Virtual Binder

1815 MTM Pharmacy Student/Preceptor Training

May 19, 2022

NDSU School of Pharmacy:

Elizabeth Skoy, Pharm.D., RPh
Associate Professor
School of Pharmacy
College of Health Professions
p: 701.231.5669
Elizabeth.skoy@ndsu.edu

Natasha Petry, PharmD, BCACP
Associate Professor of Practice / Pharmacy Practice
School of Pharmacy / College of Health Professions
Pharmacogenetics Clinical Pharmacist / Sanford Health Imagenetics
phone (NDSU): 701.231.6554
Natasha.Petry@ndsu.edu

ND Pharmacists Association:

Jesse Rue PharmD, BCPS
Clinical Coordinator
NDPSC/About the Patient
P: 701-430-0731
jrue@aboutthepatient.net

North Dakota Dept of Health:

Tiffany Knauf, MAIS
Health Systems and Pharmacy Coordinator
P: 701-328-2333
tknauf@nd.gov

Brianna Monahan, MS, RD
Diabetes Prevention and Control Program Coordinator
P: 701.328.2698
bmonahan@nd.gov

1815 Project Site Preceptors and Contact Information 2022/23

Carrington/New Rockford - Central Health Mart Pharmacy

Shane Wendel, PharmD, RPh

701-652-2651

centralrx@daktel.com

Dickinson - The Medicine Shoppe

Brandi Ollerman, PharmD

701-227-8265

clinicpharmacy2@gmail.com

Grafton --Grafton Drug

Beth Wharam, PharmD

701-352-0831

info@graftondrug.com

Oakes - Tara's Thrifty White Pharmacy

Tara Schmitz PharmD

701-742-3824

tarasthriftywhite@yahoo.com

Rugby--Heart of America Medical Center

Tallie Schneider, PharmD or Jenn Melgaard, PharmD or Jesse Rue, PharmD

701.776.2531

tschneider@hamc.com

jmelgaard@hamc.com

jrue@aboutthepatient.net

Valley City - Nucara Pharmacy

Kelsey Ihry, PharmD

701-845-2652

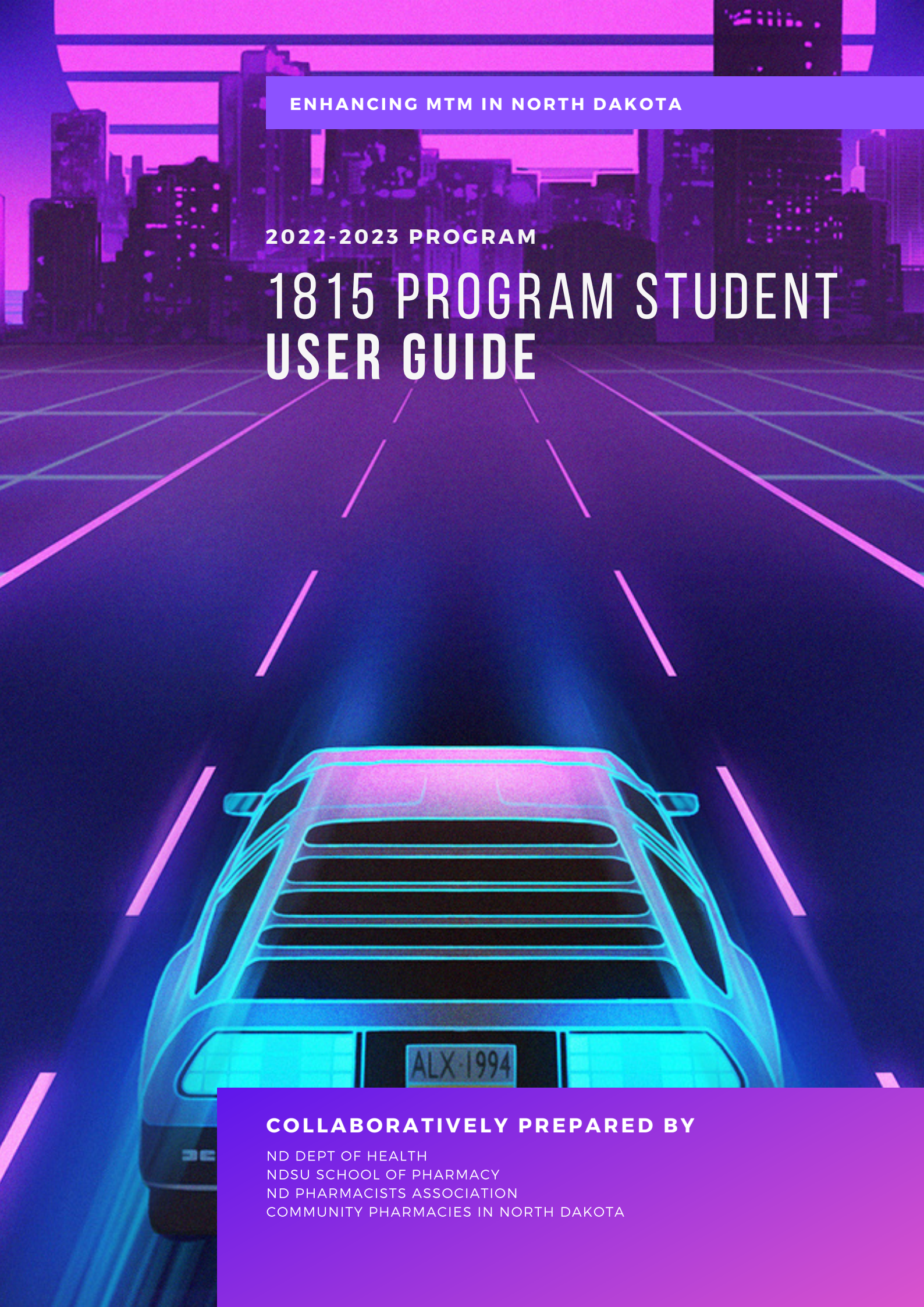
kihry@nucara.com

Enhancing MTM in North Dakota: Pilot Program User Guide

ENHANCING MTM IN NORTH DAKOTA

2022-2023 PROGRAM

1815 PROGRAM STUDENT USER GUIDE



COLLABORATIVELY PREPARED BY

ND DEPT OF HEALTH
NDSU SCHOOL OF PHARMACY
ND PHARMACISTS ASSOCIATION
COMMUNITY PHARMACIES IN NORTH DAKOTA

PROGRAM OVERVIEW

We appreciate your participation in this program, which is a collaboration among the North Dakota Department of Health (NDDoH), North Dakota State University School of Pharmacy (NDSU SOP), the North Dakota Pharmacists Association (NDPhA), and community pharmacies..

In a multi-year effort, we are attempting to promote the expansion of MTM and enhanced clinical services provided in pharmacies in North Dakota. This project is particularly focused on improving diabetes, prediabetes, hypertension, and cholesterol control.

You're a well-trained, highly motivated professional pharmacy student (we hope). Your initiative in seeking out these opportunities as a young professional is essential for enhancing patient care and learning the patient activation skills that you need for the rest of your career.

WEEKLY SCHEDULE

HERE ARE YOUR WEEKLY TARGETS

4

MTM WORKUPS
2-HYPERTENSION PTS PER WEEK
2-DIABETES PTS PER WEEK

5

BLOOD PRESSURE ASSESSMENT
TAKE 5 BLOOD PRESSURES EACH WEEK

5

PREDIABETES SCREEN + REFER
SCREEN 5 PER WEEK
REFER 1 PER WEEK (NDC3)

2

SELF-MEASURED BP LOANER+EDUCATION
1 OF EACH PER WEEK

5

IMMUNIZATIONS
SCREEN AND OFFER TO DELIVER 5 PTS VACCINES BEYOND FLU EACH WEEK

2

DIABETES ASSESSMENT
REVIEW MOST RECENT A1C
2 PER WEEK

5

PATIENT/PROVIDER FOLLOW-UPS
...THOSE REFERRALS OR RECOMMENDATIONS YOU MADE? REFERRING ISNT ENOUGH, FOLLOW-UP TO MAKE SURE IT ACTUALLY HAPPENED! 5 FOLLOW UPS PER WEEK, CAN BE ON MTM OR NEED FOR LABS, ETC.

RESULTS. YOU WILL SUCCEED.

THE PROGRAM'S PIONEERS SUCCEEDED. YOU WILL TOO.

THE PROGRAM IS TWO YEARS OLD. IT'S WORKING.

MTM

- 382 MTM Visits
- 587 Drug Therapy Problems recorded

Blood Pressure

- 658 Patients Screened
- 84% had an elevated reading

Prediabetes Screening

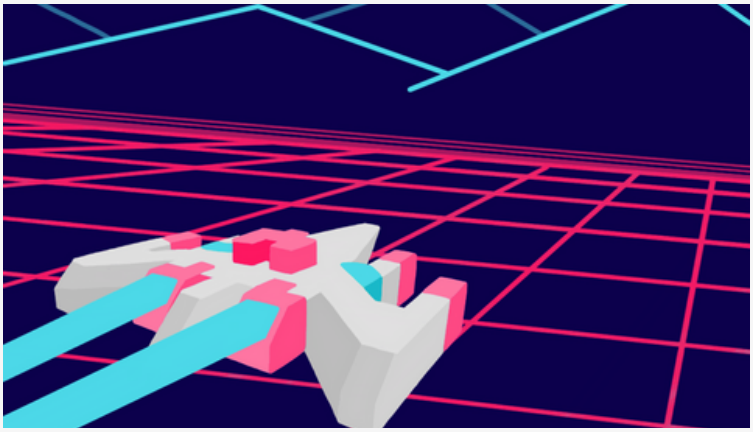
- 578 Screenings for Prediabetes
- 55% are high risk

Immunizations

- 1,144 Screened for needs
- 57% then received immunization

Collaborative Practice Agreements

- 2 implemented by students



DO MORE. WITH ONE PATIENT

LET'S GET EFFICIENT. LET'S GET CRAFTY. LET'S GET RELENTLESS.

HOW CAN I DO THIS? HOW CAN I HIT THESE NUMBERS EACH WEEK?

We found that students often encountered a problem at the beginning of their 1815 rotation.

Students said "How do I find so many patients week after week? How can I find 5 patients to take BP on, another 5 patients to screen for immunization, another 5 patients to do an MTM on...." and we realized we must have done an awful job talking strategy!

So let's talk strategy. **It is our strong recommendation that you identify patients who would benefit from one or more of these tasks and do multiple tasks for one patient when possible and appropriate.**

Example: Is there a 55 year old male with hypertension coming in to the pharmacy later tomorrow? Do an immunization screening, an MTM workup, and attach a note to his bag asking staff to call you over to offer a prediabetes screening and BP check when he arrives.

This is the way. Learn to be efficient with your efforts and targeting of patients.

Another point commonly raised by pilot students--it often takes asking 10 people to get 5 to agree to a quick BP check or a prediabetes screening. Yes, it does. Activating patients is difficult. Students have proved that if you keep asking and engaging with patients naturally (such as during the many patient counseling sessions you do each day) you often find great success! **This is, honestly, the reality of engaging with patients in the real world**. This is true if you are working in a community pharmacy, do amb care pharmacy visits, are a nurse, a physician, or sell cars.

We know you can find a way.

You're also not alone. If you are struggling, tell us. Don't wait. **We've helped many students find a way through this project and we believe you will too.**

THERE WERE INDEED CHALLENGES

WE SURE AREN'T PERFECT. HELP MAKE US MORE PERFECT.

WHAT DIDN'T WORK SO GREAT IN THE FIRST YEAR DID GET BETTER IN THE SECOND.

It's not all rainbow skies and gumdrop smiles here in the pharmacy. We do have areas of improvement from the pilot and we think you can do it.

Our focus is to improve:

We need to **strengthen making closed-loop referrals** after screenings.

We need to find ways to **sustain this work at the pharmacies** when students are not present.

We need you to tell us how we can support the pharmacies **to build better sites.**

Some students felt that some screenings didn't have a measurable impact because there wasn't a strong post-screening action step. That's totally valid. We agree.

We have put emphasis on ensuring each screening or task is actionable, and pushing you to follow up with patients and/or providers to find out if action was taken. We must make sure referrals actually lead to clinic visits or tests or changes in therapy. Follow up! Close the loop!

Because you know what the awful truth is about real life healthcare? Knowing the right answer about closing a care gap isn't enough anymore. We need to activate patients to actually do it.

Let's try a few things:

- Talk past the sale
  - Don't ask the patient if you can refer them to the NDPP. It's too easy to say 'I'll think about it.' Rather, say "I'm going to refer you to the NDPP, they'll call you and check benefits."
- Hassle. ...Or maybe the correct term is 'follow-up.' If you screen a patient that needs more care, take responsibility to follow-up in 48 hours.

We need to practice habits that get results.

FOLLOW UP AND EVALUATION

WE'RE HERE TO SUPPORT YOUR WORK. AND COLLECT YOUR DATA.

WE WANT TO KNOW ABOUT THE IMPACT YOU'RE MAKING

At the end of each week we need you to complete the data spreadsheet and rotation survey. We're asking nicely but it's required. You signed a paper promising to do it, and we believed you.

At the end of the rotation please complete final data spreadsheet, and rotation survey. Again, asking nicely (but it's required).

WE'RE WORKING TOGETHER

While we do need you to address concerns about rotation with your preceptor first, please do not hesitate to reach out to us with questions or feedback on how we can build a better program together. Don't wait for the end of the rotation! SERIOUSLY, when something isn't going well, let's talk right away!

Contact Jesse Rue at **jrue@aboutthepatient.net**

BLOOD PRESSURE ASSESSMENT

TAKE SOME BP. NOT GOOD? RECHECK! HELP THEM!

SCREEN 5 EACH WEEK

TRY LOOKING THROUGH THE PICK-UP BINS TO SEE WHO IS ON HTN MEDS. TARGET THEM WITH A NOTE TO DO A BP AT PICKUP.

MANY STUDENTS SUCCEED AT ASKING PATIENTS TO DO A BP DURING COUNSELING SESSIONS. TECHS MAY HELP WITH RECRUITING AS WELL.

IF BP IS ELEVATED, RECHECK IT. MAKE A PLAN FOR FOLLOWUP AND THEN FOLLOW UP! USE THE BLOOD PRESSURE SCREENING ALGORITHM TOOL TO HELP.

WE KNOW YOU KNOW HOW TO TAKE A BP. **WE BELIEVE THERE IS GREAT EDUCATIONAL VALUE IN CONVINCING PEOPLE TO LET YOU CARE FOR THEM** AND IN ACTUALLY FINDING A WAY TO DO SOMETHING WITH THE DATA...ACTIVATING THE PATIENT TO TAKE ACTION HAS ENORMOUS VALUE!

SMBP TRAINING + LOANER

SMBP IS THE GOLD STANDARD AND GIVES CREDIBILITY

TRAIN 1 LOAN 1

HEY, A LOT OF PEOPLE DONT WANT TO SPEND THE COIN TO BUY A BLOOD PRESSURE CUFF. WE GET IT.

THAT'S WHY WE ARE INSTALLING BP CUFF LOANER PROGRAMS FOR SMBP (SELF-MONITORED BLOOD PRESSURE).

EACH WEEK, RECRUIT A PATIENT TO JOIN THE LOANER PROGRAM.

THIS IS A GREAT AREA FOR FOLLOW-UP. YOU WILL BE ABLE TO VIEW PATIENT BP READINGS IN REAL TIME THROUGH THE CLOUD, WHICH GIVES YOU HARD DATA TO HAVE BETTER CHATS WITH THEIR MEDICAL STAFF.

PATIENTS WILL HAVE THE CUFFS FOR 2-3 WEEKS. DEFINITELY BE SURE TO FOLLOW UP WITH PATIENTS AT LEAST WEEKLY ABOUT THEIR READINGS AND TO REMIND THEM TO KEEP TESTING. ALSO FOLLOW UP TO ENSURE THE CUFFS ARE RETURNED. **WE HAVE A SHORT VIDEO ONLINE TO HELP**.

PREDIABETES SCREEN + REFER

SCREENING IS GOOD. BUT IT CAN BE BETTER.

SCREEN 5 REFER 1

PERFORM PREDIABETES SCREENING AT MED PICKUP OR MEDICATION COUNSELING SESSION. WORKS PRETTY WELL.

REFER AGREEABLE PATIENTS TO NATIONAL DIABETES PREVENTION PROGRAM (NDPP) THROUGH NDC3.ORG

...ACTUALLY REFER, THOUGH,..TALK PAST THE SALE AND SEND IN THEIR INFO TO THE COORDINATOR VIA NDC3.ORG UNLESS THEY REALLY REFUSE.

WE THINK THAT'S WHERE THE EDUCATIONAL VALUE FOR YOU REALLY IS...ANYONE CAN ADMINISTER THE SCREENING, BUT ACTUALLY ACTIVATING THE PATIENT TO GET INTO THE PROGRAM? DIFFICULT. GET GOOD AT IT AND IT WILL BENEFIT YOUR ENTIRE CAREER.

AS NOT EVERY PATIENT WILL COMPLETE SCREENING, WE SUGGEST IDENTIFYING AT LEAST 5 MEN AND 5 WOMEN ≥ 50 YEARS OLD TAKING HTN MEDS WEEKLY IN AN ATTEMPT TO SCREEN AT LEAST 5 TOTAL PER WEEK.

DIABETES ASSESSMENT

GET THOSE A1C'S UP TO DATE

CHECK FOR RECENT A1C

EACH WEEK, TARGET TWO DIABETES PATIENTS FOR AN A1C REVIEW

YOU CAN REVIEW THE PATIENT A1C ON NDHIN

IF IT'S NOT UP TO DATE, YOUR PHARMACY IS SUPPLIED WITH POC A1C TESTS THROUGH THIS PROGRAM SO YOU CAN CHECK ON THE SPOT

THIS ALLOWS YOU TO CLOSE A VERY COMMON GAP IN DIABETES CARE, GIVES YOU OPPORTUNITY TO FOLLOW UP WITH PATIENT AND PROVIDER, AND PERHAPS EVEN GETS YOU TO PERFORM A POC TEST IN THE PHARM.

IMMUNIZATION SCREENING

SCREEN. STICK. REPEAT.

SCREEN AND ADMINISTER

USE THE NORTH DAKOTA IMMUNIZATION INFORMATION SYSTEM (NDIIS) TO SCREEN 5 PATIENTS PER WEEK FOR IMMUNIZATION NEEDS.

FOR ANY GAPS IDENTIFIED, RECRUIT PATIENTS FOR A VACCINE VISIT AND ADMINISTER THE NEEDED VACCINE(S).

FLU VACCINE AND COVID NEEDS DON'T COUNT. THEY'RE JUST TOO EASY TO GET, WE NEED TO LOOK AT SOME CHRONIC DISEASE NEEDS.

PATIENT/PROVIDER FOLLOW-UP

CLOSE THE LOOP. ADVOCATE FOR YOUR PATIENTS.

FOLLOW-UP WITH GUSTO

EACH WEEK, LOOK FOR 5 RECOMMENDATIONS/REFERRALS/PATIENTS WHO JUST NEED MONITORING OF THEIR CARE. FOLLOW UP WITH THE PATIENT AND/OR PROVIDER AS APPROPRIATE.

WE NEED YOU TO MOVE US PAST MAKING A RECOMMENDATION ALONE AND MOVING ON...WE NEED YOU TO ADVOCATE FOR YOUR PATIENTS BY ENSURING THAT IF THEY NEEDED AN APPOINTMENT OR SOME LAB WORK OR A MED CHANGE THAT IT GOT ADDRESSED. SOMETIMES A PATIENT PHYSICIAN ULTIMATELY DISAGREES WITH YOUR RECOMMENDATION AND DECLINES IT--THAT'S OK, WE JUST HAVE TO MAKE SURE WE GET PAST THE POINT WHERE PATIENTS SAY 'I'LL THINK ABOUT IT' AS THEY LEAVE THE PHARMACY.

REMEMBER, THERE WERE HUNDREDS OF DRUG THERAPY PROBLEMS IDENTIFIED BY STUDENTS LAST YEAR. IDENTIFYINIG PROBLEMS ISN'T GOING TO BE ENOUGH FOR PHARMACY IN THE FUTURE, **YOU'RE GOING TO INCREASINGLY BE RESPONSIBLE FOR RESULT**S. STAND UP FOR THOSE PATIENTS, LET A LITTLE BIT OF BULLDOG OUT AND KEEP FOLLOWING UP.

CLOSE THE LOOP!

MTM EXPANSION

MAKE MTM MATTER A BIT MORE.

TWO DM MTM
TWO HTN MTM

THE GOAL IS TO **COMPLETE 2 HTN REVIEWS AND 2 DIABETES REVIEWS EACH WEEK.**

IF THERE ARE PAID CMR OPPORTUNITIES ON DM OR HTN PATIENTS AT THE PHARMACY, GREAT!

