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Cloud Solutions

# 2021 Healthcare Industry Survey: Interoperability

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Communication in healthcare is complex. Healthcare organizations connect in different ways and with different methods based on needs. Efficiency, effectiveness, compliance, security, and cost are key determining factors for communication. Even with the best intentions, and best-in-class tools, the communication needs of the healthcare industry are constantly evolving — to deliver excellent care, you need to be in front of the communication curve, not behind it.

**The 2021 Industry Survey for Healthcare** asked healthcare professionals how they communicate with other departments, patients, and external healthcare organizations, and looked at methods for communicating both clinical and clerical information, frequency, reasons for choosing a particular method, and the challenges faced. The goal was to understand the challenges that healthcare organizations experience with communication, and what factors ultimately drive better patient care and efficiency.

By looking at how healthcare organizations communicate — understanding the issues they encounter with effective and efficient communication, and where communication needs to evolve to drive better outcomes — the study looked closely at organizations facing difficult, long-term decisions about how to solve their communication needs. Uniquely, this survey looked into why healthcare organizations continue to fax and what barriers currently prevent the adoption of other types of information exchange.

This report provides valuable insight into a quickly evolving industry as healthcare organizations consider their strategy for transformation.

*"For too long interoperability has focused on equality, where everyone uses the same technology, and not on equity, where communication enables health services to be delivered where they are needed most," says Bronwen Huron, Sr. Product Manager, Consensus Cloud Solutions.*

In order to achieve that mission, we need to understand not just how healthcare communicates today, but why, and what they are communicating, to ensure that the digital tools we create support those underlying workflows.

# Methodology

In order to capture a wide picture of the industry, we conducted this survey between June and August 2021. The goal was to reach 1,000 responses to demonstrate a statistically significant sample. By survey close, we received 1,342 responses. This was a dynamic survey that offered participants questions based on their demographics. This, along with the fact that all questions were optional, impacted the individual number of responses per question.

# Findings

## Demographics

In order to understand that we were measuring how healthcare organizations communicate, we made sure to confirm that the respondent's primary business was healthcare. We also found that organizations defined their size by a variety of metrics, including beds, locations, providers, employees, and revenue. We allowed participants to select how they defined their size, number of beds being the most common unit of measurement. We then grouped these metrics into Small, Medium, and Large organizations in order to describe and organize additional findings efficiently. **Of the participants who answered, 44% were from small organizations, 42% were from medium organizations, and 20% were from large organizations.**

Titles within healthcare organizations can be diverse. To understand who took the survey, we mapped respondents' titles to overarching categories (C-Level/Owner, Director, Technical, Management, Clinician, Staff, and Other). Most of the responses came from Leadership (C-Level/Owner and Directors (41%), followed by administrators (18%).

Most respondents came from Long Term Care Facilities or Skilled Nursing Facilities (24%), closely followed by Hospitals & Health Systems (18%). The breadth of respondents was surprising, coming from over 22 different types of organizations, demonstrating the long tail of industries that participate in healthcare communication.

We also wanted to understand how these users stored their documentation containing personal health information. Most commonly, it was stored within an EHR (65%) or within an electronic billing system (39%). However, we did find about a quarter of respondents still kept some kind of paper record (26%). We also

found that nearly a quarter of organizations also kept information in an electronic medication administration record (EMAR) (26%) or a Hospital Information System (HIS) (23%). Together this suggests that many organizations have their PHI in multiple locations, both digitally and physically, to serve multiple uses.

Most responders had either a buying (31%) or influencing (50%) purchasing authority. When asked specifically about their budget we saw a 40% decrease in response, especially amongst the C-Level titles, but those who did respond had a median budget authority of $25-50K.

**Table 1:** *What is your title? (n=415)*

| Title | Primary Job Description | Respondent % |
|---|---|---|
| Admin | Primarily in charge of administrative duties | 18 |
| C-Level/Owner | Top-level decision maker | 16 |
| Director | Oversee departments, programs, or service lines | 25 |
| Technical | Primarily focused on the IT/Infrastructure/Data of Healthcare | 7 |
| Management | Oversees specific projects, programs, services, or staff | 9 |
| Clinician | Delivers healthcare services | 12 |
| Other | Other | 8 |
| Staff | Works at an organization supporting healthcare | 6 |

