



Maximize Your Patient Experience ROI: The Business Case for Better Healthcare IT



How to Improve Patient Experience Payback:

- Lessons and best practices from consumer industries
- Strategic data application in shaping design and delivery
- Essential elements of technology and security applications

MobileSmith

Introduction



“Thanks to a focus on personalized data, real-time information and blockchain technology; healthcare is finally getting a reboot. And the implications are significant. Not only is it better for patient outcomes, it democratizes health and creates greater efficiencies and scalability.”¹

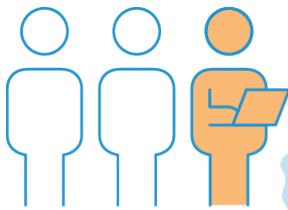
Annabel Acton ,
“What You Need To Know About
The Future of Healthcare”

Forbes

The healthcare industry has been laggard with regard to technology, and is now rapidly evolving to catch up to consumer expectations. The potential upsides are tremendous and will impact the way healthcare is delivered, received and tracked for the better, but the first step is to understand the new table stakes. Today's healthcare consumer is more informed than ever, doing their homework before, after, or in lieu of visiting a doctor. They expect to engage as a partner and collaborator, rather than a passive recipient, and have the tools to do so. Their expectations of personalized care and access complement the shift to value-based care and a focus on delivering better care, not more. Key to this change is embracing rather than fearing technology; a strategic application of available tools is an essential foundation for changing the “way of doing business” and opening doors for the headline technologies still in early stages. Healthcare systems can see a rapid and significant return on their investment with a focus on proven consumer-oriented approaches and strategic application of technology.

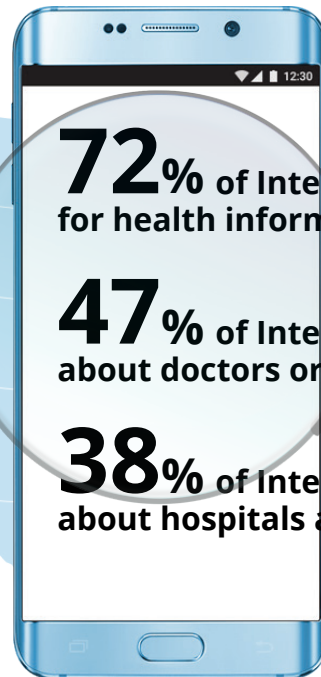
Taking A Look Around

One of the most pressing factors in the digital transformation of healthcare is consumer expectations. As patients are shouldering more of the costs of their healthcare via high-deductible and direct care plans, they are demanding a greater degree of transparency, accountability and especially convenience. These expectations are set largely by their experiences in other industries that are far ahead of healthcare in leveraging the benefits of today's technology. As healthcare plays catch up, there is an opportunity to learn from the industries that have set these expectations and understand what consumers are seeking.



One in three American adults have gone online to figure out a medical condition.

The most commonly researched topics are specific diseases or conditions; treatments or procedures; and doctors or other health professionals.²



72% of Internet users say they looked online for health information within the past year.

47% of Internet users search for information about doctors or other health professionals.

38% of Internet users search for information about hospitals and other medical facilities.



"Customer expectations are being set by non-healthcare industries, and meeting those expectations is likely to be critical to ensure satisfaction and loyalty."³

