THE NEW WAVE OF ARTIFICIAL INTELLIGENCE

PHARMACY SOFTWARE FOR PHARMACY SUCCESS

"The system is user friendly and because every pharmacy is different, they will customize it to your needs."

JUDY HARRIS, Owner, Pharmacist, All-Care Pharmacy

Liberty Software
Revolutionary Pharmacy Software

www.libertysoftware.com or call us at 800-480-9603
THE NEW WAVE OF ARTIFICIAL INTELLIGENCE

PHARMACY SOFTWARE FOR PHARMACY SUCCESS

- Flexible Pharmacy Workflow
- Patient Adherence and Performance Dashboard
- Text, Email and Voice Patient Messaging
- Integrated Facts and Comparisons
- Cloud Powered Multi-Store Management
- Prescription Ready Board
- Extensive Reporting and Data Mining
- Modern Payment Processing Including EMV
- Medication Therapy Management
- Simple Drive Through Solutions
- MedSync and Refill Management
- Inventory Control Made Easy
- Profit and Insurance Audit Protection
- Front End Inventory Management
- Advanced Bin Management
- Delivery and Remote Signature Management
- Compounding Toolset
Help your customers relax, recover, and focus.

Developed with the highest quality hemp-derived CBD, the Forth™ CBD Roll-On features a gel-based formulation with thoughtfully selected ingredients like menthol, aloe vera, and ginger to add to the wellness experience. The roller ball provides a relaxing topical CBD-infused massage with the perk of keeping hands clean during application. Make some space on your counter for a CBD product your customers will keep coming back for.

With the Forth Roll-On, you can recommend CBD with confidence. All Forth CBD products are tested by third-party labs for quality, purity, and CBD concentration.

Carry one of the top non-pharmaceutical CBD form-factors and get the Forth CBD Roll-On in you store today!

EalternativeSolutions.com/Forth

UNDERAGE SALE PROHIBITED
As virus fights for its survival, vaccines remain our greatest weapon

So it goes. Those 3 words were made famous by iconic author Kurt Vonnegut in his novel Slaughterhouse-Five. The phrase was repeated each time a character’s death was recorded, but today it has meaning for the living. The Guardian pointed out the phrase implies fatalism, stoicism, and the acceptance that no use will come of shrinking away when the worst has happened.¹

So it goes with COVID-19. We now have reached the stage of the pandemic in which the virus has mutated in its attempt to survive. We hear of Delta and Lambda variants and know that Delta is the strain causing most illness and death among unvaccinated individuals in the United States.² The virus is targeting the most vulnerable, mainly those who are unvaccinated and children under 12, who cannot yet get vaccinated. With the availability of vaccines, why aren’t more people getting their shots? It’s a question that is frustrating physicians and professional medical associations alike.³

But what about those who have not received even their first dose of the vaccine? How do physicians get through to those patients? Perhaps it is beneficial to state what we know: Infection risk is reduced by 91% for fully vaccinated people from mRNA vaccines, according to a recent study from the CDC.⁴ “COVID-19 vaccines are a critical tool in overcoming this pandemic,” CDC Director Rochelle P. Walensky, MD, MPH, said in a press release. “Findings from the extended time frame of this study add to accumulating evidence that messenger RNA (mRNA) COVID-19 vaccines are effective and should prevent most infections—but that fully vaccinated people who still get COVID-19 are likely to have milder, shorter illness and appear to be less likely to spread the virus to others. These benefits are another important reason to get vaccinated.”

We have heard the frustration from physicians on the front lines, who are treating those who remain unvaccinated despite vaccine availability. So it goes, but does it have to? We are at a point where perhaps new data will encourage the unvaccinated population to get the shot. For some, it may be their only chance at survival.

Thank you for reading.

Mike Hennessy Sr
Chairman and Founder of MJH Life Sciences™

References available online
COVER STORY

THE NEW WAVE OF ARTIFICIAL INTELLIGENCE

ONCOLOGY

Ovarian Cancer Treatment Update
PAGE 8

VACCINES

Getting Patients Immunized Against Pneumonia Is Important
PAGE 14

HEALTH SYSTEMS

Build a Successful Analytics Program
PAGE 26

CAREER

Self-care for Pharmacists
PAGE 34

Marketplace Products & Services
PAGE 36

Medical World News®
PAGE 5

SPECIAL SECTION

POC Testing Opportunities Are Important Beyond COVID-19  PAGE 28

Special Report

CBD Special Report  PAGE 20

Drug Topics® does not verify any claims or other information appearing in any of the advertisements contained in the publication, and cannot take responsibility for any losses or other damages incurred by readers in reliance on such content.

Drug Topics® welcomes unsolicited articles, manuscripts, photographs, and other material but cannot be held responsible for their safekeeping or return.

Library Access: Libraries are offered access to current and back issues of Drug Topics® through the EBSCO host databases.

To subscribe, email mmhinfo@mmhgroup.com.

Drug Topics® September 2021 Volume 165 Number 9

DrugTopics.com
Simple & fast

A Comprehensive Family of Single-Prescription Compounding Kits

Less Than 3 MINUTES to prepare*

FIRST®- Lansoprazole
Lansoprazole 3 mg/mL in FIRST®- PPI Suspension Compounding Kit

FIRST®- Omeprazole
Omeprazole 2 mg/mL in FIRST®- PPI Suspension Compounding Kit

FIRST®- Mouthwash BLM
Bacterial infection RBC, E. coli, U. urealyticum, Strep. pneumoniae, and Strep. mitis: Comping Kit

Compounding made quick, easy... and FAST

CONVENIENT
- Pre-weighted, pre-measured components
- One single product #/kit for easy prescription processing

CONSISTENT
- Promotes accurate dosing each time
- Helps facilitate your obligations under 503A and USP <795>

Three additional family members:
- FIRST®- Baclofen
- FIRST®- Metronidazole
- FIRST®- Progesterone VGS

+ Includes Progesterone VGS. Data on file, Azurity Pharmaceuticals, Inc.

Think Simple. Think FAST. Think FIRST® Kits.

To learn more, visit FIRSTKITS.COM or call 1-800-461-7449

Azurity Pharmaceuticals, Inc. was formerly known as CitiStrata, Inc. Product packaging may reflect either name. © 2021 Azurity Pharmaceuticals, Inc. All rights reserved. 09/16-08
EDITORIAL ADVISORY BOARD

LAKEŠA M. BUTLER
PHARMD
Clinical Professor, Pharmacy Practice
Director of Diversity, Equity and Inclusion
Southern Illinois University
Edwardsville, IL

JAMES JORGENSEN
RPH, MS
CEO & Board Chairman
Visante Inc. & Visante Ltd.
St Paul, MN

JEFF LOMBARDO
PHARMD, BCOP
Research Assistant Professor
UB School of Pharmacy and Pharmaceutical Sciences
Buffalo, NY

MARK NEUENSCHWANDER
President
The Neuenschwander Company
Bellevue, WA

PERRY COHEN
PHARMD, FAMCP
Chief Executive Officer
The Pharmacy Group LLC
Irvine, CA

PAUL LOFHOLM
PHARMD, FACA
Owner
GoldenGate Pharmacy Services
San Rafael, CA

DAVID D. POPE
PHARMD, CDE
Chief Innovation Officer
OmniSYS
Augusta, GA

DAVID J. FONG
PHARMD
Vice President, Pharmacy
Nurx Inc., A Telehealth Company
Danville, CA

DEBBIE MACK
BS PHARM, RPH
Director
Pharmacy Regulatory Affairs
Walmart Health and Wellness
Bentonville, AR

BRIAN ROMIG
RPH, MBA
Vice President
Corporate Pharmacy Director
Supply Chain
Adventist Health System
Altamonte Springs, FL

LISA M. HOLLE
PHARMD, BCOP, FHOPA
Associate Clinical Professor
UC onni School of Pharmacy
Storrs, CT

GENE MEMOLI JR
RPH, FASCP
Director
Customer Development
Omnicare
Cheshire, CT

STEPHEN W. SCHONDELMEYER
PHARMD, PhD
Director
PRIME Institute College of Pharmacy
University of Minnesota
Minneapolis, MN

MARY E. INGUANTI
MPH, RPH, FASCP
Vice President, Strategic Customer Group
Becton Dickinson
South Windsor, CT

MARVIN R. MOORE
PHARMD
Pharmacy Manager & Co-Owner
The Medicine Shoppe
Two Rivers, WI

KEN THAI
PHARMD
Chief Executive Officer, 366 Degrees Corporation
CPhA President
San Marino, CA

MOHAMED A. JALLOH
PHARMD
Assistant Professor, Clinical Sciences
Touro University California
College of Pharmacy
Vallejo, CA

EDITORIAL MISSION: Drug Topics® is the top-ranked pharmacy resource for community and health-system professionals. Since 1857, readers have turned to Drug Topics® for coverage of issues and trends important to the practice of pharmacy, and for a forum in which they can share viewpoints and practical ideas for better pharmacy management and patient care.
Biden pushes for lower drug prices in an executive order

An executive order by President Joe Biden will direct the FDA to work with states and tribes to import prescription drugs from Canada and pushes the US Department of Health and Human Services (HHS) to increase support for generic and biosimilar drugs, as well as orders HHS to release a comprehensive plan to combat high prescription drug prices and price gouging.

The July 9, 2021, order encourages the Federal Trade Commission (FTC) to ban so-called pay-for-delay agreements, in which pharmaceutical manufacturers pay generic manufacturers to stay out of the market. This has raised drug prices by $3.5 billion a year, according to the fact sheet. A separate provision of the executive order also announces a policy for antitrust agencies to focus enforcement on several industries including health care. The order pushes the FTC to ban or limit the use of noncompete agreements in employment contracts. These agreements limit employees' opportunities when they leave the company and can lead to costly lawsuits. It is not clear what impact any limitations would have on physicians currently working under a noncompete agreement.

The order also calls on the FTC to ban unnecessary occupational licensing, which limits a person's chance to find employment across states where licensure may be different. It also encourages the FTC and the US Department of Justice to limit employers' ability to share information on worker pay, which may amount to collusion.

For references, visit medicaledconomics.com

IDP-126 meets end points in second phase 3 study

Investigators reported that the phase 3 trial met all coprimary endpoints.

By Linda Stocum

Ortho Dermatologics, a Bausch Health Company, announced results from its second phase 3 trial investigating the safety and efficacy of IDP-126 for the treatment of acne vulgaris in patients 9 years and older. All coprimary endpoints were met by week 12 in the phase 3, multicenter, randomized, double-blind, vehicle-controlled trial.

The end points were the absolute changes from baseline in inflammatory lesion count and noninflammatory lesion count, and the percentage of patients who achieved treatment success. Treatment success was defined as clear or almost clear skin in the Evaluator’s Global Severity Score (EGSS). “If approved, IDP-126 will provide the first triple combination treatment option to help patients with acne,” said Scott Hirsch, president of Ortho Dermatologics, and senior vice president and chief strategy officer of Bausch Health, Laval, Quebec, Canada. Results from the study were based on 193 patients, age 9 years and older. Just over half of patients in the IDP-126 arm achieved EGSS clear or almost clear skin, compared with 20.5% of patients in the vehicle arm. Some patients achieved benefits from treatment as early as 2 weeks. “The (strong efficacy) results of this second phase 3 study are consistent with results seen in the first phase 3 study,” said Linda Stein Gold, MD, director of dermatology clinical research of the Henry Ford Health System in Detroit, Michigan. If approved, IDP-126 would be the first treatment that is a combination retinoid, antibacterial, and antibiotic topical.

For references, visit dermatologytimes.com
Get easy access to news, information, practical solutions, trusted perspectives through peer-based forums and opinions.

View in-depth interviews with industry experts.

Find therapeutic and condition-specific information for optimal patient care.

Medical World News®
Discover the 24-hour news channel for #healthcareprofessionals, by health care professionals.

Website Enhancements
- Streamlined navigation, so it is more user-friendly
- Improved mobile compatibility, so it is easier to read on your phone
- Increased responsiveness, so you can find what you are looking for
Enhanced Website Experience

- Use our improved navigation and search.
- Sign up to receive e-newsletters and the print publication.
- Read keynote highlights, industry trends and policy updates.
- Customize content specific to your needs.

Visit drugtopics.com for an easy access to news, information, practical solutions, trusted perspectives through peer-based forums and opinions.

View in-depth interviews with industry experts.

Find therapeutic and condition-specific information for optimal patient care.

