Transitioning from Medication Supply to Holistic Patient Support: Advancing the Pharmacist's Role in Coordinated Chronic Disease Care

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Abstract

Recently, the pharmacy profession has changed from just supplying drugs to becoming involved in more broad forms of patient care. It was made possible by including advanced clinical education, having more pharmacists obtain their Pharm.D. degree, and setting up disease management as a proper healthcare tactic. Now that many pharmacists play larger roles among various types of health professionals, they assist patients with chronic illnesses, check medicines, provide information, and help improve their well-being. This document looks at how the duties of pharmacists change in team-based healthcare settings by observing their effects on topics like asthma, hypertension, diabetes, and hyperlipidemia. It also explains that community, ambulatory, and industry-based pharmacists are changing their role by collaborating, using proven treatments, and measuring the effects on people's health.

Keywords: ***Pharmaceutical care; Chronic disease management; Patient-centered pharmacy; Pharmacist role; Integrated healthcare; Medication therapy management; Pharm.D.; Health outcomes; Community pharmacy; Collaborative practice.***

1. Introduction

For several decades, pharmacy has moved from its primary duty of dispensing drugs to a new model that looks after patients holistically. Because of changes in society and advances in care and technology, healthcare is now focusing more on preventive and results-oriented tactics. Earlier, pharmacists mainly acted as middle people between drug suppliers and patients, checking and delivering medications to be used correctly. Since most pharmacists in the United States now pursue a Pharm.D. as their basic degree, the medical focus in their practice has increased. Pharm.D. students study a lot and participate in practical rotations that stress helping patients, managing diseases, and teamwork, preparing them to become more active healthcare team members.

Improvements in technology have greatly influenced the way things have changed. Due to introducing EHRs, automatic dispensing machines, and various new technologies, pharmacists spend less time on routine duties related to filling prescriptions. Now, APRNs are able to perform tasks such as clinical decisions, explain things to patients, improve therapy sessions, and keep track of patient results. As well as providing safety and effectiveness, these pharmacy services help pharmacists and patients develop strong relationships that play a key role in handling chronic conditions.

DM programs are among the main reasons why this change is happening, since they focus on both overall and preventive care for chronic diseases such as diabetes, hypertension, asthma, and hyperlipidemia. Such an approach seeks to find best practices and adapt them for treating different diseases by using standard procedures, close monitoring, and care from multiple specialists(1). Pharmacists are well-placed to be part of these programs, since they can give out drugs, talk directly to patients about their therapy, check how patients are following the instructions, warn of possible side effects, and advise or discuss changes in the treatment plan with doctors.

Including pharmacists in disease management schemes is closely connected to pharmaceutical care, a model that changed the pharmacist's role to providing care aimed at helping patients. Accountability is a main principle of pharmaceutical care, as this system requires pharmacists to ensure positive changes in patients' health and treatment results. Since a number of barriers, including work demands, funding, and misunderstanding among professionals, prevent full pharmaceutical care in various areas, the basic principles still allow pharmacists to get more involved in DM plans.

Even with these improvements, it is still difficult to realize the full role of pharmacists in clinical work because there isn't enough evidence to prove their effect. Many reports and studies from small scale trials indicate that

pharmacists help reduce hospitalization, encourage people to use medicine properly, and boost clinical indicators; however, there is still not enough big, controlled research to prove these effects in bigger populations. Johnson and Bootman's studies have shown that drug mistakes contribute to the US healthcare system spending billions annually. Fortunately, if pharmacists are involved, these costs could be reduced by quite a bit.

Besides, how pharmacists work is being reconsidered in various medical settings. Pharmacists now provide primary care services to patients in outpatient and ambulatory settings, which is very useful in places where doctors are few. In most cases, community pharmacies offer the easiest access to health services, and they are now stepping up their efforts to provide immunizations, manage patients' medications, and interact on chronic diseases(2). The role of pharmacists in the industry includes taking part in health economics and outcomes research, developing DM systems, and carrying out studies that offer real-life information for practice and policy.

To sum up, those working in pharmacy now occupy a key position in the industry. Because healthcare is now more focused on the patient, pharmacists play a bigger role in guiding and improving care. They are educators, advocates, data experts, and clinicians, so they must have detailed training and get acknowledgment from healthcare providers and insurers. Moving ahead, more growth in pharmacists' roles will result from laws that support them, their participation in new care models, and the presentation of firm proof showing how they contribute to healthcare. Even so, this shift does not mean they will give up their traditional duties; it is about becoming more involved in providing a complete care experience linked to the patient's results. Accepting these possibilities, pharmacists are able to be important members of the health team and improve the standard of care.

