Health System Insights

Thomas Kiesau
Director and Digital Health Leader, The Chartis Group

STATE OF HEALTHCARE

HIMSS 21

DISCLAIMER: The views and opinions expressed in this presentation are those of the author and do not necessarily represent official policy or position of HIMSS.
Respondents represented a mix of geographies, with the smallest cohort from the Southwest. Most were from urban and suburban areas, stand-alone community hospitals, or regional health systems, with $500 million to $5 billion in revenue.

### Geographic Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>MW</td>
<td>44</td>
<td>20%</td>
</tr>
<tr>
<td>ME</td>
<td>59</td>
<td>26%</td>
</tr>
<tr>
<td>SE</td>
<td>47</td>
<td>21%</td>
</tr>
<tr>
<td>SW</td>
<td>23</td>
<td>10%</td>
</tr>
<tr>
<td>W</td>
<td>52</td>
<td>23%</td>
</tr>
</tbody>
</table>

“In which region of the country are you personally located?”

[“Personally” was used in case the health system was national]

### Geographic Position

<table>
<thead>
<tr>
<th>Position</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>85</td>
<td>38%</td>
</tr>
<tr>
<td>Suburban</td>
<td>85</td>
<td>38%</td>
</tr>
<tr>
<td>Rural</td>
<td>34</td>
<td>15%</td>
</tr>
<tr>
<td>Mix of Urban, Suburban and/or Rural</td>
<td>21</td>
<td>9%</td>
</tr>
</tbody>
</table>

“How is your health system’s geographic position best described?”

### Health System Type

<table>
<thead>
<tr>
<th>Type</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stand-Alone Community Hospital</td>
<td>68</td>
<td>30%</td>
</tr>
<tr>
<td>Regional or Multi-state Health System</td>
<td>99</td>
<td>44%</td>
</tr>
<tr>
<td>National Health System</td>
<td>13</td>
<td>6%</td>
</tr>
<tr>
<td>Academic Medical Center / Health System</td>
<td>43</td>
<td>19%</td>
</tr>
<tr>
<td>Children’s Hospital</td>
<td>2</td>
<td>1%</td>
</tr>
</tbody>
</table>

“How would you characterize your health system?”

### Health System Revenue

<table>
<thead>
<tr>
<th>Revenue Range</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;$250m</td>
<td>28</td>
<td>12%</td>
</tr>
<tr>
<td>$250-$499m</td>
<td>38</td>
<td>17%</td>
</tr>
<tr>
<td>$500-$999m</td>
<td>59</td>
<td>26%</td>
</tr>
<tr>
<td>$1B-$4.99B</td>
<td>57</td>
<td>25%</td>
</tr>
<tr>
<td>$5B-$9.99B</td>
<td>23</td>
<td>10%</td>
</tr>
<tr>
<td>$10B+</td>
<td>15</td>
<td>7%</td>
</tr>
<tr>
<td>Other/Unknown</td>
<td>5</td>
<td>2%</td>
</tr>
</tbody>
</table>

“What best represents your health system’s revenue range, pre-COVID?”
Overall, Digital Health Is Perceived to be Integral and Beneficial to Health Systems

On a scale from 1-5, to what extent do you generally believe the following about digital health:

- Should be Integrated into Care Model: 3.9
- Will Advance Long-Term: 3.8
- Can Create a Competitive Advantage: 3.7
- Can Help Close Care Disparities: 3.6
- Is Separate from Core Delivery: 2.9
- Has No Clear ROI: 2.7
- Is Not Suitable for 65+: 2.6
- Was Temporary for COVID: 2.6
- Is Too Risky for Privacy & Security: 2.6
- Mostly Means Video Visits: 2.5

Bars represent averages for each response, on a scale of 1-5.
Regulatory Environment—Not Technology—Greatest Digital Health Barrier

What do you see as the biggest barriers to digital health adoption?

- Reg/Reimbursement: 59%
- Physician Buy-In: 42%
- Need for In-Person Interaction: 35%
- Organizational Investment: 31%
- Patient Demand: 28%
- Operations Challenges: 26%
- Technical Issues: 18%
Most Health Systems Have Digital Programs—Opportunities Exist to Accelerate & Expand

Which best describes your digital health efforts to date?

- System-wide coordination of efforts, with clear growth plans and roll-outs
- Targeted high-impact efforts with KPIs/outcomes being tracked
- Numerous pilots, with broader rollout TBD
- Select initiatives at early stages
- We haven’t really started
- I don’t know

52% Have not progressed digital health beyond pilot stages

N = 225
Access & Cost Reduction Lead Digital Priorities List

As it relates to digital health, what are your organization’s top 3 priorities? Please rank order your top 3, where 1 is your top priority, 2 is your second priority, and 3 is your third priority.

