

American
Pharmacists
Association



Successful Integration of Pharmacists in Accountable Care Organizations and Medical Home Models: Case Studies



2020





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Acknowledgement:

APhA staff members Anne Burns, RPh, and Isha John, PharmD, MBA, for their contributions.

Suggested citation:

American Pharmacists Association. Successful Integration of Pharmacists in Accountable Care Organizations and Medical Home Models: Case Studies. March 2020.

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Table of Contents

Introduction	4
■ Advocate Medical Group.....	7
<i>Author: Christie Schumacher, PharmD, BCPS, BCACP, BCCP, BC-ADM, CDCES, FCCP</i>	
■ Family Health Services of Darke County.....	12
<i>Author: Rachel Barhorst, RPh, PharmD, BCACP</i>	
■ Geisinger Ambulatory Clinical Pharmacy Program.....	17
<i>Authors: Gerard Greskovic, BPharm and Sarah Krahe Dombrowski, PharmD, BCACP</i>	
■ Jefferson Health Population Health Pharmacy Team	24
<i>Author: Darren Mensch, PharmD, BCPS, BCACP</i>	
■ Michigan Medicine.....	28
<i>Authors: Amy N. Thompson, PharmD, BCACP; Carol Becker, MHSA; and Hae Mi Choe, PharmD</i>	
■ The Ohio State University General Internal Medicine Clinics	32
<i>Authors: Kelli Barnes, PharmD, BCACP and Stuart Beatty, PharmD, BCACP, FAPhA</i>	
■ Park Nicollet Health Services	37
<i>Author: Molly Ekstrand, BPharm, BCACP, AE-C</i>	
■ Providence St. Joseph Heritage Healthcare	42
<i>Author: Jelena Lewis, PharmD, BCACP</i>	
■ Think Whole Person Healthcare	47
<i>Authors: Sara Woods, PharmD, BCACP; Shannon Peter, PharmD; and Nabil Laham, PharmD</i>	
■ University of Washington Medicine	51
<i>Author: Rena Gosser, PharmD, BCPS</i>	
Glossary	56

Introduction

Emerging value-based payment (VBP) models are changing the way healthcare is delivered and paid for in the United States (U.S.). Increasingly, healthcare providers are compensated for interventions that optimize clinical outcomes. As a result, opportunities for pharmacists to practice at the top of their license and training by delivering patient care services are emerging and expanding.

This resource highlights case examples of pharmacists who are successfully providing services through VBP models in various practice settings, both well-established and newly developing. Detailed information is provided from 10 case examples to inform pharmacists, student pharmacists, and other stakeholders about strategies that have proven to be successful for pharmacist integration in VBP models with the goal of supporting expansion of pharmacist inclusion in these models.

Value-Based Payment Model Overview

Payment for healthcare in the U.S. has historically been based on the fee-for-service (FFS) model, in which providers are compensated based on the delivery of services (i.e., the volume of services). The U.S. spends more on healthcare per capita than many other industrialized countries yet ranks last in the overall quality of care.¹ Furthermore, the percentage of the nation's gross domestic product that is spent on healthcare in the U.S.

increases each year.² New models of care and payment that reward providers based on the value of services—both quality of care and management of costs—are needed to ensure wise use of healthcare dollars.

Currently, our healthcare system is transitioning from the FFS model to VBP models. In VBP, providers receive financial incentives to consider both the healthcare needs of an individual patient and the importance of that care at a population level through a holistic approach that focuses on quality and cost. Many experts think that evolving VBP models will improve care and decrease cost in the U.S. healthcare system.

VBP is expected to be the future of U.S. healthcare payment, and pharmacists should engage in VBP models and invest in changing their practices to optimize their participation. These models use population health management to identify high-risk patients who may need more intensive coordinated care, promote evidence-based guidelines, and monitor and track quality and cost metrics. The capability to conduct data analytics is a key feature, regardless of the type of model.

Examples of Value-Based Models: Patient-Centered Medical Homes and Accountable Care Organizations

Two common value-based models are patient-centered medical homes (PCMH)

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1. Tikkanen R, Abrams MK. *U.S. Health Care from a Global Perspective, 2019: Higher Spending, Worse Outcomes?* The Commonwealth Fund, Jan. 30, 2020. Available at: <https://www.commonwealthfund.org/publications/issue-briefs/2020/jan/us-health-care-global-perspective-2019>. Accessed February 18, 2020.
 2. National Center for Health Statistics. *Health, United States, 2018*. Hyattsville, MD. 2019.

and accountable care organizations (ACO). The PCMH is a care delivery model in which patients' primary care physicians coordinate their necessary care when and where they need it and in a manner they can understand. Provider practices with PCMH status granted by an accreditation organization may receive additional reimbursement from payers using various payment models that can include a monthly care coordination payment, FFS, and a quality performance component.

The ACO is a VBP model in which a group of physicians, hospitals, and other healthcare providers deliver coordinated high-quality care to a specified population of patients and is accountable for overall care and costs for these patients across all care settings. To support quality care and control costs, ACOs have incentives based on a defined set of quality measures and sharing savings opportunities with the payer. Providers in ACOs may be reimbursed using FFS with incentives, salaried compensation, or contractual arrangements.

Pharmacists in VBP Models

PCMH and ACO models offer numerous opportunities for pharmacist involvement, and pharmacists across the country have developed unique and innovative practices within these settings. Pharmacists often work in population health management, direct patient care services, or both. Population health management pharmacists identify and address gaps in care, promote evidence-based prescribing, and help track and meet quality metrics. Pharmacists in direct patient care roles focus on improving care transitions

and providing medication management and/or chronic disease management services and prevention/wellness activities in collaboration with the patient's healthcare team. Pharmacists engaged in VBP models can be salaried employees or contracted staff.³

About this Resource

Developed by the American Pharmacists Association Academy of Pharmacy Practice and Management (APhA-APPM) Medical Home/ACO Special Interest Group (SIG), this resource highlights 10 examples in which pharmacists are successfully integrated into PCMHs and/or ACOs in various practice settings.

Practices were identified for inclusion in this resource via a call for submissions that was conducted from November 21, 2018 to January 7, 2019. Applicants completed a survey that collected information about their practice sites, roles of pharmacists in the PCMH or ACO, models for sustainability, and other innovative features. A case selection committee comprised of SIG members evaluated the submissions and selected 10 programs as successful practices to be profiled in this resource. Representatives from selected programs were then asked to submit a 1500-word description that included details about the services delivered, sustainability through direct and indirect return on investment strategies, future plans and innovation, and key lessons learned. These descriptions were reviewed by a committee for completeness and to identify any additional information needed to enhance the description.

3. American Pharmacists Association. ACO Engagement of Pharmacists. 2014. www.pharmacist.com/article/apha-accountable-care-organization-aco-briefs. Accessed February 18, 2020.

The case descriptions in this resource aim to provide information useful to pharmacists, student pharmacists, and other stakeholders about how pharmacists are successfully engaging in value-based models. For each description, the following information is included, when available or applicable:

- Type of practice site
- Type of VBP model
- Number of pharmacist FTEs (full time equivalents)
- Number of clinics/patients covered by pharmacists
- Services provided by pharmacists

- Funding model for pharmacists
- Delivery mode for patient visits
- Average duration of pharmacist visit
- Use of collaborative practice agreements
- Billing codes used for services

Each case also provides key lessons learned from integrating pharmacists into the value-based model. The case examples in this resource demonstrate that pharmacists are maximizing their roles within PMCHs and ACOs in many settings and contributing to improved access to care and health outcomes for the patients they serve.



Detailed information is provided from 10 case examples to inform pharmacists, student pharmacists, and other stakeholders about strategies that have proven to be successful for pharmacist integration in VBP models with the goal of supporting expansion of pharmacist inclusion in these models.

Advocate Medical Group

CHICAGO, IL

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Practice Site Details	
DETAIL	SITE INFORMATION
Practice setting type	Health-system
Value-based model type	PCMH; ACO
Number of pharmacists	Three clinical pharmacists at the Advocate Medical Group Southeast Center (AMG-SE) (2.8 FTE), with a total of 13 clinical pharmacists (11.2 FTE) performing chronic disease management at six different Advocate Medical Group (AMG) sites.
Number of clinics/patients covered by pharmacists	At each of the six clinics, each clinical pharmacist covers a panel of approximately 200 to 300 unique patients
Funding model of pharmacists	Five pharmacists are co-funded by a college of pharmacy and AMG (50% each for 80% clinical time) One pharmacist is fully funded by a college of pharmacy (100% funded for 20% clinical time) Seven pharmacists are fully funded by AMG
Delivery mode for patient visits	Primarily face-to-face Telephonic follow-up as needed
Average duration of pharmacist visit	Initial visits, post-hospital discharge visits, and complex patients: 60 minutes Established care visits: 30 minutes
Collaborative practice agreement in place?	Yes—Pharmacists can initiate, discontinue and adjust medications, as well as order laboratory and diagnostic tests
Billing codes used	99211: for pharmacist visits 95249, 95250, 95251: for professional and personal-use continuous glucose monitor placement and interpretation

Background

Advocate Healthcare is the largest health-system in Illinois and one of the largest ACOs in the country. The Centers for Medicare & Medicaid Services (CMS) recently announced that the savings generated by Advocate Healthcare in 2016 (\$60.6 million) ranked second out of 432 ACOs participating in the Medicare Shared Savings Program (MSSP). During 2016, Advocate provided care to the largest group of Medicare beneficiaries and was among the highest in quality of the MSSP ACOs.

The Advocate Medical Group Southeast Center (AMG-SE), part of the medical group subsidiary of the Advocate Health System, is located in a lower-income neighborhood in Chicago, Illinois. In 2008, a pharmacist was appointed to the clinical operations and analytics teams of the patient-centered medical home (PCMH) pilot to develop the pharmacist's role within the PCMH at AMG-SE. The pharmacist attended PCMH planning meetings to ensure the team's understanding of an ambulatory care pharmacist's role and to facilitate the development of collaborative practice agreements. The initial priority of the pharmacist was to reduce hospitalizations and 30-day readmission rates for patients with heart failure (HF). The long-term goal was to expand the pharmacist's role to all chronic disease states managed by internal medicine.

The AMG-SE PCMH was initially an interdisciplinary team including six primary care physicians, an advanced practice nurse, the pharmacist, a dietician, a nurse, three patient care managers and a physician assistant responsible for acute care appointments. In the implementation stages, the pharmacist worked with the AMG-SE cardiologist to demonstrate competence and gain the cardiologist's trust and support for HF medication management.

The Model: How it Works

Initially, the pharmacist provided comprehensive medication management (CMM) services that included:

- Initiating and titrating guideline-directed medical therapy
- Assessing patients' reported symptoms and clinical status
- Adjusting diuretic therapy
- Identifying and discontinuing medications that exacerbate HF
- Ordering and monitoring laboratory values, echocardiograms, and electrocardiograms
- Educating patients on self-management and monitoring techniques (e.g., daily weights, sodium and fluid restriction, home blood pressure monitoring).

The pharmacist regularly monitored patients for adherence barriers, such as cost of care and patient understanding of therapy importance. All visits were conducted in person, and 60 minutes were allocated for initial visits and 30 minutes were allocated for follow-up visits.

The pharmacist's impact on HF patients was assessed by the rates of HF hospitalizations and readmissions. Additional goals of the program were to meet the requirements of federal and commercial VBP contracts—Healthcare Effectiveness Data and Information Set (HEDIS) and CMS Star Measure metrics.

During the HF patient visits, the pharmacist identified a need for improvement in the management of comorbid conditions (e.g., diabetes mellitus, dyslipidemia, hypertension, thyroid disorders, gout, COPD and asthma), resulting in an opportunity to expand the scope of collaborative practice. Due to the high prevalence of patients with diabetes at AMG-SE and the lack of an endocrinologist within the multidisciplinary care team, the pharmacist's expanded role began with patients with

diabetes. Outcomes data in patients with diabetes improved following implementation of diabetes management by the pharmacist. Because other provider services remaining unchanged, this improvement was deemed to be attributable to the pharmacist. The pharmacist was subsequently charged with further defining and expanding the role of the pharmacist in the PCMH and the development of resources. This included writing and implementing best practice protocol guidelines for HF, asthma, COPD, hypertension, hyperlipidemia and diabetes.

Initially, patients were identified for the pharmacist's interventions based on HF diagnosis codes and the daily hospitalization list; however, once the pharmacist's role expanded, new referral processes were created. The pharmacist receives referrals via four different avenues: 1. the provider can refer a patient during their visit (curbside consult); 2. the electronic medical record (EMR) communication system portal, which enables PCMH team members to send messages regarding patient referrals or patient questions; 3. referral via phone or fax; 4. a daily list of AMG-SE patients discharged with a HF diagnosis. For referrals based on a hospital discharge, the pharmacist is responsible for contacting the patient within the first 2 days of discharge to address any initial barriers to adherence or gaps in therapy and to set up an appointment within 7 days of discharge.

Currently, the pharmacists do not receive assistance from clinical support staff during independent pharmacist visits. However, student pharmacists and residents are involved in conducting portions of the patient visit to increase the capacity of the pharmacist's patient panel. This layered learning model has promoted the sustainability of the pharmacist's role as the demand for clinical pharmacy services has increased. Research is currently being conducted at the site to evaluate the workload of the pharmacist and how it relates

to outcomes. It is also designed to identify areas of inefficiency to demonstrate need for support staff. While the pharmacists do not have designated clinical support staff, such as medical assistants, they do receive support from the clinic operational staff for the check-in/check-out process, scheduling patients, and other administrative responsibilities. Since the pharmacists have a broad scope of practice, designated clinical support staff may allow them to increase appointment capacity and patient panel size in order to further improve clinical outcomes at the center.

Sustainability and Outcomes

Midwestern University provides 50% of the funding for 80% of the original pharmacist's clinical time. Seventy percent of patients at the site are under a full-risk global payment model through Medicare Advantage or commercial payers. The pharmacists' salary is financially justified through their role in assisting the medical group meet performance measures and decrease costs as part of the pay-for-performance incentives within the capitated reimbursement model.

In the first 10 months of the PCMH pilot, the pharmacist conducted disease state management visits for 111 chronic HF patients. A pre-/post-analysis of the 111 patients in the 10 months prior to and after the pharmacist integration, showed a 50% reduction in hospitalizations, from 63 in the 10 months prior to 30 in the 10 months after pharmacist integration. This translated into a cost avoidance of \$280,000 based on the average HF hospitalization cost at Advocate Trinity Hospital of \$8,500. This result was used to demonstrate the benefit of the pharmacist on the PCMH team. Outcomes improved further with greater pharmacist integration and rapport with the medical team. In an 18-month analysis, only three of the 153 HF patients managed by the pharmacist had a 30-day readmission for a HF exacerbation.

Expansion of the pharmacist's role to diabetes resulted in the recognition of AMG-SE as one of the top five sites for diabetes management in 2012, out of approximately 250 Chicago metropolitan area AMG sites. This recognition was based on improved AMG diabetes quality metrics, including the percentage of patients receiving an annual eye exam, annual foot exam, annual nephropathy screening, and hemoglobin A1C performed, and the percentage patients with a hemoglobin A1C < 8%, and those reaching guideline recommended blood pressure and cholesterol targets. Pharmacists' discussions with physicians facilitated further improvement in disease state management amongst all providers at the center as it subsequently improved their knowledge of chronic disease management. Additional quality metrics improved after the pharmacist integration, including rates of generic medication use, number of patients on an angiotensin-converting enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB), and beta-blocker for HF management.

The results of the PCMH pilot program led to hiring more pharmacists at AMG-SE and other AMG ambulatory care sites. Two additional clinical pharmacists were hired at AMG-SE based on the increased demand for clinical pharmacist services and are fully funded by AMG. Currently the AMG South Region employs a total of 13 clinical pharmacists at six different AMG sites. Seven pharmacists are fully funded by AMG, five are co-funded by AMG and Midwestern University, and one is fully funded by Midwestern University Chicago College of Pharmacy. All clinical pharmacists provide chronic disease management under the same collaborative practice agreement developed by the original PCMH clinical pharmacist.

Innovations/Future Plans

The most innovative and critical aspect of the practice is the broad collaborative practice agreement, which allows the pharmacist to initiate, titrate and discontinue medications for all chronic internal medicine disease states, except controlled substances. This model facilitates holistic management of chronic conditions such as HF, where poor management of diabetes, respiratory conditions, gout or anemia may precipitate an exacerbation. CMM was key to improving outcomes in patients with HF.

In the ACO model, a broad collaborative practice agreement improves population health metrics as the pharmacist can make timely interventions and improved holistic patient outcomes, compared with similar practices focused only on a specific disease state. Another key to the program's success was full access to the EMR. The pharmacist had access to all medications, labs, provider notes, and was able to send electronic prescriptions to the patient's pharmacy and place laboratory orders under the provider's name. Physicians and other team members can place referrals and send patient messages through the EMR for more timely communication and follow-up.

