



Digital Drives Better Health Outcomes

A report on healthcare market trends
on Digital Adoption

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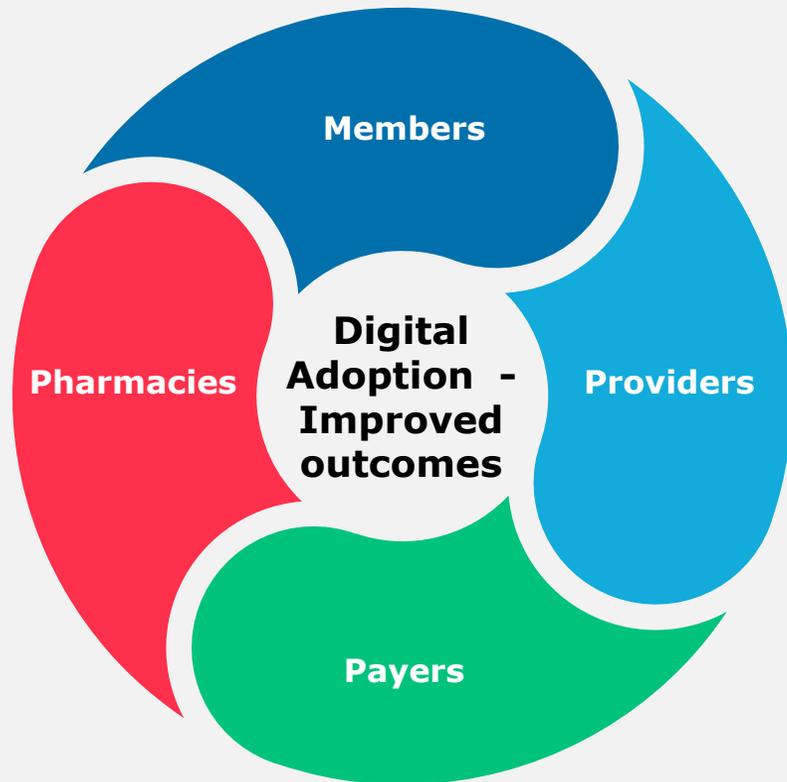
Outcome Based Healthcare...

...which puts the patient at the heart of the health ecosystem - has become a major global initiative over the past decade.

Central to this paradigm shift are digital tools and new technologies that enable preventive health management.

The move to outcomes-based medicine is affecting all healthcare stakeholders.

In this article, we researched across the industry by each stakeholder - members, payers, providers, and pharmacies as to how they are leveraging digital tools to their advantage.

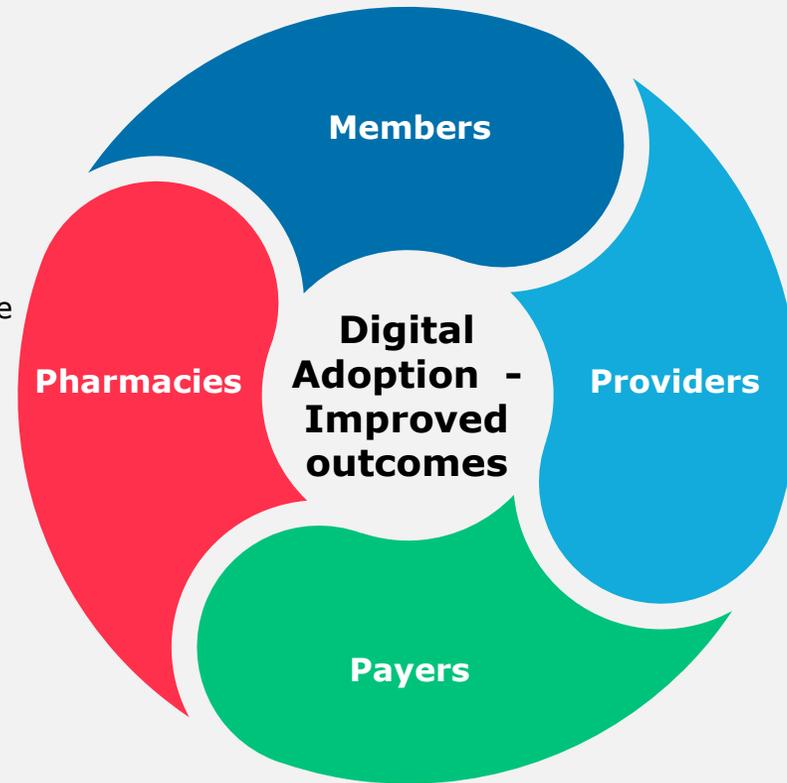


Key Observations

The shift to proactive, technology-enabled customer health management offers numerous benefits and is bound to be more broadly used in the years ahead

- Increasing adoption of wearables and portable medical devices
- More than 70% members ready to share data for improved healthcare or lower premiums ¹
- Wellness apps, community forums, social media and gamification are gaining popularity

- Pharmaceutical R&D is leveraging technology to drive prescription adherence to medication
- Use of drone and weather based alerts to deliver and alert users for prescription delivery is gaining pace