<table>
<thead>
<tr>
<th>Priority</th>
<th>Expand Patient Reach</th>
<th>Improve Patient Access</th>
<th>Improve Physician Access</th>
<th>New Business Models/Revenue</th>
<th>Manage Populations/Risk</th>
<th>Differentiate Programs/Services</th>
<th>Reduce Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9.8%</td>
<td>34.7%</td>
<td>8.9%</td>
<td>13.8%</td>
<td>5.8%</td>
<td>4.9%</td>
<td>16.9%</td>
</tr>
<tr>
<td>2</td>
<td>14.7%</td>
<td>17.3%</td>
<td>10.7%</td>
<td>9.8%</td>
<td>10.7%</td>
<td>8.4%</td>
<td>23.1%</td>
</tr>
<tr>
<td>3</td>
<td>14.7%</td>
<td>15.6%</td>
<td>8.9%</td>
<td>13.8%</td>
<td>15.6%</td>
<td>8.0%</td>
<td>18.2%</td>
</tr>
</tbody>
</table>

This heatmap uses green to represent the responses with the highest numbers and red for the lowest, with gradients in between.

N = 213 (excludes those answering “I don’t know” or “We haven’t really started” on Question DH4)
Those Not Measuring Digital Progress Are Behind

How are digital health initiatives currently tracked and monitored?

- System-level dashboards tracking all initiatives and real-time progress: 28.6%
- Annual goal setting with regular (e.g., quarterly) progress updates: 31%
- Centrally managed inventory of efforts, but limited/no progress tracking: 20.7%
- No central tracking, but monitored at department levels: 12.7%
- There is no formal tracking or monitoring: 7%

N = 213 (excludes those answering “I don’t know” or “We haven’t really started” on Question DH4)

60% Are measuring/ tracking digital health program performance
**Most Health Systems Have or Will Have a Chief Digital Officer**

Our health system has a Chief Digital Officer.

- **Yes**: 35%
- **No, but planning to establish this role in the next 1-2 years**: 27%
- **No, but planning to establish this role in the next 5+ Years**: 7%
- **No, and no plans to establish this role**: 31%

N = 213 (excludes those answering “I don’t know” or “We haven’t really started” on Question DH4)
Most Want to See More Patients Using Their Portal

What percent of your patients are currently using your patient portal (e.g., activated or registered), and what percentage do you need to get to be considered successful?

**Patient Portal: Current Use**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Current Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 9%</td>
<td>6%</td>
</tr>
<tr>
<td>10 - 29%</td>
<td>29%</td>
</tr>
<tr>
<td>30 - 49%</td>
<td>36%</td>
</tr>
<tr>
<td>50 - 69%</td>
<td>23%</td>
</tr>
<tr>
<td>70 - 100%</td>
<td>3%</td>
</tr>
<tr>
<td>I don't know</td>
<td>5%</td>
</tr>
</tbody>
</table>

**Patient Portal: Success Goal**

- Unknown Current State: 24%
- Success < Current: 3.6%
- Current = Success: 3.6%
- Success > Current: 69.8%

N = 179 (excludes those answering “No” to currently having a patient portal in place)
Most Already Have Online Scheduling or Plan to Soon, But Need Strategy for Patient Adoption

1. My organization currently has online self-scheduling in place.
2. What percent of your appointments are currently self-scheduled online by your patients (new and established patients, all specialties)?

N = 213 (excludes those answering “I don’t know” or “we haven’t really started” on question DH4)

N = 96 (only those who answered “yes”)
AI/ML Efforts Are Relatively Nascent

Which best describes your hospital or health system’s AI/ML efforts to date?

**AI/ML Efforts: Current**

- System-Wide, Coordinated: 8%
- Targeted for High-Impact: 19%
- Pilots, Rollout TBD: 24%
- Early-Stage Initiatives: 22%
- Haven’t Started: 23%
- I don’t know: 4%

70% have yet to establish strategic AI/ML programs.
Most Health Systems Think They Should Increase AI/ML Investment

How will the system’s level of investment in AI/ML solutions need to change to achieve future enterprise goals?

68% Believe investments in AI/ML will need to grow to meet enterprise goals

**AI/ML Change Needed**

- Reduce future investment levels: 12%
- Maintain current level of investment: 12%
- Marginally increase investment levels: 38%
- Significantly increase future investment levels: 30%
- I don’t know what our current level of investment is: 8%

N = 225
No Consensus on AI/ML Applications, but Operations Leads the Way

On a scale from 1-5, how would you rank the following scenarios as viable candidates for utilizing AI/ML in your organization?

Bars represent averages for each response, on a scale of 1-5. N = 225

- Diagnosis
- Triage
- Care Plan
- Clinical Trials
- Surgical Robots
- Customer Chatbots
- Imaging/Lab
- Admin
- Disease Risk
- Referrals
- Remote Patient Registration
- Voice-assist Charts
- Supply
- Dosage Error Detection
- Fraud Prevention
- Insurance
- Cybersecurity
- Supply
- Operational Use
- Population Management
- Clinical Interventions
- N = 225

Bars represent averages for each response, on a scale of 1-5.
There’s a General Belief in AI/ML Benefits but also a Need for Greater Understanding

On a scale from 1-5, how much do you agree with the following statements about AI/ML now?

