



VONAGE

Cloud Communications in Healthcare

How to Improve Patient Experience, Maximize Revenue, and Handle Information Securely



Content:

Introduction:	3
The Modern Healthcare Industry: Challenges and Opportunities	3
Chapter 1:	4
Cloud Communication Table Stakes	4
Chapter 2:	6
The Hidden Costs of No-Shows	6
Chapter 3:	8
Improving Your Security and Compliance Posture	8
Chapter 4:	10
Improving Experiences with the Modern Healthcare Contact Center	10
Chapter 5:	12
Automating Scheduling to Fill Canceled Appointments	12
Chapter 6:	13
Build (or Buy) a Telehealth Solution	13
Chapter 7:	15
Reduce Fraud with 2 Factor Authentication (2FA)	15
Conclusion:	17
Choosing The Right Cloud Communications Vendor for Your Healthcare Organization	17

The Modern Healthcare Industry: Challenges and Opportunities

Healthcare

It's a complex and dynamic industry. The work is often physically, mentally, and emotionally demanding. Sometimes it seems as though there is no end to the red tape. And yet, in spite of the early mornings, 24 hour shifts, and sometimes heart-wrenching experiences, there are dedicated and passionate healthcare providers making a difference and improving the lives of people every day.

From patient experience and regulatory compliance to revenue and profitability, there's a lot at stake for today's healthcare providers. However, years of disparate technologies, policies, and processes are stifling many healthcare organizations and making it more difficult for them to operate at optimal levels of efficiency.

A seismic shift is shaking up the healthcare industry. Patients and consumers are one and the same. Patients expect value-based care, which means that providers must deliver outstanding service and results. At the same time, patients are more savvy, and are often more informed and comfortable managing their own care. Whether a patient is scheduling a video consult with their physician or receiving a follow-up appointment reminder, patient experience is crucial to the savvy patient.

In this guide, you'll learn how the right cloud communications platform can improve patient experiences and enhance healthcare practice operations to be more secure and profitable.

Cloud Communication Table Stakes

Healthcare organizations have unique needs for their cloud communications— so it's especially important to choose a unified communications provider that can provide what you need. Here are the basic table stakes to look for in a communications company's offerings and capabilities.

Security

Communications companies have a tremendous responsibility to safeguard the sensitive data healthcare customers trust them with— the best approach to information security is a holistic, aggressive one. **HIPAA** compliance is crucial. Independent third-party certification of compliance with recognized standards such as HITRUST can be strong evidence that the service provider has in place strong administrative, technical, and physical safeguards to ensure the security and confidentiality of critical data including PHI. (We get into this more in Chapter 3.)

The networks themselves should be secure, offering stateful firewall protection, voice traffic encryption between handsets, and system hardening procedures at each co-located data center. For features like Call Recording, Paperless Fax and Voicemail, data should be transmitted and stored encrypted within one environment, with strictly enforced access control protocols.

Reliability

Reliability needs to be guaranteed for healthcare organizations, generally by a high financially-backed uptime SLA. That means your service provider should run multiple, redundant call-handling clusters in data centers across the country with systems and protocols that ensure elevated uptime reliability. Additionally, in the event of power outages or loss of Internet, features that enables the phone system to automatically reroute calls to a predesignated mobile or other number are critical in ensuring business continuity.

