

Diabetes Playbook

Introduction

Welcome to the Legacy Health Partners Diabetes Playbook. It is well established that evidence-based, team-based, patient-centered quality improvement interventions can dramatically improve patient outcomes, increase patient satisfaction, and reduce health care costs. We hope your practice can draw inspiration from the recommendations and tools offered here to improve care for your patients with diabetes.

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Diabetes Driver diagram

Aim	Drivers	Specific interventions to test
Improve HbA1c up-to-date testing rate to _____ %	Use of EHR to manage population of diabetes patients	Use of diabetes registry within EHR to identify patients with labs upcoming/due/past due.
		Use portal for automated recall notices for upcoming services.
		Use just-in-time reminder system (decision support) to identify services upcoming/due/past due regardless of reason for patient visit.
	Standardized lab protocol (appendix A)	Evidence-based standing order for routine diabetes lab testing frequency. Relying on withholding refills on pharmaceuticals until labs are complete may inadvertently worsen outcomes.
		Train phlebotomy/MA staff to recognize diabetes patients and complete labs due.
		Point-of-care (POC) testing at time of visit.
Activated patient	Use diabetes action plan (Appendix B).	
Improve HbA1c control < 9% to _____ %	Medication management	Use evidence-based approaches for oral medications and insulin (Appendix C).
		Make available a list of resources to assist with cost of prescription medications, e.g., needymeds.org/pap or goodrx.com.
		Use pharmacist for medication therapy management (MTM) or refer to a Legacy pharmacy clinic.
		Verify medication compliance at each visit (Appendix D).
	Activated patient	Materials/referrals promoting healthy lifestyle choices (physical activity, healthy eating, tobacco cessation, effective coping).
	Refer to Legacy Care Support Resources (CSR).	
	Clinician/staff education	Train MAs/nursing staff in effective assessment of medication compliance (edhub.ama-assn.org/steps-forward/module/2702595).
Improve diabetes eye exam rate to _____ %	Access	Onsite retinal camera.
		Schedule external exam prior to patient leaving appointment.
		Electronic referral to limited network of optometrist/ophthalmologists.
		Bidirectional communication agreements with local optometrist/ophthalmologists.
	Staff education	Educate MAs about diabetic retinopathy.

table continues

Aim	Drivers	Specific interventions to test
Improve diabetes foot exam rate to _____ %	Staff education	MA training/competency for foot exams.
	Standardized workflow	MA responsibility to complete annual foot exam (Appendix E).
	Activated patient	Exam room posters to encourage removing shoes and socks.
Improve nephropathy screening (microalbumin) rate to _____ %	Standardize lab protocol	<p>Evidence-based standing order for routine diabetes lab testing frequency. Relying on withholding refills on pharmaceuticals until labs are complete may inadvertently worsen outcomes.</p> <p>Collect a urine sample during the visit to send for microalbumin.</p>

Note to practices regarding health disparities

Consider the cultural/linguistical needs when determining what tools and referrals to offer patients, including diet considerations. Provide professional translation and interpreter services as appropriate and consider community partnerships with culturally specific organizations if necessary.

Consider social determinants of health that may interfere with a patient’s ability to navigate the health care system or to comply with recommendations. Screening for and providing resources to those experiencing food insecurity, housing insecurity, financial barriers, transportation challenges, literacy deficits, etc., could lead to improved patient outcomes.

Quality improvement strategy

Adapted from Institute for Healthcare Improvement (ihi.org).

This workbook is a set of tools that may be useful in defining your practice's quality improvement goals and helping guide your efforts.

An interactive quality improvement diagram appears on page 6.

Determine your improvement team — It is unlikely one person in your practice has a complete understanding of what is necessary to drive your chosen improvement. Select team members who are familiar with different aspects of the system under review. It's a good idea to appoint a clinical "champion" who will help to keep the project moving forward. Determine how often your team will meet, formally and informally, and how they will keep the rest of your practice apprised of their efforts.

Choose your project aim:

- What will be improved?
- By how much?
- For whom?
- By when?
- How will we know when we've met it?

Identify primary drivers (2–5) — These are areas and processes that have the most influence on the aim you've selected.

Identify secondary drivers, if applicable — This is a more specific breakdown of each of your primary drivers.

Brainstorm change ideas — For each secondary driver, identify specific ideas to test.

