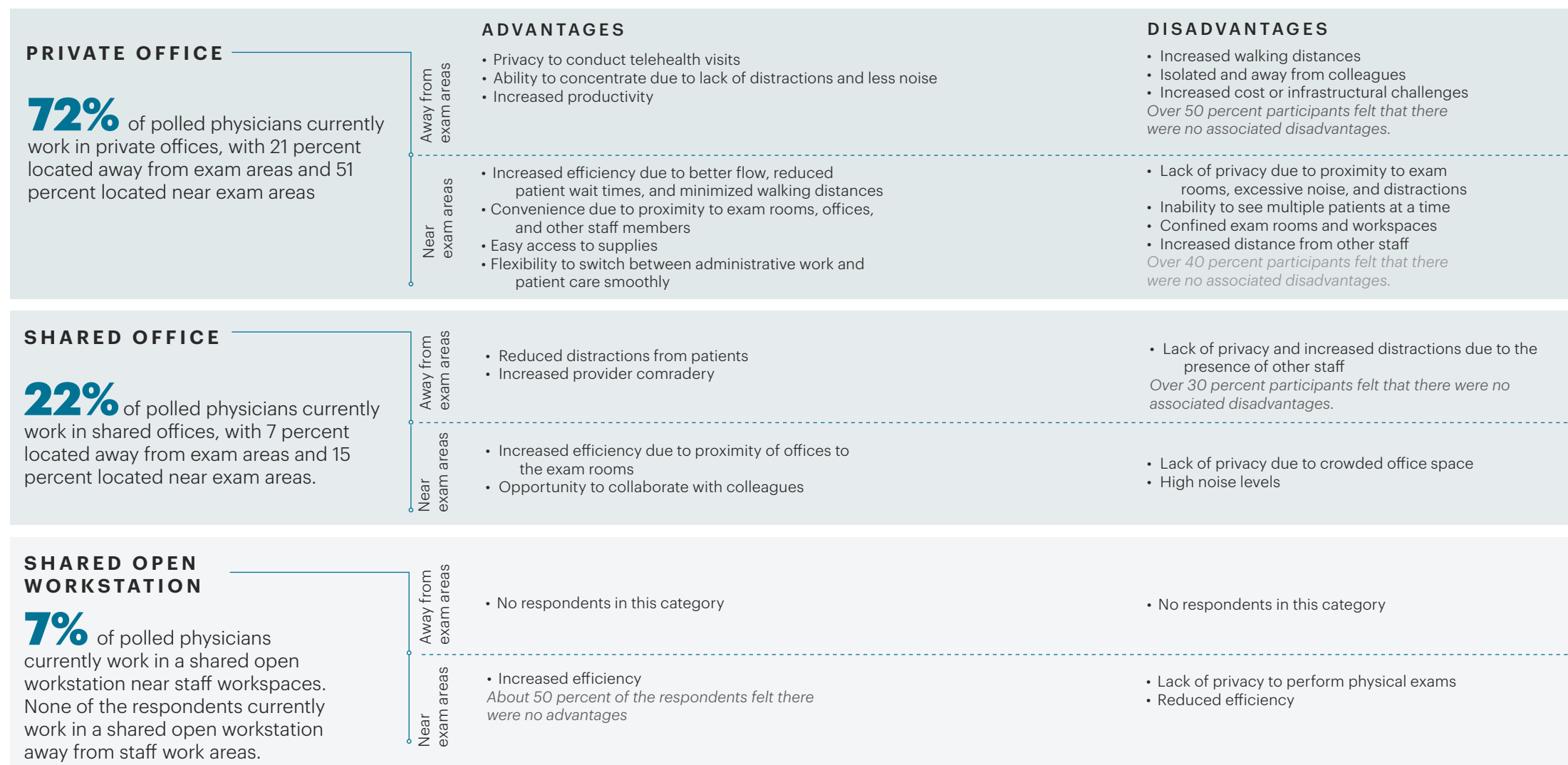
To investigate existing and preferred workspaces types, physicians were asked what kind of workspaces they currently had and what kind of workspaces they preferred given options ranging from private offices, and shared offices to shared open workspaces.

What type of workspace would physicians prefer if they had a choice?

Physicians were also asked to indicate the advantages and disadvantages of their existing workspaces in the following open-ended questions.

