

Los Angeles County + University of Southern California (LAC+USC) Medical Center Adult Primary Care Clinics



Patient-Centered Care

Sub-Domain: Practice-Focused

Hemoglobin A1c Reductions with Pharmacist Visits at a Safety-Net Resident Physician Primary Care Clinic

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CASE OVERVIEW

Primary care clinical pharmacists have integrated into Los Angeles County + University of Southern California (LAC+USC) Medical Center adult primary care clinics to improve diabetes quality metrics identified by LAC+USC Medical Center. There are two adult primary care clinics: East Clinic (resident physician based), and West Clinic (attending physician based). While each clinic has one full-time LAC+USC clinical pharmacist, only East Clinic collaborates with the University of Southern California (USC) School of Pharmacy where it deploys an additional 0.4 full time equivalent (FTE) clinical pharmacist with a 0.4 FTE pharmacy resident. Both clinics have similar referral processes where the physicians refer patients to clinical pharmacists.



This usually occurs when a patient's hemoglobin A1c is not controlled, when poor medication/self-management adherence is evident, or when they need frequent management with drug therapy adjustments and symptom control. Both clinics primarily get referrals for diabetes management, but patients can be referred for management of blood pressure, asthma, or heart failure medication optimization as well.

Regardless of the referral reason, clinical pharmacists provide comprehensive medication management where they review all medications that the patients are taking and provide medication adjustments within their scope of practice. Both clinics' clinical pharmacists have an open collaborative practice agreement with prescriptive authority except for controlled substance medications and antipsychotic/specialty medications.

KEY ELEMENTS

The keys to success for this initiative all depended on multi-organizational and multi-disciplinary buy-in. Leaders from the LAC+USC Medical Center and the USC School of Pharmacy identified population health management opportunities within the East Clinic and the West Clinic and understood perfectly the advanced role of clinical pharmacists in an ambulatory care setting.

The leaders involved in the planning were physician leaders of the primary care clinics, pharmacy department leadership, and the associate dean of clinical affairs at the USC School of Pharmacy. With support and direction from these leaders, a collaborative practice agreement granting pharmacists prescriptive authority was crafted. A pharmacist note template as well as appointment templates were created and implemented into the adult primary care clinics.

After a clinical workflow was developed, cooperation from nursing staff members also led to success to support pharmacists' patient care process. This included nursing and clerical staff assisting with patient appointments and reminders, checking-in, performing vitals and other screening tests prior to pharmacist's visits, and checking-out. Their support tremendously helped pharmacists to focus on clinical activities.

Firmly establishing a physical space for the pharmacists was also a key to success. Pharmacists were assigned at least two exam rooms for their patient visits, and a computer workspace dedicated to clinical pharmacy services.

Finally, clinical pharmacists established open channels of communication by incorporating ambulatory care pharmacy residents from the USC School of Pharmacy into the internal medicine inpatient teams at the medical center. By creating an environment where the same set of resident physicians and resident pharmacists collaborate throughout inpatient and outpatient settings, the perception of clinical pharmacists by physician groups also have improved.

IMPACT ON PATIENT OUTCOMES

A snapshot of patient outcomes from the East Clinic:

Time Period: October 1, 2018 to September 20, 2019

Outcome: Patients referred to clinical pharmacy services for diabetes management experienced clinically significant reduced A1c levels.

Method: Patients seen by the clinical pharmacists were divided into two groups: one group of 132 patients who did not have any gaps in between pharmacist visits longer than 3 months and another group of 57 patients who had a gap in between pharmacist visits longer than 3 months.

Result: Overall, there was on average, a 1.3% reduction in hemoglobin A1c in both groups combined. The final hemoglobin A1c level between the two groups was not statistically significant, however, the group without a gap had 0.5% lower in hemoglobin A1c results compared to the group with a gap.

The patients in both groups had the same numbers of visits with primary care physicians, while the group with a gap required one additional visit with clinical pharmacist to achieve a similar hemoglobin A1c reductions with the group without a gap. Further research is necessary to identify barriers to keeping consistent, regular appointments without gaps in care of three months or greater.

PHARMACY AND PHARMACIST ROLES

Primary care clinical pharmacists are residency-trained and have obtained licensure as advanced pharmacist practitioners (APh) by the California Board of Pharmacy or board certification. The APh pharmacist is recognized by the board to practice at an advanced level that includes performing patient assessments, ordering and interpreting drug therapy-related tests, making referral to other health care providers, and making drug therapy adjustments as specified in a protocol or collaborative practice agreement. They practice under a general collaborative practice agreement with prescriptive authority.

When the program was started, diabetes management was the highest need in this population, which was of majority referrals. But these referrals have expanded since to include other disease states as mentioned above, as well as medication adherence and polypharmacy. When pharmacists see patients, they provide comprehensive medication management and address and resolve any medication-related problems. Clinical pharmacists are tasked to triage clinical situations and provide referrals to primary care physicians or other services as they see fit. At every visit, clinical pharmacists perform medication reconciliation, assess patients' self-management skills, lifestyle, medication usage patterns/behaviors, and disease state knowledge.

They will also review laboratory results and order any necessary laboratory tests and new or modified prescription drugs, provide education, and arrange frequent follow-up visits as soon as one week to every four weeks initially until patients are stable, which then gets extended further out. The clinical pharmacist from USC School of Pharmacy also supervises resident pharmacists. The pharmacist visits are conducted in-person at the clinic, in addition to phone visit provided for a quick follow-up or patients who are unable to make to the clinic frequently (prior to COVID).

LESSONS LEARNED

One important element of this program's success is the full prescriptive authority granted to pharmacists in this clinic and the ability to independently order labs. Pharmacists can directly send prescriptions to pharmacies. Resident pharmacists and intern pharmacists can also propose prescriptions and lab orders to the precepting clinical pharmacist's name.

One challenge of the program is raising awareness to the resident physicians about the depth and scope of the already existing collaborative practice agreements, which cover several disease states in addition to diabetes and hypertension. Another challenge is improving pharmacy visit rates for patients who miss their appointments. Implementing data collection to identify reasons for missed appointments could justify the integration of a social worker service to bridge the gap between patients and their care.

BUDGET & RESOURCE ALLOCATION

Two full-time clinical pharmacists are fully funded by LAC+USC medical center, and the primary goals are to prevent acute admissions to the hospital, decrease emergency department and urgent care utilization, and increase patients' utilization of LAC+USC outpatient pharmacies. The USC School of Pharmacy clinical pharmacist and pharmacy resident are contracted with LAC+USC where their time at LAC+USC is funded by LAC+USC.

FUTURE GOALS

Data on improvements in hemoglobin A1c was presented in poster format at both the Western States Pharmacy Conference and at the 2020 ASHP Midyear Clinical Meeting. The expanded study was submitted and accepted for publication. The next step is to observe the hemoglobin A1c trend once pharmacists discharge these patients back to their primary care physicians. Will the reduction in hemoglobin A1c last or will we observe increase in hemoglobin A1c after discharging from pharmacists?

Other future goals are to expand the primary care clinical pharmacy services into pediatric clinics. We are in a process of incorporating a PGY2 ambulatory care pharmacy resident to implement clinical pharmacy services at a pediatrics clinic, where they will provide uncontrolled type 2 diabetes management and medication monitoring for anti-epileptic drugs and antipsychotic drugs.