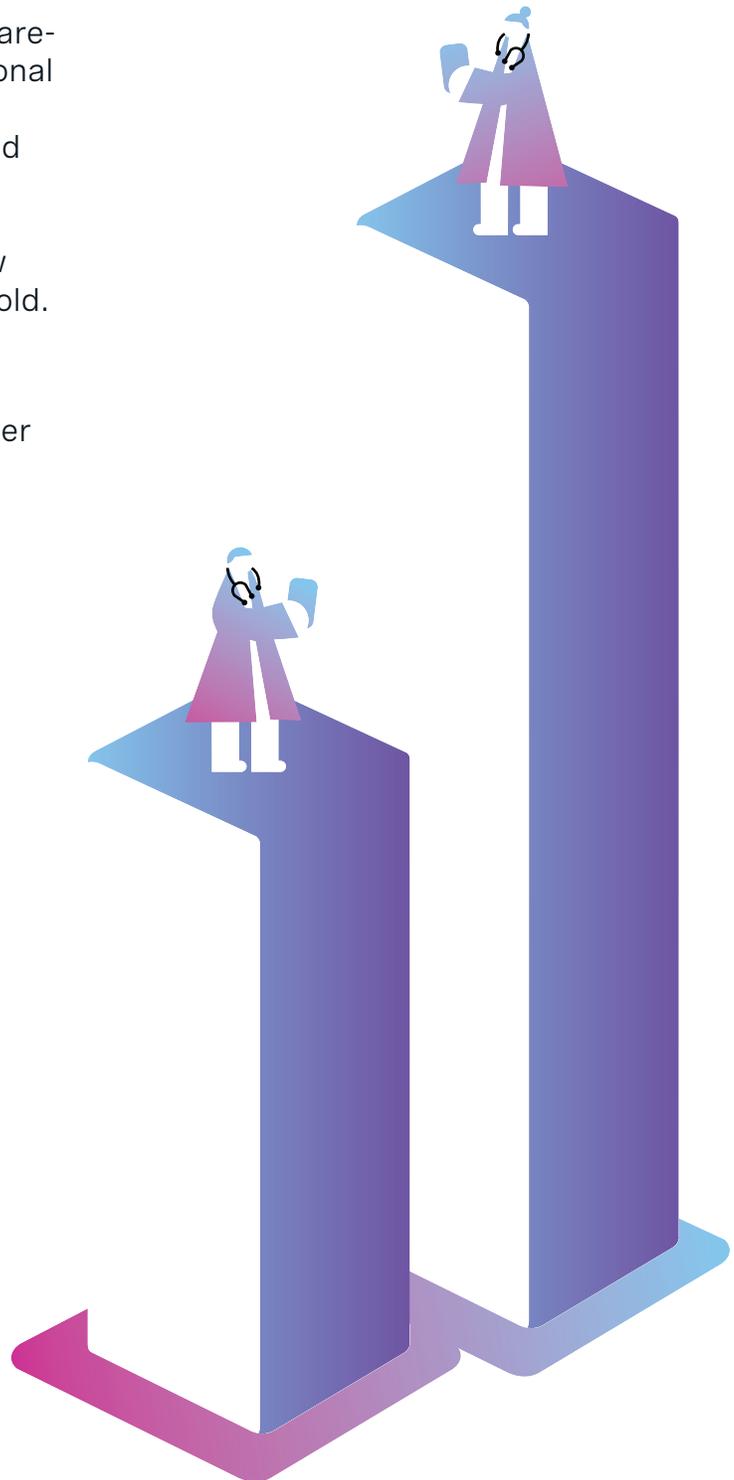
Mobility

By improving your organization's mobility, you can provide better care for patients from virtually anywhere— including the office, hospital, on the road, in the patient's home. How? Dedicated, easy-to-use communications mobile and desktop apps should be standard, with the ability to track and improve the productivity of mobile employees and an increased focus on patient care.

Scalability

You should also consider how the solution will support possible rapid growth. Cloud-based phone systems can easily and seamlessly scale up when employers adjust their staffing levels to meet seasonal or growth needs. Using the cloud lets software-based resources take the place of traditional hardware, making it possible to scale up available resources on demand. This could take the form of short-term increases to handle increased network traffic or long-term service commitments to supply new satellite offices and bring them into the fold.

Before diving into your healthcare organization's unique needs, ensure that any communications provider you consider has the table stakes— security, reliability, mobility, and scalability—covered.



The Hidden Costs of No-Shows

The Challenge

Missed appointments cost the healthcare industry an estimated **\$150 billion per year**.* Healthcare providers can help reduce their no-show rates with an outreach strategy.

There are many reasons why patients miss their appointments, for example:

- Forgetfulness or too much time between the scheduling and the appointment
- Lack of reliable transportation to the appointment
- Emotional barriers, like anxiety regarding medical procedures
- A feeling that the office staff do not respect their time or needs

The Solution

Many of the reasons above can be remedied with proactive outreach— and cloud-based technology makes this easy to automate.

