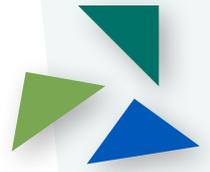


BENEFITS OF MEDICATION SYNCHRONIZATION AND THE APPOINTMENT-BASED MODEL



In community-based pharmacy practice settings, medication synchronization and the appointment-based model (ABM) offer tremendous opportunity to deliver value and benefits to pharmacists, patients, the pharmacy practice, and subsequently the health care system. These models have demonstrated improved clinical performance, increased profitability, streamlined operational efficiency, and enriched relationships with patients and providers.¹⁻¹⁴

Benefits to Patients

In some ways, the value for patients participating in an ABM program will be intangible and may include fewer visits to the pharmacy, improved understanding of medication use, assurance that their complete medication profile is being reviewed, increased care coordination, or other quality-of-life factors. The ABM can help identify and address gaps in patient care and increase medication adherence and persistence.

One example of a gap in care that can be easily resolved by the pharmacist is immunizations. Researchers studied 24 Kroger pharmacies with a total of 840 patients enrolled in an ABM program. The process included 30-minute, in-person appointments where pharmacists assessed patients' need for vaccinations, using their vaccination records if available, and offered appropriate vaccinations on the spot. Vaccination rates in those pharmacies were nearly 25% higher than the control pharmacies that did not offer the ABM.

A 2015 report by Holdford and Inocencio for Thrifty White Pharmacy detailed persistence and adherence data from 679 people enrolled in the ABM within their stores. These patients were selected based on having at least two refills for prescriptions in any of six chronic medication classes, including angiotensin-converting enzyme inhibitors or angiotensin receptor blockers, beta blockers, dihydropyridine calcium channel blockers, thiazide diuretics, metformin, and statins. A control group was also selected for each of the six categories and included 2,087 patients who had a medication filled but were not enrolled in the ABM. Compared with patients in the ABM program, patients who were not enrolled in the ABM program had a 52% to 73% higher likelihood of nonpersistence, depending on drug class. Patients enrolled in the ABM program were three to six times more likely than patients in the control group to be adherent during the evaluation period.

In a 2013 unpublished study by Holdford and Saxena for USA Drug, data shows that patients engaged in an ABM program are more satisfied with the care they receive through the pharmacy practice. Nearly 80% of respondents indicated that they were more likely to take their medications because of the ABM program and the discussions they have with the pharmacy staff. Over 98% of respondents preferred the ABM program and thought that it was a more convenient way to get their prescriptions filled. One hundred percent of

respondents liked having the pharmacist keep track of when prescriptions needed to be refilled, and 100% of respondents to this survey also said that they would recommend the ABM program to friends and family.

Benefits to Pharmacy Practices

The benefits for the pharmacy practice may include improved efficiency of operations, increased customer loyalty, and increased revenue. The ABM can be relatively low-cost to operationalize, which allows pharmacies to change their care delivery model by providing training to the staff, securing necessary technology, and properly managing workflow. Offering the opportunity to participate in the ABM can improve the patient experience leading to increased loyalty and therefore more prescription fills, more time for the pharmacist to counsel patients when they pick up all their medications at once, increased opportunity to deliver other patient care services, and less time and money spent processing refills that are never picked up by the patient.

These intangible benefits may create a viable business model for many pharmacies that are looking to offer services that differentiate them from their competition or that are interested in more opportunities to interface and collaborate with potential payer partners. Creating these operational efficiencies allows practice sites the opportunity and flexibility to pilot patient care services and interface with potential payer partners to engage in discussions about reimbursement for services. As more pharmacies implement the ABM, data show that medication persistence and adherence rates drive prescription volume, and increased prescription

volume could generate a potential increase in revenue of more than \$260 per nonadherent patient per year for the pharmacy.

IMPROVED PERFORMANCE MEASURE ACHIEVEMENT

Lack of adherence to prescribed medication is a well-known and costly problem. Studies have consistently shown that 20% to 30% of prescriptions are never filled, and approximately 50% of medications for chronic disease are not taken as prescribed. Chronic diseases, such as diabetes, hypertension, and dyslipidemia, affect nearly one-half of the adult population in the United States, and these conditions account for more than 75% of our nation's health care spending. The direct costs of nonadherence for these conditions have been estimated to be \$105.8 billion per year, an average of \$453 per adult in this country. Chronic disease can be particularly challenging for patients and their caregivers, with an added burden of multiple trips to the pharmacy to get prescriptions filled.