### Top Positive Perceptions
- Increases Jobs
- Focuses Workload
- Mitigates HC Disparities
- Reduces Cost
- Usage/Applications are Transparent

### Stakeholder Perceptions
- Consumer Understanding
- Executive Understanding

### Top Negative Perceptions
- Reduces Employees
- Creates Risk
- Increases HC Inequity

Bars represent averages for each response, on a scale of 1-5. N = 225
Fee for Service Still Dominant Revenue Source

What is your current revenue between fee for service and value-based care arrangements?

- Fee for Service (FFS): 68%
- Value-Based Care (VBC): 32%
Other Hospitals Are Perceived as the Primary Competitive Threat

Today, what impact are the following having on your organization's revenue?

Bars represent averages for each response, on a scale of 1-5.
Cost Efficiencies and Partnerships Are Expected to Help Improve Financial Health

How much of a priority are each of the following tactics to improving your financial position? (1-5, 5=essential priority)

Bars represent averages for each response, on a scale of 1-5.

N = 225
Key Takeaways

• Digital Health programs have significantly accelerated in their impact, sophistication, and strategic importance. The greatest barriers to adoption are not technology or patient demand, but uncertainty in regulatory/reimbursement and internal change management.

• Most providers already offer virtual visits and are now shifting focus to other digital use cases to gain a competitive advantage in this more digitally advanced post-pandemic landscape.

• Across provider organizations, Chief Digital Officer is becoming a more common role.

• Most providers have set up a patient portal, but not all are achieving the level of patient engagement that they desire. Some are not yet tracking its utilization.

• There’s a general awareness of AI/ML but not understanding of its value proposition. Strategic AI/ML programs are relatively nascent, but investment is expected to increase. Operational use cases are likely to drive the first wave of adoption.

• As investment needs increase, provider organizations are still squarely in a FFS world, but value-based care now comprises a more significant share of reimbursement dollars than ever before.

• While competitive focus remains on traditional provider rivals, a significant awareness has already emerged regarding new entrants and potential market disruptors.
Clinician Insights

Darryl Gibbings-Isaac, MD
Senior Manager–Strategy, Clinical Subject Matter Expert, Accenture

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Methodology

About the research

In March 2021, Accenture surveyed 309 clinicians in the U.S. to understand their perspectives on the current state of industry changes and identify what is shaping the path ahead.

Respondents had to meet the following selection criteria to participate in the survey:
- Currently practicing medicine
- Directly responsible for making diagnoses and treatment decisions
- Hold a clinical degree: MD; DO; PsyD; PhD; Master of Science in Nursing (MSN); Doctor of Nursing Practice (DNP); other clinical degree (PA)

Digital
- Interoperability and workflow support
- Concerns about privacy and security

AI/ML
- Perception of and any fear AI/ML will accelerate burnout
- Willingness to use & level of trust in the output

Financial
- Pandemic recovery
- Payment reform
- Investment perspective

Note: Six respondents selected two or more states and three of which the states are not in the same region.
Despite the pandemic, clinicians emerged optimistic about their careers.

Question

To what extent do you agree with the following statements regarding your profession and recent pandemic impacts?

- Strongly agree and agree with the statement "I'm generally satisfied with my career" - 86%
- Did not consider leaving medicine during the past 12 months - 72%
- Would recommend practicing medicine as a career to the next generation - 65%

N=309
Nearly half of clinicians are early adopters of tech for their personal lives.

Question

How would you describe the role of technology in your daily life outside of the clinical setting?

- I love to stay ahead of the latest developments in technology and want to be the first to have the newest tools: 44%
- I pay attention to what others around me are using and adopt based on recommendations: 53%
- I avoid having to get or use new technology: 3%

N=309
Clinicians appreciate digital health tools and recommend use…

- **92%** Have recommended digital health tools to patients
- **78%** Strongly agreed and agreed that the pandemic resulted in helpful changes like adoption of virtual care, telehealth, etc.
- **57%** Strongly agreed and agreed that digital health tools were user-friendly and easy to learn

**Question** Have you recommended the use of any of the following digital health tools to your patients?

**Question** To what extent do you agree with the following statements regarding digital health tools that were introduced to you during the pandemic?

**Question** To what extent do you agree with the following statements regarding your profession and recent pandemic impacts?

N=309
....but adoption barriers exist.

Question

What hinders you from adopting new digital health tools in general?

- **Lack of interoperability**: 61%
  - Respondents emphasize lack of interoperability between different IT systems.

- **Security concerns**: 41%
  - Respondents have concerns over security of patient data.