McKinsey & Company

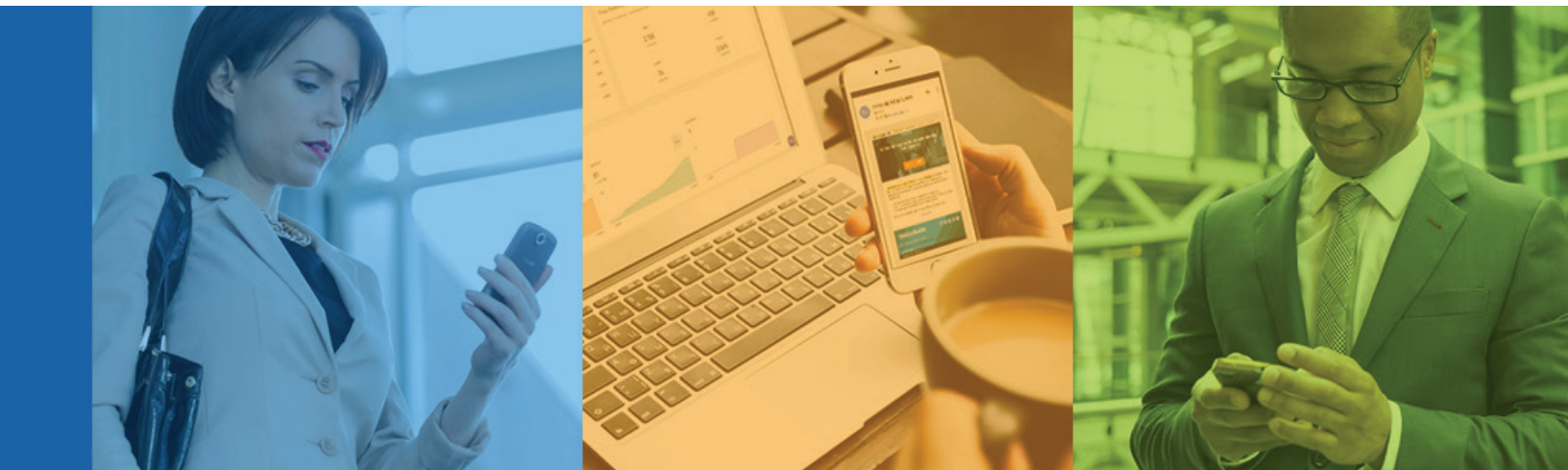
McKinsey study

Debunking common myths about healthcare consumerism

Lessons From The Field

One of the first rules of the technology revolution is perpetual evolution. The traditional concept of customer-facing tools is that a finished product needs to be finished, to contain every function it will ever need when it is released and be completely without bugs. Contrary to this is the reality that technology interfaces, like Salesforce, Microsoft Office, Apple and Android are changing constantly and have established a dynamic whereby users expect periodic and routine updates.

One of the sacred concepts of Silicon Valley is an MVP—a minimum viable product, which is all about getting a product into the hands of your customers quickly and learning from their feedback. A mobile app, for example, should launch with a working, core functionality that focuses on its intended audience. Once that value and link is established the app can be enhanced with additional functionality and bug fixes based on changing technology, real-world usage, and feedback. When airlines first introduced mobile apps they were welcomed enthusiastically despite being largely limited to reference of arrivals, departures and timetables. There was immediate and tangible value in that initial offering for travelers on the go, and today these apps are an excellent example of streamlining an often fraught process for the end user. The cohesive, consumer-focused experience offers a measure of control while making it simple to engage with the extras the airlines themselves value.



Bug fixes are also not the negative many assume them to be; this actually lets users know an app is actively being maintained and updated and that the end user experience matters to the developers. A quick review of the app updates on your phone will include numerous references to bug fixes; in fact, many users check for recent updates when reviewing an app and assume an app is stagnant or outdated if there is no versioning. In the same way a physical edifice is built or renovated in stages, so too should your digital strategy—users will pardon the dust and construction if a clear vision and benefit is communicated.

Another paradigm shift from tradition is with regard to privacy and security, where the banking industry has blazed a distinct trail for healthcare to follow. While PHI and HIPAA are justifiable concerns, they are no more daunting than the regulations impacting banks and financial institutions. As a highly consumerized industry, however, they were forced to evolve in order to attract and retain business from users that demanded access to their own information. Just as with their health data, consumers have repeatedly indicated a willingness to trade a measure of privacy or security in exchange for convenience, determining the benefits of higher levels of ownership and visibility outweigh the risks.



52%

of Americans found it acceptable for their doctor's office to upload their health records to a secure website in exchange for having access to their own health records and easier appointment scheduling. ⁴

Pew Research Center
Privacy and Information Sharing – January 2016

This is partially an outgrowth of the immediacy that has come to define much of technology. With the evolution of GPS-enabled services, an entire industry has been borne around delivering any product or service at the tap of a button as part of the on-demand economy. Many of the most successful services are those which challenged established norms, industries that had stagnated due to lack of competition or innovation. One of the most disruptive of these was ridesharing, which has not only upended the very established and static taxicab industry but also forced rapid innovation in an “irreplaceable” industry like public transit. Government funding and social permanence have not insulated transit from the changing needs of the consumer, and they have struggled to regain control of the narrative and the long-term solutions. What began as a differentiator has normalized and customers now have an expectation of identify and receive, when and where they want, in real-time. This does not allow for traditional healthcare structures that require a scheduled primary care office visit, a (frequently-inconvenient) specialist referral, and an encumbered process of tests and results and in-person follow-up visits.