**Table 2:** *What is your purchasing authority role? (n=374)*

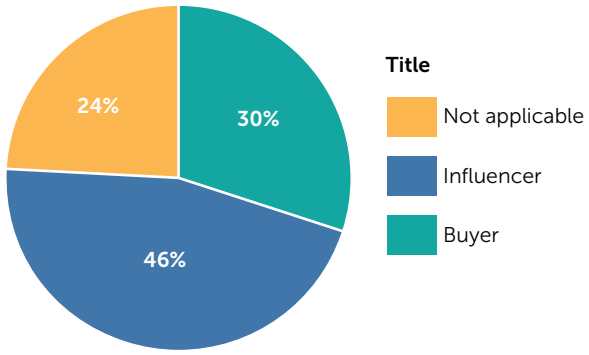



**Table 3:** *What is your purchasing authority budget? (n=91)*

| Budget | Respondent % |
|---|---|
| Under $10,000 | 29 |
| $10,000 - $25,000 | 19 |
| $25,000 - $50,000 | 26 |
| $50,000 - $100,000 | 0 |
| $100,000 - $500,000 | 13 |
| More than $500,000 | 13 |

**Table 4:** *What is the size of your organization by employees? (n=126)*

| Number of Employees | Respondent % |
|---|---|
| Just me (self-employed) | 2 |
| 2 - 10 | 17 |
| 11 - 49 | 17 |
| 50 - 149 | 24 |
| 150 - 499 | 19 |
| 500 - 999 | 9 |
| 1,000 - 9,999 | 5 |
| 10,000+ | 7 |

**Table 5:** *What is the size of your organization? (n=707)*

| Size | Description | Number of Respondents | % of Total |
|---|---|---|---|
| Small | • <100 beds<br>• 1 location<br>• 1-5 providers<br>• Under $10m annual revenue<br>• <150 employees | 293 | 41% |
| Medium | • <100 beds<br>• 2- 5 locations<br>• 6-11 providers<br>• 10m-100m annual revenue<br>• 150-1000 employees | 280 | 39% |
| Large | • >200 beds<br>• 6+ locations<br>• 11+ providers<br>• More than $100m annual revenue<br>• 1000+ employees | 134 | 20% |

**Table 6:** *Which of the following best describes your place of employment? (n=412)*

| Response | Respondent % |
|---|---|
| Long-Term Care Facility / Skilled Nursing Facilities | 24 |
| Hospitals & Health Systems | 18 |
| Home Health | 8 |
| Physician & Physician Groups | 7 |
| Hospice/Palliative Care | 5 |
| Outpatient Treatment | 5 |
| Healthcare Startup | 5 |
| Health Information Exchange (HIE)/Data Integration | 3 |
| Primary Care | 3 |
| Other (please specify) | 2 |
| Specialty Healthcare | 2 |
| Human Resources | 2 |
| Public Health | 1 |
| Consulting Firm | 1 |
| Financial Services | 1 |
| Imaging Center | 1 |
| Group Purchasing Organization | 1 |
| Market Supplier / Vendor | 1 |
| Research/Life Sciences | 1 |
| Legal services | 1 |
| Payor, Insurance Company, Managed Care | 1 |
| Federal, State or Local Government | 1 |
| Dental Practice | 1 |
| Laboratory/Diagnostics | 1 |
| Compliance/Auditing | 1 |
| Professional Assn/Society | 1 |
| Pharmacy | 0.3 |
| Medical Billing & Credentialing Company | 0.3 |
| Telehealth | 0.3 |
| Medical Transportation | 0.3 |

**Table 7:** *How are you storing your documentation containing personal health information (PHI) today? (Select all that apply) (n=457)*

| Storage Type | Respondent % |
|---|---|
| Within an EHR (Epic, Cerner, Allscripts (Sunrise), NextGen (Mirth), PointClickCare, MatrixCare) | 65 |
| Electronic Health Billing systems | 39 |
| Within a paper record | 26 |
| Electronic Medication Administration Record | 26 |
| Within Hospital Information Systems (HIS), or a registration application | 23 |
| Other | 5 |

## Goals

Once we understood whom we were surveying, we wanted to understand what problems they faced using communication tools, and if they considered this an ongoing issue, especially considering the number of pandemics healthcare currently faces. We asked what their biggest challenges were when receiving and sending PHI, and found Speed and Timeliness, Security and Compliance, and Interoperability Between Systems to be the most common responses. We found that when asked how high a priority improving communication was in the next year, 44% of respondents indicated it was highly prioritized.