IF NOT, THEN RECRUIT PATIENTS FOR A HIGH QUALITY CMR TO GET THEM CLOSER TO GUIDELINE CARE.

MANY STUDENTS HAD SUCCESS IN DOING THE WORKUPS FIRST AND THEN ATTACHING THEM TO THE BAG FOR A DISCUSSION. THE SKY IS THE LIMIT, TEST YOURSELF TO FIND INNOVATIVE METHODS TO CONNECT.

Pharmacy Rotation: Forms, Documents and Data Collection

HEALTH INFORMATION FORM

North Dakota State University School of Pharmacy

PATIENT INFORMATION

First three letters of **first name**:	Age:	Gender: M / F
Telephone:	Height:	Weight:
Primary care physician:	Date of last visit:	

SOCIAL DRUG USE

Tobacco Use:	Never	Type of tobacco:	Quit date:	If currently smoking, packs per day:	If currently smoking, tried to quit_____times
Caffeine Use:	Never	Type of caffeine:		Cups/cans per day:	
Alcohol Use:	Never	Occasionally	Number of drinks/week	Do you ever drink more than three drinks per day? Yes / No	

ALLERGY INFORMATION

	Cause: Medicine/Food/Preservative	**Please Describe Reaction or Side Effect** (rash, nausea, constipation, drowsiness, dizziness, etc.)
Allergies:		

MEDICATION INFORMATION

Please list ALL prescription and non-prescription medications, vitamins, and herbs

Medication	Strength	Directions	What you use it for

PERSONAL MEDICAL HISTORY

Please indicate if you have ever experienced any of the following conditions listed.

Anxiety	Yes	No		Arthritis	Yes	No
Asthma	Yes	No		Cancer	Yes	No
Bleeding disorder	Yes	No		Depression	Yes	No
Diabetes	Yes	No		Epilepsy (seizures)	Yes	No
Glaucoma	Yes	No		Hay fever (allergies)	Yes	No
Heart attack (myocardial infarction)	Yes	No		Heart failure	Yes	No
High blood pressure (hypertension)	Yes	No		High cholesterol (Hyperlipidemia)	Yes	No
Insomnia	Yes	No		Kidney disease	Yes	No
Lung disorder (COPD/emphysema)	Yes	No		Migraine headaches	Yes	No
Osteoporosis	Yes	No		Stroke	Yes	No
Thyroid disorders	Yes	No		Ulcers or heartburn /GERD	Yes	No
Attention deficit disorder/ADHD	Yes	No		Chronic pain	Yes	No
Other:				Other:		

Do you currently exercise?	Never	Regularly	Times per week:	Average number of minutes per workout:

Immunization History: Screened by pharmacy

Review of Systems

Please circle if you are CURRENTLY experiencing any of the following.

General	Weight gain/loss Headache Fatigue Dizziness	**Head, Ear, Eye**	Changes in vision Changes in hearing Sore mouth Bloody nose
Cardiovascular	Chest pain Palpitations Dizzy when rising Bleeding	**Respiratory**	Shortness of breath Cough Wheezing Sputum Chest Tightness
Digestive	Heartburn Nausea/vomiting Abdominal pain Diarrhea Constipation	**Mood**	Changes in sleep pattern Suicidal thoughts Difficulty focusing Anxiety
Extremities	Excessive bruising Numbness/tingling Rash Foot sores	**Muscles/Bones**	Back pain Joint pain Muscle weakness Muscle pain Muscle cramps
Neuro	Memory loss Fainting Migraine headaches	**Genitourinary**	Blood in urine Impotence Incontinence Burning

To be Completed at the Pharmacy

Immunizations needed per screening:		**Blood Pressure**	

Drug Therapy Problem Worksheet
1815 Project: Medication Therapy Management

Define each DTP using one heading and sub-heading and provide a summary of action taken and reported outcomes if available.

Drug Therapy Problem

O Dosage Too Low

- Wrong dose
- Frequency inappropriate
- Drug interaction
- Duration inappropriate
- Incorrect administration

O Dosage Too High

- Wrong dose
- Frequency inappropriate
- Duration inappropriate
- Drug interaction
- Incorrect administration

O Ineffective Medication

- More effective drug available
- Condition refractory to drug
- Dosage form inappropriate
- Not effective for condition
- Contraindication present

O Needs Additional Drug Therapy

- Untreated condition
- Preventative/prophylactic
- Immunizations
- Synergistic/additive effect

O Unnecessary Drug Therapy

- No medical indication
- Duplicate therapy
- Nondrug therapy indicated
- Addictive/recreational
- Treating avoidable ADR

O Experiencing Adverse Drug Reaction

- Undesirable effect
- Unsafe drug for patient
- Drug interaction
- Dose administered/changed too rapidly
- Allergic reaction
- Contraindications present
- Incorrect administration

O Adherence

- Directions not understood
- Patient prefers not to take
- Patient forgets to take
- Cannot swallow/administer
- Drug product not available
- Inappropriate administration technique

O Cost Containment

- Patient cannot afford
- Generic alternative available
- Pill splitting indicated
- More cost effective medication available

Summary:

Provider contacted YES / NO

Blood Pressure Assessment Log, Target: 5+/week

Date	Initial Blood Pressure in mmHg	If BP is over 140/90, was the BP retaken? Yes still elevated, Yes no longer elevated, No, not rechecked	Action taken (see codes below and list all that apply)	Relevant notes

1. Counseled patient on medication adherence
2. Patient education on suggested lifestyle modification
3. Referred patient to primary care provider for follow-up.
4. Counseled patient on at-home BP monitoring
5. Scheduled follow-up screening at the pharmacy at a later date
6. Contacted patient's primary care provider with recommendation(s)
7. No action needed/taken.
8. Other: please describe

SMBP Training /Loaner Program Log, Target: 2+/week (one of each)

Date	Initial Blood Pressure in mmHg	If BP is over 140/90, was the BP retaken?	Patient current HTN diagnosis?	Action taken (see codes below and list all that apply)	Relevant Notes
			Yes Not yet		
			Yes Not yet		
			Yes Not yet		

1. Started patient on pharmacy loaner cuff/RPM program
2. Counseled patient on self-monitoring, hypertension management.
3. Demonstrate how to use a cuff or check for cuff accuracy
4. Referred patient to primary care provider for follow-up
5. Contacted patient's primary care provider with recommendation(s)
6. Other: please describe

Prediabetes Screening Log, Target: 5+/week including 1 NDPP referral

Date	Prediabetes risk test score	Action taken (see codes below and list all numbers that apply)	Relevant notes

1. Referred patient to the National DPP (www.ndc3.org)
2. Patient education on suggested lifestyle modification
3. Counseled patient on risk of diabetes
4. Referred patient to primary care provider for follow-up
5. Contacted patient's primary care provider with recommendation(s)
6. Patient screened low risk. No action taken
7. Other: please describe

Diabetes Assessment Log, Target: 2+/week

Date	Recent A1c (note source)	Estimated date A1c collected?	Patient current Diabetes diagnosis?	Action taken (see codes below - list all that apply)	Relevant notes
			Yes Not yet		
			Yes Not yet		
			Yes Not yet		

1. Counseled patient on self-monitoring, blood glucose management.
2. Patient education on recommended lifestyle modifications
3. Referred patient to primary care provider for follow-up
4. Contacted patient's primary care provider with recommendation(s)
5. Contact patient's primary care provider for a DSMES referral
6. No action needed/taken
7. Other: please describe

Immunization Screening Log, Target: 5+/week

Date	Vaccines indicated (list all that apply) COVID-19, Hep. B, influenza, PCV13, PPSV23, Shingrix, Tdap, Td.	Vaccines delivered (list all that apply) COVID-19, Hep. B, influenza, PCV13, PPSV23, Shingrix, Tdap, Td.	Reason for not providing vaccine (see codes below and list all that apply)	Relevant notes

1. Patient would like to speak with provider
2. Pharmacy doesn't provide needed vaccine
3. Pharmacy out of stock
4. Other/no reason provided

Patient/Provider Follow-Ups Target: 5+/week

Date	Chronic Disease(s) addressed:	Who was followed up with?	Action taken (see codes below and list all that apply)	Relevant notes:
	HTN DM Chol.	Patient Provider		
	HTN DM Chol.	Patient Provider		
	HTN DM Chol.	Patient Provider		
	HTN DM Chol.	Patient Provider		
	HTN DM Chol.	Patient Provider		
	HTN DM Chol.	Patient Provider		

1. Patient had visit with provider.
2. Patient had chronic disease (lab/BP) rechecked with provider.
3. Medication was adjusted by provider, counseled patient on new medication.
4. Patient/provider did not discuss.
5. Patient reported following lifestyle modification recommendations.
6. Patient reported increased medication adherence.
7. Need to follow-up with patient/provider again.
8. Patient has appointment scheduled.
9. Patient reported adverse health event.
10. Other: _____

Medication Therapy Management (Comprehensive Medication Review)
Target: 2+/week for each hypertension and diabetes

Date	Chronic Disease(s) addressed:	Was the MTM done thru…? Medicaid, Payable Platform, Not paid.	Complete Drug Therapy Problem worksheet. Relevant notes:
	HTN DM Chol.		
	HTN DM Chol.		
	HTN DM Chol.		
	HTN DM Chol.		

Pharmacist Patient Care Process

Pharmacists' Patient Care Process

May 29, 2014

Joint Commission of Pharmacy Practitioners

The Joint Commission of Pharmacy Practitioners (JCPP) was established in 1977 and serves as a forum on matters of common interest and concern to national organizations of pharmacy practitioners and invited liaison members. JCPP Members are: the Academy of Managed Care Pharmacy, the Accreditation Council for Pharmacy Education, the American Association of Colleges of Pharmacy, the American College of Apothecaries, the American College of Clinical Pharmacy, the American Pharmacists Association, the American Society of Consultant Pharmacists, the American Society of Health-System Pharmacists, the National Alliance of State Pharmacy Associations, the National Association of Boards of Pharmacy, and the National Community Pharmacists Association.

Organizations participating on the Pharmacists' Patient Care Process Workgroup include:

- Academy of Managed Care Pharmacy
- Accreditation Council for Pharmacy Education
- American Association of Colleges of Pharmacy
- American College of Clinical Pharmacy
- American Pharmacists Association
- American Society of Consultant Pharmacists
- American Society of Health-System Pharmacists
- Food Marketing Institute
- National Association of Chain Drug Stores
- National Alliance of State Pharmacy Associations
- National Community Pharmacists Association

The Pharmacists' Patient Care Process is supported by the following organizations:

- Academy of Managed Care Pharmacy
- Accreditation Council for Pharmacy Education
- American Association of Colleges of Pharmacy
- American College of Apothecaries
- American College of Clinical Pharmacy
- American Pharmacists Association
- American Society of Consultant Pharmacists
- American Society of Health-System Pharmacists
- Food Marketing Institute
- National Alliance of State Pharmacy Associations
- National Association of Boards of Pharmacy
- National Association of Chain Drug Stores
- National Community Pharmacists Association

Pharmacists' Patient Care Process

The goal of high quality, cost-effective and accessible health care for patients is achieved through teambased patient-centered care. Pharmacists are essential members of the health care team. The profession of pharmacy is continuing its evolution from a principal focus on medication product distribution to expanded clinically-oriented patient care services. As a result of this professional evolution, the importance of, and need for, a consistent process of care in the delivery of patient care services has been increasingly recognized by the profession at large.

Pharmacists have unique training and expertise in the appropriate use of medications and provide a wide array of patient care services in many different practice settings. These services reduce adverse drug events, improve patient safety, and optimize medication use and health outcomes. Pharmacists contribute to improving patients' health by providing patient care services as authorized under their scope of practice and facilitated by collaborative practice agreements. The foundation for the pharmacist's patient care process is embedded within the pharmaceutical care model developed by Hepler and Strand in the 1990s. However, there is variability in how this process is taught and practiced. To promote consistency across the profession, national pharmacy associations used a consensus-based approach to articulate the patient care process for pharmacists to use as a framework for delivering patient care in any practice setting.

The pharmacists' patient care process described in this document was developed by examining a number of key source documents on pharmaceutical care and medication therapy management.[1-6] Patient care process components in each of these resources were catalogued and compared to create the following process that encompasses a contemporary and comprehensive approach to patient-centered care that is delivered in collaboration with other members of the health care team.

---

[1] Cipolle RJ, Strand LM, Morley PC. Pharmaceutical Care Practice: The Patient Centered Approach to Medication Management, 3rd ed. New York: McGraw-Hill; 2012.

[2] McInnis T, Webb CE, Strand LM. The Patient-Centered Medical Home: Integrating Comprehensive Medication Management to Optimize Patient Outcomes, Patient-Centered Primary Care Collaborative, June 2012. Available at: http://www.pcpcc.org/sites/default/files/media/medmanagement.pdf. Accessed May 17, 2014.

[3] American Pharmacists Association; National Association of Chain Drug Stores Foundation. Medication Therapy Management in Pharmacy Practice: Core Elements of an MTM Service Model. Version 2.0. J Am Pharm Assoc (2003). 2008;48:341-353.

[4] Bluml BM. Definition of medication therapy management: development of profession wide consensus. J Am Pharm Assoc (2003).2005;45(5):566-72.

[5] Patient Protection and Affordable Care Act, Pub. L. No. 111-148, §2702, 124 Stat. 119, 318-319 (2010). http://www.gpo.gov/fdsys/pkg/PLAW-111publ148/html/PLAW-111publ148.htm. Accessed May 17, 2014.

[6] Council on Credentialing in Pharmacy. Scope of Contemporary Pharmacy Practice: Roles, Responsibilities, and Functions of Pharmacists and Pharmacy Technicians: J Am Pharm Assoc (2003). 2010;50:e35-e69.

Pharmacists' Patient Care Process

Pharmacists use a patient-centered approach in collaboration with other providers on the health care team to optimize patient health and medication outcomes. An essential first step is the establishment of a patient–pharmacist relationship that supports engagement and effective communication with patients, families, and caregivers throughout the process. In addition, at the core of the process, pharmacists continually collaborate, document, and communicate with physicians, other pharmacists, and other health care professionals in the provision of safe, effective, and coordinated care. This process is enhanced through the use of interoperable information technology systems that facilitate efficient and effective communication among all individuals involved in patient care. (Figure 1).

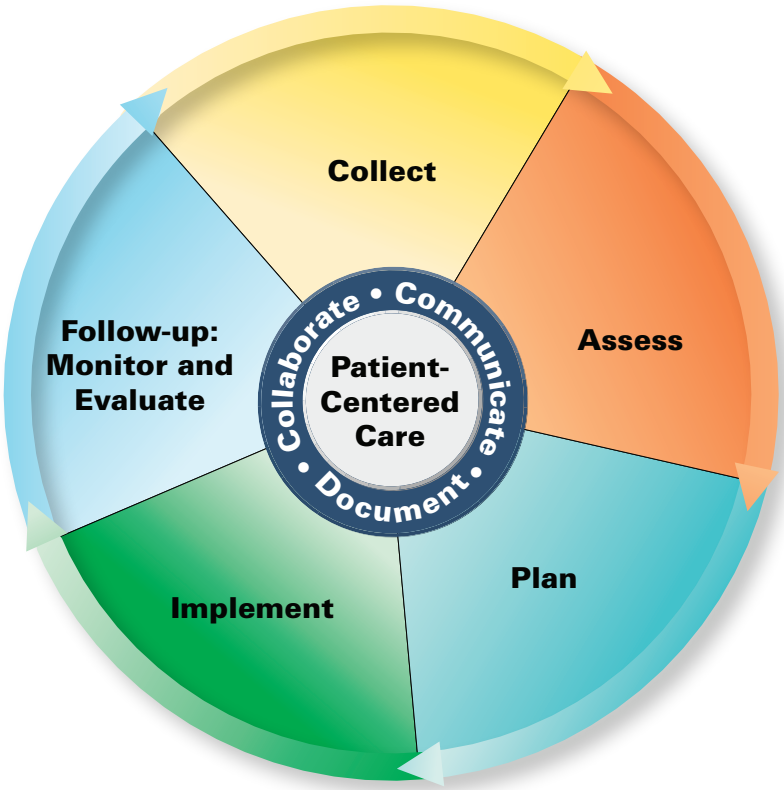


Figure 1: Pharmacists' patient care process

Pharmacists' Patient Care Process
Pharmacists use a patient-centered approach in collaboration with other providers on the health care team to optimize patient health and medication outcomes.

Using principles of evidence-based practice, pharmacists:

Collect
The pharmacist assures the collection of the necessary subjective and objective information about the patient in order to understand the relevant medical/medication history and clinical status of the patient.

Assess
The pharmacist assesses the information collected and analyzes the clinical effects of the patient's therapy in the context of the patient's overall health goals in order to identify and prioritize problems and achieve optimal care.

Plan
The pharmacist develops an individualized patient-centered care plan, in collaboration with other health care professionals and the patient or caregiver that is evidence-based and cost-effective.

Implement
The pharmacist implements the care plan in collaboration with other health care professionals and the patient or caregiver.

Follow-up: Monitor and Evaluate
The pharmacist monitors and evaluates the effectiveness of the care plan and modifies the plan in collaboration with other health care professionals and the patient or caregiver as needed.

Using principles of evidence-based practice, pharmacists:

A. Collect

The pharmacist assures the collection of necessary subjective and objective information about the patient in order to understand the relevant medical/medication history and clinical status of the patient. Information may be gathered and verified from multiple sources including existing patient records, the patient, and other health care professionals. This process includes collecting:

- A current medication list and medication use history for prescription and nonprescription medications, herbal products, and other dietary supplements
- Relevant health data that may include medical history, health and wellness information, biometric test results, and physical assessment findings
- Patient lifestyle habits, preferences and beliefs, health and functional goals, and socioeconomic factors that affect access to medications and other aspects of care

B. Assess

The pharmacist assesses the information collected and analyzes the clinical effects of the patient's therapy in the context of the patient's overall health goals in order to identify and prioritize problems and achieve optimal care. This process includes assessing:

- Each medication for appropriateness, effectiveness, safety, and patient adherence
- Health and functional status, risk factors, health data, cultural factors, health literacy, and access to medications or other aspects of care
- Immunization status and the need for preventive care and other health care services, where appropriate

C. Plan

The pharmacist develops an individualized patient-centered care plan, in collaboration with other health care professionals and the patient or caregiver that is evidence-based and cost-effective. This process includes establishing a care plan that:

- Addresses medication-related problems and optimizes medication therapy
- Sets goals of therapy for achieving clinical outcomes in the context of the patient's overall health care goals and access to care
- Engages the patient through education, empowerment, and self-management
- Supports care continuity, including follow-up and transitions of care as appropriate

D. Implement

The pharmacist implements the care plan in collaboration with other health care professionals and the patient or caregiver. During the process of implementing the care plan, the pharmacist:

- Addresses medication- and health-related problems and engages in preventive care strategies, including vaccine administration
- Initiates, modifies, discontinues, or administers medication therapy as authorized
- Provides education and self-management training to the patient or caregiver
- Contributes to coordination of care, including the referral or transition of the patient to another health care professional
- Schedules follow-up care as needed to achieve goals of therapy

E. Follow-up: Monitor and Evaluate

The pharmacist monitors and evaluates the effectiveness of the care plan and modifies the plan in collaboration with other health care professionals and the patient or caregiver as needed. This process includes the continuous monitoring and evaluation of:

- Medication appropriateness, effectiveness, and safety and patient adherence through available health data, biometric test results, and patient feedback
- Clinical endpoints that contribute to the patient's overall health
- Outcomes of care, including progress toward or the achievement of goals of therapy

Immunization Resources

Recommended Adult Immunization Schedule
for ages 19 years or older

UNITED STATES
2022

How to use the adult immunization schedule

1 Determine recommended vaccinations by age **(Table 1)**

2 Assess need for additional recommended vaccinations by medical condition or other indication **(Table 2)**

3 Review vaccine types, frequencies, intervals, and considerations for special situations **(Notes)**

4 Review contraindications and precautions for vaccine types **(Appendix)**

Vaccines in the Adult Immunization Schedule*

Vaccine	Abbreviation(s)	Trade name(s)
Haemophilus influenzae type b vaccine	Hib	ActHIB® Hiberix® PedvaxHIB®
Hepatitis A vaccine	HepA	Havrix® Vaqta®
Hepatitis A and hepatitis B vaccine	HepA-HepB	Twinrix®
Hepatitis B vaccine	HepB	Engerix-B® Recombivax HB® Heplisav-B®
Human papillomavirus vaccine	HPV	Gardasil 9®
Influenza vaccine (inactivated)	IIV4	Many brands
Influenza vaccine (live, attenuated)	LAIV4	FluMist® Quadrivalent
Influenza vaccine (recombinant)	RIV4	Flublok® Quadrivalent
Measles, mumps, and rubella vaccine	MMR	M-M-R II®
Meningococcal serogroups A, C, W, Y vaccine	MenACWY-D MenACWY-CRM MenACWY-TT	Menactra® Menveo® MenQuadfi®
Meningococcal serogroup B vaccine	MenB-4C MenB-FHbp	Bexsero® Trumenba®
Pneumococcal 15-valent conjugate vaccine	PCV15	Vaxneuvance™
Pneumococcal 20-valent conjugate vaccine	PCV20	Prevnar 20™
Pneumococcal 23-valent polysaccharide vaccine	PPSV23	Pneumovax 23®
Tetanus and diphtheria toxoids	Td	Tenivac® Tdvax™
Tetanus and diphtheria toxoids and acellular pertussis vaccine	Tdap	Adacel® Boostrix®
Varicella vaccine	VAR	Varivax®
Zoster vaccine, recombinant	RZV	Shingrix

*Administer recommended vaccines if vaccination history is incomplete or unknown. Do not restart or add doses to vaccine series if there are extended intervals between doses. The use of trade names is for identification purposes only and does not imply endorsement by the ACIP or CDC.