- **Lack of integration**: 39%
  - Respondents point out that digital health tools do not fit in their clinical workflows.
Digital tools must make life easier for clinicians and outcomes better.

Question

Which statement best describes "must be true" for you to adopt a digital health tool?

- Does not need to make my life easier, but must significantly improve clinical outcomes (25%)
- Does not need to improve clinical outcomes, but must make my life easier (11%)
- Must make my life easier and significantly improve clinical outcomes (64%)

N=309
Clinical effectiveness of digital tools is pivotal for patient recommendation.

Question

If recommending digital health tools to patients, what are the most important factors?

- Clinical effectiveness (i.e., Does this improve an outcome?) - 65%
- Workflow integration - 38%
- Security and privacy - 38%
- Patients knowledge of the tool - 26%
- Patients can fill in information about their medical condition - 19%
- My time to make the tools productive - 18%
- My liability or reputation (i.e. Am I responsible for or associated with a patient’s experience with a digital… - 15%
- My reimbursement - 13%
- I do not recommend digital health tools to my patients - 6%

N=309
More than half of clinicians feel responsible for patients’ data issues.

Question

“I feel personally responsible for any privacy issue or misuse of my patient’s personal health information that might arise from the use of a digital health tool that I prescribe.”

<table>
<thead>
<tr>
<th>Agreement Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>12%</td>
</tr>
<tr>
<td>Somewhat Agree</td>
<td>41%</td>
</tr>
<tr>
<td>Indifferent</td>
<td>18%</td>
</tr>
<tr>
<td>Somewhat Disagree</td>
<td>16%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>13%</td>
</tr>
</tbody>
</table>

N=309
There is equal use of and interest in AI for clinical and admin support.

Question

Are you using or interested in using artificial intelligence tools in any of the following areas?

- Administrative support (e.g., note taking)
- Clinical insights and diagnosis (e.g., X-ray scan)
- Patient management and treatment (e.g., pre-visit triage, real-time decision support)
- Early detection of illness or condition

<table>
<thead>
<tr>
<th>Area</th>
<th>Use Now</th>
<th>Not using now, but interested in using the future</th>
<th>Not using now and not interested in using in the future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative support (e.g., note taking)</td>
<td>22%</td>
<td>67%</td>
<td>11%</td>
</tr>
<tr>
<td>Clinical insights and diagnosis (e.g., X-ray scan)</td>
<td>19%</td>
<td>72%</td>
<td>9%</td>
</tr>
<tr>
<td>Patient management and treatment (e.g., pre-visit triage, real-time decision support)</td>
<td>18%</td>
<td>73%</td>
<td>9%</td>
</tr>
<tr>
<td>Early detection of illness or condition</td>
<td>12%</td>
<td>80%</td>
<td>8%</td>
</tr>
</tbody>
</table>
Clinicians See the Clinical Benefits of AI.

Question
Considering tools and software with artificial intelligence, what benefits do you see?

Better diagnosis
Respondents emphasize better diagnosis (e.g., judgment, diagnostic decision, imaging or pathology).

Greater accuracy
Respondents think that AI brings on greater procedural accuracy (e.g., surgical robot, intervention).

Better care
Respondents point out that AI can allow them to spend more time with patients.

N=309
1 out of 5 clinicians have received training about AI and digital tools.

**Question**

Have you received training or information about new digital health tools and artificial intelligence?

- 50% Yes, from my health organization or medical association
- 26% No, but it is upcoming
- 19% No, was not offered and is not upcoming
- 5% Unsure
- 4% No, was not offered and is not upcoming
Most Clinicians Feel Financially Stable Despite Past Pandemic Impacts.

- **43%** said their financial situation worsened in the past 12 months.
- **70%** described their practice's current financial position as (highly or somewhat) stable.

**Question**
Did your financial situation change in the past 12 months?

**Question**
How would you describe your practice’s current financial position?
Healthcare State: Resiliency in the New Normal

• Coming out of the peak of the pandemic, clinicians were showing greater optimism and generally satisfied with their career (86%). The pandemic was certainly challenging with nearly 30% of clinicians considering leaving medicine.

• However, clinicians still have a promising outlook for the future with 65% saying they would recommend the profession to the next generation.

Digital Health Tools: Continued Acceleration

• Adoption of digital health tools accelerated during the pandemic. However, over 60% of clinicians still cite lack of interoperability between different systems as a hurdle to adopting new digital health tools.

• Security is a key consideration of adoption, but 82% of clinicians trust in their organization’s ability to protect patient health information.

• Clinicians are highly likely to recommend digital tools to patients (92% recommend tools, with the top three recommendations being: 60% electronic health records, 57% remote and virtual care with a healthcare professional, 52% mobile/tablet applications).
Key Takeaways (continued)

AI/ML: Openness and a Growing Need for Training
- There is an opportunity to share information and provide training around AI/ML as only one in five clinicians have received training to date. For those who are not using and not interested, lack of trust in the AI/ML developers was the greatest reason for hesitation.