**Table 8:** *On a scale of 1 - 6, by how much does your organization plan to prioritize solutions to improve communication between systems (interoperability) in the next year? (Weighted average: 4.1; n=457)*

| Priority Scale | Respondent % |
|---|---|
| 1 - Not a priority at all | 6 |
| 2 | 9 |
| 3 | 16 |
| 4 | 25 |
| 5 | 24 |
| 6 - High priority | 20 |

**Table 9:** *What are your biggest challenges in how you send and receive personal health information (PHI) in a timely manner? (n=323)*

| Challenges | Respondent % |
|---|---|
| Speed & timeliness | 22 |
| Security & compliance | 20 |
| Interoperability between systems | 11 |
| Technical issues | 8 |
| Inconvenient & difficult to use | 7 |
| Delivering to the correct person | 6 |

**Table 9 Continued:** *What are your biggest challenges in how you send and receive personal health information (PHI) in a timely manner? (n=323)*

| Challenges | Respondent % |
|---|---|
| Recipient lacking proper technology/difficulty using technology to receive communication | 6 |
| Paper-based & physical mail | 6 |
| Staff to utilize tech | 4 |
| Receipt verification | 3 |
| Cost | 3 |
| Workflow | 3 |
| Internet/phone connection issues | 2 |
| Sharing images/documents | 2 |
| Document workflow | 2 |
| Linking the document to the correct patient | 2 |
| Patient consent for PHI | 1 |
| Receiving party notified of document | 1 |
| Reliability | 1 |
| Working from home | 1 |
| De-identification | 0.3 |
| Hardware / equipment | 0.3 |
| Other | 9 |
| No challenges | 3 |

## Utilization

Unsurprisingly, treatment was the most common reason for sharing documents containing PHI, but the other often overlooked purposes of use covered by HIPAA, such as Payments, Patient Access, and Operations, were only about 10 percent lower. Although treatment should continue to be a primary use case for interoperability and information exchange, addressing these other use cases must be a priority when addressing health workflows.

An oft-cited set of statistics shed light on the use of faxes in healthcare today. When asked if they used fax to communicate externally with important partners, nearly 90% of respondents said yes. In comparison, only 44% of respondents said they used Direct Secure Messaging (DSM) to communicate with the same population. A special note here is that an additional 15% said that they used DSM but when later asked for their address, they submitted non-DSM endpoints; one respondent even submitted a physical address. When asked about the future of fax within their organization, over half said it would be a dominant or valuable method of communication for the next five years.

Given the number of protocols available today to exchange information and communicate, we asked how frequently they used different methods to complete their communication. Email (62%), fax machines (57%), and physical mail/handoff (38%) were by far the most common. Cloud Fax (30%) and Direct Secure Messaging (27%) had a similar level of adoption, while a smaller number identified more advanced communication channels using HL7 FHIR (12%) or APIs (11%) for their exchange. When asked what they were faxing, 70% of respondents shared they were faxing clinical documents.

**Table 10:** *Why do you need to share documents containing personal health information (PHI) with others? (Select all that apply) (n=576)*

| Need | Respondent % |
|---|---|
| Treatment | 68 |
| Payment | 53 |
| Patient access | 51 |
| Operations | 41 |
| Public interest and benefit activities (Public Health, Law Enforcement, etc.): | 16 |
| Research | 16 |
| N/A | 5 |

**Table 11:** *When sending documents externally, how frequently do you use the following methods of communication? (n=576)*

| Communication Method | Respondent % |
|---|---|
| Email | 62 |
| Fax machine | 57 |
| Physical mail / handoff | 38 |
| Cloud fax (digital faxing from the computer) | 30 |
| Direct Secure Messaging (Secure email within your clinical application) | 27 |
| HL7 FHIR | 12 |
| API | 11 |
| Other | 3 |

**Table 12:** *Do you send documents externally via fax, such as to other external providers, payers, or regulatory agencies? (n=517)*