Key Lessons Learned

- Strong leadership and support were key to the successful integration of the pharmacist on the PCMH team.
- Initially focusing on the management of one disease state and gathering positive outcomes data allowed the pharmacist to build trust with physicians and expand the service to the management of additional chronic disease states.

- Clinical outcome improvements, such as decreased hospitalizations and emergency department visits, in costly disease states (e.g., COPD and HF) can demonstrate the cost-savings value of a pharmacist and support expansion of the clinical pharmacy services to other disease states.
- Physician trust can be earned through both demonstrating improved patient outcomes and knowledge of chronic disease management.
- The pharmacist's strong knowledge base and ability to support recommendations with the current primary literature and guidelines was cited by physicians as the most important factor when granting and expanding pharmacist prescribing.
- Strategies to identify patients for clinical pharmacy services include reviewing population health and hospitalization reports, reviewing provider schedules for patients that could benefit, and asking physicians if they would like assistance with disease state management during patient visits.



The pharmacist regularly monitored patients for adherence barriers, such as cost of care and patient understanding of therapy importance. All visits were conducted in person, and 60 minutes were allocated for initial visits and 30 minutes were allocated for follow-up visits.

Family Health Services of Darke County

GREENVILLE, OH

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Practice Site Details	
DETAIL	SITE INFORMATION
Practice setting type	Federally Qualified Health Center (FQHC)
Value-based model type	PCMH
Number of pharmacists	1.25 clinical pharmacy FTE, 1 pharmacy resident, 3 staffing FTEs
Number of clinics/patients covered by pharmacists	4 clinics encompassing 26,767 patients
Funding model of pharmacists (salaried, contracted, leased, other)	Salaried employees of the FQHC
Delivery mode for patient visits	Face-to-face and telephonic
Average duration of pharmacist visit	30-60 minutes
Collaborative practice agreement in place	Yes—diabetes and smoking cessation currently and expanding; pharmacists can initiate, discontinue and adjust medications, as well as order laboratory and diagnostic tests; protocols are used for immunization and naltrexone injectable administration
Billing codes used	99211 for medication therapy management in which the provider does not see the patient 99213, 99214 for Shared visit model in which both pharmacist and provider see the patient

Background

Family Health Services (FHS) of Darke County is a FQHC located in rural Darke County, Ohio. FHS builds healthy lives through the provision of quality, comprehensive services. Seamlessly integrated with the community, FHS is recognized for win-win-win (patient-employer-provider) relationships that reach more people and provide better care at lower cost. FHS practices motivate patients to seek care and information proactively. Above all, FHS supports a culture of nurturing leadership that preserves the “family” in Family Health. FHS was founded in 1964 with volunteers providing seasonal sanitation and primary care services to local migrant workers and has grown to serve 26,616 patients. FHS has one main location with four satellite sites in rural neighboring communities. Services offered include family practice, OB/GYN, pediatrics, medication-assisted treatment, dental, radiology, vision, in-house laboratory, behavioral health, medical nutrition counseling, and an in-house 340b pharmacy. “I believe that over the years Family Health has taken many steps, to help turn a sick-care system into a healthcare system” states Jean Young, the Executive Director.

Being one of the only primary care providers in the county, FHS has a diverse patient population and currently operates as a Patient Centered Medical Home (PCMH). The PCMH was established as an extension of FHS’s integrative health model which originated in the 1990’s. “We had a strong belief then and today that if we provide exceptional, comprehensive care and the mechanisms to support our patients in achieving good health for themselves and their families, we are achieving our core mission “to build healthy lives together” said Dr. Laurie White who directs PCMH development. The model was transformed in 2012 when a PCMH core team was created. It is comprised of members from

each department in the facility, including a pharmacist and two patient representatives. The team meets monthly to discuss ways to enhance communication, patient care, population health, and measure performance in terms of quality markers and services offered from both an employee and patient perspective. The fundamental purpose remains the same: to work together to provide comprehensive care to patients. FHS became PCMH-accredited by the Accreditation Association for Ambulatory Healthcare (AAAHC) in 2013.

The Model: How it Works

At FHS, pharmacists are present within the 340b dispensing pharmacy and integrated within the clinic. Within the dispensing pharmacy, pharmacists counsel patients on all new medications and medication changes and conduct medication therapy management visits. Within the clinic, pharmacists operate as drug information experts for the approximately 40 providers, conduct shared visits with the providers for chronic diseases, package medication boxes, and facilitate transitions of care for patients post-hospital discharge. Pharmacists also administer vaccines to patients. The pharmacists play a critical role in the medication-assisted treatment program and harm reduction efforts by providing naloxone nasal spray counseling at the needle exchange program and during patient appointments, administering Vivitrol injections as needed, developing a Vivitrol drug repository program, working with the United Way to help pay for medication-assisted treatment medications, and creating harm reduction kits to give to high-risk patients. The pharmacists also have active roles on the diabetes, hypertension, medication-assisted treatment, PCMH, quality, care coordination, rapid response team, and transitions of care committees.

Family Health Services utilizes a variety of support staff to enhance services offered. Two pharmacists share a nurse and rotate throughout the 4 clinic sites. The nurse's main roles are to room the patient, prep the patient's chart prior to the appointment, take vitals, ensure the medication list is accurate, update the medical history, and complete screenings such as the PHQ2. The nurse completes any needed testing that can be done in office such as tests for A1C and albuminuria. The nurse also assists with population health data collection, patient education on glucometers, and scheduling of shared visits.

There are also several additional care coordinators including a Screening Brief Intervention and Referral to Treatment (SBIRT) coordinator, psychosocial care coordinator, dietitian, and chronic care manager. One of the strengths of our PCMH model is that all employees throughout the organization from front office to provider are invested in the program and are therefore key stakeholders. From a patient perspective, a variety of needs can be addressed at one time. For example, a patient with diabetes may come in for a diabetic check where it is discovered they are uncontrolled due to food insecurities. They can then be referred to our psychosocial care coordinator for assistance and our dietitian for medical nutrition education. If they are nonadherent to medications, they can have their medications packaged and/or delivered, consult with one of our pharmacists, have costs lowered through patient assistance programs or the sliding fee discount, and receive one-on-one care from our chronic care manager. If they have not seen a dentist, a dentist will speak to them about the importance of dental care through a warm hand-off.

Pharmacists have a collaborative practice agreement (CPA) for hypertension, diabetes,

hyperlipidemia, COPD, and smoking cessation. Within this agreement, the pharmacist can start, stop, or modify therapy and can also order labs. However, CPAs are not currently used to their full potential because of the shared visit practice model. FHS is currently implementing a pharmacist-driven smoking cessation program that will utilize a CPA for smoking cessation medication management.

Patients are identified for pharmacist intervention by providers and nurses primarily for medication cost concerns, nonadherence with medical treatment and medications, elevated A1C, and high morphine milligram equivalents (MME). When a patient is identified or referred through the EMR, the patient is scheduled for a shared visit between the pharmacist and the provider.

Population health reports are used to identify gaps in care such as uncontrolled diabetes, defined as an A1C >9%, and initiate an automatic referral for clinical pharmacy services. Population health is used to identify a number of other gaps regarding quality measures, including patients who are in need of Medicare Annual Wellness visits, statin therapy, evaluation of high-risk medications, and preventative screenings and immunizations. When a patient is identified on a population health report, the pharmacist performs a chart review, seeks out an opportunity for patient education, and makes recommendations when appropriate. Pharmacists use population health reports to assist in impacting high MMEs and naloxone prescribing, obesity diagnosis and screening for prediabetes, diabetes and annual eye exams. Pharmacists also identify persons with diabetes with an A1C >9% and ensure they have pharmacy consults. Discharge summaries are also sent to pharmacists for care transitions services by providers in the local hospital and other hospitals, and these patients receive a phone call from the pharmacist upon discharge.

Key technology used at FHS includes the electronic medical record (EMR) and pharmacy software system. One of the most valuable assets is that the whole organization uses the same EMR. This allows for seamless care, and all visits from vision to dental to clinical pharmacy to lab can be viewed in the EMR. The EMR also allows for telehealth services, kiosks, and a portal where patients can send messages. The pharmacy software is utilized to run reports on patient adherence, proportion of days covered, high risk medications, and ensuring patients are on proper therapy for their disease states. Pharmacists also utilize CliniSync for patient information from other healthcare systems. OutcomesMTM and Mirixa are the platforms utilized for medication therapy management. The organization also uses social media and televisions in the waiting room to provide patient education.

Sustainability and Outcomes

The pharmacists' positions have been justified using multiple billing opportunities as well as FHS's 340b funding. Billing for insurance-triggered medication therapy management takes place. Billing has also started for pharmacists' services such as medication adherence packaging, chronic pain consults, and medication reviews incident-to a provider using Evaluation and Management code 99211. Pharmacists embedded in the clinic conduct shared visits with the providers resulting in providers being able to increase their patient volume.

The majority of our ROI is indirect ROI, which can be difficult to track. We receive value-based reimbursements through the clinic and the 340b pharmacy. We have created a clinical pharmacy dashboard for diabetes and clinical pharmacy services. This is presented monthly at our clinic's quality meeting. Measures include percentage of patients being seen by clinical pharmacy with an A1C >9%, and the number of patients who are on a statin, on an

ACEI/ARB, have had an A1C in the previous 3 months, blood pressure in range as defined by the American College of Cardiology/American Heart Association Hypertension Guideline, have been tested for albuminuria, completed a yearly foot exam, completed a yearly eye exam, and have received the appropriate pneumococcal pneumonia vaccines.¹ We also review A1C reductions in patients who have been seen by clinical pharmacy and plot them on a line graph. Additionally, tertiary markers including improvement in quality markers, decreased hospitalizations, and improved patient care and satisfaction are tracked. Interventions tracked by the pharmacists justified the creation of an additional position for the next year.

Another benefit has been that patients frequently request to transfer their prescriptions to our in-house 340b pharmacy because of their trust in the pharmacists. Our prescription volume has increased with the increase in pharmacy services.

Innovations/Future Plans

Future planned endeavors include broadening the shared visit model to include COPD. The COPD services will include assessing inhaler technique, adherence with medications, decreasing hospitalizations for COPD exacerbations, improving inhaler affordability and utilizing the CPA for smoking cessation. In addition, the pharmacist and dietician are joining forces to begin a diabetes prevention class offered one night per week for a year. This class will provide education, support, motivational interviewing, and monitoring of weight loss.

Through a grant, FHS is going to begin using a platform to identify social determinants of health and connect patients with local resources such food banks, SBIRT coordinator, and other community resources. FHS is also in the infancy of using the Single Item Literacy Screener for health literacy screening.

Key Lessons Learned

- It is vital to have an implementation plan for any new service being offered and to communicate the plan in a formal manner, such as through regular meetings with staff and providers.
- Perform continuous quality improvement using Plan-Do-Study-Act cycles.
- Thorough and consistent documentation improves care coordination with other providers.
- Developing trusting, collaborative relationships takes time as other providers learn about the services the pharmacist offers and the value they provide.

References

1. ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *J Am Coll Cardiol* 2018;71:e127-e248.



Developing trusting, collaborative relationships takes time as other providers learn about the services the pharmacist offers and the value they provide.

Geisinger Ambulatory Clinical Pharmacy Program

DANVILLE, PA

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Practice Site Details	
DETAIL	SITE INFORMATION
Practice setting type	Various, including FQHC, rural, primary care, specialty care, pharmacy tele-management
Value-based model type	ACO, PCMH
Number of pharmacists	Total: 97 FTE (73 in disease management and 24 in pharmacy tele-management)
Number of clinics/patients covered by pharmacists	Family practice: based on clinic's risk adjusted patient panel: 4000 (existing clinic)—6000 (new clinic)/1.0 FTE Specialty: based off active patient roster with pre-specified condition: 750-1000 patients/1.0 FTE
Funding model of pharmacists (salaried, contracted, leased, other)	All are employees funded by Geisinger clinical enterprise
Delivery mode for patient visits	Mixed model of face-to-face (preferred) and telephone management
Average duration of pharmacist visit	See Figure 3 and Figure 4: current is 15-30-45 minute OR 10-30-40 minute visit model; Proposed change for FY21 will be 10-40 minute model
Collaborative practice agreement in place	Yes. Monitor therapy and labs, titrate dosage, modify, and discontinue medication; manage specific conditions, order labs/imaging, authorize medication refills/renewals (note that pharmacists do not have the authority to initiate therapy under CPAs in Pennsylvania)
Billing codes used	<ul style="list-style-type: none"> ■ Annual Wellness Visits: G0438/G0439 ■ Anticoagulation 93793 ■ Chronic disease hospital-based clinics: facility fee ■ Chronic disease physician office-based clinics: 99211 ■ Continuous Glucose Monitoring placement: 95249 ■ Insulin pumps and nursing homes: direct contracting ■ Smoking cessation: 99406/99407

Background

Geisinger’s ambulatory clinical pharmacy program started in 1995 with a single anticoagulation clinic and, after several years of amassing clinical outcomes data and garnering physician support, began expanding into other therapeutic areas to target clinically relevant gaps in care.¹ Initially, in collaboration with the Geisinger Health Plan, the program expanded into the management of anemia of chronic kidney disease, a small yet costly patient population in need of treatment optimization. In the early 2000’s, the pharmacy program set its sights on chronic disease management in primary care, and beginning in 2012, ventured aggressively into the specialty practice arena.

Now, 24 years later, the program has more than 90 ambulatory clinical pharmacists managing patients’ medication therapy for over 20 medical conditions. Pharmacists are incorporated into both Geisinger-owned Patient-centered Medical Home (PCMH) and Accountable Care Organization (ACO) sites within four practice models: primary care disease management, specialty medicine disease management, home-based primary care, and pharmacy tele-management (or non-traditional “telepharmacy”). On average, the primary care and specialty disease management programs receive over 2,200 new referrals and complete 34,000 patient encounters every month. Additionally, the telepharmacy pharmacists average over 74,000 patient encounters monthly.

The Model: How it Works

There are 52 primary care pharmacists embedded within family practice and internal medicine sites across the health-system. The pharmacists practice in a model of care based on comprehensive and high-value office-based visits. They are responsible for the ongoing management and co-ownership of chronic disease patients at primary care sites (Figure 1). These pharmacists help to improve medication-

Figure 1: Medication Management Targets for Primary Care Pharmacists

Anticoagulation
Asthma
Behavioral health
COPD
Diabetes
Heart failure
Hyperlipidemia
Hypertension
Osteoporosis
Pain
Smoking cessation

related patient outcomes and assist primary care providers in decreasing healthcare costs and meeting quality benchmarks. Under collaborative practice agreements (CPAs) with providers, pharmacists can modify and discontinue medication therapy and order laboratory work and imaging. Pharmacists perform comprehensive medication reviews and medication reconciliation, identify and resolve medication-related problems, manage chronic disease states through evaluation of the safety and effectiveness of medication regimens (including titration and monitoring towards targeted patient outcomes), design patient-centered, cost-effective medication regimens, and provide education to patients and providers.^{1,2}

The 21 specialty disease management pharmacists are centrally housed within their applicable departments and operate under CPAs. The specialty practice model is primarily telemedicine-based, is

Geisinger Ambulatory Clinical Pharmacy Program

DANVILLE, PA

customizable to the needs of the specialty, and tends to be more population-health focused. Specialty pharmacists help lead the system's clinical treatment pathway development process within their specialties and work closely with pharmacists from the Geisinger Health Plan and Geisinger Specialty Pharmacy (Retail) to coordinate and optimize care for the patients (Figure 2).

Figure 2: Examples of Medication Management Targets for Specialty Pharmacists

Addiction
Anemia
Antiplatelet monitoring pre-post intracranial stenting
Brain-impairing medications Geriatrics
Heart failure
Hepatitis C
Irritable bowel disorder
Multiple sclerosis
Medically-complex children
Neuroimmune disorders
Oral chemotherapy

One of Geisinger's newest initiatives, Geisinger at Home, is an interprofessional home-based primary care model designed to increase access and decrease high-cost utilization for the system's neediest patients. Four clinical pharmacists work in collaboration with registered nurse case managers, advanced practitioners, community health assistants, and regional medical directors. The pharmacists typically begin to provide care for the patient at enrollment in the program and/or during a transition of care from an acute facility to home. The pharmacists have a CPA in

place and primarily practice telephonically and through telemedicine. They provide comprehensive medication management, drug information, assistance with drug procurement, acute disease co-management, antibiotic stewardship, disease state monitoring, and medication management.

