

Ambulatory Pharmacies at Health Systems

TECHNOLOGIES AND STRATEGIES TO BOOST CONSUMER ENGAGEMENT



Center for **Connected** Medicine



The most important reason we offer pharmacy services is we want our patients to leave with their medications and not have to go looking for them. For specialty medications, patients don't have to wait for days or weeks before they get them, so their therapies can start sooner.”

—Chief pharmacy officer

Table of Contents

Introduction.....	4
Respondents Own & Operate Multiple Ambulatory Pharmacies	5
Main Drivers of Ambulatory Pharmacy Strategy	6
Staffing & 340B Limitations Are Most Frequently Mentioned Challenges.....	8
Lack of Access Is Biggest Barrier to Patient Utilization of Ambulatory Pharmacies.....	9
Large Retailers Influence Respondents' Pharmacy Strategies	11
Delivery Service & Refill Reminders Are Top Tools in Ambulatory Pharmacies	14
Patient Portal Integration, Prescription Fill/Refill Apps Are Expected to Be Implemented in Coming Years	16
Most Respondents Say Digital Solutions Have Successfully Engaged Patients.....	17
Methodology & Respondent Demographics.....	18

Introduction

Health system-owned ambulatory pharmacies are a promising avenue for health systems to increase patient engagement, enhance the consumer experience, and achieve meaningful patient outcomes, due to their direct interface with patients and the crucial role pharmacies play in promoting medication adherence and patient well-being. However, competition from established retailers, such as Walmart and CVS, and technology giants, such as Amazon, threaten to disrupt the patient and health system relationship by potentially offering more convenient and innovative services and digital tools. To counter this trend, some health systems are beginning to leverage certain technologies within their ambulatory pharmacies that can better meet consumer demands for a digital experience and help them maintain relationships with patients.

For this research, an ambulatory pharmacy is defined as any hospital or health system-owned retail or walk-in style pharmacy for patients. It does not include inpatient pharmacy services.

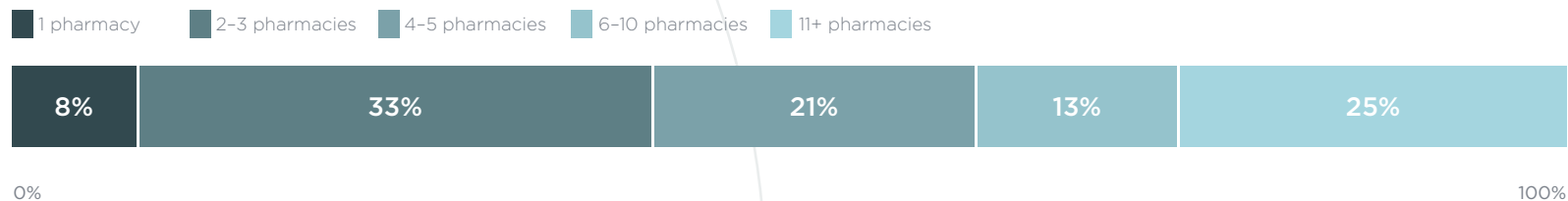
To understand more about health systems' pharmacy strategies and how they are using technology to improve pharmacy services and benefit patients, the Center for Connected Medicine (CCM) worked with KLAS Research to survey health system leaders about digital strategies for their ambulatory pharmacies. Drawing from those interviews, this report shares how health systems are using technology in their pharmacies, the challenges they have encountered, and the successes they have seen as they have sought to improve patient care, optimize resource allocation, and foster a more patient-centric health care ecosystem.

Respondents Own & Operate Multiple Ambulatory Pharmacies

All health systems whose leaders participated in this research report owning and operating at least one ambulatory pharmacy, with 4.5 as the median number of pharmacies owned and 7 being the average. These numbers indicate organizations have significantly invested in expanding their pharmacy network. By owning multiple pharmacies, these organizations can strategically position themselves in various locations, thereby enhancing convenience and medication accessibility across their patient populations. Larger organizations tended to have more ambulatory pharmacies than smaller organizations, though some smaller organizations also have several pharmacies.

It is important to note that the health systems discussed in this report represent only one-third of the organizations initially contacted during data collection. The other two-thirds of contacted organizations did not own ambulatory pharmacies and thus didn't qualify for this research. Instead of owning their own pharmacies, these systems rely on external pharmacies or outsourced services to fulfill their patients' medication needs. As the health care industry evolves, health systems will continue to use diverse strategies to best meet patient demands for pharmacy services.

Number of Owned Ambulatory Pharmacies per Organization (n=24)



Note: One respondent organization is in the process of implementing an ambulatory pharmacy.

