Collaborative Drug Therapy Management:

[Hypertension] Protocol and Order Set

# Collaborative Agreement

Under this agreement, a licensed pharmacist in compliance with Louisiana Board of Pharmacy Title 46, Part LIII, Section 523 and Louisiana Board of Medical Examiners definition of Collaborative Drug Therapy Management (CDTM) may initiate, implement, alter, and monitor a therapeutic drug plan intended to manage [hypertension] therapy. Services offered by the pharmacist may include education on disease state and lifestyle modification, in addition to the drug therapy services listed above. Written and audio/visual educational materials and patient-specific information may be provided to improve quality of care.

Collaborating Physician

[Doctor Full Name and Credentials]

[Physician Type/Title]

License Number: [LBME Physician License Number]

CDTM Number: [LBME Physician CDTM Number]

Telephone Number: [Phone Number]

Email Address: [Email Address]

Emergency Contact Information: [Emergency Contact Phone or Email]

Pharmacist

[Pharmacist Full Name and Credentials]

License Number: [LaBP Pharmacist License Number]

CDTM Number: [LaBP Pharmacist CDTM Number]

Contact Number: [Phone Number]

Contact Email: [Email Address]

Emergency Contact Number: [Emergency Contact Phone or Email]

*[Beyond this point is a modified version of an actual CDTM agreement with annotations in grey italics. All language should be edited by the pharmacist/physician pair as needed.]*

This pharmacist has completed an accredited pharmacy practice residency and has experience with managing patients in cardiology services. He has practiced pharmacy for 15 years and has managed patients for hypertension, heart failure, diabetes, and smoking cessation for the past 5 years.

*[Remember, rules require you to justify the pharmacist’s qualifications.]*

# Eligible Patients

Patients whose antihypertensive therapy is managed under this agreement must have a diagnosis of elevated blood pressure or hypertension as documented in the patient record and have established care with the collaborating physician. The patient will be seen by the physician per their discretion or the recommendation of the pharmacist.

All decisions made by the pharmacist regarding the patient’s drug therapy management will be recorded in the electronic medical record (EMR) and are readily available for physician review. All issues outside the scope of antihypertensive therapy or another CDTM agreement will be referred to the collaborating physician.

*[The statement about recording decisions in the EMR satisfies the requirement to report on the patient’s status to the collaborating physician. You should still write and keep progress notes, but if you do not have a shared EMR, you need some other way of communicating status to the physician, such as faxing notes. If the collaborating physician is a specialist, such as a cardiologist, you should also consider sending notes to the patient’s primary provider.]*

# Medications in CDTM

This CDTM practice involves the management of patients who are receiving antihypertensive therapy, such as: thiazide-like diuretics, angiotensin-converting enzyme inhibitors (ACE-I), angiotensin receptor blockers (ARB), calcium channel blockers (CCB), beta-blockers, loop diuretics, potassium-sparing diuretics, aldosterone antagonists, direct renin inhibitors, alpha-1 receptor blockers, central alpha-2 agonists, direct arterial vasodilators, and peripheral adrenergic antagonists, or those patients in which hypertension is controlled by lifestyle modification alone.

*[The protocol must list what medications may be used. This example is overkill; I would not recommend some of these agents for routine management of hypertension.]*

# Clinical Procedure

*[There are two parts to this section: the first is how patients will be enrolled in CDTM, the second is what they will experience in the CDTM service. I am not providing an example for the first part, but you will need to consider how will patients be referred to the service: How will they learn that a service exists? What steps will the collaborating physician take to make the referral? If you have a shared EMR, this can be done with an order set. Otherwise, there needs to be some sort of closed-loop communication to make sure that the order set is properly received, and the first visit set up.]*

The following management plan will be utilized as the order set for CDTM:

1. Pharmacist will instruct in proper home blood pressure monitoring (HBPM) technique. Patient will obtain blood pressures at a frequency determined by the pharmacist.
2. The pharmacist will schedule follow-up appointments by telecommunications or in-person. Follow-up intervals will be decided based on AAP guidelines.
3. Pharmacist will evaluate the change in blood pressure, if any, from previous measurements performed on the same cuff and arm. The pharmacist will determine and document contributing factors for blood pressure change.
4. The pharmacist will review the patient’s initial drug therapy regimen with the patient to ensure understanding and compliance.
5. The pharmacist will identify target blood pressure based on age and comorbidities.
6. The pharmacist will optimize the patient’s antihypertensive medications based on sections 7 and 8 in the AAP guideline which indicates that medication up-titrations are recommended at 2-4 week intervals until the blood pressure goal is achieved. The pharmacist will continue to monitor blood pressure and make adjustments to hypertension medications in order to achieve optimal blood pressure, manage adverse drug reactions, and meet patient’s goals related to their therapy. Pharmacist management of medications may include initiation, termination, substitution, or adjustment of any antihypertensive medication listed above.
7. The pharmacist may order follow-up laboratory or other studies when adding or changing medications as appropriate for chosen drug therapy’s therapeutic drug monitoring (TDM) (example: ordering a basic metabolic panel to check serum creatinine and potassium in a patient receiving an ACE-inhibitor).
8. Pharmacist will discuss the case with the collaborating physician if blood pressure goals cannot be achieved using the noted algorithm.
9. The pharmacist will notify the collaborating physician with specific problems or refer the patient to a visit with the collaborating physician if deemed necessary.
10. The pharmacist will document antihypertensive therapy changes, interventions, therapeutic drug monitoring, and outcomes in the EMR. *[Remember to add a method of communicating this to the physician if you do not have a shared EMR.]*
11. The pharmacist will provide patient ongoing education and reinforcement regarding hypertension management, medications, and lifestyle modifications.
12. For the purposes of this policy, AAP guidelines will refer to the most recent AAP clinical guidelines for the management of hypertension and elevated blood pressure in pediatrics. The current AAP guideline is cited below. *[This is from my example. Please use current AHA/ACC guidelines for adult hypertension.]*

# Laboratory Studies

The pharmacist will be authorized to order and evaluate laboratory and other studies directly related to the disease-specific drug therapy being managed. The pharmacist will also be authorized to order additional specific laboratory studies based on the patient’s clinical presentation or description. The pharmacist may also review other data available in the patient record which may be necessary for the evaluation and assessment of the impact on antihypertensive therapy (drug interactions, disease interactions, etc.).

# Documentation

Documentation of patient encounters and laboratory results will be permanently placed in the EMR. This documentation will include vital signs, laboratory values, medication changes, identification and assessment of adverse events related to therapy, antihypertensive medication dose adjustments, therapeutic management plan, follow-up, and any other information given to the patient during the visit.

# Quality Assurance

Quality assurance will be carried out through quarterly reports tracking the following statistics:

1. Percent of patients requiring a change to antihypertensive medications in the outpatient setting;
2. Number of unplanned health care encounters (hospitalizations, emergency department visits, extra unplanned physician appointments, etc.) due to hypertensive urgency or emergency, hypotension, or medication side effects.

Patient-specific quality indicators will be identified through quarterly review of the following:

1. Average change in blood pressure after dose adjustment by the hypertension pharmacist;
2. Adherence to antihypertensive medication prescriptions.

A random sample of patient records will be reviewed by the collaborating physician quarterly to ensure adherence to the collaborative practice agreement, and select patient cases will be reviewed by the pharmacist and collaborating physician once quarterly by phone or in person.

*[You must also have a plan to assess your performance and report it to the collaborating physician. In this example, the main quality assurance measures were the number of patients who achieved at-goal blood pressure and the incidence of adverse drug reactions. This is a requirement, and it is important to make sure that you can measure your outcomes and that they are meaningful (a physician or review board would be satisfied that you are taking steps to make sure your therapy is safe and efficacious). The biggest point is that you must adhere to the QA plan you impose on yourself in this part of the document.]*

Child, adolescent, or young adult with elevated blood pressure or hypertension

Implement lifestyle interventions (continue throughout management)

Determine blood pressure goal and initiate drug therapy based on age, gender, height, and comorbid conditions

CKD, Proteinuria, or Diabetes

Contraindications to ACEi or ARB\*

Initial Therapy: ACEi or ARB

Initial Therapy: Thiazide, LACCB

Initial Therapy: ACEi or ARB, Thiazide, LACCB

Dose Strategy:

Choose initial medication based on comorbidities and contraindications

Titrate every 2-4 weeks until controlled

Add second or third agent if dose maximized

At goal blood pressure?

Maximize first-line agents as described in Dose Strategy:

ACEi or ARB, Thiazide, LACCB

At goal blood pressure?

Consult with Physician:

Consider adding AA or other agent

Titrate as described in Dose Strategy

At goal blood pressure?

Continue to monitor and follow-up every 3-4 months

KEY ACRONYMS

CKD: Chronic Kidney Disease

ACEi: Angiotensin Converting Enzyme inhibitor

ARB: Angiotensin Receptor Blocker

Thiazide: Thiazide-like diuretic

LACCB: Long-Acting Calcium Channel Blocker

AA: Aldosterone Antagonist

Yes

No

Yes

No

No

No

No

Yes

Yes

Yes

\*Contraindications to ACE-inhibitors include pregnancy, angioedema, and coadministration with aliskiren or a neprilysin inhibitor.

# Reference

Flynn JT, Kaelber DC, Baker-Smith CM, et al. Clinical practice guideline for screening and management of high blood pressure in children and adolescents. Pediatrics. 2017; 140(3).