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Practical Strategies for Pharmacist Integration with Primary Care: A Workbook.

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Practical Strategies for Pharmacist Integration with Primary Care

A WORKBOOK OF THINGS WE WISH WE KNEW BEFORE WE STARTED

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Introduction

Welcome to our workbook! We hope you didn't pick this up to find the theoretical underpinnings of primary care or pharmacy. This is a practical, hands-on set of tips and resources to help you get established in a primary care practice. We have tried to keep our writing informal (and a little sarcastic) in the hope that you will have fun with the subject matter in the same way that we have had fun writing this workbook. Keep in mind that no matter how many books and resources you use to get started, the only real way to get started is to show up at the primary care practice with your name tag and a smile. So don't feel like you have to read this book cover-to-cover. We have intentionally repeated some of the information and references assuming that you may find it more helpful to skip around as needed. If you can't imagine life without reading this cover-to-cover, that's okay, too.

You should know that we don't have any conflicts of interest with any pharmaceutical companies, other pharmacy or medicine-related for-profit companies, insurers, or anyone else we can think of. We also haven't written any textbooks or resources that generate royalties or other income. Therefore anytime we suggest buying a book or subscribing to a resource, it is because we think it may be helpful. This workbook and the basis of many of the examples and advice found in this workbook were paid for by a grant from the Vermont Department of Health to the University of Vermont Office of Primary Care.

One last point of introduction: the healthcare landscape is changing rapidly. Please keep in mind that this workbook was written in 2014 with Vermont primary care providers as our focus. We have no doubt that the resources and advice in this workbook will translate to future years and other locations; however, you may need to adapt our ideas to best suit your needs and the providers and patients you serve. We're cool with that. This workbook is for you.

ASSUMPTIONS

We made this workbook with you in mind. That being said, we assumed you:

- Are a licensed pharmacist
- Have clinical experience and strong math skills
- Understand and agree with practicing according to evidence-based principles
- Know how to locate, retrieve, read, and interpret journal articles
- Have access to *Pharmacist's Letter*, or its equivalent resource
- Are proficient in Microsoft Word, or equivalent
- Have funding to work in primary care and have an identified practice or organization you are working with
- Plan to work with primary care providers (this workbook may be useful for other clinical or ambulatory environments, such as specialists' offices; however, the examples in this workbook are focused in primary care)
- Have permission to access and document in the electronic health record used by the practice (i.e. you and the providers must be working in the same computer system)

WHAT TO EXPECT FROM THIS WORKBOOK

Is this a workbook? Is it a resource guide? Is it a toolkit? We aren't sure either, but have settled on the idea of a workbook. Google defines the term workbook as a noun: "a student's book containing instruction and exercises relating to a particular subject." We don't know if Google is as authoritative as Webster, but it was a good enough definition for us so let's break it down:

- A student's book: We don't mean pharmacy student. We mean any pharmacist who isn't already an expert at practicing in primary care. If you completed a residency in ambulatory care pharmacy, you probably don't need this book.
- Containing instruction and exercises: We don't claim to be the ultimate primary care pharmacy experts. There are plenty of professional society guidelines, journal articles, and other resources in the world to help you. What this workbook offers is some practical advice and project ideas based on those resources and our own experience.
- Relating to a particular subject: The subject is primary care pharmacy. Enough said.

Best of luck in your primary care journey. Now put this book down (seriously), get up from your chair (we do mean it), and go see some patients or get started on a project (right now).

Amanda and Mike

1 Getting started

Understanding the primary care environment

If you are new to primary care pharmacy, you may have only experienced primary care from a patient perspective. Here are some things about the primary care environment that you need to understand in order to become a successful primary care pharmacist. As we mentioned in the introduction, the following statements are true as of the time of writing this workbook but health care is changing rapidly so we offer no guarantees that these ideas will be valid forever.

THE PACE OF PRIMARY CARE IS FASTER THAN YOU MIGHT EXPECT

Even the most enthusiastic prescribers will find it difficult to have time for you. The primary care environment is typically structured around brief patient encounters, often 15 minutes each. This means a primary care provider must understand the goals of a visit, meet with a patient, and complete documentation at a very fast pace. This is part of the reason your services are so badly needed! Always ask for help if you need it, but be mindful of the quick pace of primary care. If you want more focused input on a protocol or new project, consider asking for 10 minutes of a provider meeting agenda.

PRIMARY CARE HAS BECOME MORE TEAM-BASED

Pharmacists are among many health professionals seeking to help primary care providers and patients. Expect to interact with behavioral health, social workers, dietitians, physical therapists, etc. Sometimes these groups of health professionals are called “Community Health Teams,” or “CHTs.” These teams may be part of an organizational structure called a “medical home,” a

“medical neighborhood,” a “Federally Qualified Health Center (FQHC),” or an “Accountable Care Organization (ACO).” If your practice has a team that works together on a regular basis, consider asking for 10 minutes of a team meeting agenda to introduce yourself and describe your services and hear what the roles of the various team members are. You may find this is a useful group for generating referrals or other projects that help the patients you serve.

DESPITE THE FOCUS ON TEAMS, THERE ARE STILL MANY SILOS

Don't be surprised if two prescribers work side-by-side each day and practice very differently. Primary care providers rarely have an opportunity to spend time discussing their approach to clinical topics. Provider meetings are often used for solving administrative problems or office flow issues. Many providers welcome brief education or “clinical pearls” by pharmacists, as this is an opportunity for the providers in a practice to discuss their own perceptions and approaches. Your education is a great way to eliminate prescribing silos and foster evidence-based prescribing across a practice.

THE OFFICE STAFF ARE CRITICAL TEAM MEMBERS

The office staff are the people that make the day-to-day operations possible. Primary care practices are buried in paperwork (even if that paperwork is electronic), telephone calls, requests from patients, insurers, pharmacists, etc.

Helpful Resources to Get You Started

The resources on this page will help you get started in a primary care practice. Please note that since the time of writing this page, new resources and updates may be available. However, these serve as a good starting place for you.

Just like this workbook, don't feel like you have to read all of the suggested resources before you get started. In fact, we recommend you DON'T read everything first. We know you want to be prepared, but getting started really means getting into the practice and trying out some ideas. Select a few resources that sound the most interesting to you. Begin with those now and then build in some time over the next several months to learn more.

Centers for Disease Control and Prevention. Collaborative Practice Agreements and Pharmacists' Patient Care Services: A Resource for Pharmacists. Atlanta, GA: US Dept. of Health and Human Services, Centers for Disease Control and Prevention; 2013. Available (as of May 2014) at: www.cdc.gov/dhds/pubs/docs/Translational_Tools_Pharmacists.pdf

Jorgenson D, Dalton D, Farrell B, Tsuyuki RT, Dolovich L. Guidelines for pharmacists integrating into primary care teams. *Canadian Pharmacists Journal* Nov 2013;146(6):342-352. PMID: 24228050

Kozminski M, Busby R, McGivney MS, Klatt PM, Hackett SR, Merenstein JH. Pharmacist integration into the medical home: qualitative analysis. *J Am Pharm Assoc.* 2011 Mar-Apr;51(2):173-83. PMID: 21382807

Lee AJ, et al. Clinical and economic outcomes of pharmacist recommendations in a VA medical center. *Am J Health Syst Pharm.* 2002 Nov 1;59(21):2070-7. PMID: 12434719

Nigro SC, Garwood CL, Berlie H, Irons B, Longyhore D, McFarland MS, Saseen JJ, Trewet CB. Clinical pharmacists as key members of the patient-centered medical home: an opinion statement of the Ambulatory Care Practice and Research Network of the American College of Clinical Pharmacy. *Pharmacotherapy.* 2014 Jan;34(1):96-108. PMID: 24122857

Nkansah N, Mostovetsky O, Yu C, et al. Effect of outpatient pharmacists' non-dispensing roles on patient outcomes and prescribing patterns. *Cochrane Database Syst Rev.* 2010(7):CD000336.

Patient-Centered Primary Care Collaborative (PCPCC). T. McInnis, E. Webb, and L. Strand. The Patient-Centered Medical Home: Integrating Comprehensive Medication Management to Optimize Patient Outcomes, Patient-Centered Primary Care Collaborative, June 2012. Available (as of May 2014) at: www.pcpcc.org

Smith M, Bates DW, Bodenheimer TS. Pharmacists belong in accountable care organizations and integrated care teams. *Health Aff.* 2013 Nov;32(11):1963-70. PMID: 24191087

Smith M, Giuliano MR, Starkowski MP. In Connecticut: improving patient medication management in primary care. *Health Aff.* 2011;30:646-654. PMID: 21471485

Westberg SM, ed. ACCP Ambulatory Care Pharmacist's Survival Guide, 3rd ed. American College of Clinical Pharmacy, Lenexa, Kansas, 2013.

Collaborative Practice Agreement

A Collaborative Practice Agreement is “a formal agreement in which a licensed provider makes a diagnosis, supervises patient care, and refers patients to a pharmacist under a protocol that allows the pharmacist to perform specific patient care functions.” (CDC, 2013). In other words, a Collaborative Practice Agreement is the contract with the providers you work with that dictates what services you will be allowed to offer and the extent of your clinical practice.

HOW SHOULD THE COLLABORATIVE PRACTICE AGREEMENT BE FORMATTED?

Collaborative Practice Agreements and the rules governing what services pharmacists may offer vary by state, so please check with your state Board of Pharmacy before you have providers sign an Agreement. There are many templates available for formatting Collaborative Practice Agreements. We have provided you with an example in this workbook, however if there is a standard template already used by others in your state or organization, it is probably best to use what others are using. Regardless of what type of Collaborative Practice Agreement you use, *make sure you understand the scope of practice allowed by your state Board of Pharmacy and stay within that scope.*

WHEN SHOULD THE COLLABORATIVE PRACTICE AGREEMENT BE SIGNED?

Check with your state Board of Pharmacy and with the organization you will be working with to understand when the Agreement needs to be in place and how often it needs to be reviewed.

WHO SIGNS THE COLLABORATIVE PRACTICE AGREEMENT?

Check with your state Board of Pharmacy and with the organization you will be working with to understand who needs to sign the Agreement. Typically the Agreement should be signed by you (the pharmacist) and any provider you will be working with. It is important to have all providers sign the same Collaborative Practice Agreement as this prevents confusion regarding the care of various providers' patients.

HOW DETAILED SHOULD THE COLLABORATIVE PRACTICE AGREEMENT BE?

Our vote is to have one Collaborative Practice Agreement that globally covers the services you offer. A broad Collaborative Practice Agreement is desirable over a more prescriptive agreement (e.g. algorithms for specific disease-state treatment, approved medications and titrations) as more autonomy will allow optimal and unencumbered patient care. Having a broad agreement will also help you if you aren't yet sure what specific pharmacy services you will offer. *A broad Collaborative Practice Agreement is similar to the approach that nurse practitioners use with physicians.* Broad Agreements outline the general scope of your practice, general resources and guidelines that will guide your practice, the processes you will use for seeking help when needed, and a plan for quality assurance.

OUR VIEW OF A COLLABORATIVE PRACTICE AGREEMENT VERSUS A PROTOCOL

Document	Collaborative Practice Agreement	Protocol
Scope	General: Includes broad standards (e.g. use of evidence-based principles, clinical practice guidelines) to globally cover the pharmacy services offered to the practice.	Specific: Includes specific action steps and references for individual disease states or processes. May include dose adjustment algorithms, criteria for lab test ordering, referral strategies, adverse event management, etc.
Number	One per provider or practice (depending on state rules)	May have multiple protocols at any one time
Example	“I will follow the standards set forth by the American College of Clinical Pharmacy and relevant clinical practice guidelines to guide and evaluate my practice.”	“If a patient's A1C is greater than 9%, I will maximize metformin to 2000mg daily.”

HELPFUL REFERENCE

Centers for Disease Control and Prevention. Collaborative Practice Agreements and Pharmacists' Patient Care Services: A Resource for Pharmacists. Atlanta, GA: US Dept. of Health and Human Services, Centers for Disease Control and Prevention; 2013. Available (as of May 2014) at: www.cdc.gov/dhds/pubs/docs/Translational_Tools_Pharmacists.pdf

WHAT IS THE DIFFERENCE BETWEEN A COLLABORATIVE PRACTICE AGREEMENT AND A PROTOCOL?

A protocol is your formal procedure for various pharmacy services. For example, you may have a protocol for authorizing refill requests, for adjusting insulin doses, for managing hypertension, etc. Protocols are often very specific. It is likely you will need several protocols for the services you are offering so that the providers you are working with are clear about the processes you are following to manage various conditions. We recommend you separate the specific protocols (you may have multiple protocols at any one time) from the global Collaborative Practice Agreement (one Agreement that is renewed annually, or over a specific time frame determined by your state Board of Pharmacy). This will allow you to revise your protocols as needed, without needing to revise your overall Collaborative Practice Agreement.

FINAL THOUGHTS ON COLLABORATIVE PRACTICE AGREEMENTS

Collaborative Practice Agreements provide documentation that you and specific providers have agreed to a working relationship. However Collaborative Practice Agreements do not replace the need for frequent contact and communication with those providers. You will need to work with providers to establish trust, foster good communication, and provide strong documentation in order for you to have a successful practice with optimal outcomes for your patients.

Vermont Pharmacist Collaborative Agreement Template

1c

Vermont Board of Pharmacy definition “Collaborative Pharmacy Practice” means that portion of pharmacy practice where a pharmacist may perform certain patient care functions under a protocol of specified conditions or limitations in collaboration with a practitioner. Collaborative Practice Agreements must be in writing and are valid for up to one year. After one year, a new written agreement is necessary for the collaboration to continue. Each Collaborative Practice Agreement shall include provisions for no less than an annual quality assurance review by the collaborating practitioner. A pharmacist may have Collaborative Practice Agreements with more than one practitioner.

section A

PERSONAL DATA

Your Name and Degree

Specialty/Certification, if applicable (e.g.: BCPS, CDE)

Role: Clinical Pharmacist

Full name of certification organization (e.g.: Board of Pharmacy Specialties, National Certification Board for Diabetes Educators)

Vermont Pharmacy License number

section B

COLLABORATING PRACTITIONER(S)

Name

Specialty

Vermont License Number

Practice Name

Practice Address

Contact Telephone Number

section C

CLINICAL PRACTICE

Practice Name

Physical Practice Address

Practice Telephone Number

Patient Population Served (e.g.: Adults, Pediatrics, Specialty)

section D

STANDARDS OF CLINICAL PRACTICE

Standards used to guide and evaluate your practice. Examples include: American College of Clinical Pharmacy (ACCP); American Pharmacists Association (APhA); American Society of Health-System Pharmacists (ASHP)

References used for clinical practice guidelines.

Examples include:

Books:

Knollmann B, ed. Goodman & Gilman's The Pharmacological Basis of Therapeutics. 12th ed. New York: McGraw-Hill; 2011. DiPiro J. Pharmacotherapy: A Pathophysiologic Approach 9th ed. New York: McGraw-Hill; 2014.

Websites:

PubMed/Medline, Cochrane Collaborative, Professional Society websites, Pharmacist's Letter, UpToDate, U.S. Preventive Services Task Force

Criteria for professional consultation and referral (When would you seek consultation and referral?)