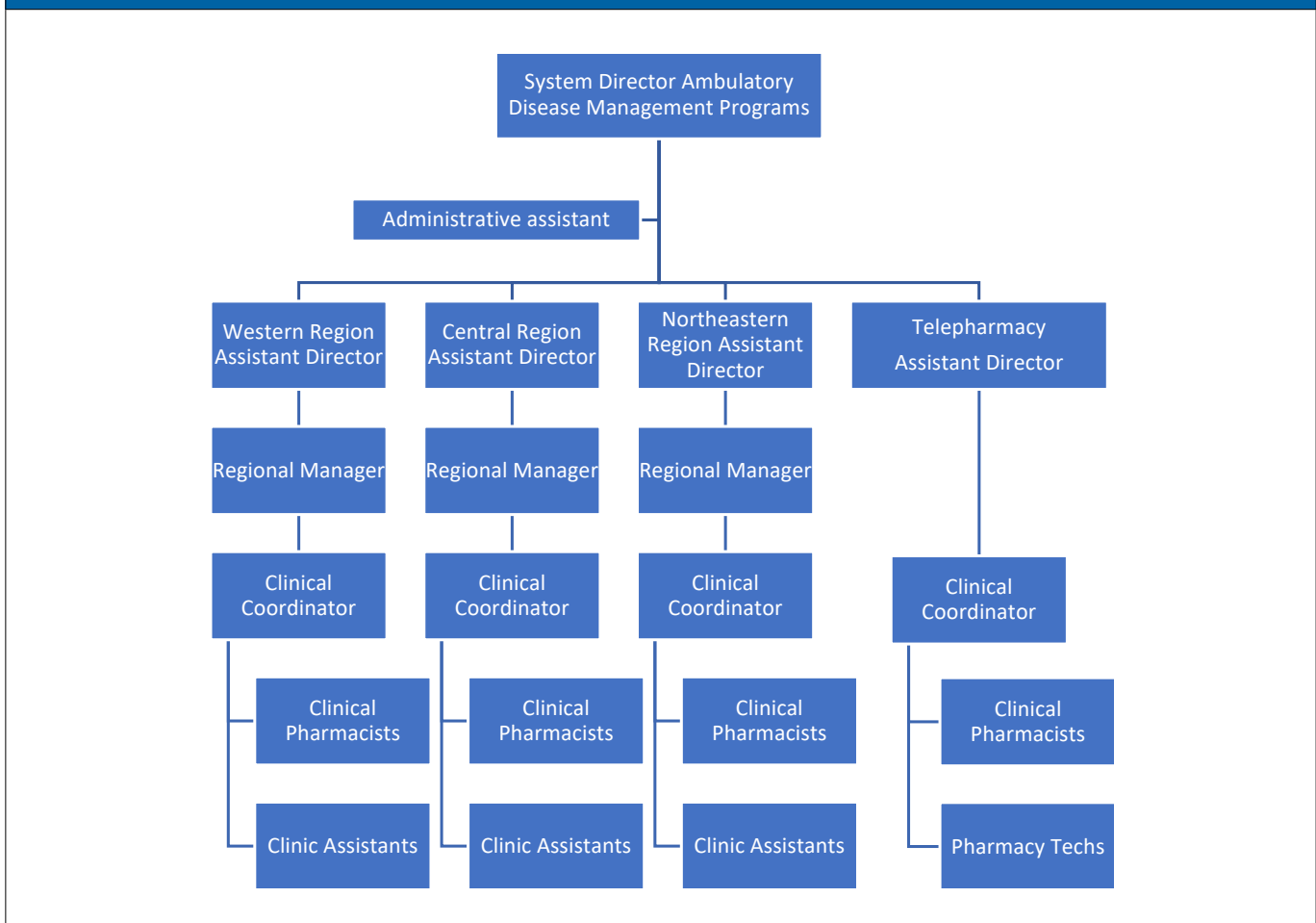
In response to a request from Geisinger's executive leadership to have pharmacy own all incoming medication-related messages, the telepharmacy program at Geisinger has been in a period of rapid development and implementation over the last 16 months. What started out as a pharmacy call center manned by 4 pharmacists and 12 pharmacy technicians is now a highly productive pharmacy tele-management site with 24 pharmacists and 32 pharmacy technicians. The pharmacists, equipped with CPAs, manage all medication-related electronic communications and refill requests entering the system, saving physicians and their support staff hours of work every week. In addition, the pharmacists in the telepharmacy program have recently begun to collaborate with the embedded disease management pharmacists to implement a series of clinical programs including tele-management of anticoagulation patients and referral of patients identified as having poorly controlled diabetes to the primary care pharmacists.

The Geisinger ambulatory clinical pharmacy program has a highly developed organizational structure (Figure 3). In addition to their program oversight roles, the System Director and Assistant Directors sit on system-level steering committees and have leadership roles on several of the system's ProvenCare pathway teams.² (ProvenCare is a care delivery model centered around evidence-based best practices, clinical outcomes attainment, workflow optimization, patient engagement, and a reduction in care variability across the system). In addition, the pharmacy leadership

Geisinger Ambulatory Clinical Pharmacy Program

DANVILLE, PA

Figure 3: Geisinger Ambulatory Care Organizational Structure

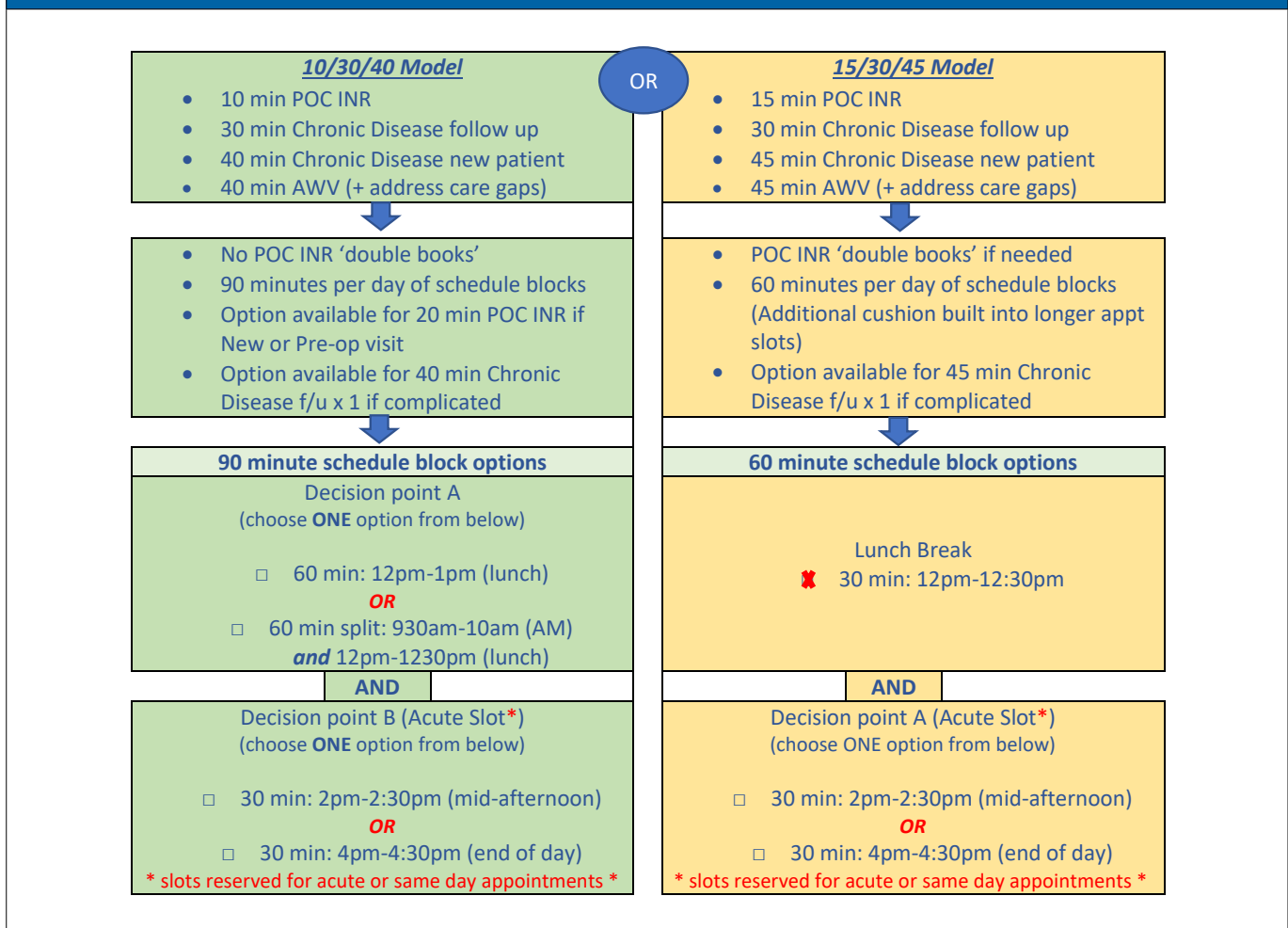


team maintains highly productive relationships with leaders from their care team partners (e.g., nursing, health management, clinical nutrition, physicians, advanced practitioners), the system’s Population Health and Quality pillars, and Medicine and System Operations.

Patients are referred to the program via one of two pathways: provider-initiated or an automated process utilizing population health level data and analytics. The most common referral pathway is provider-initiated, whereby clinicians identify a patient, order a referral and when able, perform a warm hand-off to the pharmacist on-site. Alternatively, an increasingly important pathway is the auto-enrollment of high-risk patients based upon customizable identification and risk

stratification criteria and predictive analytics which direct patients to the appropriate resource. The logic for this process runs behind the scenes and as patients are identified, a referral is triggered in the EHR, pended, and populated in the physician’s in-basket to sign. This approach has been especially useful in Geisinger’s pharmacy chronic pain management program where patients are proactively identified and referred if they have morphine milligram equivalents above CDC recommendations, have had a recent ED/hospital visit, or are on high-risk medication combinations. Pharmacists currently use a 15-30-45 minute **OR** 10-30-40 minute visit model (Figure 4). Starting in FY21, a 10-40 minute visit model will be implemented (Figure 5).

Figure 4: Primary Care Pharmacist Patient Visit Model for Fiscal Year 2020



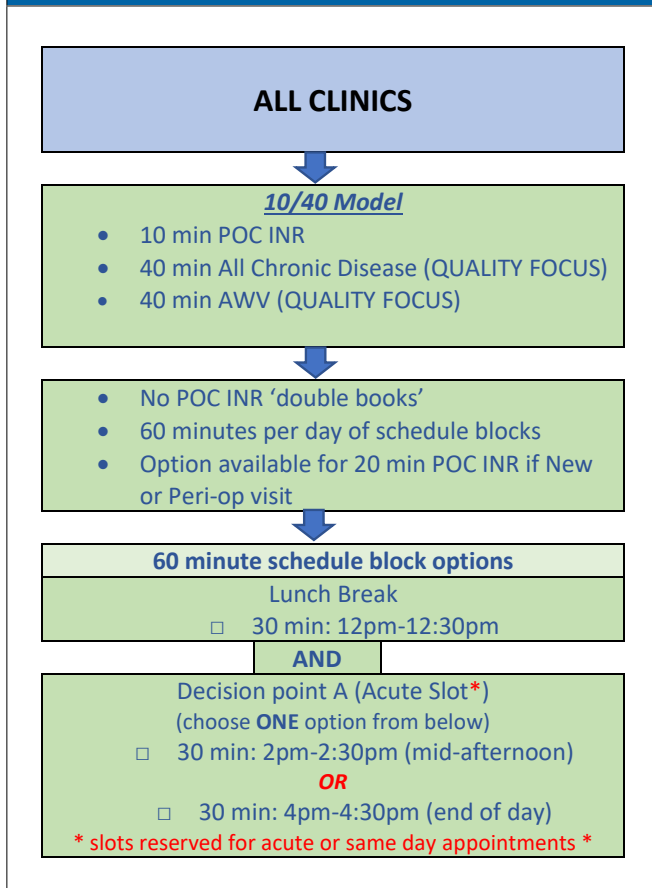
Sustainability and Outcomes

Financially, the ambulatory clinical pharmacy program is supported through a mixed model of revenue generation and return on investment (ROI). Revenue is generated through annual wellness visits, “incident to” billing, anticoagulation and smoking cessation counseling codes, continuous glucose monitoring codes, insulin pump contracting, and private insurance reimbursement tied to quality outcomes and metrics. From a ROI perspective, Geisinger has been able to utilize its data capabilities to track and demonstrate value via improvement in quality metrics and outcomes, the optimization of resource utilization, as a conduit to 340b contracted

entities and/or system medication distribution channels, through cost savings in the form of compliance with evidence-based, cost-effective treatment pathways, and by increasing patient access for both clinicians and ancillary clinic staff (e.g., nurses, phlebotomists). Each of these measures are subsequently linked to either revenue production for the system or a reduction in total cost of care, which is particularly important with participation in the ACO partnerships and Geisinger Health Plan.²

Examples of measure improvement demonstrated at Geisinger include a 28% reduction in annual ED visits among multiple sclerosis patients managed by clinical pharmacists and 18% lower ED visits, 18%

Figure 5: Planned Primary Care Pharmacist Patient Visit Model for Fiscal Year 2021



lower hospitalizations, and 23% lower total cost of care for warfarin patients managed by clinical pharmacists.¹ Diabetes management by clinical pharmacists at Geisinger has resulted in a 1.2% to 2.3% improvement in hemoglobin A1C (depending on baseline A1C and treatment goals), higher scores in metabolic disease quality metrics (e.g., statin utilization, blood pressure control) and reduction of primary care physician office visits by anywhere from 17 to 35%.

Geisinger has defined several condition-specific outcome metrics that we routinely monitor and report back to both staff and leadership. The data and outcomes are pulled directly from our data warehouse, the EHR, and from available medical and pharmacy benefit claims data and fed

into a Tableau Dashboard in real time. The outcomes are reported out quarterly at a Community Medicine leadership meeting which is attended by medicine leadership and over 100 of the system’s medical and operations directors. One example, our diabetes dashboard, will track improvement in A1C control, as well as scores on quality metrics directly tied to that condition (e.g., blood pressure control, statin use, ACEI/ARB, nephropathy screening). This same dashboard also tracks the identical metrics for the family practice physicians we work with thus allowing for comparison. The next iteration of the dashboard will incorporate diabetes-related ED visits and hospitalizations. Another example is our pharmacist-run pain management clinic dashboard, which tracks close to 10 different outcomes for patients managed by this service, such as morphine milligram equivalents (MME), number of patients on opioids, patients on opioid/benzodiazepine combinations, naloxone usage, ED visits, toxicity screens, medication use agreements, and others.

Innovations/Future Plans

“The clinical pharmacy department is headed by very talented, knowledgeable and caring leaders. With a well-established service model already in place, the proper allocation of resources will permit the patient to see the pharmacist in their area of expertise,” notes Dr. Jon Han, Director, Interventional Pain.

Over the next 3 years, Geisinger’s ambulatory pharmacy program strategic plan includes the addition of clinical pharmacists in new practice sites (e.g., Federally Qualified Health Centers, senior-focused care sites, rheumatology, infectious disease, ACO partner sites, and pharmacogenomics), the incorporation of machine learning-based referrals and interventions into the workflow, implementation of two PGY1 pharmacy

residency programs, and the expansion of current pharmacy services in both cardiology and pulmonology. The four PGY1 residents will practice across the continuum of ambulatory pharmacy care including primary and specialty care, telepharmacy, transitions of care, community pharmacy and home-based primary care. The telepharmacy team will continue to expand its clinical service around anticoagulation management, partner with community medicine for an uncomplicated UTI assessment program, and further develop its population health-based outreach. Finally, the primary care disease management program is set to undergo a large-scale expansion in response to a looming physician shortage in primary care and a subsequent need to create more appointment access for our community medicine partners.

Key Lessons Learned

- When establishing programs, bring clinical and operational partners to the discussion early and often to gain their input, support, collaboration, and buy-in.
- Leverage data and analytics to support the value of the program and identify areas of opportunity. It is much easier to build a program based on proven success rather than anecdotal reports.

- Clearly define a program vision and target population based on the optimization of value at each patient touchpoint. Without this framework, it is very easy to get derailed by "non-value added" asks which will not contribute to the outcomes of the program nor support future growth.
- Implement a comprehensive training and credentialing program, as well as a system of ongoing quality assurance/improvement to ensure the program will be staffed by highly functioning and clinically skilled pharmacists positioned to produce optimal outcomes.
- Pharmacy leadership must be involved across the continuum of care and across the health-system, having touchpoints in medicine, population health, and quality.

References

1. Jones LK, Greskovic G, Grassi DM, et al. Medication therapy disease management: Geisinger's approach to population health management. *Am J Health-Syst Pharm.* 2017;74:1422-35.
2. Knoer S, Swarthout M, Sokn E, et al. The Cleveland Clinic Pharmacy Population Health Management Summit. *Am J Health-Syst Pharm.* 2018;75:1421-9.

