Welcoming Patients Through the Digital Front Door

How healthcare providers can provide a seamless digital experience with real-time data

redis

Introduction

Today's consumers expect the same personalized, seamless digital experience for their healthcare needs as with other app-based services, such as ridesharing, food and grocery delivery, online banking, and more.

In response to this, many healthcare organizations realize that, in order to compete with other healthcare providers, they must quickly reimagine their digital offerings to provide a frictionless digital customer experience for patients. The goal is to ensure a single, seamless experience across web and mobile applications for patients to better manage their healthcare.

The challenges caused by the Covid-19 pandemic required a rapid response from healthcare systems worldwide, and resulted in such a significant leap forward for digital transformation in healthcare that, **according to the *Harvard Business Review***, "What might have taken 10 years to accomplish, will now take three years."

The healthcare sector had traditionally been slow with digital transformation and, understandably, rather risk averse. However, digital technologies that have transformed other sectors have accelerated existing processes and enabled entirely new ones, including a new type of healthcare experience—the **Digital Front Door (DFD)**—a digital door inviting patients into a modern healthcare system of highly intuitive, intelligent, patient-centered services.

Introduction

Changing patient expectations

Waiting and delays cause frustration for patients who expect healthcare interactions to match those they have as consumers. However, almost half of consumers surveyed (47%) believe **healthcare is still more focused on industry needs than patient needs.** A healthcare organization that uses digital channels to reach patients is 3.5 times more likely to be a top performer. Furthermore, many patients say they wish digital healthcare experience was smoother and more intuitive."

Shift in the healthcare business model

The significant shift from volume-based care to value-based care is changing the healthcare business model, moving from a fee-for-service model to one that places a higher emphasis on providing value to patients. Like in other sectors, patients make their decisions based on the value they feel their healthcare provider offers them. That value is represented by process-driven outcomes that reduce time in hospital or shorten recovery time, and so on.

Covid-19 accelerated a digital transformation in healthcare

The sudden onset of the Covid-19 pandemic forced a rapid transformation across the entire healthcare sector for everyone—from patients to insurers to frontline health workers. Healthcare providers had to quickly scale touchless, remote care because face-to-face appointments had become unsafe, which led to a boom in the popularity of telehealth. A McKinsey & Company survey showed that while only 11% of consumers had used telehealth software for their medical care in 2019, as high as 76% of respondents in 2020 said they were now interested in using it going forward.

Source: McKinsey & Company Survey

The emergence of the Digital Front Door

DFD is a comprehensive, end-to-end framework that strives to provide engaging, seamless patient experiences. It does so by deploying the right combination of digital technologies to allow patients easier access to healthcare services while breaking down data and service silos that can introduce friction to the system. This ranges from on-premises facilities that capture patient data electronically to online video consultations to useful healthcare apps.

Regardless of the online portal through which a patient first enters, all other services they use on subsequent visits should recognize their profiles, health issues, and preferences to offer a customized, personalized experience that is continually improved as additional data is collected and shared. It is also critical to ensure a systems-driven approach to the security and privacy of this information.

As a total reimagining of the patient user journey, DFD allows patients to decide when and how to start their online interaction, evaluate their choices, pick a provider, schedule an appointment, and so on. The user journey could also include app-based information, such as directions around the hospital campus or after-care instructions for medical procedures. DFD does not replace physical consultation—it supplements it.

The first step for healthcare organizations in developing an effective DFD strategy is to build a cohesive team that includes marketing, IT, and clinicians. Those users who have frequent interactions with their healthcare provider, such as patients with chronic diseases, can provide great insight and feedback on what they need to better manage their health online and how to keep them happy as a consumer.

Critical components of a Digital Front Door initiative

Pre-care
- Virtual patient self-scheduling and cancellations
- Patient check-in
- Digital verification and eligibility
- Virtual waiting room

Care
- Digital triage and symptoms check
- Digital care: primary, urgent, and specialty
- Telehealth/telemedicine and behavioral health, community
- Virtual lab results and screening review

Post-care
- Patient satisfaction surveys
- Real-time digital claims processing

Benefits to consumers/ patients and providers

Intuitive, intelligent experiences.

DFD understands the patient's context, predicts or anticipates their health needs and incidents, respects their independence to make decisions, and evolves as the patient journey changes, continuously learning and improving.

