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ADVANCES IN PHARMACY PRACTICE

Utilizing diagnostic pharmacists to support Family Medicine Walk-In clinics during the COVID-19 pandemic

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ABSTRACT

Background: During the coronavirus 2019 (COVID-19) pandemic, physician focus shifted from continuity of care to pandemic duties. However, patients still required in-person visits for acute or chronic complaints. Specially trained pharmacists were utilized to alleviate Family Medicine Walk-In (FMWI) provider shortages.

Objective: To describe the innovative practice utilizing diagnostic pharmacists in FMWI, evaluate their impact on provider time, compare workload with traditional advanced practice providers (APPs), and evaluate type of visits and medications prescribed.

Practice description: Pharmacists at an Indian Health Service medical center staffed FMWI 2.5 days per week to alleviate provider shortages during the COVID-19 pandemic. The privileged pharmacist had a diagnostic scope like APPs. Non-privileged pharmacists provided care to patients utilizing current protocols and were required to present all new complaints to providers.

Practice innovation: The facility utilized pharmacists that have completed or were progressing through the local diagnostic training program to alleviate provider shortages.

Evaluation methods: The absolute number of visits by pharmacists was determined and the number of provider hours shifted to pharmacy estimated. The number of visits by provider type was calculated and compared. ICD-10 codes were evaluated for purpose of visits. New prescriptions written by pharmacists were categorized and reimbursement rates determined.

Results: Pharmacists were responsible for 677 visits during 88 clinic days, with an estimated 338 provider hours shifted to pharmacists. Pharmacists saw 5.8 patients per day, APPs 5.2, and physicians 5.7. Pharmacists primarily evaluated hypertension, diabetes, musculoskeletal, and infectious disease complaints. New prescription categories included pain management, endocrine, cardiovascular, and infectious disease. The single billable pharmacist was reimbursed \$77,945.

Conclusion: Diagnostic pharmacists in FMWI have allowed providers to shift to other pandemic duties and demonstrate similar workload as APPs. Most visits and prescriptions fall within known pharmacist practice. Pharmacists in this setting pay for the existence of this position and remain integrated in FMWI.

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Background

Primary care provider shortages have become an issue throughout the country. According to some accounts, the United States will need an additional 52,000 primary care providers by 2025.¹ Other research shows similar projections with primary care physician shortage estimates between 17,800 to 48,000 by 2034. In addition, 184,000 physicians of all specialties would be needed immediately if underserved and uninsured populations utilized the health care system in a manner that does not create barriers to these populations.² The current coronavirus (COVID-19) pandemic appears to be

Key Points**Background:**

- National provider shortages are impacting patient's ability to be seen by a medical professional.
- During the 2019 coronavirus (COVID-19) surge, provider roles changed from continuity of care to COVID-19 evaluation and treatment, resulting in decreased patient care access for chronic and acute care.

Findings:

- Use of diagnostic pharmacists, even on a part time basis, has positively impacted provider workload.
- Pharmacists in this setting maintain a workload similar to that of traditional advanced practice providers.
- Common purpose of visits in walk-in clinic were within capacity of a properly trained pharmacists to evaluate and treat.
- Reimbursement of pharmacists in this setting pays for the position

further stressing the nationwide provider shortages, forcing novel approaches to alleviate this issue. An in-depth review of these shortages had not yet been published in primary literature to any significant amount. However, online articles and interviews are common place and cite concerns of shortages of providers during the pandemic.^{3,4} In the Perspectives section of the *New England Journal of Medicine*, the authors discuss using medical students to expand the workforce as well as issuing emergency licensure to medical students and midlevels (nurse practitioners and physician assistants, now referred to as advanced practice providers [APPs]) who are near the completion of their training.⁵ In addition, the Centers for Disease Control and Prevention (CDC) recognized this issue and has created a webpage for mitigating health care staffing shortages that includes adjusting staff schedules, hiring more health care providers, awareness to state-specific emergency licensure changes, and postponing elective time off as appropriate.⁶ To elevate the shortages further, a publication from 2020 raises the concern that ongoing provider shortages may lead to increased COVID-19 mortality.⁷ Furthermore, Community Health Clinics that serve rural populations are at risk of not surviving the pandemic owing to financial losses.⁸