It's fairly simple to alert patients with upcoming appointment reminders with an automated phone call or text message. Their confirmation is then updated in your PM system, and the probability that they'll miss the appointment decreases— or, if they do miss, you have the time to schedule in someone else.

There are many other use cases for using SMS to communicate with patients— for example, patients can receive real-time

information about wait times or be notified and directed to a secure portal to view test results as soon as they are ready. Complement this with a proactive outreach strategy— think automated messages with care/exercise tips, medication reminders, or post-op updates.

By communicating more often, you'll build a better relationship with your patients, which will greatly increase patient satisfaction and their overall experience.

The Tech

To set up automated texting or phone calls, you'll need to integrate communication APIs, like the **Nexmo API Platform**, with your cloud-based phone number (preferably a local one, rather than an 800 number, to ensure more people actually respond/pick up) and your EHR or PM system. Then, you can set up automated communications, setting conditions. For example, you could set a condition that 24 hours before an appointment, a reminder is texted— and a second condition that if the patient doesn't confirm, a phone call is then made 2 hours later. Setting up something like this is fairly simple, but it does require some development work.

Some best practices to implement when using automated text or voice reminders include:

- Getting explicit consent from customers to provide automated reminders via these channels, and make sure to inform patients that texting may not be fully secure.
- Regular validation of patient contact information.
- Avoiding sending PHI via text, which may include information such as the practice's name where the name itself is indicative of a specialty practice. Businesses should be aware that due to the technical implementation and underlying infrastructure of today's SMS deployments, it may be challenging to achieve a HIPAA-compliant service that transmits PHI within the content of the SMS body itself.
- If PHI must be disclosed, consider alternatives such as including links to message content within a secured platform.



More Resources

- **Digital Communications in Healthcare: A Perfect Day**
- **How SMS Solutions for Business Democratize Health Services**

**<https://www.scisolutions.com/uploads/news/Missed-Appts-Cost-HMT-Article-042617.pdf>*

Improving Your Security and Compliance Posture

The Challenge

If you're in the U.S., then you likely already know that any type of healthcare provider that accesses, collects, or transmits protected medical information must adhere to HIPAA's guidelines. And perhaps you haven't moved to the cloud for fear that it's not a secure way to communicate with patients. Penalties are steep: fines for non-compliance with HIPAA can reach into the millions of dollars — and that doesn't include soft costs like lost trust with your patients, which is priceless.

It's wise to be concerned: breaches happen, almost daily — just look at OCR's "**Wall of Shame.**"

But not moving to the cloud due to fear of non-compliance will hurt your competitiveness in the long run.

Using the cloud for communications is essential for the modern healthcare organization in a value-based care world: without it, offering outstanding patient experiences (while also creating internal efficiencies to maximize revenue) becomes very hard indeed.

With the right partner and the right tools, you can ensure your patient information will stay secure, while your practice meets HIPAA guidelines.

The Solution

One of the most important things you can do to ensure HIPAA compliance begins with your communications provider, also known as a Business Associate. According to the **Department of Health and Human Services**, the HIPAA Privacy Rule requires all covered entities to have Business Associate Agreements (BAAs) with third-party vendors to regulate how electronic protected health information (PHI) is created, received, maintained, or transmitted. Many cloud communications providers and business associates, however, operate without HIPAA compliant technology or BAAs — putting their associated organizations at risk of violation penalties.

Establishing a solid BAA agreement can go a long way toward managing compliance risks.

You should ensure your BAA agreement covers the key areas of HIPAA compliance including, without limitation, the rules regarding the access to personal health information (PHI), security and privacy. The BAA should provide that the provider agrees to comply with applicable HIPAA requirements and stand ready to verify such compliance. Providers who go beyond a self-certification process to obtain third

party certification of HIPAA compliance such as the Health Information Trust Alliance (HITRUST) provides further compliance reliability.

All cloud providers are not the same. Before entrusting them with your sensitive data, do your homework and understand the level at which they can support HIPAA compliance.