Medical World News®

Discover the 24-hour news channel for healthcare professionals, by healthcare professionals.
Ovarian Cancer Treatment Update and Pharmacists’ Role

By Jennifer Gershman, PharmD, CPh

Pharmacists can play a key role in treating patients with ovarian cancer through counseling, drug information consults, and adherence. September is Ovarian Cancer Awareness Month and an important time to educate patients about the latest treatments and research. New targeted therapies known as PARP inhibitors (PARPis) used to treat patients with advanced ovarian cancer are transforming the treatment landscape through precision medicine.

Treatment and Research Updates

PARPis are a type of targeted therapy, and there are 3 FDA-approved medications in this class taken orally for the treatment of ovarian cancer: olaparib (Lynparza), rucaparib (Rubraca), and niraparib (Zejula) (see online Table 1). PARPis work by preventing PARP if a complete or partial response is achieved after primary treatment with surgery and platinum-based first-line therapy. There also are promising drugs in the pipeline from different classes being studied for the treatment of ovarian cancer (see online Table 2).

Studies are now examining the causes of racial and ethnic disparities among women with ovarian cancer. Studies aim to examine disparities in patient care and survival. The ACS research programs are evaluating ovarian cancer topics such as diagnosis, prevention strategies, and effective treatment options.

One long-running study from the Dana-Farber Cancer Institute and cofunded by the Ovarian Cancer Research Alliance found that the antibiotic novobiocin can target and kill tumor cells in laboratory cell lines and tumor models with BRCA1 or BRCA2 genetic mutations. It is also effective in tumors that have become resistant to PARPis.

One recent study showed that the PARPi rucaparib is effective in treating certain types of ovarian cancers if used early in treatment, before the cancer builds resistance to chemotherapy. Researchers at the University of Alabama at Birmingham identified a gene called DOT1L, and inhibitors of the DOT1L enzyme could be a new approach to treating ovarian cancer. Researchers examined patient data and found that DOT1L expression was much higher in tissues from patients with ovarian cancer compared with tissues from healthy patients. Patients with ovarian tumors that had high DOT1L expression showed shorter progression-free survival and shorter overall survival rates compared with patients whose ovarian tumors had lower DOT1L expression.

Pharmacists’ Role in Ovarian Cancer Management

Pharmacists can aid in monitoring patients on PARPi therapy and determining the appropriate dose based on renal function, adverse reactions, and potential drug interactions. Patients with renal impairment require a dose reduction with olaparib, but not for niraparib and rucaparib. The starting dose for niraparib should be reduced in patients with moderate hepatic impairment, and further dose reductions may be needed.

The NCCN recommends that patients receiving PARPi therapy have careful monitoring of blood counts and renal and hepatic function. Blood pressure monitoring is required for niraparib and recommended for all other PARPis. Pharmacists can provide medication therapy management services, such as patient counseling, refill synchronization, and follow-up.

For references, visit drugtopics.com.
DID YOU KNOW?

Getting test strips with insurance might not be the best option for all patients.

CONTOUR® NEXT HAS THE SOLUTION.

Evolving with you

NOW

ONLY

$19.99

35 strips

MSRP*

DID YOU KNOW?

Getting test strips with insurance might not be the best option for all patients.

CONTOUR® NEXT HAS THE SOLUTION.

There is a simple answer to a complex problem

Buying test strips through commercial insurance may be complex. But when your patients buy CONTOUR® NEXT test strips over the counter, they may get a better price** for highly accurate1,2 test strips they can trust.

#1 Branded over-the-counter test strips3

Available at over 50,000 retail locations nationwide4

When it comes to diabetes management, trust CONTOUR®.

*Manufacturer Suggested Retail Price. Check with your preferred retailer.

**Patients should check with their insurance company as insurers may offer a lower cost option.

10.1177/1932296817691301


©2021 Ascensia Diabetes Care. All rights reserved. Ascensia, the Ascensia Diabetes Care logo, Contour logo are trademarks and/or registered trademarks of Ascensia Diabetes Care. The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc., and any use of such marks by Ascensia Diabetes Care is under license. PP-CNXT-P-US-2344
ARTIFICIAL INTELLIGENCE

WIDELY USED IN PHARMACY

This technology has come in waves. By Fred Gebhart
The term “artificial intelligence” first appeared at the Dartmouth Summer Research Project on Artificial Intelligence in 1956. The concept drew wide attention and funding, including the Defense Advanced Research Projects Agency (DARPA), which continues to fund AI research.

The agency’s Information Innovation Office (I2O) identifies 3 waves of AI development. The first wave was handcrafted knowledge: subject matter experts crafting algorithms and software that follow precise, logical rules. First-generation AI excels at following rules but cannot manage ambiguity or uncertainty. It is used extensively in computer operating systems, interactive voice recognition, and other familiar applications. The inability to deal with ambiguity can be fatal. DARPA launched a self-driving car competition in 2004. Rule-based programming could not distinguish between shadows, clouds, and nearby obstacles. Every vehicle crashed or stalled.

Second-wave AI added statistical learning, using known data sets to train statistical modeling programs to interpret the environment. Five vehicles completed DARPA’s second self-driving car competition in 2005. Second-generation AI powers voice and image recognition systems, automated translation, and autonomous vehicles.

The third wave adds contextual adaptation: AI systems constructing their own models and teaching themselves to reach useful, and hopefully correct, conclusions. Third-generation AI is moving out of the lab with dynamic models of human proteins, bespoke drug designs, and clinical decision support systems that can recommend specific interventions.

Ayne Salverda, RPh, senior director of clinical services for National CooperativeRx, remembers visiting Eli Lilly and Company while in pharmacy school. “They had a crazy super-computer working on drug design and that was 30 years ago,” he said. “About 1 in 10 drugs in development makes it to market, but companies like Vertex or Regeneron that have invested in and leveraged AI see 30% to 40% of their new molecular entities make it to market. It’s not a coincidence; it’s putting smart science and AI into drug development.”

AI can be just as useful in medication management. Pharmacy benefit manager Prime Therapeutics worked with AI provider SAS to save clients $355 million over 18 months by consolidating and analyzing data from pharmacy, drug claims, and medical services to target fraud.

“We have gotten some good recoveries and great cost avoidances with AI,” Salverda said. “We will be able to leverage AI even more in the future to help make sure that individual patients are getting the most appropriate medications at the most appropriate dose by factoring in their specific genetics and health conditions. We’re going to see a lot of advances in pharmacogenomics with AI.”

Beyond the Human Brain
AI is a concept, not a gadget like the robot Maria in the 1927 film Metropolis or R2-D2 in Star Wars 50 years later. “AI is nothing more than a means to an end, improving processes and improving outcomes,” said Codrin Arsene, chief marketing officer for Digital Authority Partners. “It’s just an automation of data, rules, and statistical processes that help people do their jobs more efficiently.”

When the American Society of Health-System Pharmacists (ASHP) and the American Medical Association discuss AI, they mean augmented intelligence: leveraging the strengths of computers and clinicians to improve outcomes for patients. “AI today is everywhere in pharmacy: drug discovery, drug design, drug development, trial design, participant selection, clinical decision support, drug response and risk prediction, personalized therapy, everywhere,” said Wei-Hsuan Lo-Ciganic, PhD, MS, MSPharm, associate professor in the Department of Pharmaceutical Outcomes and Policy at the University of Florida College of Pharmacy.

AI has come to pharmacy in 3 waves, noted Chenglong Li, PhD, a professor in the Medicinal Chemistry, Biochemistry, and Biophysics Department at the University of Florida College of

Artificial intelligence (AI) has been an integral part of pharmacy for decades. It is called the pharmacy management system: the collection of digital tools that houses patient utilization and drug data in virtually all pharmacy settings. Academia and industry have been using AI to bolster drug research and development for at least as long.
intervention as much as humans need AI.

"AI has the potential to help pharmacists improve their workflows," said Sophia Chihay PharmD, assistant director of the ASHP Innovation Center. "Any pharmacist will tell you that ‘anything that gets me away from the computer and spending more time with patients is going to be an answer.’"

Freeing up pharmacist time is key, said Ken Perez, vice president of healthcare policy and government affairs at Omnicell. The typical pharmacist spends 75% of working hours on non-clinical tasks.

"If you think about every medication as a node on a network, every drug has a journey, and where every dose goes is important," he said. Pharmacists spend too much time as de facto supply chain specialists, figuring out where drugs are and how to get them to the right patient at the right time. That time would be better spent with patients, not products. And that’s where AI can make a huge difference. The real prize of AI is helping pharmacists [to] practice at the top of their licenses, spending more time with the patients who need them most."

Chenglong Li, PhD, professor in the Biophysics Department at the University of Florida College of Pharmacy

The real prize of AI is helping pharmacists [to] practice at the top of their licenses, spending more time with the patients who need them most.

"But when the iPhone came out, with its smartcamera, the world changed. We are going to see the same kind of change in the world of pharmacy." Lo-Ciganic said. "When I was in school, people laughed at digital cameras. But when the iPhone came out, with its smartcamera, the world changed. We are going to see the same kind of change in the world of pharmacy." Lo-Ciganic is using AI to improve risk prediction for opioid misuse by linking Medicaid, human services, and criminal justice data. AI helped her identify 30 key predictors of opioid overdose.

"The methods used today can predict about 30% of opioid overdoses," she said. "When we use our machine learning rule, we can improve to 75% to 90% accuracy for individuals who have an opioid overdose or misuse. That helps focus time and resources on the people at highest risk."

Li’s lab modeled an enzyme that represses tumor suppressor genes and a native compound that blocks the enzyme, which allows suppressor genes to be expressed and kill the tumor. "We have a few collections of really potent compounds, maybe 10,000-fold more potent than the native compounds that work in cell culture," Li said. "We are trying them in animal models to see if they are active in vivo."

More changes in drug discovery are coming. In July 2021, DeepMind announced the latest version of its AlphaFold platform has identified the 3D structure of 98% of the entire human protein complement. More than 350,000 protein structures are available in a public database hosted by the European Molecular Biology Laboratory’s European Bioinformatics Institute.

Pharmacist First

AI isn’t making any of these advances on its own. AI needs human practice. “For all the research that goes on, this is an industry that has a very low level of innovation and too much bureaucracy to change quickly,” he said. Arsene likened pharmacy to the financial services industry. It wasn’t until Credit Karma, Mint.intuit.com, and other new entrants began to affect customer preferences and banking profits that traditional providers moved to AI.

New entrants in pharmacy are presenting similar challenges. Kit Check uses AI to audit 100% of hospital-controlled substance use in less time than a conventional 5% random audit.

“Nobody can track controlled substances manually; there is just too much information,” said Doug Zurawski, PharmD, Kit Check’s senior vice president of clinical strategy. “We and our competitors can give you a dynamic picture of everything and everyone in your system relative to controlled substances.” AI systems developed for the relatively closed universe of healthcare can be expanded to ambulatory care and retail pharmacy, he added.

On the dispensing side, InterLinkAI is expanding Rx verification by identifying every pill as it goes into a patient vial. Different versions of image-based verification can be adapted for a single pharmacy, telepharmacy, load sharing across multiple pharmacies.

“You have a clean record of the chain of custody from the raw materials used in a batch of medication through distribution of the stock bottle,” said Ram Subramanian, PhD, InterLink’s chief business officer. "But from the stock bottle on, there are questions. Verifying 100% of the pills that go into every vial optimizes the pharmacy workflow and frees up time for technicians and pharmacists. Improving the workflow puts the pharmacist in the driver’s seat regarding patient care."

© 2021 ARMAgon Communications, LLC

Pharmacist First

AI isn’t making any of these advances on its own. AI needs human
Fact:
Nearly 2.5 million patients visit a health care professional regarding constipation each year.*

Essential Resources in the Treatment of Occasional Constipation

Be prepared to answer patient questions and make informed recommendations in the pharmacy!

Explore resources at your fingertips:

- The latest news and updates regarding the treatment of occasional constipation
- Reputable industry resources and reports for pharmacists
- Information to support pharmacists in educating patients

Bookmark this Drug Topics® toolkit to stay connected to the most up-to-date, authoritative and essential resources for pharmacy teams.

drugtopics.com/constipation-resources

*Cleveland Clinic, November 2019. https://my.clevelandclinic.org/health/diseases/4059-constipation
Getting Patients Immunized Against Pneumonia Is Important

Pharmacists can promote vaccinations to at-risk individuals. By Karen Berger, PharmD

SYMPTOMS OF PNEUMONIA

Symptoms of bacterial pneumonia may come on suddenly or gradually and may include the following:
- cough, which may be productive
- fever, sweating, and chills
- dyspnea
- chest pain that may feel sharp or stabbing
- appetite loss
- fatigue
- nausea and vomiting
- confusion

Who Is at Risk?