- Sensors, medical devices, real time data sharing capabilities have use cases in managing chronic diseases
- Emerging technologies like VR make treatment more effective
- AI is redefining healthcare benchmarking

- Cloud-based integrated care platforms help provide better and cost effective care
- Telehealth emerging as instant access to care 24 x 7
- Blockchain use cases emerging to efficiently track and manage patient data



Members

Patients are embracing easily-accessible digital health management tools. **More than 76% of Americans are ready to share data** from wearables with their healthcare provider **if the data can improve their care**; and **70% say they will share their data if it means lower insurance premiums**, according to a survey by the makers of the mobile health app iTriage.¹

Fitness bands, smart watches, and other wearable devices track health data such as heart rate and provide members with **real-time feedback** so they can take appropriate preemptive action. Moreover, a range of innovative mobile apps helps members to manage chronic diseases such as diabetes or better adhere to prescriptions or treatments.

Digital healthcare tools are becoming more and more popular thanks to **gamification**, which **makes healthy lifestyle behavior easier and fun for members**. For example, CogCubed's app helps users with cognitive challenges solve problems through a game. Similarly, Bandit's Shark Showdown uses gamification to help rehabilitate stroke patients through creative physical therapy that encourages motor skills improvement.²

As members increasingly go online in search of medical and provider information, social media has become a critical patient engagement channel. Not surprisingly, **73% of adults in the United States say they use the internet for health and wellness information**, according to the 2017 MARS Consumer Health Study.³

Clearly, digital has become a significant patient health-management channel.



Providers

Digital tools are particularly **beneficial for providers in the new value-based care system** where achievement of cost-effective positive health outcomes is critical. For example, Propeller Health's respiratory health management platform uses sensors, mobile apps, and analytics to connect providers and members so that patients can receive necessary care based on real-time data for chronic disorders such as asthma. ^{4 5}

Providers are also **exploring innovative new technologies to make treatments more effective**. For instance, Nationwide Children's Hospital in Columbus, Ohio, uses virtual reality (VR) to help children feel less anxious when receiving injections or intravenous infusions. When the care team can distract the patient—by using VR—it lets them control the encounter and drive a better experience. ⁶

Similarly, **artificial intelligence (AI) is showing potential to redefine healthcare benchmarks**. AI-based analytics are being **used to more accurately diagnose illnesses** and **plan more targeted outreach programs**. North Carolina-based Piedmont Health is realizing the benefits of analytics with a 50% improvement in benchmark lengths of stay and 10% fewer readmissions for heart failure and heart attack. ⁷



Payers

Payers are taking a more central role in customer health management through digital and mobile platforms by **leveraging claims data to analyze and identify trends and to plan care interventions** accordingly. Health insurer Humana uses claims data in its medication management mobile app to automatically integrate meds based on recent claims and to remind patients to update their list when a new claim is submitted. ⁸

Cloud-based patient data storage is being used to create **integrated care platforms** through which **data is shared among multiple stakeholders and systems** to provide better patient care.

Payers also recognize the usefulness of **wearable or mobile devices** in driving healthy customer behaviors as well as **better customer engagement**, with Aetna providing free Apple Watches ⁹ and UnitedHealth partnering with Walgreens to incentivize customers with Walgreens Balance Reward points for making healthy choices. ¹⁰

What's more, payers such as French multinational insurance firm AXA are investing in telehealth and telemedicine. ¹¹ This technology can be used to reduce office visits by remotely advising patients based on their symptoms. **Telemedicine** solutions **offer timely care to patients in isolated areas**, which can mitigate health crises.

Payers can also leverage disruptive technologies such as **blockchain to efficiently track patient health data** and get more involved in customers' health. Increasingly, payers are considering solutions such as MintHealth's blockchain-powered health record platform, which provides real-time access to patient health data as well as embedded incentive systems to encourage preferred patient behaviors. ¹²



Pharmacies

Not unlike other healthcare stakeholders, pharmaceutical companies are **exploring new technologies to boost effectiveness**. Product manufacturers are inserting technologies into medicine to **measure, manage and improve the health of patient populations**.

For example, Proteus Digital Health has embedded ingestible sensors in Otsuka's oral aripiprazole tablets, which then communicate with a wearable sensor patch and a mobile application to transmit data on medication adherence to patients as well as healthcare providers. ¹³

Customer wellness is a priority for retailers, too. For example, ScriptSync, a digital tool from CVS Health helps patients synchronize multiple prescription refills and also sends geo-targeted notifications to warn patients of an oncoming storm so prescriptions may be filled in advance. ¹⁴

Retailers are also exploring technologies such as **telehealth and drones to service customers** in remote areas promptly.



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About the authors



Rahul Dhingra is a Senior Manager at Capgemini and has 12 years of experience in health insurance industry. Rahul also leads the Capgemini Healthcare Domain Focus Group (DFG) with vision and mission to build innovative solutions leveraging latest technology that can be taken to the market and customers.



Krithika Venkataraman is a Manager with Market Intelligence team in Capgemini Financial Services SBU with over five years of consulting and strategic analysis experience in IT and insurance sectors.

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