⌄ **PHYSICIAN CURRENT VS. PREFERRED WORKSPACE**

EXISTING WORKSPACE

PREFERRED WORKSPACE

PRIVATE OFFICE

72% of polled physicians currently work in private offices, with 21 percent located away from exam areas and 51 percent located near exam areas

Away from exam areas

ADVANTAGES
- Privacy to conduct telehealth visits
- Ability to concentrate due to lack of distractions and less noise
- Increased productivity

DISADVANTAGES
- Increased walking distances
- Isolated and away from colleagues
- Increased cost or infrastructural challenges
Over 50 percent participants felt that there were no associated disadvantages.

Near exam areas

ADVANTAGES
- Increased efficiency due to better flow, reduced patient wait times, and minimized walking distances
- Convenience due to proximity to exam rooms, offices, and other staff members
- Easy access to supplies
- Flexibility to switch between administrative work and patient care smoothly

DISADVANTAGES
- Lack of privacy due to proximity to exam rooms, excessive noise, and distractions
- Inability to see multiple patients at a time
- Confined exam rooms and workspaces
- Increased distance from other staff
Over 40 percent participants felt that there were no associated disadvantages.

CONTINUE WORKING IN PRIVATE OFFICES

84% of polled physicians would prefer working in a private office.

The majority of physicians currently working in private offices away from exam rooms prefer to **continue working in the same type of workspace** (89 percent). Similarly, the majority of physicians currently working in a private office near exam rooms reported **no change** in preference for type of workspace (83 percent).

SHARED OFFICE

22% of polled physicians currently work in shared offices, with 7 percent located away from exam areas and 15 percent located near exam areas.

Away from exam areas

ADVANTAGES
- Reduced distractions from patients
- Increased provider comradery

DISADVANTAGES
- Lack of privacy and increased distractions due to the presence of other staff
Over 30 percent participants felt that there were no associated disadvantages.

Near exam areas

ADVANTAGES
- Increased efficiency due to proximity of offices to the exam rooms
- Opportunity to collaborate with colleagues

DISADVANTAGES
- Lack of privacy due to crowded office space
- High noise levels

SHIFT TO PRIVATE OFFICES

15% of polled physicians would prefer working in a shared office.

Almost half of physicians who currently work in shared offices prefer to **shift to private offices** (45 percent).

SHARED OPEN WORKSTATION

7% of polled physicians currently work in a shared open workstation near staff workspaces. None of the respondents currently work in a shared open workstation away from staff work areas.

Away from exam areas

ADVANTAGES
- No respondents in this category

DISADVANTAGES
- No respondents in this category

Near exam areas

ADVANTAGES
- Increased efficiency
About 50 percent of the respondents felt there were no advantages

DISADVANTAGES
- Lack of privacy to perform physical exams
- Reduced efficiency

SHIFT TO PRIVATE OFFICES

1% of polled physicians would prefer working in a shared open workstation away from staff work areas.

The majority of physicians currently working in a shared open workstation prefer to **shift to private offices** near exam rooms (83 percent).