Emergency referral

section E

QUALITY ASSURANCE PLAN

One or more measurable quality goals/outcomes

Quality indicators and benchmarks

Methods of quality monitoring

Frequency of evaluation (at least annually)

Peer review involving at least one of the collaborating practitioners listed in Section B in the evaluation of quality assurance findings

Description of document retention procedures and policies; and

Plan for improvement or corrective action if indicated

section F

PHARMACIST PRINTED NAME, SIGNATURE, AND DATE

Collaborating Practitioner(s) Printed Name, Signature, Date

Vermont Pharmacist Collaborative Agreement Example

PHARMACIST

Jane Doe, PharmD, BCPS
Clinical Pharmacist
Board of Pharmacy Specialties
VT License number

COLLABORATING PRACTITIONER(S)

Jill Brown, MD Internist VT License number Main Street Clinic 1 Main Street Somewhere, VT 802-xxx-xxxx	John Smith, APRN Adult Nurse Practitioner VT License number Main Street Clinic 1 Main Street Somewhere, VT 802-xxx-xxxx
--	---

CLINICAL PRACTICE

Main Street Clinic
1 Main Street
Somewhere, VT
802-xxx-xxxx
Client population served: Patients ages 18+

STANDARDS OF CLINICAL PRACTICE

I will follow the standards set forth by the American College of Clinical Pharmacy to guide and evaluate my practice. The following references will be used as resources for clinical practice guidelines:

- DiPiro J. Pharmacotherapy: A Pathophysiologic Approach 9th ed. New York: McGraw-Hill; 2014.
- Pharmacist's Letter: www.pharmacistsletter.com
- UpToDate: www.uptodate.com

Professional consultation and referral will be sought when a patient is outside the pharmacist's experience or scope of practice or the patient's condition fails to respond to the management plan within an appropriate time frame. Once a patient reaches their goal, the patient will be referred back to regular care.

In the case of an emergency, the pharmacist will contact EMS by calling 911 and the patient shall be transported to the nearest emergency department which is Vermont Hospital A.

Vermont Board of Pharmacy Definition "Collaborative Pharmacy Practice" means that portion of pharmacy practice where a pharmacist may perform certain patient care functions under a protocol of specified conditions or limitations in collaboration with a practitioner. Collaborative practice agreements must be in writing and are valid for up to one year. After one year, a new written agreement is necessary for the collaboration to continue. Each Collaborative Practice Agreement shall include provisions for no less than an annual quality assurance review by the collaborating practitioner. A pharmacist may have Collaborative Practice Agreements with more than one practitioner.

QUALITY ASSURANCE PLAN

The pharmacist's quality improvement plan shall consist of at least one measurable goal with performance benchmarked against professional organizational standards. The following are examples of quality audits but are not limited to management of diabetes by measuring A1C, management of blood pressure, or management of cholesterol. Performance is benchmarked against professional organization standards such as the American Diabetes Association guidelines, Joint National Committee (JNC 8), and 2013 ACC/AHA Guideline on the Treatment of Blood Cholesterol. Quality monitoring will be achieved by chart audits, case reports, patient satisfaction surveys, etc. Evaluation will occur at least annually.

Quality assurance audits occur for each clinic served, between the pharmacist and at least one of the collaborating practitioners. The findings of the audit are discussed at larger practitioner meetings if applicable. Issues raised by audit findings will seek recommendations for systems improvement by the collaborating practitioner(s). These recommendations will be implemented and reviewed within a set time frame to determine success of interventions. Documentation resulting from quality assurance audits will be kept by the pharmacist for four years.

Jane Doe, PharmD, BCPS

Date

Jill Brown, MD

Date

John Smith, APRN

Date

Practical Strategies for Integration

This section assumes you are getting ready to provide pharmacy services to a practice, but are still nervous about jumping in. Hopefully, you have had a chance to read some of our recommended resources (See our section on Helpful Resources to Get You Started). If not, you may want to go back and select a few of those resources to read first. If you don't have your

Collaborative Practice Agreement signed, now is the time to get that done as well (See our Collaborative Practice Agreement section if you need an example).

Here is some practical advice and a few strategies for what to do when you arrive at the practice.

KEEP PATIENTS FIRST

You won't need to explain your relevance or priorities to the practice if your providers see you trying to improve patient care with your projects. Always keep the patient first.

BE FLEXIBLE

Your vision may include seeing lots of patients for asthma, diabetes, anticoagulation, etc. However, expect to have very low referrals from providers (See our section on Known Barriers and How to Overcome Them). To get started, you may need to take on projects that show you are helpful, such as answering drug information questions, considering refill requests, assisting with prior authorizations, etc. Get your foot in the door and then work toward making your pharmacy practice match your ideal vision. This process takes time and flexibility.

PRIORITIZE TIME

Working in a primary care practice is very different from working in a hospital or community pharmacy. It is very autonomous and you may find yourself floundering if you don't have a plan to be efficient with your time. Many of the example projects in this workbook are designed to ensure you are working toward important outcomes. While you need to be flexible (points above), if you spend all of your time on refill requests you won't be able to show your value in improving health outcomes. It's a tricky balance, but we believe in you!

FOCUS ON PROJECTS WITH THE BIGGEST IMPACT

Along with the point about prioritizing time, know where you will have the biggest impact. Even if you need to be flexible in order to develop good working relationships with the other providers on the team, you have a job to do. If the majority of your efforts aren't dedicated to projects with the biggest impacts, you won't be able to show your value consistently and won't be as effective at improving patient care. Identifying and managing untreated diagnoses, and preventing and managing adverse drug events have been two areas shown to have the biggest impacts in terms of cost avoidance. (See Lee et. al 2002 reference) We suggest starting projects that look at these two areas.

MAINTAIN CONFIDENTIALITY

We hope this is obvious, but be mindful of patient Protected Health Information (PHI). Never email, print, or save PHI anywhere that it isn't supposed to be. If you are unsure of the rules, please ask your physician leader!

BE EVIDENCE-BASED

It is very important to base your recommendations in the evidence, not your personal opinion. Have the references ready if providers ask for them. See our section on Finding the Evidence if you need help.

DON'T IGNORE THE IMPORTANCE OF FACE TIME

Even the most enthusiastic providers will struggle to integrate with you initially. It is critical that you are visible in the practice. So much of your success will depend on the other providers getting to know you. Make it a habit to present brief (even 5 minutes) clinical pearls or education regularly at meetings and be happy to answer ongoing drug information questions from providers, nurses, and staff. This will go a long way to helping you successfully integrate into the practice.

DON'T GIVE UP AND DON'T BE AFRAID TO SPEAK UP

Confidence is key. You don't have to know the answer to every question and you don't have to be able to recite each guideline. You do need to have strong clinical skills and the ability to find answers in a timely manner.

FIND MENTORS

Mentors come in all shapes and sizes. You may not have access to a "one stop shopping" mentor, but you may find people who are great with interpersonal skills, pharmacists with strong clinical skills who can help you with certain projects, people with leadership skills, etc. Even though your job will likely be autonomous, you shouldn't feel alone, either. Many professional societies also have ambulatory care groups, meetings, etc. Mentors don't have to be local. Mentors do need to be willing and available to give you advice and direction when you need it.

BE NICE TO EVERYONE, ESPECIALLY THE OFFICE STAFF

The nurses, medical assistants, office manager, and office staff are the people that make the day-to-day operations possible. These are people you want on your side, and you want them on your side early. Be respectful, make sure to introduce yourself, and find ways to make it easy for the staff to embrace you as a new member of the team. Whether it is a front-desk staff member or a medical assistant, you will need everyone's help at some point. Start these relationships off on the right foot.

CHECK YOUR EGO AT THE DOOR

The last thing a practice wants is a know-it-all pharmacist who arrives to "save" a practice from years of bad prescribing. Be respectful and humble. The vast majority of primary care providers and staff are incredibly caring and attentive to the patients they serve. Problems with medications arise due to the complexity of patients and the systems we work in. You want to be confident in your ability to help, but check your ego at the door and you will have more friends and success within the practice.

Known Barriers and How to Overcome Them

There are a number of articles in the pharmacy and medical literature that discuss the barriers to success for pharmacists trying to integrate into primary care. We have experienced many of these barriers in our own attempts to integrate into primary care in Vermont.

The good news is that most, if not all, of these barriers can be overcome by being aware and prepared. Some of these concepts are described elsewhere in this workbook; however, they are so important that they are worth repeating here.

Lack of Provider Trust

It is likely that in the beginning providers won't trust you completely, even if they are enthusiastic about you joining the team. You may perceive a lack of trust from the office staff and other members of the primary care team as well. Don't take this personally.

POSSIBLE SOLUTION Our advice for gaining provider and care team trust is to have a lot of "face time" in the practice, especially in the beginning. Be a useful pharmacist. Offer to answer drug information questions, assist with prior authorizations and refill requests, present brief educational sessions at provider and staff meetings, etc. The more people get to know you and understand what skills you have to offer, the more trust you will gain.

Unclear Role of the Pharmacist

You may not be sure what you should be doing once you get to the practice. It is likely the providers won't know either. Our experience and those of others suggest planning on a full 6 months before your role really becomes clear to you and the practice.

POSSIBLE SOLUTION Use your time to gain trust, build social relationships, and work toward bigger impact projects. How do you accomplish this?

1. Face time. Offer to answer drug information questions, assist with prior authorizations and refill requests, present brief educational sessions at provider and staff meetings, etc.
2. Ask providers. It is important to get input from the providers in the practice on what activities will be most helpful. The providers may have ideas you haven't thought of, such as projects that impact various quality assurance metrics.
3. Bring your own ideas to the practice. Use this workbook for ideas of bigger projects to get you started. Consider projects involving direct patient care, population-based medication management, and education. This will help providers see how many different types of projects you are capable of completing. Also consider projects that identify and manage untreated diagnoses, and projects that prevent and manage adverse drug events as these have been two areas shown to have the biggest impacts in terms of cost avoidance. (See Lee et. al 2002 reference)
4. Be confident and assertive. Rather than waiting for a provider to ask you to work on a project or to refer a patient to you, propose a project at a provider meeting. Present the details of why the project is important, how you will approach the project, how you will communicate effectively with everyone in the practice, your measurement strategy, and timeline. Your confidence and assertiveness will go a long way toward getting integrated into the practice.
5. Repeat steps 1-3 until everyone in the practice "gets it."

Computer Systems Not Configured for Pharmacists

You may find that the electronic health record being used by the practice doesn't have everything you need as a pharmacist, including a way to document patient visits, a way to document telephone encounters, a seamless process for obtaining population reports, etc.

POSSIBLE SOLUTION Identify the Information Technology (IT) person for the practice and really get to know that person. You will need his or her help. Try to establish a process for receiving referrals, patient documentation, pulling population reports, and documentation for future reports that prove your value (See Section 3 on Proving Your Value for resources and ideas). Configuring the electronic health record for your needs will take time and patience. Work on one piece at a time and don't give up.

Office Flow Not Configured for Pharmacists

If you are the first pharmacist a primary care practice has ever worked with, you are likely to encounter all sorts of interesting barriers related to office flow. For example, if a physician identifies a person he or she would like you to see, how should he or she refer that patient to you? Do you have a schedule that the front desk has access to? Is there a process for referral or will the physician wait until he or she bumps into you?

POSSIBLE SOLUTION Work on these very basic but important office process and flow issues as they come up. Don't get frustrated. This will be new for everyone. It will be best if you include the office staff in any process or flow changes. They are likely to know more about the processes than the providers. If there are too many challenges to tackle at once, make a list and ask the physician leader or practice manager for help with prioritizing your list.

Physical Space Limitations

Most primary care practices were not built with the concept of team-based care in mind. This means that any co-located "extra" person (e.g. pharmacist, behavioral health, nutrition, physical therapy) will be taking up space that was originally designed for physicians and other prescribers. Many primary care practices are "busting at the seams" which means that physical space is tight. You may have difficulty identifying a chair, computer, work space, etc.

POSSIBLE SOLUTION Physical space is something that should be discussed with whoever hired you or the physician leader in the practice early on. This won't guarantee you a private office, but will at least clarify where you should be working. Make it clear that you are happy to be flexible, but that to make important contributions to primary care you will need a consistent place to work and access to a computer and the electronic health record.

HELPFUL REFERENCES

Jorgenson D, Dalton D, Farrell B, Tsuyuki RT, Dolovich L. Guidelines for pharmacists integrating into primary care teams. *Canadian Pharmacists Journal* Nov 2013;146(6):342-352. PMID: 24228050

Kozminski M, Busby R, McGivney MS, Klatt PM, Hackett SR, Merenstein JH. Pharmacist integration into the medical home: qualitative analysis. *J Am Pharm Assoc.* 2011 Mar-Apr;51(2):173-83. PMID: 21382807

Lee AJ, et al. Clinical and economic outcomes of pharmacist recommendations in a VA medical center. *Am J Health Syst Pharm.* 2002 Nov 1;59(21):2070-7. PMID: 12434719

Westberg SM, ed. *ACCP Ambulatory Care Pharmacist's Survival Guide*, 3rd ed. American College of Clinical Pharmacy, Lenexa, Kansas, 2013.

Lack of Dedicated Time

This is a big one. If you are working for a pharmacy department and are told to work for a primary care practice one day each week and are then told that due to colleague vacations and illnesses you will need to cover the pharmacy rather than be in the primary care practice, you are headed for failure.

POSSIBLE SOLUTION The leadership of your organization must be committed to you serving primary care and the amount of dedicated time you have to serve a practice must be negotiated before you begin. If you are finding you are not getting the dedicated time you were promised, it is time to schedule a meeting with whoever can restore your protected time.

Lack of Funding

If you are working in a primary care practice, we are assuming you are funded to be there. Unfortunately, at the time of this writing, there are no good answers to sustainable funding of primary care pharmacists in many areas.

POSSIBLE SOLUTION The best you can do is collect data about the services you are providing and calculate the return-on-investment. This will help you have the data you will need if someone is seeking to reduce or eliminate your position. We have some advice on how to calculate return-on-investment in later chapters of this workbook. If you are interested in learning more about fee-for-service billing, there is a good chapter on this topic in the ACCP Ambulatory Care Pharmacist's Survival Guide. (See Westberg SM, 2013)

Lack of Prescriber Engagement or the Skeptical Provider

Don't be surprised to discover that some prescribers can't wait for your help, while others avert their eyes when you walk down the hall hoping you won't talk to them. Not everyone is an early adopter of pharmacists in primary care.

POSSIBLE SOLUTION The best advice we can give you is to demonstrate successes in patient care with the most engaged prescribers first and then present those successes as well as other brief education at provider meetings. For the skeptical providers, keep offering to answer drug information questions and assist with other simple medication-related activities. Over time the skeptical providers will value your services. You may find these providers valued your services all along but were afraid to ask for help.

New Concept for Patients

Just like the skeptical providers, don't be surprised to meet some skeptical patients. Patient perceptions of what pharmacists do won't always match your perceptions.

POSSIBLE SOLUTION Strategies for easing patients into understanding the value of a pharmacist in primary care include waiting room flyers, posters in exam rooms, letters from you regarding FDA warnings or other safety considerations, and group education. Over time, skeptical patients will understand and value the services you offer.

1f Finding the Evidence

In our introduction to this workbook, we made a list of assumptions about you. Two of these assumptions included that you:

- Understand and agree with practicing according to evidence-based principles
- Know how to locate, retrieve, read, and interpret journal articles

That being said, efficiently searching for evidence requires a lot of practice. Here are some strategies we use when trying to find evidence. Please pardon our pharmacokinetic example, however we thought it was clever.

HELPFUL TIPS

Throughout this workbook you will see a number following the letters "PMID" in the references we cite. PMID stands for "Pubmed Identification." In the example below using the Smith article, the PMID is 21471485. If you go online to Pubmed and type the PMID into the search box, the Smith article will be presented on the screen. Knowing the PMID is a huge timesaver. We recommend including the PMID in all of your references.

Example: Smith M, Giuliano MR, Starkowski MP. In Connecticut: improving patient medication management in primary care. Health Aff. 2011;30:646-654. PMID: 21471485

Be careful with online search engines. Sometimes "Google" or equivalent searches can be helpful, but don't rely on them as your evidence base. The same is true for open sites such as YouTube. There may be interesting content that adds flair to a presentation, but focus on the primary literature for your evidence.

Be careful with industry-sponsored websites and content. These sites are helpful for certain situations (e.g. patient videos of how to inject insulin, product-specific education, product-specific indications, product-specific package inserts). However, do not rely on industry-sponsored sites for broader questions.

REFERENCE

Alexandru Dan Corlan. Medline trend: automated yearly statistics of PubMed results for any query, 2004. Web resource at: <http://dan.corlan.net/medline-trend.html>. Accessed: May 2014.