In addition to the above COVID-19-specific concerns, data regarding increase mortality rates during the pandemic in non-COVID-19 related diseases are being published. An article from Italy provides data from December 1, 2019, through May 31, 2020. During the lockdown period, there was a 43.2% increase in out-of-hospital overall mortality. Out-of-hospital cause-specific increases compared with the lockdown in the previous year were found in endocrine/metabolic diseases (79.5% increase), neoplasms (76.7% increase), and cardiovascular (32.7% increase) diseases.⁹ From a United States

standpoint, the CDC estimates an excess of non-COVID-19 related deaths to be 69,584-211,963 since February 1, 2020.¹⁰

For years, pharmacists have been used in various roles to improve access to care. Literature searches provide numerous results of pharmacists serving in various clinical roles that can help fill the provider gap, both nationally and internationally. Examples include treatment of hypertension, anticoagulation, pulmonary clinics, and depression.¹¹⁻¹⁹ Pharmacists in various clinical emergency department roles have also been described.^{20,21} Other reports have taken a broader approach with pharmacists managing multiple chronic diseases in the primary care setting such as hypertension, hyperlipidemia, diabetes, and metabolic syndrome.²²⁻²⁴ There is also one published paper from 1977 describing the use of a pharmacist with diagnosing privileges. This single report from an Indian Health Service (IHS) facility details the pharmacist's diagnostic privileges that include 31 acute and 7 chronic conditions.²⁵ The use of expanded pharmacist roles during the pandemic have been discussed but in more traditional roles.²⁶⁻²⁸ However, no literature has been found that utilizes pharmacists as diagnostic primary providers to alleviate the concerning provider shortages.

General provider shortages have been addressed by IHS with the 1996 Special General Memorandum 96-2 (SGM 96-2). Although this document was not created to address physician or provider shortages specifically, the nature of this memorandum does place pharmacists in a position to assist. In this document, Assistant Surgeon General, Admiral Michael Trujillo, states that pharmacists meeting certain criteria shall be considered primary care providers with prescriptive authority and may deliver primary care services to eligible beneficiaries. In addition, it clearly indicates that state agencies may not regulate the scope of practice of federal pharmacists. Instead, the scope of practice is defined by the local medical privileging board.²⁹

Objective

The objective of this report was to describe the innovative practice of using specially trained diagnostic pharmacists in the Family Medicine Walk-In Clinic (FMWI) during the COVID pandemic, evaluate their impact on provider coverage for COVID-19 duties, compare workload statistics with traditional APPs, and evaluate type of visits and medications prescribed. In addition, the report reviewed the reimbursement of pharmacists in this setting.

Practice description

During peak pandemic surges, Family Medicine Clinics at Northern Navajo Medical Center (NNMC) significantly decreased scheduled continuity-of-care visits to reduce possible exposure to and the spread of COVID-19 on the Navajo Nation. In addition, primary care provider duties shifted to pandemic-focused patient care from continuity-of-care clinics. However, patients still required in-person acute and chronic care evaluation, and FMWI was designed to meet this need. Volunteers and contract providers have alleviated some of the provider stresses, but these individuals are only present intermittently and on a short-term basis.