Once you've identified change ideas, select one or two to test using the Plan-Do-Study-Act (PDSA) cycle. The PDSA cycle allows you to rapidly test small changes, study the results, quickly make adjustments and scale as appropriate. It also allows you to discard changes that aren't a good fit for your practice without the concern of having made a large upfront investment of time and resources.

Plan — Start small, perhaps testing one workflow change for one clinician over just a few days.

- What question are you trying to answer?
- Who will test?
- What will they test?
- When will they test?
- Where will they test?
- How will data be collected?

Do — Carry out the test as described in the planning stage.

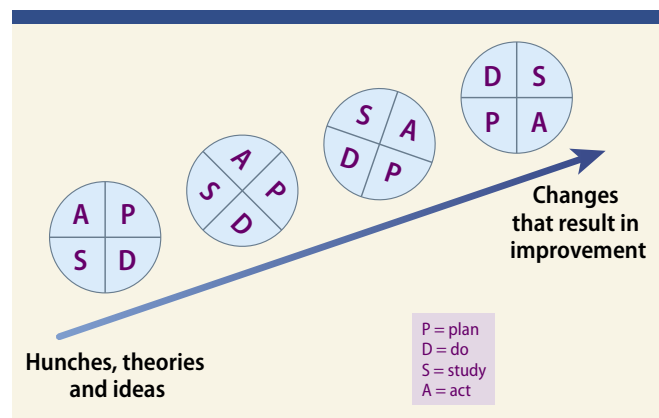
- Document any obstacles or surprises encountered.
- Collect the data for analyzing.

Study — As a team, review the outcomes of the test.

- Did the outcome match what the team had predicted?
- Summarize the results and your reflections.

Act — Based on what you've learned, prepare for the next cycle.

- Will you adapt the plan and re-test?
- Will you adopt the plan and spread?
- Will you abandon the plan and test a new change?



What to implement

Unsure which changes to implement? The Institute for Healthcare Improvement (IHI) lists the following change concepts to get you started:

Eliminate waste

Look for ways of eliminating any activity or resource in the organization that does not add value to a patient.

Improve work flow

Improving the flow of work in processes is an important way to improve the quality of the goods and services produced by those processes.

Optimize inventory

Inventory of all types is a possible source of waste in organizations; understanding where inventory is stored in a system is the first step in finding opportunities for improvement.

Change the work environment

Changing the work environment itself can be a high-leverage opportunity for making all other process changes more effective.

Producer/customer/patient interface

To benefit from improvements in quality of products and services, the patient must recognize and appreciate the improvements.

Manage time

An organization can gain a competitive advantage by reducing the time to develop new products, waiting times for services, lead times for orders and deliveries, and cycle times for all functions in the organization.

Focus on variation

Reducing variation improves the predictability of outcomes and helps reduce the frequency of poor results.

Error-proofing

Organizations can reduce errors by redesigning the system to make it less likely for people in the system to make errors. One way to error-proof a system is to make the information necessary to perform a task available in the external world, and not just in one's memory, by writing it down or by actually making it inherent in the product or process.

Focus on the product or service

Although many organizations focus on ways to improve processes, it is also important to address improvement of products and services.