Carefully evaluate your vendor, as well as the solution they provide. Ultimately, your partners should be actively contributing to making your organization more safe and secure: protecting PHI is paramount to ensure patient privacy and maintain compliance with current regulations.

Your vendor should enable compliance with HIPAA in a variety of ways, including:

- HITRUST certification
- A comprehensive Business Associate Agreement (BAA)
- Administrative, technical, and physical safeguards
- Independent third-party compliance verification

Security measures should also be backed by a secure core network with edge-based security, stateful firewall protection, voice traffic encryption between handsets, and system hardening procedures at co-located data centers.

Finally, before undertaking a cloud-based solution, be sure to consult your legal advisers to understand the HIPAA requirements applicable to your business, potential liabilities, and what you should be requiring of your cloud providers.

More Resources

- [HIPAA-Compliant Communication: Why Cloud Is the Answer](#)
- [How to Achieve HIPAA Compliant Cloud Technology](#)
- [Balancing HIPAA Cloud Compliance: Why It's Worth It](#)
- [4 Common HIPAA Compliance Violations and How to Avoid Them](#)

Improving Experiences with the Modern Healthcare Contact Center

The Challenge

Patients have one priority when they reach out to a doctor's office, especially when they feel unwell: quick access to the information they need. When patients are unable to connect with someone who can answer their questions—or worse, are left to languish interminably on hold—their satisfaction levels drop precipitously.

Additionally, today's patient may not want to call in or speak to someone—the modern consumer have very high expectations for how they like to be communicated to. Patients want to connect in other channels: on the phone, chat, text, or even social media, like Facebook Messenger. The practice who makes it easy for patients to contact them in a variety of ways, so patients can easily get the care and attention they need, will naturally have higher rates of satisfaction—and higher retention rates.

Not only that, in many healthcare practices today, there's a lot of human capital involved in patient interactions. Office admins have to handle patients in person filling out paperwork, phone calls for people who need refills, want to make appointments, or need help with a post-care referral. If you remove the inefficiencies, your staff can better focus on the patient, saving your company time and money.

The simplest, most efficient way to ensure you're connecting with patients the way they want? A modern healthcare contact center.

The Solution

When you think of contact centers, do you think of busy agents frantically answering angry callers who've been hearing "press 1 for..." for way too long? Good news: that's from the era of contact centers past. Today's modern contact center can route callers through a single phone line regardless of the initial number they dial, presenting patients with a consistent experience that is clear and easy to navigate. Contextual technology to guide people reaching out to the right person to answer the question—whether that's scheduling, billing, or the doctor. Great healthcare contact centers leave patients happier than when they called, and save healthcare providers time and money.

A cloud-based contact center can also automate many daily tasks using technology, like scheduling appointments, prescription requests, and cancellations. So, there's no need for anyone to actually pick up the phone — freeing up time usually spent on these tasks to be used elsewhere. With dedicated call routing, you can also better handle post-care referrals and follow-up appointments, which can help generate a

significant amount of revenue, especially in specialties like family care or emergency medicine (including urgent care centers and GPs).

It's also easy to integrate a contact center with an EMR, or other business application, to make your office even more efficient. With an integration, when a patient calls into the office and is routed to the right place, the number is recognized through the EMR, and a "screen pop" will show up with the patient's information and the reason for the call. This makes calls much quicker, so patients are happier and the staff is more efficient.

The bottom line? A great contact center helps improve patient satisfaction, retaining more patients and improving cost efficiencies within the office by taking the work out of human hands through tech automation.



More Resources

- [How the Healthcare Contact Center Improves Patient Experience](#)
- [For Urgent Care, Communication Technology is the Key to Seamless Communication](#)

Automating Scheduling to Fill Canceled Appointments

The Challenge

There's no such thing as planning a health emergency: in some cases, patients need same day appointments. When this happens, their choice of provider is often decided simply by who's available. For healthcare providers, scheduling last-minute appointments is incredibly difficult— it takes a lot of administrative time and effort and is often dependent on keeping up to date on last-minute cancellations. But being able to provide same-day or next-day appointments is the simplest way to both improve the patient experience and manage your revenue cycle.