Recommended by the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/acip) and approved by the Centers for Disease Control and Prevention (www.cdc.gov), American College of Physicians (www.acponline.org), American Academy of Family Physicians (www.aafp.org), American College of Obstetricians and Gynecologists (www.acog.org), American College of Nurse-Midwives (www.midwife.org), and American Academy of Physician Associates (www.aapa.org), and Society for Healthcare Epidemiology of America (www.shea-online.org).

Report

- Suspected cases of reportable vaccine-preventable diseases or outbreaks to the local or state health department
- Clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System at www.vaers.hhs.gov or 800-822-7967

Injury claims

All vaccines included in the adult immunization schedule except pneumococcal 23-valent polysaccharide (PPSV23) and zoster (RZV) vaccines are covered by the Vaccine Injury Compensation Program. Information on how to file a vaccine injury claim is available at www.hrsa.gov/vaccinecompensation.

Questions or comments

Contact www.cdc.gov/cdc-info or 800-CDC-INFO (800-232-4636), in English or Spanish, 8 a.m.–8 p.m. ET, Monday through Friday, excluding holidays.

Download the CDC Vaccine Schedules app for providers at www.cdc.gov/vaccines/schedules/hcp/schedule-app.html.

Helpful information

- Complete Advisory Committee on Immunization Practices (ACIP) recommendations: www.cdc.gov/vaccines/hcp/acip-recs/index.html
- *General Best Practice Guidelines for Immunization* (including contraindications and precautions): www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html
- Vaccine information statements: www.cdc.gov/vaccines/hcp/vis/index.html
- Manual for the Surveillance of Vaccine-Preventable Diseases (including case identification and outbreak response): www.cdc.gov/vaccines/pubs/surv-manual
- Travel vaccine recommendations: www.cdc.gov/travel
- Recommended Child and Adolescent Immunization Schedule, United States, 2022: www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html
- ACIP Shared Clinical Decision-Making Recommendations: www.cdc.gov/vaccines/acip/acip-scdm-faqs.html

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Scan QR code for access to online schedule

CS310021-A

Table 1 Recommended Adult Immunization Schedule by Age Group, United States, 2022

Vaccine	19–26 years	27–49 years	50–64 years	≥65 years
Influenza inactivated (IIV4) or **Influenza recombinant** (RIV4)	1 dose annually			
or	or			
Influenza live, attenuated (LAIV4)	1 dose annually			
Tetanus, diphtheria, pertussis (Tdap or Td)	1 dose Tdap each pregnancy; 1 dose Td/Tdap for wound management (see notes)			
	1 dose Tdap, then Td or Tdap booster every 10 years			
Measles, mumps, rubella (MMR)	1 or 2 doses depending on indication (if born in 1957 or later)			
Varicella (VAR)	2 doses (if born in 1980 or later)		2 doses	
Zoster recombinant (RZV)	2 doses for immunocompromising conditions (see notes)		2 doses	
Human papillomavirus (HPV)	2 or 3 doses depending on age at initial vaccination or condition	27 through 45 years		
Pneumococcal (PCV15, PCV20, PPSV23)	1 dose PCV15 followed by PPSV23 OR 1 dose PCV20 (see notes)			1 dose PCV15 followed by PPSV23 OR 1 dose PCV20
Hepatitis A (HepA)	2 or 3 doses depending on vaccine			
Hepatitis B (HepB)	2, 3, or 4 doses depending on vaccine or condition			
Meningococcal A, C, W, Y (MenACWY)	1 or 2 doses depending on indication, see notes for booster recommendations			
Meningococcal B (MenB)	2 or 3 doses depending on vaccine and indication, see notes for booster recommendations			
	19 through 23 years			
***Haemophilus influenzae* type b** (Hib)	1 or 3 doses depending on indication			

Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection

Recommended vaccination for adults with an additional risk factor or another indication

Recommended vaccination based on shared clinical decision-making

No recommendation/ Not applicable

Table 2 Recommended Adult Immunization Schedule by Medical Condition or Other Indication, United States, 2022

Vaccine	Pregnancy	Immuno-compromised (excluding HIV infection)	HIV infection CD4 percentage and count		Asplenia, complement deficiencies	End-stage renal disease, or on hemodialysis	Heart or lung disease; alcoholism[1]	Chronic liver disease	Diabetes	Health care personnel[2]	Men who have sex with men
			<15% or <200 mm³	≥15% and ≥200 mm³							
IIV4 or RIV4	1 dose annually										
or										or	
LAIV4	Contraindicated						Precaution			1 dose annually	
Tdap or Td	1 dose Tdap each pregnancy	1 dose Tdap, then Td or Tdap booster every 10 years									
MMR	Contraindicated*	Contraindicated		1 or 2 doses depending on indication							
VAR	Contraindicated*	Contraindicated			2 doses						
RZV		2 doses at age ≥19 years			2 doses at age ≥50 years						
HPV	Not Recommended*	3 doses through age 26 years			2 or 3 doses through age 26 years depending on age at initial vaccination or condition						
Pneumococcal (PCV15, PCV20, PPSV23)		1 dose PCV15 followed by PPSV23 OR 1 dose PCV20 (see notes)									
HepA					2 or 3 doses depending on vaccine						
HepB	3 doses (see notes)	2, 3, or 4 doses depending on vaccine or condition									
MenACWY	1 or 2 doses depending on indication, see notes for booster recommendations										
MenB	Precaution	2 or 3 doses depending on vaccine and indication, see notes for booster recommendations									
Hib		3 doses HSCT[3] recipients only			1 dose						

- Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection
- Recommended vaccination for adults with an additional risk factor or another indication
- Recommended vaccination based on shared clinical decision-making
- Precaution—vaccination might be indicated if benefit of protection outweighs risk of adverse reaction
- Contraindicated or not recommended—vaccine should not be administered.

*Vaccinate after pregnancy.

- No recommendation/ Not applicable

1. Precaution for LAIV4 does not apply to alcoholism. **2.** See notes for influenza; hepatitis B; measles, mumps, and rubella; and varicella vaccinations. **3.** Hematopoietic stem cell transplant.

Notes

Recommended Adult Immunization Schedule for ages 19 years or older, United States, 2022

For vaccine recommendations for persons 18 years of age or younger, see the Recommended Child and Adolescent Immunization Schedule.

COVID-19 Vaccination

COVID-19 vaccines are recommended within the scope of the Emergency Use Authorization or Biologics License Application for the particular vaccine. ACIP recommendations for the use of COVID-19 vaccines can be found at www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/covid-19.html.

CDC's interim clinical considerations for use of COVID-19 vaccines can be found at www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html.

Haemophilus influenzae type b vaccination

Special situations

- **Anatomical or functional asplenia (including sickle cell disease):** 1 dose if previously did not receive Hib; if elective splenectomy, 1 dose, preferably at least 14 days before splenectomy
- **Hematopoietic stem cell transplant (HSCT):** 3-dose series 4 weeks apart starting 6–12 months after successful transplant, regardless of Hib vaccination history

Hepatitis A vaccination

Routine vaccination

- **Not at risk but want protection from hepatitis A** (identification of risk factor not required): 2-dose series HepA (Havrix 6–12 months apart or Vaqta 6–18 months apart [minimum interval: 6 months]) or 3-dose series HepA-HepB (Twinrix at 0, 1, 6 months [minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 5 months])

Special situations

- **At risk for hepatitis A virus infection:** 2-dose series HepA or 3-dose series HepA-HepB as above
  - **Chronic liver disease** (e.g., persons with hepatitis B, hepatitis C, cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, alanine aminotransferase [ALT] or aspartate aminotransferase [AST] level greater than twice the upper limit of normal)
  - **HIV infection**
  - **Men who have sex with men**
  - **Injection or noninjection drug use**
  - **Persons experiencing homelessness**
  - **Work with hepatitis A virus** in research laboratory or with nonhuman primates with hepatitis A virus infection
  - **Travel in countries with high or intermediate endemic hepatitis A** (HepA-HepB [Twinrix] may be administered on an accelerated schedule of 3 doses at 0, 7, and 21–30 days, followed by a booster dose at 12 months)
  - **Close, personal contact with international adoptee** (e.g., household or regular babysitting) in first 60 days after arrival from country with high or intermediate endemic hepatitis A (administer dose 1 as soon as adoption is planned, at least 2 weeks before adoptee's arrival)
  - **Pregnancy** if at risk for infection or severe outcome from infection during pregnancy
  - **Settings for exposure, including** health care settings targeting services to injection or noninjection drug users or group homes and nonresidential day care facilities for developmentally disabled persons (individual risk factor screening not required)

Hepatitis B vaccination

Routine vaccination

- **Age 19 through 59 years:** complete a 2- or 3-, or 4-dose series
  - 2-dose series only applies when 2 doses of Heplisav-B* are used at least 4 weeks apart
  - 3-dose series Engerix-B or Recombivax HB at 0, 1, 6 months [minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 8 weeks / dose 1 to dose 3: 16 weeks])
  - 3-dose series HepA-HepB (Twinrix at 0, 1, 6 months [minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 5 months])
  - 4-dose series HepA-HepB (Twinrix) accelerated schedule of 3 doses at 0, 7, and 21–30 days, followed by a booster dose at 12 months
  - 4-dose series Engerix-B at 0, 1, 2, and 6 months for persons on adult hemodialysis (note: each dosage is double that of normal adult dose, i.e., 2 mL instead of 1 mL)

***Note:** Heplisav-B not recommended in pregnancy due to lack of safety data in pregnant women

Special situations

- **Age 60 years or older* and at risk for hepatitis B virus infection:** 2-dose (Heplisav-B) or 3-dose (Engerix-B, Recombivax HB) series or 3-dose series HepA-HepB (Twinrix) as above
  - **Chronic liver disease** (e.g., persons with hepatitis C, cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, alanine aminotransferase [ALT] or aspartate aminotransferase [AST] level greater than twice upper limit of normal)
  - **HIV infection**
  - **Sexual exposure risk** (e.g., sex partners of hepatitis B surface antigen [HBsAg]-positive persons; sexually active persons not in mutually monogamous relationships; persons seeking evaluation or treatment for a sexually transmitted infection; men who have sex with men)
  - **Current or recent injection drug use**
  - **Percutaneous or mucosal risk for exposure to blood** (e.g., household contacts of HBsAg-positive persons; residents and staff of facilities for developmentally disabled persons; health care and public safety personnel with reasonably anticipated risk for exposure to blood or blood-contaminated body fluids; hemodialysis, peritoneal dialysis, home dialysis, and predialysis patients; patients with diabetes)
  - **Incarcerated persons**
  - **Travel in countries with high or intermediate endemic hepatitis B**

***Note:** Anyone age 60 years or older who does not meet risk-based recommendations may still receive Hepatitis B vaccination.

Human papillomavirus vaccination

Routine vaccination

- **HPV vaccination recommended for all persons through age 26 years:** 2- or 3-dose series depending on age at initial vaccination or condition:
  - **Age 15 years or older at initial vaccination:** 3-dose series at 0, 1–2 months, 6 months (minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 12 weeks / dose 1 to dose 3: 5 months; repeat dose if administered too soon)
  - **Age 9–14 years at initial vaccination and received 1 dose or 2 doses less than 5 months apart:** 1 additional dose
  - **Age 9–14 years at initial vaccination and received 2 doses at least 5 months apart:** HPV vaccination series complete, no additional dose needed

Notes Recommended Adult Immunization Schedule, United States, 2022

- **Interrupted schedules:** If vaccination schedule is interrupted, the series does not need to be restarted
- **No additional dose recommended when any HPV vaccine series has been completed using the recommended dosing intervals.**

Shared clinical decision-making

- **Some adults age 27–45 years: Based on shared clinical decision-making,** 2- or 3-dose series as above

Special situations

- **Age ranges recommended above for routine and catch-up vaccination or shared clinical decision-making also apply in special situations**
  - **Immunocompromising conditions, including HIV infection**: 3-dose series, even for those who initiate vaccination at age 9 through 14 years.
  - **Pregnancy**: Pregnancy testing is not needed before vaccination; HPV vaccination is not recommended until after pregnancy; no intervention needed if inadvertently vaccinated while pregnant

Influenza vaccination

Routine vaccination

- **Age 19 years or older:** 1 dose any influenza vaccine appropriate for age and health status annually
- For the 2021–2022 season, see www.cdc.gov/mmwr/volumes/70/rr/rr7005a1.htm
- For the 2022–23 season, see the 2022–23 ACIP influenza vaccine recommendations.

Special situations

- **Egg allergy, hives only:** any influenza vaccine appropriate for age and health status annually
- **Egg allergy–any symptom other than hives** (e.g., angioedema, respiratory distress) or required epinephrine or another emergency medical intervention: see Appendix listing contraindications and precautions
- **Severe allergic reaction (e.g., anaphylaxis) to a vaccine component or a previous dose of any influenza vaccine:** see Appendix listing contraindications and precautions
- **History of Guillain-Barré syndrome within 6 weeks after previous dose of influenza vaccine:** Generally, should not be vaccinated unless vaccination benefits outweigh risks for those at higher risk for severe complications from influenza

Measles, mumps, and rubella vaccination

Routine vaccination

- **No evidence of immunity to measles, mumps, or rubella:** 1 dose
  - **Evidence of immunity:** Born before 1957 (health care personnel, see below), documentation of receipt of MMR vaccine, laboratory evidence of immunity or disease (diagnosis of disease without laboratory confirmation is not evidence of immunity)

Special situations

- **Pregnancy with no evidence of immunity to rubella:** MMR contraindicated during pregnancy; after pregnancy (before discharge from health care facility), 1 dose
- **Nonpregnant women of childbearing age with no evidence of immunity to rubella:** 1 dose
- **HIV infection with CD4 percentages ≥15% and CD4 count ≥200 cells/mm^3 for at least 6 months and no evidence of immunity to measles, mumps, or rubella:** 2-dose series at least 4 weeks apart; MMR contraindicated for HIV infection with CD4 percentage <15% or CD4 count <200 cells/mm^3
- **Severe immunocompromising conditions:** MMR contraindicated
- **Students in postsecondary educational institutions, international travelers, and household or close, personal contacts of immunocompromised persons with no evidence of immunity to measles, mumps, or rubella:** 2-dose series at least 4 weeks apart if previously did not receive any doses of MMR or 1 dose if previously received 1 dose MMR
- **Health care personnel:**
  - **Born before 1957 with no evidence of immunity to measles, mumps, or rubella:** Consider 2-dose series at least 4 weeks apart for measles or mumps or 1 dose for rubella
  - **Born in 1957 or later with no evidence of immunity to measles, mumps, or rubella:** 2-dose series at least 4 weeks apart for measles or mumps or at least 1 dose for rubella

Meningococcal vaccination

Special situations for MenACWY

- **Anatomical or functional asplenia (including sickle cell disease), HIV infection, persistent complement component deficiency, complement inhibitor (e.g., eculizumab, ravulizumab) use:** 2-dose series MenACWY-D (Menactra, Menveo, or MenQuadfi) at least 8 weeks apart and revaccinate every 5 years if risk remains
- **Travel in countries with hyperendemic or epidemic meningococcal disease, or microbiologists routinely exposed to *Neisseria meningitidis*:** 1 dose MenACWY (Menactra, Menveo, or MenQuadfi) and revaccinate every 5 years if risk remains
- **First-year college students who live in residential housing (if not previously vaccinated at age 16 years or older) or military recruits:** 1 dose MenACWY (Menactra, Menveo, or MenQuadfi)
- For MenACWY **booster dose recommendations** for groups listed under "Special situations" and in an outbreak setting (e.g., in community or organizational settings and among men who have sex with men) and additional meningococcal vaccination information, see www.cdc.gov/mmwr/volumes/69/rr/rr6909a1.htm

Shared clinical decision-making for MenB

- **Adolescents and young adults age 16–23 years (age 16–18 years preferred) not at increased risk for meningococcal disease:** Based on shared clinical decision-making, 2-dose series MenB-4C (Bexsero) at least 1 month apart or 2-dose series MenB-FHbp (Trumenba) at 0, 6 months (if dose 2 was administered less than 6 months after dose 1, administer dose 3 at least 4 months after dose 2); MenB-4C and MenB-FHbp are not interchangeable (use same product for all doses in series)

Special situations for MenB

- **Anatomical or functional asplenia (including sickle cell disease), persistent complement component deficiency, complement inhibitor (e.g., eculizumab, ravulizumab) use, or microbiologists routinely exposed to *Neisseria meningitidis*:**
- 2-dose primary series MenB-4C (Bexsero) at least 1 month apart or 3-dose primary series MenB-FHbp (Trumenba) at 0, 1–2, 6 months (if dose 2 was administered at least 6 months after dose 1, dose 3 not needed); MenB-4C and MenB-FHbp are not interchangeable (use same product for all doses in series); 1 dose MenB booster 1 year after primary series and revaccinate every 2–3 years if risk remains

Notes Recommended Adult Immunization Schedule, United States, 2022

- **Pregnancy:** Delay MenB until after pregnancy unless at increased risk and vaccination benefits outweigh potential risks
- For MenB **booster dose recommendations** for groups listed under "Special situations" and in an outbreak setting (e.g., in community or organizational settings and among men who have sex with men) and additional meningococcal vaccination information, see www.cdc.gov/mmwr/volumes/69/rr/rr6909a1.htm

Note: MenB vaccines may be administered simultaneously with MenACWY vaccines if indicated, but at a different anatomic site, if feasible.

Pneumococcal vaccination

Routine vaccination

- **Age 65 years or older** who have not previously received a pneumococcal conjugate vaccine or whose previous vaccination history is unknown: 1 dose PCV15 or 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* cochlear implant, or cerebrospinal fluid leak to minimize the risk of invasive pneumococcal disease caused by serotypes unique to PPSV23 in these vulnerable groups.
- For guidance for patients who have already received a previous dose of PCV13 and/or PPSV23, see www.cdc.gov/mmwr/volumes/71/wr/mm7104a1.htm.

Special situations

- **Age 19–64 years** with certain underlying medical conditions or other risk factors** who have not previously received a pneumococcal conjugate vaccine or whose previous vaccination history is unknown: 1 dose PCV15 or 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* cochlear implant, or cerebrospinal fluid leak to minimize the risk of invasive pneumococcal disease caused by serotypes unique to PPSV23 in these vulnerable groups.
- For guidance for patients who have already received a previous dose of PCV13 and/or PPSV23, see www.cdc.gov/mmwr/volumes/71/wr/mm7104a1.htm.

*__Note:__ Immunocompromising conditions include chronic renal failure, nephrotic syndrome, immunodeficiency, iatrogenic immunosuppression, generalized malignancy, human immunodeficiency virus, Hodgkin disease, leukemia, lymphoma, multiple myeloma, solid organ transplants, congenital or acquired asplenia, sickle cell disease, or other hemoglobinopathies.

**__Note:__ Underlying medical conditions or other risk factors include alcoholism, chronic heart/liver/lung disease, chronic renal failure, cigarette smoking, cochlear implant, congenital or acquired asplenia, CSF leak, diabetes mellitus, generalized malignancy, HIV, Hodgkin disease, immunodeficiency, iatrogenic immunosuppression, leukemia, lymphoma, multiple myeloma, nephrotic syndrome, solid organ transplants, or sickle cell disease or other hemoglobinopathies.

