

Microsoft Cloud for Healthcare + Microsoft Cloud for Retail

The unstoppable shift of healthcare's front door

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Contents

| | |
|---|---|
| Introduction..... | 3 |
| Transformations in retail and healthcare | 4 |
| A system for all: the consumerization of healthcare benefits retailers, healthcare providers, and consumers | 5 |
| What's possible with Microsoft..... | 6 |
| Continuous patient monitoring: Combine IoT & analytics to optimize treatments | 6 |
| Virtual health: Provide new avenues for care..... | 6 |
| Data interoperability: Connect data from multiple systems of record..... | 6 |
| Care coordination: Develop systems of engagement with intelligent workflows | 7 |
| Shopper analytics: Unlock multichannel insights with advanced analytics | 7 |
| Personalized care and e-commerce personalization: Enable tailored recommendations and experiences | 7 |
| Digital advertising: Leverage tools to maximize campaign performance..... | 8 |
| Why Microsoft?..... | 8 |
| The future of healthcare starts today | 8 |



Introduction

In the 21st century, people generally expect experiences to be convenient, straightforward, and secure. People want to access information and services digitally, on various devices, from anywhere at any time. According to a 2019 survey, 73% of consumers say when they create an account or make a transaction on a digital platform, they expect the process to happen *instantaneously*ⁱ. During COVID, virtual access to goods and services became even more imperative. Furthermore, people want in-person interactions with businesses and government agencies to be streamlined, efficient, and trustworthy. From vacation rentals and entertainment streaming to banking and filing taxes, everybody expects ease and convenience.

These changing expectations have impacted every industry, but perhaps none as much as retail and healthcare. With retail, people expect to order online, get expedited shipping, and never encounter out-of-stocks. They want the flexibility to buy online and pick up in store, or return items via mail with no financial obligation. With healthcare, people are asking for more convenient access to care, either virtually at home or in-person near their home, with minimal administrative hurdles. Improved access to health services is particularly needed in low-income and rural areas that have historically lacked it. In addition to improved access, more comprehensive preventative health and wellness services are in higher demand, especially for those with chronic diseases. In both health and retail, people increasingly prefer personalized services, price transparency ahead of purchase, and of course affordability.

These rising expectations, coupled with historical lack of access for some populations, present a vital opportunity to deliver healthcare in new ways and at new locations. This has led to the convergence of retail and health, resetting the bounds of traditional healthcare.

This convergence will take forms we have yet to imagine. But currently, we're seeing two key trends: retailers offering health services and traditional providers adopting more consumer-centric approaches. At Microsoft, we hope this consumerization of healthcare will expand access to convenient, cost-effective care and ultimately improve health outcomes for all. For retailers and providers, getting on board with this transformation will be necessary to meet consumer expectations and keep up with industry leaders.



Transformations in retail and healthcare

So, what does it look like for retailers to offer health services? “Retail health” takes many forms, physical and digital. Retail health companies have physical clinics within stores that have evening and weekend hours and offer appointment and walk-in options. They also offer digital services such as telehealth appointments, wearables for health tracking and nudging, self-service Q&A bots, and mobile apps where users get guidance and track personal objectives. Their physical and digital services often have transparent out-of-pocket pricing, where each service has a clear, fixed price. The physical clinics often have a pharmacy, but that’s not all. They are staffed by nurse practitioners, physician associates, and specialists who may provide a wide range of services all in one place: diagnosing minor issues (even via x-ray and lab), primary care checkups, chronic disease management visits, and specialties like mental health counseling, optometry, audiology, dentistry, bone densitometry, and nutrition.

Retail health doesn’t just involve companies like CVS and Walgreens Boots Alliance that are well-established in the pharmacy industry. Retail leaders like Kroger and Best Buy are entering the space, and Walmart Health has 20 care clinics and counting. And of course, disrupters like Amazon and Google are getting involved as well. As of 2020, there were about 2,000 retail health clinics in the U.S. aloneⁱⁱ. In 2020, 48% of retail pharmacy customers in the U.S. used at least one health and wellness service from their pharmacyⁱⁱⁱ. As they are entering a new space, retailers are naturally navigating new considerations, like how to provide quality healthcare, partner with insurance companies, and more.