The Solution

No-shows are inevitable— but manageable, especially if it's easy to fill canceled appointments with technology by using targeted text messages, a calendar scheduling application, and a well-integrated EMR system.

Imagine how easy it would be if you could implement this solution:

- 1. A patient cancels their appointment.**
This kicks off an automated alert within your EMR or PM system.
- 2. Your practice sends out an automated text or phone call to patients on a waiting list,** letting them know a new slot has just opened up.

- 3. The first patient to respond (either by calling back or clicking a link in the text) gets the appointment,** everyone else is alerted automatically with another call or text.

How it Works

Healthcare providers need 3 tools to prepare a solution for filling canceled appointments:

- 1.** A targeted text message platform, like **Vonage Reach**, or an API platform like Nexmo
- 2.** A calendar scheduling application that integrates into your EMR or PM system
- 3.** A list of patients who have opted-in to marketing communications (which is a HIPAA requirement, so be sure to choose a HIPAA compliant provider).

With the right **API platform**, you can build automated messaging functionality right into your practice management system. Obviously, in larger enterprises, this requires development work, so it's important to find a partner that has enterprise-level service experts, who can help you build out your dream solution without tying up critical resources.

Build (or Buy) a Telehealth Solution

The Challenge

For some patients, especially the elderly or those in rural communities, geography or the ability to travel are major barriers for access to a healthcare practitioner. For busy professionals, wellness visits aren't top of mind. For new, frantic parents with a screaming baby at midnight, the potential of an extremely expensive, exhausting urgent care visit just to learn the baby is teething isn't a happy scenario.

Consumer healthcare costs are at an all time high. On the provider side, healthcare organizations are facing funding gaps and a short supply of staff. Driving operational and cost efficiencies, along with offering excellent value-based preventative care, are top of mind for providers.

What can healthcare providers do to meet these challenges, while delivering personalized, patient-centered care to those who need it, when they need it, wherever they are?

The Solution

Telehealth is becoming a major part of digital transformation for healthcare providers, because of its ability to solve many of the challenges outlined above — and at a cost savings for both the patient and the provider.

A recent **report** noted that the U.S. median savings from telehealth per medical facility is approximately \$20,841 annually. **Another estimated** that telehealth appointments

for non-emergency reasons typically cost around \$45, versus \$100 for an in-person visit at a doctor's office or \$160 at an urgent-care clinic.

There are many, many applications and benefits to telehealth— from remote video consultations to therapy to nutritional consulting to tele-ICU systems where hospitals can centralize real-time patient monitoring through remote observation. But the primary benefit is that it enables many patients immediate access to healthcare professionals.

Telehealth allows patients to see care providers that they would not have had access to previously. It's convenient, it's inexpensive, and it's immediate. And this technology goes beyond simply enabling e-visits for primary care purposes. It taps into the power of telemedicine technology to empower doctors, nurses, and other wellness professionals to reach patients who might otherwise not receive the specialized care they need.

For healthcare practices, telemedicine also helps reduce costs by optimizing physicians' time and lowering overhead costs. For example, telemedicine allows physicians to shorten their practice hours and deliver some of their care from a home office. This lowers payroll costs and utility costs. A side benefit -- recording video sessions creates a clear record of what information was conveyed during the consultation, reducing the risk of conflicting accounts that may arise in the future.

As of December 2018, **76% of hospitals** have implemented telehealth solutions. Larger organizations should make a decision between building or buying a telehealth solution, while smaller providers should consider off-the-shelf products that are easy to implement.

The Best Telehealth Solutions are:

Embedded:

Live video capabilities should be seamlessly embedded into existing apps or interfaces—without requiring a separate download or plugin— so that both doctors and patients can integrate the process into their daily workflow.

Compliant:

It is critically important to capture doctor patient live video interactions to not only maintain quality service, but also for compliance purposes and future reference.

Mobile:

Healthcare is no longer confined to the doctor's office. Patients want and need access to quality care on-demand and from wherever they need using their preferred device— so your solution should be available to everyone, anywhere on any device.

Secure:

Protection of data is a top priority. Healthcare providers must ensure that live video consultations and exchanges are transmitted and stored securely, protecting the privacy of all participating parties.