Before the pandemic, family medicine was separated into 3 clinic teams that saw scheduled continuity-of-care visits. Patients were assigned to a primary care provider (PCP) within a team or, because of existing provider shortages, were assigned to the team itself. Assignment to a PCP was reserved for the sicker patients. Some patients would be referred to the Pharmacy Clinician Clinic to expand access to care. Within these teams, there were 2–4 providers per day assigned for scheduled appointments with patients who were empaneled to that provider. Embedded within each team was a rotating Same Day (SD) provider evaluating patients that were scheduled within a 72 hour period. Patients seen in SD were assigned to that clinic team or a provider within that team but unable to wait for a routine continuity-of-care visit. As the pandemic progressed, providers reduced and then eliminated continuity-of-care and SD visits and moved to other pandemic-related duties. This shift in care resulted in the creation of the FMWI clinic, which sees any family medicine patient without appointment. Because providers were needed in a multitude of areas, simply moving providers to FMWI would not help with needed COVID-19–related duties. Therefore, specially trained pharmacists volunteered to assist in this setting to allow physicians and APPs to serve elsewhere while allowing FMWI to continue seeing as many patients as possible. When scheduled in FMWI, the privileged pharmacist replaced 1 family medicine provider on the schedule. The nonprivileged pharmacists were all scheduled at the same time as the privileged pharmacist for oversight, although these pharmacists often presented to other family medicine providers as well. FMWI is open Monday through Friday, with the number of patients allowed to be checked in directly related to the number of FMWI providers available. Therefore, replacing 1 provider with a pharmacist allowed continued access to care at current workloads while allowing the provider to focus on pandemic duties.

In March of 2020 the facility began utilizing advanced practice pharmacists with diagnostic privileging in FMWI. There was some prior discussion about bringing in pharmacists before the pandemic to work as the embedded SD provider. However, the ensuing surge acted as a catalyst to bring pharmacists in to alleviate immediate provider shortages in FMWI. Initially, these pharmacists worked 2 days per week, but with worsening pandemic numbers and further stretching of provider staff, an additional half-day per week was added. This struck a balance between assisting family medicine and maintaining adequate staffing for pharmacy during the pandemic surge. Pharmacists in FMWI are represented by 2 distinct groups on the basis of privileging status. The first group consists of pharmacists not yet privileged by medical staff but have completed a physical assessment course such as the Pharmacist Physical Assessment Courses offered by the state of New Mexico or NNMC. These courses instruct pharmacists on how to perform abdominal, pulmonary, cardiac, musculoskeletal, head/eyes/ear/nose/throat (HEENT), and neurology examinations. These pharmacists practice under existing protocols for the Pharmacist Clinician Clinic. This postdiagnostic clinic is in place to expand health care services to patients with chronic disease states without a PCP or for those patients with primary providers needing medication titration. The majority of patients seen in this clinic are referred from within the Family Medicine department.

Pharmacists are allowed to manage specified disease states without provider consultation. These disease states include diabetes, hypertension, hyperlipidemia, asthma, epilepsy, hyperthyroidism, hypothyroidism, gout, heart failure, gastroesophageal reflux disease (GERD), headaches, sinusitis, onychomycosis, and mild depression. Disease states not included in the collaborative agreement require consultation with fully privileged providers such as a MD, DO, PA, NP, or privileged PharmD.

The second group consists of a single pharmacist practitioner privileged by the medical staff. Per the privileging documentation, this pharmacist has a scope of practice like traditional APP but is expected to seek assistance as needed. All medications prescribed by pharmacists of any level may only be filled at NNMC. Regardless of scope of practice, any disease state out of the pharmacist's comfort level requires a consultation with a medical provider.

Practice innovation

NNMC has taken an innovative approach to provider shortages by using pharmacists to evaluate patients in family medicine. In existing models, pharmacist roles have been postdiagnostic in nature, without evaluation of new complaints. Before the pandemic, these models did help alleviate general provider shortages and can provide some relief during the pandemic with telehealth visits. However, shifting of providers to other pandemic duties required an innovative approach to meet patient needs. NNMC had previously created a training program for pharmacists seeking to obtain diagnostic privileges to ensure pharmacists are adequately trained to practice at this level. Now these pharmacists are assisting to alleviate family medicine workload during the pandemic.