Pharmacists can identify patients who are at higher risk for pneumonia, including those who are:
- immunocompromised because of disease or medication
- smokers
- children with HIV or asplenia, especially sickle cell disease
- children who attend day care
- children of certain racial and ethnic groups

Additionally, patients who have the following are also at increased risk of pneumonia:
- asplenia
- chronic cardiovascular, pulmonary (including asthma), liver, or renal disease
- alcoholism
- cerebrospinal fluid leak
- cochlear implant

What Is Pneumonia?

Pneumonia is a lung infection involving 1 or both lungs. Pneumonia causes the air sacs of the lungs to fill with pus or fluid. Symptoms vary in severity, depending on factors such as cause of the infection, the patient’s age, and other medical conditions. Bacteria (usually Streptococcus pneumoniae in the United States) are the most common cause of pneumonia, which can occur on its own or secondary to a viral infection. Pneumonia may be viral or fungal. Fungal pneumonia occurs more often in patients who are immunocompromised or have other chronic health problems.

Available Vaccines and Scheduling

The CDC’s Advisory Committee on Immunization Practice (ACIP) recommends vaccination to prevent pneumococcal disease (any illness caused by S pneumoniae). There are 2 vaccines available in the United States:
- pneumococcal conjugate vaccine (PCV) 13 (Prevnar 13; Pfizer)—pneumococcal conjugate vaccine for intramuscular (IM)
infection; prevents pneumonia and invasive disease caused by *S. pneumoniae* serotypes 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, and 23F

- **pneumococcal polysaccharide vaccine (PPSV) 23** (Pneumovax 23; Merck)—pneumococcal polysaccharide vaccine for IM or subcutaneous injection; prevents pneumonia caused by *S. pneumoniae* serotypes 1, 2, 3, 4, 5, 6B, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15B, 17F, 18C, 19F, 19A, 20, 22F, 23F, and 33F

The ACIP recommends the following for pneumococcal vaccination:

- **PCV13** for all children under 2 years, individuals 2 or older with certain medical conditions, and adults 65 or older who are not immunocompromised and do not have a cerebrospinal fluid leak or cochlear implant
- **PPSV23** for all adults 65 or older, individuals aged 2 to 64 years with certain medical conditions, and adult smokers aged 19 to 64 years

Regimens vary based on individual circumstances. For adults 65 and older who are not immunocompromised and do not have a cerebrospinal fluid leak or cochlear implant, a standard regimen is 1 dose of PCV13 first, followed by 1 dose of PPSV23 at least 1 year later.

Pneumococcal vaccine 20-valent (Prevnar 20; Pfizer) was approved by the FDA in June 2021 and is anticipated to be available in August 2021. The ACIP is expected to meet in October to review recommendations for vaccination.

**Getting Patients Vaccinated**

Globally, pneumonia kills more children younger than 5 each year than any other infectious disease. About 50,000 individuals die due to pneumonia each year; most are adults.

Pharmacists have the resources and knowledge to provide vaccines to patients who need them. What are some ways we can help get the word out to our patients?

Bruce Kneeland is an independent pharmacy specialist based in Prescott, Arizona, and host of the popular *Pharmacy Crossroads* podcast. He has helped independent pharmacists for over 40 years. Kneeland is a longtime advocate of pharmacy immunizations.

Kneeland acknowledged that some pharmacists may be apprehensive about conflicts with physicians. He recommends finding ways to assure physicians that the goal is not to steal patients but to provide a critical service that pharmacists are qualified to deliver. “Reach out to key physicians in your immediate area and let them know you’re vaccinating,” Kneeland said. “Explain that you are trained, have the infrastructure to support vaccine administration, and you look forward to cooperating with them to help people get the vaccines they need.”

Pharmacists may also contact their key technology partners to find out how they can identify who needs a specific vaccination by accessing their state’s Immunization Information System. Kneeland said. From there, pharmacists can approach targeted patients with a quick consult in person, asking, “Have you gotten your pneumonia shot yet?”

According to Kneeland, patients often require time to consider the need for vaccination. Pharmacists should not be discouraged if a patient visits the pharmacy 2 or 3 times before agreeing to receive the vaccine. Pharmacists can also send text messages, emails, or snail mail to targeted patients about the importance of the pneumonia vaccine, suggesting that they ask to speak with the pharmacist on their next visit. Importantly, pharmacists should become comfortable talking to patients who may be in a hurry or are unsure why they need a particular vaccine, Kneeland said. Keeping up with available vaccines and new ones on the market helps pharmacists stay current and able to address patients’ questions.

Kneeland also suggests setting up a designated area for vaccine administration in the pharmacy.

Bridget Hanna, CPhT, a marketing consultant for independent pharmacies in the United States and Canada, noted that pharmacists can utilize various marketing platforms and resources to develop a successful plan for promoting the pneumonia vaccine. “To effectively educate patients on these topics, you need to create content on multiple platforms,” Hanna explained.

“Social media is an extremely effective way to deliver your message to multiple target audiences. You need to create different forms of content to provide information on the vaccine,” Hanna said. She suggests live videos, educational posts, webinar events, and links to the pharmacy’s website or to a PDF with important information.

Hanna also recommends strategically placed in-store signage, printed material, newsletters, bag stuffers, and email marketing. “This brings awareness to the vaccine and lets patients know that your pharmacy can provide a solution by vaccinating patients,” she explained.

Keeping the community and patients updated, educated, and supported is of utmost importance. “The more you communicate with your patients and community with this information, the more you build trust and loyalty, resulting in long-term retention,” she added.

For references, visit drugtopics.com.

Karen Berger, PharmD, graduated from the University of Pittsburgh School of Pharmacy, and her experience includes chain and independent pharmacy as well as medical writing and reviewing.
DON’T BE OUT OF THE LOOP ON OUT-OF-POCKET COST

LET PATIENTS KNOW THE AVERAGE OUT-OF-POCKET COST MAY BE LESS THAN THEY THINK

SHINGRIX
(ZOSTER VACCINE RECOMBINANT, ADJUVANTED)

LESS THAN*

$5

*Average out-of-pocket cost for commercially insured patients.

Indication
SHINGRIX is a vaccine indicated for prevention of herpes zoster (shingles) in adults aged 50 years and older.

SHINGRIX is not indicated for prevention of primary varicella infection (chickenpox).

Important Safety Information

• SHINGRIX is contraindicated in anyone with a history of a severe allergic reaction (eg, anaphylaxis) to any component of the vaccine or after a previous dose of SHINGRIX

• Review immunization history for possible vaccine sensitivity and previous vaccination-related adverse reactions. Appropriate medical treatment and supervision must be available to manage possible anaphylactic reactions following administration of SHINGRIX

• In a postmarketing observational study, an increased risk of Guillain-Barré syndrome was observed during the 42 days following vaccination with SHINGRIX

• Solicited local adverse reactions in subjects aged 50 years and older were pain (78.0%), redness (38.1%), and swelling (25.9%)

• Solicited general adverse reactions in subjects aged 50 years and older were myalgia (44.7%), fatigue (44.5%), headache (37.7%), shivering (26.8%), fever (20.5%), and gastrointestinal symptoms (17.3%)

• SHINGRIX was not studied in pregnant or lactating women, and it is unknown if it is excreted in human milk. Therefore, it cannot be established whether there is vaccine-associated risk with SHINGRIX in pregnant women or if there are effects on breastfed infants or milk production/excretion

References:
1. Data on file, GSK.

\( \text{SOURCE: Managed Markets Insight & Technology, LLC, Database as of June 2021.} \)

\( \text{‘Coverage’} \)

\( \text{‘OUT-OF-POCKET COST’} \)

\( \text{‘SHINGRIX’} \)

\( \text{‘LESS THAN’} \)

\( \text{‘$5’} \)

\( \text{‘Average out-of-pocket cost for commercially insured patients.’} \)

\( \text{‘Indication’} \)

\( \text{‘SHINGRIX is a vaccine indicated for prevention of herpes zoster (shingles) in adults aged 50 years and older.’} \)

\( \text{‘SHINGRIX is not indicated for prevention of primary varicella infection (chickenpox).’} \)

\( \text{‘Important Safety Information’} \)

\( \text{‘• SHINGRIX is contraindicated in anyone with a history of a severe allergic reaction (eg, anaphylaxis) to any component of the vaccine or after a previous dose of SHINGRIX’} \)

\( \text{‘• Review immunization history for possible vaccine sensitivity and previous vaccination-related adverse reactions. Appropriate medical treatment and supervision must be available to manage possible anaphylactic reactions following administration of SHINGRIX’} \)

\( \text{‘• In a postmarketing observational study, an increased risk of Guillain-Barré syndrome was observed during the 42 days following vaccination with SHINGRIX’} \)

\( \text{‘• Solicited local adverse reactions in subjects aged 50 years and older were pain (78.0%), redness (38.1%), and swelling (25.9%)’} \)

\( \text{‘• Solicited general adverse reactions in subjects aged 50 years and older were myalgia (44.7%), fatigue (44.5%), headache (37.7%), shivering (26.8%), fever (20.5%), and gastrointestinal symptoms (17.3%)’} \)

\( \text{‘• SHINGRIX was not studied in pregnant or lactating women, and it is unknown if it is excreted in human milk. Therefore, it cannot be established whether there is vaccine-associated risk with SHINGRIX in pregnant women or if there are effects on breastfed infants or milk production/excretion’} \)

\( \text{‘References: 1. Data on file, GSK.’} \)

\( \text{‘SOURCE: Managed Markets Insight & Technology, LLC, Database as of June 2021.’} \)

\( \text{‘‘OUT-OF-POCKET COST’} \)

\( \text{‘‘SHINGRIX’} \)

\( \text{‘‘LESS THAN’} \)

\( \text{‘‘$5’} \)

\( \text{‘‘Average out-of-pocket cost for commercially insured patients.’} \)
When it comes to healthcare, coverage and cost are often big concerns for patients. But as you’ll see, cost doesn’t need to be an obstacle to receiving quality care. In fact, for most commercial plans, the out-of-pocket cost to patients is usually minimal.

Nationally, payers covering 96% of commercial medical benefit enrollees cover SHINGRIX.  
96%

The Affordable Care Act (ACA) requires all Health Insurance Marketplace plans and most other private health insurance plans to cover all Advisory Committee on Immunization Practices (ACIP)-recommended vaccines, including SHINGRIX, with no cost sharing (deductibles, copayments or coinsurance) if administered in-network.

90% of privately insured patients pay no or limited out-of-pocket cost with the average cost being less than $5 per dose.

90%

Individual access may vary by geography and plan benefit design.

What you need to know:
Coverage, coding, cost to patient, reimbursement amount for product, and administration fee will vary by payer, plan, patient, professional setting, or services rendered and are subject to change without notice. Cost to patients may vary. Coverage and reimbursement decisions are made by individual payers following receipt of claims from providers. Providers must follow payer documentation and billing requirements.

SOURCE: Managed Markets Insight & Technology, LLC, Database as of June 2021. “Coverage” is formulary access without restrictions, which means reimbursement from a health plan with no accompanying step edits or prior authorizations. Veterans Affairs (VA) and Indian Health Service (IHS) lives have been omitted when calculating the percentage of lives for this geography.

Important Safety Information (cont’d)
• Vaccination with SHINGRIX may not result in protection of all vaccine recipients


You are encouraged to report vaccine adverse events to the US Department of Health and Human Services. Visit www.vaers.hhs.gov to file a report, or call 1-800-822-7967.

Please see Brief Summary of Prescribing Information for SHINGRIX on the following pages.

To see additional information about cost and coverage go to CoverageSHINGRIX.com

Trademark(s) are owned by or licensed to the GSK group of companies.

©2021 GSK or licensor.

SGXJRNA210005 April 2021
Produced in USA.
The reported frequencies of specific solicited local adverse reactions include:

- Pain: 88.4%, 14.4%, 82.8%, 11.1%, 69.2%, 8.8%
- Pain, Grade 3: 10.3%, 0.5%, 6.9%, 0.5%, 4.0%, 0.2%
- Redness: 38.7%, 1.2%, 38.4%, 1.6%, 37.7%, 1.2%
- Redness, >100 mm: 2.8%, 0.0%, 2.6%, 0.0%, 3.1%, 0.0%
- Swelling: 30.5%, 0.8%, 26.5%, 1.0%, 23.0%, 1.1%
- Swelling, >100 mm: 1.1%, 0.0%, 0.5%, 0.0%, 1.3%, 0.0%

Across both studies, the percentages of subjects aged 50 years and older were female.