Jefferson Health Population Health Pharmacy Team PHILADELPHIA, PA

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Practice Site Details	
DETAIL	SITE INFORMATION
Value-based model type	Formerly PCMH, now Comprehensive Primary Care Plus (CPC+) and Delaware Valley ACO
Number of pharmacists	Four (4.0 FTE) for three health-system campuses (two at Abington Jefferson, one at Jefferson Northeast, one at Jefferson Center City)
Number of clinics/patients covered by pharmacists*	<ul style="list-style-type: none"> ■ Abington Jefferson (suburban, teaching hospital) <ul style="list-style-type: none"> • 30 practices (~140,000 patients) ■ Jefferson Northeast (urban, teaching hospital) <ul style="list-style-type: none"> • 16 practices (~47,000 patients) ■ Jefferson Center City (urban, academic medical center) <ul style="list-style-type: none"> • 10 practices (~67,000 patients)
Funding model of pharmacists (salaried, contracted, leased, other)	Clinic-funded through Comprehensive Primary Care Plus (CPC+) funds
Delivery mode for patient visits	<ul style="list-style-type: none"> ■ Comprehensive Medication Management (CMM) encounters: 58% telephonic, 12% face-to-face, 15% chart review, 15% unable to reach ■ Targeted Medication Reviews (TMR): 59% telephonic, 9% face-to-face, 26% chart review, 6% unable to reach
Average duration of pharmacist visit**	CMM (Face-to-face = 64 minutes, Telephonic = 31 minutes) TMR (Face-to-face = 50 minutes, Telephonic = 25 minutes)
Collaborative practice agreement in place	No, working to implement
Billing codes used	Not billing at this time

Background

Jefferson Health is an enterprise health-system in the Greater Philadelphia region with three campuses in Pennsylvania and one in New Jersey. The system consists of 14 hospitals, 7 urgent care centers, 19 outpatient centers, and 60 Comprehensive Primary Care Plus (CPC+) practice sites. At the CPC+ practice sites in Pennsylvania, approximately 300 providers care for over 250,000 patients.

The ambulatory care—population health pharmacy team was started through the CPC+ and Innovation Committee at Jefferson Health to improve the “joy of medicine” by enhancing workflow efficiencies and quality of care in primary care offices. Under the Center for Medicare and Medicaid Innovation CPC+ framework, Track 2 (reduced FFS payment plus bundled payments to increase comprehensiveness of care) practices must provide comprehensive medication management (CMM) at all practice sites performed by pharmacists or other providers. Abington-Jefferson Health and Jefferson Northeast chose to utilize CPC+ funding to hire embedded ambulatory care pharmacists to perform CMMs as well as population health management, including chronic disease care. The program has hired four pharmacists (4.0 FTEs) since April 2018.

The Model: How it Works

The program started with three pharmacists for nearly 60 practice sites. Given such a high volume of patients, the administration team allowed time upfront to build an effective, efficient foundation with help from pharmacists at other national best practices sites, such as the University of Michigan College of Pharmacy and Fairview Pharmacy Services. We spent a majority of our time developing the referral, workflow, and documentation processes, as the team and key stakeholders felt these were key to reaching the highest risk patients, ensuring everyone understood each other’s role,

and reporting interventions without double documentation. In this workflow, pharmacists receive referrals from providers and the nurse care coordinators. If it is determined that a patient requires outreach, they are seen by the pharmacist at the patient’s next provider visit or are scheduled for a separate pharmacist visit. Patients may also be enrolled in longitudinal management when deemed necessary (e.g., for diabetes, opioid tapering).

To streamline and standardize documentation, we based interventions on the Pharmacy Quality Alliance’s Medication Therapy Problem Categories Framework, which focuses on indication, effectiveness, safety, and adherence. Over a 6-month timeframe, two pharmacists provided 931 education, 767 adherence, 711 indication, 401 safety, and 345 effectiveness interventions based on this framework. As for prior authorizations, we have focused on educating providers and office staff on how to avoid prior authorization requirements (e.g., by following online formularies, step therapy) and streamlining the office’s workflow inefficiencies. Providers and office staff are encouraged to get us involved with denials when no alternatives exist or if the prior authorization requires robust clinical information (e.g., for specialty medications, opioids).

Because clinical pharmacy was a new concept in the outpatient setting, we introduced the program at physician leadership, office manager, care coordination, and office meetings. We also worked with Abington-Jefferson and Jefferson-Northeast marketing teams to create a referral card based on the Integrating Family Medicine and Pharmacy to Advance Primary Care Team (IMPACT) program. Throughout the process, we have learned a lot about perceptions of pharmacy within physician’s offices and how to best explain how pharmacists (including clinical, hospital, and community pharmacists) can collaborate with other providers to support a team-based approach to patient-centered care.

As for program support, the key stakeholders include the Ambulatory Pharmacist Program Medical Director, Associate CMO of Jefferson Medical Group, and clinicians. The support staff includes office staff/managers, care coordinators, the Delaware Valley ACO (DVACO), and business analytics team. The team does not currently have any collaborative practice agreements (CPA) signed, but the legal department is currently reviewing a draft of a CPA. Since embedded pharmacists are completely new to most providers in the network, and this CPA would cover three health-system campuses and approximately 300 providers, we wanted to first develop strong relationships before managing disease states under a CPA.

Each pharmacist is provided with a mobile work phone and laptop with direct access to both outpatient (eClinicalWorks and Touchworks) and inpatient (Sunrise) electronic medical record platforms (EMRs). In the EMR, we have access to practice-level HEDIS-based electronic clinical quality metrics (eCQMs) to identify patients with certain needs, such as not on statins, with uncontrolled diabetes, etc. Outside of the EMR, we track interventions through ad-hoc reporting from a SQL database, which mines the data from the EMR for export to a Microsoft Excel spreadsheet. This has increased patient need visibility by identifying fragile, sub-populations who will benefit from pharmacy services.

Sustainability and Outcomes

For the current fiscal year, the goals for justification are the number of CMM encounters and targeted medication reviews (TMRs) completed, academic detailing provided, increased generic drug utilization, and increased statin use. Since a lot of time was spent developing the program, we focused the initial goals around building a program where we can provide the best possible care to patients while also trying to decrease provider

burnout. Many of the providers have spoken to the leadership team about the profound impact pharmacists have had on their patients and their workload. In fact, a provider saw a patient following a face-to-face CMM where numerous medication-related problems were addressed and the doctor said, “[the patient was] the best he’s seen him all year!”

From a direct cost standpoint, we have tried to help justify our positions by cost-savings to the DVACO by promoting high-value, low cost medications when appropriate. The organization is also investigating direct billing with third-party payers for MTM codes; however, we focused on setting a sustainable foundation to be able to take the program’s data to payers. We work to close gaps in care and to improve performance on various quality metrics. We also are tracking savings for patients that result from reducing polypharmacy and copayments. From a quality perspective, we are going to compare A1C control, statin utilization, and healthcare utilization (ED and admissions from HealthShare Exchange) in patients with diabetes between usual care and pharmacist-integrated care.

Innovations/Future Plans

In early 2019, Jefferson Health hired an additional pharmacist for the practices in Center City, Philadelphia. In the future, the program hopes to add more pharmacist positions, a PGY-2 Ambulatory Care Residency Program, pharmacy students, and pharmacy navigators. Based on feedback from numerous providers, care coordinators, office staff, and administrators, the team hopes to expand while continuing to develop relationships with the physician offices as well as the patients. The ambulatory pharmacy program’s medical director, Steven Spencer, MD, MPH, FACP, internist and Director of Population Health at Jefferson Medical Group-North, who splits his time

between being a front-line clinician and administrator, stated, “I look forward to the continued collaboration with my ambulatory pharmacist. He continues to push the practice of medicine forward. He is making the care of my patients more efficient, timely, safe, and effective. He is a resource that has added immense value to my care team, and I cannot imagine practicing medicine without his assistance.”

The organization is hoping to collaborate with local pharmacies who provide advanced services such as medication synchronization, adherence packaging, and delivery in order to expand the program’s reach and address the needs of more patients.

The most unique aspect of the program is that the physician network, not the pharmacy department nor any large academic medical center affiliation, directly funds the pharmacist positions. It is rare to find physician offices who pay pharmacist salaries without a university financially supplementing the cost. This shows the organization’s belief in developing the relationship and respect between physicians and pharmacists.

The perception of pharmacy is dynamically changing within the organization and other healthcare providers are coming to realize the true value of a pharmacist. The greatest challenge has been scaling the operation: established models have one pharmacist for one or two sites, whereas we have 15+ practices and about 70,000 patient lives per pharmacist. Another lesson is the importance of an integrative model to be able to provide a consistent message across disciplines.

From a growth standpoint, we hope to expand our program by continuing to improve A1C control, provider/patient satisfaction, statin use in patients with diabetes, readmission rates, and other areas where we feel we can play a role in improving patient outcomes. In the near future, we are

hoping to start offering practice experiences for students from local colleges of pharmacy in order to extend outreach opportunities and to provide a unique learning opportunity for students. We are also hoping to add a pharmacy navigator program to help streamline financial assistance applications and prior authorizations in order to free up time for the pharmacists to focus on clinical issues and practice at the top of their license.

Key Lessons Learned

- A program is only as strong as its foundation and leadership. Support from leadership is invaluable for gaining buy-in from other providers.
- When starting a new program, take time to plan service operations (e.g., workflow, documentation) before beginning to see patients.
- Identify the needs of the providers and health-system and then determine how pharmacists can collaborate to address those needs.
- Collaboration with and defining roles of team members from all areas of the health-system has been crucial to the success of our practice. From business analysts to care coordinators, the support and teamwork across the organization has been instrumental to providing patient-centered care.
- Take advantage of opportunities to present at practices, meetings, community events, etc. to increase awareness of the value of pharmacists in primary care.
- Work smarter, not harder. Utilize resources (e.g., experts in your field, pharmacy organizations) to see if something has already been done before, then adapt to your practice or gain insight.

Michigan Medicine

ANN ARBOR, MI

Authors: Amy N. Thompson, PharmD, BCACP; Carol Becker, MHSA; and Hae Mi Choe, PharmD

Contact: amynt@umich.edu

Practice Site Details	
DETAIL	SITE INFORMATION
Practice setting type	Primary care health centers, community pharmacy
Value-based model	PCMH
Number of pharmacists	13 pharmacists (5.6 FTE total)
Number of clinics/patients covered by pharmacists	14 PCMH sites, pharmacist care for 3,441 unique patients in the past 12 months
Funding model of pharmacists (salaried, contracted, leased, other)	Pharmacist funding for their effort within clinic is paid by the clinics themselves. Each pharmacist is a salaried employee.
Delivery mode for patient visits	Face-to-face, telephonic, and telehealth
Average duration of pharmacist visit	Clinic visits: 30 minutes CMR visits: 60 minutes Telephonic visits: 15 minutes
Collaborative practice agreement in place	Yes. Duties delegated include the following: <ul style="list-style-type: none"> ■ Medication management (initiate, modify, or discontinue) ■ Ordering of labs on behalf of MD (A1C, albuminuria, lipid profile, basic metabolic panel/comprehensive metabolic panel) ■ Ordering DME ■ Referrals for diabetes education classes, eye exam, nutrition counseling
Billing codes used	G9002- face-to-face encounters 98966-98968- telephonic services

Background

Michigan Medicine, formerly the University of Michigan Health system, is the academic medical center of the University of Michigan in Ann Arbor, Michigan. There are 14 patient-centered medical home (PCMH) primary care health centers in Michigan Medicine with 13 PCMH clinical pharmacists (5.6 Full Time Equivalent[FTE]) and three post-graduate year 2 (PGY2) pharmacy residents embedded in primary care clinics.

When the program began in 1999, it was funded by the University of Michigan College of Pharmacy. In 2009, Blue Cross Blue Shield, the largest payer in the state of Michigan, provided some funding to Michigan Medicine to support the development of team-based patient care. This funding was used to build the PCMH-based clinical pharmacist model and implement it in all 14 Michigan Medicine primary care clinics. At that time, the University of Michigan College of Pharmacy and the University of Michigan Medical Group provided primary care clinics a subsidy that covered 50% of the clinical pharmacists' clinic time. The remainder of clinical pharmacist time was covered by the clinics. Each year until 2017, the amount of the subsidy from the University of Michigan School of Pharmacy decreased and the amount covered by the clinics increased; then in 2017 the clinics took over 100% of the cost of the clinical pharmacists. Clinic leadership indicated that patient visits with pharmacists are reimbursable by a number of insurance plans. The clinics are able to support the remaining costs of clinical pharmacists through per member per month (PMPM) fees and billing under the physician or other provider in Medicare, Medicaid, and private payer programs.

The Model: How it Works

The Michigan Medicine PCMH-based clinical pharmacists provide chronic disease management services for patients with

diabetes, hypertension, and hyperlipidemia. They also offer comprehensive medication management for patients with medication-related problems to determine the most effective, safe, and affordable regimen. This work is made possible by collaborative practice agreements (CPAs) between PCMH clinical pharmacists and physicians from the Michigan Medicine primary care clinics that allow pharmacists to initiate, modify, and discontinue medication therapies, order labs, order supplies, and refer to diabetes education, diabetes eye exam, and nutrition counseling. The current CPA protocols are for type 2 diabetes, hypertension, hyperlipidemia, and/or polypharmacy. As part of the CPA between the clinical pharmacist and providers, the clinical pharmacist must shadow providers for a total of eight half-days and participate in ongoing case reviews with the clinic medical director. Every 8 months, the clinical pharmacist and medical director meet to review 10 patient cases. There are plans to expand the CPAs to include smoking cessation and COPD in the future.

Patients are referred to the clinical pharmacist by their PCP or another member of the patient's care team, such as a nurse care navigator or social worker, for chronic disease state management. Referrals are typically placed for patients with uncontrolled diabetes or hypertension, and those with complicated medication regimens in need of further education. Once patients are referred to the clinical pharmacist by the provider or team member, patients are seen within 2 to 4 weeks for a face-to-face in-clinic visit that lasts 30 to 60 minutes. Subsequent visits can be face-to-face or telephonic for 15 to 30 minutes, depending on the follow-up need. Our team follows the 80/20 rule in each half-day session. For each 4-hour clinic session, 80% (3 hours, 15 minutes) is available for direct patient care and 20% (45 minutes) is built-in administrative time. This system was important to establish

from the beginning as many of our pharmacists practice at multiple sites and this allows them time to perform these administrative duties.

Patients are typically followed by the pharmacist until they reach their goal set by the provider, pharmacist or patient (depending on reason for referral). Within the face-to-face visit model, support staff are used for scheduling, checking patients in, and rescheduling visits. Medical assistants also support the visit by rooming patients.

Sustainability and Outcomes

The sustainability of pharmacists within our PCMH clinics is possible through the impact we have been able to demonstrate in the clinic through chronic disease state management, impact on quality performance measures, and through revenue generation from billing. Pharmacists within the PCMH clinics at Michigan Medicine bill for their services through a unique payment model utilizing care management codes. This allows for the pharmacists to generate some revenue for the clinics. Currently, pharmacists' services are billed under the physician using care management codes or "G-codes" that are utilized by all care managers within primary care at Michigan Medicine including dietitians, nurse care navigators, and social workers. Clinics are reimbursed for 30-minute face-to-face visits and for 5- to 30-minute telephonic encounters.

PCMH-based clinical pharmacists at Michigan Medicine also play a big role in quality initiatives to impact pay for performance metrics, particularly those that are medication-related. Pharmacists have shown improvement in clinical outcomes with chronic disease state management, particularly reduction in hemoglobin A1C, for patients. Additionally, pharmacists can perform targeted patient outreach and education to help clinics meet quality metrics, such as statin use in patients

with diabetes. Data is tracked for each clinic for quality metrics (e.g., A1C, blood pressure (BP), immunization rates), and this data is readily available at each site and updated monthly. The data is available at the patient-specific level, allowing clinics to target patients not at goal (i.e., patients with A1C >9% not on insulin). Additionally, pharmacists have helped improve other quality metrics such as asthma action plans, urine drug screening, and foot exams through working with the clinics on implementing new workflows through Plan, Do, Study, Act (PDSA) cycles. Currently, six of our 14 primary care PCMH clinics pay for a half-day of clinical pharmacist time to lead the effort within the quality space.

Innovations/Future Plans

Pharmacy practice within our PCMH clinics has led to the development of many innovative practices, including a partnership with three community pharmacies to help provide BP monitoring. When a patient has an elevated BP, based on Healthcare Effectiveness Data and Information Set (HEDIS) guidelines, recorded in the electronic medical record (EMR), a "best practice alert" to take a second BP reading is issued 5 minutes later. If the second reading is also elevated, the physician is provided an order to sign if they would like the patient to see a pharmacist for follow-up. Patients are offered the opportunity to see a PCMH-based clinical pharmacist at the clinic or to see a pharmacist at one of the community pharmacies, depending on preference. The community pharmacies have purchased the BpTRU monitor to ensure the most accurate BP reading possible.