2. Disease Management and the Role of Pharmacists

Because of disease management (DM), the healthcare system has reached a significant point in its progress. DM programs aim to combine and organize care for chronic illnesses so as to raise care quality and cut costs at the same time. The rise in common chronic conditions such as diabetes, hypertension, asthma, and hyperlipidemia has pushed healthcare systems to adopt methods that stress stopping these diseases from occurring and helping patients manage their health in the long run. Here, pharmacists are essential because they stand at the point where drugs are given to patients and treated by doctors. The growing amount of information they have and the more they train helps them lead and improve DM programs in many healthcare settings(3).

Disease management is based on a planned method that targets certain issues by applying agreed-upon treatments and checking regularly to ensure standard care is given. The DM approach depends on evidence-based medicine and quality improvement to avoid complications, lower the number of hospitalizations, and raise the standard of patients' lives. It also requires different specialists like physicians, nurses, dietitians, and today, more often than not, pharmacists. From just giving out medicines, pharmacists now take care of teaching patients, checking how they stick to their plans, improving treatment, and checking final outcomes. One can see how important these contributions are when managing chronic diseases, since patients often face many challenges connected to medications.

At the same time that DM was developed in the early 1990s, managed care and health maintenance organizations (HMOs) started to aim at lowering the cost of health care while ensuring effective treatment. At first, DM strategies were adopted by MCOs, hospitals, and clinics, and then, without long delay, by pharmaceutical companies, PBMs, and special disease management firms. Device manufacturers, laboratory firms, wholesalers, physician service organizations, and community pharmacies have participated in DM implementation as time has passed. Pharmacists now take part in different positions, providing care to patients and being involved in designing, running, and analyzing DM treatments.

Pharmacists in PBMs and pharmaceutical companies help with creating the list of covered medications, reviewing drug use, and checking how cost-effective the medicines are. Even though these roles do not require contact with patients, they help design important features of DM programs. Alternatively, in healthcare organizations such as managed care organizations and long-term facilities, pharmacists are now more involved with patient care. Some of the roles are medication therapy management (MTM), doing risk assessments, and making unique care plans for each individual patient. Because pharmacists are capable of handling both office tasks and patient care, they are very important to the running of DM strategies.

Another important step in DM's development is when pharmacists start taking a proactive approach. Over the years,

pharmacists mainly got involved when there were complications from drugs such as side effects or reactions with other drugs(4). Despite helping many who applied, this way of working did not affect everyone since it was designed on a project-by-project basis. Thanks to pharmaceutical care, pharmacists are now expected to join in management of patient care to help ensure certain clinical goals. Pharmaceutical care is meant to provide proper medicines to patients with the aim of improving their quality of life. Because of this shift, pharmacists were expected to keep preventing problems by constantly going over details and watching for any concerns.

FIGURE 1 Integrating Pharmacists into Disease Management

Even though the concept of pharmaceutical care started to spread in the 1990s, how it was used was not the same in every practice area. How much prescription work a pharmacist handled, the number of staff they had, and the place of the pharmacy helped decide their ability to give detailed patient care. It was discovered that when pharmacists had good connections with patients and doctors in independently owned rural pharmacies, they were likely to give full pharmaceutical care to their patients. In comparison, those working in large chain stores had many duties that prevented them from having long discussions with patients. Yet, with technology improving the process of prescriptions, clinics that deal with many scripts can now shift pharmacists' attention to other patient care methods.

DM's development is simply the next stage of how pharmaceutical care is delivered. While drugs are given with an eye on each patient's health goals, DM's approaches focus on entire populations. Methods used by DM programs in interventions are centered on specific diseases and depend on registries, dividing people into risk groups, and regular records. It is much simpler to register achievements, plan methods of distribution, and show that pharmacist efforts provide good value for money. Therefore, DM can help pharmacists care for more patients simultaneously than they can working with each patient one at a time(5).

Studies on the economy prove that including pharmacists in DM programs is justifiable. In particular, Johnson and Bootman's cost-of-illness analysis in 1996 put the total annual expense related to drugs in the U.S. at $76.6 billion. In their later study, they said that having pharmacists run these interventions could cut costs by around $45.6 billion annually even if pharmacists are paid each time they help a patient. This study proves that pharmacist involvement increases patient health and also saves money, showing why including pharmacists in chronic disease care teams should be considered.

