Intervention Outline

Collaborative Practice Agreement with a Pharmacist

Kansas Healthcare COLLABORATIVE

Blood Pressure Reduction Challenge

Mini-Grant Request For Proposals
2018 Quarter 2

Project Goal

Background

Application Requirements

Supplemental Documentation

Proposed Timeline

Model for Improvement

Additional Resources

- Pharmacy: Collaborative Practice Agreements to Enable Collaborative Drug Therapy Management (CDC, included)
- Community Pharmacists and Medication Therapy Management (CDC, included)
- Sample CPA and BP Management Protocol (included)
- Utilizing Team-Based Care to Improve Hypertension and Diabetes Outcomes (KDHE, included)

Web Resources

Collaborative Practice Agreements and Pharmacists' Patient Care Services (CDC Guide)
https://healthict.org/content/upload/files/Translational_Tools_Providers_508.pdf

Using the Pharmacists' Patient Care Process to Manage High BP (CDC Guide)
https://www.cdc.gov/dhdsp/pubs/docs/pharmacist-resource-guide.pdf

Elements of a CPA (Video)
https://www.youtube.com/watch?v=_bSXR0PxsCs

CPA—A Physician's Perspective (Video)
https://www.youtube.com/watch?v=qZMsV_Skqsk

Model for Improvement

Intervention Outline

Collaborative Practice Agreement with a Pharmacist

Project Goal

Establish a CPA with a local pharmacist to enable collaborative drug therapy management for patients with hypertension. The CPA can be time limited for the duration of the project.

Background

Team-based care is a strategy that can be implemented at the health system level to enhance patient care by having two or more health care providers working collaboratively with each patient. Within the context of cardiovascular disease (CVD) prevention, it often involves a multidisciplinary team working in collaboration to educate patients, identify risk factors for disease, prescribe and modify treatments, and maintain an ongoing dialogue with patients about their health and care. These teams may include physicians, nurses, pharmacists, and others.

Collaborative drug therapy management (CDTM) involves developing a collaborative practice agreement (CPA) between one or more health care providers and pharmacists. A CPA allows qualified pharmacists working within the context of a defined protocol to assume professional responsibilities by performing patient assessments, counseling, and referrals; ordering laboratory tests; administering drugs; and selecting, initiating, monitoring, continuing, and adjusting drug regimens.

Application Requirements

- ✓ Application with budget proposal (Required)
- ✓ Physician Letter of Support
- ✓ Pharmacy Letter of Support

Supplemental Documentation

- ✓ Draft CPA

Proposed Timeline

March 12 - March 31: Planning Period

- ◊ Schedule initial meeting between pharmacist, physician, and KHC staff to finalize the data collection plan, CPA, and referral process. The CPA must be submitted to Board of Pharmacy within 5 business days of the final signature.

April 1 – June 30: Intervention Period

- ◊ Week of April 15: Schedule Program Update Call (PUC) with KHC, Practice, and Pharmacy
- ◊ Week of May 13: Schedule PUC with KHC, Practice, and Pharmacy
- ◊ Week of June 10: Schedule PUC with KHC, Practice, and Pharmacy

July 1 – July 31: Wrap Up Period

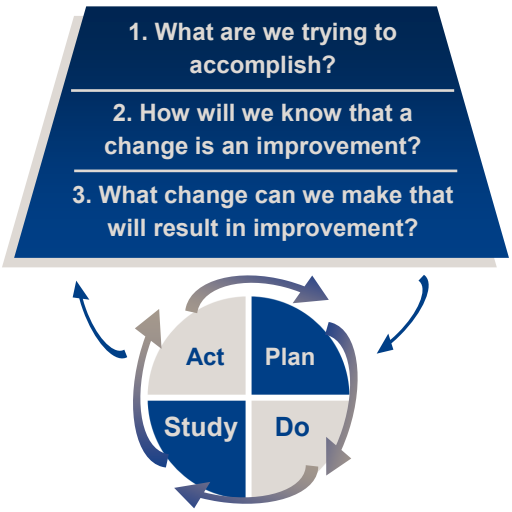
- ◊ Collect final measurements, including BP of participants
- ◊ Submit an Intervention Summary to KHC (template to be provided upon notification of awarded grant)
- ◊ Week of July 8: Schedule Wrap Up Call with KHC, Practice, and Pharmacy

Kansas Healthcare COLLABORATIVE

Intervention Outline

Collaborative Practice Agreement with a Pharmacist

Model for Improvement



1. What are we trying to accomplish?

Establish a CPA with a local pharmacist to enable collaborative drug therapy management for patients with hypertension. The CPA can be time limited for the duration of the project.

2. How will we know that a change is an improvement?

As part of the project, the practice will develop a study design and a data collection/analysis plan during the initial planning period. The practice will need to collect data on a sample of patients according to the study design. The data collected must include documentation of how the practice will implement the intervention (process measure), a measurement of blood pressure control (outcome measure), and a business-related measure.

Example Process Measures

- Dates of visits, telephone calls, or other interactions with patients involving hypertension management under the CPA
- Log of prescription changes managed under the CPA
- Count of medication adjustments for each patient during the study period

Example Outcome Measures

- Systolic and diastolic BP, recorded for each patient of the intervention
- Yes/No for BP < 140/90, recorded for each patient of the intervention
- Yes/No for BP < 130/80, recorded for each patient of the intervention

Example Business-Related Measures

- Assess physician burden, pre– and post– intervention
- Assess job satisfaction of practice and pharmacy staff, pre– and post– intervention
- Count of the number of medication adjustments
- Total number of visits of participating patients to practice and pharmacy, per week for hypertension patients

Practices will work with Kansas Healthcare Collaborative to finalize a data collection plan that is best suited for each project. For example, the practice may choose a pre—/ post—design which implies the practice will have two measurements for each measure.

Practices will also need to consider who will be affected by the project. Patient selection criteria could include:

- Patients with uncontrolled hypertension who have a visit scheduled during the month of April.