The local standard requires that the pharmacist complete a 60-hour physical assessment course and then log 500 hours of patient contact time. Training hours must include direct patient care in pharmacy and family medicine clinics. They may also obtain hours from other settings, but the hours must be broad in nature and not specific to a single area. A maximum of 50 hours may come from any of the specialized pharmacy clinics such as HIV/Hep C, epilepsy, or anticoagulation. Training hours shall be completed under direct supervision of a physician, APP, or privileged diagnostic pharmacist. Using Medicare regulations as a guideline, direct supervision has been defined as the supervising provider being in the same building and readily available.³⁰ After meeting these requirements, the pharmacist may apply for medical staff privileging where his/her scope of practice will be defined.

In the state of New Mexico, IHS pharmacists may become billable providers in 2 ways. First, if the pharmacist holds an NM license, they may complete the NM Pharmacist Clinician (PhC) training program and obtain an NM PhC license. Second, because pharmacists at federal facilities may be licensed in any state, they may obtain the IHS National Clinical Pharmacy Specialist (NCPS) designation. Once either designation is obtained, the billing office is notified, and the pharmacist's name is submitted to NM Medicaid for billing eligibility. Of note, pharmacists with an NM license are required to use the PhC route for billing and not the NCPS designation. Regardless of

which method is used, pharmacists can only be fully reimbursed by NM Medicaid.

Evaluation methods

Data were evaluated from first day of pharmacist assistance on March 26, 2020, through December 31, 2020. During this time period, 1 privileged and 5 nonprivileged pharmacists staffed the clinic along with physicians and APPs.

Impact on provider coverage was performed by evaluating the total number of visits completed by pharmacists. This was determined by utilizing the IHS Electronic Health Record/Resource and Patient Management System (EHR/ RPMS). FMWI does not have appointment lengths, and instead, visits last based on the need of the patient. However, usual family medicine appointments last 30 minutes, so this number was used as an estimate to calculate the number of provider hours that shifted to pharmacy.

Workload comparisons between provider types was calculated on days when pharmacists staffed the clinic to evaluate whether pharmacists were maintaining a workload equivalent to that of APPs. The number of visits by provider type was determined as well as percent of visits completed by provider type. Provider types were separated into physicians (medical doctors and doctors of osteopathy), traditional APPs, and pharmacists. Percent visits were calculated but are not an accurate representation of workload because of variability in provider scheduling with a predominant provider type represented by physicians or APPs. To reduce this bias, workload was also calculated as number of visits divided by the total number of providers within a provider type (physician, APPs, or pharmacists). Data were plotted and determined to be normally distributed, and statistical significance was calculated using an unpaired *t*-test.

A separate RPMS Visit Generator (VGEN) report was used to determine purpose of visits (POV) documented by pharmacists. Each POV was counted and placed in the following categories: cardiac, endocrine, musculoskeletal, gastrointestinal (GI), infectious disease, pulmonology, HEENT, dermatology, neurology, psychiatry, and urology. Each POV was specifically assigned to one of these categories and only counted once. VGEN was also used to provide data on the name and dose of new prescriptions ordered by the pharmacists. Generated reports only provided new prescriptions, as no method within RPMS was found to report medication refill numbers. Medication renewals did report as new prescriptions. Each prescription was documented and categorized into a unique category that included pain management, cardiovascular, endocrine, dermatology, rheumatology, neurology, pulmonology, infectious disease, supplements, psychiatry, GI, and urology. On the basis of these numbers, the most common new prescriptions written by pharmacists was determined. Microsoft Excel 2016 (Microsoft) was used to perform all calculations.

For billing, the RPMS Bill Listing Report (BLRP) report function was utilized. During the period reviewed, only the fully privileged pharmacist was eligible for billing. The BLRP does not allow selection of specific clinics names such as "Family Medicine Walk-In." Instead, department codes must be selected. In this case, Family Medicine was selected to ensure that only visits in FMWI were counted, and no other

visits, such as pharmacy clinics, were included. Microsoft Excel 2016 was used to calculate averages and ranges for reimbursement.