Convenience.

DFD enables ease of access to primary and specialty care for critical conditions, especially during the Covid-19 pandemic, providing convenient connections to physicians and community support services, effectively triaging patients and directing them to appropriate levels of care. DFD technology offers digital care that makes it easier for patients to monitor their conditions from home, with data transmitted back to clinicians.

Consistency.

DFD facilitates patient recognition at each access point, with tools to navigate across the health channel. Another benefit is the assurance of consistency of practices, standards, and high-quality care at every point of access, as well as easy collaboration among providers and care personnel.

Empathy and loyalty.

DFD allows for a uniform pricing strategy for products and services that takes into account the specific needs of each patient. Patients will respond to this sense of empathy with increased consumer loyalty.

Building a real-time data layer for your DFD with Redis Enterprise

A digital healthcare system based on personalized, empathetic patient care must be built on a reliable framework of foundational database systems and tools that connect in real time and work flawlessly in concert with one another. Currently, this is difficult to achieve because data is often stored in different systems and the databases aren't connected within and between institutions. Different hospital departments cannot share data with one another easily. The real-time data layer approach enables organizations to incorporate as many existing systems and components as possible into their DFD, adding new niche capabilities as required.

The first step for a DFD initiative is to build well-connected, mission-critical healthcare applications that focus on best-in-class patient care. It is possible to provide an integrated set of services through these applications using data combined from multiple systems, to meet a specific set of patient needs. This requires critical records on patients, doctors, insurers, hospitals, beds, technicians, and facilities that are synced, available, and accessible where and when needed.

Next, these records must be connected and made available as unified, meaningful data, which in turn will help healthcare organizations provide patients with quality user experiences. However, most of today's healthcare applications use data that is written in multiple formats and stored across departmental silos. A robust data infrastructure that transcends these siloed systems and provides unified, context-specific, timely information and insights is an imperative.

Finally, these systems have to be reliable, to ensure the best experience for patients and practitioners, and be secure and performant, built upon strong compliance foundations. As a highly regulated sector, it is critical that healthcare's digital transformation complies with multiple regulations.

All of this can be successfully implemented with Redis Enterprise, which allows you to build a robust, real-time data infrastructure that can deliver high levels of performance. Redis Enterprise offers end-to-end infrastructural capability to build your DFD framework.

Redis Enterprise is the right choice for your DFD

Redis Enterprise, the fastest high-speed database in the industry, offers a comprehensive platform that enables healthcare organizations and insurance providers to build a DFD using its in-memory NoQL datastore. Redis Enterprise works with its multiple data models to store and retrieve digital patient identities, locations, case histories, physician details, and device data—all of which are updated in real time to deliver personalized and consistent services. Redis Enterprise offers linear scalability and geo-distribution support using Active-Active technology and is ideal for the distributed, mission-critical nature of healthcare applications.

DFD applications you can build with Redis Enterprise

From triage and symptom checking to patient navigation, urgent care to behavioral health, DFD is an end-to-end efficient, virtual suite of digital health services that make real-time patient experience a reality. Let's take a look at how Redis Enterprise and its architectural components work in concert for a wide range of DFD use cases:

→ **Patient/provider/payer 360**

→ **Patient check-in and virtual waiting room**

→ **Critical care facilities and equipment scheduling**

→ **Digital/virtual care**

→ **Telehealth and patient portal**

→ **Intelligent claims eligibility**

DFD applications you can build with Redis Enterprise

1.
Patient/provider/payer 360

The DFD system requires healthcare organizations tightly integrate data from disparate systems and connect it together seamlessly, to provide a comprehensive, 360-degree view of the ecosystem data. Document databases are excellent repositories for storing, searching, and retrieving important information on patients, health records, providers, and payers.

RedisJSON and RediSearch combine a highly scalable and geographically available datastore with high-speed search capability. For example, a hospital dealing with hundreds of thousands of patient records in the form of digital documents can effectively combine and store those records using RedisJSON + RediSearch to find specific information needed for analysis, testing, and reporting. Redis Enterprise with RedisAI enables

more efficient analytics across insurance claims, payments, and member engagement to lower healthcare costs and improve outcomes. RedisAI can continually monitor and learn how patients interact with the health system and infer insights from those interactions to dynamically improve that patient's experience.