3. What change can we make that will result in improvement?

Select an Evidence-Based Intervention:

✓ Collaborative Practice Agreement with a Pharmacist

Example Project Plan:

Patient selection criteria will include patients with uncontrolled hypertension and who are polypharmacy. Patients who meet this eligibility criteria and who are seen by the practice during the intervention period will be referred to the pharmacist for medication management. After assisting the patient based on the protocol and terms of the established CPA, the pharmacist will notify the practice, accordingly. Of the patients who visit the pharmacist, the practice will collect the patients' most recent blood pressure prior to the intervention period, as recorded in the EHR. The practice will collect a post-intervention blood pressure reading. This blood-pressure reading will be taken after the intervention period, at either the pharmacy or practice with no cost to the patient.

Kansas Healthcare COLLABORATIVE

Pharmacy: Collaborative Practice Agreements to Enable Collaborative Drug Therapy Management

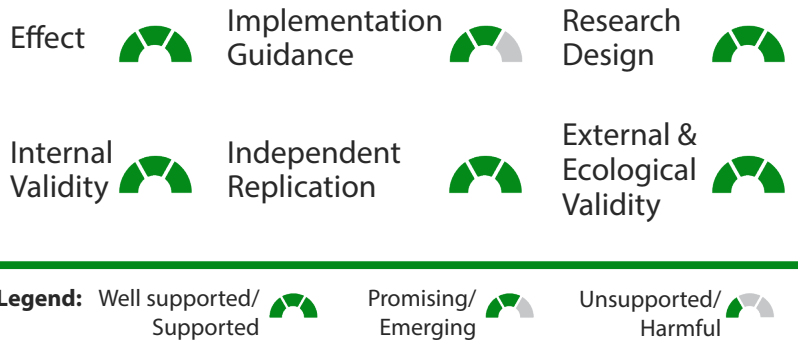
Collaborative drug therapy management (CDTM), also known as coordinated drug therapy management, involves developing a collaborative practice agreement (CPA) between one or more health care providers and pharmacists. A CPA allows qualified pharmacists working within the context of a defined protocol to assume professional responsibility for performing patient assessments, counseling, and referrals; ordering laboratory tests; administering drugs; and selecting, initiating, monitoring, continuing, and adjusting drug regimens.[1] The use of CDTM through a CPA is a strategy that can be considered to straddle both Domains 3 (health care system interventions) and 4 (community-clinical links).

Summary

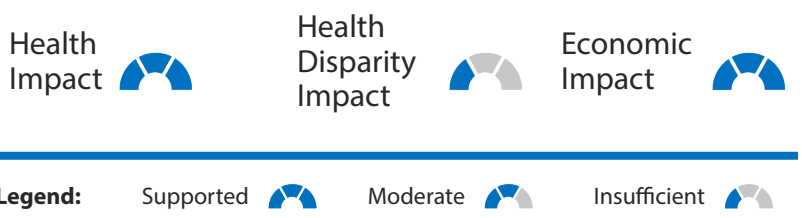
CDTM enabled by a CPA is a formal partnership between qualified pharmacists and prescribers to expand a pharmacist's scope of practice. CDTM is a cost-effective strategy for lowering blood pressure, blood sugar, and LDL cholesterol levels; improving treatment quality; and increasing medication adherence.

Stories From the Field:
El Rio Community Center (Pima County, Arizona).

Evidence of Effectiveness



Evidence of Impact



Evidence of Effectiveness

Strong evidence exists that CDTM enabled by a CPA is effective. Solid evidence exists that this strategy achieves desired outcomes, with studies demonstrating internal and external validity. This strategy has also been independently replicated, and systematic reviews assessing the use of CDTM have confirmed reliability of impact. Implementation guidance on CPAs to enable CDTM was found to be lacking in comprehensiveness.

Evidence of Impact

Health Impact

CDTM, enabled by CPAs between pharmacists and other health care providers, has been shown effective in improving clinical and behavioral health indicators, including lowering blood pressure, HbA1c, and LDL cholesterol levels; improving treatment quality through pharmacist compliance with clinical guidelines; and increasing patient knowledge and adherence to medication regimens.[2]

Health Disparity Impact

The goals of reaching populations at risk and reducing health disparities have been taken into account in the development and implementation of CPAs, particularly by pharmacy organizations (e.g., the American Pharmacists Association), state medical and pharmacy boards, and state pharmacy organizations. However, no studies have directly examined the impact of CPAs between pharmacists and providers serving low-income populations. Because pharmacists often work directly with the public in community settings, they are often considered the public's most accessible health care providers. CPAs can authorize pharmacists to make changes to a patient's medication or dosage, which can reduce the number of visits a patient has to make and lower costs, while also making it easier for patients to adhere to their medications.

Economic Impact

Research suggests that clinical pharmacy services like CDTM can be cost-saving to the health care system, primarily through avoided hospitalizations and emergency room (ER) visits.[3] For example, in 2006, Missouri's Pharmacy-Assisted CDTM program resulted in a 12% decrease in any-cause hospitalizations, a 25% reduction in ER visits, and a decrease in drug-related problems among beneficiaries after 1 year. This program was also found to have a 2.5 to 1 ROI to the state, with an estimated savings of $518.10 per patient per month.[3]

Strong evidence exists that CDTM enabled by a CPA is effective.

Stories from the Field
Collaborative Practice Agreements

CPAs at El Rio Community Center

El Rio Community Health Center serves over 75,000 people in Pima County, Arizona. In 2011, 20% of El Rio's adult patients (8,954 of 44,952) had diagnosed hypertension, but only 67% of those diagnosed had the condition under control. Pharmacists at El Rio were encouraged to establish CPAs with the center's medical providers. These agreements enable pharmacists to work directly with patients to help them manage their hypertension and other chronic conditions, such as diabetes and hyperlipidemia. Within the scope of the CPA, pharmacists have the discretion to change patient medications. After CDTM was implemented, El Rio reported improved clinical outcomes (e.g., lower cholesterol and blood pressure levels), increased use of recommended screenings, and reduced ER visits. The El Rio case study highlights several important considerations for CDTM implementation. These considerations include instilling mission-driven values through training and orientation, accepting pharmacy student interns, and using broad strategies and networks to improve patient care and increase potential partnerships that may extend the use of CPAs.