Tetanus, diphtheria, and pertussis vaccination

Routine vaccination

- **Previously did not receive Tdap at or after age 11 years:** 1 dose Tdap, then Td or Tdap every 10 years

Special situations

- **Previously did not receive primary vaccination series for tetanus, diphtheria, or pertussis:** 1 dose Tdap followed by 1 dose Td or Tdap at least 4 weeks after Tdap and another dose Td or Tdap 6–12 months after last Td or Tdap (Tdap can be substituted for any Td dose, but preferred as first dose), Td or Tdap every 10 years thereafter
- **Pregnancy:** 1 dose Tdap during each pregnancy, preferably in early part of gestational weeks 27–36
- **Wound management:** Persons with 3 or more doses of tetanus-toxoid-containing vaccine: For clean and minor wounds, administer Tdap or Td if more than 10 years since last dose of tetanus-toxoid-containing vaccine; for all other wounds, administer Tdap or Td if more than 5 years since last dose of tetanus-toxoid-containing vaccine. Tdap is preferred for persons who have not previously received Tdap or whose Tdap history is unknown. If a tetanus-toxoid-containing vaccine is indicated for a pregnant woman, use Tdap. For detailed information, see www.cdc.gov/mmwr/volumes/69/wr/mm6903a5.htm

Varicella vaccination

Routine vaccination

- **No evidence of immunity to varicella:** 2-dose series 4–8 weeks apart if previously did not receive varicella-containing vaccine (VAR or MMRV [measles-mumps-rubella-varicella vaccine] for children); if previously received 1 dose varicella-containing vaccine, 1 dose at least 4 weeks after first dose
  - Evidence of immunity: U.S.-born before 1980 (except for pregnant women and health care personnel [see below]), documentation of 2 doses varicella-containing vaccine at least 4 weeks apart, diagnosis or verification of history of varicella or herpes zoster by a health care provider, laboratory evidence of immunity or disease

Special situations

- **Pregnancy with no evidence of immunity to varicella:** VAR contraindicated during pregnancy; after pregnancy (before discharge from health care facility), 1 dose if previously received 1 dose varicella-containing vaccine or dose 1 of 2-dose series (dose 2: 4–8 weeks later) if previously did not receive any varicella-containing vaccine, regardless of whether U.S.-born before 1980
- **Health care personnel with no evidence of immunity to varicella:** 1 dose if previously received 1 dose varicella-containing vaccine; 2-dose series 4–8 weeks apart if previously did not receive any varicella-containing vaccine, regardless of whether U.S.-born before 1980
- **HIV infection with CD4 percentages ≥15% and CD4 count ≥200 cells/mm^3 with no evidence of immunity:** Vaccination may be considered (2 doses 3 months apart); VAR contraindicated for HIV infection with CD4 percentage <15% or CD4 count <200 cells/mm^3
- **Severe immunocompromising conditions:** VAR contraindicated

Zoster vaccination

Routine vaccination

- **Age 50 years or older:** 2-dose series RZV (Shingrix) 2–6 months apart (minimum interval: 4 weeks; repeat dose if administered too soon), regardless of previous herpes zoster or history of zoster vaccine live (ZVL, Zostavax) vaccination (administer RZV at least 2 months after ZVL)

Special situations

- **Pregnancy:** There is currently no ACIP recommendation for RZV use in pregnancy. Consider delaying RZV until after pregnancy.
- **Immunocompromising conditions (including HIV):** RZV recommended for use in persons age 19 years or older who are or will be immunodeficient or immunosuppressed because of disease or therapy. For detailed information, see www.cdc.gov/mmwr/volumes/71/wr/mm7103a2.htm.

Appendix Recommended Adult Immunization Schedule, United States, 2022

Guide to Contraindications and Precautions to Commonly Used Vaccines

Adapted from Table 4-1 in Advisory Committee on Immunization Practices (ACIP) General Best Practice Guidelines for Immunization: Contraindication and Precautions available at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html *and ACIP's Recommendations for the Prevention and Control of 2021-22 Seasonal Influenza with Vaccines available at www.cdc.gov/mmwr/volumes/70/rr/rr7005a1.htm*

Interim clinical considerations for use of COVID-19 vaccines including contraindications and precautions can be found at www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html

Vaccine	Contraindications[1]	Precautions[2]
Influenza, egg-based, inactivated injectable (IIV4)	• Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IIV, ccIIV, RIV, or LAIV of any valency) • Severe allergic reaction (e.g., anaphylaxis) to any vaccine component[3] (excluding egg)	• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Persons with egg allergy with symptoms other than hives (e.g., angioedema, respiratory distress) or required epinephrine or another emergency medical intervention: Any influenza vaccine appropriate for age and health status may be administered. If using egg-based IIV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist. • Moderate or severe acute illness with or without fever
Influenza, cell culture-based inactivated injectable [(ccIIV4), Flucelvax® Quadrivalent]	• Severe allergic reaction (e.g., anaphylaxis) to any ccIIV of any valency, or to any component[3] of ccIIV4	• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IIV, RIV, or LAIV of any valency. If using ccIV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist. • Moderate or severe acute illness with or without fever
Influenza, recombinant injectable [(RIV4), Flublok® Quadrivalent]	• Severe allergic reaction (e.g., anaphylaxis) to any RIV of any valency, or to any component[3] of RIV4	• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IIV, ccIIV, or LAIV of any valency. If using RIV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist. • Moderate or severe acute illness with or without fever
Influenza, live attenuated [LAIV4, Flumist® Quadrivalent]	• Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IIV, ccIIV, RIV, or LAIV of any valency) • Severe allergic reaction (e.g., anaphylaxis) to any vaccine component[3] (excluding egg) • Adults age 50 years or older • Anatomic or functional asplenia • Immunocompromised due to any cause including, but not limited to, medications and HIV infection • Close contacts or caregivers of severely immunosuppressed persons who require a protected environment • Pregnancy • Cochlear implant • Active communication between the cerebrospinal fluid (CSF) and the oropharynx, nasopharynx, nose, ear, or any other cranial CSF leak • Received influenza antiviral medications oseltamivir or zanamivir within the previous 48 hours, peramivir within the previous 5 days, or baloxavir within the previous 17 days.	• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Asthma in persons aged 5 years old or older • Persons with egg allergy with symptoms other than hives (e.g., angioedema, respiratory distress) or required epinephrine or another emergency medical intervention: Any influenza vaccine appropriate for age and health status may be administered. If using LAIV4 (which is egg based), administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist. • Persons with underlying medical conditions (other than those listed under contraindications) that might predispose to complications after wild-type influenza virus infection [e.g., chronic pulmonary, cardiovascular (except isolated hypertension), renal, hepatic, neurologic, hematologic, or metabolic disorders (including diabetes mellitus)] • Moderate or severe acute illness with or without fever

1. When a contraindication is present, a vaccine should NOT be administered. Kroger A, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization. www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html
2. When a precaution is present, vaccination should generally be deferred but might be indicated if the benefit of protection from the vaccine outweighs the risk for an adverse reaction. Kroger A, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization. www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html
3. Vaccination providers should check FDA-approved prescribing information for the most complete and updated information, including contraindications, warnings, and precautions. Package inserts for U.S.-licensed vaccines are available at www.fda.gov/vaccines-blood-biologics/approved-products/vaccines-licensed-use-united-states.

Appendix Recommended Adult Immunization Schedule, United States, 2022

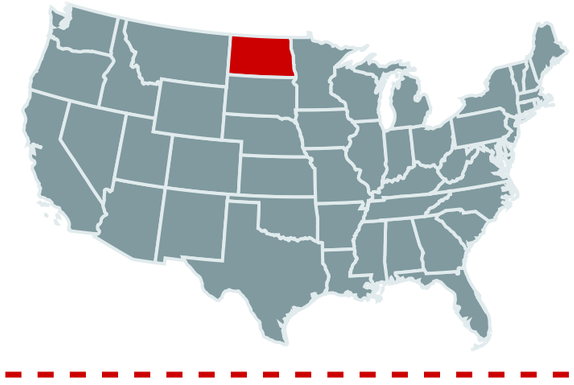
Vaccine	Contraindications[1]	Precautions[2]
Haemophilus influenzae type b (Hib)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • For Hiberix, ActHib, and PedvaxHIB only: History of severe allergic reaction to dry natural latex	• Moderate or severe acute illness with or without fever
Hepatitis A (HepA)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] including neomycin	• Moderate or severe acute illness with or without fever
Hepatitis B (HepB)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] including yeast • For Heplisav-B only: Pregnancy	• Moderate or severe acute illness with or without fever
Hepatitis A- Hepatitis B vaccine [HepA-HepB, (Twinrix®)]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] including neomycin and yeast	• Moderate or severe acute illness with or without fever
Human papillomavirus (HPV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Moderate or severe acute illness with or without fever
Measles, mumps, rubella (MMR)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe immunodeficiency (e.g., hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, long-term immunosuppressive therapy or patients with HIV infection who are severely immunocompromised) • Pregnancy • Family history of altered immunocompetence, unless verified clinically or by laboratory testing as immunocompetent	• Recent (≤11 months) receipt of antibody-containing blood product (specific interval depends on product) • History of thrombocytopenia or thrombocytopenic purpura • Need for tuberculin skin testing or interferon-gamma release assay (IGRA) testing • Moderate or severe acute illness with or without fever
Meningococcal ACWY (MenACWY) [MenACWY-CRM (Menveo®); MenACWY-D (Menactra®); MenACWY-TT (MenQuadfi®)]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • For MenACWY-D and Men ACWY-CRM only: severe allergic reaction to any diphtheria toxoid– or CRM197–containing vaccine • For MenACWY-TT only: severe allergic reaction to a tetanus toxoid-containing vaccine	• Moderate or severe acute illness with or without fever
Meningococcal B (MenB) [MenB-4C (Bexsero); MenB-FHbp (Trumenba)]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Pregnancy • For MenB-4C only: Latex sensitivity • Moderate or severe acute illness with or without fever
Pneumococcal conjugate (PCV15)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe allergic reaction (e.g., anaphylaxis) to any diphtheria-toxoid–containing vaccine or to its vaccine component[3]	• Moderate or severe acute illness with or without fever
Pneumococcal conjugate (PCV20)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe allergic reaction (e.g., anaphylaxis) to any diphtheria-toxoid– containing vaccine or to its vaccine component[3]	• Moderate or severe acute illness with or without fever
Pneumococcal polysaccharide (PPSV23)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Moderate or severe acute illness with or without fever
Tetanus, diphtheria, and acellular pertussis (Tdap) Tetanus, diphtheria (Td)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • For Tdap only: Encephalopathy (e.g., coma, decreased level of consciousness, prolonged seizures), not attributable to another identifiable cause, within 7 days of administration of previous dose of DTP, DTaP, or Tdap	• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of tetanus-toxoid–containing vaccine • History of Arthus-type hypersensitivity reactions after a previous dose of diphtheria-toxoid—containing or tetanus-toxoid– containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid–containing vaccine • Moderate or severe acute illness with or without fever • For Tdap only: Progressive or unstable neurological disorder, uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized
Varicella (VAR)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe immunodeficiency (e.g., hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, long- term immunosuppressive therapy or patients with HIV infection who are severely immunocompromised) • Pregnancy • Family history of altered immunocompetence, unless verified clinically or by laboratory testing as immunocompetent	• Recent (≤11 months) receipt of antibody-containing blood product (specific interval depends on product) • Receipt of specific antiviral drugs (acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination (avoid use of these antiviral drugs for 14 days after vaccination) • Use of aspirin or aspirin-containing products • Moderate or severe acute illness with or without fever
Zoster recombinant vaccine (RZV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Moderate or severe acute illness with or without fever • Current herpes zoster infection

1. When a contraindication is present, a vaccine should NOT be administered. Kroger A, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization. www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html
2. When a precaution is present, vaccination should generally be deferred but might be indicated if the benefit of protection from the vaccine outweighs the risk for an adverse reaction. Kroger A, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization. www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html
3. Vaccination providers should check FDA-approved prescribing information for the most complete and updated information, including contraindications, warnings, and precautions. Package inserts for U.S.-licensed vaccines are available at www.fda.gov/vaccines-blood-biologics/approved-products/vaccines-licensed-use-united-states.

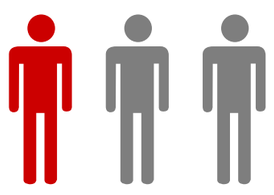
Hypertension and Self-Measured Blood Pressure Resources

Hypertension

Also known as high blood pressure and the "silent killer"



In North Dakota, 29.6% of adults have been told they have high blood pressure (2017)



1 in every 3 adults in the U.S. have high blood pressure

1 in every 5 adults in the U.S. with high blood pressure still don't know they have it

$48.6 billion is spent on high blood pressure every year in the U.S.

Keep your blood pressure in check:

Know Your Numbers

Have your blood pressure checked by a healthcare provider

Eat Healthy

Include more fruits and vegetables throughout the day and strive for 5 or more

Read food labels and limit sodium intake to:

- <2,300 mg/day (adults with normal BP)
- <1,500 mg/day (adults with high BP)

Category	Systolic		Diastolic
Normal	Less than 120	AND	Less than 80
Elevated	120-129	AND	Less than 80
Hypertension (1)	130-139	OR	80-89
Hypertension (2)	140 or higher	OR	90 or higher
Hypertension Crisis	Higher than 180	AND/OR	Higher than 120

* For adults ages 18 and older who are not on medicine for high blood pressure and do not have a short-term serious illness.
\+ If systolic and diastolic pressures fall into different categories, overall status is the higher category.
Source: 2017 Guidelines for Diagnosing, Treating and Living with High Blood Pressure, American Heart Association (AHA) Published: Nov. 13, 2017

Be Active and Maintain Healthy Weight

Physical activity helps manage blood pressure, maintain weight, and reduce stress

Quit Smoking and Reduce Alcohol Consumption

Smoking temporarily increases blood pressure for up to **20** minutes after each cigarette

Limit alcohol intake to no more than:

- 1 drink/day for women
- 2 drinks/day for men

NORTH Dakota | Health
Be Legendary.™

Heart Disease & Stroke prevention program

For more information please contact:
Heart Disease & Stroke Prevention Program
Division of Health Promotion
North Dakota Department of Health
Phone: 701.328.2367 or 800.280.5512 (in ND)
https://heartstroke.health.nd.gov

References: 1. Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System. (2017) North Dakota Core Questions Data Report.
2. Centers for Disease Control and Prevention, High Blood Pressure Facts. Retrieved from: https://www.cdc.gov/dhdsp/data_statistics/fact_sheets/fs_bloodpressure.htm

Community Based Blood Pressure (BP) Screening Algorithm

Prior to Screening:

1. Individual in a seated position, legs uncrossed, and arm at heart level
2. Cuff should not be placed over any clothing
3. Observe level of noise in the room
4. Ask about previous BP dx and/or medications
5. Ask about factors affecting BP (coffee, exercise, anxiety, smoking in the last 30 minutes)

Wait 1 to 5 minutes

1st Blood Pressure Reading

Normal
<120/<80

Complete Screening
(Advise recheck again in 1 year)

Elevated BP
SBP 120-129 or DBP <80

Current HTN Diagnosis?
Discuss medication adherence and lifestyle modification.

No Diagnosis?
Discuss lifestyle modification and **schedule follow-up screening** at pharmacy.

Still elevated?
Assess patients interest in lifestyle modification. Refer patient to discuss with provider during next visit.

Hypertension Stage 1
SBP 130-139 or DBP 80-89

Current HTN Diagnosis?
Discuss medication adherence and lifestyle modification.
Schedule follow-up screening.
Recommend SMBP.

No Diagnosis?
Schedule follow-up screening at pharmacy.
If patient refuses, refer patient to provider.

Hypertension Stage 2
SBP ≥140 or DBP ≥90

Wait 1 to 5 minutes

2nd Blood Pressure Reading

Hypertension Stage 1
SBP 130-139 or DBP 80-89

Current HTN Diagnosis?
Discuss medication adherence and lifestyle modification.
Schedule follow-up screening.
Recommend SMBP.

No Diagnosis?
Schedule follow-up screening at pharmacy.
If patient refuses, refer patient to provider.

Hypertension Stage 2
SBP ≥140 or DBP ≥90

Current HTN Diagnosis?
Discuss medication adherence. Discuss SMBP with patient.
Contact provider with additional recommendations.

No Diagnosis?
Contact provider with recommendation.
Discuss SMBP with patient.

Hypertensive Crisis
SBP >180 and/or DBP >120

Contact provider immediately.
Determine if patient has a safe ride to the clinic or hospital.
If not, arrange for transportation.

Hypertensive Crisis
SBP >180 and/or DBP >120

Contact provider immediately.
Determine if patient has a safe ride to the clinic or hospital.
If not, arrange for transportation.

Did you contact a provider or need to follow-up with patient?
Ask the following questions:
- Was your health care provider seen?
- Has a new treatment plan been ordered?
- Is your blood pressure reduced or controlled?

North Dakota | Health
Be Legendary.™

For more information please contact:
Heart Disease & Stroke Prevention Program
Division of Health Promotion
North Dakota Department of Health
Phone: 701.328.2367 or 800.280.5512 (in ND)
https://heartstroke.health.nd.gov

Heart Disease & Stroke prevention program

Measuring Blood Pressure
... the right way

Patients

1. Be Prepared

Before your appointment:

- Empty bladder and bowel
- Sit calmly for 5 minutes

Avoid 30 minutes before:

- Vigorous physical activity
- Coffee, caffeinated soda (regular or diet), alcohol or smoking

2. During Blood Pressure

Body Position:

1. Bare upper arm supported at heart level (resting on a desk or table)
2. Uncrossed legs
3. Both feet flat on the floor
4. Seated in a chair with back support

Do not talk!

Providers

Remember to:

1. Calibrate device regularly according to manufacturer's recommendations

2. Wash your hands

3. Choose the Proper Cuff Size

Cuff Sizes

Indication	Arm Circumference (in.)	Arm Circumference (cm)
Small Adult	9-10 in.	22-26 cm
Standard Adult	11-13 in.	27-34 cm
Large Adult	14-17 in.	35-44 cm
Adult Thigh	18-21 in.	45-52 cm

NORTH Dakota | Health
Be Legendary.™

Heart Disease & Stroke prevention program

For more information please contact:
Heart Disease & Stroke Prevention Program
Division of Health Promotion
North Dakota Department of Health
Phone: 701.328.2367 or 800.280.5512 (in ND)
http://www.ndhealth.gov/heartstroke

BP interpretation tables
ACC/AHA 2017 Hypertension Guideline

Use this chart to reconcile in-office blood pressure (BP) and self-measured blood pressure (SMBP) measurements to classify and manage patients. All numbers are in mm Hg.

In-office BP average	SMBP average	Classification	Management
Less than 120/80	Less than 120/80	Normal blood pressure	Recheck BP in office in one year
120–129/less than 80	120–129/less than 80	Elevated BP	Healthy lifestyle changes and recheck SMBP every 3–6 months
Less than 130/80	Greater than or equal to 130/80	Masked hypertension	Manage as sustained hypertension due to increased cardiovascular risk or consider 24-hour ambulatory BP monitoring (ABPM)
Greater than or equal to 130/80	Less than 130/80	White coat hypertension	Recheck SMBP every six months
Greater than or equal to 130/80	120–129/less than 80	White coat hypertension and elevated BP	Healthy lifestyle changes and recheck SMBP every 3–6 months
Greater than or equal to 130/80	Greater than or equal to 130/80	Sustained hypertension	Manage per current hypertension guideline recommendations

What's Your Blood Pressure (BP)?

Your BP Reading Today:

Systolic Pressure
117
76
Diastolic Pressure

My Reading:

Is it right?
If your reading is higher than 120/80, follow up with your doctor.

What Your BP Numbers Mean:

Category	Systolic		Diastolic
Normal	Less than 120	AND	Less than 80
Elevated	120-129	AND	Less than 80
Hypertension (1)	130-139	OR	80-89

Keep up the great work!

If you have not been diagnosed with hypertension or have not had a doctor visit in the last 12 months: consult your doctor and consider weight reduction, physical activity, reducing salt intake, and quit smoking to lower your blood pressure.

Hypertension (2)	140 or higher	OR	90 or higher
Hypertension Crisis	Higher than 180	AND/OR	Higher than 120

If you have not been diagnosed with hypertension or have not had a doctor visit in the last 12 months:
please consult with your doctor as soon as possible.

NORTH Dakota | Health
Be Legendary.™

For more information please contact:
Heart Disease & Stroke Prevention Program
North Dakota Department of Health
Phone: 701.328.2367 or 800.280.5512 (in ND)
https://heartstroke.health.nd.gov

What's Your Blood Pressure (BP)?

Your BP Reading Today:

Systolic Pressure
117
76
Diastolic Pressure

My Reading:

Is it right?
If your reading is higher than 120/80, follow up with your doctor.

What Your BP Numbers Mean:

Category	Systolic		Diastolic
Normal	Less than 120	AND	Less than 80
Elevated	120-129	AND	Less than 80
Hypertension (1)	130-139	OR	80-89

Keep up the great work!

If you have not been diagnosed with hypertension or have not had a doctor visit in the last 12 months: consult your doctor and consider weight reduction, physical activity, reducing salt intake, and quit smoking to lower your blood pressure.

Hypertension (2)	140 or higher	OR	90 or higher
Hypertension Crisis	Higher than 180	AND/OR	Higher than 120

If you have not been diagnosed with hypertension or have not had a doctor visit in the last 12 months:
please consult with your doctor as soon as possible.