2.
Patient check-in and virtual waiting room

RedisAI can screen calls to the healthcare provider so that they can more easily be directed to the right physician. Redis Enterprise Cloud can help to speed up decision-making; for example, to instantly share patient case history or medical data, such as X-ray images, rather than pass physical or digital files between consultants. RedisTimeseries can provide the time-specific and sensitive data flow on patient information to provide alerts and notifications about patient visits, wait times,

and vitals, and to prevent adverse incidents. Redis Enterprise can enable consistent session management capability across patient engagement channels to enable virtual waiting rooms, virtual selection of members, self-scheduled check-ins, and the collection of lab results.

3.
Critical care facilities and equipment scheduling

DFD requires a digital infrastructure complete with applications that run seamlessly on multiple channels. Allocation of physicians/lab technicians, care facilities, and claims verification and eligibility is made easier when facilities data, geographical data, location data, and patient, provider, payer identity, and patient case history data all work together. Health organizations can employ Redis Enterprise and its advanced capabilities to store, process, and retrieve data to ensure timely availability and scheduling of critical care facilities, physicians, and equipment.

DFD applications you can build with Redis Enterprise

4.
Digital/virtual care

RedisGraph, in concert with RedisJSON and RedisSearch, can help organizations better understand and define the patient/provider/payer profiles and make meaningful connections between people, locations, and devices as well as visualize relationships in the ecosystem to understand the patient and their problems in the right context to help deliver personalized experiences. Redis Enterprise can enable integrated datasets that enable virtual care professionals to order prescriptions, schedule critical surgeries and follow-ups, and monitor post-care patient status.

5.
Telehealth and patient portal

Redis Enterprise offers all the capabilities necessary to handle the need for speed, security, and scalability of telehealth apps. In addition to its core database advantages, RedisJSON and RediSearch together provide a huge database that is searchable through its optimized query mechanisms across formats, and provide timely, contextual information for patients to make intelligent decisions regarding their health and well-being.

6.
Intelligent claims eligibility

Intelligent claims eligibility involves bringing together all the records necessary to make fast decisions to evaluate eligibility, prevent fraud, and verify claims eligibility seamlessly in real time, even before care begins. With the ability to store, search, and process huge volumes and variety of all healthcare records, Redis Enterprise—along with RedisAI for claim audit and RedisGraph to confirm in-network status—is a critical ally to improve healthcare experiences for patients, payers, and providers as an end-to-end, real-time digital claims processing platform.

New, digitally enabled healthcare opportunities

Healthcare providers are preparing for a new normal by using technology to leapfrog ahead and become entirely new, digitally enabled businesses. Some of these opportunities go beyond just a transfer of care, and now include the ability for patients to receive new forms of care, including preventive care. Examples include:
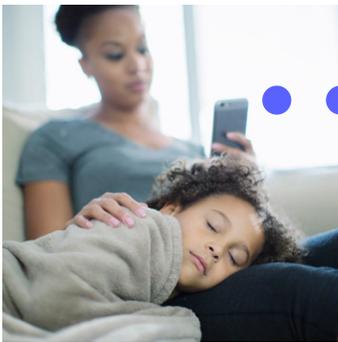
Connected care.

IoT and wearables have become essential health monitoring tools for patients with critical conditions. These devices will generate real-time data for physicians, who can constantly monitor each patient remotely, saving costs from on-prem facilities.

Predictive care.

To predict and prevent fatal incidents and post-procedural complications, it is important for organizations to have a constant flow of real-time data between wearable medical devices and organizational systems.

Drone-assisted emergency care.

Drones checking vitals such as temperature, pulse, facial identity, or biometric verification while the patient waits in the privacy and security of their home or car.

Personal telehealth assistants.

AI-based personal assistants, such as Alexa and Siri, can share health advice, including first aid and preventive care tips.These AI assistants can interactively instruct sick or injured patients in remote locations on what needs to be done until professional medical help arrives.

Conclusion

A digitally transformed healthcare sector will be one that delivers better experiences for patients, provides successful treatment for more people, and functions more efficiently and affordably. The opportunity for the healthcare sector to truly transform the patient experience is enormous. The Digital Front Door serves as an inviting virtual portal for patients to make their entry into all that their health system has in store.

Contact our experts to learn how Redis Enterprise can be your trusted ally in building your Digital Front Door.

Reach out at redis.com

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