Results

Results for provider coverage show that pharmacists were in clinic 88 days and responsible for 677 walk-in visits. Using 30 minutes as a standard visit time, pharmacists were responsible for 338 hours in FMWI. The privileged pharmacist replaced a family medicine provider on the schedule, but all nonprivileged pharmacists were always scheduled with the privileged pharmacist and were extra on the schedule. The resulting impact on provider coverage was more than a 1:1 ratio. If the noncredentialed pharmacists are removed from the calculation, a total of 528 visits were from the single privileged pharmacist.

Regarding workload comparisons on the 88 clinic days, pharmacists averaged 5.8 visits per day compared with physicians at 5.7 and APPs at 5.2 (Table 1). On comparing APPs and pharmacists, there was no statistical difference in visits on days when pharmacists were in clinic ($P = 0.07$). Pharmacists' visits ranged from 12 to 1 patient per day, and physicians' and APPs' visits ranged from 11 to 2.5 and 10 to 1, respectively. Percent visits by provider type was 53.7% (physicians), 27.7% (APPs), and 18.8% (pharmacists). As mentioned in the Evaluation Methods section, using percent visit by provider type may not be an accurate representation. Physician numbers exceeds those of APPs and pharmacy practitioners, resulting in more physicians scheduled in FMWI, making percent calculations potentially inaccurate, depending on scheduling. To account for this, workload was also calculated as total number of visits by a provider type divided by the number of providers within that type (physician, APP, or pharmacist). Although this does reduce scheduling bias, it is not eliminated. The VGEN reports show days when a provider saw only 1 patient. Several reasons exist as to why this would occur. First, a provider may have seen one of their empaneled patients but not actually scheduled in clinic. However, on the basis of location of the visit, the encounter showed on reports. Another likely reason relates to workload of the clinic. As seen in Table 1, workload for the clinics can vary greatly. On days with a large show rate, unscheduled providers were asked to assist with the workload. Each of these providers (physician or APP) may have seen only 1 or 2 patients thus impacting the calculation for that group. These events can falsely reduce the visit per provider type calculation. Chart reviews to evaluate these outliers were not conducted, as clinic notes would not provide relevant information needed to remove the visit.

Table 1 also compares the workload between days when pharmacy was present and days when no pharmacist was scheduled. The data indicate that a similar number of patients were seen on average between the groups ($P = 0.5$). However, these data must be interpreted with caution, as the workload is highly dependent on the number of providers present in clinic.

Common POVs by pharmacists are shown in Table 2 with a total of 1739 codes. The top 5 visit categories fell under cardiology, musculoskeletal, endocrine, infectious disease, and GI (other visits not shown in Table 2). Within the cardiology category, hypertension was the most common reason for the visit at 160 encounters. Other related visits were

Table 1
Provider workload

Visit data	Physician	Advanced practice provider	PharmD	P value
Visits per provider type				
Average	5.7	5.2	5.8	PharmD to APP: $P = 0.07$
Maximum	11	10	12	
Minimum	2.5	1	1	
% visit per provider type				
Average	53.5	27.7	18.8	
Maximum	89.7	62.2	41.7	
Minimum	17.4	0.0	2.3	
Overall workload in clinic with and without pharmacists				
		Pharmacists in clinic	Pharmacists not in clinic	$P = 0.5$
Average patients/d		42	41	
Maximum patients/d		69	76	
Minimum patients/d		14	13	
Average no. providers working		7.7	7	

hyperlipidemia, heart failure, and chest pain. The most common musculoskeletal visit was non-osteoarthritis (non-OA) knee pain (43), followed by low back pain (27), any shoulder pain (not OA specific) (26), and OA pain of any joint at 25. Diabetes visits predominantly made up the endocrine category, with 145 documented POVs and hypothyroid visits (25). Infectious disease visits were mostly related to urinary tract infections at 42 visits, with cellulitis accounting for 11. The GI section was nearly equally made up of GERD and unspecified abdominal pain complaints.