NORTH Dakota | Health
Be Legendary.™

For more information please contact:
Heart Disease & Stroke Prevention Program
North Dakota Department of Health
Phone: 701.328.2367 or 800.280.5512 (in ND)
https://heartstroke.health.nd.gov

What is self-measured blood pressure?

Self-measured blood pressure (SMBP) is when you measure your blood pressure outside of the doctor's office or other health care settings.

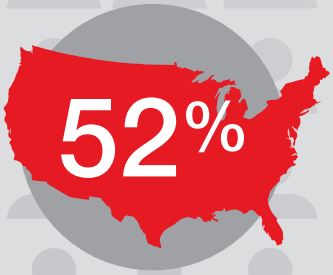
Why do I need to measure my blood pressure if it was already measured at the doctor's office?

SMBP allows you to measure at different times throughout the day and over a longer period of time, helping your doctor get a more complete picture of your blood pressure.

How does SMBP help improve my health?

By using SMBP you and your care team can come up with a treatment plan to better control your blood pressure, which can prevent more serious health problems.

The consequences of uncontrolled hypertension can be costly … and deadly.



of U.S. adults with high blood pressure do not have it under control

What do the numbers mean when I take a blood pressure reading?

Systolic blood pressure (SBP or SYS): Top number of your blood pressure measurement, indicates how much pressure your blood is exerting against your artery walls when the heart beats

Diastolic blood pressure (DBP or DIA): Bottom number of your blood pressure measurement, indicates how much pressure your blood is exerting against your artery walls while the heart is resting between beats

Pulse: Number of times the heart beats per minute

What are some important things to know before I start measuring my own blood pressure?

Use an SMBP device and blood pressure cuff that are recommended by your doctor or care team.

If you purchase your own device, ask your care team to check it for accuracy.

Understand the correct way to take a blood pressure reading.

Know when and how you will share your blood pressure readings with your doctor.

Make sure you have instructions from your care team on what to do if your blood pressure is out of the expected range.

How to measure your blood pressure at home

Follow these steps for an accurate blood pressure reading

1 PREPARE

Avoid caffeine, cigarettes and other stimulants 30 minutes before you measure your blood pressure.

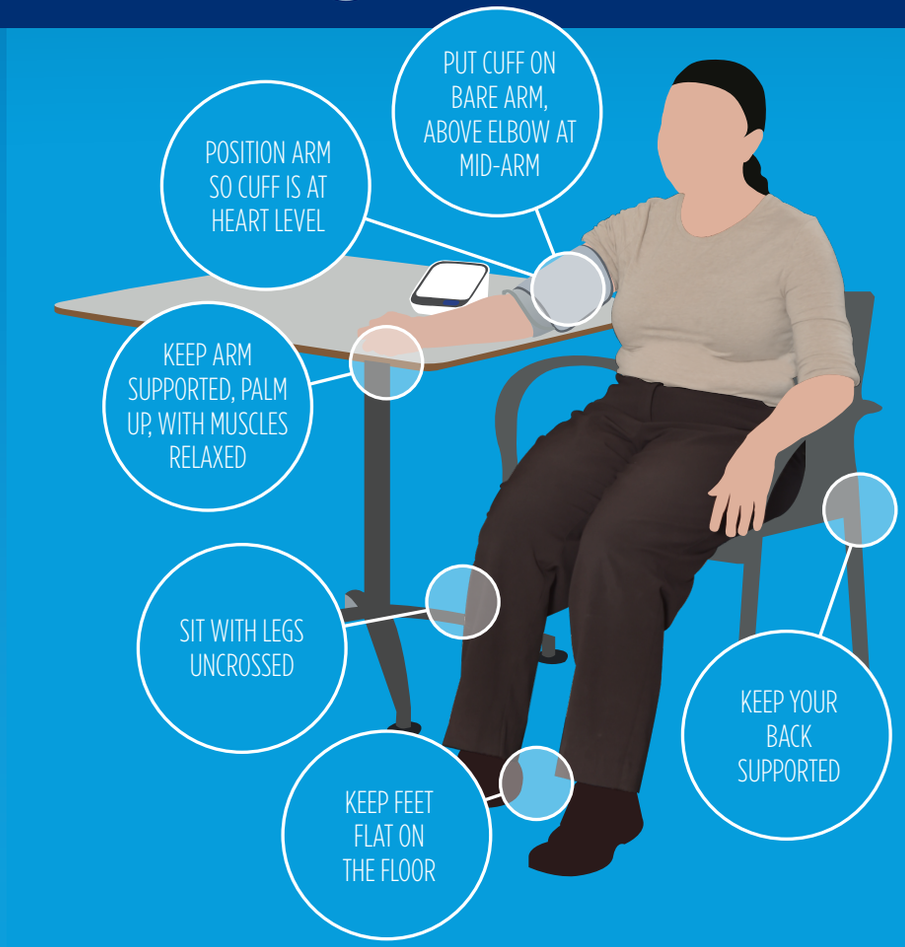
Wait at least 30 minutes after a meal.

If you're on blood pressure medication, measure your BP **before** you take your medication.

Empty your bladder beforehand.

Find a quiet space where you can sit comfortably without distraction.

2 POSITION



3 MEASURE

Rest for five minutes while in position before starting.

Take two or three measurements, one minute apart.

Keep your body relaxed and in position during measurements.

Sit quietly with no distractions during measurements—avoid conversations, TV, phones and other devices.

Record your measurements when finished.

AMA AMERICAN MEDICAL ASSOCIATION

Self-measured blood pressure

Device accuracy test[1]

A patient's self-measured blood pressure (SMBP) monitoring device should be tested before it is used as part of an SMBP program. Also test the device annually or any time blood pressure readings are questionable.

Step 1

Complete the table below.
Care team should take five blood pressure readings using a combination of the patient's SMBP device and the office's method of blood pressure measurement.

Measurement	Device	Systolic blood pressure (SBP)
A	Patient's	
B	Patient's	
C	Office's	
D	Patient's	
E	Office's	

SBP Example
133
132
141
134
139

Step 2

Part 1: Average measurements B and D ☐

Part 2: Compare average of B and D to measurement C ☐

Part 3: If the *difference* is …

- **Less than 5 mm Hg**, this device can be used for SMBP
- **Between 6 and 10 mm Hg**, proceed to Step 3
- **Greater than 10 mm Hg**, *replace* the device before proceeding with your SMBP program

Example
Part 1: (132 + 134) / 2 = 133
Part 2: 133 - 141 = 8 (note: if the difference is a negative number, ignore the negative sign)
Part 3: Difference is 8, which is between 6 and 10 mm Hg, so proceed to Step 3

Step 3

Part 1: Average measurements C and E ☐

Part 2: Compare average of C and E to measurement D ☐

Part 3: If the *difference* is …

- **Less than or equal to 10 mm Hg**, this device can be used for SMBP
- **Greater than 10 mm Hg**, *replace* the device before proceeding with your SMBP program

Example
Part 1: (141 + 139) / 2 = 140
Part 2: 140 - 134 = 6 (note: if the difference is a negative number, ignore the negative sign)
Part 3: Difference is 6, which is less than or equal to 10 mm Hg, so proceed with SMBP program

1. Eguchi et al. A Novel and Simple Protocol for the Validation of Home Blood Pressure Monitors in Clinical Practice. *Blood Press Monit.* 2012;17(5):210-213.

Self-measured blood pressure: Seven-day recording log

Instructions: Complete the information below each time you take a measurement. It is best to take two measurements in the morning and two measurements in the evening for a week. If you miss any blood pressure measurements, leave that section blank and continue for the next time.

Blood pressure arm: Left or right (circle one)

Day 1 _____ (Date)	Day 2 _____ (Date)	Day 3 _____ (Date)	Day 4 _____ (Date)	Day 5 _____ (Date)	Day 6 _____ (Date)	Day 7 _____ (Date)
Morning ☀	Morning ☀	Morning ☀	Morning ☀	Morning ☀	Morning ☀	Morning ☀
1 SYS / DIA	1 SYS / DIA	1 SYS / DIA	1 SYS / DIA	1 SYS / DIA	1 SYS / DIA	1 SYS / DIA
PULSE	PULSE	PULSE	PULSE	PULSE	PULSE	PULSE
2 SYS / DIA	2 SYS / DIA	2 SYS / DIA	2 SYS / DIA	2 SYS / DIA	2 SYS / DIA	2 SYS / DIA
PULSE	PULSE	PULSE	PULSE	PULSE	PULSE	PULSE
Notes	Notes	Notes	Notes	Notes	Notes	Notes
Evening ☾	Evening ☾	Evening ☾	Evening ☾	Evening ☾	Evening ☾	Evening ☾
1 SYS / DIA	1 SYS / DIA	1 SYS / DIA	1 SYS / DIA	1 SYS / DIA	1 SYS / DIA	1 SYS / DIA
PULSE	PULSE	PULSE	PULSE	PULSE	PULSE	PULSE
2 SYS / DIA	2 SYS / DIA	2 SYS / DIA	2 SYS / DIA	2 SYS / DIA	2 SYS / DIA	2 SYS / DIA
PULSE	PULSE	PULSE	PULSE	PULSE	PULSE	PULSE
Notes	Notes	Notes	Notes	Notes	Notes	Notes

For office use

Patient name:

Patient ID:

PCP:

Total average: SYS / DIA

Report back results by:

- ☐ Appointment
- ☐ Phone
- ☐ Email
- ☐ Patient Portal
- ☐ Other

Important information

Please call your doctor's office if:

- **Your blood pressure is above _____ SYS or _____ DIA**
- **Your blood pressure is below _____ SYS or _____ DIA**
- **You have symptoms that concern you or have a question about your blood pressure.**

AMA AMERICAN MEDICAL ASSOCIATION | Control high BP

Self-measured blood pressure

Using a wrist cuff to measure blood pressure*

*** When an upper arm cuff cannot be used, validated wrist devices can be used for blood pressure estimation.[1]**

Correct forearm position

for wrist blood pressure measurement

1. **Apply the wrist device**
2. **Keep elbow on table or desk with forearm bent**
3. **Place the wrist at heart level**
4. **Keep arm relaxed and hand resting against your body**
5. **Measure wrist blood pressure without moving arm from seated position**

Incorrect forearm position[2]

Wrist higher than heart level

Forearm in horizontal position

Forearm vertical and close to the body

1. Nerenberg K et al. Hypertension Canada's 2018 guidelines for diagnosis, risk, assessment, prevention, and treatment of hypertension in adults and children. *CJC*. www.onlinecjc.ca/article/S0828-282X(18)30183-1/fulltext. Accessed April 24, 2018.

2. Casiglia et al. Poor reliability of wrist blood pressure self-measurement at home: A population-based study. *Hypertension*. http://hyper.ahajournals.org/content/early/2016/08/22/HYPERTENSIONAHA.116.07961. Accessed April 24, 2018.

Self-measured blood pressure

Patient training checklist: Loaner device

Instructions: Use this checklist when training a patient how to perform self-measured blood pressure (SMBP) using a loaner device to ensure you cover all components.

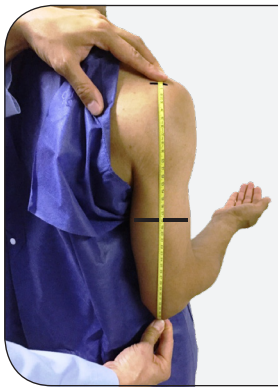
☐ **Gather supplies**
- ☐ Tape measure
- ☐ SMBP loaner device
- ☐ Blood pressure cuff
- ☐ Batteries or power cord
- ☐ What is SMBP? (PDF)
- ☐ SMBP infographic (PDF in English or Spanish)
- ☐ SMBP recording log (PDF)
- ☐ SMBP loaner device agreement (PDF)

☐ **Update "SMBP loaner device inventory management" sheet**

☐ **Provide background information on SMBP to the patient (if not explained by provider)**
- ☐ Explain how SMBP allows the provider to get a more accurate and complete picture of the patient's blood pressure outside of the office (more readings, over a longer period of time, in the patient's normal environment)

Tip: Hand out the "What is SMBP?" document.

☐ **Determine SMBP cuff size**
- ☐ Use tape measure to measure the circumference of patient's mid-upper arm in centimeters (see adjacent image)



Locate mid-upper arm

Using a measuring tape, place one end on bony prominence at the shoulder (acromion process) and measure length of arm to bony protuberance at the elbow (olecranon process). Divide this distance in half and that is the mid-upper arm where you should measure arm circumference for determining cuff size.

Source: https://wwwn.cdc.gov/nchs/data/nhanes/2017-2018/manuals/2017_Anthropometry_Procedures_Manual.pdf

☐ **Determine patient's blood pressure arm (if not currently identified)**
- ☐ Measure patient's blood pressure in each arm and use arm with higher reading for all future readings

☐ **Teach patient how to properly prepare for self-measurement**
- ☐ Avoid caffeine, tobacco and exercise for at least 30 minutes before measurement
- ☐ Empty bladder if full
- ☐ Take BP measurements before blood pressure medications

Tip: Show SMBP training video and hand out the SMBP infographic.

☐ **Teach patient proper positioning for self-measurement**

- ☐ Back supported
- ☐ Feet flat on the floor or a firm surface
- ☐ Legs uncrossed
- ☐ Cuff placed on bare upper arm
- ☐ Arm supported with middle of cuff at heart level

Tip: Refer to the SMBP video and/or infographic.

☐ **Teach patient how to use loaner device***

- ☐ How to turn on device
- ☐ How to start measurement
- ☐ How to troubleshoot

** Refer to device manual as needed.*

☐ **Teach patient how to properly self-measure**

- ☐ Rest quietly for five minutes
- ☐ Take two measurements, one minute apart
- ☐ Avoid conversations and electronic devices during measurement
- ☐ Perform this process once in the a.m. and once in the p.m. for seven consecutive days

Tip: Provide patient with link to SMBP training video to reference later (also available in Spanish).

☐ **Teach patient how to use SMBP recording log**

- ☐ Reminder: Staff to complete "For Office Use" section
- ☐ How to document systolic and diastolic blood pressure
- ☐ What to do if blood pressure is too high or too low
- ☐ What to do with log when week of measurements is complete

☐ **Use teach back or return demonstration methods to ensure patient understands how to properly self-measure**

☐ **Complete SMBP loaner device agreement**

☐ **Ensure all necessary office paperwork is complete**

Self-measured blood pressure monitoring

Loaner program agreement

FOR OFFICE STAFF

Lender information

_____

Organization name

_____

Address

_____

Phone number

Equipment information

_____

Device manufacturer and model

_____

Device ID

Supplies (check all that apply):

- ☐ BP cuff (variable size)
- ☐ BP cuff (XL)
- ☐ Carrying case
- ☐ Batteries _____
- ☐ Power cord
- ☐ Other _____

Patient information

_____

Name

_____

Patient ID

_____

Preferred contact information (phone or email)

Return by: _____/_____/_____
Month Day Year

☐ I agree to participate in the self-measured blood pressure device loaner program and follow the guidelines given to me.

☐ I agree to return this device in good working condition on or before its due date.

_____ _____

Patient signature **Date**

Self-measured blood pressure

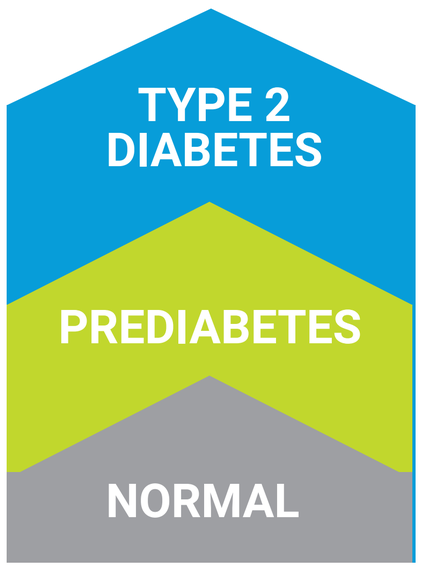
Inventory management: Loaner device tracking

For office use

Device information		Patient information			Loan information			Cleaning
Device ID	Cuff size	First name	Last name	Patient ID	Loan date	Due date	Return date	Date cleaned

Prediabetes Resources

Prediabetes THE BASICS



Prediabetes is a condition of elevated glucose above normal, but below the threshold for Type 2 Diabetes

Results Indicating Prediabetes	
A1C	5.7 - 6.4 %
Fasting Glucose	100 - 125 mg/dL
OGTT	140 - 199 mg/dL

Approximately **1:3** American adults have prediabetes
90% of those people do not know they have it

Risk Factors for Type 2 Diabetes

- Being Older than 45
- Having High Blood Pressure
- Being Overweight
- Gestational Diabetes
- Having a Family History
- Physical Inactivity

Without intervention, **5-10%** of prediabetes cases each year will progress to type 2 diabetes

Weight loss of 5-7%

can cut the risk type 2 diabetes in

HALF

ROLE OF PHARMACY

SCREEN
patients >18 using the prediabetes risk test

CONTACT
PCP and recommend diagnostic testing

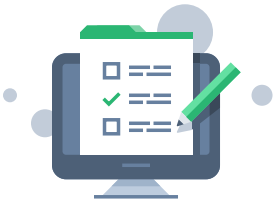
REFER
to the National DPP at www.NDC3.org

COULD YOU HAVE **PREDIABETES?**

More than **1 in 3** American adults have prediabetes, and most don't know they have it. Could this be you? Find out if you have prediabetes while waiting for your COVID-19 vaccination.

DID YOU KNOW?

Having prediabetes means your blood glucose (sugar) levels are higher than normal but not high enough yet for a diagnosis of type 2 diabetes. Having prediabetes raises your risk of type 2 diabetes, heart disease, and stroke.



STEP 1

TAKE THE PREDIABETES RISK TEST

Take the **1-minute prediabetes risk test** today while getting your COVID-19 vaccination by using the QR code or URL below. The sooner you know you have prediabetes, the sooner you can take action to reverse it and prevent or delay type 2 diabetes.

www.cdc.gov/diabetes/risktest

SCAN ME

STEP 2

WHAT DOES YOUR SCORE MEAN?

If you scored **5 or higher** on the prediabetes risk test, you likely have prediabetes and are at increased risk for type 2 diabetes.

STEP 3

TALK TO YOUR PHARMACIST

Share your results with the pharmacist and ask about enrolling in the National DPP lifestyle change program. The best time for prevention is now!

CS323802-A

For more information, visit www.cdc.gov/diabetes/prevention

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Prediabetes Risk Test

NATIONAL DIABETES PREVENTION PROGRAM

1. How old are you?

Write your score in the boxes below

Younger than 40 years (0 points)
40–49 years (1 point)
50–59 years (2 points)
60 years or older (3 points)

2. Are you a man or a woman?

Man (1 point) Woman (0 points)

3. If you are a woman, have you ever been diagnosed with gestational diabetes?

Yes (1 point) No (0 points)

4. Do you have a mother, father, sister, or brother with diabetes?

Yes (1 point) No (0 points)

5. Have you ever been diagnosed with high blood pressure?

Yes (1 point) No (0 points)

6. Are you physically active?

Yes (0 points) No (1 point)

7. What is your weight category?

(See chart at right)

Total score:

Height	Weight (lbs.)		
4'10"	119-142	143-190	191+
4'11"	124-147	148-197	198+
5'0"	128-152	153-203	204+
5'1"	132-157	158-210	211+
5'2"	136-163	164-217	218+
5'3"	141-168	169-224	225+
5'4"	145-173	174-231	232+
5'5"	150-179	180-239	240+
5'6"	155-185	186-246	247+
5'7"	159-190	191-254	255+
5'8"	164-196	197-261	262+
5'9"	169-202	203-269	270+
5'10"	174-208	209-277	278+
5'11"	179-214	215-285	286+
6'0"	184-220	221-293	294+
6'1"	189-226	227-301	302+
6'2"	194-232	233-310	311+
6'3"	200-239	240-318	319+
6'4"	205-245	246-327	328+
	1 Point	2 Points	3 Points
	You weigh less than the 1 Point column (0 points)		

Adapted from Bang et al., Ann Intern Med 151:775-783, 2009. Original algorithm was validated without gestational diabetes as part of the model.

If you scored 5 or higher

You are at increased risk for having prediabetes and are at high risk for type 2 diabetes. However, only your doctor can tell for sure if you have type 2 diabetes or prediabetes, a condition in which blood sugar levels are higher than normal but not high enough yet to be diagnosed as type 2 diabetes. **Talk to your doctor to see if additional testing is needed.**

If you are African American, Hispanic/Latino American, American Indian/Alaska Native, Asian American, or Pacific Islander, you are at higher risk for prediabetes and type 2 diabetes. Also, if you are Asian American, you are at increased risk for type 2 diabetes at a lower weight (about 15 pounds lower than weights in the 1 Point column). Talk to your doctor to see if you should have your blood sugar tested.

You can reduce your risk for type 2 diabetes

Find out how you can reverse prediabetes and prevent or delay type 2 diabetes through a **CDC-recognized lifestyle change program** at https://www.cdc.gov/diabetes/prevention/lifestyle-program.