*77% of respondents were in the age range of 46-65

Physicians want workspaces that allow privacy, efficiency, convenience, and flexibility.
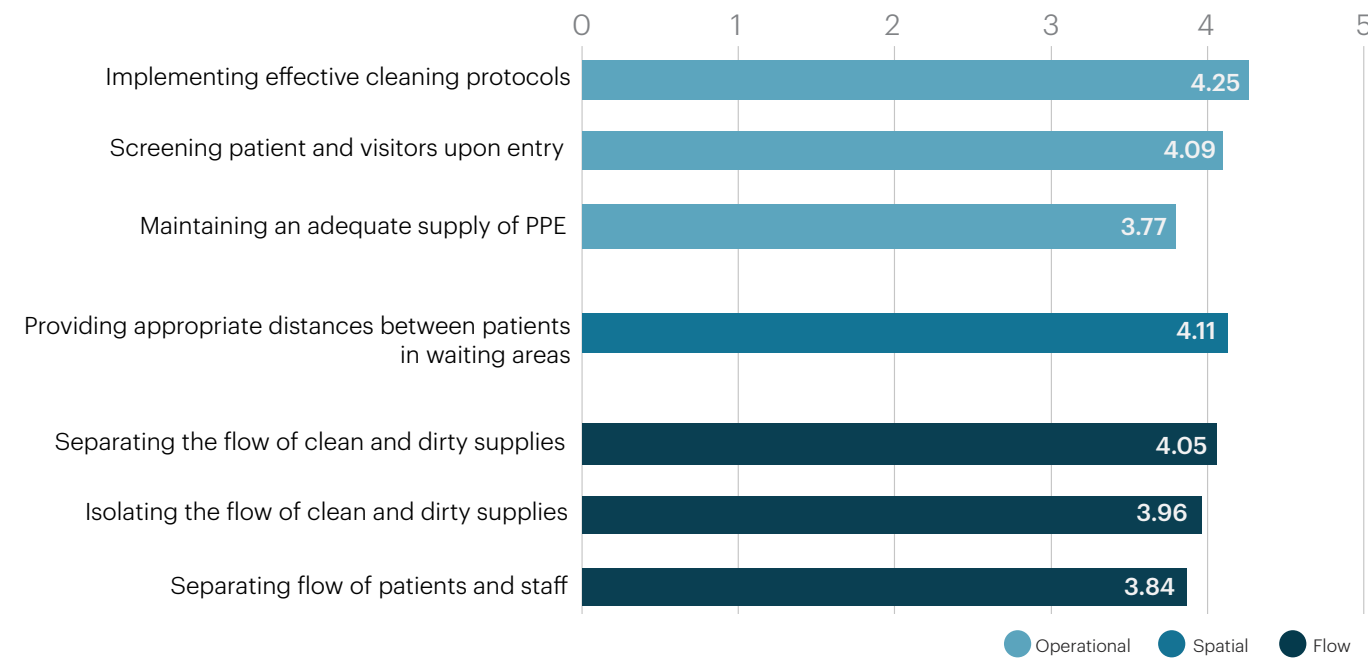
Excessive noise, distractions, and lack of privacy have a deterrent effect on physician preference of shared workspaces, despite increased opportunity to collaborate with colleagues.

How satisfied are physicians with their clinic's ability to respond to COVID-19? Was the facility equipped to respond to the COVID-19 crisis?
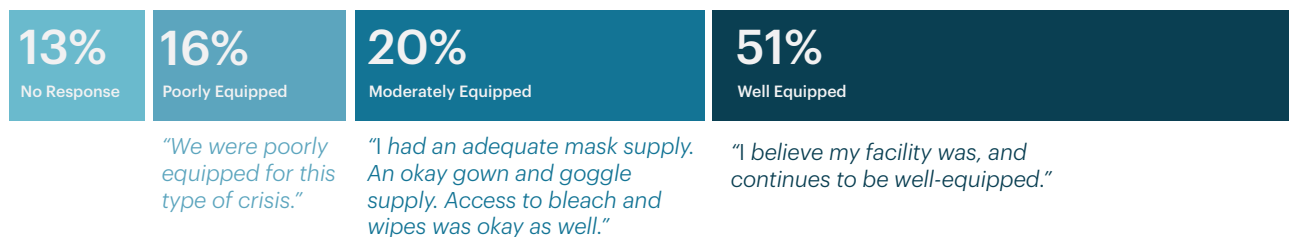
Participants were asked how satisfied or dissatisfied they were with their clinic's ability to respond to the COVID-19 crisis on the scale of 1 to 5, with one (1) being very dissatisfied to five (5) being very satisfied. Respondents were most satisfied with **operational** strategies and mandates, followed by **spatial** and **flow** related strategies. Operational strategies included implementation of cleaning protocols (4.25), screening patients and visitors upon entry (4.09), and maintaining adequate supply of PPE (3.77). Providing appropriate distances between patients in waiting areas scored 4.11. Flow strategies included separating flow of clean and dirty supplies (4.05), isolating potentially infected patients (3.96), and separating flow of patients and staff (3.84).

SATISFACTION WITH EXISTING CONDITIONS

Condition	Score
Implementing effective cleaning protocols	4.25
Screening patient and visitors upon entry	4.09
Maintaining an adequate supply of PPE	3.77
Providing appropriate distances between patients in waiting areas	4.11
Separating the flow of clean and dirty supplies	4.05
Isolating the flow of clean and dirty supplies	3.96
Separating flow of patients and staff	3.84

● Operational ● Spatial ● Flow

PHYSICIAN OPINION OF FACILITY POORLY OR WELL EQUIPPED

13% No Response	16% Poorly Equipped	20% Moderately Equipped	51% Well Equipped
	"We were poorly equipped for this type of crisis."	*"I had an adequate mask supply. An okay gown and goggle supply. Access to bleach and wipes was okay as well."*	*"I believe my facility was, and continues to be well-equipped."*

Physicians were most satisfied with the effective cleaning protocols, appropriate distances between waiting patients, patients and visitors screening upon entry followed by separating flows of clean and dirty supplies.