Main Drivers of Ambulatory Pharmacy Strategy

CONTINUITY OF CARE

Continuity of care was pharmacy leaders' top-mentioned reason for health systems owning and operating ambulatory pharmacies. Owning pharmacies helps retain patients, boosts quality of care, and improves medication adherence — organizations can better manage medications and ensure patients receive the right medications and the right dosage at appropriate intervals. Further, organizations can counsel patients on proper usage, address concerns, and explain potential side effects. Health systems can also use their EHR to clearly view what other medications their patients are being prescribed throughout the system. This more holistic view of the patient facilitates accurate medication reconciliation whenever patients receive care from multiple providers or transition between different health care settings and reduces risk of adverse drug events and medication discrepancies or errors. Enhanced continuity of care also helps with chronic disease management. Many patients with chronic conditions require long-term medication therapy, and ambulatory pharmacies can support these patients by regularly refilling medications, monitoring patient progress, and offering ongoing support and counseling. In turn, this support can result in optimized treatments and better disease management.

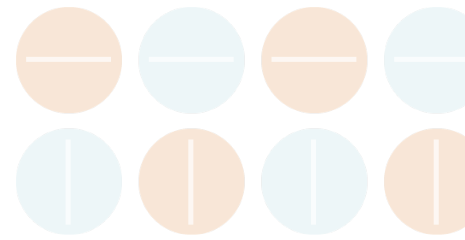
PATIENT ACCESS

Another top-mentioned reason organizations have invested in ambulatory pharmacies is enhanced patient access, the top challenge for health systems in 2021 and 2022, according to CCM and KLAS research. Respondents said they want to improve access by having longer operating hours, and they hope on-site pharmacies will be easier and more convenient to access than traditional retail pharmacies. Patients can immediately pick up medications after appointments instead of having to visit a separate pharmacy, reducing the risk of treatment plan delays or interruptions.



“The continuum of care is important for our patients. There is a lot of competition out there, and we want to make sure we are doing things right.”

—Director of pharmacy



REVENUE CAPTURE

Improved revenue capture is another common reason for having an ambulatory pharmacy, although most organizations did not cite it as their primary goal. Owning a pharmacy allows health systems to capture a larger portion of the revenue generated from prescription medications. By directly dispensing medications to patients, health systems eliminate the need for patients to visit external pharmacies, thus ensuring the revenue from medication sales remains within their organization. Further, owned pharmacies enable organizations to offer a comprehensive range of services to patients, including medication counseling, disease management, and preventive care. These additional services often attract more patients, leading to increased revenue. Those respondents who cited revenue capture also added that owning a pharmacy can benefit their 340B program.

QUALITY OF CARE

Quality of care, which is closely tied to continuity of care, was the fourth-most mentioned reason that organizations own an ambulatory pharmacy. Owning pharmacies allows health systems to have better care coordination, as the pharmacies can facilitate effective communication and collaboration among health care providers. Pharmacists can also work closely with physicians, nurses, and other health care professionals to ensure patients receive appropriate medications based on their medical history, allergies, and potential drug interactions. This collaborative approach enhances patient safety and reduces the likelihood of medication errors.

“There are cost benefits for both us and our patients. Having our own retail pharmacies definitely benefits us from a 340B program perspective, and we are able to provide better costs.”