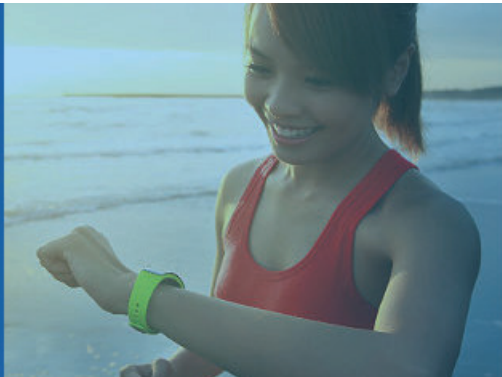
“Consumers using more easily accessed care sites are increasing in number, especially when physicians are unavailable; 1 in 4 respondents have patronized a retail clinic, and 42% have used an urgent care clinic.”⁵

Deloitte
What matters most to the health care consumer? - 2016

One of the most immediately practical applications of technology is to anticipate a user's wants or needs and simplify the process, dramatically improving the customer experience and reducing the impact on the business. Focusing on what the user wants empowers them and alleviates many of the extraneous responsibilities staff have taken up over the years, like providing directions. The airline apps have distilled an incredibly complex, often laborious process involving entities over which they have no control, into a streamlined and accessible interaction for the passenger. They can check in remotely, change their seat, locate the nearest restaurant and navigate there without a gate agent in sight or enduring long telephone queues. Big box stores have integrated wayfinding into the shopping experience, directing customers with an efficiency not possible without significant staffing increases. Movie theaters now allow for digital seat selection, giving customers the information they need to make more informed decisions based on their preferences whether they are planning ahead or operating in real-time.

Smart Use of Data

An emerging application of this within healthcare is through the use of wait times and schedule queuing. Using predictive modeling, a practice or facility can dynamically generate “slots” for patients to reserve electronically and track their wait time. Research has shown that perception of wait time has a much greater impact on customer satisfaction than actual wait time⁶, and on average people overestimate how long they’ve waited in a line by about 36%⁷. The consumer application of this queuing technology has long been found in applications from Supercuts and OpenTable to reserve your place in line before you arrive. It’s also why long phone support queues will offer to call back at a time of the customer’s choosing. Giving the consumer control allows them to utilize the time as they see fit, improving their overall experience and satisfaction with the service. Healthcare facilities implementing schedule queuing also benefit from better workflows and patient data, freeing up staff time for complex situations or optimizing staffing ratios.



“[Interoperability] will support the Triple Aim of improving the patient experience of care (including quality and satisfaction); improving the health of populations; and reducing the per capita cost of health care.”⁸

AHA

Achieving Interoperability that Supports Care Transformation

Building a Tech Stack

The engine powering this shift is your tech stack, a collection of technologies working together to change the way patients are perceived, engaged, and treated. Looking at it as a cohesive entity ensures the parts work together well as a whole to improve versatility and scalability. Just as important is identifying where to specialize and where to consolidate, balancing subject matter experts with a manageable number of products and vendors. Defining core functionality creates a scale with which to prioritize and leverage compatibility.

The baseline for any healthcare system today is the electronic medical record (EMR); this is the standard for codifying patient records. As the foundation for the ecosystem, a key priority is the need for interoperability and integrations. Much of the potential to streamline processes and empower the patient lies in accessing and analyzing the data included in the patient records, so an impenetrable EMR could have just as much of a stagnating effect on innovation and growth as sticking with paper. While EMRs can offer some add-on functionality, this is a case of focusing on what it does best—the complexity and security inherent in an EMR will continue to monopolize the product investment, focus, and direction of the product, and rightly so. By locking down the ecosystem hospitals are no longer making those choices about technology and services based on quality or the goals and strategy of the healthcare system and its patients, but rather making do with what is available.

One of the first layers to the stack is a dedicated customer relationship management (CRM) tool. A staple of many B2B and B2C companies, this is separate from the EMR and represents the shift to patient as consumer. It enables hospitals and healthcare systems to engage more strategically with their target audience, delivering tailored messages and measuring impact. As patients approach healthcare with a savvy shopper mindset, hospitals cannot afford a generic, one-size-fits-all message. This is especially true with younger patients like millennials, “digital natives” who have a higher degree of cynicism toward corporate and traditional mindsets or messaging.