Five pharmacists from three different community pharmacy sites have been trained by our PCMH pharmacy team and provide this service to our patients. Additionally, the community pharmacists have access to our EMR to allow for easy documentation and communication with the provider. The

community pharmacists are able to make dosing and monitoring recommendations through their documentation and pending orders for provider review. Thus far, this program has been successful with approximately 1,000 unique patients seen with over 2,000 visits, and a 92% acceptance rate of therapeutic recommendations by the provider.

Another innovative practice utilizes an interactive voice response (IVR) system or text messaging service to help with home BP monitoring. Pharmacists enroll patients into the IVR or text messaging system which can be set to call/text the patient on specific days and times, based on patient preference. During these call/texts, patients are asked to enter in their most recent BP values and are asked about adherence with their antihypertensive regimen. When a patient enters their BP values, they are populated within the EMR and trigger an alert if the readings are too high or low, as previously set by the clinical pharmacy team. This alert is sent directly to the pharmacist's in-basket within the EMR, which prompts the pharmacist to reach out to the patient. Full analysis of this practice is being completed but a sampling of the data showed that of 936 calls made to patients, there was a 52% call completion rate for patients. The addition of text messaging is a new process that will help patient engagement in this practice.

Key Lessons Learned

- Standardization of workflow is important for scaling clinical pharmacy programs.
- Build administrative time into pharmacists' schedules for documentation and necessary follow-up with providers, pharmacies, and other care team members.
- Aligning pharmacists' services with institutional priorities helps foster leadership engagement and support.

References

1. Choe HM, Farris K, Stevenson J, et al. Patient centered medical home: developing, expanding and sustaining roles for pharmacists. *Am J Health-Syst Pharm.* 2012;69:1063-71.
2. Ashjian EJ, Yoo A, Piette J, et al. Implementation and barriers to uptake of interactive voice response technology aimed to improve blood pressure control at a large academic medical center. *J Am Pharm Assoc.* 2019;59:S104-9.

The Ohio State University General Internal Medicine Clinics COLUMBUS, OH

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Practice Site Details	
DETAIL	SITE INFORMATION
Practice setting type	Health-system general internal medicine clinics
Value-based model type	Network of 6 PCMHs within an ACO
Number of pharmacists	6.5 FTE
Number of clinics/patients covered by pharmacists	6 clinics with more than 75,000 patient lives
Funding model of pharmacists (salaried, contracted, leased, other)	Salaried employees of the practices (5.3 FTE) Shared-faculty pharmacists (1.2 FTE)
Delivery mode for patient visits	Face-to-face, telephone, secure patient portal, and video visits
Average duration of pharmacist visit	5-60 minutes
Collaborative practice agreement in place	Yes; CPAs for diabetes, hypertension and smoking cessation currently. Have ability to order/change medications, order labs, place referrals, etc.
Billing codes used	<ul style="list-style-type: none"> ■ Incident-to (99211) for comprehensive medication reviews or disease management visits ■ Transitional Care Management codes (99495, 99496) billed by provider, and includes pharmacist and other healthcare professional involvement ■ MTM codes (99605-607) for several private insurers ■ OutcomesMTM claims

Background

The Ohio State University General Internal Medicine Clinics (OSUGIM) are a network of six National Committee for Quality Assurance tier-3 patient-centered medical homes (PCMH) affiliated with a large academic medical center and a part of a CMS shared savings program accountable care organization (ACO). A total of 59 attending physicians, more than 100 medical residents, nine pharmacists (comprising 6.5 FTE), two pharmacy residents, 20 nurse practitioners, 27 nurses, nine social workers, and medical assistants collaborate to provide care for more than 75,000 patients.

The pharmacist practice model was created in 2006, when one shared-faculty member started providing patient care services and education to medical residents two half days per week in one clinic. Over time, the clinics started to embed additional shared-faculty members leading to the implementation of innovative practice models for chronic disease state management, population health management, and transitional care management. Due to the demonstrated value of the embedded pharmacists, the PCMH network began hiring pharmacists fully in 2015.

As reimbursement shifted toward value-based payment models, a group of practice leaders, which included clinic administration, clinic lead physicians, and the network's lead pharmacist, started to examine which healthcare providers and personnel were necessary to build efficient, successful primary care teams. When thinking about allocation of resources, the group commonly referred to a publication by Patel, et al which summarized successful PCMH administrators' recommendations for PCMH staffing infrastructure.¹ This led OSUGIM to invest in a care delivery model with one pharmacist per five clinical full time equivalents of primary care physicians.

The Model: How it Works

Currently, OSUGIM pharmacists provide a variety of primary care services for complex

patients. Pharmacists provide a hybrid of scheduled and on-demand patient care. Additionally, each pharmacist provides population health management using patient registries and EMR-reporting capabilities. Each clinic has a pharmacist schedule template that is used to schedule patients to see a pharmacist for an office visit. In between scheduled patient visits, OSUGIM pharmacists also see patients on demand, at the request of another provider during that provider's office visit, and contact patients via telephone or secure patient portal to provide additional care. Within this model, medical assistants are used to support scheduling and rooming patients. There are plans to hire a pharmacy technician for support.

OSUGIM pharmacists are providing chronic disease state management, transitional care management, population health management, and polypharmacy care with a focus on deprescribing. Patients needing pharmacist-provided care are identified through referral from another provider, pharmacist-initiated contact, and EMR-generated reports/data analytics. Regarding pharmacist-initiated contact, pharmacists screen the daily clinic schedule to identify patients who could benefit from pharmacist management based on their hemoglobin A1C, blood pressure, estimated glomerular filtration rate, and medication lists.

Chronic Disease Management

OSUGIM pharmacists provide chronic disease management through use of collaborative practice agreements (CPAs) in accordance with state laws and institutional regulations. These CPAs allow OSUGIM pharmacists to initiate, titrate and discontinue medications and order and interpret lab tests for medication monitoring. Currently at OSUGIM, diabetes, hypertension, and smoking cessation CPAs are utilized. Patients are referred for management by a pharmacist through use of warm hand-offs by another provider in clinic and through use of EMR-generated reports used to identify patients with poorly controlled disease states.

Care is provided through a combination of office visits, telephone contact and secure patient portal messaging. Outcomes are tracked for individual patients and contribute to quality metric tracking for value-based contracts.

Transitional Care Management

OSUGIM pharmacists started providing transitional care management (TCM) in January of 2013 when the Centers for Medicare and Medicaid Services (CMS) released the TCM-specific billing codes. These current procedural terminology (CPT) codes require a patient be contacted by a licensed clinical staff member within 2 business days of discharge from an acute care setting and to have a face-to-face visit with a physician within 7 to 14 days. After the face-to-face visit, the physician can bill the TCM codes, which reimburse at a higher rate than a typical level 4 or 5 physician office visit.²

Initially, TCM occurred as a result of the patient's primary care provider (PCP) requesting a pharmacist contact the patient for TCM because the PCP felt the patient was at high risk for readmission. As the OSUGIM pharmacy team grew and payment shifted to a value-based model, OSUGIM clinics refined the TCM workflow to reach a larger number of patients during this high-risk period. To do this, EMR-generated reports were created to identify all patients discharged from an OSU medical center or emergency department (ED). An EMR-generated readmission risk score was included on the reports and used to risk-stratify patients for pharmacist or nurse outreach. Currently, pharmacists contact patients at highest risk for readmission and nurse care coordinators reach out to patients at moderate risk for readmission.

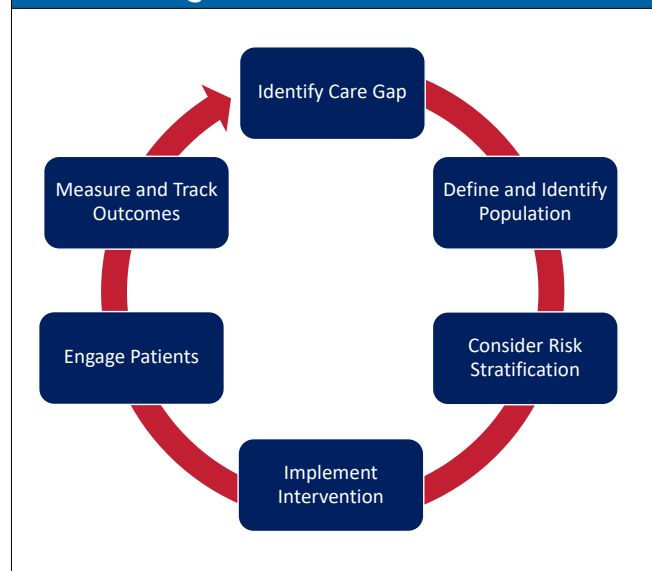
OSUGIM pharmacists and nurses complete 700 to 800 TCM outreaches per month on average, with ~25% completed by a pharmacist and 75% completed by a nurse care coordinator. TCM call times vary, commonly taking 5 to 20 minutes per call. Initial analysis of TCM

outreach effectiveness compared the rate of hospital readmission and ED visits within 30 days in patients contacted by a pharmacist for TCM compared to patients that did not receive TCM. This analysis showed 20% fewer readmissions and 53% fewer ED visits within 30 days of initial admission for the highest risk patient group. This data is used to support the necessity of a high performing pharmacy team.

Population Health Management

OSUGIM pharmacists started providing population health management in 2010 by using systematic, targeted interventions to improve outcomes associated with chronic disease management, preventive health, and high-risk medications.³⁻⁶ To provide population health management, OSUGIM pharmacists follow the workflow shown in Figure 1.

Figure 1. OSUGIM Pharmacist Population Health Management Workflow



Care gaps are identified by providers or pharmacists during routine patient care or through use of data analytics identifying areas where disease state or healthcare utilization outcomes could be improved. The patient population is then defined, typically by a specific demographic, disease state or

high-risk medication. Patients in the population are identified through use of EMR reporting capabilities. A data analytics staff is shared between the entire division of General Internal Medicine, who provides support for identifying these patient populations.

Once patients are identified, risk stratification may be completed to identify the portion of the population that would benefit most from an intervention and ensure that the intervention can be completed with available resources. Once the patients are identified and risk stratification is considered, proactive, targeted, evidence-based interventions are implemented to improve outcomes. Interventions are most successful when pharmacists engage patients in informed decision-making regarding changes to medication therapy or recommended medical care. Finally, outcomes are measured and tracked within the EMR and the process is analyzed for quality improvement.

Polypharmacy and De-prescribing

OSUGIM pharmacists play a key role in polypharmacy management through comprehensive medication reviews. Medication reviews occur through scheduled pharmacist visits, scheduled team-based visits with a provider and pharmacist, and also on demand during other provider visits. Comprehensive medication reviews can be requested by another provider or initiated by the pharmacist reviewing clinic patient schedules and identifying patients who could benefit from the service. Pharmacists also use medication therapy management platforms to provide and bill comprehensive medication reviews.

Sustainability and Outcomes

Since inception, OSUGIM pharmacists have worked to financially justify the pharmacist-provided care in a fee for service system through use of incident-to and OutcomesMTM billing. Additionally, pharmacists supplement

low levels of fee for service reimbursement by showing time savings and improved accessibility for other providers and improving clinical outcomes and medication safety. In January of 2013, CMS released the TCM billing codes described above and OSUGIM pharmacists sought the opportunity to take responsibility for TCM to further justify the pharmacist-provided care. Because these TCM codes result in higher payment than a typical level 4 or 5 physician office visit, the supplemental amount, meant to support the TCM happening between hospital discharge and hospital follow-up visit, can be attributed to the work of the pharmacist completing that work.

Currently, each of the OSUGIM clinics is enrolled in the CMS alternative payment model, Comprehensive Primary Care Plus (CPC+), Ohio Medicaid's Comprehensive Primary Care (CPC) program, the CMS Million Hearts Initiative, and several other shared-cost savings payment models with private payers.⁷⁻⁹ OSUGIM pharmacists provide care that contributes to achievement of quality metrics resulting in performance-based incentive payments and care management fees. Impact on quality metrics is tracked so the value of the pharmacist can be assessed and communicated. To do this, OSUGIM pharmacists have transitioned to documenting in EMR documentation formats that contribute to tracking quality metrics and can be integrated into reports for quick analysis of outreach volume.

OSUGIM pharmacists work to track improvement in mean A1C, percentage of patients with A1C >9% and percentage of patients with BP <140/90. Additionally, pharmacists track the percentage of TCM outreaches completed per patients discharged from an OSU facility and track the improvement in ASCVD risk scores for high risk primary prevention cardiovascular patients enrolled in the Million Hearts Cardiovascular Disease Risk Reduction Model.

Innovations/Future Plans

Future plans focus on expanding chronic disease management through collaborative practice. We are working to identify models of care that allow pharmacists to function as the chronic disease care provider and increase access to our physician providers for higher acuity care while also achieving better health outcomes for our patients. We are also exploring the creation of collaborative practice agreements for management of depression and anxiety.

Key Lessons Learned

- Pharmacist accessibility and visibility in the clinic is imperative. Shared working spaces facilitate collaboration.
- Working closely with other members of the healthcare team results in mutual trust.
- Use of clear, concise, and timely communication with the healthcare team maximizes the efficiency and impact of patient care that can be provided by a pharmacist.
- Understanding and sharing in the practice's care goals helps to establish and expand pharmacy practice in a PCMH or ACO. By working toward shared goals, the pharmacist becomes an indispensable part of the healthcare team.
- Creating a sustainable practice model allows for expansion of the pharmacy team and pharmacist scope of practice.
- Flexibility and adaptability are crucial for optimizing opportunities for pharmacist-provided care in an ever-changing healthcare environment.

References

1. Patel MS, Arron MJ, Sinsky TA, et al. Estimating the staffing infrastructure for a patient-centered medical home. *Am J Manag Care*. 2013;19:509-16.
2. Centers for Medicare and Medicaid Services. MLN Fact Sheet: Transitional care management services. January 2019. Available at: <https://www.cms.gov/outreach-and-education/medicare-learning-network-mln/mlnproducts/downloads/transitional-care-management-services-fact-sheet-icn908628.pdf>. Accessed June 7, 2019.
3. Otsuka SH, Tayal NH, Porter K, et al. Improving herpes zoster vaccination rates through use of a clinical pharmacist and a personal health record. *Am J Med*. 2013;126:832 e 1-6.
4. Barnes KD, Tayal NH, Lehman AM, Beatty SJ. Pharmacist-driven renal medication dosing intervention in primary care patient-centered medical home. *Pharmacotherapy*. 2014;34:1330-5.
5. Matthews DE, Beatty SJ, Grever GM, et al. Comparison of 2 population health management approaches to increase vitamin B12 monitoring in patients taking metformin. *Ann Pharmacother*. 2016;50:840-6.
6. Coffey CP, Barnette DJ, Wenzke JT, et al. Implementing a systematic approach to deprescribing proton pump inhibitor therapy in older adults. *Sr Care Pharm*. 2019;34:47-55.
7. Centers for Medicare and Medicaid Services. Comprehensive Primary Care Plus. Available at: <https://innovation.cms.gov/initiatives/comprehensive-primary-care-plus/>. Accessed June 7, 2019.
8. Ohio Department of Medicaid. Comprehensive Primary Care Program. Available at: <https://www.medicaid.ohio.gov/Provider/PaymentInnovation/CPC>. Accessed June 7, 2019.
9. Centers for Medicare and Medicaid. Million Hearts Cardiovascular Disease Risk Reduction Model. <https://innovation.cms.gov/initiatives/Million-Hearts-CVDRRM/>. Accessed June 7, 2019.

Park Nicollet Health Services

MINNEAPOLIS, MN

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Practice Site Details	
DETAIL	SITE INFORMATION
Practice setting type	Integrated Delivery Network
Value-based model type	ACO and PCMH
Number of pharmacists	10 (9.1 FTE)
Number of clinics/patients covered by pharmacists	15 clinics; 13 primary care, 1 chronic pain management, 1 infectious disease.
Funding model of pharmacists	Pharmacists are salaried through the health-system.
Delivery mode for patient visits	face-to-face (67%), and telephonic (33%)
Average duration of pharmacist visit	New visits 60 minutes, Follow-up visits 30 minutes
Collaborative practice agreement in place	Yes—allows for the pharmacist to stop, start, and modify medication therapy and order labs for 13 conditions
Billing codes used	99605, 99606, and 99607 only

Background

Park Nicollet is an integrated care system, based in Minneapolis, Minnesota and the surrounding suburbs. It is part of the HealthPartners family of care and includes Park Nicollet Methodist Hospital, Park Nicollet Primary Care and Specialty Clinics. Park Nicollet Health Services has participated in value-based contracting with most Minnesota Commercial Payers since 2011 and began participating in the Center for Medicare and Medicaid Service Pioneer Accountable Care Organization (ACO) Program in 2011, which evolved to the Next Generation ACO program in 2016. Concurrent with its ACO development, Park Nicollet began adopting the patient-centered medical home (PCMH) model in its primary care practices. Park Nicollet Health Services employs many pharmacists throughout the health-system in a variety of both traditional and innovative roles.