5 WARNINGS AND PRECAUTIONS

5.1 Preventing and Managing Allergic Vaccine Reactions

Prior to administration, the healthcare provider should review the immunization history for possible vaccine sensitivity and previous vaccination-related adverse reactions. Appropriate medical treatment and supervision must be available to manage possible anaphylactic reactions following administration of SHINGRIX.

5.2 Guillain-Barré Syndrome (GBS)

In a postmarketing observational study, an increased risk of GBS was observed for 0.8% of subjects who received SHINGRIX and for 0.7% of subjects who received placebo following the first dose of SHINGRIX, with an estimated 6 excess deaths among SHINGRIX recipients. The occurrence of GBS was also observed in 23 subjects (0.1%) who received SHINGRIX and 1 subject (0.0%) who received placebo following the second dose of SHINGRIX.

5.3 Clinical Trials Experience

In Studies 1 and 2, data on solicited local and general adverse events were collected using standardized diary cards for 7 days following each vaccine dose or placebo (i.e., day of vaccination and the next 6 days) in a subset of subjects (n = 4,886 receiving SHINGRIX, n = 4,881 receiving placebo with at least 1 documented dose). Across both studies, the percentages of subjects aged 50 years and older reporting each solicited local adverse reaction and each solicited general adverse event following administration of SHINGRIX (both doses combined) were pain (78.0%), redness (38.1%), swelling (26.3%), headache (22.4%), fever (20.5%), and gastrointestinal symptoms (17.3%), respectively.

The reported frequencies of specific solicited local adverse reactions and general adverse events (overall per subject), by age group, from the 2 studies are presented in Table 1.

### BRIEF SUMMARY

**SHINGRIX (Zoster Vaccine Recombinant, Adjuvanted)**

The following is a brief summary only; see full prescribing information for complete product information.

#### 1 INDICATIONS AND USEAGE

SHINGRIX is a vaccine indicated for prevention of herpes zoster (shingles) in adults aged 50 years and older.

#### 2 DOSAGE AND ADMINISTRATION

2.2 Administration Instructions

For intramuscular injection only.

#### 3 CONTRAINDICATIONS

Do not administer SHINGRIX to anyone with a history of a severe allergic reaction (e.g., anaphylaxis) to any component of the vaccine or after a previous dose of SHINGRIX (see Description (11) of full prescribing information).

#### 4 ADVERSE REACTIONS

6.1 Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a vaccine cannot be directly compared with rates in the clinical trials of another vaccine and may not reflect the rates observed in practice. There is the possibility that broad use of SHINGRIX could reveal adverse reactions not observed in clinical trials.

Overall, 17,041 adults aged 50 years and older received at least 1 dose of SHINGRIX in 17 clinical studies.

The safety of SHINGRIX was evaluated by pooling data from 2 placebo-controlled clinical studies (Studies 1 and 2) involving 29,305 subjects aged 50 years and older who received at least 1 dose of SHINGRIX (n = 14,645) or saline placebo (n = 14,660) administered according to a 0- and 2-month schedule. At the time of vaccination, the mean age of the population was 69 years; 7,286 (24.9%) subjects were aged 50 to 59 years, 4,488 (15.3%) subjects were aged 60 to 69 years, and 17,531 (59.8%) subjects were aged 70 years and older. Both studies were conducted in North America, Latin America, Europe, Asia, and Australia. In the overall population, the majority of subjects were white (74.3%), followed by Asian (18.3%), black (1.4%), and other racial/ethnic groups (6.0%); 58% were female.

Solicited Adverse Events

In Studies 1 and 2, data on solicited local and general adverse events were collected using standardized diary cards for 7 days following each vaccine dose or placebo (i.e., day of vaccination and the next 6 days) in a subset of subjects (n = 4,886 receiving SHINGRIX, n = 4,881 receiving placebo with at least 1 documented dose). Across both studies, the percentages of subjects aged 50 years and older reporting each solicited local adverse reaction and each solicited general adverse event following administration of SHINGRIX (both doses combined) were pain (78.0%), redness (38.1%), and swelling (26.3%), headache (22.4%), fever (20.5%), and gastrointestinal symptoms (17.3%), respectively.

The reported frequencies of specific solicited local adverse reactions and general adverse events (overall per subject), by age group, from the 2 studies are presented in Table 1.

#### Table 1. Percentage of Subjects with Solicited Local Adverse Reactions and General Adverse Events within 7 Days of Vaccination in Adults Aged 50 to 59 Years, 60 to 69 Years, and 70 Years and Older (Total Vaccinated Cohort with 7-Day Diary Card)

<table>
<thead>
<tr>
<th>Local Adverse Reactions</th>
<th>Aged 50-59 Years</th>
<th>Aged 60-69 Years</th>
<th>Aged ≥70 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHINGRIX %</td>
<td>Placebo%</td>
<td>SHINGRIX %</td>
<td>Placebo%</td>
</tr>
<tr>
<td>Pain</td>
<td>88.4</td>
<td>14.4</td>
<td>82.8</td>
</tr>
<tr>
<td>Pain, Grade 3</td>
<td>10.3</td>
<td>0.5</td>
<td>6.9</td>
</tr>
<tr>
<td>Redness</td>
<td>38.7</td>
<td>1.2</td>
<td>38.4</td>
</tr>
<tr>
<td>Redness, &gt;100 mm</td>
<td>2.8</td>
<td>0.0</td>
<td>2.6</td>
</tr>
<tr>
<td>Swelling</td>
<td>30.5</td>
<td>0.8</td>
<td>26.5</td>
</tr>
<tr>
<td>Swelling, &gt;100 mm</td>
<td>1.1</td>
<td>0.0</td>
<td>0.5</td>
</tr>
<tr>
<td>General Adverse Events</td>
<td>Aged 50-59 Years</td>
<td>Aged 60-69 Years</td>
<td>Aged ≥70 Years</td>
</tr>
<tr>
<td>SHINGRIX %</td>
<td>Placebo%</td>
<td>SHINGRIX %</td>
<td>Placebo%</td>
</tr>
<tr>
<td>Myalgia</td>
<td>56.9</td>
<td>15.2</td>
<td>49.0</td>
</tr>
<tr>
<td>Myalgia, Grade 3</td>
<td>8.9</td>
<td>0.9</td>
<td>5.3</td>
</tr>
<tr>
<td>Fatigue</td>
<td>57.0</td>
<td>19.8</td>
<td>45.7</td>
</tr>
<tr>
<td>Fatigue, Grade 3</td>
<td>8.5</td>
<td>1.8</td>
<td>5.0</td>
</tr>
<tr>
<td>Headache</td>
<td>50.6</td>
<td>21.6</td>
<td>39.6</td>
</tr>
<tr>
<td>Headache, Grade 3</td>
<td>6.0</td>
<td>1.7</td>
<td>3.7</td>
</tr>
<tr>
<td>Shivering</td>
<td>35.8</td>
<td>7.4</td>
<td>30.3</td>
</tr>
<tr>
<td>Shivering, Grade 3</td>
<td>6.8</td>
<td>0.2</td>
<td>4.5</td>
</tr>
<tr>
<td>Fever</td>
<td>27.8</td>
<td>3.0</td>
<td>23.9</td>
</tr>
<tr>
<td>Fever, Grade 3</td>
<td>0.4</td>
<td>0.2</td>
<td>0.5</td>
</tr>
<tr>
<td>GI</td>
<td>24.3</td>
<td>10.7</td>
<td>16.7</td>
</tr>
<tr>
<td>GI, Grade 3</td>
<td>2.1</td>
<td>0.7</td>
<td>0.9</td>
</tr>
</tbody>
</table>

Total vaccinated cohort for safety included all subjects with at least 1 documented dose (n).

* 7 days included day of vaccination and the subsequent 6 days.
* Data for subjects aged 50 to 59 years and 60 to 69 years are based on Study 1. Data for subjects 70 years and older are based on pooled data from Study 1: NCT01165177 and Study 2: NCT01165229.
* Placebo was a saline solution.
* Grade 3 pain: Defined as significant pain at rest; prevents normal everyday activities.
* Grade 3 myalgia, fatigue, headache, shivering, GI: Defined as preventing normal activity.
* Fever defined as ≥37.5°C/99.5°F for oral, axillary, or tympanic route, or ≥38°C/100.4°F for rectal route; Grade 3 fever defined as ≥39.0°C/102.2°F.
* GI = Gastrointestinal symptoms including nausea, vomiting, diarrhea, and/or abdominal pain.

The incidence of solicited local and general symptoms was lower in subjects aged 70 years and older compared with those aged 50 to 69 years.

The majority of solicited local adverse reactions and general adverse events seen with SHINGRIX had a median duration of 2 to 3 days.

There were no differences in the proportions of subjects reporting any or Grade 3 solicited local reactions between Dose 1 and Dose 2. Headache and shivering were reported more frequently by subjects after Dose 2 (28.2% and 21.4%, respectively) compared with Dose 1 (24.4% and 13.8%, respectively). Grade 3 solicited general adverse events (headache, shivering, myalgia, and fatigue) were reported more frequently by subjects after Dose 2 (2.3%, 3.1%, 3.6%, and 2.3%, respectively).
Safety:
to the following schedule: A /f_i irst dose at Month 0 followed by a
symptoms (17.3%), respectively.
6 days) in a subset of subjects (n = 4,886 receiving SHINGRIX,
each vaccine dose or placebo (i.e., day of vaccination and the next

In Studies 1 and 2, data on solicited local and general adverse events

In an open-label clinical study, 238 subjects 50 years and older
received SHINGRIX as a 0- and 2-month or 0- and 6-month
schedule. The safety profile of SHINGRIX was similar when
administered according to a 0- and 2-month or 0- and 6-month
schedule and was consistent with that observed in Studies 1 and 2.

The following adverse reactions have been identified during
postapproval use of SHINGRIX. Because these reactions are
reported voluntarily from a population of uncertain size, it is not
always possible to reliably estimate their frequency or establish a
causal relationship to the vaccine.

In the 2 studies, SAEs were reported at similar rates in subjects who
received SHINGRIX (2.3%) and placebo (2.2%) from the first
administered dose up to 30 days post last vaccination. SAEs were
reported for 10.1% of subjects who received SHINGRIX and for
10.4% of subjects who received placebo from the first administered
dose up to 1 year post last vaccination. One subject (<0.01%)
reported lymphadenitis and 1 subject (<0.01%) reported fever greater
than 39°C; there was a basis for a causal relationship with SHINGRIX.

Optic ischemic neuropathy was reported in 3 subjects (0.02%) who
received SHINGRIX (all within 50 days after vaccination) and 0
subjects who received placebo; available information is insufficient
to determine a causal relationship with SHINGRIX.

Deaths

From the first administered dose up to 30 days post last vaccination,
deaths were reported for 0.04% of subjects who received SHINGRIX
and 0.005% of subjects who received placebo in the 2 studies. From
the first administered dose up to 1 year post last vaccination, deaths
were reported for 0.8% of subjects who received SHINGRIX and for
0.9% of subjects who received placebo. Causes of death among
subjects were consistent with those generally reported in adult
and elderly populations.

Potential Immune-Mediated Diseases

In the 2 studies, new onset potential immune-mediated diseases (pIMDs)
or exacerbation of existing pIMDs were reported for 0.6% of subjects
who received SHINGRIX and 0.7% of subjects who received placebo
from the first administered dose up to 1 year post last vaccination. The
most frequently reported pIMDs occurred with comparable frequencies
in the group receiving SHINGRIX and the placebo group.

Dosing Schedule

In an open-label clinical study, 238 subjects 50 years and older
received SHINGRIX as a 0- and 2-month or 0- and 6-month
schedule. The safety profile of SHINGRIX was similar when
administered according to a 0- and 2-month or 0- and 6-month
schedule and was consistent with that observed in Studies 1 and 2.

6.2 Postmarketing Experience

The following adverse reactions have been identified during
postapproval use of SHINGRIX. Because these reactions are
reported voluntarily from a population of uncertain size, it is not
always possible to reliably estimate their frequency or establish a
causal relationship to the vaccine.

General Disorders and Administration Site Conditions

Decreased mobility of the injected arm which may persist for 1 or
more weeks.

Immune System Disorders

Hypersensitivity reactions, including angioedema, rash, and urticaria.

Nervous System Disorders

Guillain-Barré syndrome.

Postmarketing Observational Study of the Risk of Guillain-Barré
Syndrome following Vaccination with SHINGRIX

The association between vaccination with SHINGRIX and GBS was
evaluated among Medicare beneficiaries aged 65 years or older.
Using Medicare claims data, from October 2017 through February
2020, vaccinations with SHINGRIX among beneficiaries were
identified through National Drug Codes, and potential cases of
hospitalized GBS among recipients of SHINGRIX were identified
through International Classification of Diseases codes.