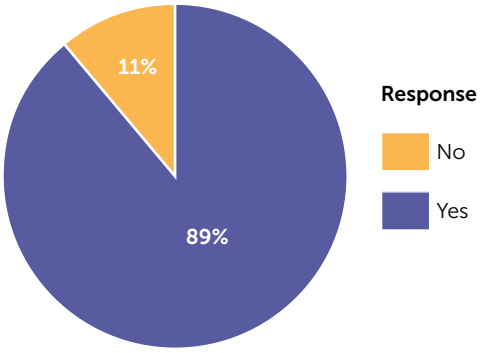



**Table 13:** *How critical is fax to your organization? (n=278)*

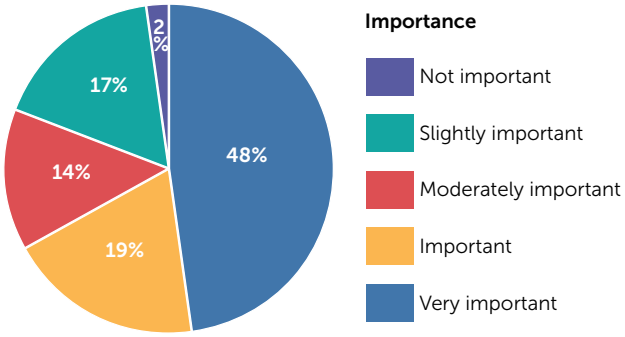



**Table 14:** *How do you feel about the future of fax? (n=133)*

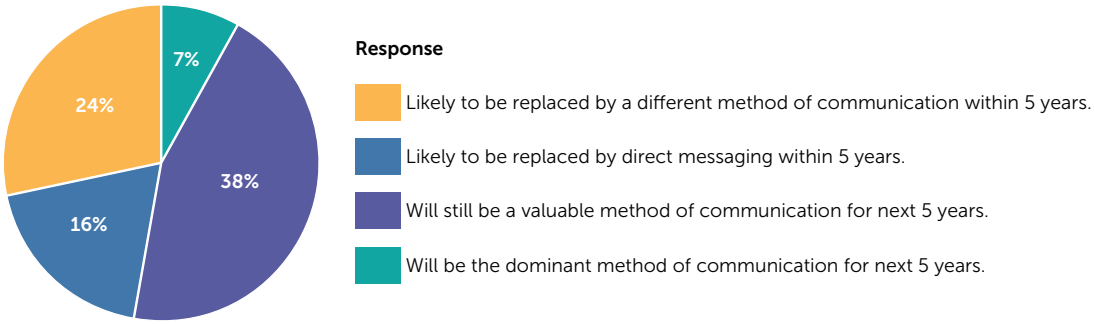
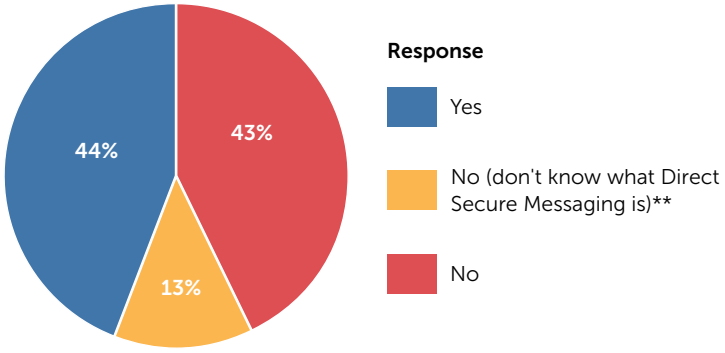



**Table 15:**
*Do you send documents externally via direct secure messaging to direct addresses? (In the address, it would contain the word direct such as drjohndoe@organization.direct.xxxxx.com) (n=510)*

***These respondents marked that they use Digital Secure Messaging, but later responses indicated they actually do not know what Direct Secure Messaging is.*



## Motivations

The big question is why? Anyone working in this environment may be able to offer some assumptions on why there continues to be so much use of fax in Healthcare. These reasons often shame the end-users and do not provide any more information on why this workflow persists. Our results found that there was no single reason that rose above the others regarding a "why" for fax usage, but in combination, it paints a picture of a deeply ingrained technology. In short, faxing is easy and meets their needs. People chose to fax because recipients required it (51%), they knew it was received (44%), it is convenient (43%), and it is secure (42%). Certainly, other reasons for faxing besides these exist, but at the end of the day, practitioners need to communicate with another party easily. If the goal is to send information that can be verified to another party, without special effort, the fax protocol checks all of those boxes. The fax protocol continues to meet user needs because its limitations do not outweigh the benefits of its use.

In comparison, Direct Secure Messaging (DSM), less commonly used than fax, did have a very clear understanding among our respondents that it is secure (62%) and reliable (42%). However, most of our respondents were either unfamiliar with the protocol or it was not available at their location.