Because chest and abdominal pain are not usually within the scope of pharmacy practice, a chart review was conducted to determine the result of these visits. For all 3 chest pain visits,

a physician was consulted at time of visit and electrocardiogram ordered. Abdominal pain complaints ranged from GERD, urinary tract infection–related pain, chronic abdominal pain, and new onset pain. Pharmacists consulted family medicine providers 5 times and surgery and radiology once each. Two ECG were ordered as well as 3 abdominal ultrasounds and 1 computerized tomography. Two patients were referred to NNMC surgery department for further evaluation, 1 to NNMC gynecology, and 2 to outside cardiology. Relating to the cardiology referrals, the pharmacists discovered a new murmur in 1 patient, resulting in family medicine consultation and cardiology referral being placed. The second patient was found to have a history of an abnormal ECG.

Table 2
Purpose of visit codes (N = 1739)

Code	Description	Count	%
	Cardiology	186	10.7
I10.	Essential hypertension	160	9.2
E78.5	Hyperlipidemia	11	0.6
R03.0	Elevated BP without diagnosis	6	0.3
Various	Heart failure	6	0.3
Various	Chest pain	3	0.2
	Musculoskeletal	184	10.6
Various	Knee pain (non-OA)	43	2.5
M54.5	Low back pain	27	1.6
Various	Shoulder pain	26	1.5
Various	OA pain any joint (right, left, bilateral)	25	1.4
Various	Lower extremity (not knee)	9	0.5
Various	Fractures (any location)	8	0.5
	Endocrine	179	10.3
E11.9	Type 2 diabetes	145	8.3
E03.9	Hypothyroidism	25	1.4
	Infectious disease	110	6.3
N39.0	UTI	42	2.4
Various	Cellulitis	11	0.6
L60.0	Ingrown nail	10	0.6
Various	Sinusitis (viral and bacterial)	9	0.5
	Gastrointestinal	95	5.5
K21.9	GERD	31	1.8
R10.9	Abdominal pain (any location)	23	1.3
R19.7	Diarrhea	8	0.5
K59.00	Constipation, unspecified	7	0.4

Abbreviations used: GERD, gastroesophageal reflux disease; UTI, urinary tract infection; OA, osteoarthritis; BP, blood pressure.

Note: Only top 5 categories presented. Total count may include data not presented in this table.

Table 3
New prescriptions written by pharmacists

Category	No.	%
Pain management	349	28.4
NSAIDs	129	10.5
Acetaminophen	90	7.3
Muscle relaxants	51	4.1
Phenazopyridine	24	2.0
Gabapentin	16	1.3
Endocrine	203	16.5
Diabetes supplies	94	7.6
Metformin	50	4.1
Insulin (any)	33	2.7
Levothyroxine	12	1.0
Cardiovascular	176	14.3
ACE-I	55	4.5
Statins	39	3.2
ARB	22	1.8
Thiazides	13	1.1
CCB	13	1.1
Beta blockers	13	1.1
Aspirin	13	1.1
Other	8	0.7
Infectious disease	139	11.3
Beta-lactams (oral)	53	4.3
Sulfamethoxazole/trimethoprim	19	1.5
Otic	13	1.1
Nitrofurantoin	14	1.1
Antiviral	8	0.7
Pulmonology	107	8.7
Albuterol MDI	27	2.2
Nasal steroid	25	2.0
Nasal saline	19	1.5
Decongestant	15	1.2
LABA/ICS combination	8	0.7
ICS	6	0.5
Dermatology	66	5.4
Topical steroids	33	2.7
Topical moisturizers	23	1.9
GI	43	3.5
Stool softeners/laxatives	14	1.1
H2 blocker	12	1.0
Antinausea	10	0.8

Abbreviations used: ACE-I, angiotensin-converting enzyme inhibitor; ARB, angiotensin II receptor blocker; CCB, calcium channel blocker; LABA/ICS, long acting beta agonist/inhaled corticosteroid; GI, gastrointestinal; MDI, metered dose inhaler; NSAID, nonsteroidal anti-inflammatory drug.

Note: Table does not reflect all data.