THE "STEADY STATE" APPROACH

Think of the steady state approach to evidence as how you keep up with evidence on a day-to-day basis. In this case, you aren't looking for anything in particular but are trying to maintain a level of proficiency in primary care pharmacy. In 2013, Medline indexed 19,724 articles related to primary care. Many of those articles likely include medications. If we assume you work full-time, this is approximately 2000 hours per year. If we did the division correctly, you can either plan on spending your time reading and evaluating 9.8 articles per hour, year-round, or you can find a better way to keep up. Here are some ideas to try:

- Subscribe to a resource such as *Pharmacist's Letter*. As a reminder from our introduction, we have no conflicts of interest with anyone. We just happen to think *Pharmacist's Letter* is a great resource.
- Get Table of Contents alerts from key journals. Most major journals have the ability to send you email alerts and a table of contents. See the sidebar for some journals you may consider getting email alerts from for important primary care and/or pharmacy articles.
- Use MyNCBI. NCBI stands for "National Center for Biotechnology Information." You may have not even noticed this feature on the PubMed homepage, but it is there. My NCBI allows you to run automatic PubMed searches and have them emailed to you on a regular basis (weekly for example). You can set searches for keywords, MeSH headings, or authors. Go to www.ncbi.nlm.nih.gov/account/register if you want to register for an account.
- Understand the guidelines for the most common primary care conditions. See the sidebar for examples, however, there are many more to consider.
- Be familiar with the U.S. Preventive Services Task Force recommendations. These recommendations are a good source of information for supplementing other guidelines.

RECOMMENDED JOURNALS

JAMA

New England Journal of Medicine

Annals of Internal Medicine

Annals of Family Medicine

British Medical Journal

Journal of General Internal Medicine

American Journal of Health-System Pharmacy

Pharmacotherapy

Journal of American Pharmacists Association

COMMON PRIMARY CARE CONDITIONS AND ORGANIZATIONS

Anticoagulation and thrombosis (American College of Chest Physicians, CHEST)

Asthma (National Asthma Education and Prevention Program, NAEPP)

Cholesterol (American College of Cardiology/American Heart Association, ACC/AHA)

Diabetes (American Diabetes Association, ADA)

Hypertension (Joint National Committee, JNC)

THE “BOLUS” APPROACH

While the steady state approach is useful for managing day-to-day clinical activities, there are many situations where you need to locate a specific area of evidence. This situation applies when identifying answers to drug information questions, preparing for educational sessions, or when trying to create protocols for new clinical projects. Your approach will vary based on your needs, but below are some ideas that might help you to get started. The key to a well-done literature review is to make the process iterative. There is no one right approach to identifying and evaluating evidence. Identifying and evaluating evidence is a time consuming process. That being said, you may not need to do a comprehensive literature search to answer a relatively straightforward drug information question. How extensively you search will depend on your purpose for searching in the first place.

Start with the relevant guidelines (*see notes about guidelines above*). This may include any U.S. Preventive Services Task Force recommendations. Guidelines often are well-referenced and serve as the main evidence base for most topics. Unfortunately, guidelines are often outdated the moment they are released. Start with guidelines, but don't stop with guidelines.

Search Pubmed for relevant articles since the release of the guidelines

(*or in cases where there are no guidelines*). If you don't understand how to search by MeSH heading, keyword, author, etc. Pubmed offers simple and helpful tutorials: www.nlm.nih.gov/bsd/disted/pubmed.html

Search by lead authors in the field. If you search in Pubmed thoroughly, you will start to see that many topics have 1-2 key authors for that field. Searching through their specific articles may reveal more helpful articles.

Look for references in the references. Huh? Once you have found the most relevant articles for a topic, look at the references cited by that article. Often this will lead you to articles you didn't find in your original search.

Always be on the lookout for biased information and conflicts of interest. An industry-sponsored paper does not automatically bias the results, but being mindful of the funding source is important in evaluating the evidence.

Search the Cochrane Collaborative Library. The Cochrane Collaborative is a not-for-profit, international organization that produces high-quality, evidence-based topic reviews. They have very strict criteria for producing reviews and are a trustworthy source of information. The downside is that not every topic you are interested in has a Cochrane review.

Use secondary sources and databases.

Sources such as *Pharmacist's Letter* are extremely helpful for answering drug information questions or other information needs. We also like *Medical Letter* and Micromedex when the topic is narrow, such as understanding the strengths and weaknesses of a new medication (*Medical Letter*) or understanding drug interactions and adverse effects of a particular medication (Micromedex). Some sources can provide information on a broad range of topics at the point-of-care, such as UpToDate or Dynamed. We also like the AHRQ Effective Health Care Program. If you are lucky, the topic you are interested in will be there. For sources requiring subscriptions, find out if your institution or organization already has a site license that is available to you. Lastly, think about the disclosure policies and when the content was last updated to help you decide if the information you are viewing is of high enough quality for your needs.

SOURCES AND DATABASES

Agency for Healthcare Research and Quality Effective Health Care Program	effectivehealthcare.ahrq.gov
Cochrane Library	onlinelibrary.wiley.com/cochranelibrary
Dynamed	dynamed.ebscohost.com
Medical Letter	medicalletter.org
Micromedex	micromedexsolutions.com
Pharmacist's Letter	pharmacistsletter.com
Pubmed.....	ncbi.nlm.nih.gov/pubmed
UpToDate.....	uptodate.com

**GOING BEYOND FINDING THE EVIDENCE:
DESIGNING RESEARCH**

If you have an interest in formalizing your clinical activities as research projects, you will need a different set of resources and skills. Although this workbook isn't prepared to provide content in designing research, we can point you in the right direction. If you want to incorporate research into your practice, you will need to consider if you need Institutional Review Board approvals, informed consent documents, Health Insurance Portability and Accountability Act (HIPAA) authorizations, etc. Our advice is to find a mentor who has experience in designing, conducting, analyzing, and presenting research.

Here is a great textbook to help you design your research protocol:
Hulley SB, Cummings SR, eds. *Designing Clinical Research*, 4th ed. Lippincott Williams & Wilkins, Baltimore, 2013.

**GOING BEYOND FINDING THE EVIDENCE:
TEACHING EVIDENCE-BASED MEDICINE**

If you have students or residents that would benefit from formal concepts in evidence-based medicine, you will need a different set of resources and skills. Although this workbook isn't prepared to provide content in teaching evidence-based medicine, we can point you in the right direction with some good textbooks on the topic.

Here are two textbooks to help you teach evidence-based medicine:

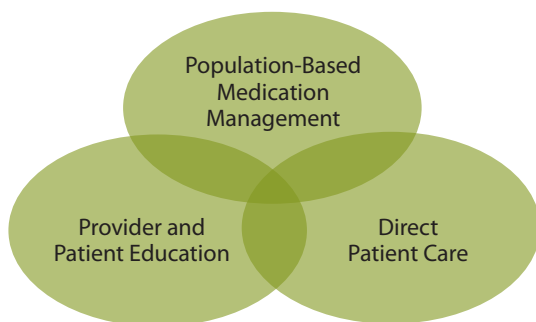
Schulz KF and Grimes DA. *The Lancet Handbook of Essential Concepts in Clinical Research*, Elsevier Limited, New York, 2006.

Straus SE, Glasziou P, Richardson WS, Haynes RB. *Evidence-Based Medicine: How to Practice and Teach It*, 4th ed. Churchill Livingstone Elsevier, New York, 2011.

2 Clinical activities

General Clinical Project Overview

We outline three broad categories of clinical activities in this workbook: Direct Patient Care, Population-Based Medication Management, and Provider and Patient Education. We promise not to bore you with too many conceptual models but we want you to be aware that these activities are not always distinct from one another. Look for opportunities to be as comprehensive with your projects as possible. Combining clinical activities is likely to yield the biggest impacts for both patient outcomes and cost.



HELPFUL TIP

Don't forget to report the results of these projects back to the practice!

HELPFUL REFERENCES FOR ADDITIONAL PROJECT IDEAS

Westberg SM, ed. ACCP Ambulatory Care Pharmacist's Survival Guide, 3rd ed. American College of Clinical Pharmacy, Lenexa, Kansas, 2013

Example: The FDA releases a warning that a common cholesterol medication shouldn't be used at the highest doses, due to increases in myalgias.

Approach: Medication-related FDA warnings represent a wonderful opportunity for a pharmacist to be involved in primary care. Your response might include:

EDUCATION

For the Provider: Provide education regarding the specifics of the FDA warning and any important drug information.

For the Patient: Prepare a patient letter describing the problem and the practice's plan to manage the problem.

For the Practice Staff: Prepare a response for the front desk staff who may be receiving patient phone calls.

POPULATION-BASED MEDICATION MANAGEMENT

You present a protocol to providers for pulling patient data from across the practice for any patient who is on that medication at that dose. The protocol involves your approach to managing these patients based on any FDA recommendations and available guidelines and evidence.

DIRECT PATIENT CARE

During the course of completing the population-based project, you identify patients who require a more complex pharmacy intervention. Examples include patients who appear to be having adherence issues, patients not achieving cholesterol goals, patients on multiple medications who appear to be having side effects, etc.

2b Direct Patient Care Activities

Direct patient care projects are the most commonly studied pharmacy services provided in primary care settings. They require one-on-one interactions with the patient and often involve either specific disease state management (e.g. warfarin, asthma, COPD, diabetes) or general medication therapy management (MTM) interventions. These interventions are often beneficial for patients who have complex medication regimens/multiple disease states, during transitions of care or who require specific educational needs (e.g. warfarin education, lifestyle modification suggestions, adherence problems). Direct patient care interventions may also be a product of a general population-based project (See the section on Population-Based Medication Management) that require a personal pharmacy intervention with a patient (e.g. assessing a patient's willingness to discontinue PPI therapy and counseling the patient on the appropriate titration regimen). Though these interventions have a large impact on individual patient care, efficiency in relation to time spent with a patient intervention and potential reimbursement (either through MTM or "incident to" billing) needs to be carefully assessed in order to maintain a cost-effective service.

Types of Direct Patient Care Pharmacy Interventions

PHARMACIST-MANAGED DISEASE STATE CLINICS

Developing a pharmacist-managed disease state clinic is often the goal of many clinical pharmacists. These clinics can involve management of a variety of disease states such as asthma, diabetes, anticoagulation, and smoking cessation. Depending on the clinic and on the scope of the Collaborative Practice Agreement, a pharmacist may have complete autonomy (under provider supervision) over the management of patients with a specified disease state. This scope may range from medication initiation and adjustment to lab ordering and specialist referrals.

There are a variety of benefits and limitations for offering disease state clinics. Benefits include focusing on specific medication or disease state problems which can yield significant impacts on the care and outcomes of individual patients. Also, managing chronic disease states frees up time for providers to see more acute or complex patients. Limitations, such as difficulty establishing reimbursement mechanisms to guarantee sustainability and the possible need for specialized training or experience in managing

a specific disease state, often arise when discussing the feasibility of offering these services.

MEDICATION THERAPY MANAGEMENT (MTM)

A full explanation of MTM is beyond the scope of this workbook. However, the process of MTM can be completed in the clinic at the point of care with the patient and provider. Interventions identified during an MTM session in the clinic are much easier to implement when the provider is directly available for consultation. Reimbursement for services provided may be easier as the billing mechanisms have already been established. However, billing still needs to go through either third party MTM platforms that allow independent pharmacy contractors or through established billing protocols set up with individual patients or insurers.

CURBSIDE CONSULTS

Curbside consults are often the easiest means of integrating into a new clinic setting. These interventions involve being present in a provider area such as a preceptor room or a nursing hub where the pharmacist is seen and available for consult by providers. Often, a quick review of patients being seen that day during clinic will provide potential interventions to discuss with providers. The pharmacist can also listen for drug information questions or potential drug therapy issues as providers discuss patients with other members of the care team. While this type of intervention is not the most efficient for improving patient outcomes, it does help the pharmacist to establish their credibility and usefulness to providers. It also provides insight into the flow of the clinic, the needs of the patient population, and the development of formal patient care projects.

OTHER DIRECT PATIENT CARE INTERVENTION STRATEGIES

Assisting with prior authorizations and refill requests are other sources of direct patient care activities one might use to become established at a clinic. While these activities may not be the best use of a pharmacist's abilities, they may help the pharmacist identify patients who would benefit from a pharmacy intervention and help the pharmacist to establish a niche in the clinic. However, these strategies should only be used as a starting point. Depending on the size of the clinic, these activities may easily overwhelm one person and may limit the time allowed for interventions with a higher impact.

NOTES

Things to keep in mind when developing a direct patient care pharmacy service

1. DETERMINE YOUR OWN STRENGTHS AND ABILITIES

Special training (beyond a pharmacy degree) is not required to start pharmacy services at a clinic. However, a residency or special training or experience in the management of a disease state is helpful. It is important to assess your own abilities and determine what services you will be able to offer the clinic. Many of the potential clinical interventions can be accomplished with basic pharmaceutical and therapeutic knowledge and at most may require a refresher in current clinical practice or guidelines. As you become more integrated and adapt to the clinic's specific needs, you will become more comfortable with a variety of clinical activities and establish your clinical practice.

2. ASSESS THE NEEDS OF THE CLINIC

Speak to the providers and staff to determine if there are any unfulfilled patient care needs at the clinic. Though some providers are unfamiliar with the potential benefits of clinic-based pharmacy services, many have already worked with pharmacists in other practice settings and have ideas for how a pharmacist can be utilized. If needs are not acutely apparent, it may be beneficial to look at how clinics report disease state measures to insurance companies and the Centers for Medicare and Medicaid Services to identify areas where a pharmacist can offer improvements. If you plan to establish a specific clinic, such as anticoagulation, you will need to first determine the number of patients who will benefit from the service and whether the service is needed and manageable in the time you have available.

3. DEVELOP A COLLABORATIVE PRACTICE AGREEMENT

A Collaborative Practice Agreement is essential in clinical practice. If you haven't had a chance to read our section on Collaborative Practice Agreements, we suggest you go to that section for a more complete description, a discussion of how a Collaborative Practice Agreement and protocol are different, and to find an example Agreement. A Collaborative Practice Agreement is the contract with the providers that dictates what services you will be allowed to offer and the extent of your clinical practice. It can be as broad or as specific as providers and your State Board of Pharmacy will allow. A broad practice agreement is desirable over a more prescriptive agreement (e.g. algorithms for treatment, approved medications and titrations, etc.) as more autonomy will allow optimal and unencumbered patient care. It is also important to have all providers approve the same Collaborative Practice Agreement as this prevents confusion regarding the care of various providers' patients. As your practice develops and your scope of practice increases, the Agreement can be adjusted as needed.

4. DEVELOP A SYSTEM FOR PATIENT IDENTIFICATION AND REFERRAL

Patients who will benefit from a pharmacist intervention can be identified either through referral by providers or through active outreach. While providers are often happy to allow their patients to see the pharmacist, there are often many other issues that arise during a visit that overshadow a potential referral. Therefore, active outreach is the preferred method of identifying patients. This involves the pharmacist actively combing patient profiles or reports for potential patients. Strategies can involve browsing the appointment list for the next week for potential patients by identifying those with a large list of medications or uncontrolled disease states such as asthma or diabetes. Make sure you have provider permission before actively searching for patients.

5. DEVELOP A CLINIC FLOW

Once you have determined how patients will be identified, it is time to think of how the interventions will be undertaken and communicated to other members of the team. Two options are available for direct patient care interventions in the clinic:

Independent Pharmacist Visit

During this visit, a pharmacist independently completes a thorough assessment of the patient, whether it is a specific disease state evaluation or medication therapy management session. The pharmacist then makes direct recommendations to the patient in accordance with the established Collaborative Practice Agreement. It is important to determine how the clinic flow will be configured to integrate your pharmacy service. How will the patient be scheduled? Who will be responsible for “rooming” the patient? Is there clinic space for the patient visit? How will interventions be communicated to providers? How will the service be billed to patients or insurance companies?

If independent pharmacist visits are used for chronic disease state management, protocols for returning patients to the continued care of their primary care provider should be developed. For example, if a patient reaches the goal for their disease state, should the patient follow-up with their primary care provider as needed or should there be continued pharmacy intervention? Be sure to include criteria for when the patient should be referred back to the primary care provider and/or develop a continuous process for identifying patients.