In spite of all this useful information, there are still challenges to adopting these methods by governments worldwide. Pharmacists are frequently prevented by the uncertainty in payment for their clinical services. But not all pharmacists can be paid by Medicare or Medicaid, since only some programs and progressive private companies have agreed to cover them in some cases. In addition, the rules about qualifications, job duties, and working together among different health workers differ by state, which makes it difficult to achieve uniformity.

Even so, the scope of pharmacists in DM keeps increasing as others see their importance. Associations for pharmacists offer training and testing that allows them to use DM successfully. Pharmacists are now using CPAs

more often, as they let medical staff share more responsibility for managing long-term illnesses. In addition, telepharmacy, as well as mobile apps and remotely watching patients, are digital advancements that let pharmacists interact with people and gather information in unusual places(6).

3.Expansion of Pharmacist-Practiced Disease Management

The growth of pharmacist-practiced disease management plays a key role in changing the profession from focusing on products to focusing more on patients' needs. Initially, pharmacists were involved only in inpatient DM, but today they take part in various services for disease management in various areas. This change is happening because the healthcare system is focused more on results, proper use of resources, and better control over chronic diseases. At the beginning, the movement grew when clinical pharmacists in hospitals kept track of their drug therapy work, giving early proof of better care they offered. These interventions were mainly designed to deal with the consequences of unsafe drug interactions. Yet, when the concept of pharmaceutical care thrived, pharmacists shifted to ensuring patients' health and well-being in the long run.

Because of pharmaceutical care, pharmacists now participate in managing various diseases. In the period of the early 1990s, the concept was outlined as ensuring that drug therapy is given to achieve clear results that enhance a patient's quality of life. With this definition, a key difference was made from the old way of doing things, as it indicated that pharmacists should monitor the use and safety of medications over time, apart from fixing any identified errors. In practice, pharmaceutical care consists of assessing patients in detail, noticing any drug-related issues, making personalized plans, monitoring their care over time, and checking up on them. This type of information technology complies with the main guidelines followed in present-day disease management approaches.

Even though its philosophy is very strong, carrying out pharmaceutical care in real situations has lacked consistency. Since geography, store type, high or low prescription numbers, staff members involved, and patient relationships influence their jobs, pharmacists can find it difficult to provide excellent care. Pharmacists working at independently owned rural pharmacies usually understand patients and local doctors well, and therefore are more likely to give in-depth care to patients. Curiously, some pharmacists in city chain stores may experience difficulties providing full explanations to patients because they are kept busy by time and workload issues. As well, because there are no agreed-upon processes or payments for clinical services, more businesses are not incorporating them.

Even so, with these advances, scientists are overcoming some of these challenges. Digital ways of writing prescriptions, dispensing medicines, and recording information have made routine tasks easier and given pharmacists more time to do clinical duties. The new process makes pharmacists able to perform tasks such as medication management, track how patients respond to drugs, and teach using the resources they have at work. When combined with organized DM programs for those who are at high risk, these interventions become very efficient(7).

The main advantage of disease management is its organized and population-focused way, which supports administering the same care and monitoring how well it works for people. There exists a long-standing challenge in pharmaceutical care literature because well-made, generalizable studies showing how the field affects clinical and economic outcomes are rare. When healthcare organizations include pharmacists in DM teams and give them guidelines, outcome measures, and patient records, they can more easily see how pharmacists help the organization and its patients. When programs are designed for specific diseases such as asthma, hypertension, and diabetes, pharmacists' interventions have shown to be quite effective, helping to control diseases, make patients more likely to follow their prescriptions, and decrease hospitalizations.

Further analysis has proved that the inclusion of pharmacists benefits diabetes management. Johnson and Bootman's research, which is widely used, concluded that drug-related issues to health in the U.S. are estimated to cost the healthcare system $76.6 billion per year. Researchers guessed that pharmaceutical care activities led by pharmacists could drop the costs by $45.6 billion, taking into account the added compensation. That is, the model proved that cost savings did not vary much depending on how pharmacists were paid, which means that their work is highly valuable no matter their compensation. As a result, pharmacists help achieve better patient outcomes and at the same time reduce the cost of healthcare.

Also, managing diseases help pharmacists make a bigger difference as the platform can be adapted to many needs. Pharmaceutical care is traditionally centered on an individual's health, whereas DM uses the same idea to improve

health for bigger groups using targeted methods. Scalability helps a great deal in responding to the increases in the number and financial burden of chronic illness. DM programs' structure helps pharmacists determine patients' risk, follow standard treatment plans, and document each stage of intervention and outcome in the same way. As a result, pharmacists take on the roles of caregivers and also add information to help improve quality in the institution.