For more information:
Phone: 520-670-3909
Website: www.elrio.org

Community Pharmacists and Medication Therapy Management

Medication therapy management (MTM) is a distinct service or group of services provided by health care providers, including pharmacists, to ensure the best therapeutic outcomes for patients. MTM includes five core elements: medication therapy review, a personal medication record, a medication-related action plan, intervention or referral, and documentation and follow-up. Within the context of cardiovascular disease (CVD) prevention, MTM can include a broad range of services, often centering on (1) identifying uncontrolled hypertension (2) educating patients on CVD and medication therapies, and (3) advising patients on health behaviors and lifestyle modifications for better health outcomes. MTM is especially effective for patients with multiple chronic conditions, complex medication therapies, high prescription costs, and multiple prescribers. MTM can be performed by pharmacists with or without a collaborative practice agreement (CPA), and it is a strategy that can be considered to straddle both Domains 3 (health care system interventions) and 4 (community-clinical links).

Summary

MTM is care provided by pharmacists with the goal of ensuring the most effective use of drug therapy. It is a cost-effective strategy for increasing patient knowledge and medication adherence and lowering blood pressure.

Stories From the Field:
Ohio Department of Health.

Evidence of Effectiveness

Effect	Implementation Guidance	Research Design
Internal Validity	Independent Replication	External & Ecological Validity

Legend: Well supported/ Supported | Promising/ Emerging | Unsupported/ Harmful

Evidence of Impact

Health Impact	Health Disparity Impact	Economic Impact

Legend: Supported | Moderate | Insufficient

Evidence of Effectiveness

Strong evidence exists that the use of MTM by pharmacists is effective. Although the exact combination of MTM activities tends to vary between settings, studies examining MTM have generally found it to be effective and to have strong internal and external validity. MTM trials have been replicated in many different contexts with positive results. Implementation guidance on MTM is available from several sources, including the guidance provided under Medicare Part D.

Evidence of Impact

Health Impact

In 2015, the Agency for Healthcare Research and Quality (AHRQ) found the evidence behind MTM to be insufficient because of inconsistency in the operationalization of MTM across studies, but concluded that MTM can improve medication adherence.[1] MTM has been shown to be effective for lowering systolic and diastolic blood pressure; lowering LDL cholesterol and other health indicators (e.g., glycosylated A1C, HBA1c); increasing patient knowledge; improving patient quality of life and medication adherence; and improving the safe and effective use of medications, including reducing therapeutic duplication, decreasing total medications prescribed, and increasing adherence for therapeutic care.[2–8]

Health Disparity Impact

Expanding the pharmacist's role through MTM is likely to increase access to health care for populations facing the most barriers to care. However, few studies have examined the ability of MTM to reduce health disparities in CVD outcomes. Although some evidence exists that MTM can achieve positive outcomes among minority and low-income populations, the extent of this evidence is limited and inconsistent.[4,5] More research is needed to directly examine the effect of MTM on different populations.

Economic Impact

Studies have indicated that MTM can produce health care cost savings and a positive ROI for health care systems.[9–11] A study that examined the effect of providing MTM in a large health system for over 10 years found that the cost to providing MTM services was $76 per patient encounter, and the return on investment (ROI) that resulted from health care cost savings was $1.29 per $1 spent on MTM services over this period.[10]

Another study that evaluated the use of MTM by a self-insured employer reported an intervention cost of $145.61 per patient and a ROI to the payer of $1.67 per $1 of MTM costs over a 6-month period.[11] Despite early findings of potential economic benefits, recent meta-analyses and systematic reviews have identified a need for better cost-effectiveness data on expanded pharmacist care.[7,8]

Strong evidence exists that the use of MTM by pharmacists is effective.

Stories from the Field
Medication Therapy Management

MTM at Ohio Department of Health

In 2014, the Ohio Department of Health (ODH) teamed up with three Federally Qualified Health Centers (FQHC) sites to assess the effect of MTM counseling sessions on patients with hypertension. This effort involved collaboration among the Ohio State University College of Pharmacy, Ohio Pharmacists Association, Ohio Association of Community Health Centers, and the Health Services Advisory Group. These partners helped plan and develop the assessment. Pharmacists administered MTM to 5,000 patients with hypertension who were receiving care at one of the three FQHC sites. After 6 months, assessments found that hypertension control had increased to 68.6% among these patients. There were key components related to the project's achievement, which included maintaining relevant partnerships, implementing the pilot in one type of pharmacy setting, allowing FQHC sites to develop their own protocols for patient enrollment, using effective dissemination processes, and selecting data points that align with current pharmacy practices. Challenges included finding champions for the MTM model.

For more information:
Jen Rodis, Assistant Dean for Outreach and Engagement
Ohio State University College of Pharmacy
E-mail: rodis.2@osu.edu
Website: www.ohiochc.org

[Clinic Name] & [Pharmacy Name]

Sample Collaborative Practice Agreement

For

Collaborative Drug Therapy Management

[Clinic Name] & [Pharmacy Name]

Sample Collaborative Practice Agreement

For

Collaborative Drug Therapy Management

The Pharmacy Practice Act (KAR 68-7-22) allows pharmacists to enter a Collaborative Practice Agreement with individual physicians. Pharmacists may participate in the practice of managing and modifying drug therapy according to a signed, written agreement between the specific Pharmacist and the individual Physician(s) who is/are responsible for the patient's care and authorized to prescribe drugs.

By signing this document, both the named Physicians and the named Pharmacists agree to the Collaborative Drug Therapy Management (CDTM) Practice Agreement.

NOTE: EACH participating pharmacist and physician must sign this document.