Pharmacist/Provider Team Visit

Pharmacy visits can also be integrated into a regular provider visit. The pharmacist may meet with the patient before the provider to discuss chronic disease states and offer suggestions for improvement. The pharmacist then meets with the provider to make recommendations and develop a final treatment plan that is discussed as a team with the patient. Because this is a co-visit with the provider, the visit can be billed as a normal provider visit but may also be amenable to up-code; resulting in a higher level visit and increased reimbursement.

6. DEVELOP A SYSTEM FOR TRACKING OUTCOMES

Whatever method is decided upon for patient interventions, it is important to track all interventions to justify pharmacy services and track patient outcomes. These data can be used to rationalize reimbursement from insurance companies for pharmacy services. See the Tracking Outcomes section.

Population-Based Medication Management

Population-based medication management projects potentially have the highest impact on improving patient care and decreasing healthcare costs compared to any of the other types of pharmacy interventions that are discussed in this workbook. Population-based projects involve looking at the clinic's patient population as a whole and determining the number of patients who are not achieving specific quality care measures. Once a group of patients or quality measures are identified, interventions can be developed and implemented.

HELPFUL TIP

Remember to be thinking of how you can maximize your clinical activities by combining Direct Patient Care, Population-based Medication Management, and Education. Here is an example of an article that describes the success of this type of combined approach.

Devine EB, Hoang S, Fisk AW, Wilson-Norton JL, Lawless NM, Louie C. Strategies to optimize medication use in the physician group practice: the role of the clinical pharmacist. *J Am Pharm Assoc.* 2009;49:181-191. PMID: 19289344

STEPS FOR COMPLETING A POPULATION-BASED MEDICATION MANAGEMENT PROJECT

1. Choose a project
2. Identify patients
3. Determine the feasibility and potential impact of the project
4. Develop a strategy for the intervention
5. Implement the intervention
6. Evaluate outcomes
7. Continuous quality improvement

Step 1: Choose a project

Several resources and ideas for identifying population-based projects are described below. Always include the providers and other key clinic stakeholders when choosing a project to ensure optimum outcomes.

QUALITY MEASURES

Quality measures are used by clinics and other organizations to assess the quality of care provided to their patients. Measures may focus on disease state specific goals (e.g. patients with A1C >9%) or preventative health measures (e.g. pneumococcal immunizations for patients who are 65 years or older). These measures are used by the Centers for Medicare & Medicaid Services (CMS), private insurers, private insurers, Accountable Care Organizations, or Patient-Centered Medical Homes to assess the quality of care provided by clinics and may have monetary values attached for reporting or achieving specific goals. Though there are a variety of quality measures, most are established safety and efficacy outcomes that reflect generally accepted care for patients. However, there may be some lag time between newer standard of care recommendations and quality measures (e.g. newer cholesterol guidelines do not recommend LDL goals and this may not be reflected in current quality measures).

HELPFUL TIP

Working with the providers in the clinic to pick an appropriate quality measure can serve the dual role of improving patient care and potentially increasing revenue to the clinic through reimbursements offered by quality assessment organizations for achieving set goals.

Examples of Quality Measures:

- CMS Medicare Shared Savings Program
- CMS Physician Quality Reporting System (PQRS)
- Medicare & Medicaid HER Incentive Programs “Meaningful Use” – Clinical Quality Measures (CQMs)
- Healthcare Effectiveness Data and Information Set (HEDIS)
- Patient-Centered Medical Home (PCMH) Certification Programs

ASKING PROVIDERS

Providers are generally curious about how their patient panels compare to general practice recommendations but often lack the time to complete comprehensive reviews. As a result, providers will often have questions about their patient panels that are amenable to population-based projects, although they may not necessarily fall into the realm of reimbursable quality measures. For

example, providers may know they need to assess the use of calcium supplementation for patients with osteoporosis but it is often overlooked during routine visits. Providers would likely appreciate a review of their panel of patients with osteoporosis and their use of appropriate calcium supplementation with a subsequent pharmacy intervention to increase appropriate calcium supplementation. (Remember, a project such as this calcium example may give you the opportunity to combine this population-based project with some direct patient care activities and education!)

DISEASE STATE MANAGEMENT/ PREVENTATIVE INTERVENTIONS

Evidence-based disease state management recommendations are available for most chronic diseases and preventable diseases. However, these recommendations may be overlooked due to a focus on acute issues or limited time for patient visits. Basic disease state evaluations such as ensuring all patients with a diagnosis of systolic heart failure are on an optimum dose of a β -blocker or that all patients with an indication for pneumococcal vaccination have received the vaccine are examples of interventions that are easily identified through electronic health record reports and are amenable to pharmacist interventions. See the sample project, Aspirin Use in Patients with a History of Coronary Artery Disease, for more ideas.

NEW GUIDELINES/CHANGES IN PRACTICE

New guidelines and studies that have large impacts on patient care frequently arise. Practice-changing publications are not only great sources for provider education (See Education Activities) but are also easily adapted to population-based interventions. For example, in 2012 when the FDA recommended that citalopram in doses greater than 40mg should be avoided due to risk of QT prolongation, this presented a great potential for pharmacist intervention. Patients prescribed higher than recommended citalopram doses could easily be identified through an electronic health record reporting system and patients could receive a phone call from a pharmacist to better explain the risks and discuss potential options.

DRUG UTILIZATION REVIEWS/DRUG MONITORING

Analyzing the utilization of expensive medications or therapies that require specific monitoring are opportunities to improve patient outcomes and limit potential adverse events through pharmacy intervention. For example, calling patients to suggest a change to a new generic medication would increase patient adherence through decreased insurance co-pays and have a secondary benefit of freeing time for the provider and support staff who would need to address the change.

Though narrow therapeutic medications (warfarin, phenytoin, etc.) are often the focus of pharmacy based-monitoring, several medications need additional monitoring beyond drug levels to prevent adverse effects and can be frequently overlooked by providers. Examples include amiodarone (thyroid function tests yearly and liver function tests every 6 months) and lithium (yearly renal and thyroid function tests).

Prescribers and pharmacists are often taught a great deal about how to initiate medications, however instruction on how to stop medications is comparatively lacking. Many patients are initiated on medications for sound reasons, but then are left on those medications longer than is needed. Identifying medications that can be appropriately stopped is another good population-based project to consider. See the sample project, Stopping Proton Pump Inhibitors (PPI), for more ideas.

Step 2: Identify patients

IDENTIFYING PATIENTS FOR THE PROJECT

Once you have an idea for your project, you should identify the patients who would benefit from the intervention. Identifying patients for a project has become easier as the majority of clinics are adopting electronic health records. Many clinics are already using the reporting resources available in electronic health records to receive additional reimbursement through meaningful use incentives offered by both private and federal programs. Clinics may also be tracking quality measures through reports that can be used to determine the impact of your proposed project. However, reports may only include the number of patients achieving a goal to be reported to the incentive program and do not focus on specific patient interventions. Therefore, it is imperative that you either have a close relationship with the support staff responsible for these reports or know how to run reports independently.

BASIC ELECTRONIC HEALTH RECORD (EHR) REPORT WRITING OR "QUERY"

An EHR Report or "query" can be used to identify potential patients in the clinic who would benefit from the planned intervention using data domain searches. In basic terms, a query is a way of retrieving information from a database. In this section, the database we are querying is the practice's EHR. Depending on the EHR software, the domains of your query may include age, gender, diagnosis codes, vitals, medications or a variety of other searchable data points.

We have included two samples of population-based interventions that utilize an EHR's reporting system in the Appendix. More examples can be found in CMS's Physician Quality Reporting System (PQRS). This resource is a good starting point for learning how to write EHR

report queries, as one can see the detail needed to obtain accurate data. However, depending on the size of your clinic population, this increased complexity may not be needed. Sometimes a simple report of all patients with a specific disease state or a specific medication may be all you need to start your population-based intervention.

Here are some general principles to follow when writing or asking support staff to write an EHR report or query:

1. Keep the query simple. If the query is too complex with many inclusion or exclusion criteria, you will increase the likelihood of an inaccurate report. Select two to three domains that best represent the population of patients who will be the focus of your intervention. If the returned report contains too many patients to be manageable, consider adding additional domains to get closer to your target population.

2. Be explicit with the search domains. This is especially important if you are working with support staff who will be running the report for you. Most support staff do not have a medical background and will not know the nuances between disease states or medications. Be sure to provide the ICD-9 or ICD-10 codes for the disease state as well as all possible medication names (brand and generic), specific strengths, and medication dosage forms. Review the EHR query code with the support staff to ensure the report will provide the needed information.

HELPFUL TIP

Recognize the limitations of the EHR data. While EHRs are great repositories of patient data, the variety of ways in which those data are recorded can be a hindrance. EHR reports search data that is entered in the places you ask the software to search. For example, if a patient's labs are electronically entered into the EHR this would be searched by the software. However, if those labs were scanned in as a PDF to the EHR, this would not be a searchable data point. Also, there may be several places where data can be placed in an EHR and depending on the extent of user training that data may not be recorded where you expect. Therefore it is important to recognize the limitations of the EHR report and when possible find other means of obtaining the needed information. Working with the clinic manager and asking for the input of providers and nurses at the clinic will assist in ensuring that reports are accurate and patients are being properly identified for the project.

3. Review the report for accuracy. Don't be surprised if you need to revise the query and pull a new report. Be patient and don't give up until you have a report that is actionable for the planned intervention.

Step 3: Determine the feasibility and potential impact of your proposed project

Once you have identified the target patients, the project's feasibility and potential impact should be assessed.

Depending on your patient population, simple projects may develop into large endeavors that consume all of your time (e.g. ensuring aspirin use in all patients who qualify for primary prevention). Conversely, interventions that may have had a high impact in another clinic may not have the same impact at your clinic (e.g. assessing adherence to new otitis media guidelines for pediatric patients in a clinic with a small pediatric panel).

SMART OBJECTIVE

Create a SMART objective to help you frame the goals of the project and to assist you in determining the feasibility of the project. A SMART objective is Specific, Measurable, Achievable, Relevant and Time-bound. Here is an example of a project focusing on vaccinations.

Specific: To achieve a 90% pneumococcal vaccination rate over the next six months for all active clinic patients 65 years or older without documented contraindications to the vaccine.

Measurable: The objective can easily be measured using EHR reports to determine the vaccination rate.

Achievable: The demographics of the clinic would need to be assessed to determine the achievability of this project. For example, this objective may not be achievable if there are thousands of patients to review.

Relevant: The demographics and priorities of the clinic would need to be evaluated to determine the relevance of this project. For example, this objective may not be relevant if you have a small population of patients over the age of 65 or if the majority of patients are already vaccinated.

Time-bound: Create a timeline and target completion date for the project that is realistic. You may need to adjust the project scope or target number of patients to increase the probability of success.

HELPFUL REFERENCES

Centers for Disease Control and Prevention. Develop SMART Objectives. Available (as of October 2014) at: www.cdc.gov/phcommunities/resourcekit/evaluate/smart_objectives.html

Step 4: Develop a strategy for the intervention

Once your SMART objective is determined and approved by the providers, strategies for achieving the objective should be thoroughly explored. Two types of interventions may be implemented: direct and indirect interventions.

DIRECT INTERVENTIONS

Direct interventions can involve pharmacist-run clinic visits, patient phone encounters, or curbside consults. These are discussed in more detail in the Direct Patient Care section of this workbook. This type of intervention is probably the most successful in having an impact on individual patient outcomes, but is limited in scope. This intervention is best used for smaller population projects or for more complex patients identified in larger projects.

INDIRECT INTERVENTIONS

Indirect interventions are usually more passive and rely on either providers or patients to initiate the changes without a face-to-face patient interaction. Interventions may include provider education sessions about a specific disease state or drug topic, notes for providers in a patient's chart suggesting a therapy change, or letters to patients. Indirect interventions are best for larger population projects where direct interventions are not feasible. They may also be beneficial in clinics where a pharmacist is only available part-time and can be used to maximize the pharmacist's impact. One of the major limitations to this type of intervention is that suggestions could easily be forgotten or overlooked by providers and patients. If this intervention type is chosen, it is important to evaluate the results of the project frequently and remind providers and patients when appropriate.

WHAT IS THE RIGHT TYPE OF INTERVENTION?

There is not a "right" type of intervention. Most likely you will use a combination of the two interventions to complete a population-based project. You may send reminder notes to the providers for some patients but may find that other patients are more complex and would benefit more from a pharmacist visit. Some providers may prefer lists of patients who would benefit from an intervention so they can take care of a recommendation at the next visit while others may prefer the pharmacist to make the changes on their own. Make sure to stay within the scope of practice outlined in your Collaborative Practice Agreement. Working with providers and clinic staff in developing the right protocol for your practice is the key to success.

HELPFUL TIP

To maximize success, make sure the practice's electronic health record is configured for your documentation needs.

Step 5: Implement the Intervention

Once a strategy has been agreed upon, it is time to implement the project. Begin the intervention with a small number of patients in order to assess for any potential problems with the project. A phone script or mailing may not elicit all of the needed information or individual pharmacist visits may take longer than planned. It is better to uncover any limitations to the intervention protocol before a large number of patients are impacted. It is acceptable to modify an intervention as barriers are uncovered in order to improve the chances of successful outcomes.

As the project is being implemented, it is also important to continuously track important data points along the way, such as specific interventions during direct patient encounters. This is of particular importance in the direct interventions as general clinic reports may not capture major impacts on individual patients. For example, if a major drug interaction is uncovered during a pharmacist clinic visit, general disease state reports will not reflect the impact of this intervention. However, collecting data on individual patient interventions in addition to the project reports will better reflect the true benefits of the pharmacy service.

HELPFUL TIP

Maintain a tracking document, in addition to documentation in the electronic health record. Use this document to keep track of notes, process measures (e.g. your time, which patients need follow-up), provider communication preferences, etc. Choosing a software tool such as Microsoft Excel may be all that you need. See our section on Tracking Outcomes for more ideas.

Keep in mind that if your tracking document contains patient Protected Health Information (PHI), you will be restricted on where you store your document and how it may be used or shared. If you are unsure of where to store electronic and paper versions of your tracking document, what information you may share with others, etc. please ask your physician leader.

Step 6: Evaluate outcomes

After the pre-determined period of time as stated in the SMART objective has elapsed, it is time to evaluate the results of the intervention. Depending on the expected impact of the project, this can be accomplished in many ways. Pre- and post-intervention data can be assessed by comparing the data from the original patient report with the data from a new report using the same patient identification criteria. Comparisons of specific disease state outcomes from generated reports such as the number of patients with an A1C >9% or the number of patients with asthma who have a rescue inhaler prescribed can show the impact of an intervention on the overall population. Individually tracked patient data should also be evaluated, such as number of discontinued medications, number of drug interactions avoided, number of hospital visits, etc. See our section on Tracking Outcomes for more ideas.

HELPFUL TIP

Expect that it will take time for these projects. This is especially true if you are measuring your impact, but only have a limited amount of weekly clinic time. If a project consists of mostly indirect interventions, it may take time for patients to cycle through the providers and results may be delayed. Similarly, if you are focusing on a small number of patients, the size of the impact may appear negligible when compared to the larger population. However, those small impacts may be large in the long run. For example, helping patients with uncontrolled asthma become adherent to preventative therapy will decrease the rate of hospitalization and improve both the quality of life for patients while decreasing the cost for healthcare payers. As the success of your interventions becomes known in the clinic, your credibility and value to patients and providers will increase, allowing for additional and more complex interventions.

Step 7: Continuous quality improvement

Due to the continuously changing nature of a primary care population and the inevitable slip of focus as other interventions are implemented, it is important to revisit a project periodically. Depending on the intervention and the change in the clinic population this may range from every six months to annually. These rechecks may only require small interventions such as brief reminders to providers or direct patient interventions. As with the original project, outcomes should be tracked and analyzed to determine the impact of the pharmacy service.