84%

of 18-34 year olds no longer respond to traditional advertising strategies⁹

The McCarthy Group

Engaging Millennials: Trust and Attention Survey

Targeted messaging is key to delivering the transparency, authenticity, and relevance that will reach today's consumers and give a healthcare system ownership of their brand on social media and in the larger digital ecosphere. Word-of-mouth is still foundational to success, but that exchange of information now happens digitally with incomparable speed, reach, and persistence. To derive maximum value from the CRM it is crucial to build on and benefit from other technologies—for many non-healthcare companies the CRM is the lynchpin of their tech stack, further emphasizing the need for interoperability in healthcare technology.

Simple Security Protocols for Patient Experience Initiatives

Non-negotiable for any industry today, security protocols are a particularly vital element of the healthcare tech stack. Subject to extensive legal scrutiny regarding HIPAA and PHI, healthcare systems must vet any technology up for consideration against privacy controls and security infrastructure. While careful consideration is needed when enabling patient experience technologies, providing reasonable controls are straightforward. This ensures you can provide meaningful and personalized patient experiences while not running afoul from a cybersecurity perspective.



PX, PHI, and HIPAA

No doubt your healthcare system has already implemented administrative safeguards, oversight and training to protect health information. That likely includes procurement procedures when enabling patient experience technologies such as your website, patient portals, and mobile health apps. But is it enough for your vendors to “pass the checklist” of Administrative, Technical, and Physical Safeguards? You should be comfortable that your PX technology vendor:

- Specializes in healthcare or has a robust healthcare technology practice
Ask: how they have measured PX improvements at other healthcare systems
- Can teach you something you did not know about securing PHI in their domain of expertise
Ask: how they have fixed a specific issue in the last year to be more compliant within their security framework
- Can provide an entire solution to a key aspect of your patient experience initiatives
Ask: how quickly can they implement and get PX results, given a standard implementation of their solution
- Is willing to sign a HIPAA business associate agreement (BAA)
Ask: do they have a prepared BAA contract

Why is this important? First you don't want a general tech vendor learning HIPAA on the job as you will likely pay the cost directly in terms of project overruns, or worse yet, a HIPAA violation. If they are challenging you to think about security differently, that's a great indicator of their understanding and expertise in the space.

Moreover, if they are bringing a turnkey solution with a well-defined interface to your internal systems, then your tech staff won't need to waste time architecting every aspect of the secure data flow, testing, and validating the risk mitigations. On the other hand, trying to build a PX tech solution fully in-house has the deceptive benefit of control over risks, but will be much more costly, time-consuming, and will negatively impact ROI. An old adage applies: banks can be robbed, but you still keep your money there because their solution is inherently more secure than what you can build on your own.



Cybersecurity: Striking a Balance

Some think that HIPAA regulations hinder healthcare systems' ability to move patient information, but ONC Chief Privacy Officer Lucia Savage and ONC Privacy Analyst Aja Brooks disagree. "Some providers are not sharing PHI due to their health care organization's policies, procedures, or protocols, even if the sharing is permitted under HIPAA, or because laws in the provider's state apply in addition to HIPAA," writes Savage and Brooks. **"Interestingly, this lack of exchange of PHI runs contrary to consumer perception, with research demonstrating that patients assume their PHI is automatically shared between their treating physicians."**

The consumer expectation here is that their data is already available and shared, but it is done in secure way. That means healthcare systems need to follow the well-established frameworks like HIPAA to mitigate risks, but there is no need for "analysis paralysis." When deploying your PX programs and technology, just stay focused on the basics:

1. When it comes to PX initiatives, always assume your patients could be entering PHI and will be interacting from a device on a public network.
2. Encrypt everything, in motion as it may travel from one system to the next, but also encrypt it at rest if at all possible.
3. If you think PHI is involved (see rule #1), make sure you have user authentication to control access to data
4. Follow a data-security framework like HIPAA that includes administrative, technical, and physical controls.

So long as you are following the right steps within the HIPAA security framework, your cyberinsurance is likely to cover the costs of remediation in full when you do have a data security incident (if you have not already) and you likely won't face any penalties.

PX = BYOD

Your patients are using their mobile phones to interact with your health system, so PX by definition is a BYOD (bring your own device) affair. That runs contrary to the way healthcare information technology systems have been designed in the past—largely as closed, strictly on-premises solutions with a reluctance to adopt newer technologies, particularly cloud-based and hosted solutions. While this is a natural and defensible position, the net effect is not impenetrability but lost opportunity in analytics, wellness and innovation.