Click here to enter text.
[PRINT PHARMACIST NAME and DEGREE]

[PHARMACIST SIGNATURE and DATE]

Click here to enter text.
[PHARMACY NAME]

Click here to enter text.
[CITY, STATE and ZIP]

Click here to enter text.
[PHONE NUMBER]

Click here to enter text.
[FAX NUMBER]

Click here to enter text.
[EMAIL]

Click here to enter text.
[PRINT PHYSICIAN NAME and DEGREE]

[PHYSICIAN SIGNATURE and DATE]

Click here to enter text.
[CLINIC NAME]

Click here to enter text.
[CITY, STATE and ZIP]

Click here to enter text.
[PHONE NUMBER]

Click here to enter text.
[FAX NUMBER]

Click here to enter text.
[EMAIL]

Should the Pharmacist need to discuss any urgent issues with the referring Physician and is unable to reach the referring Physician, the Pharmacist should call

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DATE OF LAST SIGNATURE: [INSERT DATE]

KAR 68 – 7 – 22 REQUIRES CPA REVIEWS TO BE COMPLETED AT LEAST EVERY TWO (2) YEARS

[Clinic Name] & [Pharmacy Name]

Sample Collaborative Practice Agreement

For

Collaborative Drug Therapy Management

Purpose

The management of chronic disease is most effective in a team-based atmosphere with health care professionals working to the full extent of their education, training, and licensure. Care becomes more patient-centered and access improves when pharmacists are empowered to utilize their knowledge as drug therapy specialists to manage the predictable elements of chronic disease management.

Our Mission

[Insert Text]
[Insert Text]
[Insert Text]

Identification and Referral of Patients

Patients who could benefit from CDTM will be identified in a variety of ways, including but not limited to:

- [Insert Text]
- [Insert Text]
- [Insert Text]

In instances when the signing Physician is not the immediate referring provider, the signing Physician will be notified of the referral to the Pharmacist.

Communication by the Provider

The referring Physician is the responsible provider for the patient. If a patient who could benefit from CDTM is identified, the referring Physician or referring Physicians office will [Insert Text]

Communication by the Pharmacist

The Pharmacist will work collaboratively with the Physician (in addition to their extender where appropriate) and will maintain effective communication regarding patient care by:

- Initiating communication with the Physician within 48 hours of making a drug therapy change or if there is a change in the patient's health condition via phone call to the Physician's practice
- Referring patients for a follow-up visit with the Physician as necessary (at least yearly)
- Discussing urgent issues with the referring Physician in person or via phone. When the patient's Physician is unavailable in urgent situations, the Pharmacist will notify the on call Physician for the practice and provide a follow up phone call to the patient's Physician during the next business day.
- Calling 911 in emergency situations, then notifying the referring Physician

Documentation of CDTM

The pharmacist will document CDTM encounters with the patient, including any changes in the patient's condition and CDTM decisions by:

- [Insert Text]

Pharmacist Scope of Practice
The pharmacist is authorized to perform any of the following activities for patients referred to the pharmacist's service:

- ❑ [Suggestion Only] Review patient charts to assess current medical conditions and medication therapy.
- ❑ [Suggestion Only] Interview patients and/or patient caregivers to obtain information necessary to assess patients' need for, response to and compliance with medication therapy.
- ❑ [Suggestion Only] Perform limited physical assessments (such as a diabetic foot exam) and point-of-care testing as deemed necessary to assess patient response to medication therapy.
- ❑ [Suggestion Only] Order appropriate laboratory tests to aid in monitoring medication therapy.
- ❑ [Suggestion Only] Evaluate patients' medication regimens based on efficacy, safety, tolerability, drug interactions, cost, patient preference and professionally recognized clinical guidelines.
- ❑ [Suggestion Only] Initiate, discontinue, or adjust doses of medications as clinically indicated based on professionally recognized clinical guidelines and patient-specific factors.
- ❑ [Suggestion Only] Verbally or electronically order or renew prescriptions for patients being monitored by the pharmacist based on the chronic disease management protocols, professionally recognized clinical guidelines, and patient-specific factors.
- ❑ [Suggestion Only] Provide patient education regarding disease states, self monitoring, and medication therapy.
- ❑ [Suggestion Only] Order and/or administer immunizations based on professionally recognized clinical guidelines and patient-specific factors.
- ❑ [Suggestion Only] Document patient encounters in the electronic medical record.
- ❑ [Suggestion Only] Maintain close communication with patient's primary care Physician, acting at all times as an additional expert member of the patient's care team and an agent of the physician.

Billing
When the pharmacist sees the patient, a non E/M code can be billed according to usual pharmacy practice.

Quality Improvement
This practice agreement will be reviewed yearly by the Physicians and Pharmacists yearly, and revised as needed. Additionally, a copy of this document must be submitted to the Kansas Board of Pharmacy within 5 business days of re/approval by all parties.

[Clinic Name] in partnership with **[Pharmacy Name]**
Blood Pressure Management Program
Sample Protocol

[Clinic Name] in partnership with **[Pharmacy Name]** **Blood Pressure Management Program Sample Protocol**

Purpose/Background

In a recent NHLBI-funded study, the physician-pharmacist collaborative intervention achieved blood pressure control in 89% of patients with hypertension, including 82% among patients with diabetes[1]. The major reason the intervention has been so effective is because it overcomes clinical inertia, sub-optimal regimens and poor medication adherence.

The intent of this current CDTM Practice Agreement is to have teams of physicians and community-based pharmacists use a similar approach. This protocol will establish a collaborative practice arrangement and standardize the counseling for blood pressure management between provider and pharmacist. The following protocol regarding blood pressure management will provide a detailed description of the type and extent of services the pharmacist will provide. This will ensure that each patient referred to the pharmacist for blood pressure control will receive a pre-established standard of care.

Guidelines for Referral

When a physician has a patient who has a blood pressure that is not at goal, the physician can refer the patient to the pharmacist for counseling. The patient will make an appointment to meet with the pharmacist at a later time and/or date. Depending on the schedule of the pharmacist and the patient, the pharmacist may see the patient on the same day. If there are any doubts about an ongoing relationship, this must be confirmed by the pharmacist.

Visit Protocol

The clinical pharmacist will:

1. Interview the patient, noting the patient's past and current medications (including any complementary/alternative agents), and the medical record to determine the patient's history of hypertension (HTN), their past medical history, and allergies.