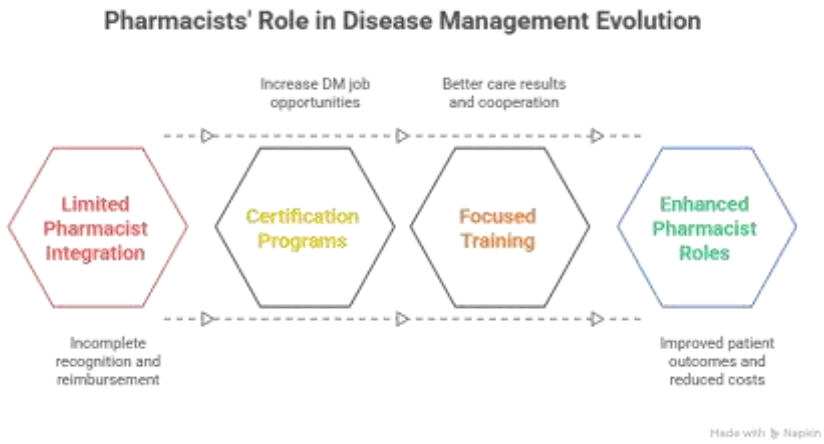

FIGURE 2 Pharmacists' Role in Disease Management Evolution

Even with all these developments, some problems still stop them from being fully integrated. A major problem is that pharmacists are often not recognized by both federal and private insurance plans as people who can be reimbursed for their services. In different communities, pharmacists are not viewed as healthcare providers by the Social Security Act, which keeps them from being able to get paid for their clinical roles. There are financial obstacles for expanding DM because pharmacists receive less payment than doctors are reimbursed for similar services. Also, challenges may arise because of the way different professions interact. In spite of this, some doctors don't agree to co-manage cases with pharmacists, but things are changing thanks to more pharmacist-physician collaborations that are supported by new laws.

Trying to solve these issues, various groups in the field have started setting up formal programs that outline the duties of pharmacists in DM. Because of these programs, pharmacists can obtain certifications in various areas and increase their chances of getting DM-related jobs(8). Also, the fields of medical education and health care services are focusing on training and residencies that pay close attention to better care results and cooperation between different medical specialties. With these efforts, the community will be well-prepared to train pharmacists to manage varieties of diseases and guide their careers towards modern roles.

4. Ambulatory, Industry, and Community Pharmacists in Disease Management

Pharmacists take part in several tasks besides dispensing medicine, especially in overseeing disease management (DM). Nowadays, pharmacists are considered key members of the team in ambulatory care, community pharmacies, and the pharmaceutical industry as it relates to chronic disease, outcome studies, and improving how treatments are given. Such modifications in roles come from the more complicated use of medications, greater amounts of chronic health conditions, doctors' shortages of time, and putting more faith in research-based and cost-effective treatments. Because of these changes, pharmacists now play major roles in caring for patients, deciding on medications, and arranging health systems.

In outpatient clinics, pharmacists are more and more seen as key helpers for other primary care staff, mainly when caring for conditions such as diabetes, hypertension, asthma, HIV, and heart disease. Because doctors and healthcare systems are under increased pressure, nurses now provide direct patient care where previously they served mostly as assistants. IHS in the U.S. is one of the very first systems to involve pharmacists as part of primary care. In the 1960s, enabled by the IHS, pharmacists started giving clinical advice for minor conditions, which eventually turned into the CPTP. This training gives pharmacists detailed education in clinical skills such as looking at laboratory

results, making different diagnoses, providing medicine instructions, and managing the most frequent diseases among the IHS patients. Now, IHS uses many pharmacists who are required to support patients and communities where healthcare is not easily available.

Apart from government actions, bigger healthcare providers have also shifted to using pharmacist-led models. At Cedars-Sinai Health System in California, there is a cooperation between pharmacists and doctors in patient care. The model allows pharmacists to work with patients by consulting, recommending treatments based on research, and designing particular care plans. Cedars-Sinai conducted a randomized trial to compare how different methods are used to manage hypertension: one relies on alerts sent by physicians and another includes the involvement of pharmacists to help patients. Discovery was made that patients receiving comanagement had better blood pressure control and paid less for healthcare on average every month. The positive results of the program allowed it to be duplicated in other chronic diseases, which proved to the medical authorities how effective pharmacists are in controlling these diseases.