Data collection

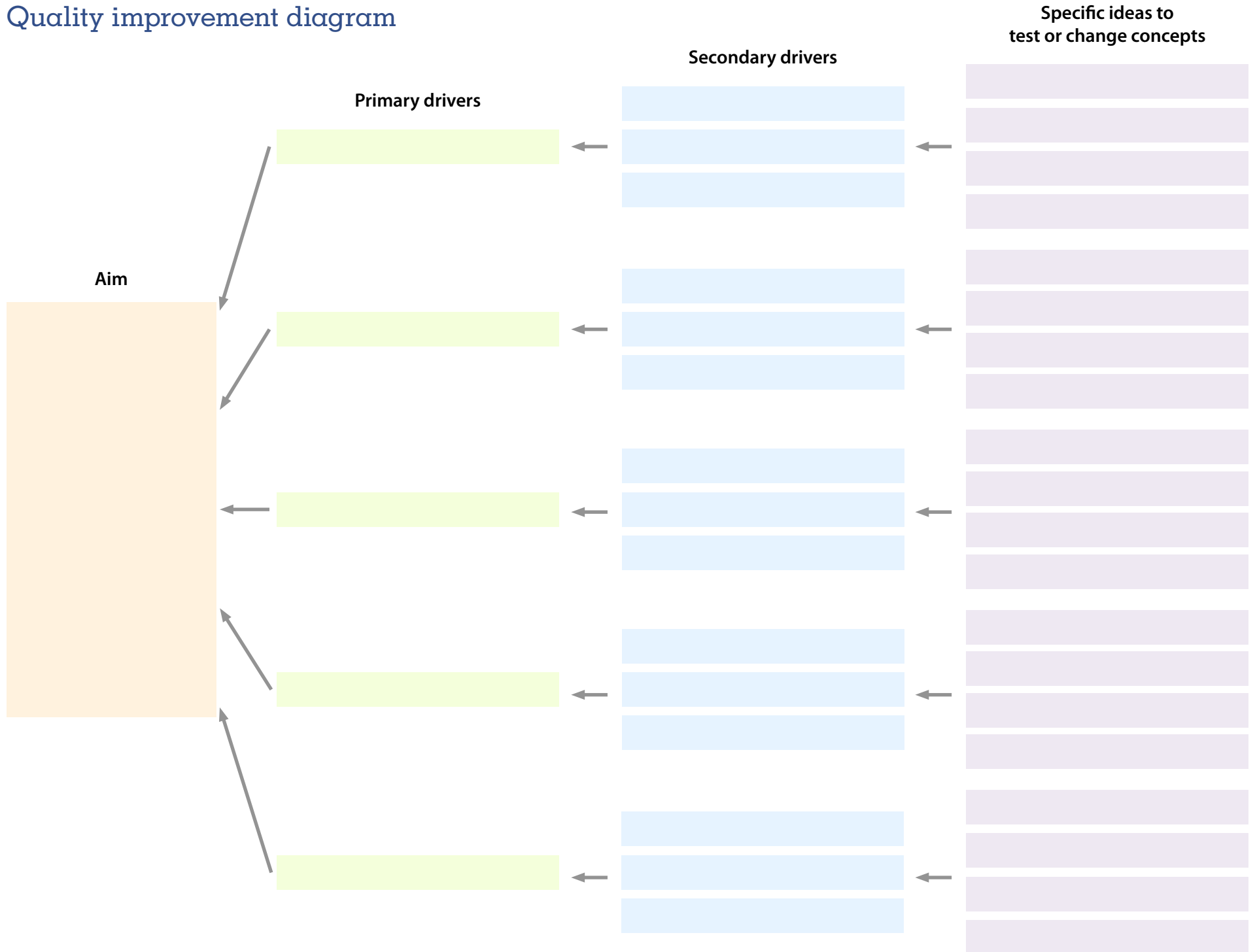
Data collection is important and can be as simple or as sophisticated as capabilities allow. Here are some tips:

“Without data you’re just another person with an opinion.”

— W. Edwards Deming

- Identify your baseline. This is necessary in order to know if an improvement is made.
- Frequent data collection maximizes learning and serves a role in PDSA cycles.
- Get familiar with your EHR's reporting capabilities. This can save labor in the long run.
- A basic understanding of Excel can go a long way. Creating simple graphs can help your team visually understand what is happening with your project.
- Sometimes less is more. If you're simply trying to calculate what percentage of patients seen in a day are up-to-date on a particular screening, it might be more efficient for staff to use tick marks on a piece of paper throughout the day to be tallied at the end of shift, rather than fill in a spreadsheet.

Quality improvement diagram



Use this fillable form to define goals and guide improvement efforts. Click in the boxes to enter text. (Might require Adobe Acrobat or Acrobat Reader.)

Appendix A: Sample standardized lab protocol (POC testing and/or on-site lab)

Purpose

To reduce morbidity and mortality of diabetes by testing appropriate laboratory parameters on a regular basis.

Policy

All patients meeting the criteria per protocol may have their laboratories drawn by a nurse or an appropriately trained and supervised medical assistant without needing a specific physician's order. If a patient wants to discuss the blood draw/laboratory testing with his or her physician, it will be arranged.

Procedure

1. Determine patient need for laboratory testing. Clinic staff will assess the laboratory status of all patients with diabetes to identify patients needing laboratory testing. All patients who appear to be candidates for laboratory testing will be evaluated by a nurse or medical assistant.
 - a. Review patient's laboratory history for indication for laboratory testing (as defined by the current recommendations of the ADA*)
 - i. HgbA1c < 7 — test HgbA1c twice a year
 - ii. HgbA1c > 7 — test HgbA1c quarterly
 - iii. Lipid Panel — test yearly
 - iv. Urine albumin — test urine albumin/creatinine ratio yearly
 - v. Chemistry Panel — test yearly
 - b. Establish that patient does not have any contraindications to laboratory testing in general and, in particular on the day of the laboratory testing.
 - c. If laboratory testing status is unknown, staff will offer the testing.