The risk of GBS following vaccination with SHINGRIX was assessed in
self-controlled case series analyses using a risk window of 1 to 42
days post-vaccination and a control window of 43 to 183 days
post-vaccination. The primary analysis (claims-based, all doses) found
an increased risk of GBS during the 42 days following vaccination with
SHINGRIX, with an estimated 3 excess cases of GBS per million
doses administered to adults aged 65 years or older. In secondary
analyses, an increased risk of GBS was observed during the 42 days
following the first dose of SHINGRIX, with an estimated 6 excess
cases of GBS per million doses administered to adults aged 65 years
or older, and no increased risk of GBS was observed following the
second dose of SHINGRIX. These analyses of GBS diagnoses in
claims data were supported by analyses of GBS cases confirmed by
medical record review. While the results of this observational study
suggest a causal association of GBS with SHINGRIX, available
evidence is insufficient to establish a causal relationship.

7 DRUG INTERACTIONS

7.1 Concomitant Vaccine Administration

For concomitant administration of SHINGRIX with inactivated influenza
vaccine [see Clinical Studies (14.3) of full prescribing information].

7.2 Immunosuppressive Therapies

Immunosuppressive therapies may reduce the effectiveness
of SHINGRIX.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

There are no available human data to establish whether there is
vaccine-associated risk with SHINGRIX in pregnant women [see Use in
Specific Populations (8.1) of full prescribing information].

8.2 Lactation

It is not known whether SHINGRIX is excreted in human milk.
Data are not available to assess the effects of SHINGRIX on the
breastfed infant or on milk production/excretion [see Use in
Specific Populations (8.2) of full prescribing information].

8.5 Geriatric Use

Of the total number of subjects who received at least 1 dose of
SHINGRIX in the 2 efficacy trials (n = 14,645), 2,243 (15.3%) were
aged 60 to 69 years, 6,837 (46.7%) were aged 70 to 79 years,
and 1,921 (13.1%) were 80 years and older. There were no
clinically meaningful differences in efficacy across the age groups
or between these subjects and younger subjects [see Clinical Studies
(14.1, 14.2, 14.3) of full prescribing information].

The frequencies of solicited local and general adverse events in
subjects aged 70 years and older were lower than in younger adults
(aged 50 through 69 years) [see Adverse Reactions (6.1)].

17 PATIENT COUNSELING INFORMATION

• Inform patients of the potential benefits and risks of immunization
with SHINGRIX and of the importance of completing the 2-dose
immunization series according to the schedule.

• Inform patients about the potential for adverse reactions that have
been temporally associated with administration of SHINGRIX.

• Provide the Vaccine Information Statements, which are available free
of charge at the Centers for Disease Control and Prevention (CDC)
website (www.cdc.gov/vaccines).

Storage:
Store vials of Lyophilized gE Antigen and Adjuvant Suspension
Components refrigerated between 2° and 8°C (36° and 46°F).
Protect vials from light. Do not freeze. Discard if the vials have
been frozen.

Trademarks are owned by or licensed to the GSK group
of companies.

Manufactured by GlaxoSmithKline Biologicals
Rixensart, Belgium, U.S. License 1617, and
Distributed by GlaxoSmithKline
Research Triangle Park, NC 27709

©2021 GSK or licensor.
March 2021 SHX:5BRS
©2021 GSK or licensor.
SGXJRN21000S April 2021
Produced in USA.
Boosting Confidence in CBD Counseling

How to discuss CBD and answer questions frequently asked by patients

Given the popularity of cannabidiol (CBD), patients are curious about this natural remedy, asking more questions than ever. We consulted 4 pharmacists knowledgeable about CBD for advice on counseling patients. Our experts are:

1. **How does CBD work?**
   - **Mills:** Patients will typically ask how CBD works and whether it will really help with pain, inflammation, gastrointestinal issues, anxiety, etc. We explain that CBD works by allowing the cannabinoids their body makes to stay in their body longer and that it helps to strengthen the endocannabinoid system (ECS). The ECS is a system that functions to bring the body back into balance and to decrease inflammation. It reduces inflammation by decreasing proinflammatory chemicals (eg, cytokines and chemokines) and helping the immune system become better at recognizing what it should attack (ie, T-cell upregulation). If they have a symptom that is due to inflammation...it should help.

2. **What product should I try?**
   - **Mills:** As a pharmacist who is a certified endocannabinoid specialist, I love providing education and counseling my patients on the benefits and effective use of CBD. When a patient is deciding what product to try, I ask what they are interested in using it for. If they have pain in the wrist, elbow, or knee, or skin conditions, we will start using a balm or topical product. If they have pain in multiple joints, autoimmune conditions, inflammatory diseases, or mental health issues such as anxiety, I recommend using an oil or capsule.

   - **Stillo:** Match your intention with the application. Topical applications are great for localized support of your muscles and joints. Oral and under-the-tongue formulations are better for systemic absorption and support of your whole body.

3. **What dose should I start with?**
   - **Mills:** I advise starting low and going slow. I recommend a starting dose of 15 mg once or twice daily, explaining that the timing of effectiveness typically depends on the state of their endocannabinoid system. If they have had illness or pain that the body has tried to bring back into balance for a while, it typically takes longer for the full benefit to show. I recommend trying the product for at least 10 days and to increase the dose every 3 days if needed. For oils and tinctures, I advise them to hold it under the tongue for at least 30 seconds, but 1 minute is usually best.

   - **Stillo:** Remind the patient to consult a professional when adjusting, because more is not always better. Switching up routes or sites may be more beneficial. Teaching patients to read and understand a label is also crucial. Product labeling isn’t always standard or clear, so advising consumers to pay attention and understand things like mg per bottle vs mg per serving becomes important. Serving sizes can be listed as per ml or per dropperful, and those distinctions can make a difference and often lead to confusion with consumers.

   - **Henriksen:** More is not always better. Once someone has found an effective dose…taking more can either decrease the effect, increase [adverse] effects [AEs],...
or provide no further benefits. In my experience, most patients take between 10 and 40 mg daily in divided doses every 12 hours.

5. **Is it safe to purchase CBD from anywhere?**

**Richer:** I recommend that patients only purchase CBD from a reputable source, because some preparations can become contaminated with fungus, which may be especially harmful to patients with a compromised immune system. If the patient needs to take a drug test, [they] should always ask for the certificate of analysis when purchasing CBD to ensure the product is [tetrahydrocannabinol] THC free.

**Stillo:** Verify your product with the certificate of analysis, and never buy from a company that doesn’t provide lot-specific analysis that is conducted by a third-party lab.

6. **Will CBD show up on a drug test?**

**Mills:** I always ask the patient whether they are in a profession where they are drug tested or in pain management. If so, I recommend a product that is THC free. I always recommend THC-free CBD for children. We discuss that products can have the legal limit of THC, and although that amount will not cause any psychoactive [AEs], the urine test limit is so low that they can still fail a drug test for THC.

7. **What are the most common AEs of CBD?**

**Henriksen:** In my experience, the most common [AEs] are tiredness and drowsiness, dry mouth, dizziness and light-headedness, and changes in appetite. I recommend taking the first dose in the evening and not doing anything else for the day until one knows how they respond to the CBD. We often forget that most accidents happen in the home. With any prescription, [OTC] medicine, or supplement that might affect cognition, I recommend not doing tasks around the house where they could hurt themselves afterward until they have adjusted to the medication.

**Mills:** We educate that the [ECS] is a different system from the central nervous system and that added sedation is not a concern. As far as CBD [AEs], clinically we have had patients say they would become drowsy, which can be mitigated by decreasing the dose and checking the product to make sure it doesn’t have melatonin or other ingredients. We have had a few patients say the oil caused mild stomach discomfort, to which we suggest taking it with food and allowing it to sit under the tongue for 30 to 60 seconds.

8. **What drugs interact with CBD?**

**Richer:** CBD is a strong inhibitor of both cytochrome P450 3A4 (CYP3A4) and cytochrome P450 2D6 (CYP2D6). CBD may increase levels of:
- macrolide antibiotics (azithromycin, erythromycin, clarithromycin)
- calcium channel blockers (verapamil, diltiazem)
- benzodiazepines (lorazepam, diazepam, alprazolam, clonazepam)
- cyclosporine
- phosphodiesterase inhibitors
- erectile dysfunction drugs (sildenafil, tadalafil, vardenafil, avanafil)
- antihistamines
- haloperidol
- antiretrovirals
- certain statins (atorvastatin and simvastatin)

CYP2D6 metabolizes many antidepressants, so CBD may increase levels of these drugs in the patient’s body:
- selective serotonin reuptake inhibitors (citalopram, escitalopram, fluoxetine, fluvoxamine, paroxetine, sertraline)
- tricyclic antidepressants (amitriptyline, nortriptyline)
- antipsychotics
- β-Blockers (atenolol, metoprolol, propranolol, bisoprolol)

Levels of opioids, such as oxycodone, codeine, hydrocodone, morphine, or tramadol, increase when CBD is introduced.

**Henriksen:** CBD can have potential drug interactions with prescription medications, which can cause increased AEs of either the medication or the CBD. Other times the drug interaction may cause an increased level of the medication or the CBD. It is vital for the patient to inform the pharmacist and medical provider about CBD usage. Another valuable tool for screening for drug interactions includes an interaction checker, such as on drugs.com, which helps screen for interactions between cannabis, CBD, and THC and prescription drugs.

9. **Will CBD make me high?**

**Henriksen:** Retail CBD comes from the hemp plant and has no high or psychoactive effect. When given with THC, CBD inhibits the psychoactive effects of THC.

10. **Can CBD help multiple problems?**

**Mills:** We counsel our patients that although CBD can help with a wide variety of symptoms, it may not be their miracle or silver bullet and solve every problem they have. It can help decrease inflammation, but the source of the inflammation is the root cause, and we should work to correct the source.

**Richer:** As medical professionals, it is very important to ensure collaboration with other caretakers of the patient. Informed and shared decision-making is a must. We need to ensure ongoing monitoring and adapting the treatment plan as needed.
According to a 2019 Gallup poll, 14% of Americans use cannabidiol (CBD) products, which makes the hemp derivative a potentially profitable addition to pharmacy shelves. However, the lack of a regulatory standard for selling CBD has created a gray area for pharmacists.

“What really makes that difficult is that as pharmacists we’re not comfortable operating in a gray area,” said Tim Gregorius, RPh, vice president of operations for PRS Pharmacy Services in Latrobe, Pennsylvania, and chief adviser for the National Community Pharmacist Association CBD resource page. “Our line of work is usually very cut and dried. You want to know how many you can sell and the exact strength and how to report it.”

In February 2021 the bipartisan bill HR 841 proposed classifying and regulating CBD as a supplement. However, legislators await FDA input.

Two years ago, the FDA promised a statement on CBD’s potential uses but research continues. The FDA has not issued a conclusion. HR 841, also known as the Hemp and Hemp-Derived CBD Consumer Protection and Market Stabilization Act of 2021, is identical to HR 8179, which was proposed in 2020. Both bills urge the regulatory agency to approve CBD for use in dietary supplements.

Before the Farm Act legalized hemp and hemp products in 2018, many individuals were already buying unregulated CBD products online. After the Farm Act passed, CBD products proliferated in retail markets while pharmacies faced a confusing patchwork of federal and local laws governing CBD sales.

“What came to the game late, in 2018 and 2019,” said Gregorius. “We got there and said, ‘This is safe, there’s no THC [tetrahydrocannabinol]. We’re going to sell this;’ and that’s where it got really sticky because a lot of state boards said, ‘No, you don’t.’ And in a few states, agencies such as the department of agriculture or the department of transportation had an issue. Nebraska had an issue where it was not the state Board of Pharmacy but it was the state Department of Agriculture that said, ‘CBD comes from marijuana and marijuana is illegal. Therefore, don’t bring it into our state.’

Despite the growing number of states legalizing marijuana for medical and/or regulatory use, it remains illegal at the federal level. However, CBD has less than 0.3% THC, the compound responsible for the marijuana high, and the hemp product falls under the Farm Act. So far, the FDA has only approved one CBD product, a prescription drug that treats seizures associated with Lennox-Gastaut syndrome, Dravet syndrome, or tuberous sclerosis complex.

The FDA has not approved any other therapeutic use for CBD. It cannot be used as a dietary supplement or added to a food product. Some state pharmacy boards have prohibited selling CBD, whereas others told pharmacists to follow existing FDA guidelines.