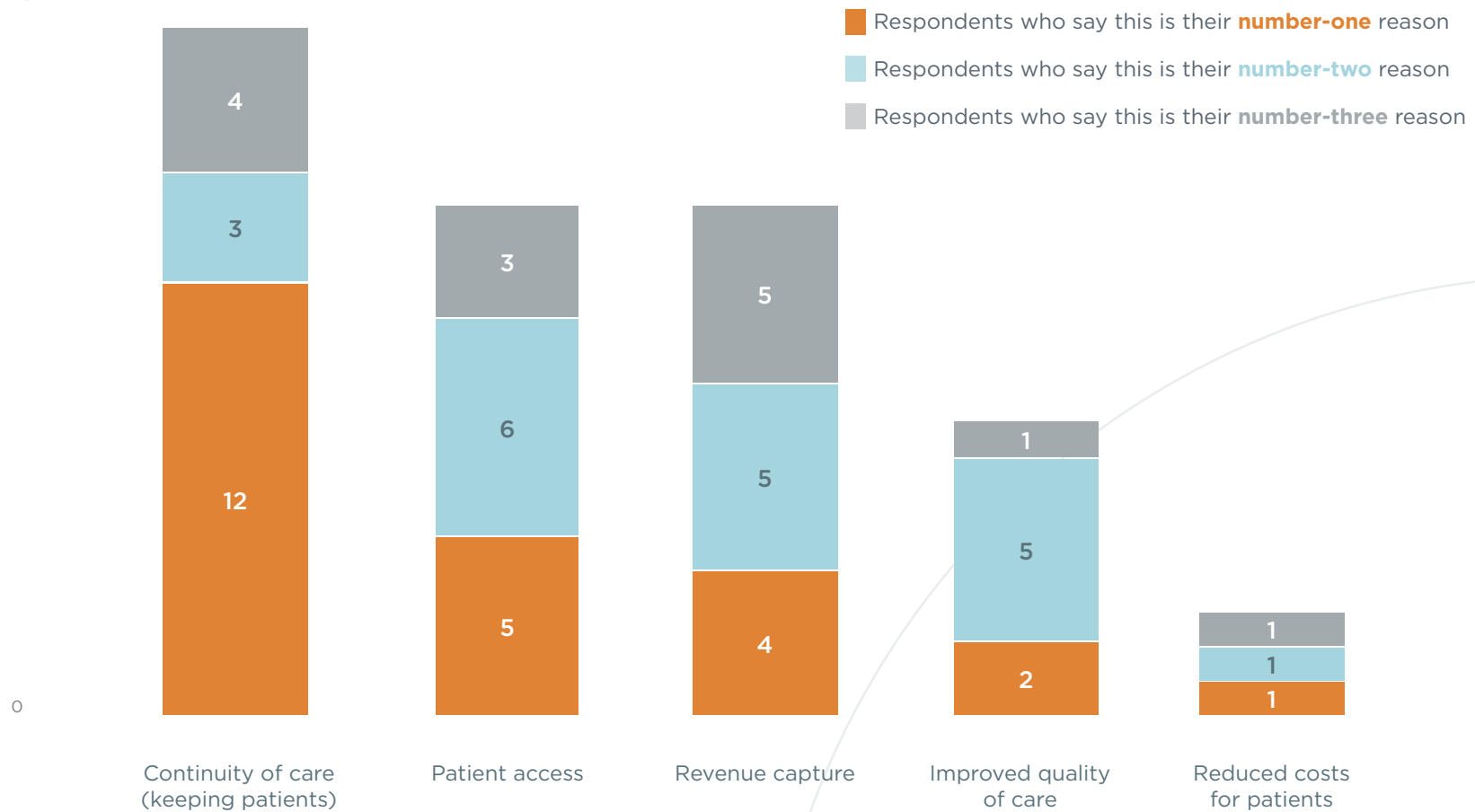
—CIO

“We provide ambulatory pharmacy services to improve patient care.”

—Pharmacy manager

Reasons That Organizations Own Ambulatory Pharmacies (n=25)

20



Staffing & 340B Limitations Are Most Frequently Mentioned Challenges

Respondents mentioned a broad range of challenges that come with owning ambulatory pharmacies — in fact, the range was so broad that only two challenges were mentioned more than two times: recruiting and retaining staff and the complexity of the 340B drug discount program. One pharmacist shared,

“We are probably in a better place than a lot of retail organizations, but staffing is always an issue for us. If we lose one person, it takes six months to replace them.” Respondents who mentioned 340B limitations as a challenge worry about not being able to extend the drug discount to their owned pharmacies due to complexities in the program.

REPORTED CHALLENGES WITH AMBULATORY PHARMACIES

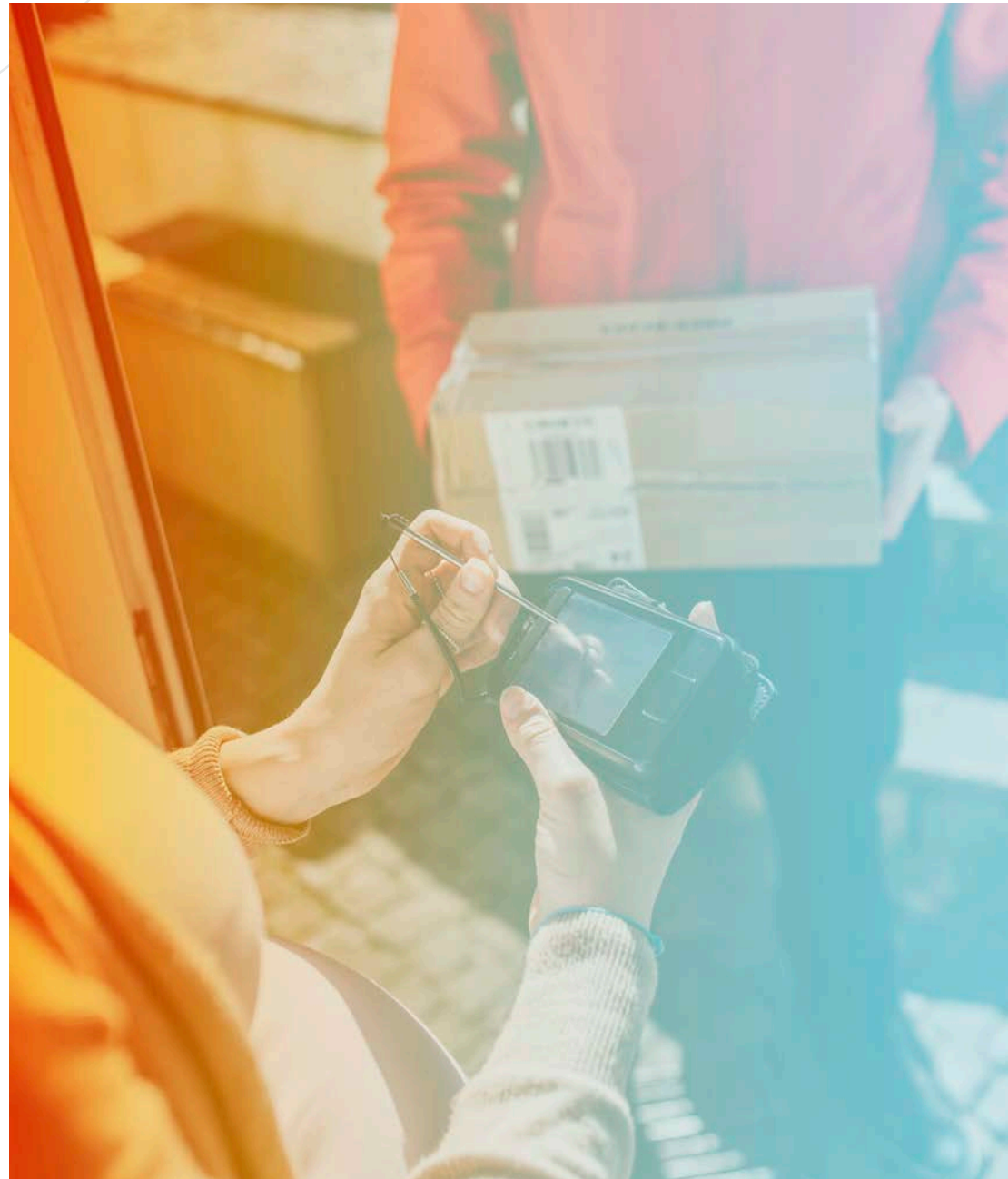
Bolded challenges were mentioned more than two times.