2. Obtain appropriate verbal consent. Staff will honor patient refusal.
3. Draw appropriate tests. Authorized staff will perform venipuncture according to protocol.
4. Document laboratory testing information
 - a. Clinic staff will document the results of each patient's venipuncture in the medical record. Include date, name, and title of the person performing the venipuncture.

References

American Diabetes Association. *Diabetes Care* 2021 Jan; 44(Supplement 1): S4-S6.

Appendix B: Diabetes action plan

Green Zone: Great Control <ul style="list-style-type: none">• HbA1c is under _____• Your goal HbA1c: _____• Average blood sugars typically under 150• Most fasting blood sugars under 140	Green Zone means: <ul style="list-style-type: none">• Your blood sugars are under control• Continue taking your medications as ordered• Continue routine blood glucose monitoring• Follow healthy eating habits• Keep all physician appointments
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Yellow Zone: Caution <ul style="list-style-type: none">• HbA1c between _____ and _____• Average blood sugar between 150–210• Most fasting blood glucose under 180• Work closely with your health care team if you are going into the YELLOW zone.	Yellow Zone means: <ul style="list-style-type: none">• Your blood sugar may indicate that you need an adjustment of your medications• Improve your eating habits• Increase your activity level• Call your physician, nurse or diabetes educator if changes in your activity level or eating habits don't decrease your fasting blood sugar levels. Name _____ Phone _____
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Red Zone: Stop and Think <ul style="list-style-type: none">• HbA1c greater than _____• Average blood sugars are over 210• Most fasting blood sugars are well over 180 Call your physician if you are going into the RED zone.	Red Zone means: <p>You need to be evaluated by a physician.</p> <p>If you have a blood glucose over _____ follow these instructions:</p> _____ _____ _____ Call your physician: Physician _____ Phone _____
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Adapted from Alaska Native Medical Center, Anchorage, Alaska