Financial Impact: Less Stability, But Not Devastation
- The financial impact of the pandemic seemed manageable with 70% of clinicians describing their current financial position as stable and only 12% of practices being somewhat or highly financially unstable.
- Improving clinical outcomes far outweighed financial incentives in encouraging clinicians to recommend digital tools to patients (clinical effectiveness was the most important factor with 65%; and reimbursement was the least important factor with only 13%).
Payer Insights

Shreesh Tiwari
Principal, Leader of Health Plan & Provider Digital, Analytics & Technology Practice, ZS

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Payer Research Focus

Digital health implementations, artificial intelligence/machine learning (AI/ML) operations, and financial health / regulations

**Years of experience in health insurance industry**

<table>
<thead>
<tr>
<th>Experience Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater than 25</td>
<td>9%</td>
</tr>
<tr>
<td>15 to 25</td>
<td>14%</td>
</tr>
<tr>
<td>10 to 15</td>
<td>24%</td>
</tr>
<tr>
<td>5 to 10</td>
<td>50%</td>
</tr>
<tr>
<td>3 to 5</td>
<td>3%</td>
</tr>
</tbody>
</table>

*Average of 15+ years of payer experience*

**Most recent position in health insurance industry**

<table>
<thead>
<tr>
<th>Position</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director</td>
<td>17%</td>
</tr>
<tr>
<td>Senior Director</td>
<td>22%</td>
</tr>
<tr>
<td>Assistant Vice President / Vice President</td>
<td>12%</td>
</tr>
<tr>
<td>Senior / Executive Vice President</td>
<td>24%</td>
</tr>
<tr>
<td>C-suite Executive President</td>
<td>18%</td>
</tr>
<tr>
<td>President</td>
<td>7%</td>
</tr>
</tbody>
</table>

*~50% are executive leaders*

**Number of members covered across all lines of business**

<table>
<thead>
<tr>
<th>Membership Range</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 million or more</td>
<td>14%</td>
</tr>
<tr>
<td>5-10 million</td>
<td>22%</td>
</tr>
<tr>
<td>1-5 million</td>
<td>25%</td>
</tr>
<tr>
<td>500 thousand-1 million</td>
<td>24%</td>
</tr>
<tr>
<td>100 thousand-500 thousand</td>
<td>14%</td>
</tr>
<tr>
<td>Fewer than 100 thousand</td>
<td>1%</td>
</tr>
</tbody>
</table>

*~60% represented payers with >1 million members covered*

**Payers by membership coverage**

- National: 37%
- Multi-state: 58%
- Single state: 5%
- Community: 8%

Data labels <3% are not displayed in the charts. How long have you been working in the health insurance industry? Which of the following titles best describes your “most recent position” in the health insurance industry? Please select the approximate number of members covered by your company across all lines of business. At what level does your company operate?
Healthcare Costs Continue to Rise

Expected change in healthcare costs and spend:

- Aging population is the top reason for an increase in costs
- Increased utilization and safety measures follow closely, likely as a result of an aging population

Key Factors:
- Aging Population: 41%
- Increased Utilization: 38%
- Safety Measures: 38%
- Future Outbreaks: 25%
- Mental Health Issues: 36%
- Poor Lifestyle: 22%

What are your expectations with regards to trends in healthcare costs and spend over the next few years? (Rank 1 vs Rank 2&3). Which of these do you expect to be the drivers influencing an increase in healthcare costs over the next few years? (Rank 1&2)
COVID-19 Led to an Increase in Technological Adoption and Innovation Throughout Healthcare, Spanning Across Multiple Functional Areas

**DIGITAL HEALTH IMPLEMENTATIONS**

- **64%**
- Reported an accelerated adoption of digital health initiatives coming out of COVID-19

  **Key Focus Areas:**
  - Virtual care/telehealth
  - Provider engagement
  - Member acquisition

**AI/ML OPERATIONS**

- **53%**
- Reported an acceleration in adoption in AI/ML practices coming out of COVID-19

  **Key Focus Areas:**
  - Provider experience
  - Member experience
  - Provider operations
  - Finance/accounting

**FINANCIAL HEALTH AND REGULATIONS**

- **42%**
- Reported that COVID-19 facilitated the adoption of value-based care arrangements

  **Key Focus Areas:**
  - Provider consolidation
  - Emerging health startups
  - Differences in cost/quality

What was the overall impact of digital health initiatives on healthcare delivery during COVID-19? (Rank 1) (N=126). Which digital health initiatives are/will be a strategic focus for your organization, both coming out of COVID-19 and looking ahead to 2025? (N=126). How much impact did COVID-19 have in adoption of AI/ML practices? (Rank 1) (N=116). Which of the following operations in your organization have the highest level of AI/ML involvement, both coming out of COVID-19 and looking ahead to 2025? (N=116). Did the COVID-19 pandemic have an impact on adoption of value-based care arrangements for payments to providers? (Rank 1) (N=134). What are the biggest drivers influencing providers to adopt value-based care arrangements, both coming out of COVID-19 and looking ahead to 2025? (N=134)
INSIGHT 1: Operational maturity is taking hold, and continued improvement is a priority for those driven by AI/ML and automation