- **340B limitations and complexities**
- **Staffing issues, including long replacement times and language barriers**
- Challenges with mobile app usage, particularly due to restrictions on managed care plans
- Competition from other pharmacies
- Complexities of insurance plans and prior authorization
- Difficulty integrating with EHR and implementing necessary customizations
- Limited margins due to various factors, such as low volume, contracting changes, fees, and manufacturer restrictions
- Need for more technology to improve workflow efficiency
- Prescription availability issues, including missing or incorrect prescriptions and limited refills
- Staff and patient resistance to change/adoption of new technology
- Slow and unreliable software that leads to data loss and system downtime
- Space limitations
- New pharmacies struggling to gauge and meet patient demands (e.g., creating relationships with drug suppliers, knowing which medications to stock)

Lack of Access Is Biggest Barrier to Patient Utilization of Ambulatory Pharmacies

Respondents mentioned three main barriers to patients using ambulatory pharmacies: access, affordability, and technology. The lack of physical accessibility is the top-mentioned barrier; this includes transportation issues, limited hours of pharmacy operation, or inconvenient pharmacy locations. These accessibility factors can build on and exacerbate each other. For example, having limited hours of operation is a significant barrier for patients with limited transportation options or who reside in areas with few pharmacies. Affordability is another major concern. Medications — especially specialty medications — can be expensive, and many patients struggle to afford them, often relying on co-pay assistance programs to bridge the gap.

Some patients also struggle with the newer technology that is used for prescription workflows. Patients' lack of access to technology and online portals hampers their ability to manage prescriptions and be informed about their medication status. Patients who are not familiar with or who do not typically have access to computers or smartphones may find them difficult to use when trying to engage with a pharmacy.



LACK OF ACCESS



“From the pharmacy, we don’t see a lot of access barriers that are related to social determinants of health barriers until patients fall off their medications.”

—Senior director of pharmacy

LACK OF AFFORDABILITY



“Affordability is the largest barrier patients face when trying to access pharmacy services. Affordability is directly related to adherence, and that is why we partnered with a vendor to find additional dollars for co-pay assistance.”

—Chief operating officer

TECHNOLOGY



“The biggest barrier that patients face in accessing pharmacy services is not being able to utilize technology appropriately. Our organization addresses any technological barriers through education, help desks, and other means.”