Evaluation of the number of new prescriptions written by pharmacists are seen in Table 3, with pain management prescriptions accounting for largest number at 349. There were 129 new prescriptions for nonsteroidal anti-inflammatory drugs (NSAIDs), followed by acetaminophen (90) and muscle relaxants (51). Of the NSAIDs prescribed, 81 new scripts were for ibuprofen, 38 for topical diclofenac, and remaining from naproxen (9), injectable ketorolac (9), and indomethacin (1).

Endocrine and cardiology medications ranked second and third in prescriptions, respectively. Endocrine prescriptions were predominantly made up of diabetic supplies ($n = 94$) and metformin ($n = 50$). Insulin and nondiabetic endocrine medications (levothyroxine) completed the most common medications in this category. Within cardiology, the antihypertensive medications lisinopril and losartan were the most common prescribed at 55 and 22, respectively. Atorvastatin was the most commonly prescribed statin.

Within the infectious disease area, beta-lactams were prescribed most frequently, at 53 new prescriptions within the time frame reviewed. As urinary tract infections and cellulitis are the most common infectious disease POVs, the use of these medications seems to fit with the number of POVs documents. Within the GI category, GERD and abdominal pain were the most common POV in GI, with 58 visits with a total of 43 GI medications being prescribed.

Comparing the number of POVs in Table 2 and prescriptions in Table 3, there appears to be a discord in several areas. First, cardiology and musculoskeletal visits were nearly identical in number, but there were twice as many scripts written for pain management. Second, pain management scripts were 1.9 times higher than musculoskeletal visits. These apparent lack of correlations between POVs and prescriptions is likely related to refills and medication usage. Because refills were not captured on the VGEN reports, a lower new prescription rate for chronic conditions would be expected. New scripts would only be written in cases of new diagnosis, dose changes, or expired prescriptions. With regard to pain medications and musculoskeletal POVs, this class of medication are used for complaints other than musculoskeletal, such as infection-related pain. Moreover, it is not uncommon for musculoskeletal complaints to be treated with both a muscle relaxant and pain reliever, which would also result in an increase in numbers reported.

From March 26, 2020, through December 31, 2020, the single privileged pharmacist billed for \$104,834 and was paid for \$77,945, with an overall reimbursement rate of 74%. On average, the pharmacist billed \$395/visit and was paid \$294/visit, with an average reimbursement rate of 66%. A total of 265 visits were submitted for payment, with 66 of these rejected and \$0 paid. The range of payments was \$0-\$958, with the median being \$479. The review period started at the end of March; therefore, considering this to be a 75% of a year, the estimated amount billed for a full year would be \$103,927, which pays for a new graduate pharmacist salary in IHS.

Practice implications

During COVID-19, primary providers have shifted roles from continuity of care to dealing with surges in pandemic cases. Pharmacists with special training have been able to step in and fill the gap for family medicine providers to ensure that patients continue to receive care. In this case, the pharmacists took on the role in the walk-in clinic, which replaced all family medicine in-person continuity-of-care clinics. In other settings, pharmacists could move into established continuity-of-care clinics or specialty clinics. Working 2.5 days per week, pharmacists were able to evaluate and treat 677 patients, accounting for 338 hours. Because the privileged pharmacist replaced a provider on the schedule, and all nonprivileged pharmacists worked with the privileged pharmacist, these numbers represent a direct impact on releasing providers to other duties. In addition, because the nonprivileged providers were extra, the numbers also represent an increase in patient access to care in FMWI. Pharmacists saw 677 patients who either would not have been seen because of FMWI maximum capacity reached or would have gone to the emergency department, increasing their burden. It does not represent daily impact, as no comparison between pre- and

postpharmacy presence can be determined because FMWI was not in existence before the pandemic.

While performing these duties, pharmacists were able to maintain a workload similar to that of traditional providers, indicating that appropriately trained pharmacists can “hold their own” in this setting. No formal peer reviews were conducted to evaluate quality of care. However, nonprivileged pharmacists were required to present new complaints to privileged providers who would, on the basis of the presentation, either make recommendations or further evaluate the patient. All notes were cosigned by the privileged pharmacist as well as any provider consulted by the nonprivileged pharmacist.