FINAL THOUGHTS ON POPULATION-BASED MEDICATION MANAGEMENT PROJECTS

Though much more can be said about population-based projects, this overview was only intended to be a brief introduction and a starting point for implementing such projects in your practice. Two examples of population-based projects can be found in the Appendices. These projects are intended as possible starting points for interventions and examples of how to apply the concepts described above. As you begin implementing projects at your practice site, it is important to focus on the team-building and process more than the overall impact of the project. Starting with a small project to develop your relationships with providers and demonstrating how you can successfully integrate into the practice is the basis for the success of future projects. You will likely discover that over time, you will have more autonomy and potentially larger impacts on patient care.

NOTES

Education Activities

There are many types of education that you can provide to prescribers and patients. While we love patient education, in this workbook our main focus is prescriber education. Why? Prescriber education is often a great entrance into other clinical activities, such as direct patient care and population-based medication management that have the potential for a high impact.

We suggest you provide medication-related education as often as possible. However, we suggest the following tips:

- Keep your education brief so that providers or patients can retain what you are saying
- Make your content and handouts evidence-based, but fun.
- Provide education often, but this should not be the only service you offer.

Brief Prescriber Education

Over time you may find that providers are willing to spend their entire provider or staff meeting listening to interesting medication-related education. However in the beginning, you should ask for and expect to receive five to ten minutes of time at regular meetings. A lot can be accomplished in this short amount of time.

GENERAL TIPS TO BRIEF PRESCRIBER EDUCATION

- Keep it brief. We mean it. If you aren't sure that you can keep your presentation to the amount of time you have, practice while timing yourself first. It is very important that you don't take more time than you are given, especially when you are new to the practice.
- Only present the most relevant information. Don't copy and paste dense tables and figures from articles. Most of the time this will be distracting and take too much time.
- Set a goal of no more than 1-2 pages as a handout. It is likely that 5 pages will take more than 5-10 minutes!
- Use bullet points or include some basic tables.
- Make your print materials visually pleasing. Cramping 6-point font text onto a page to keep your materials to 2 pages defeats the purpose!
- Avoid PowerPoint. This creates a barrier between you and your providers. Using technology may be beneficial in certain situations, but incorporating technology often means more than 5-10 minutes.
- Don't worry if you feel you only left your providers with one "key message." This is much more impactful than trying to accomplish too much. Leave them wanting more!
- There are lots of references available to help you understand the mechanics of the various methods described. We have directed you to a few, but searching Medline, PubMed, or Ovid may give you more ideas.

TYPES OF EDUCATIONAL INTERVENTIONS:

New Drug Update

It is extremely difficult for providers to keep up on the newest medications. Often, providers first hear about new drugs from patients who are requesting prescriptions based on advertisements they have seen on television or over the Internet. You can fill a major void in prescriber education by providing a brief overview of new medications. Don't try to tackle too much – focusing on one new drug will have a big impact.

Approach

- Search the literature for the new drug. If this is new to market, chances are there will only be a few randomized, controlled trials. Have a copy of the major trials with you at your presentation, but only refer to them if providers specifically ask. The goal is to keep the update brief and to the point.
- Search *Pharmacist's Letter*, *Medical Letter*, or an equivalent resource for more information
- We suggest you take the **STEPS** approach to new drug updates. STEPS stands for Safety, Tolerability, Effectiveness, Price, and Simplicity. The article by Pegler and Underhill can give you more information on what each subheading should include. Organize your information into bullet points, not lengthy text, under each subheading. Ideally your new drug update should be no more than one to two pages.
- Don't forget to include the punchline: "Is there good evidence that this new drug is likely to make my patient live longer or better compared with the available alternatives?" (Pegler S, 2010). Most of the time, the answer will be "no."

Clinical Pearls

Clinical pearls are "small bits of free standing, clinically relevant information." (Lorin MI, 2008) In other words, clinical pearls are anything you think providers would find useful. Some examples of useful clinical pearls include:

- New FDA warnings for commonly prescribed medications
- Presenting the research study that corresponds to a current story in the media that may be generating calls to the practice
- Tips to streamline medication processes (e.g. related to prior authorizations, refills)
- New indications for established medications
- Tips for better prescribing (e.g. including clinical indication on prescriptions)

There are a number of ways to organize clinical pearls and the best approach depends on what type of topic you are presenting. Use the general tips to help you get organized. If you only have five to ten minutes, you can probably only present one to three pearls at most. (Lorin, 2008)

Games

We all like to have fun, and your education sessions don't have to be an exception. We think you should keep your first few education sessions with providers formal, as this is a way to help establish credibility. However over time, you may want to occasionally challenge your providers to a fun pharmacy game. The classic game is pharmacy jeopardy, a question and answer trivia style game, but we're sure there are lots of interesting games that could be tried to teach medication-related content to your providers. (Bonus point hint: Patients love these educational games, too!). (Rajasekaran, 2008)

Technology

At the time of this writing, most primary care practices are still struggling to catch up to the technology advances of the general population. However we could imagine that with fabulous technology and access, you could do a lot of brief prescriber education that incorporates videos, online interactive cases, etc. Be creative!

HELPFUL REFERENCES

Pegler S, Underhill J. Evaluating the safety and effectiveness of new drugs. *Am Fam Physician*. 2010 Jul 1;82(1):53-7. PMID: 20590071

Lorin MI, Palazzi DL, Turner TL, Ward MA. What is a clinical pearl and what is its role in medical education? *Med Teach*. 2008;30(9-10):870-4. PMID: 18821165

Rajasekaran SK, Senthilkumar U, Gowda V. A PowerPoint game format to teach prescription writing. *Med Teach*. 2008;30(7):717-8. PMID: 18777428

NOTES

Academic Detailing

Academic detailing (AD) is evidence-based prescriber education and support, typically delivered in the prescriber's office. It draws on the strategy of person-to-person social marketing that is commonly used by pharmaceutical detailers. The goal of academic detailing is to provide prescribers with the most up-to-date, evidence-based information, to support effective prescribing. Prescribers are deluged with marketing messages from the pharmaceutical industry targeted directly at prescribers and indirectly through direct-to-consumer advertising. Academic detailing balances those marketing messages with unbiased information supported by medical research.

Academic detailing has been studied for over twenty-five years and is a proven strategy for reducing inappropriate prescribing. (Avorn and Soumerai 1983) Academic detailing has been shown to improve prescribing in dozens of clinical conditions. Although there are many individual trials, a comprehensive review of the academic detailing literature conducted by the Cochrane Collaborative was published in 2007. (O'Brien, Rogers et al. 2007) Sixty-nine studies involving approximately 15,000 health care professionals were analyzed. Overall, academic detailing interventions improved prescribing about 5% from baseline (median 4.8%, interquartile range 3.0% to 6.5%). The authors concluded the "effects on prescribing are relatively consistent and small, but potentially important."

Academic detailing seeks to *decrease* prescribing of medications that are unnecessary and *increase* prescribing of evidence-based therapies and generic medications where appropriate. Reducing unnecessary medications and simplifying medication regimens (e.g. discontinuing proton pump inhibitors initiated during a hospitalization but are no longer needed) may reduce adverse events and improve adherence. Adding medications (e.g. aspirin or statins for prevention of secondary cardiovascular events) has important benefits in preventing morbidity and mortality.

Project Goal: To provide prescriber education and support

Supplies

- two to three "key messages"
- Educational materials
- Prescriber or practice-specific data on the topic you are presenting (optional, but preferable)

Content Preparation

- Select a clinical topic where there is a known gap between actual prescribing and ideal prescribing
- Rigorously review literature for the topic, including guidelines, meta-analyses, Cochrane Collaborative reviews, primary literature

- Select key messages. These are the "talking points" for which all of the handouts and materials are centered around and provide the focus for the session. In other words, what one to two changes in prescribing are you hoping the providers will make after your educational session?
- Create BRIEF provider materials and patient handouts (if appropriate) to support the key messages. Avoid PowerPoint or other resources that give the appearance that this is a lecture. You want to create materials that facilitate a conversation. Expect the content preparation to take many hours. However, it will be worth it if you can make important changes in prescribing behavior for your practice.

How to Select "Key Messages"*

1. Key messages must be based in the evidence
2. Key messages must resonate, or make sense to the providers
3. Key messages must be formed as intended behavior change statements (i.e. "Use a validated measure for assessing depression")
4. No more than one to three succinct points
5. Key messages should target those points where the widest possible gap exists between actual and ideal practice
6. Behavior change targets should be measurable if possible (hence point five – if the majority of providers are close to ideal practice, the behavior change will be difficult to measure)

*Thanks to Frank May MAppSci(Pharm), FISPE, from the Drug and Therapeutics Information Service (DATIS) in Australia for developing these principles

HELPFUL TIP

Remember to be thinking of how you can maximize your clinical activities by combining Direct Patient Care, Population-based Medication Management, and Education. Here is an example of an article that describes the success of this type of combined approach.

Devine EB, Hoang S, Fisk AW, Wilson-Norton JL, Lawless NM, Louie C. Strategies to optimize medication use in the physician group practice: the role of the clinical pharmacist. *J Am Pharm Assoc.* 2009;49:181-191. PMID: 19289344

Approach

Schedule 15-30 minutes at a provider meeting

Deliver the education to the providers. Use motivational interviewing and/or active listening techniques, rather than lecture. For example, if you want to encourage early initiation of insulin in patients with type 2 diabetes, don't try to tell providers everything you know about insulin.

Begin your session with questions such as:

- Tell me about your approach to managing diabetes.
- What barriers do you perceive to initiating insulin in your patients?
- What is your treatment strategy if a patient with type 2 diabetes is on metformin but isn't achieving their A1C goal?
- When do you consider initiating insulin?

Be prepared to customize your education to the specific needs of the provider. This is how you will be most effective at changing their prescribing behavior.

Academic detailing works best if it is a back-and-forth conversation. Again, this is not a "grand rounds" lecture.

HELPFUL TIP

If you have access to data from the practice, this can be a powerful tool for motivating prescribers to making evidence-based changes. However, be respectful of the prescribing data. If this is your first session, ask permission from prescribers before you pull the data, consider eliminating prescriber names, reporting in aggregate as a practice, or providing each prescriber with only his or her own data. Avoid blaming or judging prescribers. These sessions should be about improving performance, not criticizing prescribing.

Bonus: If your providers trust you and like the idea of using data, your academic detailing session could turn into a "kick off" for a direct care or population-based project. For example, if you had access to all patients who had type 2 diabetes with an uncontrolled A1C and who were not on basal insulin, you could design and propose a protocol to providers during your academic detailing session for improving the use of basal insulin in these patients with you as the leader of the project.

Academic detailing sessions are most impactful if you understand the barriers to evidence-based prescribing ahead of time and prepare tools to eliminate those barriers. You may find that some of your direct care services are a solution to some of the barriers, specifically if providers do not perceive having enough time to educate patients about medications.

Follow-up on any questions

Evaluate if your education had any impact on prescribing

Project Timeframe

Do this as often as you are able.

Metrics

Consider three metrics (ranked from least to most powerful):

- Prescriber satisfaction
- Intention to change prescribing
- Pre-post prescribing

Approach to Pre-Post Prescribing Data

Analyzing prescribing data or pharmacy claims is not simple without training in research design and statistics. However, looking at averages pre- and post- your academic detailing session will at least give prescribers information to think about, even if the analysis isn't perfect.

Using the diabetes example, consider looking at data for each prescriber who attended your academic detailing session.

Patients with type 2 diabetes on basal insulin

Prescriber	Before	After	Change
A	8/100 (8%)	9/100 (9%)	Improved
B	10/96 (10.4%)	10/96 (10.4%)	No change
C	6/113 (5.3%)	10/113 (8.8%)	Improved
Average	7.9%	9.4%	Improved

HELPFUL LINKS & REFERENCES

Vermont Academic Detailing Program (VTAD): www.vtad.org

National Resource Center for Academic Detailing (NaRCAD): www.narcad.org (If you are really interested in learning how to become an effective academic detailer, the National Resource Center for Academic Detailing periodically offers training programs.)

Avorn JA, Soumerai SB. Improving drug-therapy decisions through educational outreach: a randomized controlled trial of academically based "detailing". *New Eng J Med* 1983;308:1457-1463. PMID: 6406886

O'Brien M, Rogers S. et al. (2007). "Educational outreach visits: effects on professional practice and health care outcomes." *Cochrane Database Syst Rev*(4): CD000409.

Soumerai SB, Avorn J. Principles of educational outreach ('academic detailing') to improve clinical decision making. *JAMA*. 1990 Jan 26;263(4):549-56. PMID: 2104640

Group Patient Education

In our section on Overcoming Barriers, we mentioned that your presence in the practice may be a new concept for patients. Don't be surprised to meet some skeptical patients. Patient perceptions of what pharmacists do won't always match your perceptions. Group patient education is one strategy to help integrate into the practice initially. Over time, group education may expand to group patient visits, asthma clinics, team-based education sessions, etc. Patient participation and satisfaction with group education has been highly positive in our experience.

HELPFUL TIP

This approach was very successful when piloted at a large primary care practice in 2013. The patients liked the opportunity to bring a family member and to talk with other patients about using anticoagulants. Since this was a grant funded project, there was no cost to patients to attend the workshop.

Bonus: A second large primary care practice pilot tested this approach in 2013 with asthma as the topic. The pharmacist focused on proper use of inhalers, including the use of spacers, and other adherence tips. Spacers were provided to patients who didn't have one. Based on the conversations during the workshop, the pharmacist was able to report back to the primary care providers about specific patients and make recommendations for improvements to medication regimens. This type of workshop would make a great starting point for launching a pharmacist-run asthma clinic.

Caution: Please be mindful of patient confidentiality and Protected Health Information, or PHI. In the examples described above, patients volunteered PHI during the course of the workshop. However, at no time did the pharmacist disclose individual PHI. Contact your physician leader and/or practice manager if you have any questions about patient privacy or confidentiality before conducting your workshop.

HELPFUL REFERENCE

Rajasekaran SK, Senthilkumar U, Gowda V. A PowerPoint game format to teach prescription writing. *Med Teach*. 2008;30(7):717-8. PMID: 18777428

GENERAL TIPS TO GROUP PATIENT EDUCATION

- Make sure you involve and/or have permission from the prescribers and practice manager
- Partner with an office staff member to assist you with identifying appropriate patients and inviting them to your session
- Consider inviting a family member to attend the session with the patient (if appropriate)
- Don't overwhelm patients with data or sophisticated language, but don't "dumb down" your content either. Use simple, straightforward terms.
- Allow plenty of time for questions and conversation among participants.
- Make your print materials visually pleasing. Be mindful of your font size, especially if your audience is older and likely to have age-related vision loss.
- Limit PowerPoint. This creates a barrier between you and your patients. Using technology may be beneficial in certain situations, such as for a brief overview of a topic or to facilitate a game, but don't rely on the technology to provide the education.
- Don't worry if you feel you only left your patients with one "key message." This is much more impactful than trying to accomplish too much. Leave them wanting more!

Here are a couple of methods to try with your patients:

GAMES

We all like to have fun, and your education sessions don't have to be an exception. You may consider occasionally challenging your patients to a fun pharmacy game. The classic game is pharmacy jeopardy, a question and answer trivia style game; however, we're sure there are lots of interesting games that could be tried to teach medication-related content to your patients. Consider using the waiting room at noon (if there are no visits from noon-1) or in the evening. Great topics for games include over-the-counter medications, dietary supplements, generic versus brand name medication, medication literacy, managing side effects, drug marketing, etc. Be creative!

WORKSHOPS

Running a formal workshop is a great way for patients to get important medication information. These workshops may also form the basis for future disease-state clinics. Running an educational workshop before trying to provide direct patient care as a clinic may give you a sense of provider and patient interest, scope of the problem in your practice, etc. Below is an example of a Group Patient Education Workshop on the topic of anticoagulation.

Example: Group Education for Anticoagulation

Written by Michele Corriveau, RPh

Supplies

- Report from electronic health record of all patients who have an active medication order for an anticoagulant.
- Conference room
- Patient education booklet. Suggested booklet from AHRQ "Blood Thinner Pills: Your Guide to Using Them Safely" (available at: www.ahrq.gov/patients-consumers/diagnosis-treatment/treatments/btpills/index.html, as of May 2014)
- Patient letter describing the workshop.
- Office supplies to print and mail letters to patients.