Appendix C: Pharmacologic treatment algorithms

https://care.diabetesjournals.org/content/44/Supplement_1/S111

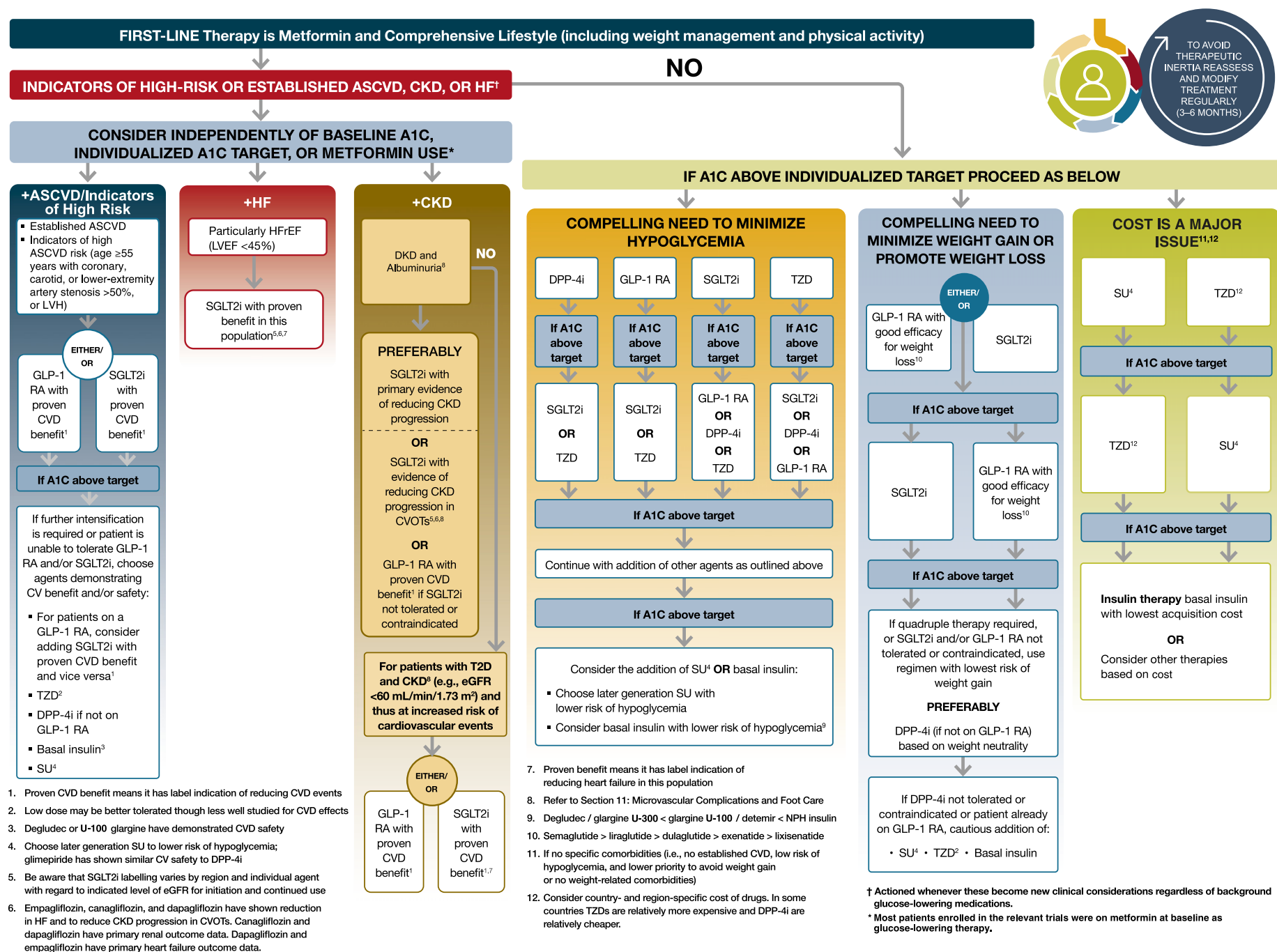
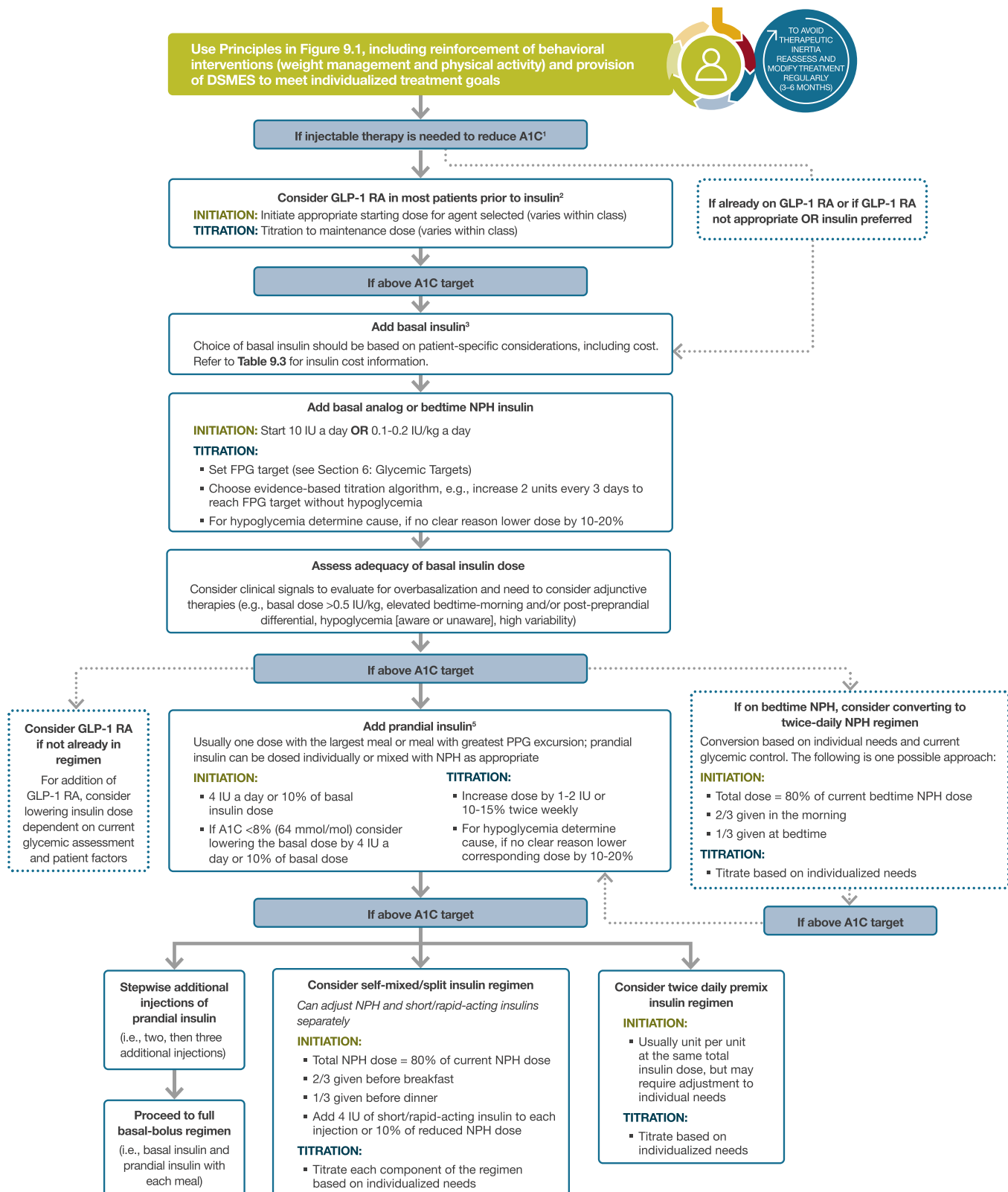