Many healthcare systems have viewed utilizing staff devices as a security weakness, when in fact there is significant potential to strengthen the system by treating these personal or provided devices as a token authenticator. For example, a mobile app that requires the nearly ubiquitous fingerprint login found on every phone is convenient for patients and staff, yet ensures that the use is authenticated before accessing functions that could involve PHI.

Communication is Key

One of the most difficult factors in streamlining and improving healthcare, and one that can benefit most significantly from technology, has been communication. Secure, instantaneous, direct communication is critical to connecting these components of the new healthcare, allowing staff across health systems and elsewhere to connect in real-time for diagnosis and coordinated care. By nature and necessity, healthcare has a highly disparate and non-deskbound workforce with only 20% of employees checking their email. The very ubiquity of the mobile phone has already changed the way we communicate and healthcare can use this to great advantage.

Internally-Facing Technologies Affecting PX

Secure texting applications allow staff to work both efficiently and easily while maintaining patient privacy, streamlining workflow and improving cross-departmental collaboration. The increased productivity often means reduced hospital stays for patients and considerable cost savings, as outdated processes and bottlenecks are bypassed in favor of cohesive delivery of care across the continuum. The Robert Wood Johnson Foundation reported that nurses waste on average one hour per shift tracking down physicians for a response regarding their patients.¹⁰ A fully interoperable solution allows for integration into other tools and platforms, and even raises the potential for secure physician-to-patient communication.

This level of real-time communication and transparency changes the nature of the patient's treatment itself, opening doors to more collaborative care across physicians and specialists. A secure communications platform also increases the accuracy of messages - 66% of sentinel events are linked to communications breakdowns, according to the Joint Commission.¹¹ Without tools and means to communicate or a standardized patient record, specialists are often obliged to care for the patient in isolation, working from limited notes or the patient's own recollection of other diagnoses.

Referrals are another victim to the disparate nature of health records and processes, as each provider and health system operates independently and the most efficient means of communicating referrals has been via facsimile or direct patient follow-up. Both are highly problematic, as rates of faxed referrals are only 54%¹² and 25-50% of referring physicians do not know whether their patients actually see the specialist¹³. These missed referrals are a significant problem for healthcare, with an estimated 80% of serious medical errors involving miscommunication between caregivers during the transfer of patients¹⁴.

Integrating an electronic referral system, however, increases the likelihood of the appointment being scheduled and completed to 83%¹⁵ while significantly reducing the burden on staff for both the referring and referred physician. While an electronic referral can work directly with charting workflows and EMR messaging to include necessary patient records and information, the key to prevent referral leakage is to provide a simple-to-use, up-to-date, real-time system so that the patient is empowered and reminded to follow up with an in-system specialist.



81%

of smartphone users keep their phone near them "almost all the time during waking hours"²¹

Gallup, 2015

Externally Facing Technologies Affecting PX

While all these technologies are internal, the element of consumer-facing technologies is no less critical. Analyzing your digital communication strategy with patients, families and caretakers throughout the patient journey allows you to be proactive in providing comprehensive and compassionate care and prevent important information from being lost in translation. There are numerous tools to help you accomplish this, from your website to social media, digital advertising, and mobile apps. The key question is not which tool, but how to incorporate all into a single narrative to strengthen the impact and effectiveness of the overall strategy.

Understanding how your audience uses each of these tools is key to maximizing its value, as each serves a unique and complementary function. According to Google, 1 in every 20 searches are for health-related information¹⁶, so your website will most likely be viewed while researching or referencing conditions and capabilities. Patient resources are critical, with the website acting as an online brochure while keywords maximize search engine optimization. How are you educating potential clients, increasing your brand awareness, establishing your facility as an industry leader, or serving as a portal for clients? A well-designed and intentional website can do all of these things in a patient-centered manner, with an emphasis on visual and engaging content like videos and blogs since most consumers will access the website on a desktop computer.