Risk Test provided by the American Diabetes Association and the Centers for Disease Control and Prevention.

American Diabetes Association.

CDC Centers for Disease Control and Prevention

CS300699-A

BMI calculation chart

WEIGHT	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400
HEIGHT																															
5'0"	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	72	74	76	78
5'1"	18	20	22	24	26	28	30	32	34	36	37	39	42	44	45	47	49	51	53	55	57	59	61	63	64	66	68	70	72	74	76
5'2"	18	20	22	23	25	27	29	31	33	34	36	38	40	42	44	46	48	50	51	53	55	57	59	61	62	64	66	68	70	72	73
5'3"	17	19	21	23	24	26	28	30	32	33	35	37	39	41	43	44	46	48	50	52	53	53	57	59	60	62	64	66	67	69	71
5'4"	17	18	20	22	24	25	27	29	31	32	34	36	38	40	41	43	45	46	48	50	52	53	55	57	59	60	62	64	65	67	69
5'5"	16	18	20	21	23	25	26	28	30	31	33	35	37	38	40	42	43	45	47	48	50	52	53	55	57	58	60	62	63	65	67
5'6"	16	17	19	21	22	24	25	27	29	30	32	34	36	37	39	40	42	44	45	47	49	50	52	53	55	57	58	60	62	63	65
5'7"	15	17	18	20	22	23	25	26	28	29	31	33	35	36	38	39	41	42	44	46	47	49	50	52	53	55	57	58	60	61	63
5'8"	15	16	18	19	21	22	24	25	27	28	30	32	34	35	37	38	40	41	43	44	46	47	49	50	52	53	55	56	58	59	61
5'9"	14	16	17	19	20	22	23	25	26	28	29	31	33	34	36	37	39	40	41	43	44	46	47	49	50	52	53	55	56	58	59
5'10"	14	15	17	18	20	21	23	24	25	27	28	30	32	33	35	36	37	39	40	42	43	45	46	47	49	50	52	53	55	56	58
5'11"	14	15	16	18	19	21	22	23	25	26	28	29	31	32	34	35	36	38	39	41	42	43	45	46	48	49	50	52	53	55	56
6'0"	13	14	16	17	19	20	21	23	24	25	27	28	30	31	33	34	35	37	38	39	41	42	44	45	46	48	49	50	52	53	54
6'1"	13	14	15	17	18	19	21	22	23	25	26	27	29	30	32	33	34	36	37	38	39	41	42	44	45	46	48	49	50	52	53
6'2"	12	14	15	16	18	19	20	21	23	24	25	27	28	30	31	32	33	35	36	37	39	40	41	42	44	45	46	48	49	50	51
6'3"	12	13	14	16	17	18	19	21	22	23	24	26	28	29	30	31	33	34	35	36	38	39	40	41	43	44	45	46	48	49	50
6'4"	12	13	14	15	17	18	19	20	21	23	24	26	27	28	29	31	32	33	34	35	37	38	39	40	41	43	44	45	46	48	49
6'5"	11	13	14	15	16	17	19	20	21	22	24	25	26	27	29	30	31	32	33	34	36	37	38	39	40	42	43	44	45	46	48

Blue **Underweight:** Less than 18.5

Green **Healthy Weight:** 18.5 - 24.9

Yellow **Overweight:** 25 - 29.9

Orange **Obese:** 30 - 39.9

Red **Extreme Obesity:** 40 or greater

BMI stands for "**BODY MASS INDEX**" which is an estimate of total body fat based on height and weight. It is used to screen for weight categories that may lead to health problems.

THE GOAL for most people is to have a BMI in the green area. It is usually best for your BMI to stay the same over time or to gradually move toward the green area.

Prediabetes Decision Tree

Patient Identified with Diabetes - Related Risk

Overweight or Obesity
H/o HTN
Over 45yo
Family H/o DM
Physical Inactivity

Screened >/= 5 on Prediabetes Risk Test?

Yes

Recent A1c or FBG available?

Yes

A1c <5.7%

- Counsel on type 2 diabetes risk
- Counsel on lifestyle modification
- Refer to the National DPP

A1c >5.7%

- Counsel on type 2 diabetes risk
- Counsel on lifestyle modification
- Refer to the National DPP
- Contact PCP: recommend appropriate diagnosis and treatment

No

Risk test score 5-8

- Counsel on type 2 diabetes risk
- Counsel on lifestyle modification
- Refer to the National DPP
- Contact PCP: recommend diagnostic bloodwork

Risk test score 9-10

- Counsel on type 2 diabetes risk
- Counsel on lifestyle modification
- Perform POC A1c
- Refer to the National DPP
- Contact PCP: recommend diagnostic bloodwork

No

- Counsel on lifestyle modification
- Recommend annual screening

So you have prediabetes … now what?

Prediabetes means your blood glucose (sugar) level is higher than normal, but not high enough to be diagnosed as diabetes. This condition raises your risk of type 2 diabetes, stroke and heart disease.

What can you do about it?

The good news is that there's a program that can help you.

The National Diabetes Prevention Program, led by the Centers for Disease Control and Prevention (CDC), uses a method proven to prevent or delay type 2 diabetes.

By improving food choices and increasing physical activity, your goal will be to lose a minimum 5 percent weight loss—that is 10 pounds for a person weighing 200 pounds.

These lifestyle changes can cut your risk of developing type 2 diabetes by more than half.

How does the program work?

As part of a group, you will work with a trained diabetes prevention coach and other participants to learn the skills you need to make lasting lifestyle changes. You will learn to eat healthy, add physical activity to your life, manage stress, stay motivated and solve problems that can get in the way of healthy changes.

The program lasts one year, with 16 sessions taking place about once a week and six to eight more sessions meeting once a month. By going through the program with others who have prediabetes you can celebrate each other's successes and work together to overcome challenges.

Some insurance plans will cover the cost of the program. Check with your insurance provider to see if it is covered. Also, some places that provide the program will adjust the fee you pay based on your income.

Why should you act now?

Without weight loss and moderate physical activity, many people with prediabetes will develop type 2 diabetes within five years. Type 2 diabetes is a serious condition that can lead to health issues such as heart attack, stroke, blindness, kidney failure, or loss of toes, feet or legs. **NOW is the time to take charge of your health and make a change.**

Features of the program:

- A trained coach to guide and encourage you
- A CDC-approved program
- Group support
- Skills to help you lose weight, be more physically active and manage stress

What participants are saying …

"I love having a lifestyle coach. She has given us great information, helped me stay on track and stay positive!"

—Bruce

"I'm so excited because I went to the doctor last week and all of my numbers were down and I officially no longer have prediabetes."

—Vivien

Sign up today for a program near you!

To find a program in our area that is part of the National Diabetes Prevention Program, visit **cdc.gov/diabetes/prevention**.

AMA AMERICAN MEDICAL ASSOCIATION

Prevent Diabetes **STAT** | Screen / Test / Act Today™

CDC SAFER · HEALTHIER · PEOPLE™

The American Medical Association and the Centers for Disease Control are supporting physicians, care teams and patients to prevent diabetes.

The National Diabetes Prevention Program

About the program

The National Diabetes Prevention Program (NDPP) is a Centers for Disease Control and Prevention (CDC) recognized program. Key components of the programs include:

- Facilitated by trained Lifestyle Coach using CDC-approved curriculum
- 12-month program: 16 weekly sessions, monthly maintenance sessions for 6 months
- Goal to lose 5-7% of participant's starting body weight
    - Gradually increase physical activity to 150 minutes (moderate intensity) per week
    - Gradual dietary changes to align with MyPlate guidelines
    - Track calories fat grams, and weekly weight
- Curriculum focuses on healthy eating, physical activity, stress management, and relapse prevention

When you refer your patients to a CDC-recognized program, you know they will join a research-based program, delivered by professionals, and shown to educe participants' risk of developing type 2 diabetes by up to 50%.

Who should be referred to the National DPP?

This program is designed for individuals with prediabetes or at risk for type 2 diabetes

Eligible participants must:

- Be at least 18 years of age AND
- Have a BMI of >25 OR >23 if Asian AND
- Be diagnosed with prediabetes based on one of the following:
- HBA1C: 5.7%–6.4%
- FASTING PLASMA GLUCOSE: 100–125 MG/DL
- 2-HOUR PLASMA GLUCOSE (AFTER A 75 GM GLUCOSE LOAD): 140–199 mg/dL
- Previous diagnosis of gestational diabetes OR
- Screened at 5 points or higher on the diabetes risk test

**Not for individuals who currently have a diagnosis of diabetes or are pregnant*

Other considerations:

- Participants must be motivated to lose weight, live a healthier life, and make a significant commitment to the program.
- American Indians are 2.3 times more likely to have diabetes and five times more likely to die from the disease compared their non-Hispanic white counterparts.

When talking to patients about prediabetes, focus your education on three key messages:

1. Prediabetes is a serious condition: It raises your risk of heart attack and stroke and poses a high risk of eventually progressing to full-blown diabetes.
2. Prediabetes is treatable: The good news is that most patients with prediabetes can avoid or delay developing diabetes by losing weight, becoming more active and eating more healthfully.
3. Evidence-based diabetes prevention programs are available. These programs help people with prediabetes accomplish these healthy changes, lose weight, and avoid developing diabetes.

To make a referral to The National Diabetes Prevention Program, please visit www.NDC3.org

NDC3
NORTH DAKOTA
Community Clinical Collaborative

Pharmacy Students

Tier 1. Promote Awareness of Prediabetes and the National DPP Among Patients at Risk

- **Educate patients about prediabetes:** Pharmacy students can provide general information on prediabetes and the National DPP lifestyle change program to patients.
- **Establish relationships with local organizations:** Students can build relationships with local CDC-recognized organizations that deliver the National DPP lifestyle change program. If applicable, they can ensure that local programs know that the pharmacy will be referring patients to these programs. They can support local programs by distributing or displaying their promotional materials to raise awareness among patients.

Tier 2. Screen, Test, and Refer Patients

- **Administer risk assessment screenings:** Risk assessment tests typically take about 2 minutes to complete, and students can use wait times to distribute or administer paper versions. With training, students can provide follow-up recommendations for patients found to be at risk. Students can also refer patients to a CDC-recognized lifestyle change program in the community or online. Another way to involve students and provide additional learning opportunities is to encourage them to initiate and lead screening campaigns and projects.

Tier 3. Offer the National DPP Lifestyle Change Program

- **Support lifestyle coaches:** Group sessions of the National DPP lifestyle change program are led by trained lifestyle coaches, who can motivate and educate participants and significantly enrich their experience. Students can support program delivery by helping lifestyle coaches, for example, by performing administrative tasks and coordinating program logistics.

Diabetes Resources

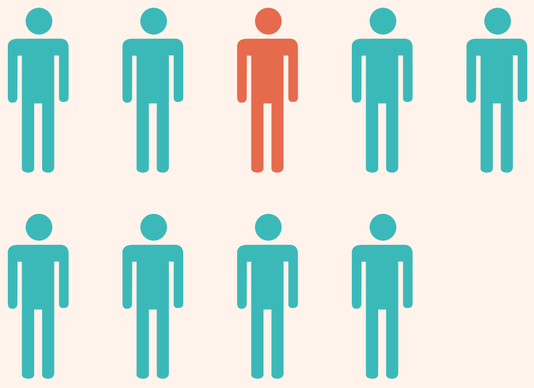
Diabetes in North Dakota

NORTH Dakota | Health
Be Legendary.™

DIABETES

55 THOUSAND

Nearly 55 thousand North Dakota adults have diabetes



That's about 1 out of every 9 people

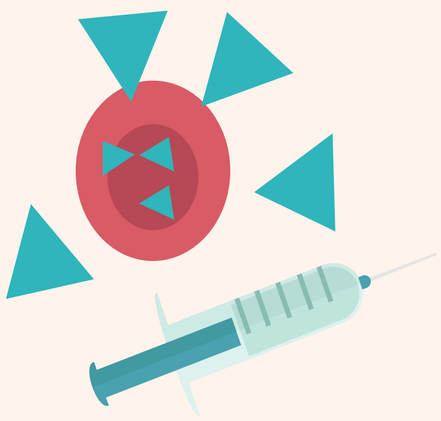
About 16 thousand adults with diabetes are undiagnosed that's

1 OUT OF 5

never having been told they have diabetes

TYPES OF DIABETES*

TYPE 1



BODY DOES NOT MAKE ENOUGH INSULIN

- Can develop at any age
- No known way to prevent it

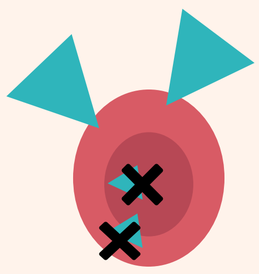
MORE THAN 18,000 YOUTH DIAGNOSED each year in 2014 and 2015

In adults, type 1 diabetes accounts for approximately

5%

OF ALL DIAGNOSED CASES OF DIABETES

TYPE 2



BODY CANNOT USE INSULIN PROPERLY

- Can develop at any age
- Most cases can be prevented

In adults, type 2 diabetes accounts for approximately

95%

of all diagnosed cases of diabetes

MORE THAN 5,000 YOUTH DIAGNOSED each year in 2014 and 2015

RISK FACTORS FOR TYPE 2 DIABETES

BEING OVERWEIGHT

BEING 45 AND OLDER

HAVING A FAMILY HISTORY

PHYSICAL INACTIVITY

HAVING HIGH BLOOD PRESSURE

HAVING HIGH CHOLESTEROL

PEOPLE WHO HAVE DIABETES ARE AT HIGHER RISK FOR SERIOUS HEALTH COMPLICATIONS

BLINDNESS

KIDNEY DISEASE

HEART DISEASE

STROKE

LOSS OF TOES, FEET OR LEGS*

proper management of diabetes can reduce risk and prevent complications

*U.S. National Data/Statistics was used to present this information

ESTIMATED COST OF DIABETES*

Medical costs for people with diabetes are TWICE AS HIGH as for people without diabetes *

Risk of death for adults with diabetes is 60 HIGHER than for adults without diabetes *

American Indian adults are 2.9 TIMES as likely to develop type 2 diabetes, and 2.3 TIMES more likely to die from the disease, compared to their white counterparts

MANAGING DIABETES

WORK WITH A HEALTH CARE TEAM ON YOUR **ABCS**

A1C
BLOOD PRESSURE
CHOLESTEROL
SMOKING CESSATION

EAT A BLANCED DIET

REDUCE
SUGAR, FAT, ACOHOL
INCREASE
FRUITS, VEGETABLE, WHOLE GRAINS

GET MOVING

FIND A BUDDY
MAKE IT FUN!

DIABETES SELF-MANAGEMENT EDUCATION AND SUPPORT **(DSMES)** Programs are available to help you live better with diabetes.

TO FIND A PROGRAM, AND START YOUR JOURNEY TO BETTER HEALTH, VISIT:

https://www.diabeteseducator.org/living-with-diabetes/find-an-education-program

REFERENCES

Centers for Disease Control and Prevention. (2017). A snapshot: diabetes in the United States [(Infographic). Retrieved from https://www.cdc.gov/diabetes/library/socialMedia/infographics.html.
Centers for Disease Control and Prevention. (2017). National diabetes statistics report, 2017. Estimates of diabetes and its burden in the United States. Retrieved from https://www.cdc.gov/diabetes/pdfs/data/statistics/national-diabetes-statistics-report.pdf.
U.S. Census Bureau, 2015 American community survey 1-year estimates.
Yang W., Dall T., Halder P., Gallo P., Kowal S., Hogan P. Economic costs of diabetes in the U.S. in 2017. Diabetes Care 2018; 41:917-928 |https://doi.org/10.2337/dci18-0007.
Infographic developed using the Piktochart infographic maker, www.piktochart.com.

LEARN MORE AT: http://www.diabetesnd.org/

Diabetes Resources:

Link to ADA diabetes guidelines: Standards of Care 2022:
https://ada.silverchair-cdn.com/ada/content_public/journal/care/issue/45/supplement_1/7/standards-of-care-2022-copyright-stamped-updated-01062022.pdf (Reminder to students: updated yearly. If you have spring semester rotations, look for ADA Standards of Care 2023)

Link to AACE/ACE Consensus Statement 2020 Executive Summary for Type 2 Diabetes Management:
https://pro.aace.com/disease-state-resources/diabetes/clinical-practice-guidelines-treatment-algorithms/comprehensive

AACE Diabetes Resource Center:
https://www.aace.com/disease-state-resources/diabetes/guidelines

AMERICAN ASSOCIATION OF CLINICAL ENDOCRINOLOGISTS
AMERICAN COLLEGE OF ENDOCRINOLOGY

AACE/ACE COMPREHENSIVE TYPE 2 DIABETES MANAGEMENT ALGORITHM

2020

 | DOI 10.4158/CS-2019-0472

TABLE OF CONTENTS

COMPREHENSIVE TYPE 2 DIABETES MANAGEMENT ALGORITHM

I.	Principles for Treatment of Type 2 Diabetes
II.	Lifestyle Therapy
III.	Complications-Centric Model for Care of the Patient with Overweight/Obesity
IV.	Prediabetes
V.	ASCVD Risk Factor Modifications
VI.	Glycemic Control
VII.	Adding/Intensifying Insulin
VIII.	Profiles of Antihyperglycemic Medications

 DOI 10.4158/CS-2019-0472

PRINCIPLES OF THE AACE/ACE COMPREHENSIVE TYPE 2 DIABETES MANAGEMENT ALGORITHM

1.	Lifestyle modification underlies all therapy (e.g., weight control, physical activity, sleep, etc.)
2.	Avoid hypoglycemia
3.	Avoid weight gain
4.	Individualize all glycemic targets (A1C, FPG, PPG)
5.	Optimal A1C is ≤6.5%, or as close to normal as is safe and achievable
6.	Therapy choices are patient centric based on A1C at presentation and shared decision-making
7.	Choice of therapy reflects ASCVD, CHF, and renal status
8.	Comorbidities must be managed for comprehensive care
9.	Get to goal as soon as possible—adjust at ≤3 months until at goal
10.	Choice of therapy includes ease of use and affordability
11.	CGM is highly recommended, as available, to assist patients in reaching goals safely

 | DOI 10.4158/CS-2019-0472

LIFESTYLE THERAPY

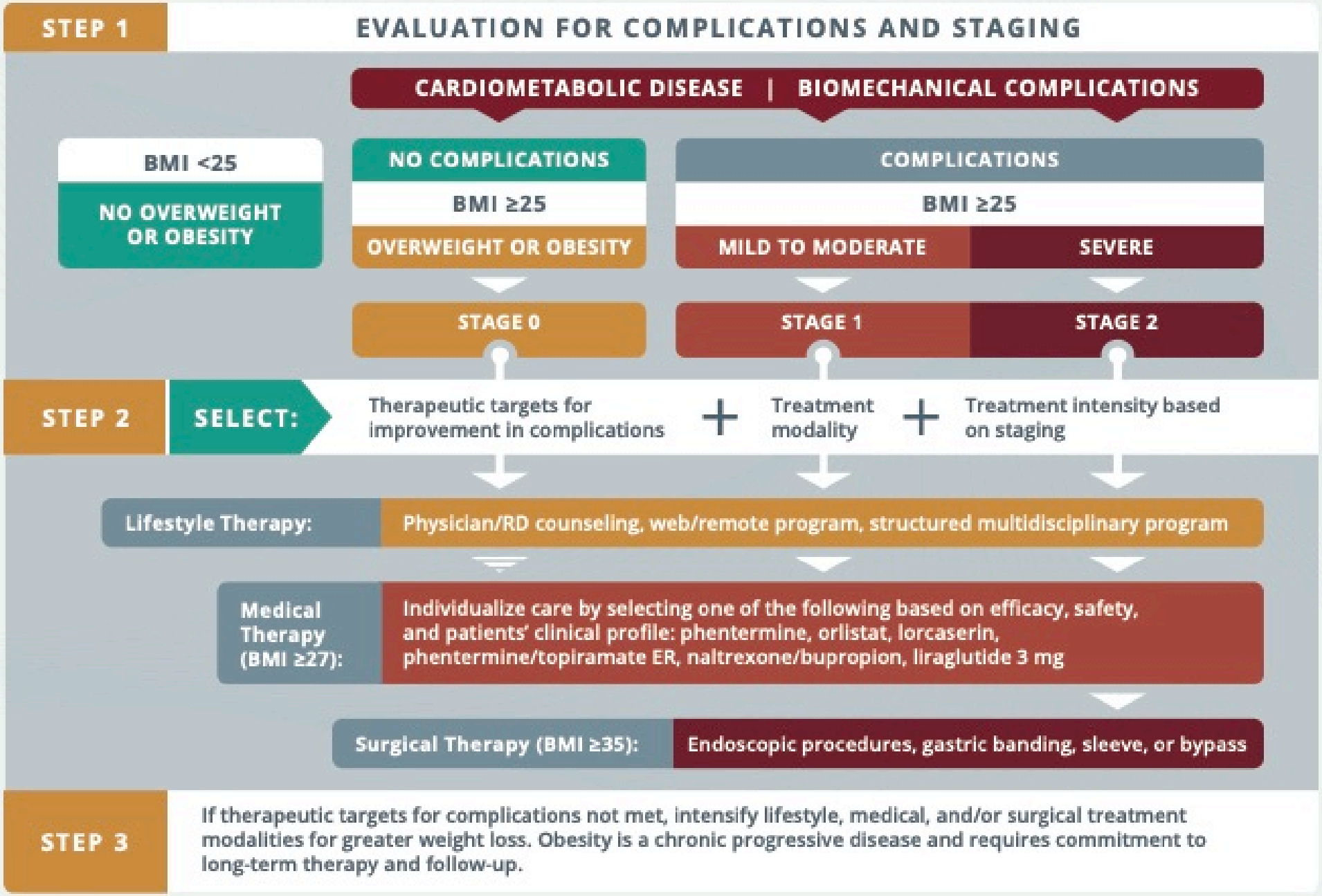
RISK STRATIFICATION FOR DIABETES COMPLICATIONS

INTENSITY STRATIFIED BY BURDEN OF OBESITY AND RELATED COMPLICATIONS

Nutrition	• Maintain optimal weight • Calorie restriction (manage increased weight) • Plant-based diet; high polyunsaturated and monounsaturated fatty acids	• Avoid *trans* fatty acids; limit saturated fatty acids • Technological aids	• Structured counseling • Meal replacement
Physical Activity	• 150 min/week moderate exertion (e.g., walking, stair climbing) • Strength training • Increase as tolerated	• Structured program • Wearable technologies	• Medical evaluation/ clearance • Medical supervision
Sleep	• About 6-8 hours per night • Basic sleep hygiene	• Screen sleep disturbances • Home sleep study	• Referral to sleep study
Behavioral Support	• Community engagement • Alcohol moderation	• Discuss mood with HCP	• Formal behavioral therapy
Smoking Cessation	• No tobacco products	• Nicotine replacement therapy and medications as tolerated	• Referral to structured program