“Those are the only things the FDA has been clear about,” said Gregorius. “And the state boards of pharmacy said, ‘We are not going to stop you from selling it because it is not illegal. It doesn’t have THC.’ If the FDA says, ‘If you’re going to sell it, we’re going to look the other way’—which is effectively what their enforcement discretion says—then sure, go and sell it.
FEEL CONFIDENT FOR YOUR PATIENTS

BE READY WITH PHARMTRUE
TAKE THE FIRST STEP TOWARD OFFERING PHARMACIST FORMULATED CBD PRODUCTS
FREE SAMPLE PLUS SHIPPING PHARMTRUE.CARE/OFFER

OFFER VALID THROUGH SEPTEMBER 30 2021
Selling CBD in the Pharmacy

By Lisa Faast, PharmD, CEO, DiversifyRx

Cannabinoid (CBD) sales are driving profits for many pharmacies, whereas others seem to be watching from the sidelines. Here are some tips to help increase your pharmacy’s CBD sales.

“What really makes that difficult is that as pharmacists we’re not comfortable operating in a gray area,” said Tim Gregorius, RPh, vice president of operations for PRS Pharmacy Services in Latrobe, Pennsylvania, and chief adviser for the National Community Pharmacist Association CBD resource page. “Our line of work is usually very cut and dried. You want to know how many you can sell and the exact strength and how to report it.”

Many pharmacy owners treat CBD like the field of dreams: If they carry it, sales will come. You may get lucky with a few of these sales, but to create a profitable cash niche with CBD you need to focus on nurturing it. I speak every week with pharmacy owners who do not carry CBD because they lack confidence or simply have not seen sales. I have been able to help many pharmacies turn around their CBD sales with simple tips pharmacists can easily implement.

**Changing Your Mind-set**

A limiting mindset shows up in several ways when I speak with pharmacy owners, including the following:

- I am not a CBD expert.
- Other pharmacies are already selling CBD.
- My community does not want CBD.
- I do not know which brand(s) to carry.

Let us take these one at a time.

**I Am Not an Expert**

This phrase has now become the most common excuse I hear. Many pharmacy owners feel they missed out on the CBD opportunity because they are late to the game.

Far too many pharmacy owners worry about what other pharmacies are doing instead of focusing on how to serve their patients best. My advice is to pick the brands and products that you think are best, provide stellar outcomes, and sell them to your patients. Most pharmacies are sitting on about $100,000 a year in profit with only their patients as CBD customers. Your patients trust you. Your opinion and action in helping them choose a good product could be the nudge they need.

**My Community Does Not Want CBD**

Much of the stigma around CBD has been dispelled. If you find that your
community still believes CBD is the same as marijuana, that is an excellent opportunity for your pharmacy. You can rise to the occasion and be the leader in teaching the truth about CBD. Become the local expert by explaining the differences and how quality CBD products will protect the community.

The negative impact of opioids has finally gone mainstream. Medical professionals and patients are looking for alternatives to opioids, controlled drugs, sleep medication, and the chronic use of anxiety medications. Because CBD marketing has become popular, many individuals already associate CBD with helping these types of conditions. Every community, no matter how conservative, is ripe for CBD sales.

I Do Not Know Which Brands to Carry
I typically recommend that each pharmacy carry 3 to 4 brands of CBD. Many CBD companies have a specialty or a niche product that is special to them. Another strategy is to stock products at different price points. Here is my short list of requirements for choosing a brand to carry in your pharmacy:
- The company offers education.
- It accepts returns of unsold products.
- There is a uniqueness to the product, such as price, combination dosage form, or selling model.
- It provides stock marketing materials.

Leverage Your Dispensing Records
Your patients trust you. They will listen to your recommendations. When you can use their prescription history to make a specific recommendation for a CBD product, the rate of conversion and getting the sale skyrockets. Below are 2 examples involving my 2 favorite products.

Bag Stuffers
There is no better awareness method than having a catchy bag stuffer on every prescription bag that leaves your store. Programs like Canva can easily create bag stuffers. You can print them in-house as a low-cost, effective marketing tool. Here is a quick checklist for bag stuffers.
- Print on bright, neon-colored paper using black ink.
- Every patient at every visit gets a bag stuffer (do not prescreen).
- Use the same bag stuffer for an entire month.
- Employees must also talk about it, not just secretly slide it in the bag.

These are my favorite inside the 4-walls marketing tactics. Cheap and effective—what more could you ask for?

Educating Your Community
If you want to foster a strong CBD niche, eventually you will have to go outside your current patient database. To increase your reach, it is important to use different tactics.

Social Media
Marketing CBD on social media quickly became a no-go after Facebook shut off advertising accounts. However, much more is known about what you can and cannot do. I am no longer concerned about posting about CBD on social channels if some simple rules are followed.
- You have no paid ads for CBD, no boosting for CBD or where CBD is mentioned or goes to a page where CBD is mentioned.
- Be creative. You can discuss the ailments and how your pharmacy has a solution without mentioning CBD. You can also use creative graphics that imply CBD.
- Live videos are perfect for talking about CBD.

Traditional Media
Your local news station, radio, or newspaper often can be great sources to help educate your community and position yourself as the local expert. Start contacting them and ask whether they would be interested in running educational CBD information for their followers. You could include a sample of what you have written or a link to a post you have done. Emphasize educational material, not selling products.

CBD can be a great product that helps your patients and boosts your profits. It is a win-win situation. If you have questions or want some additional support in getting started or in growing your CBD sales in your pharmacy, I am happy to help. You can contact me at info@diversifyrx.com.
A robust hospital pharmacy analytics program can improve drug utilization and advance patient care delivery. In a webinar by Becton Dickinson held on June 16, 2021, pharmacy leaders discussed the critical elements of high-performing pharmacy analytics programs and how hospital pharmacy departments can grow them to drive operational, clinical, and financial decisions.

Joe Lassiter, PharmD, MS, president of The Robertson Group, LLC, based in Portland, Oregon, kicked off the presentation by underscoring the need for pharmacy analytics. “In 2019, [the American Society of Health-System Pharmacists] launched the Practice Advancement Initiative, or PAI, 2030 as a continuation of [its] Practice Model Initiative to guide and ensure that practitioners and leaders ‘meet the demands of future practice and patient care delivery models,’” Lassiter explained.

Technology and data science are among the 5 domains from those recommendations, with several suggestions that propose applications of pharmacy analytics in practice and speak to the need for having a workforce fluent in informatics and analytics, according to Lassiter. However, despite the importance of well-developed pharmacy analytics programs, starting the process can be daunting, especially for departments with limited resources.

**Getting Started**

During the webinar panel discussion, pharmacy leaders emphasized the importance of getting started, no matter where you are in the process. “[Three years ago] we really were stone and chisel for how we did our analytics...We barely could get to our data,” said Chad Hatfield, PharmD, MHA, BCPS, chief pharmacy officer, UC Davis Medical Center, Sacramento, California. “[We] went from those caveman days to a rocket ship that’s trying to put somebody now onto Mars.”

According to Hatfield, the analytics program at UC Davis started from a partnership with the information technology (IT) team infrastructure outside of the pharmacy. The program was built on the backbone of the health system using the existing commercial data visualization tool, Tableau. Leveraging existing third-party solutions such as this can be a beneficial strategy when starting out.

“I recommend you pay close attention to where your organization is investing its dollars in regard to these applications and align accordingly,” Lassiter said. He added that pharmacies can use a blended approach of the following options to help get their pharmacy analytics off the ground:

- Third-party solutions
- Vendor partnerships
- Regional collaboration
- In-house personnel with specialized skill sets

Jeffrey Chalmers, PharmD, senior director of pharmacy informatics and technology at Cleveland Clinic in Ohio, said his pharmacy department shifted toward a pharmacy analytics program after implementing a more modern electronic medical record platform. “Over the years, requests [for data] became more complex,” he said. The implementation of his organization’s specialty pharmacy also fueled the need for a more robust program when it realized the need for data from multiple sources, to “be able to manipulate that data in different ways.”

Launching the program is a challenge but gaining the additional resources to grow the program can be another hurdle. Developing dedicated staff, whether in-house experts or recruited resources, can help advance the process.

**Growing Your Program**

All the webinar panelists agreed that partnerships with necessary stakeholders were vital in supporting the growth of their pharmacy analytics programs and teams. “We heavily engaged our enterprise business intelligence institute,” Chalmers said. “They have a lot of programmers [and] data scientists on their team. [We] started by meeting with those groups to understand what types of skills we would need.”

Hatfield said internal discussions with financial stakeholders, such as the chief financial officer and the IT
“We were able to leverage data to increase efficiency and utilize drugs more appropriately and display cost savings.”

Jeffrey Chalmers, PharmD

Team members, were crucial for communicating the program's needs. Chalmers recommended highlighting opportunities for cost savings with drug utilization to gain buy-in.

“We were able to leverage data to increase efficiency and utilize drugs more appropriately and display cost savings,” he said. “We continued to use that to gain more momentum to ultimately get approval for additional resources.” Chalmers relayed how, during the COVID-19 pandemic, the analytics team built a medication inventory dashboard that allows near-real-time monitoring of inventory levels for hard-to-acquire medications. Identifying opportunities early to showcase successful projects to leadership teams in the organizations helped build support for the program's growth, Chalmers explained.

Demonstrating Value
Proposing and justifying a pharmacy analytics program to the C-suite team may require demonstrating value and addressing return-on-investment questions. Chalmers and Hatfield agreed that focusing on revenue and cost containment is especially crucial to justifying the program's significance.

Chalmers explained that, at Cleveland Clinic, much time was spent trying to increase the capture rates of physicians prescribing to the organization's ambulatory pharmacies. "We have 26 pharmacies across northeast Ohio but only capture about 11% of prescriptions [from] Cleveland Clinic doctors," he said. Chalmers added that, by doing basic analytics, it was determined that every 1% increase in capture rate translated to approximately $1 million annually in net profit.

“Well, that catches a lot of people’s attention,” he said. Next, a dashboard was created to display capture rates based on the clinic, institute, and specialty, which allowed the team to identify areas with high and low performances.

According to Hatfield, gaining that initial trust from the executive team and then having the ability to report back the data are essential. “When I told you that I could save $10 million off inpatient drug spend, and then I came back and we did $12 million last year, and we did it because we had these (individuals) in place, that was really more telling for us to help us continue to move forward with our program,” he said.

Building Relationships for Success
One of the key issues in proposing a pharmacy analytics program is determining the organizational structure. Programs can be based in pharmacy or IT, or shared between the 2 departments. "Our entire informatics programming, including our reporting and analytics teams, reports up through me, and I report through the chief pharmacy officer, but not everybody has that structure," Chalmers said.

However, he emphasized that the most important aspect is not who you report to but the relationships between the responsible parties and the pharmacy department. For example, his reporting and analytics teams sit in weekly pharmacy operations meetings and regularly meet with the clinical team and residents. "I don’t think that it matters if they report up to pharmacy or IT, as long as that dynamic exists," Chalmers said.

Lassiter agreed that these relationships are key because the exact structure of the program will be unique to each organization. "The organizational nuances are too specific to be able to have just 1 template," he said. He noted that successful programs could have an IT director with dual reporting roles to the pharmacy and IT departments or a pharmacist sitting on an enterprise analytics team. Regardless of the reporting structure, what matters most is the connection with pharmacy, he said.

The Future of Pharmacy Analytics
As pharmacy teams grow their analytics, Lassiter noted, having a strong program does not have to mean “death by dashboard.” To prioritize efficiency and reduce information overload, Lassiter recommended ensuring that everyone in the organization is focused by asking specific questions such as: "What are the problems we’re trying to solve? What are we going to look at? How do we measure it, and how do we visualize that?" Chalmers agreed, noting that dashboards are not going away anytime soon; it’s a matter of advancing them to run more efficiently so they can perform multiple functions.

On the future of data, Hatfield and Chalmers both pointed to the movement toward predictive analytics. Hatfield added that some of those tools exist now, but it’s ultimately moving toward using them on a grander scale to add a predictive element to their reporting.

Chalmers reflected on his team’s inventory experience amid the COVID-19 pandemic as an example of the benefits of predictive analytics. “Inventory, in general, is something that I think lends itself well to a predictive type of tool, because we can see trends over time, things that change season to season,” he said. As data and analytics reporting evolve, pharmacy teams will be able to better predict and prepare for what is ahead, ultimately resulting in cost savings and enhanced patient care."
The COVID-19 pandemic has highlighted the unique role pharmacies can play in promoting public health in their communities. With health care trends constantly evolving, there is no better time for community pharmacies to build a point-of-care (POC) testing practice. Although most independent pharmacies are offering COVID-19 and influenza vaccines, so much more can be done to bring in new customers and increase revenue.