While pharmacists do not take the lead in managing diseases in the pharmaceutical industry, they still play an important and more strategic part. To highlight the worth of drugs in terms of economics, companies have spent more on analyzing outcomes, pharmacoeconomics, and health for different disease populations. Those who work in industry are usually responsible for making new research studies and evaluating their outcomes to assist in marketing their products in competition with similar medicines. Pharmaceutical firms have also launched training programs called postdoctoral fellowships in health economics and outcomes research (HEOR), introducing pharmacists to techniques in cost-benefit modeling, evidence from the real world, and developing DM strategies(9). Fellowships produce experts who can manage pharmaceutical projects by combining pharmaceutical marketing plans with patients' needs and what payers require.

In the meantime, community pharmacies have developed into key places for providing more pharmaceutical care and DM services. Since community pharmacists are the easiest point of care for people in underserved or rural areas, they have the opportunity to guide patients on taking medicines properly, check the safety and effectiveness of their drugs, and give them personal education. Faced with reducing profits in prescription sales, retailers have taken steps to offer more services to their customers. Such pharmacy chains now have special patient centers, have upgraded their consultation rooms, and offer prescribed programs led by pharmacists for high-risk illnesses such as asthma, CAD, and diabetes.

As an example, Walgreens provides different Care Management Programs to deal with certain chronic diseases. Healthcare workers use structured counseling, teach proper ways to use medication, confirm adherence to drugs, and organize follow-up visits for every patient. Likewise, CVS is providing Health Connections centers at certain stores for people who want help with health education and managing long-term diseases. As a result of these changes, retail pharmacy is now moving towards treating patients continuously and focusing on their results. Most importantly, they use the infrastructure of their countries to unify and expand DM activities, allowing for collecting data widely and accurately checking the results.

This is because Eckerd Pharmacy introduces new methods and practices as compared to other similar models. In the late 1990s, Eckerd decided to test new technologies in a number of stores by handing some tasks to automated devices so pharmacists could spend more time on clinical care. Rooms were provided for doctor-patient conversations about medicine, and a special patient care center opened in Largo, Florida, to ensure people could get counseling and advice about pharmaceuticals the site focused only on consultations, not dispensing. Some patients chose to sit down with pharmacists to assess their medications, find out about managing the disease, and get their own tailor-made healthcare plans. They strengthen pharmacists' healthcare responsibilities and provide useful data to determine how effective the program is. Having examined the results of these initiatives, we can see that patients are happier, there is better use of medicines, and results for chronic diseases are getting better.Pharmacists play a greater role now, and it is important for them to show how their interventions result in fewer hospital visits, fewer unexpected visits to the emergency room, and less money spent on healthcare. Many studies from various practices have found that diabetes management by pharmacists brings important benefits in health and costs(10). This situation has attracted more attention from people in charge of policies, those in the insurance sector, and firms, who all want to find efficient ways to help people with chronic diseases.

Even so, many barriers still exist in the field. The major problem to address is the issue of reimbursement. Since most community and ambulatory pharmacists do not get payment for consulting work from Medicare and Medicaid,

it is difficult for DM services to become financially stable. It is also difficult to promote dental hygiene assisting in all places because of different education requirements, differing practice regulations by state, and sometimes a reluctance of other specialists. Various national organizations, for example, APhA, NACDS, and NCPA, are finding solutions to these problems by recommending new laws and creating rules for DM pharmacist certifications involving diabetes, asthma, and anticoagulation therapy.

All in all, pharmacists in different settings are able to help patients more by contributing to the overall management of diseases. No matter if they are responsible for basic health services in the government, research projects for drug companies, or work in retail stores managing chronic illnesses, pharmacists have moved to the main positions in patient care. They demonstrate that more people realize pharmacists are important to medical teams and can handle different aspects of healthcare, including clinical, economic, and operational ones. With pharmacists being part of these efforts, supportive policies, new payment methods, and more solid evidence proving their value will be needed as the profession grows.

5.Conclusion and Future work

Going from focusing on drugs to focusing on patients has greatly changed the way health care is provided today. The transformation is real because it results from changes in the system, advances in technology, updated training for pharmacists, and a wider change in what pharmacists do in providing care. Changing healthcare practices can mainly be observed in the use of disease management (DM) programs that have helped direct the treatment of chronic illnesses and allowed pharmacists to participate in ways that benefit patients, healthcare costs, and the medical field as a whole. The main point is that now, because pharmacists have to provide patient care, support decisions at the doctor's office, teach others, and review medical information, this field is far different from its original label of only dispensing medications behind the main counter.