What changes did physicians make to their facilities in response to COVID-19?

SPATIAL ADAPTATION CHANGES

28%
Spatial Adaptations
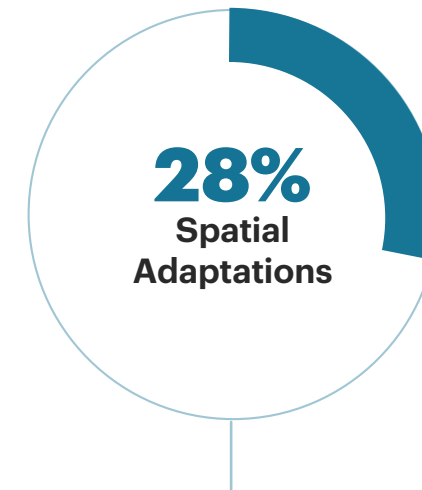
01 Barriers between patient and staff

02 Spacing chairs in waiting rooms

03 Converting administrative space into exam rooms

04 Identifying dedicated isolation rooms

05 Separate COVID-19 screening tents

06 Drive-thru labs

In addition to quantitatively rating satisfaction for specific infection prevention items, participants were asked an open-ended question about changes made to the facility in response to COVID-19. The majority of participants (87 percent) mentioned some changes made in their facilities to respond to COVID-19. Few participants reported no changes (9 percent) and the remainder did not respond (4 percent).

Of those who specified changes made in the facility, a substantial number of participants (73 percent) elaborated implementation of **operational strategies and mandates** to reduce infection transmission. These included increased procurement and access to supplies, increased diligence in screening, more stringent cleaning protocols, enforced mask mandate compliance, limiting patient volumes, and changes in visitation policies. **Spatial adaptations** (28 percent) included installing barriers between patients and staff, identifying dedicated isolation rooms, setting up drive-thru labs and separate COVID-19 screening tents, converting support space to exam rooms, spacing chairs out in waiting rooms to adhere to social distancing guidelines. Some participants (24 percent) highlighted **flow changes** like directing patient with respiratory symptoms to urgent clinics, encouraging patients to wait in their car instead of waiting rooms, separating potentially infected patients. Few providers (16 percent) indicated the **telehealth utilization** to minimize in-person patient volumes and to increase staff safety. Changes to **staffing** (8 percent) included appointing an assistant to bolster screening at the entrance, staggered shifts, reduced staff members per shift, transparent communication between staff, and increased training and awareness.

Of the participants who mentioned changes implemented by their facilities, the majority (80 percent) expressed that the changes were successful in minimizing transmission of infection between patients and staff, increasing staff safety, no reported mortality, and overall preparedness. Few participants (8 percent) expressed that the changes were unsuccessful with respect to patient experiences and stolen supplies like masks and sanitizers.

Physicians mentioned spatial changes at various scales from installing barriers at the reception desk and repurposing existing space to modifying the outdoors for setting up drive thru labs and temporary screening tents.

TAKE AWAYS

CLINIC 20XX, IN THE COVID-19 ERA [PATIENT PERSPECTIVE]

1. Patients first. Consumers second. While there is a shift to seeing themselves as a consumer "buying" health services rather than a patient "needing" health services compared to six years ago, a majority of the patients still see themselves as patients first. This implies that a choice-based, consumer-centered focus is relevant, but only when focused on the foundational needs of patients.

2. Experience and service are inseparable, especially for younger generations. Furthermore, the digital touch points have gained prominence over the last six years and are foundational to overall satisfaction.

3. Phone is the portal to health, especially for Millennials. Younger patients see the phone as a portal to health services, and older generations are shifting in their thinking towards this as well. Millennials are ready for primary care to go virtual, Boomers are waiting the pandemic out, and Gen Xers are on the fence.