2. Assess the patient's:
   - ❑ Individual health goals and level of motivation and ability to implement changes
   - ❑ Any barriers for communicating, retaining, or understanding information, including patient's health literacy level
   - ❑ Adherence to medications
     - Identify causes for nonadherence
     - Address and resolve issues
3. Review risk stratification for blood pressure patient's goals based on the provider's instruction or the following goals[1]:

Patient Characteristics	Blood Pressure Goal
• < 60 years old • Diabetes Mellitus • Chronic Kidney Disease	<140/<90 mmHg
• > 60 years old	<150/<90 mmHg

4. Evaluate for the presence of adverse effects from medications
    - ❑ Adverse effects from antihypertensive regimen
    - ❑ Drugs that may elevate blood pressure

5. Assess blood pressure and pulse
    - ❑ Using proper technique based on AHA recommendations[2]
    - ❑ Assess orthostatic blood pressures if orthostasis is suspected.

6. Review any need for laboratory tests and order additional tests or other related assessments as needed
    - ❑ Baseline renal function and serum potassium levels prior to starting ACEIs, ARBs, or diuretics. Then repeated within 1-4 weeks after initiation of these medications and annually once at goal.
    - ❑ 48-hour ambulatory blood pressure monitoring. If this is to be used, instruction on its use should be provided.

7. Discuss adoption of pertinent social, dietary, and exercise habits
    - ❑ DASH diet
    - ❑ Alcohol and smoking
    - ❑ Weight management
    - ❑ Stress reduction techniques

8. Immediately notify the referring provider, supervising physician, or transfer to the ER as appropriate in the event of any potentially serious or life-threatening hypertension-related complications are present. Possible scenarios included but are not limited to the following:
    - ❑ SBP >180 and/or DBP >120
    - ❑ New onset or increasing chest pain
    - ❑ Symptoms of cerebral infarct or thrombosis
    - ❑ Mental status changes
    - ❑ Acute decrease in renal function
    - ❑ New cardiac arrhythmias
    - ❑ Pulse >120 bpm
    - ❑ Potassium >5.9 mmol/l

9. Follow algorithm for antihypertensive adjustment every 1-4 weeks[2,3]. See Appendix A.
10. Refill antihypertensive medications as appropriate.

11. The pharmacist will refer the patient back to provider once blood pressure stabilizes and remains at goal for 6 months. In the event the pharmacist suspects resistant HTN, the patient will be referred back to the physician.
    - ❑ Resistant hypertension is defined as blood pressure that remains elevated above goal despite optimal 3 drug treatment regimen. Potential causes include non-adherence to medications and secondary causes of hypertension (ie renal dysfunction)[2].

12. Ensure that the patient sees the collaborating provider at least annually, or more frequently as warranted.

Documentation

Documentation will follow the guidelines set forth in the Collaborative Practice Agreement, as agreed to by both the provider and pharmacist.

Communication

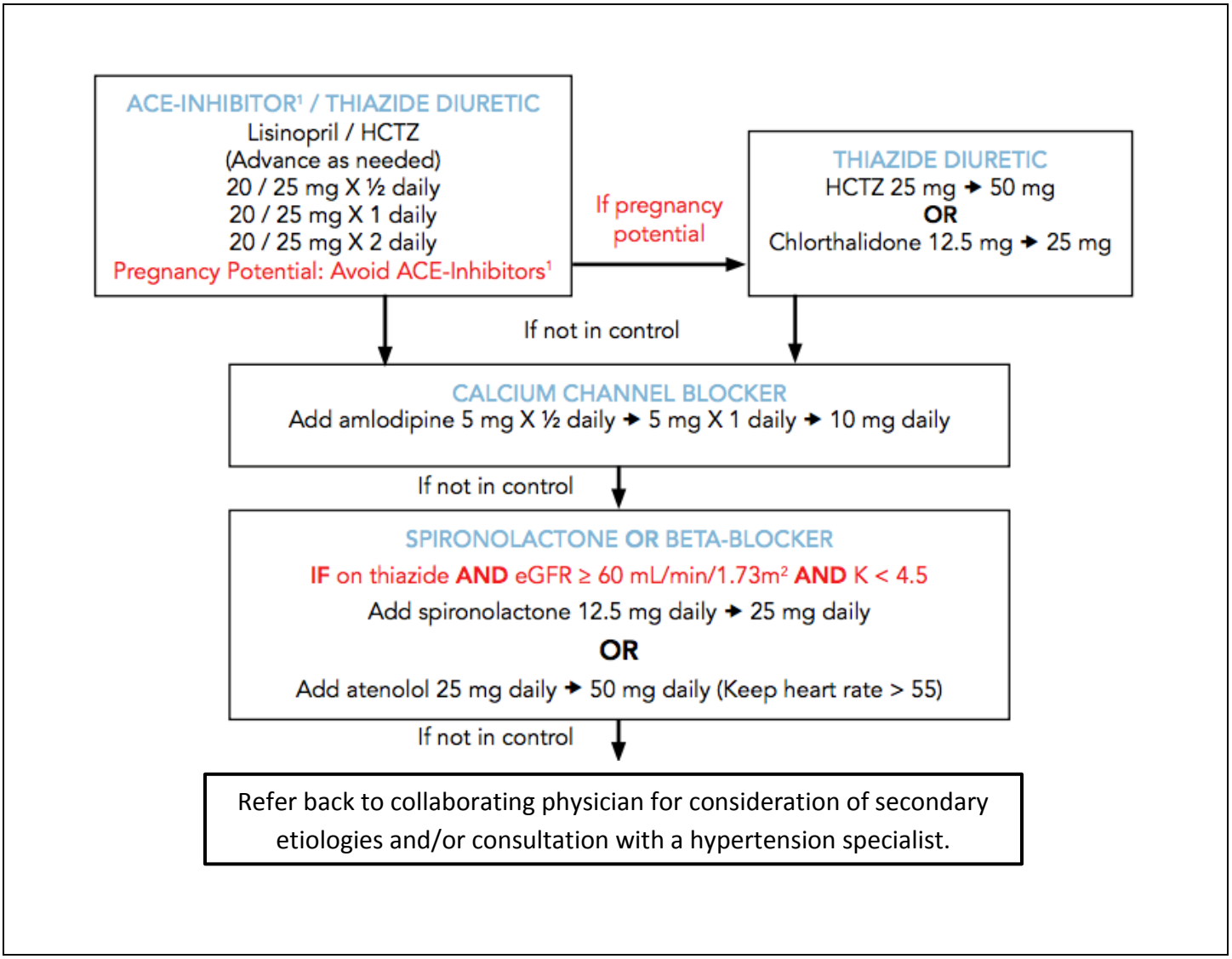
Billing

When the pharmacist sees the patient, a non E/M code could be billed according to usual pharmacy practice. Blood pressure management follow-ups by the provider will be billed according to usual medical clinic billing practices.