The second key trend is traditional providers adopting more modern and consumer-centric practices. In response to patient demand and the rise of retail health, we’re seeing providers offer more digital services like the ones mentioned above: virtual visits, online portals, mobile apps, health monitoring via wearables, and more. According to a 2019 Accenture survey, 68% of American patients are more likely to choose a provider where they can book and change appointments online, and 70% are more likely to choose one that sends text or email reminders for preventative or follow-up care^{iv}. In addition to these convenient digital services, providers are adopting interoperable technology systems to improve their internal operations. Connecting data siloes ensures different stakeholders all have a full picture of each patient, increasing alignment across care teams and leading to better care. Interoperability also opens the door for more advanced analytics, AI services, and personalized health recommendations.





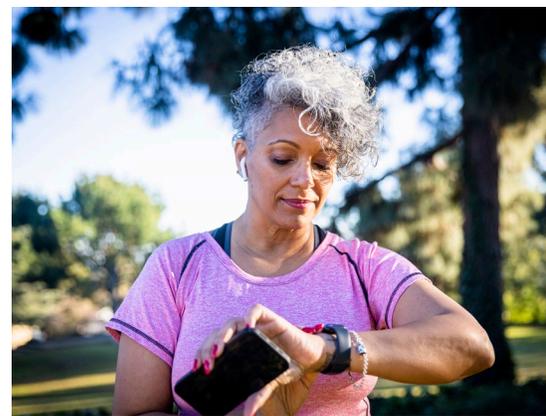
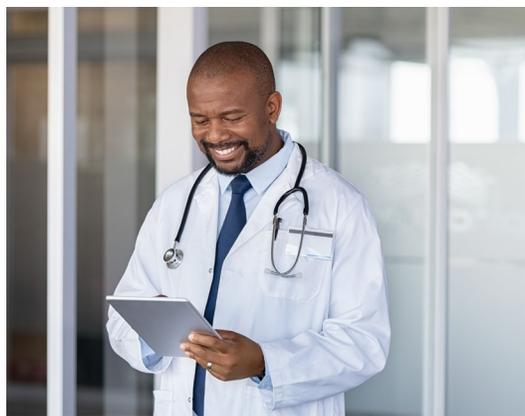
A system for all: the consumerization of healthcare benefits retailers, healthcare providers, and consumers

For retailers, retail health presents a business model that creates new revenue streams and attracts new customers who may not have come in for retail alone. With an accessible “front door,” retailers are in a natural position to reach many consumers, both in-store and digitally. Offering health services increases traffic in stores and online, boosting overall sales and increasing the opportunity to cross-sell health-related food and goods. When done right, providing healthcare services strengthens customer relationships and increases brand loyalty.

For traditional healthcare providers, retail health systems provide support by adding a link to the continuum of care. By increasing access to curative and preventative healthcare, retail health systems help improve health across the population, thus reducing the stress on and expense of hospitals, emergency rooms, and urgent care clinics. Retail health clinics also refer new patients to primary care physicians and specialists since the former are more likely to attract people who don’t regularly engage with healthcare services. Providers that form partnerships with retailers have a greater opportunity to capture those referrals. Lastly, traditional healthcare providers benefit from information shared by retail health companies (with consumer consent). They gain a fuller picture of each patient’s wellbeing by receiving data regarding health, lifestyle, and preferences from retailers.

Providers also benefit from adopting more consumer-centric practices internally. Digital services help increase adherence to care plans, preventing hospital re-admissions and reducing the cost of acute care situations. Digital services like apps and wearables also collect information, with consent, that gives providers a more holistic understanding of a consumer’s health and behavior, as mentioned above. Better internal collaboration among care teams increases efficiency and improves the employee experience. Ultimately, digital services and system interoperability help providers offer the best possible care, improving consumer satisfaction and retention.

Last and most importantly, these shifts in healthcare delivery benefit consumers and society at large. The modernization of traditional healthcare providers improves the consumer experience and contributes to better health outcomes. As for retail health, convenient locations, extended hours, and virtual health options increase access to healthcare, which is especially impactful for those in low-income or rural areas and those with chronic conditions who need more frequent support. Retail health’s transparent pricing model gives consumers more control over their care choices and makes cost-conscious consumers more likely to seek care. Finally, a hub for diverse health services makes healthcare more convenient. Someone could have optometry and dental appointments in the same visit, or a parent and child could get different services at the same time in the same place.