Medication synchronization and the ABM can improve achievement of adherence performance measures such as proportion of days covered (PDC) scores, and the opportunities provided by more routine patient evaluations with the ABM can help pharmacists identify gaps in care, resolve medication-related problems, and coordinate care. Pharmacists who proactively intervene with patients have demonstrated the ability to increase adherence rates above 80%, as measured by PDC.

The ABM and medication synchronization have been shown to improve patient medication adherence, and there is an established market need for health plans

to improve medication adherence to improve their Centers for Medicare & Medicaid Services (CMS) Star Ratings. Four of the measures used to evaluate health plan performance for Medicare Part D programs are developed by the Pharmacy Quality Alliance and are focused on medication use.

These measures are responsible for almost one-half of the score used to determine CMS Star Ratings for health plans. Health plans may partner with pharmacies to help improve Star Ratings, which in turn may ensure inclusion of pharmacies in preferred networks and support payment models for these services. Additional information on quality measures used by CMS can be found at <https://pqaalliance.org/measures/cms.asp>.

A recent study exemplifies the impact of medication synchronization on quality care criteria. Data published from an independent pharmacy practice showed improved Electronic Quality Improvement Platform for Plans and Pharmacies (EQuIPP) scores, which benchmarks pharmacy performance data based on CMS Star Rating criteria goals. At the end of 6 months, there was an improvement in all targeted EQuIPP scores, including a 7% improvement in PDC for cholesterol-reducing agents, a 9.5% improvement in PDC for oral glycemic agents, a 1.2% improvement in PDC for renin-angiotensin system antagonist (RASA) medications, and a 1.8% reduction in the use of high-risk medications in senior patients. Additional examples of the value provided by pharmacists' patient care services is detailed in the sidebar.

Demonstrating the Value of Medication Synchronization and the Appointment-Based Model

Medication synchronization and the ABM can be especially important for improving medication adherence in patients with complex chronic diseases and increasing patient participation in preventive health services. Examples of evidence that support the clinical value of these programs includes:

- Researchers evaluated the impact of two synchronization programs on adherence among Medicare beneficiaries treated for two or more chronic conditions—at least one of which was hypertension, hyperlipidemia, or diabetes. Among nearly 23,000 patients, adherence improvement in synchronized versus control group patients was three times greater in patients with low baseline adherence, compared with those having higher baseline adherence. Rates of hospitalization and emergency department visits and rates of outpatient visits were 9% and 3% lower in the synchronized group compared with the control group, respectively, while cardiovascular event rates were similar. Medication synchronization programs were associated with improved adherence for patients with cardiovascular disease, especially those with low baseline adherence.
- A quasi-experimental study designed to assess adherence to chronic medications among adults participating in an appointment-based medication synchronization program compared with patients receiving usual care showed differences in adherence and the percentage of on-time refills. Results showed that PDC equal to or greater than 0.80 was achieved by 73.53%, 80.41%, and 75.00% of usual care patients taking oral diabetes, RASA, and statin medications, respectively. In comparison, the PDC threshold in the ABM group was achieved by 100%, 97.94%, and 97.62% of patients taking oral diabetes, RASA, and statin medications, respectively. The percentage of on-time prescription refills also increased from 69.68% to 84.75% in patients with diabetes, 79.04% to 89.56% for patients with hypertension, and 78.26% to 89.07% for patients with hyperlipidemia.
- A multicenter, retrospective, pilot cohort assessed antiretroviral adherence in insured, HIV-infected, adult outpatients who were enrolled in a medication synchronization program compared with those who were not enrolled. The PDC in patients undergoing medication synchronization was significantly higher (mean \pm SD, 96 \pm 9% versus 71 \pm 27%, respectively; $P < 0.0001$) and more likely to be adherent to antiretroviral therapy (OR, 10.67; 95% CI, 2.63–43.31) than the control group.
- Researchers incorporated the assessment of vaccination status and administration of vaccines into an ABM program at pharmacies within a grocery store pharmacy chain and measured the impact on vaccinations administered to patients. Results showed that the pharmacist vaccine assessment as part of the ABM showed higher overall mean vaccinations per store (1,810 vaccines administered) compared with the control group (1,455 vaccines administered).¹

INCREASED PROFITABILITY

Increased patient adherence is directly correlated to increased pharmacy revenue. According to research conducted for the National Community Pharmacists Association, patients who participate in medication synchronization programs average more than 100 additional days on therapy per year and are 30% more likely to take their medication as prescribed than patients not enrolled in the program. This equates to an additional 20 prescription fills per year for every patient who enrolls in a synchronization program. Almost 90% of patients who received synchronized refills were considered adherent, as measured by the PDC, compared with 56% of patients not receiving synchronized refills. Most importantly, this study demonstrated that first-fill abandonment, where prescriptions are initially filled and never refilled despite having refills remaining, was reduced by more than 90% for patients enrolled in the medication synchronization program.