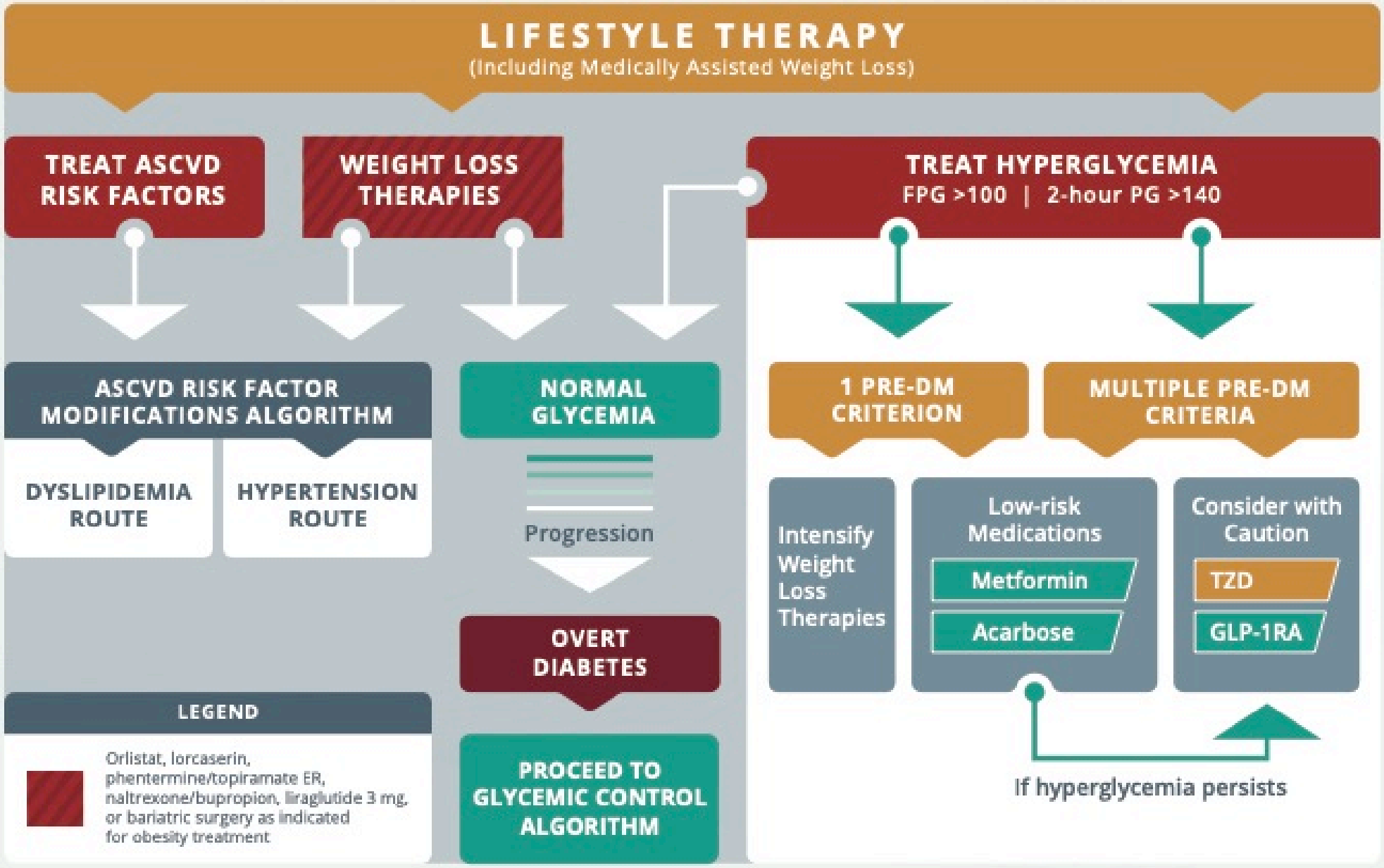
 | DOI 10.4158/CS-2019-0472

COMPLICATIONS-CENTRIC MODEL FOR CARE OF THE PATIENT WITH OVERWEIGHT/OBESITY (ADIPOSITY-BASED CHRONIC DISEASE)



PREDIABETES ALGORITHM

IFG (100–125) | IGT (140–199) | METABOLIC SYNDROME (NCEP 2001)



ASCVD RISK FACTOR MODIFICATIONS ALGORITHM

DYSLIPIDEMIA

LIFESTYLE THERAPY (Including Medically Assisted Weight Loss)

LIPID PANEL: Assess ASCVD Risk

STATIN THERAPY
If TG >500 mg/dL, fibrates, Rx-grade OM-3 fatty acids, niacin

If statin-intolerant

Try alternate statin, lower statin dose or frequency, or add nonstatin LDL-C- lowering therapies

Repeat lipid panel; assess adequacy, tolerance of therapy

Intensify therapies to attain goals according to risk levels

RISK LEVELS	HIGH	VERY HIGH	EXTREME
	DESIRABLE LEVELS	DESIRABLE LEVELS	DESIRABLE LEVELS
LDL-C (mg/dL)	<100	<70	<55
Non-HDL-C (mg/dL)	<130	<100	<80
TG (mg/dL)	<150	<150	<150
Apo B (mg/dL)	<90	<80	<70

RISK LEVELS:
- **HIGH*:** DM but no other major risk and/or age <40
- **VERY HIGH*:** DM + major ASCVD risk(s) (HTN, Fam Hx, low HDL-C, smoking, CKD3,4)
- **EXTREME*:** DM plus established clinical CVD

If not at desirable levels: Intensify lifestyle therapy (weight loss, physical activity, dietary changes) and glycemic control; consider additional therapy

To lower LDL-C: Intensify statin, add ezetimibe, PCSK9i, colesevelam, or niacin
To lower Non-HDL-C, TG: Intensify statin and/or add Rx-grade OM3 fatty acid, fibrate, and/or niacin
To lower Apo B, LDL-P: Intensify statin and/or add ezetimibe, PCSK9i, colesevelam, and/or niacin
To lower LDL-C in FH:** Statin + PCSK9i

If TG 135–499: Add icosapent ethyl 4 g/day if high ASCVD risk on maximally tolerated statins

Assess adequacy & tolerance of therapy with focused laboratory evaluations and patient follow-up

* EVEN MORE INTENSIVE THERAPY MIGHT BE WARRANTED ** FAMILIAL HYPERCHOLESTEROLEMIA

HYPERTENSION

GOAL: SYSTOLIC <130, DIASTOLIC <80 mm Hg

ACEi or ARB

For initial blood pressure >150/100 mm Hg: DUAL THERAPY

ACEi or ARB + Calcium Channel Blocker ✓ / ß-blocker ✓ / Thiazide ✓

If not at goal (2–3 months)

Add calcium channel blocker, ß-blocker or thiazide diuretic

If not at goal (2–3 months)

Add next agent from the above group, repeat

If not at goal (2–3 months)

Additional choices (α-blockers, central agents, vasodilators, aldosterone antagonist)

Achievement of target blood pressure is critical

GLYCEMIC CONTROL ALGORITHM

INDIVIDUALIZE GOALS

A1C ≤6.5% For patients without concurrent serious illness and at low hypoglycemic risk

A1C >6.5% For patients with concurrent serious illness and at risk for hypoglycemia

LIFESTYLE THERAPY AND ONGOING GLUCOSE MONITORING (CGM preferred)

INDEPENDENT OF GLYCEMIC CONTROL, IF ESTABLISHED OR HIGH ASCVD RISK AND/OR CKD, RECOMMEND SGLT2i AND/OR LA GLP1-RA

Entry A1C <7.5%

MONOTHERAPY[1,2]

- ✓ Metformin
- ✓ GLP1-RA
- ✓ SGLT2i
- ✓ DPP4i
- ⚠ TZD
- ✓ AGi
- ⚠ SU/GLN

Independent of glycemic control, if established ASCVD or high risk, CKD 3, or HFrEF, start LA GLP1-RA or SGLT2i with proven efficacy*

Entry A1C ≥7.5% - 9.0%

DUAL THERAPY[1]

- ✓ GLP1-RA
- ✓ SGLT2i
- ✓ DPP4i
- ⚠ TZD
- ⚠ SU/GLN
- ⚠ Basal Insulin
- ✓ Colesevelam
- ✓ Bromocriptine QR
- ✓ AGi

3 MONTHS[2]

TRIPLE THERAPY[1]

- ✓ GLP1-RA
- ✓ SGLT2i
- ⚠ TZD
- ⚠ SU/GLN
- ⚠ Basal Insulin
- ✓ DPP4i
- ✓ Colesevelam
- ✓ Bromocriptine QR
- ✓ AGi

3 MONTHS[2]

MET + or other agent

Entry A1C >9.0%

SYMPTOMS

NO

DUAL Therapy

OR

TRIPLE Therapy

YES

INSULIN ± Other Agents

ADD OR INTENSIFY INSULIN

Refer to Insulin Algorithm

LEGEND

- ✓ Few adverse events and/or possible benefits
- ⚠ Use with caution

1 Order of medications represents a suggested hierarchy of usage; length of line reflects strength of recommendation
2 If not at goal in 3 months, proceed to next level therapy

*CKD 3: canagliflozin; HFrEF: dapagliflozin
CKD 3 = stage 3 chronic kidney disease; HFrEF = heart failure with reduced ejection fraction; LA = long-acting (≥24 hour duration)

PROGRESSION OF DISEASE

ALGORITHM FOR ADDING/INTENSIFYING INSULIN

START BASAL (Long-Acting Insulin)

A1C <8%

TDD 0.1–0.2 U/kg

A1C >8%

TDD 0.2–0.3 U/kg

Insulin titration every 2–3 days to reach glycemic goal:

- Fixed regimen: Increase TDD by 2 U
- Adjustable regimen:
  - **FBG** >180 mg/dL: add 20% of TDD
  - **FBG** 140–180 mg/dL: add 10% of TDD
  - **FBG** 110–139 mg/dL: add 1 unit
- If hypoglycemia, reduce TDD by:
  - **BG** <70 mg/dL: 10% – 20%
  - **BG** <40 mg/dL: 20% – 40%

Consider discontinuing or reducing sulfonylurea after starting basal insulin (basal analogs preferred to NPH)

***Glycemic Goal:**

- <7% for most patients with T2D; fasting and premeal BG <110 mg/dL; absence of hypoglycemia
- A1C and FBG targets may be adjusted based on patient's age, duration of diabetes, presence of comorbidities, diabetic complications, and hypoglycemia risk

Glycemic Control Not at Goal*

INTENSIFY (Prandial Control)

Add GLP1-RA

Or SGLT2i
Or DPP4i

Add Prandial Insulin

Basal Plus 1, Plus 2, Plus 3

- Begin prandial insulin before largest meal
- If not at goal, progress to injections before 2 or 3 meals
- **Start: 10% of basal dose or 5 units**

Basal Bolus

- Begin prandial insulin before each meal
- 50% Basal / 50% Prandial TDD 0.3–0.5 U/kg
- **Start: 50% of TDD in three doses before meals**

Insulin titration every 2–3 days to reach glycemic goal:

- Increase prandial dose by 10% or 1-2 units if 2-h postprandial or next premeal glucose consistently >140 mg/dL
- If hypoglycemia, reduce TDD basal and/or prandial insulin by:
  - BG consistently <70 mg/dL: 10% - 20%
  - Severe hypoglycemia (requiring assistance from another person) or BG <40 mg/dL: 20% - 40%

PROFILES OF ANTIHYPERGLYCEMIC MEDICATIONS

	MET	GLP1-RA	SGLT2i	DPP4i	AGi	TZD (moderate dose)	SU / GLN	COLSVL	BCR-QR	INSULIN	PRAML
HYPO	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Moderate/Severe / Mild	Neutral	Neutral	Moderate to Severe	Neutral
WEIGHT	Slight Loss	Loss	Loss	Neutral	Neutral	Gain	Gain	Neutral	Neutral	Gain	Loss
RENAL / GU	Contra-indicated if eGFR <30 mL/min/1.73 m²	Exenatide Not Indicated CrCl <30 Potential Benefit of LA GLP1-RA	Not Indicated for eGFR <45 mL/min/1.73 m² See #1 Genital Mycotic Infections Potential CKD Benefit; See #1	Dose Adjustment Necessary (Except Linagliptin) Effective in Reducing Albuminuria	Neutral	Neutral	More Hypo Risk	Neutral	Neutral	More Hypo Risk	Neutral
GI Sx	Moderate	Moderate	Neutral	Neutral	Moderate	Neutral	Neutral	Mild	Moderate	Neutral	Moderate
CHF	Neutral	Neutral	Prevent HF Hospitalization Manage HFrEF; See #2	See #4	Neutral	Moderate	Neutral	Neutral	Neutral	CHF Risk	Neutral
CARDIAC ASCVD		Potential Benefit of LA GLP1-RA	See #3			May Reduce Stroke Risk	Possible ASCVD Risk	Lowers LDL-C	Safe	Neutral	
BONE	Neutral	Neutral	Neutral	Neutral	Neutral	Moderate Fracture Risk	Neutral	Neutral	Neutral	Neutral	Neutral
KETOACIDOSIS	Neutral	Neutral	DKA Can Occur in Various Stress Settings	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral

- Few adverse events or possible benefits
- Use with caution
- Likelihood of adverse effects

1. Canagliflozin indicated for eGFR ≥30 mL/min/1.73 m² in patients with CKD 3 + albuminuria.
2. Dapagliflozin—potential primary prevention of HF hospitalization & demonstrated efficacy in HFrEF.
3. Empagliflozin—FDA approved to reduce CV mortality. Canagliflozin—FDA approved to reduce MACE events.
4. Possible increased hospitalizations for heart failure with alogliptin and saxagliptin.

DOI 10.4158/CS-2019-0472

Diabetes Self-Management Education and Support for Adults with Type 2 Diabetes: **ALGORITHM of CARE**

ADA *Standards of Medical Care in Diabetes* recommends all patients be assessed and referred for:

NUTRITION
Registered dietitian for medical nutrition therapy

EDUCATION
Diabetes self-management education and support

EMOTIONAL HEALTH
Mental health professional if needed

FOUR CRITICAL TIMES TO ASSESS, PROVIDE, AND ADJUST DIABETES SELF-MANAGEMENT EDUCATION AND SUPPORT

1 AT DIAGNOSIS

2 ANNUAL ASSESSMENT OF EDUCATION, NUTRITION, AND EMOTIONAL NEEDS

3 WHEN NEW **COMPLICATING FACTORS** INFLUENCE SELF-MANAGEMENT

4 WHEN **TRANSITIONS** IN CARE OCCUR

WHEN PRIMARY CARE PROVIDER OR SPECIALIST SHOULD CONSIDER REFERRAL:

- ☐ Newly diagnosed. All newly diagnosed individuals with type 2 diabetes should receive DSME/S
- ☐ Ensure that both nutrition and emotional health are appropriately addressed in education or make separate referrals

- ☐ Needs review of knowledge, skills, and behaviors
- ☐ Long-standing diabetes with limited prior education
- ☐ Change in medication, activity, or nutritional intake
- ☐ HbA_{1c} out of target
- ☐ Maintain positive health outcomes
- ☐ Unexplained hypoglycemia or hyperglycemia
- ☐ Planning pregnancy or pregnant
- ☐ For support to attain or sustain behavior change(s)
- ☐ Weight or other nutrition concerns
- ☐ New life situations and competing demands

CHANGE IN:

- ☐ Health conditions such as renal disease and stroke, need for steroid or complicated medication regimen
- ☐ Physical limitations such as visual impairment, dexterity issues, movement restrictions
- ☐ Emotional factors such as anxiety and clinical depression
- ☐ Basic living needs such as access to food, financial limitations

CHANGE IN:

- ☐ Living situation such as inpatient or outpatient rehabilitation or now living alone
- ☐ Medical care team
- ☐ Insurance coverage that results in treatment change
- ☐ Age-related changes affecting cognition, self-care, etc.

Powers MA, Bardsley J, Cypress M, Duker P, Funnell MM, Fischl AH, Maryniuk MD, Siminerio L, Vivian E. Diabetes Self-management Education and Support in Type 2 Diabetes: A Joint Position Statement of the American Diabetes Association, the American Association of Diabetes Educators, and the Academy of Nutrition and Dietetics. Diabetes Care 2015; 38:1372-1382; The Diabetes Educator 2015;41:417-430; Journal of the Academy of Nutrition and Dietetics 2015;115:1323-1334. (Adapted August 2016)

American Diabetes Association. | AADE American Association of Diabetes Educators | eat right. Academy of Nutrition and Dietetics

Confirmed Diagnosis of Diabetes?

No

Assess risk using prediabetes risk test & decision tree

Yes

New Diagnosis

Yes

Contact PCP, recommend DSMES referral

No

A1c available from within last 6mo

Yes

A1c >8%

No

Perform POC A1c

Changes in:
- Care team
- Insurance
- Mental Health

Yes

New Complications or Transition of Care ?

Yes

Contact PCP, recommend DSMES referral

No

Seen a Diabetes Educator in Past 12 months?

No

Contact PCP, recommend DSMES referral

Yes

Counsel patient as appropriate on:
- Med adherence
- Lifestyle modification
- SMBG

Contact PCP with recommendations

For all patients in poor glycemic control:

Assess:

- Knowledge gaps
- Care gaps
- Adherence to treatment regimen (meds, SMBG)
- Appropriateness of therapy
- Need for lifestyle modification

Lifestyle Modification Resources

MyPlate.gov

Small Changes Matter.

Start Simple

With MyPlate Today.

Healthy eating is important at every stage of life.

Make half your plate fruits & vegetables.

Focus on whole fruits.

Make half your grains whole grains.

Vary your veggies.

Vary your protein routine.

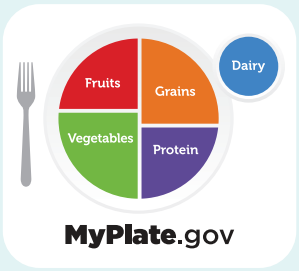
Move to low-fat or fat-free dairy milk or yogurt (or lactose-free dairy or fortified soy versions).

Limit

Choose foods and beverages with less added sugars, saturated fat, and sodium.

The benefits add up over time, bite by bite.

Make every bite count



Take a look at your current eating routine. Pick one or two ways that you can switch to choices today that are rich in nutrition.

A healthy eating routine can help boost your health now and in the years to come. Think about how your food choices come together over the course of your day or week to help you create a healthy eating routine.

It's important to eat a variety of fruits, vegetables, grains, protein foods, and dairy or fortified soy alternatives. Choose options for meals, beverages, and snacks that have limited added sugars, saturated fat, and sodium.

Choose from these simple tips to help you...