Preparation

- Schedule 15 minutes at a provider or practice meeting to discuss the idea of group education with the primary care providers in the practice.
- Inform the entire practice of the group education so they will be prepared to answer questions from patients regarding the workshop.
- Meet with the nursing staff who triage patient phone calls and manage dose adjustments for anticoagulation. It is beneficial if they are aware of what information is being discussed with patients and what resources are being used.

Approach

- Run a report (or request a report) of patients who have an anticoagulant on their active medication list. Include all oral anticoagulants and subcutaneous injectable heparin and low molecular weight heparin.
- Assess the number of potential patients. For small practices, sending the information about the workshop may be best. For larger practices, it may be best to invite patients from two to three providers at a time.

- Draft a letter describing the workshop, location, time, and how to register. (See example). It is also useful to create signs for the waiting room and/or exam rooms.
- Decide on a maximum number of participants per class. Consider also inviting family members or caregivers to attend the workshop.
- Identify who will be responsible for printing the letters and mailing the letters to patients.
- Identify how patients will register for the workshop.
- Deliver the workshop (see details below).
- After completing the workshop and evaluating the patient surveys, present your results to the providers and decide if the workshops should be offered on a scheduled basis, such as monthly, to capture new patients or patients who were unable to attend a previous workshop.

Workshop details

- Decide if you will present alone or with a provider in the practice.
- Choose a location that is familiar to patients. If there is a conference room within the primary care office, that is ideal. Using the office waiting room may also be appropriate, depending on the time of day your workshop is scheduled.
- Plan 45-60 minutes for the workshop.
- Choose a time that is convenient. Consider that the majority of patients who are receiving anticoagulation are older and more likely to attend a workshop at noon instead of at 5 pm.
- Emphasize information regarding safe use of anticoagulants regardless of which medication the patient is taking. It is ideal if you ask patients at the beginning of the session which anticoagulant they are using so you better know your audience.
- Spend the initial 5-10 minutes describing how the workshop will be run. Ask what anticoagulant medications are being taken, give a brief overview of how to safely use anticoagulants, then use the remaining time for questions and group discussion. Key points to address initially are diet, falls prevention, using over-the-counter medications, and reversal agents and testing.
- Survey your participants at the end of the workshop. Their feedback is a valuable way to evaluate whether the workshop needs revising or if it should be offered again.

3 Proving your value

Tracking Interventions and Outcomes

It is critical to show your value to a broad range of stakeholders. It may feel like extra work to document your interventions (it feels true because it is true) but you will be thankful later that you took the time to do this. Consider documenting anything that may link to improved health outcomes, quality, satisfaction, cost, or safety. This means documenting interventions related to direct patient care, population-based medication management, education, drug information questions, policies you create, etc.

HELPFUL TIP

When discussing your outcomes with providers and healthcare leadership, it may be helpful to frame your outcomes according to the Institute for Healthcare Improvement (IHI) "Triple Aim" (www.ihl.org) or refer to the Triple Aim in reporting results. The IHI Triple Aim for improving healthcare includes:

- Improving the patient experience of care (including quality and satisfaction)
- Improving the health of populations
- Reducing the per capita cost of health care

Bonus: While the Triple Aim elements are important, don't forget about outcomes related to improved medication safety!

CHOICES FOR DOCUMENTATION

Microsoft Excel or equivalent:

This is your most basic option for tracking outcomes. It will be the least elegant choice, but the most flexible for collecting and analyzing data. Be careful, however, the risk of data entry and sorting errors is high, especially if more than one pharmacist is tracking outcomes in the same spreadsheet.

Electronic Health Records:

If you have the ability to configure your electronic health record to capture your interventions, this is a great way to go, as this method will minimize the amount of documentation you will need to do. However, you may still need to export your interventions from the electronic health record to Excel or another software program to analyze your data.

Pharmacy-specific software:

Pharmacy-specific software products are great for capturing direct patient care interventions and often have useful reports for sharing with prescribers and other stakeholders. However pharmacy-specific software products often don't integrate well into prescribers' electronic health records. Additionally these products often don't allow for documenting population-based or educational interventions unless the interventions are about a specific patient. You may also still need to export your interventions into Excel or another software program to analyze your data, if the pharmacy-specific software doesn't have all of the analyses you want as standard reports.

STEP 1. PICK A METHOD

There are many ways to track your clinical interventions. Some pharmacists have access to specific software tools designed for pharmacists, while others use more basic software.

STEP 2. DOCUMENT THE INTERVENTIONS YOU MAKE

Regardless of which method you select for documentation, remember that “garbage in” equals “garbage out. If you conducted a direct patient care visit with a patient this morning, will you document “spent 15 minutes with patient” or will you document “adjusted dose of simvastatin from 80mg to 40mg to prevent myalgia?”

STEP 3. TRACK WHETHER OR NOT THE PRESCRIBER AGREES WITH YOUR INTERVENTIONS

This is really important. How will you know if you had a benefit if you don’t even know if your recommendation was implemented? In some cases, you may have the authority to adjust doses or manage therapy without asking for permission from a prescriber first. If not, track your acceptance.

STEP 4. SELECT CATEGORIES FOR TRACKING AND STICK TO THEM

There are multiple choices for categories. There are categories to describe the recommendations or interventions you make, patient outcomes, etc. You will need to decide what is most helpful to you for documenting your value. You will likely decide to track multiple kinds of categories (e.g. recommendation categories, medication categories, outcome categories). Whatever system you use, stick to it. If you are inconsistent, you will not be able to easily analyze or present your data.

HELPFUL TIP

Even if you use a tracking system with multiple categories, only present summaries of data that are most helpful to your target audience. You may need to present different data to different stakeholders.

We suggest that for each intervention you make, you collect (or have access to) the following:

- Process outcomes
- Patient-level variables
- Medication name
- Medication class
- Drug Therapy Problem description (this may be free text or narrative)
- Drug Therapy Problem category
- Intervention category
- Provider acceptance (yes, no)
- Clinical Outcome(s)

This may seem overwhelming, but it will be well worth it as you will want to present different information to different stakeholders.

Process Outcomes

Time required for the intervention
Time spent documenting services
Number of no-shows/cancellations
Number of recommendations made and accepted

Patient-Level Variables

Age
Sex
Total number of medications
Number and type of chronic conditions
Insurance type

DRUG THERAPY PROBLEM CATEGORIES

Code	Summary	Examples of Expanded Categories
1	Unnecessary Medication Therapy	1.1 No valid medical indication
		1.2 Therapeutic duplication
2	Need Additional Medication Therapy	2.1 Condition requires the initiation of medication
		2.2 Preventive medication therapy is required
3	Ineffective Medication or Different Drug Needed	3.1 Medical condition is refractory to the medication product
		3.2 Dosage form not appropriate
4	Dosage Too Low	4.1 Dose too low
		4.2 Interval too long
5	Adverse Drug Event	5.1 Drug interaction
		5.2 Allergy
6	Dosage Too High	6.1 Dose too high
		6.2 Interval too short
7	Nonadherence	7.1 Patient does not understand instructions
		7.2 Patient prefers not to take

Note: You may require additional codes for categories such as Drug Information Questions, Education Activities, or in cases where Specific Interventions are Missing. See below references for additional expanded categories.

What do we mean by “code?” Tracking your outcomes may be faster if you enter a code rather than typing out your identified drug therapy problems as free text each time. Additionally, if you want to analyze your results in Excel or a statistical software program you will be better off with numbers rather than text. Just don’t lose the codebook, or the key that links the code numbers to the drug therapy problem descriptions!

Note: The summary and expanded categories are examples of drug therapy problems you may want to document based on what has been published previously. Feel free to add your own or adapt these for your specific needs. We added additional categories for our own data collection purposes, as not every drug therapy problem could be classified using the published categories. One caution, however. As the seven Drug Therapy Problem Categories are published and included in the APhA MTM Certification course, there is value to collecting data in this way. If you decide to publish your findings, you will at least be consistent with categories used previously.

Intervention Categories*

Adjust a dose or frequency
Discontinue a drug not indicated
Manage a drug interaction
Manage an untreated diagnosis
Prevent or manage an adverse drug event
Prevent or manage drug allergy
Provide information only*
Reduce duplication of therapy

Note: We added the “Provide information only” category for our own purposes. Use this category if you find it helpful.

Example Clinical Outcomes*

Cost avoidance and return-on-investment
Disease-specific Outcomes (e.g. percentage of patients achieving clinical goals such as A1C or blood pressure)
Emergency Department visits
Health-System related outcomes (e.g. Centers for Medicare & Medicaid Services (CMS) measures, Pharmacy Quality Alliance (PQA) measures, National Committee for Quality Assurance (NCQA) measures, Accountable Care Organization (ACO) quality measures)
Hospitalizations
Hospital readmission rates
Improved adherence or percentage of patients using medications correctly
Improved management of narrow therapeutic index or high-risk medications
Medication reconciliation measures
Patient/Prescriber satisfaction
Patient quality of life
Quality measure scores, such as HEDIS (Healthcare Effectiveness Data and Information Set)
Reduced medication over/underutilization
Reduced inappropriate medications in elderly patients (Beers criteria)
Treatment changes made to bring therapy in line with treatment guidelines
Use of formulary medications
Use of generics

* The Example Clinical Outcomes are a result of the two of us brainstorming ideas. Use these ideas and add your own. Keep in mind that some outcomes are stronger than others. For example, avoiding a hospitalization is a stronger outcome than prescriber satisfaction.

HELPFUL REFERENCES FOR DRUG THERAPY PROBLEM CATEGORIES

American Pharmacists Association. Module 3: Getting Ready for MTM Service Delivery: Knowledge and Skills. From: APhA Delivering Medication Therapy Management Services certificate training program, 2012.

Strand LM, Morley PC, Cipolle RJ, Ramsey R, Lamsam GD. Drug-related problems: their structure and function. DICP. 1990 Nov;24(11):1093-7. PMID: 2275235

HELPFUL REFERENCE

American Pharmacists Association. 2014 Medication Therapy Management Digest. Available (as of October 2014) at: www.pharmacist.com/sites/default/files/MTM%20Digest_2014%20FINAL.pdf

3b Calculating Cost Avoidance and Return-on-Investment (ROI)

It is critical to show your value to a broad range of stakeholders. A description of the clinical interventions you make may be sufficient for prescribers. However, insurers, legislators, and other stakeholders will likely want to know what the cost avoidance and return-on-investment (ROI) is for your services.

Calculating Cost Avoidance

STEP 1. IDENTIFY CATEGORIES THAT HAVE COST DATA

If you have access to actual cost data from your clinic, this is always best. If you don't have access to your own cost data, one idea is to generalize from the literature. Lee et al. utilized pharmacists in primary care settings as part of a 2002 Veterans Affairs (VA) study. The VA setting they studied has an economic perspective similar to Accountable Care Organizations. In both settings, the organizations bear responsibility for care delivery and costs. Our examples below use the Lee article, but the same process would apply for any cost data being used from the literature.

STEP 2. CATEGORIZE YOUR INTERVENTIONS TO MATCH THE COST DATA CATEGORIES

The Lee article assigned costs avoided to six categories. Additionally, we have found it helpful to have an "information only" category as well as an "average of any intervention" category (See our section on Tracking Outcomes for more specific information). The "average of any intervention" category should be reserved for recommendations where there isn't enough information to assign the recommendation to another category. This category should rarely be used or needed with proper documentation.

Assign each of your interventions to one of the categories. You may find this more challenging than you think, especially if it feels like one intervention could belong in two categories (such as adjusting a dose and preventing an adverse drug event). Stick with one intervention to one category.

Costs avoided should typically only be calculated for the recommendations that were accepted by providers. It may be worth also calculating costs avoided for recommendations where acceptance data are missing (e.g. if you left a note in the chart regarding an intervention that should be made by a provider at a future visit). Do not calculate costs avoided for interventions that were not accepted by providers.

HELPFUL TIP

If you want to increase the rigor of your analysis, have a colleague (prescriber or pharmacist) independently review each intervention and assign a category. Then get together to review how each of you categorized the interventions and resolve discrepancies through discussion.

STEP 3. MAKE SURE YOU HAVE THE CORRECT DOLLARS

You cannot use the 2002 dollars described in the Lee study and directly apply them to your data because you need to account for the inflation that has occurred since 2002. This will be true for any article you are using as the basis for your cost analysis, unless the article is from the current year or you are using your own cost data. Fortunately the United States Bureau of Labor Statistics maintains a simple online calculator to help you. (www.bls.gov/data/inflation_calculator.htm)

Costs from the Lee study were inflated to 2014 dollars for the table below. If you are calculating costs for a different year, you need to adjust the dollar amount to account for inflation. You will need to adjust the costs for each of the categories in the table.

Costs Avoided Using Data from Lee, 2002

	2002	2014
Manage an untreated diagnosis	\$1,479	\$1,923
Prevent/manage an adverse drug event	\$536	\$697
Average of any intervention	\$437	\$568
Manage a drug interaction	\$317	\$412
Adjust a dose or frequency	\$289	\$376
Reduce duplication of therapy	\$135	\$176
Discontinue a drug not indicated	\$73	\$95
Provide information only	\$0	\$0

HELPFUL REFERENCE

Lee AJ, et al. Clinical and economic outcomes of pharmacist recommendations in a VA medical center. *Am J Health Syst Pharm.* 2002 Nov 1;59(21):2070-7. PMID: 12434719

STEP 4. DO THE MATH

For each category, multiply the costs avoided by the number of times you assigned an intervention to that category. This will give you the total costs avoided per category.

STEP 5. ADD UP THE TOTAL COSTS AVOIDED

Simply add up the total costs avoided in each category to give you the “grand total” of costs avoided. In the example below, the total for costs avoided was \$373,092.

Costs Avoided Using Example Data

	2014	N	Avoided Costs
Manage an untreated diagnosis	\$1,923	61	\$117,308
Prevent or manage an adverse drug event	\$697	128	\$89,208
Average of any intervention	\$568	168	\$95,459
Manage a drug interaction	\$412	54	\$22,258
Adjust a dose or frequency	\$376	100	\$37,577
Reduce duplication of therapy	\$176	1	\$176
Discontinue a drug not indicated	\$95	117	\$11,106
Provide information only	\$0	30	\$0
Total		659	\$373,092

N refers to the number of interventions that were in each recommendation category.

Calculating Return-on-Investment (ROI)

STEP 1. KNOW YOUR SALARY PLUS FRINGE BENEFITS

In order to calculate return-on-investment, you will need to know your salary. You will also need to know your fringe benefit rate. This may be in the range of 30-50% on top of your base salary. Including your fringe benefit rate will give you a much more accurate representation of what you cost. So if your base salary is \$120,000 per year and your benefits are 42%, your salary plus fringe benefits is $\$120,000 * 1.42 = \$170,400$. This assumes you are employed full-time. If you are less than full-time, you will need to adjust your salary (e.g. 50% effort = $\$170,400 * 0.5$ or \$85,200).

STEP 2. KNOW YOUR TOTAL COST AVOIDANCE

See steps above

STEP 3. MAKE SURE YOU HAVE THE RIGHT TIME FRAME

If you only collected interventions for six months, don't use one year of salary. Make sure the time frame for your interventions is the same as the time frame for your salary. The same is true if you are working on a specific project and want to calculate ROI. In this case your time frame may be hours, not months, and you will need to make sure your salary corresponds to the project time.

STEP 4. CALCULATE THE ROI

The numerator is the total costs avoided. The denominator is your salary plus fringe. Divide the total costs avoided by your salary (or total hourly costs) to get the ROI. In the example below \$373,092 total costs were avoided. Therefore $\$373,092$ divided by the salary plus fringe benefits $\$170,400$ ($\$373,092 / \$170,400$) results in a return-on-investment of \$2.19 to \$1.00. "Our analysis suggests \$2.19 in costs were avoided for every \$1.00 spent on a pharmacist." This statement is how you present your return-on-investment. If your ROI is less than \$1, your intervention lost money. If your ROI equals \$1, you broke even.