What's possible with Microsoft

Microsoft has been working with retailers and healthcare providers for decades to solve some of their biggest challenges. In the last year alone, we released the Microsoft Cloud for Healthcare and announced the Microsoft Cloud for Retail. These two offerings provide a wide range of capabilities designed to empower retailers and providers while also meeting security and compliance needs. Enabled by a common data model, the products within Microsoft's industry clouds work seamlessly together in an integrated ecosystem. Our technologies are modular and open so retailers and providers can choose an approach that best suits their needs. Let's look at some examples of what's possible by partnering with Microsoft.

Defining Retail + Health Terms

| Retail or healthcare terms | Retail+Health terms |
|-----------------------------------|--------------------------------|
| Customer, client, patient, member | Consumer |
| Compliance | Compliance, consent, and trust |
| Mass personalization | Empathy at scale |

Continuous patient monitoring: Combine IoT & analytics to optimize treatments

Continuous patient monitoring involves consumers using devices that collect health data, like a smart watch or a glucose monitor. Wearable devices monitor the wearer's heart rate, sleep, activity, body temperature, weight, and more. With the consumer's consent, retailers and providers will be able to access data from those devices to track their health condition remotely. This helps them make sure the consumer is adhering to care plans and notifies them of risks, like if someone loses a significant amount of weight quickly, before they become critical. Remote patient monitoring is particularly valuable for consumers recovering from an illness or surgery and those managing chronic diseases.

Microsoft provides IoT and analytics solutions that enable this scenario. Azure IoT ingests real-time data from wearables and other IoMT devices. To access the data, providers can send it directly into an existing health records system using the Azure API for FHIR or build a patient insights dashboard in Power BI.

Virtual health: Provide new avenues for care

Consumers and healthcare providers have both become more open to virtual health options in recent years, and especially during COVID. As of late 2020, the number of virtual health visits in the U.S. had increased 300% compared to pre-COVID levels^v. According to a 2020 study by Frost and Sullivan, that trend will continue: telehealth visits will see a 100% increase over the next two years^{vi}.

Virtual health is broader than virtual visits though. It encompasses video appointments, consumer-facing bots that answer common questions and help with scheduling, and mobile apps where users can get guidance and track personal objectives. It includes online health portals where consumers can schedule appointments, message their providers, and access information about past visits, IoMT data, medications, billing, and more. These options help retailers and providers reach consumers regardless of where they are and increase convenience for the consumer.

Microsoft Teams makes it easy to conduct virtual visits on any device. Providers and consumers can even access the visit from an existing EHR portal like Epic thanks to the Teams EHR Connector. Nuance Dragon Ambient eXperience (DAX) integrates with Microsoft Teams to document the conversation. Organizations can create mobile apps with Power Apps and consumer-facing portals with Power Apps Portal. Finally, retailers and providers can build a chatbot that understands triage protocols and clinical terminology using templates in Azure Health Bot.

Data interoperability: Connect data from multiple systems of record

Clinicians need a 360-degree view of each consumer's health information and history to deliver the best possible care. This means that retail health entities and traditional providers need to be able to share data easily and securely, both

internally and externally. But each entity has many types of data, including electronic health records (EHRs), IoMT data, mobile app and web data, CRM systems for billing and insurance, and PACS that store medical images like x-rays. This information often lives in multiple databases and is stored in different formats. To get the comprehensive view of consumers, retailers and providers need systems to talk to each other in a way that still protects private health information (PHI).

Azure API for FHIR makes it possible to connect data from multiple sources. Azure API for FHIR is a foundational service that sits on top of disparate systems and standardizes the data into a consistent format so the systems talk to each other more easily. To facilitate inter-system communications, Microsoft provides healthcare-specific tools to help verify consumer consent and maintain a single digital identity for each consumer. With unified data, clinicians get the 360-degree view they need to optimize health outcomes for each consumer. Plus, unified data lays the foundation for more advanced analytics and facilitates a seamless experience for consumers as they visit various providers or use various channels.

Care coordination: Develop systems of engagement with intelligent workflows

Next, retail health clinics and traditional providers both need an intuitive portal for clinicians to see the 360-degree consumer view, organize care activities, and communicate with each other without having to bounce between multiple systems.

With Microsoft Dynamics 365, providers will be able to view and update consumer information in a single pane of glass – including demographic information, chronic conditions, recent injuries or illnesses, appointment history, contact information, retail purchases, and more. Dynamics 365 also facilitates better care coordination by enabling users to create and manage care plans, allocate tasks, and share information with colleagues. For home health providers, Dynamics 365 Field Service recommends travel routes to minimize driving time.