Paige Clark, vice president of pharmacy programs and policy at Prescriptivc Health, who spent the past 11 years at Oregon State University College of Pharmacy, is passionate about pharmacists expanding their scope of practice and is a champion of POC testing for independent pharmacies. "Given the role they play in their community, [and] the convenience that having these services done at their local independent pharmacy provides [to patients], pharmacists should definitely look to these services," she said. "Momentum is with us now in the community pharmacy settings again from a public health standpoint. We clearly haven’t seen anything like this pandemic before and it has just massively extrapolated the visibility and the functionality that our retail pharmacies play in the overall health care ecosystem."

Beth Bryan, PharmD, pharmacist and owner of Surgoinville Pharmacy in Surgoinville, Tennessee, noted that the pandemic has instigated practice changes for all medical offices. "Medical practices across the nation implemented new protocols, from temperature checks and mask protocols to COVID-19 testing and vaccinations," she said. "So there couldn’t be a better time for pharmacies to consider implementing [POC] testing in their practice."

Community pharmacies are among the most accessible health care destinations in the country. According to the CDC, more than 90% of the population lives within 5 miles of a community pharmacy and an estimated 77% of community pharmacies operate in populations of less than 50,000.

Getting Started

To get started in POC testing, there needs to be an assessment of the pharmacy practice to see which tests would make the most sense for the pharmacy and the population that it serves, Bryan explained. "Then, I would recommend a training program for the staff to learn about testing procedures and allow for certification for the staff performing the tests," she said. "As soon as the pharmacy decides which test(s) they want to provide, they need to apply for a CLIA (Clinical Laboratory Improvement Amendment) waiver. Additional tests can be added later if the pharmacy decides to offer more or grow their testing program."

Independent pharmacists can get their CLIA Certificate of Waiver by submitting the application (Form CMS-116) to the appropriate state agency. Lisa Faast, PharmD, CEO of DiversifyRx, noted that every state is different; pharmacists cannot necessarily rely on what they have heard from someone else in the business.

"The next step is to ensure that you have the appropriate Provider Transaction Access Number [PTAN] for billing CMS [Centers for Medicare & Medicaid Services] for these tests as a clinical laboratory," said Jason Ausili, PharmD, chief clinical officer, FDS. "This is different from the typical mass immunizer or pharmacy PTANs that pharmacies are accustomed to," he added. Finally, pharmacies will want to ensure they have a seamless medical billing platform in place that allows them to submit the appropriate codes for reimbursement to the medical plan.

More Than COVID-19 and Flu

The most popular POC services that

CONTINUED ON PAGE 30 >
We represent independent pharmacies, leveraging our buying power to help them access pharmaceuticals at the best prices.

To evaluate and compare your current price file for free, please write to us at info@OmegaRxGroup.com

Omega Pharmacy Group

Contract negotiations and vendor relationship management

Analytical Reporting

www.OmegaRxGroup.com
pharmacies provide are for influenza, streptococcus, and now COVID-19 testing. These tests are a good fit for pharmacies; they are attractive to patients because of the quick turnaround and easy access. Because POC tests are relatively inexpensive, they are very affordable for patients and often cheaper than a co-pay for urgent care or emergency department visits.

There are hundreds of tests that pharmacies can provide under the CLIA waiver. Bryan asserted that pharmacies should quickly add strep and urinary tract infection (UTI) testing because they would appeal to patients needing a fast diagnosis and treatment option.

"Another good option to consider is [hemoglobin] A1C testing, especially if the pharmacy offers any diabetes services such as counseling, education classes, or diabetes prevention programs," Bryan said. "A pharmacy can also consider cholesterol screening to add to its disease management programs such as MTM, hypertension management, and risk-assessment programs."

Community pharmacies, Ausili noted, are ideally suited to administer CLIA-waived tests that screen for infectious diseases as well as those that aid in chronic disease monitoring. Under the public health emergency (PHE), pharmacists are authorized to order and administer COVID-19 tests and influenza or respiratory syncytial virus tests if done in conjunction with a COVID-19 test. Several states have adopted legislation during the PHE that gives pharmacists this privilege moving forward.

In addition to screening for infectious diseases and monitoring chronic diseases, community pharmacies have a key role in "test and treat" programs for conditions like group A strep and influenza. "Patients who are experiencing the symptoms of strep and flu typically turn up at urgent care, emergency (departments), or do not seek care at all," said Ausili. "This often leads to the patient receiving a much higher level of care than needed, or the increased risk of community spread."

Community pharmacies offer a convenient, effective alternative that takes pressure off overburdened primary care and emergency care channels. Kentucky, for example, has a statewide protocol supporting pharmacy-driven "test and treat" programs and has improved access to quality care for residents.

Benefits to All
Some pharmacists are hesitant about POC tests because they do not know whether their patients want it or will pay for it, according to Faast. "They have this uncertainty that they will go out and buy this test and they don’t know whether they are throwing money away or whether their patients are interested in paying for the tests," Faast said.

Still, she recommends pharmacists start with POC tests for cholesterol panels, hepatitis, HIV, A1C, UTI, and INR, and believes most will find success. "The ultimate benefit is for the patient—the more that they can get a clear path on how to feel better is good for all," she said.

For pharmacies, the bottom-line benefit is increasing profitability and lessening reliance on pharmacy benefit managers (PBMs). "Obviously, everybody associates pharmacists with their drugs, but I think the more that we can start to associate pharmacists with more clinical-based activities, I think the better off it’s going to be for the community and the profession," said Faast.

Money Matters
POC testing is predicted to exceed immunizations as a driver of revenue for community pharmacies, according to research from Deloitte. Although research has shown tremendous growth in the number of pharmacies becoming CLIA-waived facilities, highlighting a 45% increase between 2015 and 2020, so far, very few pharmacies have taken this leap.

The ROI is an important consideration for pharmacists as they add POC testing. Clark explained that pharmacists start in the cash lane and crack open the Medicaid lane for reimbursement, which then opens the door for the commercial lanes. Pharmacies will need a medical billing solution that seamlessly integrates with their normal workflow to bill and get reimbursed for these tests.

"A billing solution that does not deviate from pharmacy workflow will provide a more efficient billing experience for community pharmacies while enabling them to get paid as a provider for services versus a dispenser of services," he said. "Because these claims go directly to the medical benefit and not the PBM, pharmacies will maximize reimbursement and administration fees by being recognized as a provider.”

Medical billing is a possibility with POC testing but not required for pharmacies to offer testing to their patients, according to Bryan. "Most testing options are completely affordable to patients and billing isn’t a huge concern for the general public,” she said. “There is the option for the patient to file a paper form or use their flex spending cards to cover the costs. To bill medically, the pharmacy will be required to individually contract with the insurance providers, as well as implement an electronic platform for processing claims.”

Getting the Word Out
For independent pharmacists to get the most out of their POC testing, they need to let people in their community know they are offering these services. Faast recommended utilizing social media and Facebook Live to connect to individuals and get more eyes on websites advertising the new testing. "Educating in an entertaining, personal, authentic way will drive more traffic," she said.
AmerisourceBergen (AB) kicked off ThoughtSpot 2021, Good Neighbor Pharmacy’s (GNP) annual conference and trade show, on July 28. Good Neighbor Pharmacy is AmerisourceBergen’s independent pharmacy network, which unites strong independent stores under one brand and leverages its scale, expertise, and insights to help pharmacies make smarter business decisions, increase growth and profitability, and enhance patient care in local communities. The annual conference and trade show represents AB’s and GNP’s commitment to supporting independent pharmacies as community health care destinations and providing resources to optimize their business operations. During ThoughtSpot 2021, in an interview with Drug Topics®, Rich Tremont, president of customer relations, animal health, and community & specialty pharmacy (CSP), AB, and GNP President Brian Nightengale, PhD, RPh, discussed insights and lessons from the past year, which proved to be one of the most tumultuous and influential for independent community pharmacy.

ThoughtSpot 2021 was held virtually again this year to support pharmacists and their customers. “This is not the time we want to take [pharmacists] out of their community,” Tremont said, citing low vaccination rates in regions of the country where independent community pharmacists are positioned to address these challenges. “If they can be in their community vaccinating, that’s where we want them.”

Independents As Health Care Leaders in Their Communities

“Independents have always gone above and beyond to provide their uniquely personal local experience,” Nightengale said.

The COVID-19 pandemic has been no different. The trials brought on by the pandemic demonstrated the tireless dedication independent pharmacies bring to their communities. From closing their doors to keep their staff and customers safe to providing COVID-19 vaccination, independents fearlessly met pandemic challenges with their signature customer loyalty. “They completely changed and modified to meet their community’s specific needs, just like they’ve always done,” said Nightengale.

One silver lining of the pandemic has been the public and government recognition of independents’ ability and willingness to support the unique needs of their patients and alleviate pressure on health systems. Not only that, but independent pharmacies were also acknowledged for being accessible health care hubs, especially for vulnerable populations. The national COVID-19 vaccination effort helped bring this fact to light.

“One of the key things with the vaccination program was a focus on making sure that underserved communities, socially disadvantaged communities, and people who had access to the vaccines,” Nightengale said. Indeed, data from GNP revealed that close to 50% of individuals vaccinated by GNP network pharmacies lived in zip codes with a high Social Vulnerability Index (SVI). “The federal government response really focused on getting the vaccine to those vulnerable communities. They reached out to independents, and they delivered,” he said.

Pharmacy’s demonstrated ability to carry out the national COVID-19 response, as well as their agility in navigating unpredictable changes, caught the public eye. Now, it is critical for independents to hold that attention and capitalize on it, according to Tremont. “Pharmacists have a platform, and we want to use that platform more than we ever have in the past. And I feel like it’s been set up for us to advocate more than ever before,” he said.

Independents Can Depend on AmerisourceBergen and Good Neighbor Pharmacy

AmerisourceBergen has long been an advocate for independent pharmacies, and its commitment to these cornerstones of the community has only increased since COVID-19.

From providing access to COVID-19 tests to securing reimbursement, AmerisourceBergen has offered unwavering support to independents amid the pandemic. In February, the company became a network administrator for the Federal Retail Pharmacy Program for...
COVID-19 vaccination, collaborating with state and federal governments and national pharmacy partners to expand access to COVID-19 vaccines. “By May, we expanded to over one thousand pharmacies across 46 states,” Tremonte said. AmerisourceBergen was also the sole distributor of many COVID-19 therapies that the FDA authorized before the vaccination effort. “We worked with the federal government very closely, again on allocation, but also making sure the product was getting to the right place at the right time,” Tremonte said. At the close of reporting, Good Neighbor Pharmacy and AmerisourceBergen have allocated nearly 1.8 million COVID-19 vaccine doses to nearly 1,554 pharmacies across the country since the program began.

Nightengale explained that the Centers for Disease Control & Prevention (CDC) and Operation Warp Speed (OWS), the federal effort from the previous administration that supported COVID-19 vaccine candidates and worked to expedite development, didn’t initially plan on including independent community pharmacies in the COVID-19 vaccination effort, as they prepared to reach out only to pharmacies with at least 200 stores. AmerisourceBergen and GNP were instrumental in demonstrating the value of independent pharmacies in reaching vulnerable demographics and boosting vaccination rates. By functioning as a single administrator for thousands of independent pharmacies and an access point to the CDC, AmerisourceBergen and GNP could include independent community pharmacies in COVID-19 vaccinations. “Because of that, and the efforts of other peers in the industry, the independent community pharmacy had access and could be part of that federal response,” Nightengale said. “We were very proud of that.”

But GNP’s work didn’t end there. “We had to invest a tremendous amount of time, effort, energy, and money to enable all that,” Nightengale said. AmerisourceBergen and GNP provided pharmacist training at test stations and implemented vaccine ordering systems and reporting and data capabilities that kept in line with CDC requirements. “It was truly an investment we made in our pharmacies to be able to do what they do best, and that is care for their communities in a unique way.”

What’s Next for Independent Pharmacies?
Tremonte and Nightengale agree that now is the time to fight for provider status and boost clinical services. GNP can help them get there, Tremonte asserted. “There’s no reason that pharmacists shouldn’t be granted provider status under Medicare in all 50 states,” he said. “I think this is one of those areas that Good Neighbor Pharmacy can continue to see the needs of pharmacies going forward and...promote them.” According to Tremonte, provider status is key to keeping independent pharmacies viable and transforming pharmacy practice overall.