Many of these same resources are well suited for sharing on social media, where the key focal point is engagement and conversation to create positive interactions with your organization. comScore estimates social networking makes up 1 out of every 5 minutes spent online¹⁷, creating invaluable opportunities to talk to consumers in their natural habitat and foster dialogue within the community or respond to crises. As patients move toward customers who are voting with their wallets, it is essential to understand and actively shape public perception - 41% of people said social media would affect their choice of a specific doctor, hospital, or medical facility¹⁸ and more than 40% of consumers say that information found via social media affects the way they deal with their health¹⁹. Here a focus on human-centered content through videos, blogs, pictures, and reviews are ideal to tell your story, and defining and embodying a particular brand voice that represents your organization will solidify the relationship.

For more proactive communication, digital advertising campaigns can offer targeted reach around particular keywords and demographics to expand the reach of your content or awareness of services. Research supports the effectiveness of targeted advertising, as patients tend to take action after seeing a paid search ad for a hospital: 35% search for more information, 29% begin the research process, and 28% visit the advertised hospital's website²⁰. Using your CRM, you can identify particular audiences and track effectiveness to continue adjusting and optimizing by message, platform, or demographic.



41%

of people said social media would affect their choice of a specific doctor, hospital, or medical facility¹⁸

Demi & Cooper Advertising and DC Interactive Group

PX Power of Mobile

One of the broadest communication tools for healthcare systems are mobile apps, taking advantage of both the ubiquity of smartphones as well as the tools and resources already built into them. Eighty-one percent of smartphone users keep their phone near them “almost all the time during waking hours”²¹, while the average user relies on their phone for 221 tasks per day²² and checks their phone screen 150 times per day²³. This highlights one of the key differences between a mobile app and a mobile, or responsive, website - an app has access to all of the device features like camera, sensors, geolocation, and push notifications, allowing for a greater range of functionality than a website.

Additionally, mobile apps offer the speed and offline access to provide a better customer experience; the average load time for mobile sites is 19 seconds over 3G, and 53% of visits to mobile sites are abandoned after 3 seconds²⁴. In fact, people will visit a website less often if it is slower than a close competitor by more than 250 milliseconds²⁵. Many sites may be entirely inaccessible if users have poor data coverage or are restricted by limited-use plans.

Leveraging the unique aspects of mobile apps is the best way to maximize their value within a digital communications strategy, offering situation-specific tools that can be personalized to the user and answer questions when they arise. This often takes the form of a Mobile Center of Excellence, a coordinated suite of options to anticipate patients’ needs and activate them as partners in their care. By thinking through a series of questions around the patient’s journey, healthcare systems can develop targeted apps to facilitate a better patient experience as well as better health outcomes:

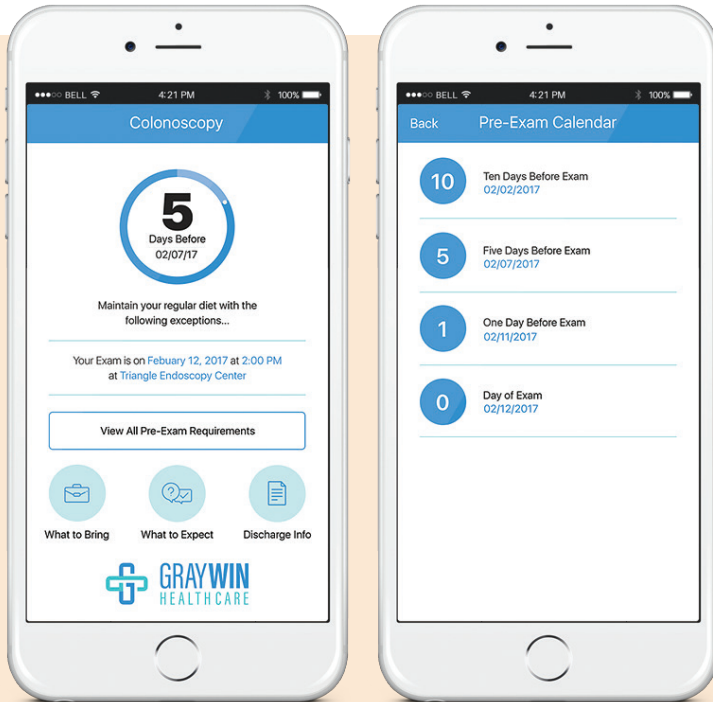


What does the patient want/need to know before they arrive?

A general hospital app or “concierge” app is a great way to familiarize patients or visitors with your facility, ensuring key information like hours, address and contact numbers are readily available and usable with a tap to call or access directions. Here wait times, self-scheduling, remote check-in, and appointment.

Once they arrive?