A systematic review of evidence on the impact of the ABM on medication-taking behavior, health resource utilization, clinical outcomes, and preferences of patients and providers found that the ABM provides a unique, patient-centered service to improve medication adherence among patients taking chronic medications while demonstrating a positive financial return on investment. In addition, researchers examined the change in monthly prescription volume in a single-location independent pharmacy practice following the implementation of a multifaceted program, which included the ABM, vaccine administration, medication therapy management, and diabetes education services, and found

an increase in monthly prescription volume of 4.8% over the first 6 months after program implementation.⁹

Furthermore, the ABM offers the opportunity to recruit patients into other billable patient care services, such as immunizations and medication therapy management. These additional services increase pharmacy revenue, improve the pharmacist–patient relationship, and increase patient loyalty that supports long-term business relationships.

STREAMLINED OPERATIONAL EFFICIENCY

The process of streamlining a patient's medication refills to a single day each month makes it possible for the pharmacist to build more structure around the dispensing process, creating better management and organization of pharmacy operations. Improved inventory management is a benefit of this process, ensuring that adequate stock is available to fill patient prescriptions without carrying unnecessary inventory costs. Medication synchronization can reduce the number of phone calls the pharmacy receives and help the pharmacist address medication problems during the dispensing process only once per month, rather than at each refill request. The dispensing process becomes less chaotic and more orderly, decreasing stress and constant interruptions for the pharmacy staff, allowing time to focus on the medication issues and concerns for individual patients and decreasing errors in the pharmacy.

The ABM shifts the pharmacy staff's focus from passively filling prescription orders at the request of the patient on an unaligned schedule to proactively

synchronizing a pick-up date for chronic medications and confirming the patient is receiving the correct medications each month. The proactive approach within the ABM can result in more meaningful interactions with patients, prescribers, and insurers and more focused time for pharmacists to provide patient care services.

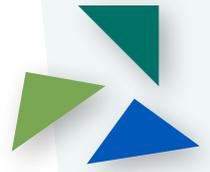
ENRICHED RELATIONSHIPS WITH PATIENTS, PROVIDERS, AND CAREGIVERS

Medication synchronization and the ABM provide additional ways for pharmacists and pharmacy staff to establish, impact, and grow stronger relationships with patients, providers, and caregivers.³ In addition to the clear health benefits, patients enjoy the convenience of fewer trips to the pharmacy and may get one-on-one time with their pharmacist. In a recent study within Kroger pharmacies, both patients and pharmacists indicated satisfaction with these models, with 80% of pharmacists reporting the ABM program allowed them to forge deeper

relationships with their patients and more than 90% of patients said they would recommend ABM programs to friends and family members.¹

The pharmacist–patient interactions driven by the ABM build stronger relationships between the pharmacy staff and the patient and increase patient adherence, satisfaction, and loyalty.³ Most importantly, the ABM enables pharmacists to elevate their professional practice and evolve their patient care services while providing the infrastructure and time for pharmacies to incorporate additional patient care services.

Knowing that the pharmacist and the provider share a mutual patient often strengthens engagement in the ABM program. The program fosters more regular interaction between the pharmacist and the prescriber and an improved understanding of how the patient is using prescribed medications. This allows the physician and the pharmacist to strengthen the care continuum and enhance patient benefits and outcomes.



CONCLUSION

Pharmacists who implement medication synchronization and the appointment-based model can provide benefits to patients, such as identifying and addressing gaps in care, increasing medication adherence and persistence, and improving patient satisfaction with the practice. These patient benefits also

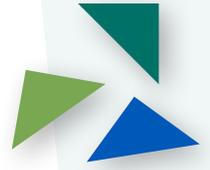
result in advantages to the pharmacy practice such as improved operational efficiency, increased patient loyalty, and increased revenue. To learn more, please read [*APhA's Leveraging the Appointment-Based Model to Expand Patient Care Services: Practice Guidance for Pharmacists*](#).

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