Figure 1 Glucose-lowering medication in type 2 diabetes: 2021 ADA Professional Practice Committee (PPC) adaptation of Davies et al. (35) and Buse et al. (36). For appropriate context, see Fig. 4.1. The 2021 ADA PPC adaptation of the Fig. 9.1 “Indicators of high-risk or established ASCVD, CKD, or HF” pathway has been adapted based on trial populations studied. ASCVD, atherosclerotic cardiovascular disease; CKD, chronic kidney disease; CVD, cardiovascular disease; CVOTs, cardiovascular outcomes trials; DPP-4i, dipeptidyl peptidase 4 inhibitor; eGFR, estimated glomerular filtration rate; GLP-1 RA, glucagon-like peptide 1 receptor agonist; HF, heart failure; HFREF, heart failure with reduced ejection fraction; LVEF, left ventricular ejection fraction; LVH, left ventricular hypertrophy; SGLT2i, sodium–glucose cotransporter 2 inhibitor; SU, sulfonylurea; T2D, type 2 diabetes; TZD, thiazolidinedione.



1. Consider insulin as the first injectable if evidence of ongoing catabolism, symptoms of hyperglycemia are present, when A1C levels (>10% [86 mmol/mol]) or blood glucose levels (≥300 mg/dL [16.7 mmol/L]) are very high, or a diagnosis of type 1 diabetes is a possibility.
2. When selecting GLP-1 RA, consider: patient preference, A1C lowering, weight-lowering effect, or frequency of injection. If CVD, consider GLP-1 RA with proven CVD benefit. Oral or injectable GLP-1 RA are appropriate.
3. For patients on GLP-1 RA and basal insulin combination, consider use of a fixed-ratio combination product (iDegLira or iGlarLixi).
4. Consider switching from evening NPH to a basal analog if the patient develops hypoglycemia and/or frequently forgets to administer NPH in the evening and would be better managed with an AM dose of a long-acting basal insulin.
5. If adding prandial insulin to NPH, consider initiation of a self-mixed or premixed insulin regimen to decrease the number of injections required.

Figure 2 Intensifying to injectable therapies. DSMES, diabetes self-management education and support; FPG, fasting plasma glucose; FRC, fixed-ratio combination; GLP-1 RA, glucagon-like peptide 1 receptor agonist; max, maximum; PPG, postprandial glucose. Adapted from Davies et al. (35).

Appendix D: Medication adherence/reconciliation

Tips for conducting a patient medication interview

Medication information

To obtain or verify a list of the patient's current medications, you should inquire about:

- Prescription medications
- Over-the-counter (OTC) drugs
- Vitamins
- Herbals
- Nutraceuticals/health supplements
- Respiratory therapy-related medications, e.g., inhalers

Full dosing information should be captured, if possible, for each medication. This includes:

- Name of the medication
- Strength
- Formulations, e.g., extended release such as XL, CD, etc.
- Dose
- Route
- Frequency
- Last dose taken

Medication history prompts

Incorporating various types of "probing questions" into the patient interview may help trigger the patient's memory on what medications they are currently taking. Here are some suggestions:

- Use both open-ended questions, e.g., "What do you take for your high cholesterol?" and closed-ended questions, e.g., "Do you take medication for your high cholesterol?" during the interview.