With DM programs, healthcare providers can handle chronic diseases efficiently, since many Americans suffer from such illnesses and the health system faces high costs as a result. These programs are mainly focused on prevention, sticking to the regimen, patient guidance, and ongoing contact, all of which suit the abilities of pharmacists. Pharmacists have made a difference by boosting diabetes control, decreasing emergency visits for asthma patients, and lowering the blood pressure of those with high blood pressure. These positive effects are proven by many academic studies showing that interventions led by pharmacists help both patients and the healthcare system.

A big part of this achievement comes from solid professional education and training. By changing the standard entry-level degree from the Bachelor of Science in Pharmacy to the Doctor of Pharmacy (Pharm.D.), the country aims to prepare pharmacists for handling the complications in today's healthcare field. With the addition of postgraduate classes, grants, and review courses in particular fields, pharmacists are now able to practice well in severe situations and coordinate their efforts with other healthcare professionals.

There would not be this transformation without the important role of technology. Automation in the dispensing process, together with the rise of electronic health records (EHRs), medication platforms, and support tools for decisions, has made it easier for pharmacists to avoid standard administrative and manual tasks. With the help of new technology, pharmacists are now able to put more effort into counseling and supervising patients' use of medications. When data analytics tools are used, pharmacists are able to recognize patients who need extra attention, keep track of general health trends among many patients, and implement proven care methods.

Also, improvements in pharmacy practices have been facilitated by important changes in the healthcare industry. A growing number of retail pharmacy chains have set up special counseling facilities, consultation centers, and help for people managing different diseases. Increasingly, integrated delivery systems and ACOs are realizing that pharmacists help a lot with managing patients' care and choosing the right medications. In the pharmaceutical industry, pharmacists are currently involved in real studies and are drawing up intervention practices for different diseases. As a result, the role of pharmacists expands and they play a bigger part in the management of healthcare delivery.

Still, there are many obstacles built into the system. The main issue is that pharmacist reimbursement is separated into many parts in the United States. Although programs such as Mississippi's Medicaid Waiver provide reimbursement for pharmacists' clinical duties, most pharmacists are not seen as healthcare providers by the federal

Medicare plan. Pharmacist-led programs face short-term money problems since these efforts are not recognized as official healthcare practices and this situation makes it more difficult for them to innovate in providing care. For the profession to truly fulfill its capabilities managing chronic diseases, becoming a recognized provider is still very important at the federal level.

Besides, the laws governing CPAs in each state can significantly limit or extend the freedom of pharmacists to interact with doctors and adjust drug therapy. In different states, pharmacists may have wide or very narrow powers to prescribe drugs using CPAs. If there is national consensus and updated laws in this field, pharmacists will be able to use their expertise and contribute closely to managing different diseases. At the same time, new ways of measuring and tracking effects would help show the pharmacist's value and convert that value into decisions about policies and budgets.

This area will continue to grow when research continues, better policies are made, and stakeholders are better educated. The American Pharmacists Association (APhA), the National Association of Boards of Pharmacy (NABP), and the National Community Pharmacists Association (NCPA) are important in helping create the proper conditions for pharmacy to improve. They contribute to the pharmacist's presence in disease management.

In the future, community pharmacists may play an even greater role by becoming an important part of managing diseases. The large number of community pharmacies and patients across the U.S. means there is a huge chance to expand services provided by pharmacists. The first contact a patient can have is with a pharmacist for information about their chronic disease, assistance in following their treatment plan, immediate testing, and guidance for sudden worsening of their illness. Also, Medical Practices located in underserved areas can reduce differences in health care and improve the chances of equal outcomes for those with chronic diseases.

Because costs are rising, there are more seniors, and disease rates are going up, it's obvious that pharmacist help is now essential. Pharmacists can easily reach community members, offer their medicine wisdom, and keep up with new trends, which helps them serve, improve care, and cut down on overuse of medical resources. Our main aim is to clear the obstacles that get in the way of their full involvement and put money into the changes, skills, and laws that help them.

All in all, the shift in the pharmacist's role requires healthcare providers to move from quick treatment to steady management, pay attention to value instead of volume, and organize services rather than have them remain fragmented. Nowadays, pharmacists take part in developing, supplying, and reviewing care strategies that make a difference in both patient lives and in the performance of the entire healthcare system. Because of the latest changes in policies, technologies, training, and multidisciplinary collaboration, the pharmacist today is on track to lead the progress in healthcare.

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Conflicts of interest

The authors have no conflicts of interest to declare

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