- Have a dedicated innovation lab for AI/ML and enterprise-wide adoption (47%)
- Consider improving AI/ML capabilities and driving adoption as extremely high priorities (62%)

Payers are realizing ROI with AI/ML: Half saw significant return, and almost everyone else broke even or better

- Significant Returns: 49%
- Recovered Investments: 48%
- No Returns: 3%

Plans have AI/ML operations almost equally spread across all functions/operations

<table>
<thead>
<tr>
<th>Operations</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payers</td>
<td>42%</td>
</tr>
<tr>
<td>Provider operations</td>
<td>41%</td>
</tr>
<tr>
<td>Provider experience</td>
<td>40%</td>
</tr>
<tr>
<td>Finance and accounting</td>
<td>39%</td>
</tr>
<tr>
<td>Sales and marketing</td>
<td>35%</td>
</tr>
<tr>
<td>Member operations</td>
<td>34%</td>
</tr>
<tr>
<td>Claims operations</td>
<td>34%</td>
</tr>
<tr>
<td>Clinical operations</td>
<td>34%</td>
</tr>
</tbody>
</table>

-N = 116

How would you rate your organization’s current maturity level in AI/ML? (Rank 1).
How much of an organizational priority is it to improve AI/ML capabilities and drive adoption? (Rank 1).
Emerging from the COVID-19 pandemic, how significant were the returns on AI/ML investments for the work you drive within your organization?
Which of the following operations in your organization have the highest level of AI/ML involvement, both coming out of COVID-19 and looking ahead to 2025? (Rank 1, 2, and 3)
**INSIGHT 2: Today’s challenges to innovation are more technological than cultural in nature**

### Key Barriers

#### DIGITAL HEALTH IMPLEMENTATION

- Privacy/security concerns (40%)
- Steep learning curve for patients (39%)
- Data unavailability/reliability (33%)

#### AI/ML OPERATIONS

- Performance/scalability issues (41%)
- Data availability/reliability (32%)
- Keeping pace with rapidly evolving technology (32%)

### Drivers to enhance adoption

#### DIGITAL HEALTH IMPLEMENTATION

- Interoperability (63%)
- Technology enablers:
  - Cloud computing (55%)
  - Internet of Things (50%)

#### AI/ML OPERATIONS

- Evolving data landscape and quality (71%)
- Increased ability to process and compute data (66%)
- Shift in consumer behavior in favor of AI/ML (64%)

---

What are the biggest barriers to patient/member adoption of digital health initiatives over the next 5 years? (Rank 1,2 & 3) (N=126). To what extent do you agree that data interoperability will be a driving force for digital health adoption? (Rank 1) (N=126). Over the next 5 years, what innovations in cybersecurity technologies do you believe will be the biggest enablers to protecting your organization? (Rank 1 & 2) (N=126). What are the biggest challenges your organization is facing with adoption of prescriptive/predictive analytics, both coming out COVID-19 and looking ahead to 2025? (Rank 1, 2 & 3) (N=116). Looking ahead to 2025, which of the following will drive adoption of predictive and prescriptive analytics using AI/ML? (Rank 1) (N=116)
### INSIGHT 3: Payers rely on healthcare IT startups and big tech to drive technology innovations

#### TECHNOLOGICAL INNOVATION

<table>
<thead>
<tr>
<th>Stakeholder involvement</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Health/IT startups <strong>(53%)</strong></td>
<td></td>
</tr>
<tr>
<td>Big tech companies <strong>(47%)</strong></td>
<td></td>
</tr>
</tbody>
</table>

The government plays a key role: ~46% think current policies and regulations keep up with industry evolutions and facilitate innovation

#### ECOSYSTEM INTEGRATION

<table>
<thead>
<tr>
<th>Stakeholder involvement</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Government <strong>(41%)</strong></td>
<td></td>
</tr>
<tr>
<td>Big tech companies <strong>(37%)</strong></td>
<td></td>
</tr>
<tr>
<td>Health/IT startups <strong>(34%)</strong></td>
<td></td>
</tr>
<tr>
<td>Social activists <strong>(33%)</strong></td>
<td></td>
</tr>
</tbody>
</table>

53% think emerging health/IT startups are one of the primary drivers helping facilitate payers – provider integration, and incentive alignment