—Director of pharmacy & clinical services

Patients’ Biggest Barriers to Using Pharmacy Services

Lack of access Lack of affordability Technology

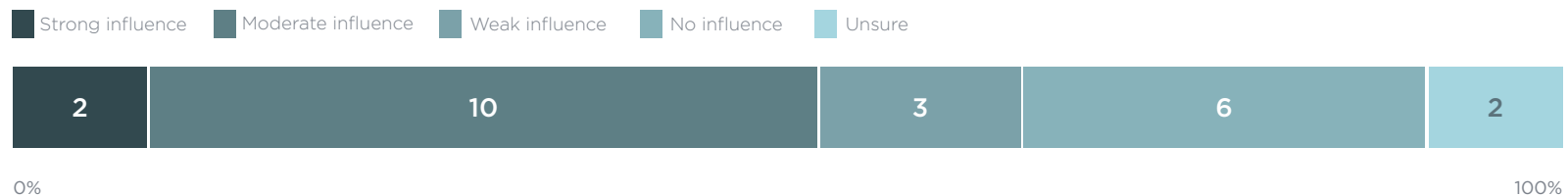


Large Retailers Influence Respondents' Pharmacy Strategies

Many respondents said pharmacy retailers and technology companies entering the pharmacy space exert a moderate amount of influence on their strategy. But large retail and technology companies that offer pharmacy services are notable competitors due to their extensive resources, established customer bases, strong brand recognition, and competitive prices.

Although these companies have had some degree of influence on many respondents' pharmacy strategies, most respondents downplayed the role of competition. Respondents said that their health systems would have pursued owning ambulatory pharmacies regardless of encroachment from non-traditional health care players, as health systems believe they can better serve their customers by being more readily accessible and offering service and support in a way that competitors can't.

Influence That Retailers & Technology Companies Have Had on Organizations' Strategies



“We aren't in the business of trying to chase high-volume competitors. We are more customized to the level of quality that we are known for. If someone is spending \$5,000 per month on some specialty medication, they want the necessary follow-up and expertise from a pharmacy who knows them as a patient. I don't want population health; I want individualized medicine because I think that is the direction we are going. I don't think those larger companies can provide a high level of service for the volume of work they do. They can't offer individualized medicine, and that is okay.”

—Chief pharmacy officer



“I don't think retailers or technology companies' strategies are affecting what we are doing. I don't think they can offer service that is anywhere close to ours because we are right there with customers. The customers can talk to us versus standing in line. Also, Amazon does everything remotely, so there isn't really a live person that customers can talk to. Those companies may have some benefits, but at the end of the day, patients like talking to their pharmacist and getting that white glove service regarding their medication. We are competitive in pricing, just like the other companies are.”

—Chief pharmacy officer

Delivery Service & Refill Reminders Are Top Tools in Ambulatory Pharmacies

DELIVERY SERVICE

Delivery service tools are the most implemented functionality in ambulatory pharmacies, according to respondents. For patients who have difficulty accessing the pharmacy or who want a more convenient way to receive their medications, using this functionality to set up a delivery is helpful and easy. Because of its convenience and accessibility, delivery services can greatly enhance patient satisfaction, and ambulatory pharmacies that offer a delivery service can cater to a wider range of patients, including those with mobility limitations or busy schedules. In addition, delivery services can promote medication adherence by ensuring patients receive their medications in a timely manner.

REFILL REMINDERS VIA TEXT

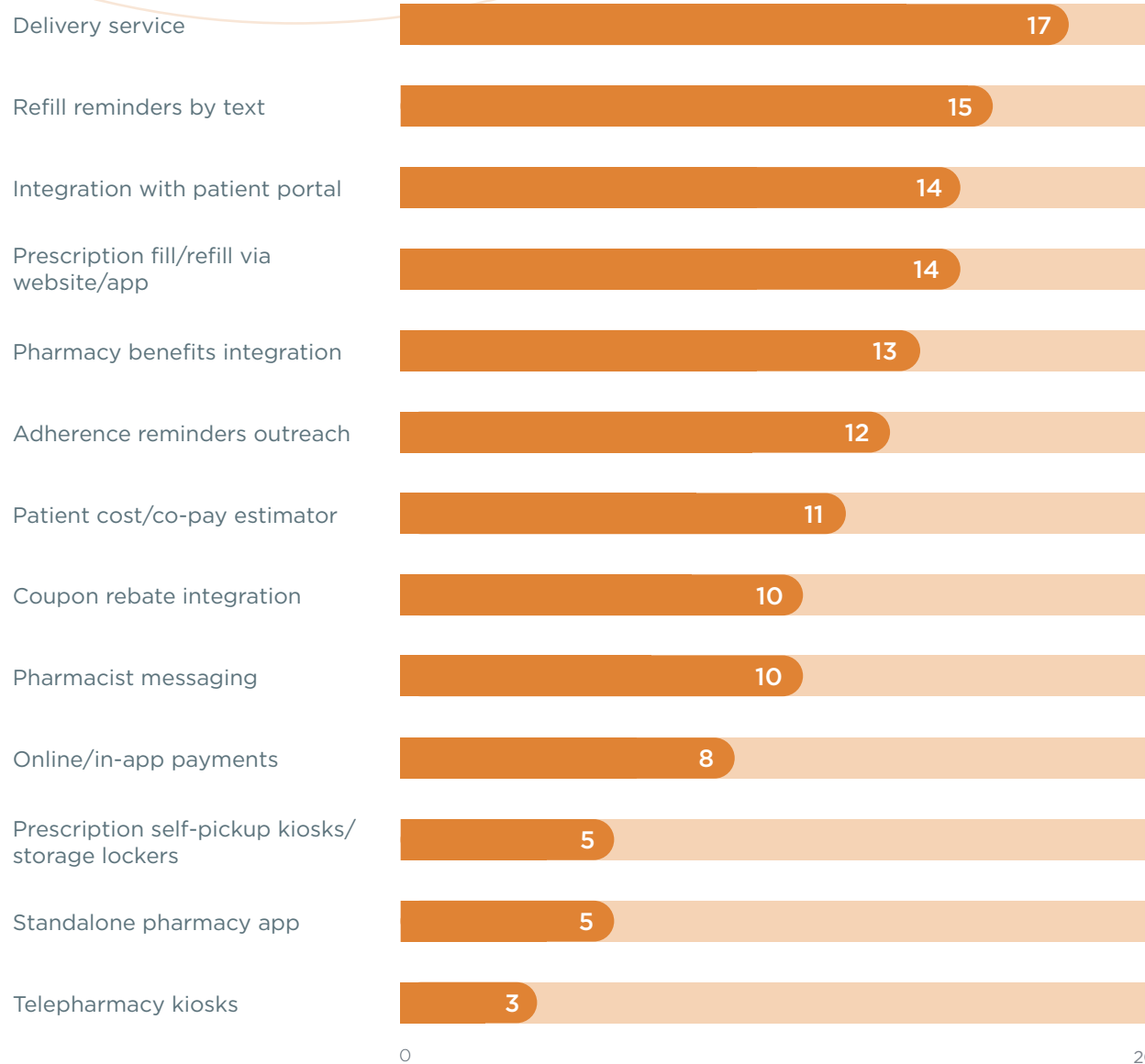
Refill reminders via text have also been widely adopted by organizations with ambulatory pharmacies, and pharmacies that use this functionality can significantly improve medication adherence rates and patient outcomes. The texts are an effective method of patient communication; they are sent seamlessly and remind patients to pick up their medications. The reminders are particularly useful for patients with busy lifestyles or who tend to forget refill dates.