In 2011, as part of that PCMH transition, pharmacy leadership conceptualized a program that would integrate pharmacists into primary care practices as medication specialists. The medication management (MTM) department began in 2011, starting with two primary care sites and three (2.2 FTE) pharmacists, growing steadily over the years. In 2019, Park Nicollet employed 10 MTM pharmacists (9.1 FTE), one PGY1 pharmacist resident (1.0 FTE), one non-pharmacist patient outreach coordinator (1.0 FTE), and one pharmacist leader (1.0 FTE). MTM pharmacists are embedded in the care teams at 13 primary care sites (65%) and 2 specialty sites: Pain Management and Infectious Disease/HIV.

The Model: How it Works

MTM pharmacists practice alongside their PCMH care team members. These teams typically include physicians, advance practice clinicians, an MTM pharmacist, registered nurse care coordinators, a social worker care

coordinator, certified medical assistants, panel managers, front desk staff and RN triage.

The primary focus of the MTM pharmacists is direct patient care through the delivery of comprehensive medication management (CMM) services. This patient-centered service ensures that an individual patient's medications are indicated, effective, safe and convenient. In this context, pharmacists provide disease management services while practicing under a broad collaborative practice agreement (CPA) that is approved system-wide through primary care and several specialty lines.

The CPA includes disease-specific clinical frameworks for the management of asthma, benzodiazepine taper, COPD, diabetes, HIV and HIV pre-exposure prophylaxis, hypertension, hypothyroidism, lipid management, naloxone, opioid taper, therapeutic interchange, and tobacco cessation. Pharmacists also participate in population healthcare conferences, quality improvement projects, clinic initiatives, or health-system workgroups to improve medication utilization and related healthcare quality goals.

"Having the MTM pharmacist in the clinic with personal relationships to patients and clinicians makes their input much more valuable than a letter from a health plan. A strong [internal] MTM program has the ability to take over some of the potentially duplicative or costly work done by health plans in a more integrated, clinically relevant way. I can no longer imagine practicing without our healthcare home teams, and our medication management pharmacist is a crucial member," remarked Bernt Helgaas, MD, Med/Peds Maple Grove Clinic Medical Director.

The MTM department is able to utilize primary care department support staff and system resources. The front desk teams check-in arriving patients or schedule CMM follow-up visits, and the central call center schedules appointments for CMM. Certified medical assistants are available to administer

immunizations if needed. In addition to scheduling appointments from the internal referral queue, the medication management patient outreach coordinator is dedicated to special populations and proactive ACO engagement strategies.

MTM leadership works closely with the ACO/Population Health department to review stratified patients and develop a strategy for MTM pharmacists to contribute to patient clinical and financial outcomes. MTM leadership collaborates with the Clinical Quality Improvement department to optimize quality goals that are impacted by medication utilization.

Patients engage with medication management services in several ways. The MTM department receives an average of 385 internal referrals each month. Patients may be specifically referred by their Park Nicollet primary care or specialty clinicians. Often these referrals are for a comprehensive medication review or disease management services. Additionally, patients may be identified through clinic specific initiatives. Park Nicollet also has partnerships with several externally owned Skilled Nursing Facilities (SNFs). When patients transition back to independent living after a transitional care unit stay, these SNFs will refer Park Nicollet-attributed patients for a care transitions CMM consultation. Community and hospital pharmacist colleagues may also refer patients they identify into medication management services.

In some cases, patients are proactively identified for CMM services. These patients are then invited to participate by the MTM department outreach coordinator. With ACO and population health initiatives, internal colleagues may risk-stratify populations using a number of different data points and identify patients appropriate for CMM and other interventions. For example, all patients in the End Stage Renal Disease sub-group of

the CMS ACO are referred for CMM services. The MTM department may also have separate CMM patient engagement goals specific to payer-identified patients. In 2019, the MTM department was working with four different payers.

The MTM department has been able to access the health-system's informatics and technology resources. Generally, measures and metrics for the MTM department are intentionally aligned with the Triple Aim. Pharmacists have full access to the electronic medical record (EMR). An EMR security template was created for MTM pharmacists to differentiate scope of practice and authorize certain activities apart from other PCMH team members. MTM pharmacists maintain a unique schedule in the EMR. Pharmacist utilization and patient access to pharmacist care is measured through slot utilization reports. Patient visits are correlated to the pharmacist and their National Provider Identifier (NPI) number. MTM CPT Codes (99605, 99606, 99607) are the only codes utilized by the pharmacists to allow for capture of the unique patient care service provided only by pharmacists. Patient level data and metrics from pharmacist visits are captured through Epic using SmartData elements, SmartForms, unique pharmacist departments, and visit types. An annual patient satisfaction survey is deployed through the organization's research institute each year for each pharmacist.

"Every aspect of the Park Nicollet care delivery system, from hospitalist services, to specialty services, to primary care services, is benefiting from medication optimization through Medication Management Pharmacy Services. Especially, this is a tremendous service to our patients, who benefit very directly from addressing barriers to medication adherence," observed Thomas Martens, MD, Internal Medicine Brooklyn Park Clinic and Primary Care Diabetes Quality Medical Director.

Sustainability and Outcomes

MTM pharmacists receive a salary through the pharmacy department and are credentialed in the health-system and enrolled as providers with eligible payers. When possible, CMM visits are billed using MTM CPT codes; however, only approximately 20% of CMM visits qualify for fee-for-service reimbursement. Leadership understands that the MTM department operates “in the red” each year based on direct reimbursement and recognizes the CMM service as a core component to our bundled services that contribute to success in improving healthcare quality and reducing total cost of care in value-based contracts. When considering the numerous alternative contracting methods with payers, all of which transcend fee-for-service reimbursement, medication management services, unless contractually specified, are considered a covered benefit for patients in the Park Nicollet system.

The MTM department strives to demonstrate optimal utilization of the pharmacists and alignment of services to system quality and financial goals. Average performance on monthly system utilization measures include:

- 385 internal referrals
- 93% average patient care slot utilization, demonstrating full pharmacist schedules
- 827 Comprehensive Medication Management encounters
- 498 unique patients
- 1,260 Medication Therapy Problems identified and 76% considered resolved

Pharmacist work aligned with quality goals:

- Medication Therapy Problems identified for conditions aligned with quality goals: (total % of total MTPs)
 1. Hypertension (2,914) 18%
 2. Diabetes (2,375) 15%
 3. Pain Control (2,157) 14%

4. Hyperlipidemia (885) 6%
5. Antithrombics (766) 5%
6. Tobacco Use (399) + Asthma (340) + COPD (281) 7%

Work with five priority patient populations in 2018 with shared goals with health plans:

- Total patients provided proactive CMM outreach: 1,601
- Priority population CMM engagement rates: 31% to 89%
- Achievement of Pay for Performance Contracts for CMM engagement rates (e.g., CMR Completion Rate)

Park Nicollet Health Services has long demonstrated financial success in quality-based pay for performance contracts. Park Nicollet Health Services is consistently a top performer in Minnesota Healthcare Quality as measured in the state mandated reporting Minnesota Health Scores. Park Nicollet Health Services is also nationally recognized as succeeding in ACO/ Value & Risk based contracting. In both the CMS Next Generation ACO Model site and in Becker’s Hospital Review, 2019 ACOs to Know, Park Nicollet is recognized for innovation and financial success.

In the team-based PCMH care model at Park Nicollet, there is pride in knowing that everyone is contributing to the financial success of the organization. While it is directly difficult to link any of the financial success specifically to the contributions of the MTM pharmacists, there is a belief that implementing risk stratification strategies to determine which patients will most benefit from pharmacists’ services is a successful strategy. One unpublished internal analysis of medication management services has suggested a Total Cost of Care reduction of up to 27% in high-risk populations, mainly through reduction of inpatient stays and utilization of high-cost medical care.

Innovations/Future Plans

Park Nicollet has been conservative in recent years with respect to growth of the MTM department. While pharmacists have experienced success with PCMH teams, quality measures, and ACO models, there are other forces contributing to a volatile healthcare environment. Mergers, acquisitions, and moving payment models inhibit investment in resources without a direct reimbursement model. Opportunity exists to continue to refine risk stratification models and proactively identify and engage high-risk populations appropriate for CMM services. Demand is exceeding supply of CMM services at Park Nicollet. There is opportunity to expand in both primary care and specialty services lines. In July 2019, the Park Nicollet MTM program became more formally aligned with the HealthPartners health plan.

Key Lessons Learned

- Pharmacists must define and differentiate their service so that it is complementary in the PCMH team and maintain consistency across the program.
- Invest in informatics that efficiently capture necessary data elements without external platforms and double documenting.
- Identify areas where CMM can truly be effective in preventing future risk and risk stratify patients to identify those most likely to benefit from services.
- While the program should align with broader system goals, each practice should be flexible and encourage innovation to address its unique needs.



Pharmacists must define and differentiate their service so that it is complementary in the PCMH team and maintain consistency across the program.

Providence St. Joseph Heritage Healthcare

FULLERTON, CA

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Practice Site Details	
DETAIL	SITE INFORMATION
Practice setting type	Medical group
Value-based model type	ACO/PCMH
Number of pharmacists	12 pharmacists; 2 are 0.2 FTE, 4 are 0.8 FTE, and 6 are 1.0 FTE
Number of clinics/patients covered by pharmacists	22 clinics with Medical Group plus Affiliated Physicians (we do not have the exact number for this)
Funding model of pharmacists (salaried, contracted, leased, other)	Salaried, contracted, co-funded
Delivery mode for patient visits	Face-to-face, telephonic, telehealth
Average duration of pharmacist visit	60 minutes initial visit, 30 minutes follow-up visit, 20 minutes telephonic visits
Collaborative practice agreement in place	Yes. Duties delegated: <ul style="list-style-type: none"> ■ Order, initiate, modify, discontinue medications ■ Provide refills ■ Order and interpret labs ■ Refer to other providers
Billing codes used	Not currently used

Background

Founded in 1994, St. Joseph Heritage Healthcare (which recently became a part of Providence health-system) is an Accountable Care Organization (ACO) with over 900 medical group providers and approximately 175 clinics. St. Jude Heritage Medical Group (SJHMG) located in Fullerton, CA is part of Providence St. Joseph Heritage Healthcare and one of the eight medical groups in California. In 2017, SJHMG began piloting a team-based care model that consisted of six primary care physicians (PCPs), one nurse practitioner, one registered nurse, and one case manager. Because most team-based care programs include pharmacy services¹, the initial lack of a pharmacist on the team created a good opportunity for a partnership between Chapman University School of Pharmacy and Providence St. Joseph Heritage Healthcare. This partnership provided one clinical pharmacist faculty member from Chapman University School of Pharmacy to be on site at the clinic two days each week. The pharmacist's goal was to develop a pharmacist-run, collaborative practice agreement (CPA) facilitated, disease state management (DSM) program within the physician office practice at SJHMG.

After meeting with the administration, the clinical pharmacist met with the physician lead for team-based care at SJHMG to discuss the focus and the purpose of the DSM program. Additionally, the pharmacist also met with all the healthcare providers at the site to present information about the clinical pharmacy services to be provided at the site, why there is a need for the services, how to refer patients to the pharmacist, and relevant laws governing clinical pharmacy practice in California.

The Model: How it Works

The primary focus of the initial DSM program was to help PCPs at the practice site with outcome measures such as hemoglobin A1C and blood pressure levels. The CPA was written

for the management of comprehensive type 2 diabetes (excluding gestational diabetes mellitus), hypertension, and dyslipidemia. The physician could refer a patient with any of these three disease states; however, a comprehensive diabetes referral automatically included management of dyslipidemia and/or hypertension if the pharmacist felt it was clinically appropriate. Under the CPA, the pharmacist is able to autonomously prescribe medications (i.e., initiate, modify, discontinue), order and interpret labs, provide refills, refer to other providers, and perform foot exams in addition to providing education about the patient's chronic condition for patients referred to the program.

Initially, there was no formal referral system built into the EMR. The physician lead referred many of his patients to the clinical pharmacist via task messages, but other physicians did not refer many patients at the beginning of the program. To help generate referrals, the pharmacist attended huddles (5 to 10-minute meetings with all providers at the site) during which the pharmacist reminded the physicians about the DSM program and answered any questions they had about the program. Additionally, the clinical pharmacist was provided with reports which included patients with hemoglobin A1C values $\geq 7\%$ and would reach out to those patients' provider for a referral. This helped increase the number of referrals as the providers were generally willing to refer their patients to the DSM program.

Patients who were referred to DSM were seen in-office for a 60-minute initial visit and 30-minute follow-up visits. The pharmacist also delivered services to some patients via phone or via a patient portal built within the EMR.

During the first 6-months of the program, the pharmacist received 73 new referrals. Interventions were documented manually in an Excel sheet. With the help of Providence St. Joseph's ACO partner, Blue Shield, the cost savings component was attributed to

each intervention. Cost savings produced by interventions were estimated based on a study of the clinical and economic outcomes associated with pharmacist recommendations that was performed at a VA Medical Center.²

The data from the first 6 months of the program made a compelling case for the value of the pharmacist, and the administration supported streamlining the referral process. The clinical pharmacist was onboarded in the EMR as a mid-level provider and had their own schedule. The pharmacist also obtained a California Advanced Practice Pharmacist license. Onboarding a pharmacist as a mid-level provider for the first time within a healthcare system redesigns workflow for many parties. Thus, a great deal of communication was needed so that the IT department, administration, and other providers understood the role of the clinical pharmacist within the organization. Challenges that needed to be addressed included educating office staff regarding how to schedule patients for the pharmacist, building the referral system into the EMR, and a lack of support staff to room patients for the pharmacist.

In mid-2018, additional partnerships formed between Chapman University School of Pharmacy and Providence St. Joseph Heritage Healthcare to bring additional clinical faculty to other sites within the healthcare organization. Furthermore, with the help of a grant provided by Providence St. Joseph's ACO partner, Blue Shield, pharmacists have also been hired by Providence St. Joseph Heritage Healthcare. A formal pharmacy department has been formed by the Associate Vice President of Care Management who hired a pharmacy supervisor and created a CARE Rx (Clinical Advocacy and Reducing Expenses with Pharmacy) Ambulatory Clinical Pharmacy team, which includes the Chapman University faculty. This has helped resolve many of the issues we had in the beginning as the pharmacy supervisor has presence throughout the health-system

and can educate other parties about the role of pharmacists and pharmacy services within the organization.

Other changes that resulted from the expansion of the pharmacist's role are the creation of a formal referral system in the EMR which the PCPs can utilize to refer patients to the pharmacist, the addition of a dedicated pharmacy technician who helps with scheduling for the pharmacy department, and the creation of an interventions tracker within the pharmacy encounter template in the EMR. Currently, at each patient encounter, pharmacists document the type of visit (e.g., face-to-face, phone), the primary reason for the visit, time spent with the patient, and our interventions. Some of the interventions built into the EMR for the pharmacists' use include:

- Medication Reconciliation
- Increase dose of medication
- Decrease dose of medication
- Start new medication
- Discontinue medication
- Therapeutic interchange
- Referral to other service
- Prevent/manage ADE
- Lab/test needed for medication
- Lab/test needed for disease
- Drug-Drug/Drug-Disease Interaction
- Disease State Education Completed
- Medication Education Completed
- Schedule Appointment with PCP
- Schedule Appointment with Other

Pharmacists autonomously manage patients under the CPA, (e.g., initiate medications, order labs) and route their note from the visit to the referring physician within 24 hours.

Sustainability and Outcomes

The pharmacy department does not bill for services. The pharmacists are funded through three models: 1. Chapman School of Pharmacy faculty who practice 2 days per week and are fully funded by the University, 2. clinical faculty from Chapman School of Pharmacy who practice 4 days per week and are co-funded by St. Joseph Heritage through a Blue Shield grant for the first 2 years and also by the University, and 3. clinical pharmacists who practice 5 days a week who are funded by Providence St. Joseph Heritage through a Blue Shield and SCAN grant for the first 2 years. We currently also have one pharmacy technician coordinator funded by Blue Shield and SCAN money; we are hoping to hire 2 more. After the 2-year grant, the program will continue to be supported by Providence St. Joseph Heritage.

Because some of the pharmacist program is funded by Blue Shield and SCAN grant monies, there is a focus on population health management for full-risk ACO patients. Interventions are performed by clinical pharmacists who see patients in clinic and have telephonic visits for disease management. Additionally, through the grant monies, we have also been able to hire one refill center pharmacist to oversee our refill center department as well as one managed care pharmacist. As our focus is on improvement of quality metrics and containing medication costs, we do not bill for our services in the current state but aim to do so in the future. Hemoglobin A1C outcomes, adherence, therapeutic interchange, cost assistance, medication reconciliation and education are some of the key areas we are targeting currently. Specific metrics that are evaluated include statin adherence, A1C values, blood pressure, ensuring a yearly albuminuria and eye exam for patients with diabetes, and ensuring that patients with albuminuria receive treatment with an ACEI or ARB.