References

1. Evidence-Based Guideline for the Management of High Blood Pressure in Adults: Report From the Panel Members Appointed to the Eighth Joint National Committee (JNC 8). James PA, Oparil S, Carter BL, et al. 2014. *JAMA.* 2014;311(5):507-520. doi:10.1001/jama.2013.284427.
2. Resistant Hypertension: Diagnosis, Evaluation, and Treatment.
David A. Calhoun, Daniel Jones, Stephen Textor, David C. Goff, Timothy P. Murphy, Robert D. Toto, Anthony White, William C. Cushman, William White, Domenic Sica, Keith Ferdinand, Thomas D. Giles, Bonita Falkner and Robert M. Carey. *Circulation*. 2008;117:e510-e526June 23, 2008.
http://dx.doi.org/10.1161/CIRCULATIONAHA.108.189141
3. American Heart Association suggested this Example Algorithm. Review as needed. Source: http://hyper.ahajournals.org/content/suppl/2013/11/12/HYP.0000000000000003.DC1/Example_Algorithm_for_Hypertension_Treatment.pdf

Appendix A



Appendix A, con't:

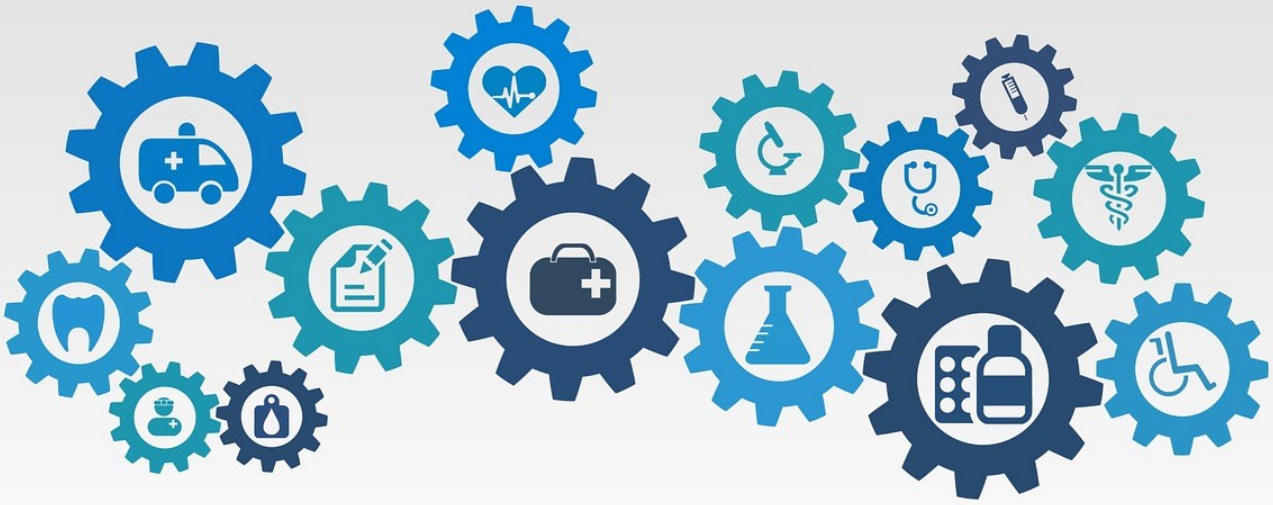
RECOMMENDATIONS FOR PATIENTS WITH ACE-I INTOLERANCE:

1. HCTZ 25 mg, then 50 mg to achieve BP goal.
2. Add losartan 25 mg, then 50 mg, then 100 mg to achieve BP goal.
3. Add amlodopine 2.5 mg, then 5 mg, then 10 mg to achieve BP goal.

Table 2: Dosage Range for Selected Antihypertensive Medications[1]