Nightengale also pointed to reimbursement, which continues to be a prevalent challenge for independents. “The reimbursement landscape is really tough. And so, it’s imperative that we do everything we can to keep those pharmacies open,” he said. AmerisourceBergen’s Elevate Provider Network works to ensure their members receive optimal reimbursement, in addition to offering business coaching and data analytics to help support and grow operations. However, comprehensive reimbursement reform is top of mind for GNP. “We’re taking a strong leadership position in the industry...to advocate for comprehensive reimbursement reform as well as expanded scope of practice,” Nightengale said.

Helping member pharmacies attract and retain new customers is another goal for GNP. For example, GNP’s digital marketing platform monitors new patients and traffic through the mobile app. “These patients that came in to get their vaccine [who] had never been in that pharmacy before, to have them experience all that independents have to offer, that’s our goal,” Nightengale said.

As medication dispensing becomes more commoditized with the surge of mail orders and online pharmacies, the traditional pharmacy business model is becoming a challenge. Independent pharmacies need to consider diversified patient services such offering clinical services.

But although pharmacy’s typical bread and butter of dispensing may be shifting, the fact remains that customers want a personal connection with a trusted health care provider. “We’ve done market research on this, as have others, and people still want the personal relationship. And so, I think it’s key that independent pharmacies embrace this opportunity,” Nightengale said.

Tremonte and Nightengale stress that the time is now for independents to use the increased visibility from the COVID-19 pandemic as a springboard for reaching these goals. Additionally, legislation at the state level, such as the Supreme Court’s ruling on Rutledge v. PCMA, has helped gain momentum for pharmacy reform. “We’ve got a short window of what I would call the ‘halo effect,’ where community pharmacy has gained a lot of awareness as a health care provider, as the highly accessible, trusted site of care, because of the vaccination initiative,” Nightengale said.

“It’s a critical time now because I think all the stars are aligned where we’ve got traction. I think we’ve demonstrated pharmacy’s ability to do more, and now it’s time to make it happen.”

ThoughtSpot 2021, hosted virtually on AmerisourceBergen’s event platform ABLive, featured three days of general sessions, more than 40 on-demand continuing education (CE) courses, and a selection of live webinars that will remain available throughout the summer.

For more exclusive Drug Topics® coverage of ThoughtSpot 2021, including interviews, podcast episodes, and videos on topics such as legislation trends affecting pharmacy and how pharmacists can reduce health disparities, check out our ThoughtSpot 2021 tab under the Spotlight section on the Drug Topics homepage, or head to our dedicated conference coverage page.
At Good Neighbor Pharmacy, we celebrate what makes your pharmacy one of a kind because we know that’s inspired by the people you care for.

No one serves your community quite like you can

Everything you do is for your patients. And we’re here to help you optimize your business so you can enhance and expand all the great things you do for your community.

Come see how our team of business coaches, advertising managers, merchandising specialists, and managed care experts can help you further tailor your pharmacy to better meet the unique needs of your patients.

Visit www.wearegnp.com/community

AmerisourceBergen
Why Pharmacists Are Stressed Out, and How to Improve Self-care

Prioritizing well-being can be difficult when dealing with increased workloads, but pharmacists can find small ways to incorporate self-care into their days. By Christine Blank

It is common knowledge that pharmacists feel overworked and experience a high level of stress in their jobs, which was further exacerbated during the COVID-19 pandemic. Thirty percent of pharmacists say they are taking worse care of themselves now compared with before the pandemic, according to a recent Pharmavite survey. Sixty-two percent said that work commitments were the primary impediment to better self-care.

In addition, the American Pharmacists Association’s (APhA) Well-Being Index (WBI) for Pharmacy Personnel—an online self-assessment tool measuring well-being, suicidal ideation, and other factors—showed that the National Distress Percent for pharmacists reached 33.68% as of July 15, 2021, according to APhA. Mayo Clinic investigators have reported that individuals are at greater risk for adverse outcomes including a 3-fold higher risk of low quality of life, an 8-fold higher risk of burnout, and a 2-fold higher risk of making a medication error, APhA told Drug Topics®.

“People are reporting burnout, fatigue, the intent to leave their jobs, and (employers) not supporting pharmacists as they need to be supported,” said Sandra Leal, PharmD, MPH, president of APhA, and executive vice president for advocacy at Tabula Rasa HealthCare.

Theresa M. Ardle, MBA, senior brand manager for Nature Made Essentials, Pharmavite, said that although pharmacists have always been trusted, accessible advisers on health-related matters, “the pandemic placed an increased demand on (them) as a source of much-needed support at a time when other areas of the health care system were overtaxed.”

Pharmacists have taken an even more active part in providing counsel, education, and support to patients who have concerns about the virus—going far beyond simply administering vaccines,” Mc Ardle added, which has led to longer hours and less time for self-care.

Pharmacies were not effectively staffed before COVID-19 hit and took on a greater workload during the pandemic, according to Lucinda Maine, PhD, RPh, executive vice president of the American Association of Colleges of Pharmacy (AACP). “It really made people feel good that they were part of the solution [to] the horrible scourge of the pandemic,” Maine said. Plus, pharmacists are on the front lines of their communities, and some are the only access points for COVID-19 vaccinations after mass vaccination clinics largely closed, said Maine.

Pharmacists’ well-being is so important that AACP’s board adopted “well-being for all” as one of its top 6 strategic priorities for 2021-2022.

Self-care Tips

“Pharmacists do so much for us, it’s understandable that they may forget to prioritize their own well-being,” Mc Ardle said. She suggests the following ways for pharmacists to incorporate self-care practices into their workdays.

1. **Step away.** “The most effective way to disconnect and take a break during the workday is to step away for a moment, whether it’s grabbing a coffee or simply sitting down for 15 minutes to meditate,” Mc Ardle said.

2. **Take a walk.** “Exercise is an important aspect of any person’s overall health. Taking a short walk is an easy way for pharmacists to stretch their legs and even get some fresh air during a time when they may be stuck inside all day,” she noted.

3. **Drink plenty of water.** “By combining hydration with work breaks, pharmacists can get double the health benefits,” Mc Ardle said.

Another way to help reduce stress and burnout is to explore other job options, Maine noted. Some pharmacists feel stuck in their current positions because they are unable to move across the country. However, there are many new options for pharmacists—particularly in telepharmacy and digital health solutions—that may not require a geographic move, according to Maine.

AACP is encouraging colleges and universities to work with digital health companies to integrate pharmacists into their businesses. “There are jobs waiting for pharmacists that don’t yet exist,” Maine said.

For references, visit drugtopics.com.
LEVERAGING THE DISRUPTION

From point-of-care testing to COVID-19 immunization clinics to curbside delivery, your pharmacy has adapted to meet the demands of your community during the pandemic. Discover how you can leverage the disruption to continue caring for your patients for years to come.

- Obtain peer-tested strategies to grow your service revenue.
- Speak with hundreds of exclusive vendors.
- Meet and exchange ideas with independent pharmacy community members from across the nation.
- Get a behind-the-scenes look at some of the most innovative pharmacies in the country.
- Transform your practice and position it as a primary care destination.

For more info, visit bit.ly/future-proof2021
Thinking About Selling Your Pharmacy?

PRS Pharmacy Services will give you a FREE Consultation, FREE Pharmacy Selling Guide and a FREE Basic Pharmacy Value Estimate

Whether you are just getting started or not sure where to begin, our team of Pharmacy brokerage and valuation experts at PRS can discuss your options with you and help you create a plan!

PRS is not your typical broker...
First, we are Independent Pharmacy experts who offer a full suite of brokerage services. Second, we represent you through the entire selling process from valuation through transition and closing, and our consultations are always confidential. You can feel comfortable knowing that we will never share your inquiry or intentions with anyone and there’s never any pressure to sell.

Visit our website at PRSRx.com or contact John Watkins, MBA, Director of Sales, to learn more!
800-338-3688 ext 134 | john.watkins@prsrx.com

PRS is the only brokerage company recommended by NCPA & the Federation of Pharmacy Networks.
BROKERS

Selling Your Pharmacy?
Maximize Your Value

H&Z
Minimize Your Worry

HAYSLIP & ZOST
Pharmacy Sales Experts Ready to Help You!
www.RxBrokerage.com

Tony Hayslip, ABR/AREP
713-829-7570
Tony@RxBrokerage.com

Ernie Zost, RPH
727-415-3659
Ernie@RxBrokerage.com

Call Hayslip & Zost Pharmacy Brokers LLC for a free consultation. We have helped hundreds of independent pharmacy owners nationwide get the maximum value for their pharmacies. For more information about us, please visit our website.

MARKETPLACE CAN WORK FOR YOU!

Apply for the right job.
Hire the right talent.

InPharmacyJobs
Powered by
Drug Topics

Finding your next employer or applicant has never been easier.

Visit go.inpharmacyjobs.com/drugtopics to browse available positions or list your company’s job openings!
Connect Repatha® patients to the resources they need from the comfort of their home

Injection support
Repatha® Ready nurses are available for supplemental injection support over the phone, 7 days a week. To connect with a Repatha® Ready nurse, watch a self-injection video demonstration, or find additional resources, have patients visit Repathainjection.com

Refill options
Talk to your patients about the availability of 90-day refills and home delivery options for Repatha®

Patients may pay $5 per month
Eligible commercially insured patients may pay $5 per month* with the Repatha® Copay Card. To learn more or for patient enrollment, visit Repatha.com/copaycard. If your mail-order pharmacy does not accept the Repatha Copay Card, you may be eligible to receive reimbursement directly from Repatha® Ready. Contact 1-844-REPATHA (1-844-737-2842)

*Eligibility requirements for the Repatha® Copay Card: Open to patients with commercial prescription insurance and who are not enrolled in any government-funded program that pays for prescription drugs. This program is not open to uninsured patients or patients enrolled in any federal-, state-, or government-funded healthcare program such as Medicare, Medicare Advantage, Medicare Part D, the Retiree Drug Subsidy Program, Medicaid, Medgap, Veterans Affairs (VA), the Department of Defense (DoD), or TRICARE®, or where prohibited by law. Cash Discount Cards and other noninsurance plans are not valid as primary under this offer. Other restrictions, including annual copay maximum limits may apply. This offer is subject to change or discontinuation without notice. Please visit https://www.repatha.com/patient-services-and-copay-registration/#atandc for full terms and conditions.

Learn more about patient resources and support at RepathaHCP.com or call 1-844-REPATHA (1-844-737-2842)

© 2021 Amgen Inc. All rights reserved. USA-145-82955 0421
Need Expert Help Selling your Pharmacy?

Approached by a Chain To Sell?  Looking for an Independent Buyer?
Need a Valuation for Your Pharmacy?  Need Financing for a Pharmacy Purchase?
Contact Hayslip & Zost Pharmacy Brokers LLC for all your answers!

www.RxBroker.com

“Tony and Ernie’s ability to find qualified buyers and help independent owners sell their pharmacies to other independent owners has had a positive impact in our industry.”

-Phil Woodward, RPH, Executive Director
Oklahoma Pharmacy Association

Here’s what some of our clients have to say...

“Your knowledge of the business climate allowed me to get top dollar for my pharmacy.”

-Jim Angell, Kerrville TX

“My experience with Tony Hayslip and Ernie Zost was very positive. I appreciate their honesty, fairness, integrity and professionalism.”

-Robert Guy, Super “D” Drugs, Greenville MS

“Hayslip & Zost’s knowledgeable staff and expertise allowed us to get a great price for our pharmacy. I strongly recommend their company to represent you throughout the selling process.”

-Helen T., RPH, CEO Yuba City CA

“Tony and Ernie did an outstanding job representing our pharmacy. I received top dollar thanks to them!”

-D. Cox, CEO- Boise ID

HAYSILP & ZOST
PHARMACY BROKERS, LLC
Looking for an independent buyer?
Contact Hayslip & Zost for All Your Answers
RxBrokerage.com
1.800.530.5650

Endorsed by State Pharmacy Associations
We have helped hundreds of independent pharmacy owners to get confidential answers and maximize the value of their businesses. With over 50 years experience, we specialize exclusively in buying and selling pharmacies. Our only job is to represent you throughout the whole process.

“Pharmacies selling to large corporations leave as much as $500,000 on the table.”

Tony Hayslip

MAXIMIZE your value... MINIMIZE your worry

Hayslip & Zost Pharmacy Brokers LLC — RxBrokerage.com

Ernie Zost, RPH
727-415-3659
Ernie@RxBrokerage.com

Tony Hayslip, ABR/AREP
713-829-7570
Tony@RxBrokerage.com