Wayfinding and location-based messaging offer on-site guidance and direct traffic appropriately, reducing diversions for staff and offering maximum flexibility in the face of building complexity, renovations, language and disability accommodations, or rebranding projects.



Once they leave?

Depending on the diagnosis and treatment, many patients may absorb very little of what they heard from their doctor or may be released into the care of a family member who was not present during discharge instructions. Curated, medically-sound resources educate patients at their own pace and push notifications promote better adherence to reduce complications and preventable readmissions.

40-80% of medical information provided by healthcare practitioners is forgotten immediately²⁶. The greater the amount of information presented, the lower the proportion correctly recalled;²⁷ furthermore, almost half of the information that is remembered is incorrect.²⁸

What happens between office visits?

In the case of chronic or long-term treatment, tailored apps offer trackers and monitors to encourage healthy choices while giving physicians the means to engage with patients during the critical time between office visits. From wellness programs for diabetic patients targeting A1C scores and comorbid conditions to pregnancy trackers and checklists for bariatric surgery, patients receive functional, relevant information in an accessible and consistent manner.

At least 70% of patients with a chronic condition said they'd like more resources or clarity on how to manage their disease, and 91% said they need help doing so²⁹.



The various app use cases illustrate the importance of interoperability and cohesion not just within your communication tools but your tech stack as a whole. The flexible and progressive nature of technology advocates a concurrent approach to implementation, rather than consecutive, borrowing from the agile and iterative nature of development environments. The feedback and data from the initial campaign or app can be applied across all tools and moved forward together, compounding the benefits of each.

As a McKinsey noted in their report on “Healthcare’s digital future³⁰,” the key for the healthcare industry in meeting consumer expectations is to think big, start small, and act fast.

This directive is helpful when considering practical as well as visionary implementation strategies. The first step is to evaluate internal resources—what current skill sets are available among current employees and what is their bandwidth to take on additional projects or responsibilities? Are there unfilled positions that could be staffed to fill any gaps and manage or facilitate the project? Central to the analysis is weighing growth capacity with ongoing demand, and allocating resources accordingly. If there are competing priorities for those resources, weigh which are more suited to current staffing capabilities and knowledge base, as well as creation versus management—particularly which projects benefit from the subject matter expertise and long-term ownership of your staff. Similarly, if the needed skill sets are difficult to hire for or in high demand, such as an Android developer, external assets may be more suitable and cost-effective.

One benefit of utilizing external assets is the option to select best-of-breed for any given application or tool. This consideration should be balanced with a goal of reducing complexity; opting for more versatile platforms that can handle additional integrations externally reduces bottlenecks. The challenge of managing numerous project-based partnerships can also turn into the full-time position the partnerships were intended to reclaim. Before selecting any partner, a technical checklist is critical to ensure compatibility, integration, and security with internal systems and regulations.

The key factor for successful implementation and adoption is strategic and cross-functional coordination. Many hospitals and health care systems have implemented a digital governance committee to focus on improving the patient experience across the spectrum. Recommended perspectives include health information management personnel, risk management, communications/public relations, legal, business and reimbursement experts, and other strategic personnel. Representing multiple disciplines and business units is necessary to ensure digital health tools interact well with existing IT and data infrastructure and fully support mission-critical functions across operations.

Engaging the Board of Directors or other key administrative and oversight committees encourages adoption by demonstrating buy-in from the top down, and can reduce less-effective piecemeal attempts by facilitating a more comprehensive, long-term approach. Internal structures will often determine the person or department best suited to manage and direct a project, ranging from Patient Experience and Marketing departments to Innovation or Customer Service teams.

Conclusion

The healthcare industry is already undergoing a radical transformation, powered by increasingly adamant customer expectations and a fundamental shift in payment and reimbursement structures. The transition from volume-based to value-based care will require more significant changes than just administration and billing, it will mean an entirely new paradigm for how healthcare is conceived, delivered and measured. Despite these challenges, it also presents an opportunity to refocus attention on the people served and work toward the health and wellness of our communities.

The focus on health outcomes and patient satisfaction fosters a comprehensive approach to patient care, engaging with empowered consumers as partners rather than recipients. By building on the evolution of already-consumerized industries, healthcare systems can accelerate their path forward and control their own narrative. With a strategic, intentional application of existing technologies, these healthcare systems can realize significant gains in efficiency, outcomes, and effectiveness in the short term while laying the groundwork for long-term growth.

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