DRUG CLASS	GENERIC (OTHER NAMES)	USUAL DOSAGE RANGE
ACE-I-THIAZIDE COMBINATION PILL	Lisinopril/HCTZ (Prinzide®)	10/12.5 mg daily 20/25 mg twice daily
THIAZIDE-TYPE DIURETICS	Hydrochlorothiazide [HCTZ], (Esidrix®)	25 - 50 mg daily
THIAZIDE-TYPE DIURETICS	Chlorthalidone (Hygroton®)	12.5 - 25 mg daily
THIAZIDE-TYPE DIURETICS	Indapamide (Lozol®)	1.25 - 2.5 mg daily
ACE INHIBITORS (ACE-I)	Lisinopril (Zestril, Prinvil®)	10 - 40 mg daily
ACE INHIBITORS (ACE-I)	Captopril (Capoten®)	25 - 50 mg twice daily
ACE INHIBITORS (ACE-I)	Benazepril (Lotensin®)	10 - 40 mg daily
ANGIOTENSIN II RECEPTOR BLOCKER (ARB)	Losartan (Cozaar®)	25 - 100 mg daily
LONG-ACTING DIHYDROPYRIDINE CALCIUM CHANNEL BLOCKERS (CCB)	Amlodopine (Norvasc®)	2.5 - 10 mg daily
LONG-ACTING DIHYDROPYRIDINE CALCIUM CHANNEL BLOCKERS (CCB)	Nifedipine ER (Procardia XL®)	30 - 90 mg daily
LONG-ACTING DIHYDROPYRIDINE CALCIUM CHANNEL BLOCKERS (CCB)	Felodipine ER (Plendil®)	2.5 - 20 mg daily
ALDOSTERONE RECEPTOR BLOCKER	Spironolactone (Aldactone)	12.5 - 25 mg daily
BETA-BLOCKERS (BB)	Atenolol (Tenormin®)	25 - 100 mg total, taken once or twice daily
BETA-BLOCKERS (BB)	Metoprolol (Lopressor®)	25 - 100 mg BID
BETA-BLOCKERS (BB)	Carvedilol (Coreg®)	3.125 - 25 mg BID
BETA-BLOCKERS (BB)	Metoprolol ER (Toprol XL®)	50 - 100 mg daily
ACE-I-THIAZIDE COMBINATION PILL	Spironolactone/HCTZ (Aldactazide®)	25 / 25 mg daily
ALPHA BLOCKERS	Terazosin (Hytrin®)	1 - 20 mg daily
ALPHA BLOCKERS	Doxazosin (Cardura®)	1 - 16 mg daily
ALPHA BLOCKERS	Prazosin (Minipress®)	1 - 10 mg BID
DIRECT VASODILATORS	Hydralazine (Apresoline®)	25 - 100 mg BID
DIRECT VASODILATORS	Minoxidil (Loniten®)	2.5 mg daily - 20 mg BID
ALPHA-2 AGONISTS	Clonidine (Catapres®)	0.1 mg HS - 0.4 mg BID
PERIPHERAL ADRENERGIC INHIBITOR	Reserpine (Serpalan®)	0.05 - 0.1 mg daily

Utilizing Team-Based Care to Improve Hypertension and Diabetes Outcomes



Team-based care[1-5] is an evidence-based model that combines the expertise of the patient and the patient's primary care provider, as well as other members of the care team such as nurses, pharmacists, dietitians, social workers, and community health workers. Team members augment the activities of the primary care provider by providing support and sharing responsibility for tasks in hypertension and diabetes care, such as:

- Medication management
- Patient education and follow-up
- Maintaining adherence to the patient's blood pressure control or diabetes management plan
- Reminding patients to take medications as prescribed
- Monitoring patients' blood pressure or blood glucose levels
- Connecting patients to community resources for self-monitoring and self-management programs
- Providing dietary counseling
- Working with patients to increase the level of physical activity

Helpful Tip:

Generating Support From the Team:

"Strong support from a project champion high in the organization is critical. Ensuring that everyone who will be impacted by the change has an opportunity to shape the change increases the chance of success."[2]

Team-Based Care saves money for your practice[2].

AMA's Steps*forward* Online module for Implementing Team-Based Care provides a Cost Calculator: https://www.stepsforward.org/modules/team-based-care

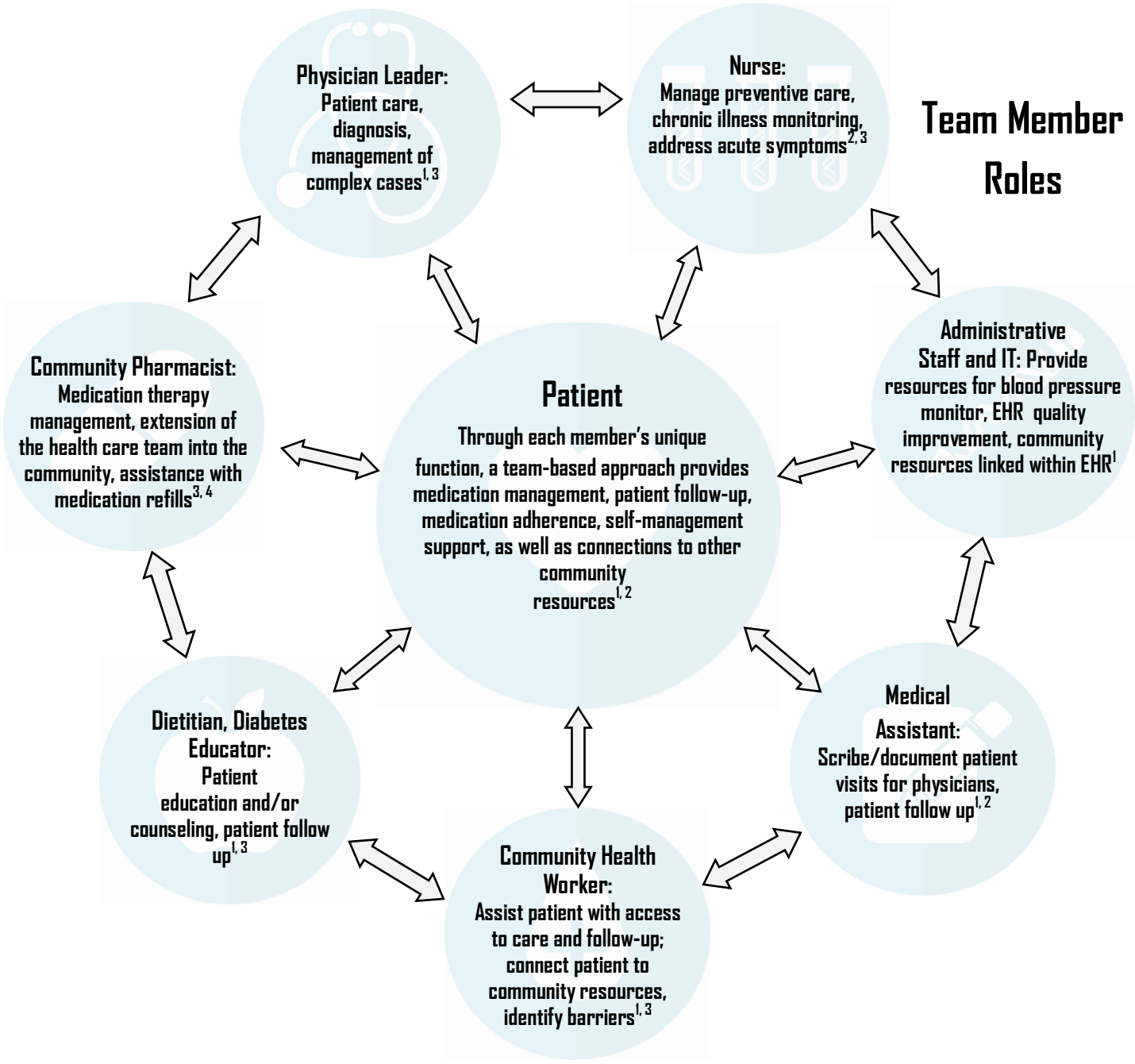
Kansas Department of Health and Environment