LEAST IMPLEMENTED: KIOSKS & LOCKERS

In contrast to delivery service and refill reminders via text, telepharmacy kiosks and self-pickup lockers are adopted much less often by health systems. Telepharmacy kiosks were the least-mentioned tool implemented by pharmacies. Although the kiosks offer convenience and accessibility, they require a significant investment and infrastructure setup. Moreover, the concept of telepharmacy kiosks isn't widely accepted or even understood by all patients. Self-pickup lockers, while slightly more adopted than telepharmacy kiosks, are also not widely used. The required space, resources, and cost for the lockers make them infeasible for some pharmacies to implement.



Functionalities That Organizations Have Implemented (n=23)



VENDORS THAT ORGANIZATIONS USE FOR REPORTED FUNCTIONALITIES

- Arrive Health
- Assembia
- Asteres
- Cardinal Health
- CitusHealth
- ComputerRx
- Epic
- McKesson
- MEDSYNC
- OhMD
- Omnicell
- PickPoint
- RedSail Technologies (QS/1 & PioneerRx)
- ScriptPro
- WELL Health
- WellSky

Patient Portal Integration, Prescription Fill/Refill Apps Are Expected to Be Implemented in Coming Years

Over the next two years, respondents said their organizations are most likely to implement patient portal integration, prescription fill/refill apps, adherence reminder outreach systems, and online/in-app payments.

PATIENT PORTAL INTEGRATION

Integration between ambulatory pharmacies and patient portals would allow patients to view their medication history, request prescription refills, and receive important medication-related notifications. Further, the integration promotes transparency and convenience while empowering patients to actively manage their medications.

PRESCRIPTION FILL/REFILL APPS

Prescription fill/refill apps enable patients to easily order and refill medications, track the status of their orders, and receive notifications whenever medications are ready for pickup or delivery. Implementing this solution would help pharmacies streamline the prescription-fulfillment process, reduce wait times, and improve patient satisfaction.