HELPFUL TIP

If your ROI turns out to be less than \$1.00 avoided for every \$1.00 spent on a pharmacist, you are costing the system money. Double-check your math as you may have switched the numerator and denominator!

STEP 5. CONDUCT A SENSITIVITY ANALYSIS

Huh? A sensitivity analysis is a fancy way of saying that you are running multiple scenarios to demonstrate that your estimate of ROI is solid. Business people love these. Sensitivity analyses allow you to vary the numbers to demonstrate "what if" scenarios. For example, perhaps you only calculated ROI for interventions that you knew were accepted by providers? Try adding in the recommendations where the acceptance data are missing. What would happen if you doubled your clinic days? Sensitivity analyses allow you to show providers and other stakeholders a point estimate, or your best guess, about the ROI, while also allowing for discussion around what factors could change or influence the ROI.

Example sensitivity analysis:

We calculated a sensitivity analysis around this ROI. Of our 659 interventions, we were missing information about whether the prescriber accepted our recommendations in 350 cases. The remainder of the interventions was accepted 86% of the time. If we assumed the missing data (N=350) would be accepted at 86% (i.e. the same proportion as the known data) the estimated cost avoidance would be \$338,234 with an estimated return-on-investment (ROI) of \$1.98 ($\$338,234 / \$170,400$).

HELPFUL TIP

Consider presenting a Costs Avoided table, the ROI statement, and a brief sensitivity analysis paragraph or bullet points. You may also consider a table describing one example intervention for each of the categories (remember that most stakeholders won't understand how a pharmacist prevents an adverse drug event). The temptation will be to put in too many examples, too much text, too much data, etc. Know your audience and only present the most important information. Be prepared to answer any questions in person.

Presenting Data to Stakeholders

It is critical to show your value to a broad range of stakeholders. Stakeholders include prescribers, payers, policy makers, other pharmacists, patient groups, etc.

Common mistakes in presenting data

"I'm going to show you how smart I am." Many pharmacists make the mistake of flooding an audience with articles, kinetic information, dozens of tables, etc. Glossed over eyes is not what you are going for here!

"I'm worried that if I don't include everything you will miss something good." One or two single sided pieces of paper or 3-5 PowerPoint slides will be worth so much more than a 25-page dissertation or 50-slide presentation.

"I'm tight on space so I will make the font smaller." People need white space to process ideas. Have you ever noticed the difference between a drug ad and a package insert?

"One size fits all." You really need to know your audience to be an effective communicator. Modify your presentation based on who the target audience is.

"I only need to know what is on the page or slides." Be prepared to answer in-depth questions from your audience, even if it isn't on the page. This takes a little practice, but will reinforce what an expert you are.

"I'm sorry that I only did X, Y, Z." Stop apologizing. You are a pharmacist rock star! Don't be afraid to showcase the good things you are doing for patients.

STEP 1. SELECT YOUR STAKEHOLDERS OR AUDIENCE

You have all of these cool data collected – who do you want to show your data to? Do you want to present an update at a prescriber meeting? Are you presenting your value to your local hospital's budget office? Who you are presenting to determines what data you should be presenting.

STEP 2. IDENTIFY THE TOP THREE MOST IMPORTANT THINGS YOU WANT TO SAY

If you were in an elevator with an important stakeholder, and you only had a few moments with that person, what would you want to say about your data? What are the most important messages to communicate? Although you want to be prepared to discuss your interventions at an in-depth level, the reality is that your audience will only be able to retain a few key points. Select your top three "key messages" and make them count!

STEP 3. ONLY PRESENT INFORMATION THAT SUPPORTS YOUR TOP THREE "KEY MESSAGES" OR TALKING POINTS

Consider keeping your information to one side of one page if on paper or just two to three PowerPoint slides if you are presenting this to a larger audience. Know your audience and only present the most important information. Be prepared to answer any questions in person.

Going beyond local stakeholders:

Publishing and Presenting

We highly recommend you present your findings at meetings or publish in a pharmacy or medical journal. Why?

- Improving your CV builds credibility with the providers you serve
- Improving your CV may help you if you want to obtain or maintain an academic appointment with a School of Pharmacy or Medicine
- You are doing great things and others may benefit from what you have learned

HELPFUL REFERENCE

Browner WS. Publishing and Presenting Clinical Research, 3rd ed. Lippincott Williams & Wilkins, Philadelphia, 2012

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5 Appendix

Checklist for Getting Started

Administrative

- Current and active pharmacy license.
- Malpractice coverage
- National Provider Identifier (NPI), if appropriate
- Collaborative Practice Agreement, signed and filed with appropriate stakeholders
- Permission to access the practice's electronic health record
- Training plan to learn the electronic health record
- Any other permission, credentialing, orientation, or required training to work at the practice (Note: If you are not an employee of the organization that owns the practice, you may have additional legal documents that need to be signed. Work with your practice or organization to understand what is needed.)

Clinical Preparation

- Read a few of the recommended resources
- Read the guidelines for the most common conditions in primary care (e.g. cholesterol, diabetes, hypertension)
- Subscribe to *Pharmacist's Letter*, or an equivalent resource
- Consider 1-2 projects that you can start immediately

When You Arrive at the Practice

- Identify a physical space to work in and a computer
- Identify the Information Technology contact for the practice
- Schedule 10 minutes at the next provider meeting to introduce yourself
- Schedule 10 minutes at the next staff meeting to introduce yourself
- Make a point to introduce yourself to everyone you meet
- Start a project

POPULATION-BASED MEDICATION MANAGEMENT PROJECT:**Aspirin Use in Patients with a History of Coronary Artery Disease****PROJECT GOAL**

100% of patients in the practice with coronary artery disease (CAD) on antiplatelet therapy, if not otherwise contraindicated

EVIDENCE

Aspirin 75-162mg daily is recommend in all patients with CAD unless contraindicated. Clopidogrel 75mg daily is recommended as an alternative for patients intolerant of or allergic to aspirin. CMS 2014 Physician Quality Reporting System (PQRS) Measure #6. Aspirin 75-100mg daily.

Smith SC, Benjamin EJ, Bonow RO, et al. AHA/ACCF secondary prevention and risk reduction therapy for patients with coronary and other atherosclerotic vascular disease: 2011 update: A guideline from the American Heart Association and American College of Cardiology Foundation. *Circulation* 2011 Nov 29;124(22):2458-2473. PMID: 22052934

2014 Physician Quality Reporting System (PQRS) measure specifications manual for claims and registry reporting of individual measures. www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/MeasuresCodes.html. Accessed: 2/09/2014.

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OUTCOME MEASUREMENT

Percent patients with CAD with antiplatelet therapy documented

Numerator: Number of patients diagnosed with CAD who currently take antiplatelet medications

Denominator: Number of patients diagnosed with CAD

PROJECT TIME FRAME

three to four months (depending on practice size)

SUPPLIES

Report from electronic health record of all patients with CAD who do not have active antiplatelet therapy (see Query: Aspirin Use in Patients with a History of Coronary Artery Disease)

Educational materials and protocols for providers

APPROACH**Step 1: Choose a project**

Prepare by reviewing the evidence (AHA/ACCF & ACCP recommendations)

Note: Always look for updated guidelines and references.)

Step 2: Identify patients

Run the proposed query to obtain the clinic report (spot-check patients to make sure the report is working properly)

Analyze the report by calculating the % of patients with CAD who are on antiplatelet therapy for the entire clinic and by provider (providers may ask for a list of their patients for review)

Step 3: Determine the feasibility and potential impact

Determine if project is appropriate (enough impact) for the practice site and if you will have the available time to complete the project. If the project is too large, you may need to identify a subset of patients or stagger the intervention across providers (e.g. begin with the patients of 1-2 providers first and then move onto other providers' patients).

Step 4: Develop a strategy for the intervention

Create a proposed intervention protocol (see Step 5 as an example)

Schedule 15-30 minutes at a provider meeting to discuss your protocol

Present your protocol and baseline report data to the providers and decide how they would like you to approach the intervention (Direct or Indirect) and document their choice.

Step 5: Implement the intervention

METHOD OVERVIEW:

Identify patients with CAD who are not currently on antiplatelet therapy.

Review each patient chart to identify patients who do not have contraindications to antiplatelet therapy.

If a contraindication is found, document the contraindication in the chart (you may need to speak to your clinic manager about the best way to flag these patients).

Also document the contraindication in the tracking document that you are using to manage the overall project.

Conduct the intervention on the remaining patients using one of the following methods:

Call the patient to assess their need for antiplatelet therapy and provide a recommendation (Direct)

- Document the outcome in the patient's chart and in your tracking document

Leave a note in the chart asking the provider to assess the need for antiplatelet therapy (Indirect)

- Be sure to review these charts on a regular basis (monthly) and document the outcome

CLINICAL TIPS:

If a patient is at an increased risk of a GI bleed, then consider PPI therapy to limit GI risks

- Bhatt DL, Scheiman J, Abraham NS, et al. ACCF/ACG/AHA 2008 expert consensus document on reducing the gastrointestinal risks of antiplatelet therapy and NSAID use: a report of the American College of Cardiology Foundation Task Force on Clinical Expert Consensus Documents. *Circulation* 2008;118:1894-909. PMID: 18836135

If a patient is on an aspirin dose of greater than 100-162mg, consider a dose decrease.

CODING/DOCUMENTATION OF INTERVENTION OUTCOMES (tracking document):

Patient was taking antiplatelet therapy but was not documented

Patient was not taking antiplatelet therapy

- Recommended ASA
- Recommended clopidogrel
- Contraindication to antiplatelet therapy (allergy, intolerance, receiving other thienopyridine therapy, receiving warfarin therapy, bleeding coagulation disorders, other medical reasons)
- Patient refused therapy
- Other

HELPFUL TIP: STEP 4

When creating your protocol, consider developing sample chart notes for documenting in the electronic health record and a script to use when telephoning patients. This will help you apply a standard approach to the project.

Getting consensus on one protocol among providers is ideal.

Step 6: Evaluate the Outcomes

ANALYSIS AND FOLLOW-UP:

Option A

Allow about three months before reporting outcomes

Option B

Report outcomes after you have contacted all patients

Analyze the results of the project and prepare a provider and/or stakeholder report
(See our section on Presenting Data to Stakeholders for ideas)

Before: % patients with CAD with antiplatelet therapy documented

After: % patients with CAD with antiplatelet therapy documented

- % patients with a contraindication
- % patients who refused therapy

Cost avoidance of antiplatelet therapy

- Use untreated diagnosis cost (See Lee et al. 2002 and Calculating Cost Avoidance section)

Step 7: Continuous Quality Improvement

PROJECT CYCLE: Consider repeating this project every 6-12 months

POPULATION-BASED MEDICATION MANAGEMENT PROJECT:**Aspirin Use in Patients with a History of Coronary Artery Disease: Report Query****Aspirin Use in Patients with a History of Coronary Artery Disease**

Step 1: Identify active patients (seen in the past year) who have CAD (denominator).

Suggested Report Algorithm for EHR Query:

All patients 18 years or older who have been seen in the past year, that have a diagnosis of CAD as defined by the following ICD codes:

ICD9:	410.*	Acute myocardial infarction
	411.*	Other acute and subacute forms of ischemic heart disease
	412.*	Old myocardial infarction
	413.*	Angina pectoris
	414.*	Other forms of chronic ischemic heart disease
	V45.81	Aortocoronary bypass status
	V45.82	Percutaneous transluminal coronary angioplasty status
ICD10:	I20.*	Angina pectoris
	I21.*	Acute myocardial infarction
	I22.*	Subsequent myocardial infarction
	I24.*	Other acute ischemic heart disease
	I25.*	Chronic ischemic heart disease
	Z95.5	Presence of coronary angioplasty implant and graft
	Z98.61	Coronary angioplasty status

Step 2 (baseline reporting): Of the patients identified in Step 1, **identify those who have active antiplatelet therapy** (numerator)

Active (in current medication list) antiplatelet therapy defined as the following drugs:

- Aspirin (Ecotrin*) 81mg[†]
- Plavix 75mg
- Clopidogrel 75mg

Step 3: Of the patients identified in Step 1, **identify those who do NOT have active antiplatelet therapy** (as defined in Step 2)

- Complete pharmacist intervention on these patients.

*Check your EHR for other potential names

[†] Searching for only the 81mg strength ensures that patients who are taking aspirin for pain management or in combination with a sleep aid only are not unintentionally excluded

POPULATION-BASED MEDICATION MANAGEMENT PROJECT: Stopping Proton Pump Inhibitors (PPI)

PROJECT GOAL

100% of patients in the practice to be taking proton pump inhibitors only if indicated

EVIDENCE

Up to two-thirds of PPI use may be inappropriate. PPIs have been associated with pneumonia, Clostridium difficile infections, fractures, and low magnesium and vitamin B12 levels.

Kahrilas PJ, Shaheen NJ, Vaezi MF, Hiltz SW, Black E, Modlin IM, Johnson SP, Allen J, Brill JV; American Gastroenterological Association. American Gastroenterological Association Medical Position Statement on the management of gastroesophageal reflux disease. Gastroenterology. 2008 Oct;135(4):1383-1391. PMID: 18789939

PL Detail-Document, Proton Pump Inhibitors: Appropriate Use and Safety Concerns. Pharmacist's Letter/Prescriber's Letter. May 2013.

OUTCOME MEASUREMENT

Number of patients without a valid indication for a PPI / # patients in the practice using a PPI

PROJECT TIMEFRAME

3-4 months (depending on practice size)

SUPPLIES

Report from electronic health record of all patients on proton pump inhibitors

Educational materials and protocols for providers

Patient handout

APPROACH

Step 1: Choose a project

Prepare by reviewing the evidence (e.g. American Gastroenterological Association Medical Position Statement).

Note: Always look for updated guidelines and references.)

Step 2: Identify patients

Run the proposed query to obtain the clinic report (spot-check patients to make sure the report is working properly)

Analyze the report by calculating the % of patients who are on PPI therapy for the entire clinic and by provider (providers may ask for a list of their patients for review)

Step 3: Determine the feasibility and potential impact

determine if project is appropriate (enough impact) for the practice site and if you will have the available time to complete the project. If the project is too large, you may need to identify a subset of patients or stagger the intervention across providers (e.g. begin with the patients of 1-2 providers first and then move onto other providers' patients)

Step 4: Develop a strategy for the intervention

Create a proposed intervention protocol (see Step 5 as an example)

Schedule 15-30 minutes at a provider meeting to discuss your protocol

Present your protocol and baseline report data to the providers and decide how they would like you to approach the intervention (Direct or Indirect) and document their choice.

Step 5: Implement the intervention

METHOD OVERVIEW:

Identify patients on a PPI who do not appear to have an indication

Review each patient chart to identify patients who actually need to remain on PPI therapy

If an appropriate indication is found, document the indication in the chart (you may need to speak to your clinic manager about the best way to flag these patients). Also document the indication in the tracking document that you are using to manage the overall project.

Conduct the intervention on the remaining patients using one of the following methods:

DIRECT OPTION: may include phone call or patient visit

- Show the report of patients on proton pump inhibitors to the provider.
- Ask the provider to review the report and cross out patients who should NOT be tapered off proton pump inhibitors
- Telephone all other patients and invite them to taper their proton pump inhibitor
- Mail or email a taper handout to the patients
- Call weekly to check in and troubleshoot
- Document progress in the patient's chart
- Call patients one month after completing the taper to determine if they have successfully discontinued proton pump inhibitor therapy and to troubleshoot if the patient restarted a proton pump inhibitor.
- Document the outcome in the patient's chart and in your tracking document

INDIRECT OPTION: may include phone call or patient visit

Use the report of patients on proton pump inhibitors to review the charts

- Review the chart
- If a patient does not appear to require a proton pump inhibitor, look to see if the patient has an upcoming appointment.
- If the patient has an upcoming appointment, leave a message in the chart for the provider for the day of the appointment, along with a copy of the patient handout.
- If the patient does not have an upcoming appointment, discuss with the individual provider how these patients should be handled.
- Make a note to review the patient's chart after they have had their provider visit to see if the provider discussed stopping the proton pump inhibitor with the patient. If the provider did not discuss stopping the proton pump inhibitor, contact the provider to ask why.
- If the provider did recommend stopping the proton pump inhibitor, call the patient weekly to check in and troubleshoot
- Call patients one month after completing the taper to determine if they have successfully discontinued proton pump inhibitor therapy and to troubleshoot if the patient restarted a proton pump inhibitor.
- Document the outcome in the patient's chart and in your tracking document

HELPFUL TIP: STEP 4

When creating your protocol, consider developing sample chart notes for documenting in the electronic health record and a script to use when telephoning patients. This will help you apply a standard approach to the project.