Fruits

Focus on whole fruits

- Start your day with **fruit at breakfast**. Top cereal with your favorite seasonal fruit, add bananas or chopped apples to pancakes, or mix a spoonful or two of raisins into hot oatmeal.
- Keep **ready-to-eat fruits** in the refrigerator for a quick snack.
- For dinner, chop up a combination of seasonal, frozen, or canned fruits to make a **quick fruit salsa** to top fish or chicken. Add fruit such as orange sections, apple wedges, or grapes to a **salad**.

Vegetables

Vary your veggies

- Add shredded carrots to the lettuce and tomato **in your sandwich**, make **soup** from the veggies in your vegetable drawer, and **snack on raw vegetables**.
- Try a **stir-fry** with fresh or frozen vegetables for a quick meal or easy side dish.
- Pick out a vegetable that the family has not tried and **get a new recipe** from a cookbook, website, supermarket, or friend.

Grains

Make half your grains whole grains

- For breakfast, enjoy a whole-grain-based **hot or cold cereal**. Consider trying whole-grain puffs or flakes that are new to you—you might discover a new favorite!
- Instead of sandwich bread, try a **whole-grain pita, tortillas, naan or other whole-grain flatbread, sliced breads, or rolls**.
- Create your own trail mix with whole-grain cereal or enjoy whole-grain crackers with turkey, hummus, or avocado for a **healthy whole-grain snack**.

Protein

Vary your protein routine

- **Broil lean beef cuts** like sirloin, top round, or flank steak. **Roast lean types of pork tenderloin or loin chops** and slice into strips for dinner, salads, and sandwiches.
- **Have fish or seafood twice a week**. Make a lunchtime sandwich or salad with canned tuna, grill fresh or frozen tilapia or salmon for dinner, or enjoy fish tacos.
- **Meatless meals** are tasty and budget friendly. Try bean-based vegetarian chili or lentil soup, grilled or braised tofu with vegetables, or adding nuts to salads.

Dairy

Move to low-fat or fat-free dairy milk or yogurt (or lactose-free dairy or fortified soy versions)

- **Add low-fat or fat-free dairy** to oatmeal or pureed vegetable soups instead of water, and to smoothies or scrambled eggs.
- The nutrients in dairy are **important at every stage of life**. Include foods like low-fat or fat-free dairy milk or yogurt. Need an alternative? Try lactose-free dairy milk or yogurt that's low-fat or fat-free or fortified soy versions.
- Looking for a beverage? Grab a **glass of low-fat or fat-free milk or fortified soy milk** (soy beverage). Choose the unsweetened option.

Limit

Choose foods and beverages with less added sugars, saturated fat, and sodium

Tips for Less Added Sugars

- Choose **packaged foods that have less or no added sugars**, such as canned fruit packed in 100% juice for an easy snack, plain yogurt (you can add your own fruit), and unsweetened applesauce.
- Try chilled, **plain water or sparkling water with a squeeze of fruit** for a splash of flavor. Limit sugary beverages such as soda, lemonade, sports drinks, or fruit drinks.

Tips for Less Saturated Fat

- In place of foods higher in saturated fat, **look for foods like nuts, seeds, and fatty fish** like tuna, salmon, trout, and mackerel, which are high in unsaturated fats and a healthier choice.
- Choose **canola oil, olive oil, or other vegetable oils** for cooking.

Tips for Less Salt and Sodium

- Start simple by choosing foods with less sodium. **Check the Nutrition Facts label and choose foods with a lower percent (%) Daily Value (DV) for sodium** on the label, especially if a family member has high blood pressure, diabetes, or kidney disease.
- **Cook at home!** Preparing your own food puts you in control of how much sodium goes into your meals. Add flavor to foods with herbs, spices, lemon, lime, and vinegar instead of salt or seasonings high in sodium.

The Dietary Guidelines for Americans

Developed jointly by the U.S Department of Agriculture and U.S. Department of Health and Human Services, the *Dietary Guidelines for Americans* are the Nation's science-based guidance on how to eat for good health. The Guidelines encourage all Americans to start and maintain a healthy eating routine. Along with physical activity, improving what you eat can help you reduce your risk of chronic diseases, such as diabetes, heart disease, some cancers, and obesity. Taking the steps in this brochure will help you follow the *Dietary Guidelines*.

For more information:

MyPlate.gov

DietaryGuidelines.gov

USDA

Food and Nutrition Service

USDA Publication number:
USDA-FNS-2020-2025-DGA-CP

December 2020

DGA
DietaryGuidelines.gov

Centers for Disease Control and Prevention

https://www.cdc.gov/healthyweight/index.html

Improving Your Eating Habits

When it comes to eating, we have strong habits. Some are good ("I always eat breakfast"), and some are not so good ("I always clean my plate"). Although many of our eating habits were established during childhood, it doesn't mean it's too late to change them.

Making sudden, radical changes to eating habits such as eating nothing but cabbage soup, can lead to short term weight loss. However, such radical changes are neither healthy nor a good idea, and won't be successful in the long run. Permanently improving your eating habits requires a thoughtful approach in which you Reflect, Replace, and Reinforce.

- REFLECT on all of your specific eating habits, both bad and good; and, your common triggers for unhealthy eating.
- REPLACE your unhealthy eating habits with healthier ones.
- REINFORCE your new, healthier eating habits.

Reflect:

1. **Create a list of your eating habits.** Keep a food diary for a few days. Write down everything you eat and the time of day you eat it. This will help you uncover your habits. For example, you might discover that you always seek a sweet snack to get you through the mid-afternoon energy slump. Use this diary [PDF-36KB] to help. It's good to note how you were feeling when you decided to eat, especially if you were eating when not hungry. Were you tired? Stressed out?
2. **Highlight the habits** on your list that may be leading you to overeat. Common eating habits that can lead to weight gain are:
    - Eating too fast
    - Always cleaning your plate
    - Eating when not hungry
    - Eating while standing up (may lead to eating mindlessly or too quickly)
    - Always eating dessert
    - Skipping meals (or maybe just breakfast)
3. **Look at the unhealthy eating habits** you've highlighted. Be sure you've identified all the triggers that cause you to engage in those habits. Identify a few you'd like to work on improving first. Don't forget to pat yourself on the back for the things you're doing right. Maybe you usually eat fruit for dessert, or you drink low-fat or fat-free milk. These are good habits! Recognizing your successes will help encourage you to make more changes.
4. **Create a list of "cues"** by reviewing your food diary to become more aware of when and where you're "triggered" to eat for reasons other than hunger. Note how you are typically feeling at those times. Often an environmental "cue", or a particular emotional state, is what encourages eating for non-hunger reasons.

5. **Common triggers for eating when not hungry are:**
    - Opening up the cabinet and seeing your favorite snack food.
    - Sitting at home watching television.
    - Before or after a stressful meeting or situation at work.
    - Coming home after work and having no idea what's for dinner.
    - Having someone offer you a dish they made "just for you!"
    - Walking past a candy dish on the counter.
    - Sitting in the break room beside the vending machine.
    - Seeing a plate of doughnuts at the morning staff meeting.
    - Swinging through your favorite drive-through every morning.
    - Feeling bored or tired and thinking food might offer a pick-me-up.
6. **Circle the "cues" on your list that you face on a daily or weekly basis**. While the Thanksgiving holiday may be a trigger to overeat, for now focus on cues you face more often. Eventually you want a plan for as many eating cues as you can.
7. **Ask yourself** these questions for each "cue" you've circled:
    - **Is there anything I can do to avoid the cue or situation?** This option works best for cues that don't involve others. For example, could you choose a different route to work to avoid stopping at a fast food restaurant on the way? Is there another place in the break room where you can sit so you're not next to the vending machine?
    - **For things I can't avoid, can I do something differently that would be healthier?** Obviously, you can't avoid all situations that trigger your unhealthy eating habits, like staff meetings at work. In these situations, evaluate your options. Could you suggest or bring healthier snacks or beverages? Could you offer to take notes to distract your attention? Could you sit farther away from the food so it won't be as easy to grab something? Could you plan ahead and eat a healthy snack before the meeting?

Replace:

1. **Replace unhealthy habits with new, healthy ones**. For example, in reflecting upon your eating habits, you may realize that you eat too fast when you eat alone. So, make a commitment to share a lunch each week with a colleague, or have a neighbor over for dinner one night a week. Another strategy is to put your fork down between bites. Also, minimize distractions, such as watching the news while you eat. Such distractions keep you from paying attention to how quickly and how much you're eating.
2. Eat more slowly. If you eat too quickly, you may "clean your plate" instead of paying attention to whether your hunger is satisfied.
3. Eat only when you're truly hungry instead of when you are tired, anxious, or feeling an emotion besides hunger. If you find yourself eating when you are experiencing an emotion besides hunger, such as boredom or anxiety, try to find a non-eating activity to do instead. You may find a quick walk or phone call with a friend helps you feel better.
4. Plan meals ahead of time to ensure that you eat a healthy well-balanced meal.

Reinforce:

Reinforce your new, healthy habits and be patient with yourself. Habits take time to develop. It doesn't happen overnight. When you do find yourself engaging in an unhealthy habit, stop as quickly as possible and ask yourself: Why do I do this? When did I start doing this? What changes do I need to make? Be careful not to berate yourself or think that one mistake "blows" a whole day's worth of healthy habits. You can do it! It just takes one day at a time!

Lifestyle Resources:

Link to CDC Healthy Weight, Nutrition, and Physical Activity
https://www.cdc.gov/healthyweight/index.html

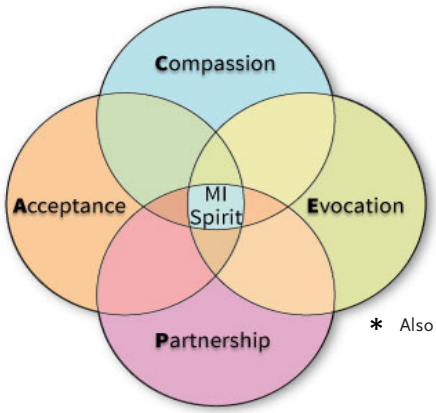
Link to USDA Healthy Living and Weight
https://www.nutrition.gov/topics/healthy-living-and-weight

Motivational Interviewing Resources

Motivational Interviewing (MI) Basics

The underlying "spirit" (or philosophy) of MI is even more important than the skills. While you are an expert in health care, your client is an expert in his or her own life.

SPIRIT OF MI: CAPE



* Also known as PACE

PRINCIPLES OF MI: RULE

RESIST the "righting reflex"
The urge to "fix" the client. Arguing for change can have a paradoxical effect.

UNDERSTAND your client
The client's reasons for change are most important because these will most likely trigger behaviour change.

LISTEN to your client
MI involves as much listening as informing.

EMPOWER your client
Convey hope around the possibility of change and support patients' choice and autonomy re: change goals.

FOUNDATIONAL SKILLS IN MOTIVATIONAL INTERVIEWING: OARS

OPEN-ENDED questions encourage elaboration.

AFFIRMATIONS promote optimism and acknowledge the client's expertise, efforts and experience of the client. Affirmations are not about the practitioner's approval of the client.

RELECTIONS: the skill of accurate empathy:

- simple reflections: paraphrase, repeat the content.
- complex reflections: reflect what the client has said as well as what he or she is experiencing but has not yet verbalized (the meaning beneath the client's words).

SUMMARIES: The best are targeted and succinct, and include elements that keep the client moving forward. The goal is to help the client organize his or her experience.

Miller. W. R. and Rollnick, S. 2013. *Motivational Interviewing: Helping People Change*. New York: Guilford Press.

* Adapted from Miller & Rollnick. 2013, page 22

Motivational Interviewing (MI) Basics

MI QUICK TIPS

CHANGE AND SUSTAIN TALK

"I know I should use my medication	...but ...	.....I always misplace my asthma inhaler."
CHANGE TALK		**SUSTAIN TALK**

TYPES OF CHANGE TALK: DARN CAT

PREPARATORY CHANGE TALK (DARN)

Desire to change (wishes, hopes, wants)

Ability to change (optimism)

Reasons for change (benefits of change)

Need to change (problems with the status quo)

MOBILIZING CHANGE TALK (CAT)

Commitment ("I will . . . ," "I plan to . . .")

Activation (steps that the client is already taking in support of a goal)

Taking Steps (same as Activation; e.g., "I made an appointment to see my doctor about medication for quitting smoking.")

HOW TO ELICIT? ASK .....

"Why do you want to make this change?"

"If you decided to make a change, how might you be able to do it?"

"How would things be different if you changed?"

"How would things be better if you changed?"

When you hear change talk you know you are doing it right.

COMMITMENT LANGUAGE PREDICTS CHANGE

"What do you intend to do?"

"What are you ready or willing to do?"

"What have you already done?"

"What is your next step?'

READINESS RULERS

Readiness rulers are a tool designed to elicit change talk. Use them to explore the importance clients attach to changing, and their confidence and readiness to change (on a scale of 1 to 10). "On a scale of 1 through 10, how important is it for you to quit smoking?" "On the same scale, how confident are you feeling about your ability to quit?"

1	2	3	4	5	6	7	8	9	10

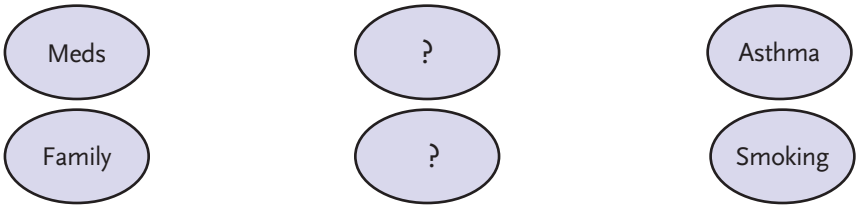
Low importantance/confidence: **Extremely important/confident**

Ask: "Why are you at __ [lower #] and not a __ [higher #]?"

"What would it take to go from [client's chosen #] to__ [one number #]?"

AGENDA MAPPING

Create a "bubble sheet" and invite the client to identify all the possible areas for change. You may choose to pre-populate some of the circles. After inviting the client to share his or her priorities, ask: "*Given these possible areas of focus, what would you like to talk about in our time together today?*"



Miller. W. R. and Rollnick, S. 2013. Motivational Interviewing: Helping People Change. New York: Guilford Press.

https://www.aafp.org/fpm/2011/0500/p21.html (includes a section called: OARS: A structure for putting motivational interviewing into practice)

Motivational Interviewing Quick Reference Sheet: https://www.med-iq.com/files/noncme/material/pdfs/XX183_ToolKit_%20QuickReferenceSheet.pdf

Motivational Interviewing (MI) Basics (Cheat Sheet): http://thehub.utoronto.ca/family/wp-content/uploads/2016/12/MI-Cheat-Sheet-copy.pdf

Using motivational interviewing to improve medicines adherence: https://www.pharmaceutical-journal.com/acute-pain/using-motivational-interviewing-to-improve-medicines-adherence/20200954.article?firstPass=false

Motivational Interviewing for Independent Pharmacy (part 1): https://www.pioneerrx.com/Web/blog/2019/04/motivational-interviewing-for-independent-pharmacy-part-1/

PSAP Motivational Interviewing (sample): https://www.accp.com/docs/bookstore/psap/p7b08.sample01.pdf

Assist ambivalent patients with motivational interviewing: https://www.pharmacytoday.org/article/S1042-0991(16)30366-8/pdf

https://www.healthcatalyst.com/insights/motivational-interviewing-healthcare-10-strategies (includes a section called: 10 Motivational Interviewing Strategies)

Motivational Interviewing in Health Care Settings, Opportunities and Limitations: https://depts.washington.edu/fammed/files/501MI.pdf

Motivational Interviewing as a Counseling Style: https://www.ncbi.nlm.nih.gov/books/NBK64964/

Motivational Interviewing Toolkit: https://ireta.org/resources/motivational-interviewing-toolkit/

Motivational Interviewing Resources from SAMHSA-HRSA: https://www.integration.samhsa.gov/clinical-practice/motivational-interviewing

Student MOU with NDSU School of Pharmacy

1815 Grant Advanced Pharmacy Practice Experience Scholarship Agreement
North Dakota State University

This agreement is made and entered by and between the **School of Pharmacy, North Dakota State University**, Fargo, North Dakota, hereinafter referred to as "NDSU", and _____hereinafter referred to as "Student".

WHEREAS: The School of Pharmacy is part of the College of Health Professions, is a major academic unit of North Dakota State University and strives to serve the State of North Dakota and region through its programs in pharmaceutical education, research, patient care and public service, and

WHEREAS: The School of Pharmacy strives to provide students with the highest quality educational experiences required for entering the practice of pharmacy as competent, caring, ethical, learning health professionals and enlightened citizens, and

WHEREAS: NDSU is committed to the pharmacy profession and to society for creating, communicating and applying knowledge about drugs, drug products, and drug therapy, and

WHEREAS: The North Dakota Department of Health, the North Dakota Pharmacist Association, and the School of Pharmacy at North Dakota State University are collaborating on the 1815 grant in North Dakota to enhance pharmacy provided patient care services in North Dakota. These entities will hereafter be referred to as Collaborators of the 1815 grant.

WHEREAS: The student receiving this grant recognizes the value for providing advanced patient care services to patients in the community in which they serve.

WHEREAS: Both parties desire to seek to cooperate to ensure a valuable experiential training experience and to implement the designated patient care services in alignment with the 1815 project objectives and the 1815 designated pharmacy.

THEREFORE: It is mutually agreed upon by and between both parties:

PROGRAM OBJECTIVES:

1. Students will integrate, apply, and reinforce the patient care services which may be related, but not limited to prediabetes, diabetes, hypertension, and hyperlipidemia within the designated 1815 pharmacy site to the degree allowed by the 1815 pharmacy preceptor.

2. Students will communicate with Collaborators on the 1815 grant as needed to ensures successful implementation of pharmacy services within the designated 1815 pharmacy.

3. Students will attend the 1815 Pharmacy and Student training. This training will be held virtually.

PROGRAM STRUCTURE:

1. Students must fulfill all eligibility requirements for NSDU's experiential program.

2. The designated 1815 Pharmacy will have a current experiential agreement in place with NDSU, have a current pharmacy license and be registered as an 1815 site.

3. The 1815 pharmacy and preceptor are to uphold all requirements by the NDSU School of Pharmacy Experiential Site Agreement.

4. Scholarship money will be dispersed to the Student upon successful completion of the 1815 Pharmacy Rotation.

5. The student must complete all required assignments for the rotation, including: An evaluation of the site, preceptor, and rotation. In addition, the student will be required to complete an additional perceptions survey (pre/post) from the 1815 program.

6. Students will be required submit weekly patient care logs that will be available to the Collaborators on the 1815 grant.

7. Failure to successfully complete items 5 and 6 will result in loss of scholarship funds.

8. During the time the Student is participating in the 1815 pharmacy rotation, the pharmacy shall strive to complete the weekly targets with participation of the Student as identified in the student manual and during the trainings.

9. The Student shall reply to all 1815 Collaborator correspondence within 3 business days during the 1815 pharmacy rotation.

10. 1815 Collaborators will have access to all data from items 5, 6, and 8.

ASSURANCES:

1. Should the 1815 Pharmacy no longer agree to take the Student, the 1815 Collaborators will work diligently to find an alternative 1815 pharmacy site for the Student to complete the scholarship requirement. However, a replacement site is not guaranteed.

2. The 1815 Collaborators will maintain the confidentiality of any educational records pertaining to students and are subject to the Family Education Rights Privacy Act (FERPA) received from the Student.

GENERAL AGREEMENTS:

1. It is understood and agreed that the Parties hereto may mutually revise or modify this Agreement only by written amendment, signed by both parties.

2. The student reserves the right to not participate in the 1815 rotation, however scholarship funds will not be dispersed.

3. Notices, as required under this Agreement, shall be deemed to have been properly given or sent when made in writing and deposited in the United States mail, postage prepaid to the following addresses: (or by any other method actually resulting in delivery)

NDSU:	Student:
North Dakota State University	
Attn: Elizabeth Skoy	Name: _____
NDSU Dept 2660	
PO Box 6050	Address: _____
Fargo, ND 58108-6050	_____
Phone: (701) 231-5669	Phone:_____
Fax: (701) 231-7606	
e-mail: Elizabeth.Skoy@ndsu.edu	e-mail: _____

4. All matters relating to the validity, construction, performance, or enforcement of this Agreement shall be controlled by and determined in accordance with the laws of the State of North Dakota. All legal actions initiated with respect to or arising from this Agreement or any provision contained therein shall be initiated, filed and venued solely and exclusively in the State of North Dakota District Court located in the City of Fargo, County of Cass, State of North Dakota.

5. This Agreement contains the entire agreement between the parties and supersedes all prior oral or written agreements between the parties.

IN WITNESS THEREOF, this Agreement has been executed by and on behalf of the parties hereto, the day and year as appears next to their signatures below.

NDSU	**Student**
_____	_____
Dan Friesner, Ph.D. Senior Associate Dean College of Health Professions	
Printed Name:_____	Printed Name:_____
Date: _____	Date: _____