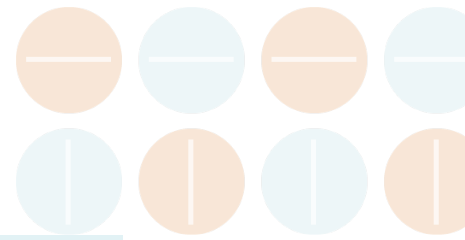
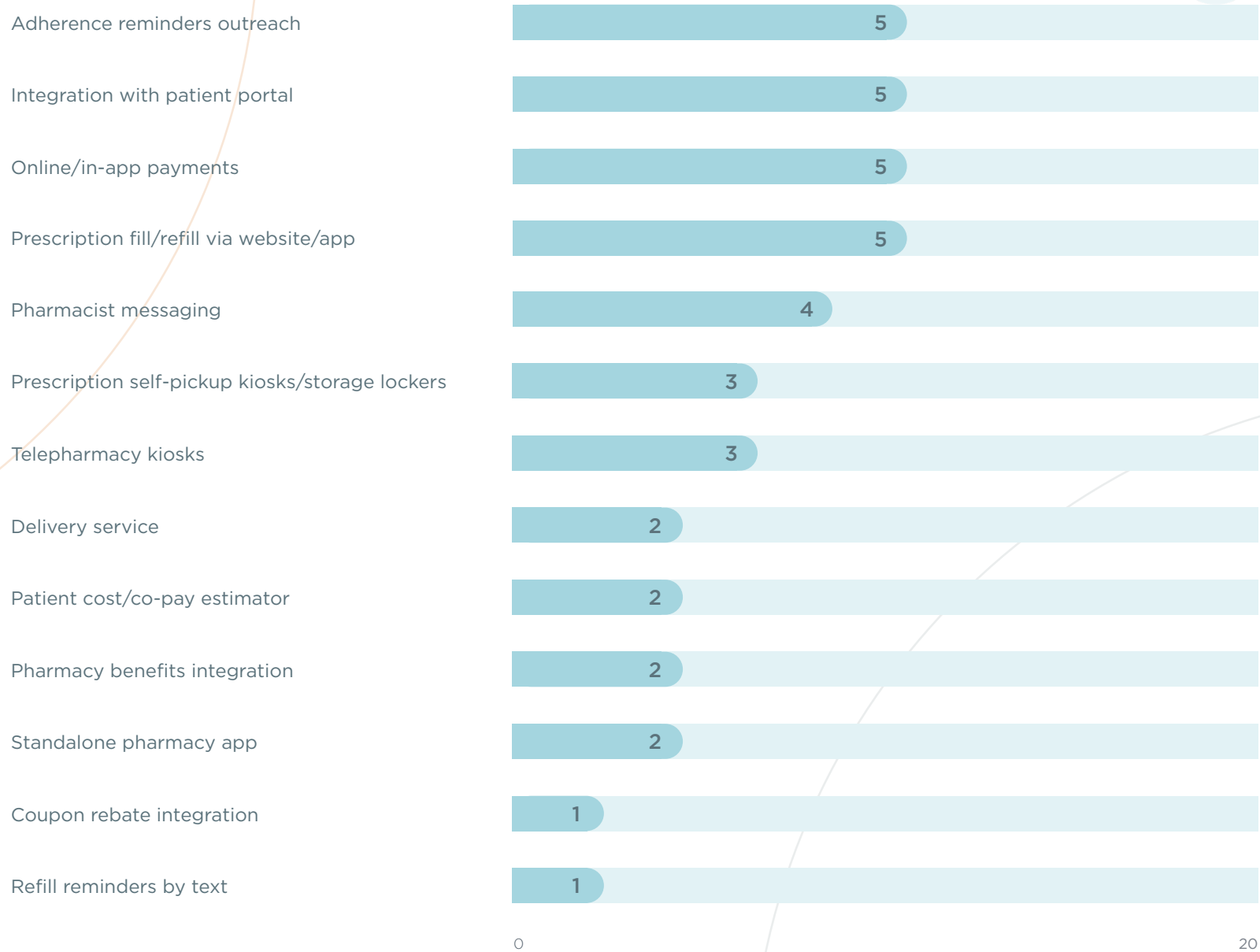
ADHERENCE REMINDER OUTREACH SYSTEMS

Medication non-adherence is a significant challenge in health care, leading to suboptimal treatment outcomes and increased health care costs. Implementing adherence reminder outreach systems could help pharmacies address this issue. The systems would send automated reminders to patients via text messages, phone calls, or via an app, prompting them to take their medications on time. The reminders could also be used to share educational information about the importance of medication adherence and potential side effects of medications.

ONLINE/IN-APP PAYMENTS

Health systems plan to implement functionality that facilitates online/in-app payments, providing patients with an easier, more convenient payment method.

Functionalities That Organizations Plan to Implement in Next Two Years (n=15)



Most Respondents Say Digital Solutions Have Successfully Engaged Patients

Respondents said their health systems have been successful leveraging digital solutions to engage patients in their ambulatory pharmacies. They pointed to positive outcomes such as offering convenience and increasing accessibility for patients. For those health systems that offer digital tools, patients can easily access pharmacy services, such as refill requests, medication reminders, pharmacist messaging, and medication information anytime, anywhere. This leads to increased patient engagement with the pharmacy. Health systems can also use digital solutions to offer personalized and interactive experiences for patients; they can provide tailored medication information, give dosage instructions, and explain potential side effects.