Scalable:

Whether live video is the primary channel for delivering care, or complementary to in-person visits, quality and reliability is critical. The challenge is to offer high quality and interactive live video at scale, ensuring the technology powering its live video can support hundreds to thousands of users.

More Resources

- [White Paper: A Guide To Interactive Live Video In Healthcare & The Telehealth Revolution](#)
- [Why We Need Telehealth to Reduce Consumer Costs in Healthcare](#)
- [Telemedicine Technology: Making Healthcare More Accessible to More People](#)
- [The Device Will See You Now: Trends in Smart Patient Care Technology](#)

Reduce Fraud with 2 Factor Authentication (2FA)

The Challenge

Fraud is a serious problem that leads to security breaches. Healthcare organizations protect a lot of sensitive information. To safeguard against fraud, many healthcare organizations have set up various detection techniques— many of which are poorly implemented, creating roadblocks for patients to easily access the information they need, ultimately delivering poor patient experiences.

The best healthcare fraud-reduction programs should be multifaceted and constantly evolving. Alongside strong internal policies, education, and training, multi factor authentication is your best friend.

The Solution

Two factor authentication, or 2FA, is a tool that nearly everyone has used at some point to access their personal information online. It usually works like this: you enter your phone number into a website, and they securely text you a code to enter into the website to prove your identity. The applications for healthcare providers are clear: 2FA can make it far easier to identify patients when they call to request PHI, like receiving test results or requesting copies of medical records.

Private patient portals are great for managing results and appointments. Implementing 2FA offers a quick, inexpensive, secure way to confirm identity for healthcare providers, while greatly improving the patient's experience.

And when it comes to security, 2FA is inherently strong at stopping the very weaknesses fraudsters exploit. 2FA is:

- **Tied to the user:** Because a 2FA solution relies on info linked to user accounts, it's much harder for attackers to reach all the "access points" they need to gain entry.
- **Harder to spoof:** Attackers may be able to register false accounts with bots, but getting a unique phone number for every attempt is a different story.
- **Distributed:** Unlike with other authentication challenges, 2FA solutions remove the login point from the authentication means, creating multiple "fences" for attackers to hop.
- **Easy to deploy:** While building a 2FA system from scratch is a deeply complex process, the availability of quality APIs ensures any business with authentication needs has fast, affordable access.

The Tech

2FA works by combining something a user knows (a password) and something that a user has (a phone or hardware token), to verify their identity. While it has become relatively easy for fraudsters to steal passwords, it is much more difficult to steal a password and hack a second factor.

When selecting and implementing 2FA for a growing global user base, you need to ask yourself several questions to strike the right balance between security and a seamless experience:

- 1. One solution:** is it a single standard that works across different global infrastructures?
- 2. Meets global user experience standards:** will it be considered an acceptable experience by users in different regions?
- 3. Fallback:** does it automatically failover to another channel if the first attempt doesn't get through?
- 4. Letting good users in:** does it unintentionally block out good users?

Phone Verification: The Ultimate 2FA Option

There is a continuum of 2FA options. And, ultimately, it's about striking the right balance between convenience and security. The ideal way to accomplish this on a global scale is through phone number verification.

- **6 billion people** across the globe can be reached via phone
- **90%** of people read a text message within the first 3 minutes

Unlike other 2FA methods that may require special hardware or an authenticator app, phone verification solution works with any phone number.

Phone numbers have emerged as the ultimate user identifier in healthcare not only because almost everyone on earth can be reached by phone, but also because people retain their numbers for very long periods of time—ten years and more.

More Resources

*[*https://www.nexmo.com/use-cases/two-factor-authentication](https://www.nexmo.com/use-cases/two-factor-authentication)*

CONCLUSION:

Choosing The Right Cloud Communications Vendor for Your Healthcare Organization

Moving your communications to the cloud can be daunting, but the right partner will help your practice become more secure, stay compliant, offer better experiences for patients, and better manage the revenue cycle.

Need help navigating the world of healthcare cloud communications? Visit vonage.com today to see how Vonage can help your practice.