---

What stakeholder groups do you see driving innovation in digital health, both coming out of COVID-19 and looking ahead to 2025? (Rank 1,2&3) [n=126]. Emerging from the COVID-19 pandemic, do you think government policies and regulations are keeping up with healthcare innovation? (Rank 1) [n=134]. In your opinion, which of the following stakeholder groups will be driving the major healthcare payment reforms? (Rank 1,2&3) [n=76]. Looking ahead to 2025, what do you see as the future of value-based care? (Rank 1,2&3) [N=134]
INSIGHT 4: There’s an increase in provider adoption of VBC arrangements, which has recently been a focus area for regulatory and payment reforms

Current adoption of VBC arrangements

- Providers’ willingness to adopt VBC arrangements is driven by increased consolidations and varied differences in cost/quality
- During the pandemic, providers who operated under VBC arrangements have fared relatively better
- Reforms are primarily focused on provider reimbursements, payment transparency and increased payment for VBC

How likely are major healthcare payment reforms to occur? What areas do you think the healthcare payment reforms will impact the most? (Rank 1 & 2)

Key Areas: Provider Reimbursement 44% Drug Pricing 42%

How percentage of your organization’s payments to providers are done through/expected to be done through value-based care arrangements, both coming out of COVID-19 and looking ahead to 2025?

% of VBC Arrangements

- 75% - 100%: 1%
- 50% - 75%: 10%
- 25% - 50%: 33%
- 10% - 25%: 33%
- 1% - 10%: 22%
- 0%: 1%

~57% have less than 25% of their payments under VBC arrangements
Key Takeaways

- **Operational maturity** is taking hold, and continued improvement is a priority for those driven by AI/ML and automation.
- Today’s **challenges to innovation** are more technological than cultural in nature.
- Payers rely on **healthcare IT startups** and **big tech** to drive technology innovations.
- There’s an **increase in provider adoption of value-based care** arrangements, which has recently been a focus area for regulatory and payment reforms.
### Demographics

**Respondents (100%*=2062)**

**Gender**
- Females: 51% (1052)
- Males: 49% (1010)

**Household Income**
- < $25,000: 18%
- $25,000 to $49,999: 20%
- $50,000 to $74,999: 17%
- $75,000 to $99,999: 13%
- $100,000 to $149,999: 16%
- $150,000 to $199,999: 7%
- > $200,000: 9%

**Location**
- Suburban: 1053, 51%
- Urban: 620, 30%
- Rural: 361, 18%

**Region**
- South: 742, 36%
- Midwest: 474, 23%
- West: 454, 22%
- Northeast: 392, 19%

**Age**
- 18 to 24: 12%
- 25 to 34: 18%
- 35 to 44: 16%
- 45 to 54: 16%
- 55 to 64: 16%
- 65+: 21%

**Generation**
- Gen Z: 294, 14%
- Millennials: 663, 32%
- Gen X: 398, 19%
- Baby Boomers: 607, 29%
- Silent Gen: 100, 5%

*Note: % may not sum up to 100% due to round-ups*
### Demographics

**Respondents (100%*=2062)**

<table>
<thead>
<tr>
<th>MARITAL STATUS</th>
<th>n, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has Partner</td>
<td>1147, 56%</td>
</tr>
<tr>
<td>Never Married</td>
<td>606, 29%</td>
</tr>
<tr>
<td>Other**</td>
<td>310, 15%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EDUCATION</th>
<th>n, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS diploma or less</td>
<td>16%</td>
</tr>
<tr>
<td>Some college / Associates</td>
<td>32%</td>
</tr>
<tr>
<td>4 year degree</td>
<td>32%</td>
</tr>
<tr>
<td>Masters or higher</td>
<td>21%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HISPANIC</th>
<th>n, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic</td>
<td>18%</td>
</tr>
<tr>
<td>Non-Hispanic</td>
<td>82%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ETHNICITY</th>
<th>n, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>1485, 72%</td>
</tr>
<tr>
<td>Black</td>
<td>247, 12%</td>
</tr>
<tr>
<td>Asian</td>
<td>118, 6%</td>
</tr>
<tr>
<td>Other</td>
<td>212, 10%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EMPLOYMENT</th>
<th>n, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Time</td>
<td>875, 42%</td>
</tr>
<tr>
<td>Retired</td>
<td>452, 22%</td>
</tr>
<tr>
<td>Part Time / Self Employed</td>
<td>295, 14%</td>
</tr>
<tr>
<td>Out of Work</td>
<td>207, 10%</td>
</tr>
<tr>
<td>Unable to Work</td>
<td>119, 6%</td>
</tr>
<tr>
<td>Student</td>
<td>114, 6%</td>
</tr>
</tbody>
</table>

*Note: % may not sum up to 100% due to round-ups
**Other = Divorced, Widow/Widower, Separated
*Other: 1%
State of Healthcare: Patients’ Perspective

52% Have had at least one telehealth visit in the last 12 months

79% Believe healthcare costs in America are too expensive

37% Use wearable tech to track their health

For all of your visits with your healthcare provider[s] in the past 12 months, how did you interact with them? Healthcare costs in America are...? Do you currently use a wearable technology device to track any of the below? A device may be an Apple Watch, Fitbit, etc.