Associate Vice President, Joyce Komori, RN, MSN, states “the evolution of the CARE Rx program and rebuilding the support infrastructure with EMR enhancements has already shown an improvement in patient care and clinical outcomes. The CARE Rx team is foundational to the disease management strategies we are deploying at our organization and we are proud of the partnership we have with Chapman University faculty who bring current, evidence-based clinical discipline to our patient care.”

Innovations/Future Plans

We aim to continue to expand awareness throughout the organization about the pharmacy services and their value to develop support for service expansion. Our goal is to expand our disease management programs to include heart failure, COPD, asthma, and perhaps build residency programs.

We will be hiring a post discharge pharmacist to help us with medication reconciliation for our patients. We are starting to use telehealth in some of our clinics and hope to expand the use of this service. Additionally, we have a total of 11 primary care sites in Northern California that we will start to support.

Key Lessons Learned

- Collaboration is key.
- Administration support and physician buy-in to pharmacy services are extremely important both during implementation and throughout ongoing operations.
- Healthcare providers at each site that has pharmacy presence need to be educated on the pharmacist’s role and scope of practice. Regular team meetings or “huddles” are helpful for providing and reinforcing this information.

- Support staff and administrative personnel who are dedicated to supporting the pharmacist are important to support a growing and successful practice.
- Pharmacists who demonstrate improvements on quality metrics can use this information to demonstrate their value and encourage decision makers to embed them in clinical practice sites.

References

1. Schottenfeld L, Petersen D, Peikes D, et al. *Creating Patient-Centered Team-Based Primary Care*. AHRQ Pub. No. 16-0002-EF. Rockville, MD: Agency for Healthcare Research and Quality. March 2016.
2. Lee AJ, Boro MS, Knapp KK, et al. Clinical and economical outcomes of pharmacist recommendations in a Veterans Affairs medical center. *Am J Health-Syst Pharm*. 2002;59:2070-7.



Healthcare providers at each site that has pharmacy presence need to be educated on the pharmacist's role and scope of practice. Regular team meetings or “huddles” are helpful for providing and reinforcing this information.

Think Whole Person Healthcare

OMAHA, NEBRASKA

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Practice Site Details	
DETAIL	SITE INFORMATION
Practice setting type	Primary care center, community pharmacy
Value-based model type	ACO
Number of pharmacists	9 community, 9 clinical (18 FTEs)
Number of clinics/patients covered by pharmacists	Approximately 40,000 patients in this single clinic
Funding model of pharmacists (salaried, contracted, leased, other)	Pharmacists are salaried
Delivery mode for patient visits	Face-to-face; telephone
Average duration of pharmacist visit	15 minutes for anticoagulation visits 30 minutes for transitions of care visits 15-60 minutes for other pharmacy visits pending reason
Collaborative practice agreement in place	Yes—allows for pharmacists to initiate, modify, and discontinue therapy, authorize refills, and order PT/INR for point-of-care testing
Billing codes used	99211—used for anticoagulation visits with INR out of range MTM billing through Outcomes MTM and Mirixa Billing through Medwise (Tabula Rasa) for the Enhanced MTM program Physician billed, with pharmacist collaboration for Transitional Care Management: 99495/99496, 1111F for medication-reconciliation post-discharge, chronic care management codes

Background

Think Whole Person Healthcare (Think) is a large, independent, primary care center in Omaha, Nebraska, that opened in July 2015 and serves over 40,000 patients in the Metro area. Think is an Accountable Care Organization (ACO) with multiple payers since 2016, and with a Medicare Advantage Plan since 2019. Think is also a Track 2 site for Comprehensive Primary Care Plus (CPC+) since January of 2018. Think opened as a partnership with several primary care provider investors along with backing from BCBSNE.

Think uses a team approach, including coordination of care with physicians, pharmacists, care coordinators, nurses, and various specialist services. These in-house services include dentistry, mental health, optometry, physical therapy, diabetes education, and podiatry along with onsite labs, x-ray, CT, mammography, ultrasound, and DEXA scans. Think also has an onsite urgent care and pharmacy with extended hours for patients. Think physicians and clinicians see over 2,500 patients weekly, with a mission to provide better outcomes for patients, give them an enhanced health experience and to lower the cost of care by treating the whole person. Think utilizes Allscripts EHR as an electronic health record and QS1 for the on-site community pharmacy.

Upon opening in 2015, Think committed the initial investment to support the integration of pharmacy services in the clinic. Clinical pathways were developed with interdisciplinary teams in order to facilitate collaborative practice agreements (CPAs) and the impact that pharmacists have in the clinic. As time has elapsed since opening, our pharmacy services continue to grow and develop based on the needs of the clinic population and administration.

The Model: How it Works

Think offers a robust amount of both dispensing and clinical pharmacy services with pharmacists, interns, and technicians working together. There are nine clinical pharmacists and ten technicians assigned to support primary care provider teams. These pharmacists manage panels of patients with their providers and work to optimize medications. When first meeting with patients, the pharmacists identify necessary changes and work on a plan to synchronize chronic medications to be dispensed together and to coordinate compliance packaging when requested. Clinical pharmacy technicians are paired with each clinical pharmacist to assist with refill calls, prior authorization requests, synchronizing, and delivery services. They contact patients via phone, a secure texting platform, or an integrated patient portal per patient request.

Working alongside providers within a CPA, the clinical pharmacists can initiate, modify, change, or discontinue therapies, focusing on chronic disease management, transitions of care, and population health strategies. Patients can be referred for pharmacists' services in several ways, including provider to pharmacist, pharmacist to provider, pharmacist to patient, or patient to pharmacist. Generally, pharmacists target patients with five or more chronic medications or patients who have chronic disease states. Common appointment types that patients are seen for include but are not limited to:

- Anticoagulation monitoring services
- Transition of care visits
- Device teaching
- Comprehensive medication reviews
- Chronic disease follow-ups (e.g., hypertension, diabetes, pain management)

The pharmacy department implements several population health initiatives annually to improve outcomes for the patients and achieve organizational goals. Some projects include increasing statin use in patients with diabetes, chronic kidney disease identification and dose adjustments, and pharmacovigilance for duplications of therapy. The department uses several methods of communication, including a new healthcare texting platform, for patients to communicate with their pharmacists and caregivers in a more efficient and personalized manner for refill reminders, immunization reminders, and chronic disease follow-up. Think is different from many other PCMH and ACO practices as the on-site community pharmacy allows for easy adherence monitoring and cost comparisons.

In the on-site community pharmacy, there are nine pharmacists who are supported by technicians to dispense prescriptions and offer patients delivery and adherence packaging services free of charge. The community pharmacists have access to the electronic health record to support involvement in the care team. Vaccinations that are covered through pharmacy benefits are provided in the pharmacy and vaccinations covered through medical benefits are coordinated with the on-site urgent care clinic. The pharmacy partners with several local businesses to coordinate delivery-to-work services for large companies in the surrounding area. In addition to all the dispensing services, Think's pharmacy also hosts the largest drug takeback initiative in the state of Nebraska.

Sustainability and Outcomes

Sustainability for the pharmacy program has a two-pronged approach. The first prong is through fee-for-service methods, which includes the following strategies:

- Increased dispensing volumes of prescriptions through Think Pharmacy. The onsite dispensing pharmacy is now the highest-volume independent pharmacy in the Midwest.
- MTM claims through platforms such as OutcomesMTM and Mirixa for direct revenue and to improve pharmacy Star Ratings and reduce DIR fees.
- Incident-to physician billing for anticoagulation monitoring appointments using code 99211.
- Contributing to tracked time spent managing patients enrolled in our chronic care management (CCM) program with CCM codes
- Medication reconciliation claims identified by an insurer for patients transitioning care with 1111F and transition of care codes.

The second prong, which we are poised to rely on for long term viability, is the value our pharmacy team brings to the clinic in gain-sharing dollars through our ACO contracts. The practice has seen that when patients work with a clinical pharmacist through Think and use the onsite pharmacy, adherence improves, the price per prescription dispensed is reduced, generic utilization rates increase, and overall healthcare costs as reported to us by claims data from multiple insurers are reduced. As we look to the future, our clinical initiatives are largely targeting improving the cost and quality of care for our high-cost, high-risk patients identified through our ACOs. The clinical pharmacist team also focuses on helping to reduce gaps in care (e.g., statin use in patients with diabetes) for the entire population. Other metrics of focus include statin use in cardiovascular disease, adherence measures for hypertension, hyperlipidemia, and diabetes, medication reconciliation post discharge, A1C control, and more.

Think Whole Person Healthcare

OMAHA, NEBRASKA

Think has a robust analytical team that pulls data from insurance claims, electronic health records, dispensing platforms, and other sources. The pharmacy management team works with the analytical team to design and refine reporting measures to determine the impact the team is making across our various initiatives as well as in our day-to-day work. This has been used to plot refill data, adherence claims for patients, and clinical outcomes.

Innovation/Future Plans

Since opening, the pharmacy department has spearheaded several initiatives, working alongside clinic providers and leadership to identify and execute projects to optimize patient outcomes. One example initiative developed through this process was the decision by Think to have a pharmacist do a face-to-face medication review at the start of every transition of care appointment scheduled for a patient on 5 or more medications.

Think Whole Person Healthcare will continue to put the patient at the center of healthcare and strive to improve primary care services and coordination of care, with support for

incorporating patient care and pharmacy services continuing as the company grows and develops. Think is continuing to grow relationships with providers and specialists in the Omaha area with hopes to expand our impact for patients. The pharmacy team is also continually working to improve tracking and reporting of more clinical outcomes, to both guide future initiatives and to report on changes in biometric markers, increases in adherence, and cost savings that result from pharmacy services.

Key Lessons Learned

- Remaining abreast of healthcare system changes allows pharmacists to recognize emerging opportunities to provide clinical services.
- Be flexible and willing to adapt to changing market conditions.
- Building personal relationships with primary care and specialist provider colleagues is crucial for providing effective patient care.
- Recommendations that are direct, specific, and thorough are more likely to be accepted by other providers.

University of Washington Medicine

SEATTLE, WA

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Practice Site Details	
DETAIL	SITE INFORMATION
Practice setting type	Health-system
Value-based model type	ACO, PCMH
Number of pharmacists	22 (18.4 FTE)
Number of clinics covered by pharmacists	14
Funding model of pharmacists (salaried, contracted, leased, other)	Salaried
Delivery mode for patient visits	Face-to-face, telephonic. Currently exploring telehealth options in our UWNC.
Average duration of pharmacist visit	30 minutes
Collaborative practice agreement in place	Yes; Pharmacists can initiate, modify, and discontinue therapy and order laboratory tests and vaccines
Billing codes used	Pharmacist professional billing (complexity/time) Hospital-Based & Neighborhood Clinic Billing: <ul style="list-style-type: none"> ■ E/M 99201-99205 ■ E/M 99211-99215 Facility billing (Hospital based clinics for Medicare) "Incident to" (UWNC-physician based clinics for Medicare)

Background

The University of Washington (UW) Medicine is a comprehensive, integrated health-system in the Pacific Northwest that provides high quality, ambulatory care for patients at Harborview Medical Center (HMC), Northwest Hospital (NWH), UW Medical Center (UWMC), UW Neighborhood Clinics (UWNC), and Valley Medical Center (VMC). Clinical ambulatory pharmacists are well established in hospital-based primary care and specialty clinics at HMC, UWMC, and VMC. The University of Washington is recognized as a Practice Transformation Network by the Centers for Medicare and Medicaid Services. Additionally, the UW Neighborhood Clinics have received recognition from the National Committee for Quality Assurance as a Level 3 Patient Centered Medical Home.

To address the changing healthcare environment from fee-for-service to value-based care, the UW Medicine Accountable Care Network (UW ACN) was established in 2014 to lead care transformation in the region. The UW ACN delivers a patient-centered approach to healthcare that prioritizes the patient experience, improves the health of the population, and lowers the cost of care. It is composed of 9 health-systems, 20 hospitals, 1,400+ clinics, 1,000+ primary care providers, 5,000+ specialists, and more than 60 independent group practices and care providers throughout the Puget Sound region. UW Medicine provides centralized leadership and administrative support for the ACN, including funding of a centralized population health pharmacist, with member organizations participating in committees focused on strategic initiatives.¹

The UW Medicine ACN Pharmacy Committee was created in 2015 to identify, prioritize, and implement high value prescribing opportunities, provide a forum for pharmacy leadership from UW Medicine ACN

organizations to share best practices and collaborate to achieve medication-related annual goals, and promote the value of clinical pharmacy services to realize success on medication-related quality measures. The UW Medicine ACN pharmacy committee is chaired by the UW Medicine population health pharmacist who develops and coordinates action plans across UW Medicine ACN organizations to optimize medication prescribing. The UW Medicine population health pharmacist also coordinates medication prescribing improvement initiatives, tracks and reports pharmaco-economic trends, and develops and implements drug-use policies under the guidance of the assistant director of pharmacy clinical services, who oversees ambulatory pharmacy practice across UW Medicine.

The Model: How it Works

The UW Medicine population health pharmacist is responsible for the identification of target populations that may benefit from medication management. Target populations primarily focus on those identified in medication related Healthcare Effectiveness Data and Information Set (HEDIS) and Pharmacy Quality Alliance (PQA) measures. Various analytics platforms are used to leverage data, which are both internally generated by the UW Medicine Population Health Analytics (UWPA) team and externally generated by payers. Reports created by the UW Medicine population health pharmacist and UWPA are then shared with the Assistant Director of Pharmacy Clinical Services and the appropriate pharmacy manager to operationalize interventions at the respective ambulatory clinic. Ambulatory clinical pharmacists then collaborate with support staff, care managers, nurses, and providers at individual clinic sites to confirm appropriateness of patient contact and coordinate to meet the care needs of patients identified in reports.

In Washington state, collaborative practice agreements are called collaborative drug therapy agreements (CDTAs). CDTAs are established with clinic leadership to provide pharmacists the authority to act autonomously to manage medication therapy for most chronic disease states. Under CDTAs, pharmacists can initiate, modify, and discontinue therapy as well as order laboratory tests and vaccines. Providers may refer patients to clinic pharmacists identified during clinic visits or via population health reports for focused medication management that meets individual patient care needs. Targeted system-wide initiatives may establish agreed-upon referral criteria to further promote pharmacist co-management for select disease states. Outreach to patients for face-to-face visits with the pharmacist is accomplished by use of e-Care messages in the electronic health record, marketing flyers describing the role of the clinic pharmacist, and formal biographies available on clinic websites. Patient outcomes are tracked via internal quality measure dashboards, with the ability to filter to assess performance by clinic and pharmacist.

UW Medicine is currently conducting a pharmacist-driven hypertension (HTN) management initiative in a pilot UWNC site. The UWNC pharmacist co-manages patients with uncontrolled HTN and medication management needs as identified centrally by the UW Medicine population health pharmacist using pre-specified criteria. The purpose of this grant funded HTN management initiative is to evaluate and justify the value of clinical pharmacy services in helping patients achieve goal blood pressure (BP) and meet quality measure targets. At 6 months, 73% of patients who completed at least one visit with the UWNC pharmacist were able to achieve and sustain target BP goals. "It has been very satisfying to collaborate with our clinical pharmacists on innovations to improve blood pressure control for our patients," remarked

David C. Dugdale, MD, FACP, Medical Director, Hypertension Population Health and Medical Director, Accountable Care.

Patient outcomes for diabetes management also showed positive results. The UWNC pharmacist co-managed 15 patients with a 3- to 6-month hemoglobin A1C follow up, demonstrating an average A1C reduction of 1.0% to date.

In response to the opioid epidemic and regulatory changes, UW Medicine sought to pilot a pharmacist intervention on population opioid use, promoting opioid stewardship and education on opioid taper strategies. A key measure was to determine the change in average morphine milligram equivalent (MME) dose at baseline and after provider-led implementation of pain pharmacist recommended opioid tapering plans for patients with chronic, non-cancer pain. Change in patient pain, function, and satisfaction were also evaluated. After implementation of opioid taper plans across a 6-month period, average MED decreased from 258 to 225 morphine milligram equivalents across the UWNC pilot sites. Patient pain, function and satisfaction did not differ by a significant level between patients who underwent the tapering plan versus those who did not. This pilot provided a preliminary look at the outcomes of pain pharmacist expertise on opioid taper recommendations. However, further exploration utilizing direct pain pharmacist engagement in chronic pain follow-up appointments in a team-based, opioid tapering program is warranted.