Outcomes of Team-Based Care Implementation[1-3, 5]

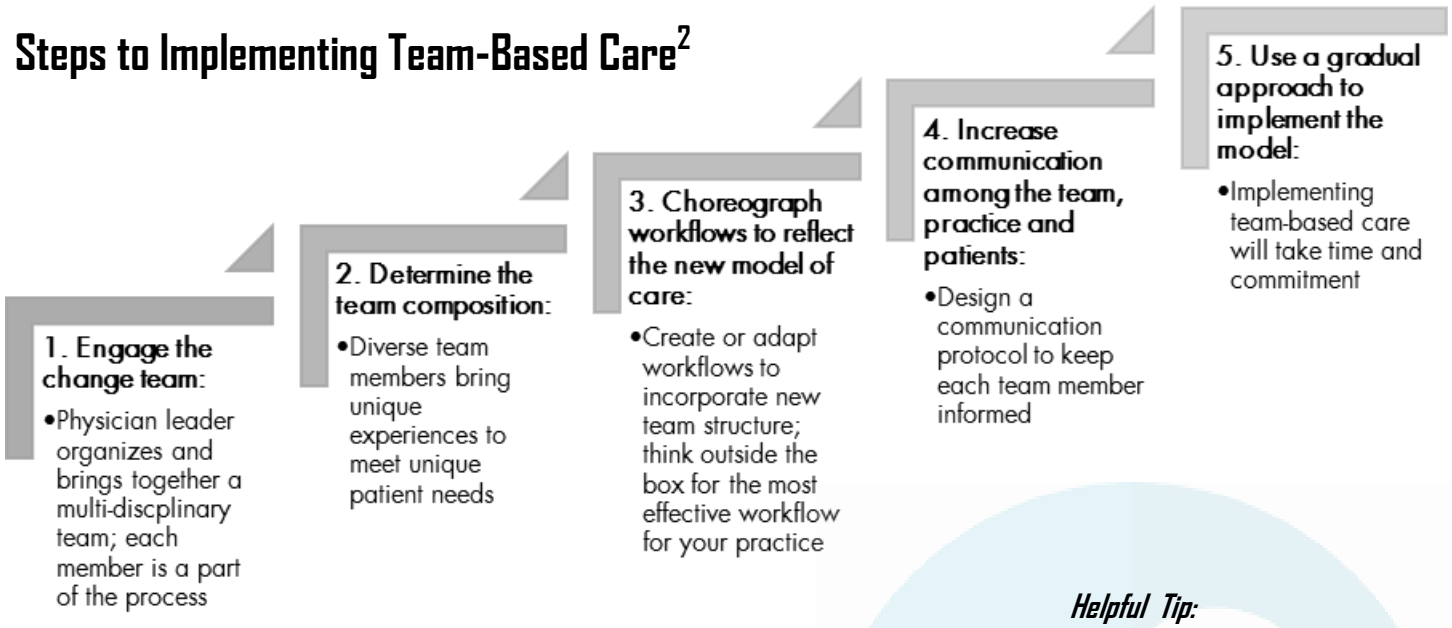
- Increased provider and staff job satisfaction
- Increased number of patients seen
- Increased cost-effectiveness of care
- Improved blood pressure and glucose levels
- Patients linked to community resources for chronic disease support
- Improved outcomes for other chronic conditions
- Increased patient satisfaction

Integrated, comprehensive care benefits everyone involved—patients, health care providers, and the community.[3]

Team Member Roles



Steps to Implementing Team-Based Care[2]



Helpful Tip:

Engage Community Pharmacists:

"Public health initiatives that promote efforts to engage pharmacists as members of the health care team can result in significant improvements in the treatment of diabetes, better control of high blood pressure, improved management of cholesterol, and reduced overall health care costs."[4]

References:

1. American Medical Association. Models of physician-led team-based care. 2015. https://www.ama-assn.org/sites/default/files/media-browser/public/cms/team-based-models_0.pdf. Accessed June 30, 2017.

2. American Medical Association. Steps Forward: Implementing team-based care to increase practice efficiency. 2015. https://www.stepsforward.org/modules/team-based-care. Accessed June 30, 2017.

3. The Centers for Disease Control and Prevention. Working Together to Manage Diabetes: A Guide for Pharmacy, Podiatry, Optometry, and Dentistry:12-17. January 2014. https://www.cdc.gov/diabetes/ndep/pdfs/ppod-guide.pdf. Accessed June 30, 2017.

4. National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention. Emerging practices in diabetes prevention and control: working with pharmacists. 2015. https://www.cdc.gov/diabetes/pdfs/programs/stateandlocal/emerging_practices-work_with_pharmacists.pdf. Accessed June 30, 2017.

5. Schottenfeld L, Petersen D, Peikes D, Ricciardi R, Burak H, McNellis R, Genevro J. Creating Patient-Centered Team Based Primary Care. AHRQ Pub. No. 16-0002-EF. Rockville, MD: Agency for Healthcare Research and Quality. March 2016. https://pcmh.ahrq.gov/page/creating-patient-centered-team-based-primary-care. Accessed June 30, 2017.

For additional information, please contact Bureau of Health Promotion at (785) 291-3742. Funding was provided by cooperative agreement GNU58DP004808-04-08 from the Centers for Disease Control and Prevention (CDC). Contents are solely the responsibility of the authors and do not necessarily reflect the official reviews of the CDC.

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