Getting consensus on one protocol among providers is ideal.

HELPFUL TIP: STEP 5

Here is an example of how you might document the chart review:

I performed a chart review and did not see evidence of Zollinger-Ellison Syndrome, recurrent peptic ulcer disease, prevention of NSAID induced peptic ulcer, or GERD with esophagitis, ongoing symptoms, or complications such as Barrett's esophagus. Based on the review, this patient may be a candidate for tapering of their proton pump inhibitor.

CODING/DOCUMENTATION OF INTERVENTION OUTCOMES (tracking document):

Patient has an appropriate indication for PPI therapy, but was not documented

Patient does not have an appropriate indication for continued PPI therapy

- Recommended taper and discontinue
- Recommended switch to H2 antagonist or antacid therapy
- Patient refused to discontinue therapy
- Other

Step 6: Evaluate the Outcomes**ANALYSIS AND FOLLOW-UP:****Option A**

Allow about three months before reporting outcomes

Option B

Report outcomes after you have contacted all patients

Analyze the results of the project and prepare a provider and/or stakeholder report (See our section on Presenting Data to Stakeholders for ideas)

Before: % patients on a PPI with a valid indication documented

After: % patients on a PPI with a valid indication documented

- Number of patients who successfully discontinued PPI
- % patients who refused to discontinue

Cost avoidance of antiplatelet therapy

- Use prevent or manage an adverse drug event cost or discontinue drug not indicated cost (Lee et al. 2002 and our section on Calculating Cost Avoidance)

Step 7: Continuous Quality Improvement

PROJECT CYCLE: Consider repeating this project every 6-12 months

QUERY**Patients with a History of Proton Pump Inhibitor Use****REPORT QUERY**

- Timeframe: Previous six months
- By provider, a count of all patients in the panel.
- By provider, all patients on proton pump inhibitors (e.g. omeprazole, esomeprazole, dexlansoprazole, lansoprazole, pantoprazole, rabeprazole) Remember to see if new proton pump inhibitors are available since the date this page was created.
- Variables: provider name, patient name, drug, dose, frequency, quantity

Stopping your Proton Pump Inhibitor or “PPI”

What are PPIs?

Proton pump inhibitors, or PPIs, are medications that are used for treating stomach problems such as heartburn and ulcers. PPIs include:

- Aciphex (rabeprazole)
- Prilosec, Prilosec OTC, Zegerid OTC (omeprazole)
- Prevacid (lansoprazole)
- Nexium (esomeprazole)
- Protonix (pantoprazole)
- Dexilant (dexlansoprazole)

Why stop?

PPIs are very helpful when used in the right way. However sometimes treatment goes on for longer than is needed. New research suggests that there are serious risks of staying on a PPI for long periods of time. Some of these risks include:

- Pneumonia (lung infections)
- Intestine infections, known as C. diff
- Fractures
- Low magnesium and vitamin B12 levels



Should YOU stop?

Some people should stay on a PPI, even for long periods of time. The choice to stop a PPI needs to be made by understanding the risks and benefits for YOU. Talk to your doctor or healthcare professional about whether stopping your PPI is the right choice for you.

How will you stop?

If you have been on a PPI for a long time, you may be nervous about stopping it. Most of the time you do not need to rush to stop your PPI. Medical research shows that stopping slowly increases your chances of success.

Step 1. Get ready to stop your PPI

Certain foods and behaviors can make stomach symptoms worse. Be sure you are doing what you can to get ready. Check out our Tips for Coping with Heartburn for ideas.

Step 2. Lower your PPI dose for 2 weeks

- If you were taking one PPI pill a day, take one pill every other day.
- If you were taking two PPI pills a day, take one pill a day for a week, and then take one pill every other day for the following week.

If two weeks feels too fast, it is okay to follow this plan for a month. Use a calendar or a pill box to help you remember what to do.

Step 3. Stop your PPI

If you have stomach symptoms:

- Try an antacid, like Tums, or generic calcium carbonate for fast relief (5-15 minutes).
- Try an H2 blocker, like Zantac, or generic ranitidine, which will work in about an hour.
- Go back to Step 1 for ideas about how to manage symptoms without medications.

Be careful buying anything over-the-counter. Don't buy a PPI by mistake. Ask a pharmacist if you need help, especially if you take other medicines. Your current medicines may interact with what you are buying. If you take something for your stomach, write down the day, time, and amount you took. Bring your notes to your next healthcare visit.

Step 4. Check-in with your provider

Let your provider know if your symptoms return or if you have questions. You may only need to use an antacid or H2 blocker once in a while to control your symptoms.

Stopping your Proton Pump Inhibitor or “PPI”

Tips for Coping with Heartburn or Reflux Disease

Changing some daily habits can help reduce or prevent stomach symptoms. Try as many of these ideas as you can to help manage your symptoms.

Avoid Foods that Trigger Heartburn

Be aware the following foods and drinks are known to trigger heartburn:

- Alcoholic beverages
- Fried/fatty foods
- Peppermint
- Chocolate
- Coffee (decaffeinated and regular)
- Citrus
- Carbonated drinks
- Spicy foods

Stop smoking

Smoking decreases sphincter pressure, letting stomach acid leak up into your esophagus. Contact the Vermont Quit Line for help online at www.vtquitnetwork.org or by phone at 1-800-QUIT-NOW (784-8669).

Avoid alcohol

Alcohol increases stomach waves and stomach contractions, letting stomach acid leak up into your esophagus.

Wear loose clothing

Tight-fitting clothes put extra pressure on your stomach and can contribute to your symptoms.

Watch your weight

Extra body weight causes pressure on your stomach which can worsen symptoms.

Eat small meals

Large meals can make your stomach too full and force stomach contents back up into the esophagus. Try eating 4 to 5 small meals during the day instead of one to two large meals.



Avoid lying down directly after eating

Don't lie down within 3 hours of eating. Lying down too soon after eating can cause the acids that are working to digest your food to flow up and cause heartburn. Plan an early dinner.

Elevate the head of your bed

If you suffer heartburn while you sleep, elevate the head of your bed at least six to eight inches with blocks and/or sleep on a foam wedge under your body. This will keep you in an upright position as you sleep, and may help to keep stomach acids from backing up.

Trustworthy websites for information

- To learn about heartburn/GERD: www.effectivehealthcare.ahrq.gov/search-for-guides-reviews-and-reports/?pageaction=displayproduct&productID=756
- To learn more about PPIs: www.consumerreports.org/health/best-buy-drugs/heartburn_ppi.htm
- To learn about individual medications: www.nlm.nih.gov/medlineplus/druginformation.html

References

- Kahrilas PJ, et al. *Gastroenterology*. 2008 Oct;135(4):1383-1391. PMID: 18789939
- Detail-Document; Pharmacist's Letter 2009; 25(11):251113
- Independent Drug Information Service. Acid Suppression Therapy: Neutralizing the Hype. Available at www.rxfacts.org.

This handout may be freely downloaded from The Vermont Academic Detailing Program website www.vtad.org. Updated: March 2013

Sample Metrics and Reports for Providers and Stakeholders after Project Completion*

Population-based Medication Management Project: Stopping Proton Pump Inhibitors (PPI)

Time frame: January-June, 20XX

PROTON PUMP INHIBITOR TAPER PROJECT OUTCOMES

Metric	Provider (Dr. A)		Total Practice (5 providers)	
	N	(%)	N	(%)
Total Patients	100	(100)	600	(100)
Patients on a PPI	30	(30)	180	(30)
Patients on a PPI at project completion	24	(24)	150	(25)
Estimated Cost avoidance, 2013 dollars*	6 = \$568.50		30 = \$2,842.50	

* We assumed \$94.75 per PPI stopped, per Lee AJ, et al. Clinical and economic outcomes of pharmacist recommendations in a VA medical center. *Am J Health Syst Pharm.* 2002 Nov 1;59(21):2070-7. PMID: 12434719

PROTON PUMP INHIBITOR TAPER PROJECT PROCESS OUTCOMES

Metric	Provider (Dr. A)		Total Practice (5 providers)	
	N	(%)	N	(%)
Patients on a PPI	30	(100)	180	(100)
Dexlansoprazole (Dexilant)	0	(0)	3	(2)
Esomeprazole (Nexium)	1	(3)	3	(2)
Lansoprazole (Prevacid)	3	(10)	17	(9)
Omeprazole (Prilosec, Prilosec OTC)	21	(70)	130	(72)
Pantoprazole (Protonix)	3	(10)	19	(11)
Rabeprazole (Aciphex)	2	(7)	8	(4)
Pharmacist recommended taper PPI	20/30	(67)	126/180	(70)
Provider acceptance to initiate a taper	18/20	(90)	107/126	(85)
Patients who initiated a PPI taper	15/18	(83)	85/107	(79)
PPI dose decrease at 30 days	12/15	(80)	63/85	(74)
Discontinued PPI at 30 days	6/15	(40)	30/85	(35)

CO-OCCURRING THERAPIES

Metric	Provider (Dr. A)		Total Practice (5 providers)	
	N	(%)	N	(%)
Patients who initiated a PPI taper	15	(100)	85	(100)
At project initiation				
H2 blockers	3/15	(20)	19/85	(22)
Calcium prn	1/15	(7)	10/85	(12)
At 30 days				
H2 blockers	5/15	(33)	24/85	(28)
Calcium prn	5/15	(33)	20/85	(24)

BOTTOM LINE:

- This project resulted in an absolute reduction of PPI use of 6% for Dr. A. and 5% for the total practice
- Dr. A. accepted the pharmacist recommendation to initiate a PPI taper in 90% of cases; all providers in this project accepted the pharmacist recommendation in 85% of cases
- Of patients who initiated a PPI taper, 80% of Dr. A's patients and 74% of the total practice's patients reduced their dose of PPI at the end of the project
- Of patients who initiated a PPI taper, 40% of Dr. A's patients and 35% of the total practice's patients discontinued their PPI at the end of the project

*Examples are using hypothetical data. Can present data by each provider, by total practice, or both (shown above)

EDUCATION ACTIVITIES: Sample Prescriber Satisfaction Survey

NAME _____

DATE _____

What role best describes you?

Provider/Pharmacist

- Physician (MD and DO)
 Nurse Practitioner
 Physician Assistant
 Pharmacist

Resident/Student

- Medicine
 Nursing
 Physician Assistant
 Pharmacy
 Other _____

Staff/Other

- Non-prescribing nurse
 Medical Assistant
 Office Manager
 Community Health Team
 Other _____

Please rate the following for today's session:

1 = Strongly DISAGREE to 5 = Strongly AGREE

- | | | | | | |
|---|---|---|---|---|---|
| 1. Program met stated objectives | 1 | 2 | 3 | 4 | 5 |
| 2. Program provided unbiased, evidence-based content, where available | 1 | 2 | 3 | 4 | 5 |
| 3. Program topic was appropriate for your needs | 1 | 2 | 3 | 4 | 5 |
| 4. Program had practical clinical value | 1 | 2 | 3 | 4 | 5 |
| 5. Program speakers were prepared | 1 | 2 | 3 | 4 | 5 |
| 6. Program format appropriate | 1 | 2 | 3 | 4 | 5 |
| 7. Overall impression of the program was favorable | 1 | 2 | 3 | 4 | 5 |
| 8. Time for discussion was appropriate | 1 | 2 | 3 | 4 | 5 |

9. Do you feel the information presented will impact your prescribing? Yes No N/A
10. Would you be willing to attend a similar session in the future? Yes No
11. Was this program free of commercial bias? Yes No

12. What future topics would you like addressed?

13. Other comments or feedback?

EDUCATION ACTIVITIES:
Sample Prescribing Survey

Using the example clinical topic of diabetes. Note: Your survey questions should be based on your key messages.

NAME _____	DATE _____
1. Compared to before attending the session on Type 2 Diabetes I am now:	
Using a multifactorial approach to prevent MICROvascular complications, but focusing on blood pressure and lipids to prevent MACROvascular complications.	
<input type="checkbox"/> Much less likely <input type="checkbox"/> Less likely <input type="checkbox"/> As likely <input type="checkbox"/> More likely <input type="checkbox"/> Much more likely	
Recommending the Mediterranean diet for my patients with type 2 diabetes.	
<input type="checkbox"/> Much less likely <input type="checkbox"/> Less likely <input type="checkbox"/> As likely <input type="checkbox"/> More likely <input type="checkbox"/> Much more likely	
Recognizing when a treatment plan is failing or is not meeting goals.	
<input type="checkbox"/> Much less likely <input type="checkbox"/> Less likely <input type="checkbox"/> As likely <input type="checkbox"/> More likely <input type="checkbox"/> Much more likely	
Prescribing basal insulin with metformin if A1C is uncontrolled.	
<input type="checkbox"/> Much less likely <input type="checkbox"/> Less likely <input type="checkbox"/> As likely <input type="checkbox"/> More likely <input type="checkbox"/> Much more likely	
Referring my patients to our practice's Community Health Team, Certified Diabetes Educators, or to other resources.	
<input type="checkbox"/> Much less likely <input type="checkbox"/> Less likely <input type="checkbox"/> As likely <input type="checkbox"/> More likely <input type="checkbox"/> Much more likely	
2. Have you used any of the patient handouts or clinical tools from the Type 2 Diabetes topic?	

3. We welcome your feedback! General Comments:	

EDUCATION ACTIVITIES:**Sample Letter to Patients for Group Education Workshop**

Practice Letterhead

Date
Patient Name
Dear [INSERT NAME],

We are pleased to announce that [insert name of practice] will be offering a free, 1-hour workshop for our patients who currently take blood thinning medications. Examples of these medications include warfarin (Coumadin®), enoxaparin (Lovenox®), dabigatran (Pradaxa®), and rivaroxaban (Xarelto®). The workshop will review how blood thinners should be taken, common side effects, interactions with other medications, and how food may interact with your medication. Both a pharmacist and a doctor from our practice will be providing information. There will be time to ask questions in a group setting as well as privately.

The workshop is scheduled from noon-1pm on both [INSERT DATE] and [INSERT DATE] at [INSERT MEETING LOCATION]. If you are interested in attending please call [insert contact name and title] from our practice at [insert practice phone number] to register. If you are interested but cannot make either workshop due to the time or date, please let us know so we can contact you for future workshops.

You are welcome to bring a caregiver or family member with you. This is a free class; however, we ask that you register so we can provide adequate space for the workshop. We hope you will join us at this workshop!

Sincerely,

[INSERT NAME AND TITLE]

EDUCATION ACTIVITIES:

Sample Patient Survey for Group Education Workshop

NAME _____

DATE _____

Please rate the following for today's session:

1 = *Strongly DISAGREE* to 5 = *Strongly AGREE*

- | | | | | | |
|---|------------------------------|-----------------------------|---|---|---|
| 1. This workshop was helpful | 1 | 2 | 3 | 4 | 5 |
| 2. I would recommend this workshop to a friend | 1 | 2 | 3 | 4 | 5 |
| 3. I learned something new at this workshop | 1 | 2 | 3 | 4 | 5 |
| 4. I would pay an insurance co-payment to attend a similar workshop | 1 | 2 | 3 | 4 | 5 |
| 5. Would you be willing to attend a similar session in the future? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | | | |
| 6. Are you a patient or family member? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | | | |
| 7. What was the <i>best</i> part about this this workshop? | | | | | |

8. What was the *worst* part about this this workshop?

9. Please use this space if you have any other comments to share or if you have an idea for a future workshop.