- Ask patients about routes of administration other than oral medicines, e.g., "Do you put any medications on your skin?" Patients often forget to mention creams, ointments, lotions, patches, eye drops, ear drops, nebulizers and inhalers.
- Ask patients about what medications they take for their medical conditions, e.g., "What do you take for your diabetes?"
- Ask patients about the types of physicians that prescribe medications for them, e.g., "Does your arthritis doctor prescribe any medications for you?"
- Ask patients about when they take their medications, e.g., time of day, week, month, as needed, etc. Patients often forget to mention infrequent dosing regimens such as monthly.
- Ask patients if their doctor recently started them on any new medicines, stopped medications they were taking, or made any changes to their medications.
- Asking patients to describe their medication by color, size, shape, etc., may help to determine the dosage strength and formulation. Calling the patient's caregiver or their community pharmacist may be helpful to determine an exact medication, dosage strength, and/or directions for use.
- For inquiring about OTC drugs, additional prompts may include:
 - What do you take when you get a headache?
 - What do you take for allergies?
 - Do you take anything to help you fall asleep?
 - What do you take when you get a cold?
 - Do you take anything for heartburn?

Adapted from the Joint Commission Resources and the American Society of Health-System Pharmacists Medication Reconciliation Handbook. Chapter 5: Educating your staff. Oakbrook Terrace, IL: Joint Commission Resources, 2006.

For a full range of medications as defined by The Joint Commission, refer to their accreditation material.

Appendix E: Sample diabetes foot exam training for medical assistants

Diabetic foot exams will be completed at least once per year for all patients with diabetes. The diabetic foot exam includes a two-point pulse check, a visual inspection and a monofilament exam. All information will be documented in the EHR following the standardized process.

Pulse

Check for absence or diminished pulse at two points on each foot.

Dorsalis pedis (DP) — Locate by tracing from between the first and second toe up to the top of the foot.

Posterior tibial (PT) — Located just below and behind the inside of the ankle bone.

Visual inspection

Note the visual appearance of each foot.

Trophic changes — Appears red, swollen, flaky, scaly. Due to nerve damage.

Venous stasis dermatitis — Inflammatory skin disease due to poor venous return. Appears red, swollen, flaky, peeling, cracked, blotchy.

Dependent rubor — Redness and swelling when foot is dangling. Appears red, swollen, shiny, tight.

Blanching — Paleness when foot is raised

Ulceration — Poorly healing wound. A wound of **any** size should be carefully monitored.

Gangrenous — Tissue is black, has a foul odor and is not painful. This indicates dead tissue. **Any** blackness should be monitored very closely.

Tinea pedis — Otherwise known as athlete's foot or ringworm. Presents as red, peeling, flaky, white around edges often present between toes.

Onychomycosis — Nail fungus. Nails are yellow, thickened, brittle and sometimes cracked.

Monofilament exam

Explain what you are doing and why.

Instruct the patient to verbally indicate when they feel the monofilament. If the patient cannot feel the monofilament, document in the EHR.

Instruct the patient to close their eyes or look away.

Avoid callouses, wounds or any compromised areas.

Touch monofilament to sites using just enough pressure to bend the filament. Cycle should take two seconds.

Test the great toe and three areas on the ball of the foot.

Documentation

If using EPIC, enter in a nursing or progress note using .dmfootexamma and verbally notify clinician of any positive findings. Health Maintenance will update in 24 hours.