Sustainability and Outcomes

Published studies, national guidelines, and internal evaluations are collated and presented to UW Medicine leadership to demonstrate the value of integration of clinical pharmacists on the care team upon exploration of system-wide medication management initiatives.²⁻¹³ Projected revenue generation

and professional billing estimates may be calculated to demonstrate coverage of a significant portion of the pharmacist salary and support staff assistance. In Washington State, pharmacists are now recognized as providers in commercial health insurance provider networks. Pharmacists may bill evaluation and management (E/M) visits for commercial insurance with a provider's order or referral on file. The referral must indicate drug therapy modifications that can be completed per the established CDTA. Medicare patients may be billed using incident to/facility only billing. Data on patient outcomes pre- and post-pharmacist intervention, in comparison to standard care, are used to justify the role of the pharmacist and may provide further potential savings or cost avoidance. Additionally, grant funds are utilized when available to support the work of ambulatory clinical pharmacists.

Pharmacist professional billing was implemented in March 2019. In the first 6 months, approximately 50% of the UW Neighborhood Clinic pharmacist was supported by reimbursement from billed visits. Professional billing was also implemented in our hospital-based clinics as well. However, given payer mix and billing rules, we anticipate that less than 50% of the pharmacist's salary will be covered by revenue generated from billing.

Innovations/Future Plans

Future enhancements to these initiatives include pharmacist-led HTN management expansion to hospital based clinics at HMC and UWMC, telehealth HTN visits for patient outreach and intervention, deployment of ambulatory BP devices with telemonitoring capability for assessment of non-office visit BP readings, and a benzodiazepine tapering process for patients prescribed concurrent, chronic opioids. Additional initiatives being

developed include pharmacist-led interventions on comprehensive diabetes care management, optimization of billing via pharmacist involvement in chronic care management, and active pharmacist engagement in a team-based opioid taper process across UW Medicine.

Key Lessons Learned

- Establish positive relationships with physician leadership.
- Ensure medical and pharmacy leadership share and convey common goals.
- Leverage internal pharmacist performance to use as proof of concept to expand pharmacist services.
- Ensure data is translated into a format that identifies key patient populations for targeted initiatives.

References

1. UW Medicine Accountable Care Network. Available at: <https://www.uwmedicine.org/aco>. Accessed May 10, 2019.
2. Fabel PH, Wagner T, Ziegler B, et al. A sustainable business model for comprehensive medication management in a patient-centered medical home. *J Am Pharm Assoc*. 2019;59:285-90.
3. Boren LL, Locke AM, Friedman AS, et al. Team-based medicine: Incorporating a clinical pharmacist into pain and opioid practice management. *PM R*. 2019;11:1170-7.
4. Thielemier B, Tu A. Pharmacists' impact on quality measures and opportunities for pharmacy enhanced services. *America's Pharmacist*. May 2017. Available at: <http://www.ncpa.co/issues/APMAY17-CE.pdf>. Accessed January 28, 2020.

5. Devine EB, Hoang S, Fisk AW, et al. Strategies to optimize medication use in the physician group practice: The Role of the Clinical Pharmacist. *J Am Pharm Assoc.* 2009;49:181–91.
6. Margolis KL, Asche SE, Bergdall AR, et al. Effect of Home Blood Pressure Telemonitoring and Pharmacist Management of Blood Pressure Control: The Hyperlink Cluster Randomized Trial. *JAMA.* 2013;310:46–56.
7. Cowart K, Olson K. Impact of pharmacist provision in value-based care settings: How are we measuring value added services? *J Am Pharm Assoc.* 2019;59:125–8.
8. Planas LG, Crosby KM, Mitchell KD, et al. Evaluation of a hypertension medication therapy management program in patients with diabetes. *J Am Pharm Assoc.* 2009;49:164–70.
9. Moore JM, Shartle D, Faudskar L, et al. Impact of a patient-centered pharmacy program and intervention in a high risk group. *J Man Care Pharm.* 2013;19:228–36.
10. Gatwood JD, Chisholm-Burns M, Davis R, et al. Impact of pharmacy services on initial clinical outcomes and medication among veterans with uncontrolled diabetes. *BMC Health Serv Res.* 2018;18:855.
11. Woolf R, Locke A, Potts C. Pharmacist prescribing within an integrated health-system in Washington. *Am J Health Syst Pharm.* 2016;73:1416–624.
12. Centers for Disease Control and Prevention. *Methods and Resources for Engaging Pharmacy Partners.* Atlanta, GA: Centers for Disease Control and Prevention, U.S. Department of Health and Human Services; 2016. Available at: <https://www.cdc.gov/dhdsp/pubs/docs/engaging-pharmacy-partners-guide.pdf>. Accessed January 28, 2020.
13. Centers for Disease Control and Prevention. *A Program Guide for Public Health: Partnering with Pharmacists in the Prevention and Control of Chronic Diseases.* Atlanta, GA: Centers for Disease Control and Prevention, U.S. Department of Health and Human Services; 2012. Available at: https://www.cdc.gov/dhdsp/programs/spha/docs/pharmacist_guide.pdf. Accessed January 28, 2020.

Glossary

340B

The federal drug discount program authorized under section 340B of the Public Health Service Act and established by Congress under the Veterans Healthcare Act of 1992. “The 340B programs requires drug manufacturers to enter into pharmaceutical pricing agreements with the Health and Human Services Secretary, where manufacturers agree not to sell above the 340B ceiling price to covered entities.”¹

Accountable Care Organization (ACO)

A voluntary group of doctors, hospitals, and other healthcare providers, who convene to provide coordinated high-quality care to the Medicare patients they serve. Patients benefit through this “coordinated effort to get the right care at the right time, with the goal of avoiding unnecessary duplication of services and preventing medical errors.”^{2,3}

Advanced Alternative Payment Models (APMs)

One of two avenues in the CMS Quality Payment Program. “A payment approach that gives added incentive payments to provide high-quality and cost-efficient care. APMs can apply to a specific clinical condition, a care episode, or a population.”⁴

Capitation

A specified amount of payment over a defined time period that is paid to a health plan or doctor. The capitation may be full where the plan is providing services solely through capitation or partial capitation where the “plan is paid for providing services through a combination of both capitation and fee for service reimbursements.”^{5,6}

Chronic Care Management (CCM)

A covered service in Medicare, Chronic Care Management (CCM) applies to a non-face to face care coordination with “patients with two or more chronic health conditions that are expected to last at least 12 months or until the death of the patient. A comprehensive care plan must be established, implemented, revised, or monitored. CCM services include the following five core activities: using a certified electronic health record (EHR) for specified purposes, maintain an electronic care plan, ensure beneficiary 24-hour-a-day, 7-day-a-week access to care, facilitate transitions of care, and coordinate care.”⁷ Care must be provided for a minimum of 20 minutes (CCM) or 60 minutes (complex CCM) of non-face-to-face care management services per month.⁷

Comprehensive Medication Management (CMM)

Comprehensive medication management is defined as “the standard of care that ensures each patient’s medications (whether they are prescription, nonprescription, alternative, traditional, vitamins, or nutritional supplements) are individually assessed to determine that each medication is appropriate for the patient, effective for the medical condition, safe given the comorbidities and other medications being taken, and able to be taken by the patient as intended.”⁸

CMS Star Measures

The Centers for Medicare & Medicaid Services (CMS) creates plan ratings to measure the experience that Medicare beneficiaries have with the health plan and healthcare system. The star rating program indicates the quality of Medicare plans on a scale of 1 to 5 stars with 5 stars being the highest rating. The overall star rating is determined through numerous performance measures across several domains of performance and is published information.⁹

Collaborative Practice Agreement (CPA)

An agreement that details functions that can be delegated by a prescriber or group of prescribers to a pharmacist or group of pharmacists based on a formal practice relationship (as authorized by state laws and regulations). CPAs expand a pharmacist's scope of practice. CPA authority varies among states, and common functions include initiating, modifying, or discontinuing medication therapy and ordering laboratory tests.¹⁰ Various terms are used for CPAs among the states (e.g. collaborative drug therapy agreement, drug therapy management, protocol).

Healthcare Effectiveness Data and Information Measure (HEDIS)

A performance measure that is administered by the National Committee for Quality Assurance (NCQA). The HEDIS measure applies to 190 million people that are enrolled in health plans and is a widely used performance improvement tool that includes more than 90 measures. There are 6 domains of care that include effectiveness of care, access/availability of care, experience of care, utilization and risk adjusted utilization, health plan descriptive information, and measures collected using electronic clinical data systems. NCQA uses the HEDIS measures for ranking of health plans each year.^{11,12}

Federally Qualified Health Center (FQHC)

“A community-based healthcare provider that receive funds from the Health Resources and Services Administration (HRSA) Health Center Program to provide primary care services in underserved areas. An FQHC must meet a stringent set of requirements, including providing care on a sliding fee scale based on ability to pay and operating under a governing board that includes patients.”¹³

MACRA—Medicare Access and CHIP Reauthorization Act of 2015

The MACRA law was passed in April 2015, to transform the basis of healthcare clinician payment from volume to value. MACRA created the Quality Payment Program (QPP) that repealed the sustainable growth rate formula used to determine physician and other clinician fee-for-service (FFS) payment rates in Medicare and created the Merit-based Incentive Payment System (MIPS) and Advanced Alternative Payment Programs (APMs).¹⁴

Merit-based Incentive Payment (MIPS)

One of two avenues in the CMS Quality Payment Program (QPP), eligible clinicians receive fee-for-service (FFS) payment adjustment for services provided for Medicare Part B patients based on performance in four categories including quality, cost, improvement activities, and promoting interoperability. Performance in these categories results in a MIPS payment adjustment to the FFS rate 2 years after performance measurement period. Payment adjustments can be positive or negative depending on the clinician's performance score.¹⁵

Medicare Shared Savings Program (MSSP)

The Medicare Shared Savings Program (MSSP) offers providers and suppliers (e.g., physicians, hospitals, and others involved in patient care) an opportunity to create an Accountable Care Organization (ACO). An ACO agrees to be held accountable for the quality, cost, and experience of care of an assigned Medicare fee-for-service (FFS) beneficiary population. The Shared Savings Program has different tracks that allow ACOs to select an arrangement that varies in risk and makes the most sense for their organization.¹⁶

Patient Centered Medical Home (PCMH)

The Patient-Centered Medical Home is a team-based approach to comprehensive primary care coordinated by a primary care provider. The medical home is a model or philosophy of primary care that is patient-centered, comprehensive, team-based, coordinated, accessible, and focused on quality and safety.¹⁷

Population Health

Population health refers to the outcomes of a group of individuals with similar characteristics, including the distribution of such outcomes within the group and the role of health determinants. These health determinants can include medical care, public health, social environment, genetics, and individual behavior.¹⁸

Quadruple Aim

The quadruple aim is an expansion of The Triple Aim which includes enhancing patient experience, improving population health, and reducing costs. This expansion includes an additional goal of improving the work life of healthcare providers. The Institute for Healthcare Improvement terms this new aim Joy in Work. The expansion of the Triple Aim

to the Quadruple Aim has been proposed to improve the work life of healthcare providers. Pharmacists can also play a role in quality-focused initiatives to support the system and providers' efforts to improving the quality of care provided.¹⁹

Quality Measures

Quality measures, which can also be referred to as Clinical Quality Measures (CQMs) and electronic Clinical Quality Measures (eCQMs), "are tools that help measure or quantify healthcare processes, outcomes, patient perceptions, and organizational structure and/or systems that are associated with the ability to provide high-quality healthcare and/or that relate to one or more quality goals for healthcare."²⁰

Transitional Care Management

A covered service in Medicare and by other payers, Transitional Care Management (TCM) in Medicare applies to a patient following a discharge from a hospital, skilled nursing facility, or community mental health center stay, outpatient observation, or partial hospitalization. TCM includes a bundled payment that covers that covers the transitional services of a care team during the first 30 days after a patient is discharged from the hospital. Assessing and supporting treatment regimen adherence and medication management are required components of TCM and an ideal opportunity for pharmacist integration as clinical staff on the care team."^{21, 22, 23}

Value-Based Payment

"Value Based Payment (VBP) is a concept by which purchasers of healthcare (government, employers, and consumers) and payers (public and private) hold the healthcare delivery system at large (physicians and other providers, hospitals, etc.) accountable for both quality and cost of care."²⁴

References

1. 340B Health. Key Terms. Available at: <https://www.340bhealth.org/members/340b-program/key-terms/>. Accessed February 10, 2020.
2. Centers for Medicare and Medicaid Services. Accountable Care Organizations (ACOs): General Information. Available at: <https://innovation.cms.gov/initiatives/ACO/>. Accessed February 10, 2020.
3. Primary Care Collaborative. Accountable Care Organizations (ACOs). Available at: <https://www.pcpcc.org/topic/accountable-care>. Accessed February 10, 2020.
4. Centers for Medicare and Medicaid Services. AMPs Overview. Available at: <https://qpp.cms.gov/apms/overview>. Accessed February 10, 2020.
5. American College of Physicians. Understanding Capitation. Available at: <https://www.acponline.org/about-acp/about-internal-medicine/career-paths/residency-career-counseling/guidance/understanding-capitation>. Accessed February 10, 2020.
6. Centers for Medicare and Medicaid Services. Glossary. Available at: <https://www.cms.gov/apps/glossary/search.asp?Term=capitation&Language=English&SubmitTermSrch=Search>. Accessed February 10, 2020.
7. American Pharmacists Association. *APhA's Billing Primer. A Pharmacist's Guide to Outpatient Fee-for-Service Billing*. Available at: <http://elearning.pharmacist.com/products/5185/billing-primer?sectionId=77d77567-bb94-4784-9750-074f9877d0be>. Accessed February 10, 2020.
8. American College of Clinical Pharmacy. *Comprehensive Medication Management in Team-Based Care*. Available at: <https://www.accp.com/docs/positions/misc/CMM%20Brief.pdf>. Accessed February 10, 2020.
9. Pharmacy Quality Alliance. PQA Measure Use in CMS' Part D Quality Programs. Medicare Part D Star Ratings. Available at: <https://www.pqaalliance.org/medicare-part-d>. Accessed February 10, 2020.
10. Centers for Disease Control and Prevention. *Advancing Team-Based Care Through Collaborative Practice Agreements. A Resource and Implementation Guide for Adding Pharmacists to the Care Team*. Available at: <https://www.cdc.gov/dhdsp/pubs/docs/CPA-Team-Based-Care.pdf>. Accessed February 10, 2020.
11. National Committee for Quality Assurance. HEDIS and Performance Measurement. Available at: <https://www.ncqa.org/hedis/>. Accessed February 10, 2020.
12. Becker's Hospital Review. 5 Things to Know about HEDIS. Available at: <https://www.beckershospitalreview.com/payer-issues/5-things-to-know-about-hedis.html>. Accessed February 10, 2020.
13. Health Resources and Services Administration. Federally Qualified Health Centers. Available at: <https://www.hrsa.gov/opa/eligibility-and-registration/health-centers/fqhc/index.html>. Accessed February 10, 2020.
14. Centers for Medicare and Medicaid Services. What's MACRA? Available at: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/MACRA-MIPS-and-APMs/>. Accessed February 10, 2020.

15. Centers for Medicare and Medicaid Services. Quality Payment Program. MIPS Overview. Available at: <https://qpp.cms.gov/mips/overview>. Accessed February 10, 2020.
16. Centers for Medicare and Medicaid Services. Shared Savings Program. Available at: <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/shared-savings-program/about>. Accessed February 10, 2020.
17. Patient-Centered Primary Care Collaborative. Defining the Medical Home. Available at: <https://www.pcpcc.org/about/medical-home>. Accessed February 10, 2020.
18. Kindig D, Stoddart G. What is population health? *Am J Public Health*. 2003; 93:380-3.
19. Bodenheimer T, Sinsky C. From triple to quadruple aim: care of the patient requires care of the provider. *Ann Fam Med*. 2014; 12:573-6. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4226781/>. Accessed February 10, 2020.
20. Centers for Medicare and Medicaid Services. Quality Measures. Available at: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityMeasures>. Accessed February 10, 2020.
21. Centers for Medicare and Medicaid Services. *Transitional Care Management Services*. ICN 908628, January 2019. Available at: <https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/mlnproducts/downloads/transitional-care-management-services-fact-sheet-icn908628.pdf>. Accessed February 10, 2020.
22. Centers for Medicare and Medicaid Services. Frequently Asked Questions about Billing the Medicare Physician Fee Schedule for Transitional Care Management Services. March 17, 2016. Available at: <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeeSched/Downloads/FAQ-TCMS.pdf>. Accessed February 10, 2020.
23. American Pharmacists Association. *APhA's Billing Primer. A Pharmacist's Guide to Outpatient Fee-for-Service Billing*. Available at: <http://elearning.pharmacist.com/products/5185/billing-primer?sectionId=77d77567-bb94-4784-9750-074f9877d0be>. Accessed February 10, 2020.
24. American Academy of Family Physicians. Value-Based Payment. Available at: <https://www.aafp.org/about/policies/all/value-based-payment.html>. Accessed February 10, 2020.