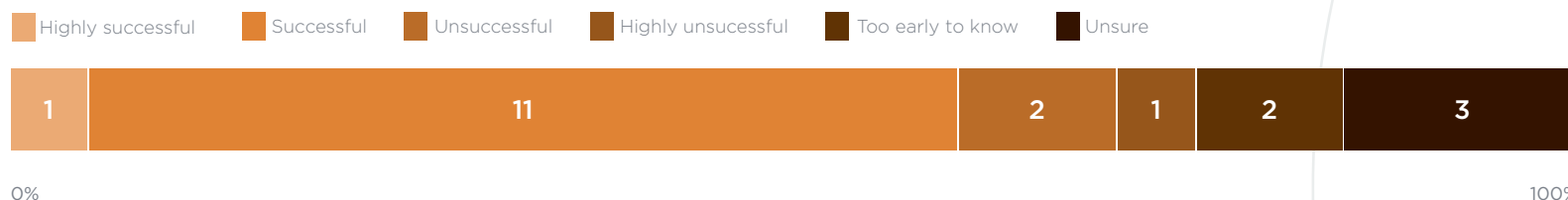
Additionally, digital solutions can be used to collect and analyze patient data, leading to improved patient outcomes. By tracking medication adherence, health systems can identify patients who may require additional support or intervention to ensure they are taking their medications as prescribed. This proactive approach can prevent medication errors, reduce hospital readmissions, and enhance the health of the patient.

Digital solutions can also foster communication and collaboration between patients and health care providers. Using secure messaging systems or telehealth platforms, patients can easily contact pharmacists to discuss medication-related issues and receive real-time guidance. This communication option not only strengthens patient-pharmacist relationships but also facilitates timely interventions and adjustments to medication regimens, leading to better patient engagement and improved health outcomes.

“In using digital solutions to engage patients, we are highly successful with engaging the patients in specialty pharmacies, and we are moderately successful with engaging the patients in the rest of the retail pharmacy. There is a difference between those two populations because most folks who have specialty pharmacies have pharmacy carve-outs and, frankly, a higher level of service.”

—Chief pharmacy officer

Organizations' Success with Using Digital Solutions to Engage Patients in Pharmacy Services

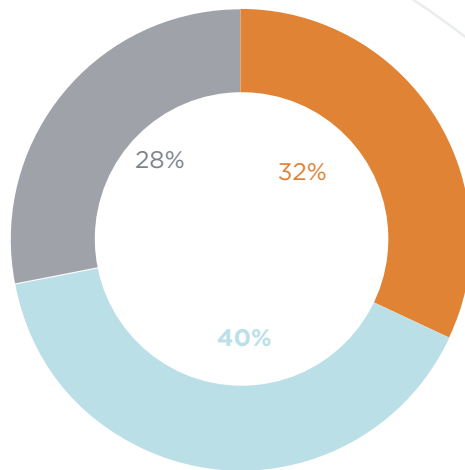


Methodology and Respondent Demographics

KLAS Research contacted numerous U.S. hospitals and health systems, asking them whether they have ambulatory pharmacies that directly serve patients. Those who did own ambulatory pharmacies were then invited to share insights for this report. KLAS conducted phone interviews with 25 pharmacy leaders, including chief pharmacy officers, from 24 unique health systems in August and September 2023.

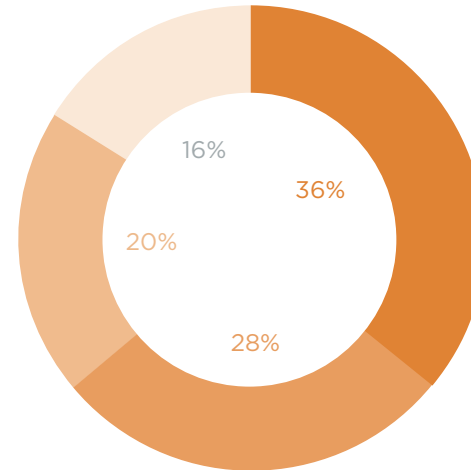
Respondent Job Level (n=25)

- Executive (C-level/VP)
- Director
- Manager



Respondent Organization Size (n=25)

- 1,000+ beds
- 501-1,000 beds
- 201-500 beds
- 1-200 beds



About the Center for Connected Medicine and KLAS

CENTER FOR CONNECTED MEDICINE

The Center for Connected Medicine (CCM) at UPMC is defining the future of the modern health system through programming that informs, connects, and inspires leaders and innovators in health care. Collaborating with a network of experts from across the health care ecosystem, the CCM focuses its research and events on consumer-centered solutions, digital transformation, and scientific and medical innovation. Learn more at connectedmed.com.



KLAS RESEARCH

Driven by a mission to improve the world's health care, KLAS is a health care-focused research firm whose data helps provider, payer, and employer organizations make informed software and services decisions. Powered by insights and experiences discovered in the 25,000+ interviews with health care organization leaders and end users that KLAS conducts each year, KLAS' work creates transparency in the health care market and acts as a catalyst for software vendors and services firms to improve their offerings.



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