

How clinical pharmacists can improve outpatient diabetes care



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Uncontrolled diabetes creates major cost and care burdens on the healthcare system. Management of diabetes is time and resource intensive, medically complex and requires patient engagement to be fully effective [1]. Despite improvement in the last decade, outpatient diabetes care is far from optimal [2]. Especially in the context of an escalating number of Americans with diabetes, the current influx of newly insured patients into the primary care system, and increasing scarcity of primary care providers, it is important to consider new strategies to provide high-quality care to the more than 25 million Americans with diabetes mellitus [3].

The value of team-based, well-coordinated care and unified messaging to patients has long been recognized as a cornerstone of chronic disease management [4], and diabetes educators, nutritionists, diabetes nurse clinicians and other care providers have joined with primary care providers, diabetologists, endocrinologists and others to provide team-based diabetes care. Each team member brings an important skill set and perspective that may be helpful to patients with diabetes. While clear communication among

team members and unified messaging to patients are sometimes challenging in team care environments, recent advances in the use of electronic health records (EHRs) and other communications technology have improved key aspects of patient-centered care coordination across a range of care providers [4,5].

In addition to increased involvement by other diabetes care providers, pharmacists have been playing an increasingly prominent role in outpatient diabetes care. The value of pharmacist care has been widely recognized [6], and pharmacist-provided medication therapy management (MTM) services have been successful in reducing direct medical costs, improving clinical outcomes, achieving quality measures and resolving medication-related problems in a variety of chronic disease states, including diabetes and hypertension, and among medically complex patients [7]. It is important to note that nearly all patients with diabetes are on multiple medications [8], and most see a pharmacist multiple times each year to obtain their medications and supplies. Therefore, pharmacists have a natural opportunity to add substantial value to the care of large numbers

KEYWORDS

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- quality improvement
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of patients with diabetes they see in their daily practice [9].

Studies of pharmacist interventions among patients with diabetes and other chronic conditions show that a variety of pharmacist-based interventions improve medication adherence, treatment outcomes and/or quality of life [10–13]. For example, in a recent clinical trial, adults with uncontrolled hypertension were randomly assigned to usual care or office and phone visits with clinical pharmacists who monitored home blood pressure and adjusted hypertension medications under a collaborative care study protocol. The group receiving pharmacist-led care had a 20-mmHg drop in systolic blood pressure, compared with a 10-mmHg drop in the usual care group – enough to significantly reduce their risk of a subsequent heart attack or stroke. This and other studies suggest that widespread use of integrated care approaches supported by EHRs, evidence-based clinical guidelines, clinical decision support algorithms, and technology for remote monitoring and communication of blood pressure, weight, glucose and diabetes-related symptoms will open up new avenues for pharmacist involvement, not only in blood pressure management, but in other key aspects of diabetes care as well.

The role of the pharmacist in diabetes management may be particularly promising due to both the nature of the condition and the nature of the pharmacist's role. Diabetes patients are typically on seven or more prescription medications [8], and most require not only significant self-management education but also careful medication management. Patients with diabetes typically have other related chronic conditions such as hypertension, dyslipidemia, overweight/obesity, coronary heart disease, congestive heart failure, depression and others, and are likely to encounter pharmacists more frequently than any other healthcare professional [9,14]. The availability of clinical pharmacists at the point of pharmacy care provides an opportunity to expand pharmacy encounters and reinforce and clarify diabetes care goals, provide timely access to preventive care services such as immunizations, and identify developing problems early before they progress to more serious complications. Several clinical pharmacist-led interventions have achieved clinically and statistically significant reductions in A1c, low-density lipoprotein and blood pressure levels, as well as reductions in overall healthcare utilization [7,15].

Pharmacists can serve many roles in diabetes care, from intensive education about medication regimens to comprehensive disease state management in which pharmacists use evidence-based algorithms to initiate and adjust prescribed medications. In some care settings, clinical pharmacist-provided services may include independent prescribing, depending on state scope-of-practice laws and institutional regulations [16]. While clinical pharmacists have proven effective in disease state management and other cognitive services, their special expertise lies in their ability to critically evaluate and improve medication therapy.

The MTM care model involves a medication therapy review, providing the patient with a medication action plan and personal medication record, intervention and/or referral to minimize adverse effects related to polypharmacy or non-adherence, and appropriate documentation and follow up that, as a process, reduces risk of medication errors and encourages enhanced patient engagement [17]. This broad MTM framework allows pharmacists to systematically evaluate complex medication use by a patient, including the impact of both diabetes-specific and nondiabetes-specific medications on the patient's health status, quality of life and healthcare costs.

Improved health informatics systems are key to supporting team-based diabetes care in general, and the role of the clinical pharmacist specifically. EHR data can feed standardized evidence-based treatment algorithms that provide point-of-care personalized care recommendations that consider current and previous treatments and surgeries; medication allergies; comorbidities; renal, liver, and cardiac function; distance from personalized glucose, blood pressure, and lipid goals; and patient preferences for treatment. In the coming years, EHR data will be combined with pharmacy fill data and provide reasonably good estimates of medication adherence, which will add useful information when considering changes in treatment. As regional health information exchanges are activated, the breadth and scope of clinical decision support will increase, which will improve communication among all members of the diabetes care team, including pharmacists [5,18–20].

As the future of personalized medicine evolves and diabetes treatments are increasingly tailored to individual patient characteristics and biomarkers (e.g., drug therapy tailored to genomic variants), the role of the clinical pharmacist in

diabetes care and disease management will necessarily expand. Now is the time for medical groups and care systems to consider integrating these new and effective pharmacist-led services with other valuable components of diabetes care in a way that increases patient satisfaction with care as well as improves the quality, cost and safety of the increasingly personalized and complex diabetes care regimens that will emerge in the next decade.

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