The most common types of encounters documented were chronic in nature, primarily hypertension and diabetes. These types of diagnosis are already managed by pharmacists in many practices across the country. Therefore, the use of pharmacists in a walk-in setting wasn't extremely far out of usual practices. However, the difference from walk-in and traditional pharmacy clinics are the new complaints that will arise or be the primary reason for the visit. Fortunately, most acute complaints could be considered nonurgent, such as urinary tract infections, musculoskeletal complaints, GERD, and HEENT. In these cases, basic training and supervised experiences can ensure that pharmacists are capable of diagnosing and treating such cases. More complex presentations such as chest pain or unstable abdominal pain should continue to trigger a consultation with a higher level of care.

Pharmacists have demonstrated through publications and local improvements the value of the profession on patient care. However, the importance of reimbursement for services cannot be overlooked. Not only does this model demonstrate pharmacists' clinical skills in an advanced setting, but it also shows that appropriate reimbursement for services can pay for the service itself. Unfortunately, until the profession has gained recognition as a provider with adequate billing, this model may not have financial benefits outside of New Mexico IHS facilities.

Because of the success of this model, Family Medicine plans to continue to use privileged pharmacists in this role as general operations begin to return to normalcy. This will include pharmacists having a panel of their own patients and scheduled clinic time alongside other providers. In this role, the pharmacist will be the formally assigned PCP to the patient and have all responsibility for that patient's care. However, the selection of patients to a pharmacist's panel will not include the more acute patients. These patients should always be referred to and cared for by physicians. The patient panels will be selected from unassigned patients within family medicine and will be selected from those patients referred to the Pharmacy Clinician Clinic. This will allow these patients to be evaluated and monitored by a consistent provider without having to be seen in an SD or walk-in environment. If complex problems develop, the pharmacist will consult with a physician for recommendations, and, if needed, the patient can be transferred to a physician's panel. The model will ensure access to care but also create a continuity of care, with the patient seeing the same provider on a regular and scheduled basis. Currently, only the single privileged pharmacist has a panel, but as others complete the training, they will be assigned. The current goal is 200 patients per pharmacy provider. This model will continue to alleviate service unit

provider shortages to better serve community while also pushing the boundaries of pharmacy practice and serving as a national practice model.

Conclusion

It is understood that this practice setting is unique, and many pharmacists will not be allowed to work at this level. In addition, like a nurse and nurse practitioner, not every pharmacist will want to become a diagnostic pharmacy practitioner. Whether or not the pharmacist is ever able to receive diagnostic privileges, the skill to evaluate and present cases to higher level of care can be of great value. On those occasions where more complex cases present to the clinic (chest pain, abdominal pain, etc.), pharmacists can start the initial work up in consultation with a medical provider. This team method can save both the provider and the patient time by moving the process of care forward within the health care system.

This article provides evidence that properly trained pharmacists can provide diagnostic services at a workload equivalent to that of physicians and APPs. However, it is important to note that these data reflect using pharmacists as physician extenders. At no point does the data suggest that pharmacists should replace physicians or APPs. Instead, they can be used to expand patient access to care in such situations as the COVID-19 pandemic or current provider shortages. With the right training and experience, pharmacists can further expand patient access to care and reduce provider burnout, and the profession should be considered for this role. In addition, with appropriate reimbursement on a national level, the use of pharmacists in this setting will pay for itself.

Acceptance of pharmacists in this role will, at a local level, improve access to patient care by alleviating some of the physician shortages. Furthermore, with an increase in non-COVID-19–related mortality, likely from not seeking care during pandemic surges, pharmacists in this role will be able to assist with FMWI to ensure that some continuity of care and disease screening is taking place. At a national level, pharmacists working in either diagnostic or chronic disease settings can have an impact on physician shortages. However, before this model can be introduced across the United States, pharmacist must first be recognized as providers for reimbursement.

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