N=2062
Two-Thirds Have Visited a Provider in First Three Months of 2021

And when did you see that healthcare provider? Either in person or telehealth

70% of Black patients and 67% of white patients visited a healthcare provider in 2021 v. 57% of Asian patients
71% of baby boomers visited a healthcare provider in 2021 v. 63% of Gen Z and Millennials
50% of uninsured patients visited a healthcare provider in 2021 v. 67% of all others
Most Recent Provider Visit Specialty Or PCP

What type of healthcare provider did you see most recently?

- Specialty: 46%
- Allergy: 7%
- Dermatology: 6%
- ObGyn: 4%
- Cardiology: 4%
- Primary Care/Internist: 34%
- ER/Urgent: 7%
- Mental Health: 6%
- Other: 7%

N=2062
Primary Value of Telehealth is Patient Convenience

When thinking of your telehealth visits in the past 12 months, please tell us your level of agreement with the below statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Disagree/Completely disagree</th>
<th>Neutral</th>
<th>Agree/Completely agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>One reason I prefer telehealth is because it is more convenient for me as a patient</td>
<td>16%</td>
<td>19%</td>
<td>65%</td>
</tr>
<tr>
<td>I want healthcare to go back to what it was like before the pandemic</td>
<td>15%</td>
<td>25%</td>
<td>60%</td>
</tr>
<tr>
<td>I get the same level of care from my provider on a telehealth visit as an in-person visit</td>
<td>31%</td>
<td>23%</td>
<td>45%</td>
</tr>
</tbody>
</table>

N=1074

Only asked of respondents who indicated having at least one telehealth appointment in last 12 months
Younger Patients View Telehealth More Favorably

When thinking of your telehealth visits in the past 12 months, please tell us your level of agreement with the below statements.

N=1074
Only asked of respondents who indicated having at least one telehealth appointment in last 12 months
% Shown represent net of “Completely Agree” and “Agree”
Patients Willing to Share Their Health Data for Treatment Benefits

How willing or unwilling are you to share your personal health data with healthcare organizations if they can do the following for you?

<table>
<thead>
<tr>
<th>Action</th>
<th>Somewhat/Very unwilling</th>
<th>Neither unwilling nor willing</th>
<th>Somewhat/Very willing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Give early detection of illness or condition a patient may have</td>
<td>9%</td>
<td>15%</td>
<td>77%</td>
</tr>
<tr>
<td>Give a more accurate diagnosis</td>
<td>9%</td>
<td>14%</td>
<td>77%</td>
</tr>
<tr>
<td>Help diagnose an illness</td>
<td>9%</td>
<td>14%</td>
<td>77%</td>
</tr>
<tr>
<td>Help treat an illness</td>
<td>9%</td>
<td>14%</td>
<td>77%</td>
</tr>
</tbody>
</table>

N=2062
**Patients are Generally Satisfied with Their Health Insurance**

When thinking of your current health insurance, please tell us your level of agreement with the below statements.

- **My current health insurance is a worthwhile investment**: 8% Somewhat/Completely disagree, 22% Neutral, 70% Somewhat/Completely agree
- **I trust my current health insurance provider**: 9% Somewhat/Completely disagree, 24% Neutral, 67% Somewhat/Completely agree
- **I would recommend my current health insurance to a friend or colleague**: 10% Somewhat/Completely disagree, 23% Neutral, 67% Somewhat/Completely agree
- **The payment my current health insurance says I am responsible for when I see a healthcare provider, which could be a copay or a payment until you meet your deductible, is a reasonable cost**: 12% Somewhat/Completely disagree, 26% Neutral, 62% Somewhat/Completely agree
- **My current health insurance is fairly priced when it comes to the premium I pay per month**: 13% Somewhat/Completely disagree, 26% Neutral, 62% Somewhat/Completely agree

N=1944

Those who are uninsured or not sure of their insurance type did not see this set of questions (n=118 respondents)
Key Takeaways

• **Two-thirds of patients have visited a healthcare provider in early 2021** despite the pandemic.

• **Convenience is a major benefit to telehealth**, with 65% of patients indicating they prefer telehealth due to the convenience compared with in-office appointments.

• Unsurprisingly, younger generations are more favorable toward telehealth—**nearly half of millennials say they will prefer telehealth after the pandemic** compared with less than a quarter of older generations.

• When considering the use of digital health services, patients are concerned level of care may decline—but many are willing to share healthcare data with providers to improve the care they receive.

• **Patients are generally satisfied with their health insurance**, particularly amongst older generations—likely due to differences in plan types between various age groups and/or pandemic impact, the perceived value, including free telehealth and COVID-19 tests.