4. Coverage, cleanliness, and convenience set the foundation of a successful primary care experience. Convenience means different things to different generations. For Boomers it is about on-site diagnostics, while for Gen Xers and Millennials it is also about on-site medications, less than 30-min wait, and distance from home.

5. Cleanliness is King - especially for Millennials. While cleanliness was rated in the top three criteria for the ideal experience, across generations, it was by far the most important consideration for Millennials. The importance of cleanliness has only increased since the survey was last conducted six years ago, likely due to the pandemic.

6. Information is Queen and the Digital Front Door is open. Six years ago our survey respondents rated their trust in people as being more than their trust in information, but it was close. Millennials leaned towards information and Boomers towards people. In 2021, there is a distinct shift to trust in information over people.

7. Digital experience defines satisfaction with in-person visit. While rating in-person experiences, patients still mention digital convenience like online registration and mobile apps.

8. The ideal clinic experience is defined by a seamless process that spans digital and physical entry points, empathetic and knowledgeable-providers, and amenity-rich and clean environments. In the last six years there has been a shift from on-site amenities (like a spa-like atmosphere and on-site retail) to digital amenities like health-tracking mobile apps.

CLINIC 20XX, IN THE COVID-19 ERA [PHYSICIAN PERSPECTIVE]

1. Physicians want less regulation, more time with patients, and more integrated information systems. COVID-19 has pushed even more time away from the patients on administrative tasks and primary care physicians value the patient relationship which is at risk. While excited about telehealth, physicians are still skeptical about the regulatory reform needed to make it successful.

2. For physicians it is about relationship and trust. Time, seamless process, regulations and reimbursement, and integrated information systems are necessary towards building trusted relationships.

3. Physicians are looking for adequate space, comfort, access to equipment, and good environmental quality in their clinic spaces. Physicians do not consider all the bells and whistles around wellness amenities a priority. Additionally, the desire for private offices has only increased since the pandemic, likely due to the number of private conversations via telehealth, physicians have to engage in.

Design Implications

Patient and provider perspectives, layered on the key drivers and emerging trends, suggest seven key principles to design primary care clinics that are change-ready. These principles can then be translated to implications for site, building, interior, operations and technology design.

Seven Key Principles

3C
Cleanliness, Convenience, Cost

Excel at the basics - 3Cs of Cleanliness, Convenience, and Cost.

CLOUDPRINT + FOOTPRINT
Digital and Physical Convergence

Develop a seamless and aligned experience across your cloudprint and footprint.

FLEXIBILITY
Over time + rapid

Invest in flexibility that can allow clinics to adapt to both future care models (over time) and unforeseen circumstances (rapid).

CONNECTIVITY
Patients, Providers, System, Community

Ensure connectivity at all levels - between patients, providers, health systems, and community.

ANCHOR
Health + Wellness

Position the primary care clinic as an anchor of health and wellness in the community.

EXPERIENCE
Sense of Place, Attitude, Quality

Double down on experience which includes service and care quality, care team expertise and attitude, and overall sense of place.

RELATIONSHIP
Building Authentic Communities and Connections

Relationship. Relationship. Relationship. Build clinics that can be portals for authentic relationships between patient, provider, system, and community. This is the foundation under all considerations are made.

Design Implications

Site

- Site selection that enables easy access to patients' homes
- Easy access and parking
- Site planning that allows community engagement
- Wellness focused landscape that welcomes community
- Multi-functional open spaces that can flex for alternate use
- Consider sites with complimentary resources (pharmacy/ retail etc.)

Building

- Flexibility in the planning chassis in terms of versatility (different use of same place) and modifiability (ability to change with minor modifications)
- On-site labs & diagnostics
- Physician focused work areas in close proximity to exam rooms
- High level of digital integration at all physical touchpoints
- Distributed opportunities for collaborative work at multiple scales
- Providing a range of different areas where a patient could wait
- Community scale public areas that can flex for alternate use
- Inter-connected standardized clinic modules that allow sharing of resources and flexible scheduling
- Memorable form and curb appeal that reflects community

Interior

- Easy to clean surfaces and finishes
- Re-thinking waiting areas as wellness opportunities [access to nature, wellness amenities, health promotion information, etc.]
- Range of affordances in any areas that a patient might wait to allow physical and digital engagement
- Provide portals for digital engagements in clinic spaces
- Enable technology needs [power outlets, wifi, etc.]
- Good indoor environmental quality [noise mitigation, air quality, ventilation, thermal comfort, etc.]
- Communication touchdowns that help patients navigate their care
- Memorable experience that builds community