Appendix F: Common practice improvement pitfalls

Avoid some of these common pitfalls:

- Unclear roles/expectations
 - Document workflows and ensure all involved staff/clinicians have an opportunity for input and to ask clarifying questions. Written policies and procedures not only help keep the team on the same page but can be useful for objective performance review and training new hires.
 - Clearly defining who does which task not only assures tasks are completed but can also avoid duplication and increase efficiency.
- Lack of physician support
 - Without physician buy-in, the process is sure to be derailed. Enthusiastic physician leadership demonstrates to staff that their efforts aren't for naught.
 - When all clinicians in a practice follow the same general protocol, staff are more successful in meeting expectations and patient experience improves. Sometimes if a single provider asks staff to do things differently from the established clinic protocol, this can hinder the entire clinic's efforts to improve care.
- Commitment to what **doesn't** work
 - It's OK to try something new and decide to scrap it! Start small with any change and track results. This will allow you to be nimble in testing new ideas and discarding anything that doesn't work or won't be sustainable when spread.
 - Review processes regularly so they can be adapted as new information and tools present themselves. Upgrades to your EHR, billing/coding changes, legislative updates and updated medical guidelines may give cause to update your policies and procedures.
 - Track outcomes on a regular cadence (monthly, bimonthly, semi-annually) to determine if changes result in improvement (celebrate when it does!).
- Underutilization of EHR functionality
 - Understand how tasks can be automated utilizing your EHR. Care reminders, formulary checking, referral tracking, electronic forms and electronic communication are all standard functions of most systems.
 - Most systems include reporting features that can help track outcomes.

Appendix G: Case examples

Case examples help demonstrate the interactions and incredible care that encompass the whole diabetes bundle.

Case 1

Mr. Hugh Man, a 68-year-old with type 2 diabetes has been identified through Weda Best Primary Care's diabetes registry as past due for his diabetes care, so the scheduling staff contacts him to schedule his lab appointment (ordered microalbumin, bmp, lipids and HbA1c) followed by an office visit with Dr. Ima Champion. His HbA1c result came back a few days ahead of this appointment and is significantly higher than previously (increased from 8.3% to 9.6%) and his last office visit was over nine months ago, so Dr. Champion asks her medical assistant to increase the visit time from 15 minutes to 30 minutes.

Upon arrival, the front desk updates Mr. Man's demographic information and asks him to complete a PHQ-9/SBIRT, because it has been over a year since he last completed one. When the medical assistant calls Mr. Man to be roomed, she reviews the screening as he is removing his shoes and jacket to be weighed. She notes that, while the drug and alcohol screenings are negative, he scored an 8 on the PHQ-9, which falls in the "mild depression" category. He does not have a diagnosis of depression on his problem list, so she notes the finding in his chart, circles the score and leaves the screen on the counter for the doctor to address. After completing his vitals, the MA reviews Mr. Man's medication list with him and learns he has had difficulty remembering to take his daily medications since his wife passed approximately two months ago. This is also noted for the physician. Finally, per the past-due reminder in the patient's chart, she completes his foot exam, noting all findings which were negative.

Dr. Champion reviews her MA's notes as she enters the room. She gathers a little more information from Mr. Man, including what kind of support he has at home. After some discussion, she makes an adjustment to his medications and prescribes attending local grief support group. Before he leaves the office,

she also ensures he has appointments scheduled with the practice's nurse case manager to discuss strategies around food and medication compliance, as well as his three-month lab and office visits. She places a referral to the ophthalmologist they have listed in his care team and asks him to give them a call in a few days if he has not yet heard from them to schedule.

Case 2

Ms. Sue Perstar, a pleasant, slightly overweight 57-year-old with type 2 diabetes and hypertension presents today at Top Care Clinic for her routine diabetes/hypertension appointment. Previous HbA1c results include 10.1% six months ago and 9.4% three months ago (at which time an 8-pound weight loss was recorded). Her vitals today reflect another 2-pound decrease in weight and a blood pressure reading of 126/72. The MA takes an HbA1c reading, using their point-of-care machine. This time, she is down to 8.6%. After congratulating the patient for her continued improved control, the MA reviews the chart to ensure there are no outstanding health reminders to address, noting her foot exam, eye exam and other relevant labs are current, and leaves to notify the clinician the patient is ready to be seen.

During a brief check in with the patient, NP Wayda Go also congratulates the patient on her HbA1c trajectory and improved blood pressure control. They touch on what efforts, in addition to her medication, Sue has been making to achieve these results. She has been walking one to three miles daily with a neighbor and has increased the number and variety of vegetables in her meals. Both efforts were applauded and Wayda suggested adding some sort of simple strength training to her movement regimen, explaining how it contributes to healthier bones as she ages. She provides her a simple one-pager with bodyweight exercises that would meet this goal. Because Sue shares she is not always clear how to maintain a balanced diet, she is offered a referral to a nutritionist based in their local hospital, which she gladly accepts. She is asked to return to the office in three months.

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