Shopper analytics: Unlock multichannel insights with advanced analytics

Analytics tools help retailers and providers better understand consumer needs in order to improve care and engagement. The possibilities for analytics are endless. Consider a few examples: With a consumer's consent, a retailer could analyze communications to determine that the consumer is most likely to read and respond to messages on a mobile app rather than a web portal. A provider could analyze someone's IoMT data to recognize how activity patterns correlate to health outcomes. They could analyze the entire consumer population to determine who to target for certain services like preventative screenings.

Azure Synapse Analytics makes it easy to connect relevant Azure data, from warehouses to data lakes, and create powerful analytics. It integrates with Power BI and Dynamics 365 Customer Insights for analytics visualizations. It also integrates with Azure AI services for scenarios that require predictions, recommendations, or personalization. Microsoft Clarity is another tool that helps users understand overall website traffic to optimize the user experience.

Personalized care and e-commerce personalization: Enable tailored recommendations and experiences

Retailers and providers can also leverage Microsoft AI services to create more personalized experiences. AI services observe patterns from multiple data sources to generate recommendations for a specific individual. In the healthcare context, this can take many forms. For example, when a consumer is scheduling an appointment, they could see recommendations for services like screenings based on their medical history. As another example, a consumer could receive tailored "nudges" via wearable device to exercise, drink water, or take medication.

In the retail health space, unifying retail data and health data uncovers even more possibilities. For example, AI services recommend retail products to a consumer based on their health information, like ingredients that meet their dietary needs or physical therapy equipment.

Personalization also takes the form of rewards programs that incentivize consumers to increase healthy behaviors. A retailer could provide rewards points for activities like filling prescriptions, purchasing healthy products, or tracking exercise via a wearable.

Digital advertising: Leverage tools to maximize campaign performance

Microsoft also helps retailers and providers optimize their digital advertising ROI with a broad set of tools from Microsoft Advertising. Audience targeting capabilities give companies dials to control their advertising across different products, locations, devices, and more. Microsoft provides users with industry insights, consumer trends, technology, and proven expertise to turn data into better-performing marketing campaigns. And if you're already using another product like Google Ads, it's easy to pull that campaign into Microsoft Advertising.



Why Microsoft?

The examples above are just a sample of what's possible with Microsoft. Our Cloud for Healthcare and Cloud for Retail present an unparalleled range of possibilities, from clinical and operational analytics to care team collaboration. Rather than isolated point solutions, we provide an integrated, open set of technologies that form a stronger, more agile foundation from which to operate and grow. Plus, our deep expertise in both industries is supplemented by our extensive partner ecosystem.

Microsoft works to empower our customers. With Microsoft Azure, you own your data, and we will never share it or mine it for marketing or advertising purposes.

Our industry clouds are built to help protect sensitive data and stay up-to-date with compliance requirements. Azure also provides security from the ground up, across physical datacenters, infrastructure, and operations. We invest over \$1 billion per year in security R&D and have a global team of over 3,500 experts actively monitoring for threats. We have more compliance certifications than any other cloud provider, including HIPAA and other healthcare-specific certifications.



The future of healthcare starts today

As the consumerization of healthcare increases, retailers and traditional providers have the opportunity to lead their industries while expanding healthcare access and improving health outcomes for everyone.

Visit the [Microsoft Cloud for Healthcare](#) and [Microsoft Cloud for Retail](#) sites to learn more, and contact your Microsoft account manager to sign up for an envisioning session to explore long-term and short-term possibilities.

ⁱ [Ekata, Infinite want: Consumers demand speed and security in the digital experience, 2019](#)

ⁱⁱ [Fortune Business Insights, Retail Clinics Market Size, Share and Global Trend by Location, Ownership, Mode of Payment, and Geography \(Forecast till 2026\), 2020](#)

ⁱⁱⁱ [JD Power, Retail Health Clinic Engagement Rising; May Be Key to Supercharging COVID-19 Vaccine Rollout, 2021](#)

^{iv} [Accenture, Digital Health Consumer Survey: US Results, 2019](#)

^v [Blue Cross Blue Shield, Increasing Telehealth and Virtual Care in the COVID-19 Era, 2020](#)

^{vi} [Frost and Sullivan, Telehealth – A Technology-Based Weapon in the War Against the Coronavirus, 2020: Social Distancing Needs Will Present Both Growth Opportunities and Challenges, 2020](#)