Operations

- Patient choice in where, how, and when they receive care
- Efficient process in terms of overall workflow
- Same-day appointment and referral capacity
- Patient agency on where they wait during a clinic visit
- Physician training for positive attitude and digital expertise
- Wellness services as part of primary care linked to community resources
- Transparency in reimbursement and regulations to manage expectations
- Tie in with local community health allied organizations

Technology

- Access to a digital front door to reduce total visit time
- Mobile apps and geo-location technology for easy access
- Coordinated health information systems accessed through the patient portal/ phone
- Platforms that improve care team communication and satisfaction

LIMITATIONS & NEXT STEPS

Limitations and Next Steps:

It is important to note that the patient and provider surveys were conducted at two distinct times during the global COVID-19 pandemic (Patients – January 2021; Providers – May 2020). As such, findings from these surveys provide unique insight into patient and provider perspectives of outpatient care during an unparalleled time in history. However, it is important to note that the survey does not include the critical perspective of the extended care team. Moreover, we do not have the perspective of large health systems who are changing the face of primary care today.

Due to the global pandemic, many of the drivers and trends that were identified in the 2015 report accelerated at unprecedented rates, while new drivers and trends rapidly emerged. The pandemic also fundamentally changed patient and providers, preferences, expectations and needs for outpatient care delivery. As with any study that has been conducted during the pandemic, these findings reflect the uncertainty and rapidly changing context of care delivery during this time. It will take time to see what changes stick,

what changes are further accelerated, and what changes diminish post-pandemic. Our relatively small sample size of 330 patients and 103 providers should also be taken into consideration, as well as the lack of insights from care team members in addition to the physician. The sample size was also too small to understand the nuances of perception changes based on gender and ethnicity.

With increasing primary care provider shortages and healthcare worker burnout at peak levels, it is essential to consider how these drivers will collectively impact on emerging care models and care team members, preferences and expectations moving forward.

This study concludes what has been a six-year exploration of how to design for change in the face of an ever-changing present. It is our hope that others will take the insights from this report, continue to ask questions, and use it as a starting point for meaningful innovation.
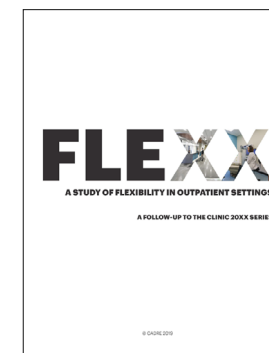
Learn more about the Clinic 20XX and FleXX work [click here].
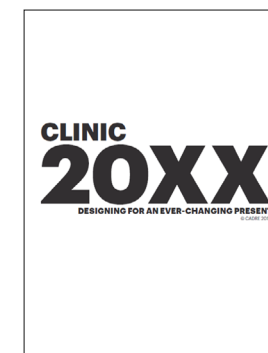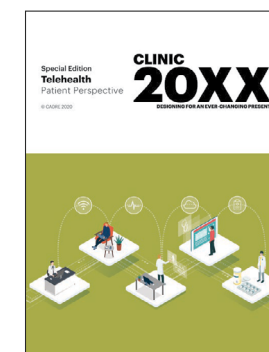

Clinic 20XX
2015
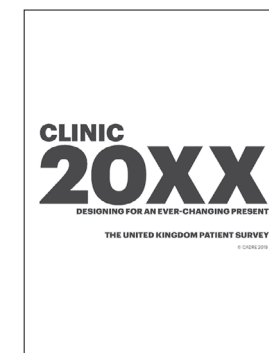
Clinic 20XX UK (Patient)
2018

FleXX
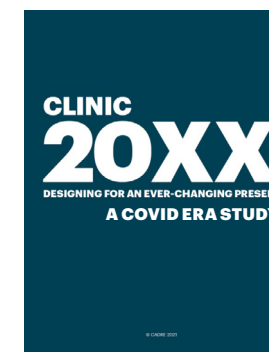*2019*

FleXX Contagion
2020

Clinic 20XX Telehealth (Physician)
2020

Clinic 20XX Telehealth (Patient)
2020

Clinic 20XX (2.0)
2021

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