**Table 16:** *What factors contribute to your decision to send documents externally via fax? (Select all that apply) (n=469)*

| Factors | Respondent % |
|---|---|
| Required by recipient | 51 |
| Ability to confirm delivery | 44 |
| It's convenient / easy | 43 |
| It's secure | 42 |
| It's reliable | 31 |
| It's what we've always used | 30 |
| For legal compliance | 31 |
| Cost - other methods are more expensive | 22 |
| Other methods are not available | 15 |
| Company requirement | 13 |

**Table 17:** *What factors contribute to your decision to send documents externally via direct secure messaging? (Select all that apply) (n=238)*

| Factors | Respondent % |
|---|---|
| It's secure | 60 |
| It's reliable | 42 |
| For legal compliance | 37 |
| It's convenient / easy | 37 |
| Ability to confirm delivery | 34 |
| Required by recipient | 33 |
| Cost - other methods are more expensive | 22 |
| Company requirement | 22 |
| It's what we've always used | 10 |
| Other methods are not available | 3 |

**Table 18:** *Why is direct secure messaging not a preferred method to send documents externally? (Select all that apply) (n=302)*

| Reason | Respondent % |
|---|---|
| I don't know what direct secure messaging is | 62 |
| It's not available at my location | 52 |
| Other | 11 |
| I don't have the address of my recipient | 9 |
| I don't see its value to my organization | 7 |
| Cost - it's expensive | 6 |
| It's inconvenient to use | 5 |
| When I search my recipient doesn't come up | 4 |
| It's difficult to use | 4 |
| I have it, but don't know how to use it | 2 |
| It's difficult to get set up | 2 |

## The Future

Nine in every 10 respondents expressed interest in AI-enabled patient identification, and 68% were interested in the de-identification of their HIPAA-covered document.

**Table 19:**
*Would you prefer to receive some or all of your documents automatically de-identified to remove the need for HIPAA compliance? (n=503)*

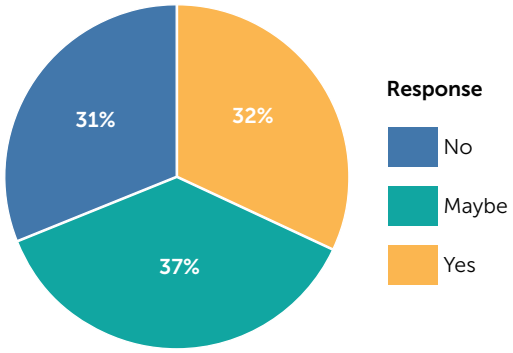
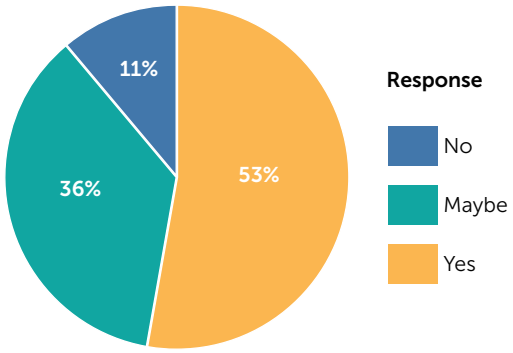



**Table 20:**
*Would you prefer to receive some or all of your documents with automatically identified information -- such as the patient demographics or sending clinician information -- to improve your workflows? (n=493)*



# Survey Conclusion

It is clear that communication continues to be a challenge across the care continuum, regardless of size and budget. The delivery of care will always be a zero-sum game, where limited time will push against the need to provide quality care. We saw this in how participants almost ranked Speed and Timeliness with Security and Compliance equally as challenges they are facing today.

Given this, it is important to understand how any solution to improve communication would need to be faster and more reliable. It is unsurprising then to find that 57% of hospitals and health systems, which tend to have access to more communication methods, still used paper fax to send documents externally because it was easy and convenient. Furthermore, when asked about the future of fax within their organization, over half said it would be a dominant or valuable method of communication for the next five years, demonstrating how important faxing is to healthcare. Although technologies like Direct Secure Messaging show promise, today there continues to be confusion and unawareness of this interoperability standard in practice.

In order to facilitate communication in healthcare, we must listen to the concerns and challenges of those directly involved and try to solve those problems, and not the ones we assume are most important. In the end, the enemy of Healthcare is not the fax, but the inability to automate processing to smooth clinical workflows and improve outcomes. Physical artifacts created by the extremely common practice of paper faxing and physical mailing limit automation options, and essentially create black holes of information invisible to electronic systems. Therefore, a transition from paper fax to cloud faxing would quickly and effectively transition this workflow without changing the underlying communication infrastructure, such as the network of fax numbers already in use in healthcare today. For an industry familiar with harm reduction practices, this method of digital transformation should be familiar.

The wide adoption of cloud fax to replace paper faxing in health delivery would open the possibilities of a hybrid approach to communication technologies. Utilizing the best of cloud faxing, Direct Secure Messaging, and other secure digital methods to move the industry completely into a secure, digital workflow, we can ensure that communication cannot only be sent but also received by all stakeholders throughout the care continuum.