

CARDIOVASCULAR HEALTH FOR INDIVIDUALS WITH SERIOUS MENTAL ILLNESS

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OBJECTIVES

- By the end of this talk, participants will be able to:
 1. Name factors that contribute to increased rates of cardiovascular disease (CVD) in persons with SMI.
 2. Apply principles of motivational interviewing to promote behaviors that impact cardiovascular health.
 3. Diagnose obesity, hypertension, diabetes and dyslipidemia.
 4. Increase familiarity and comfort with prescribing medication for cardiovascular risk-associated conditions.



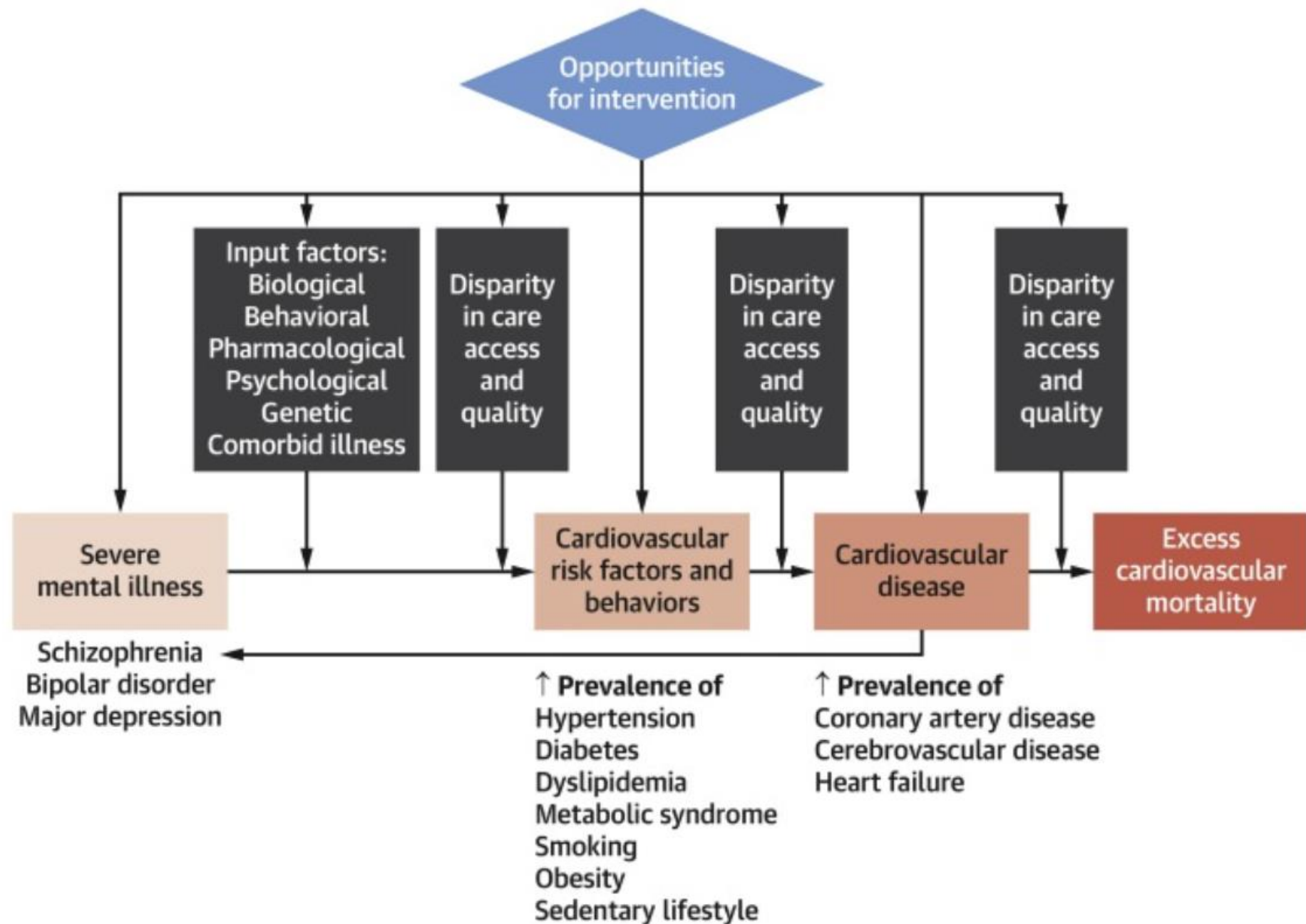
CV DISEASE AND SMI

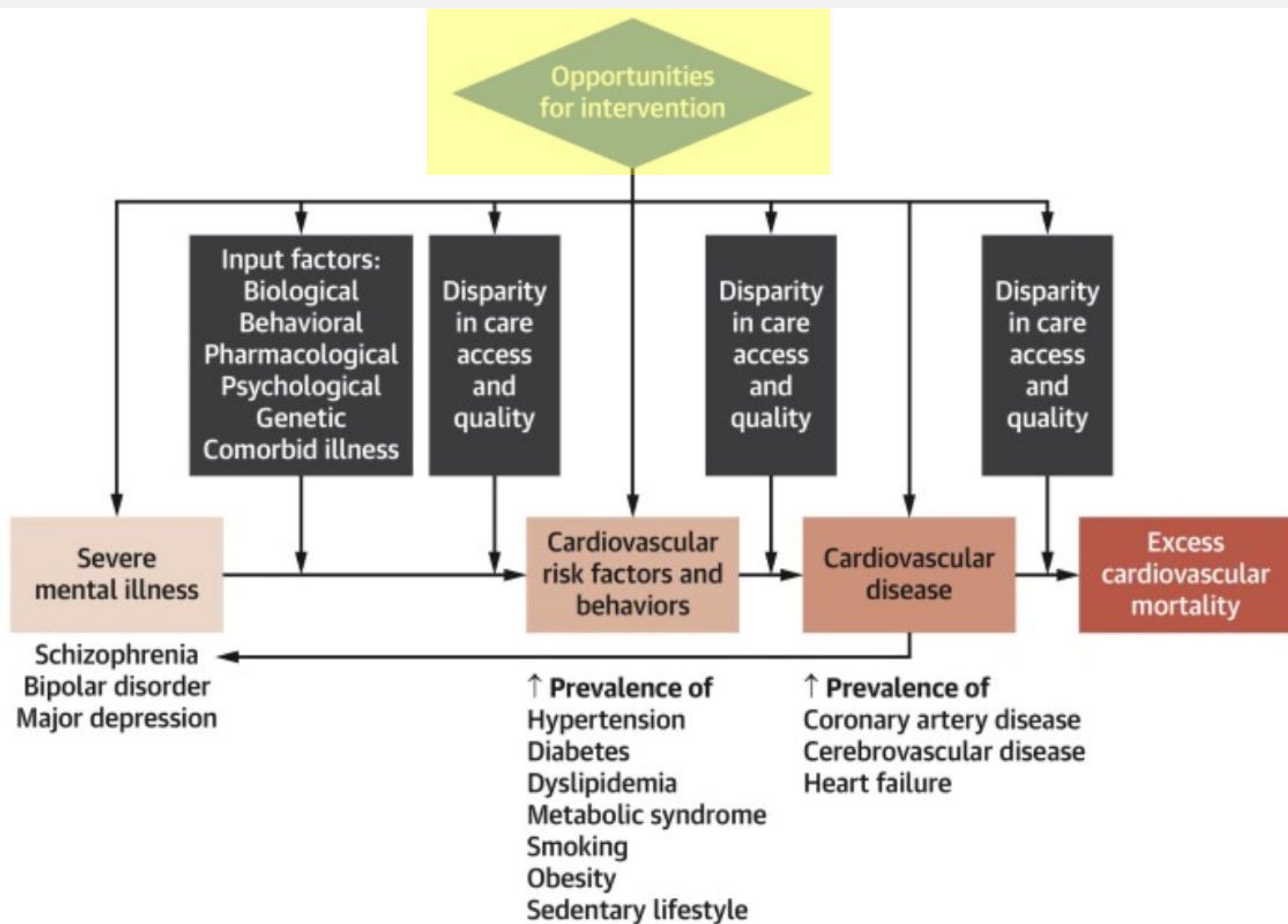
World Psychiatry, 16 (2017), pp. 163-180

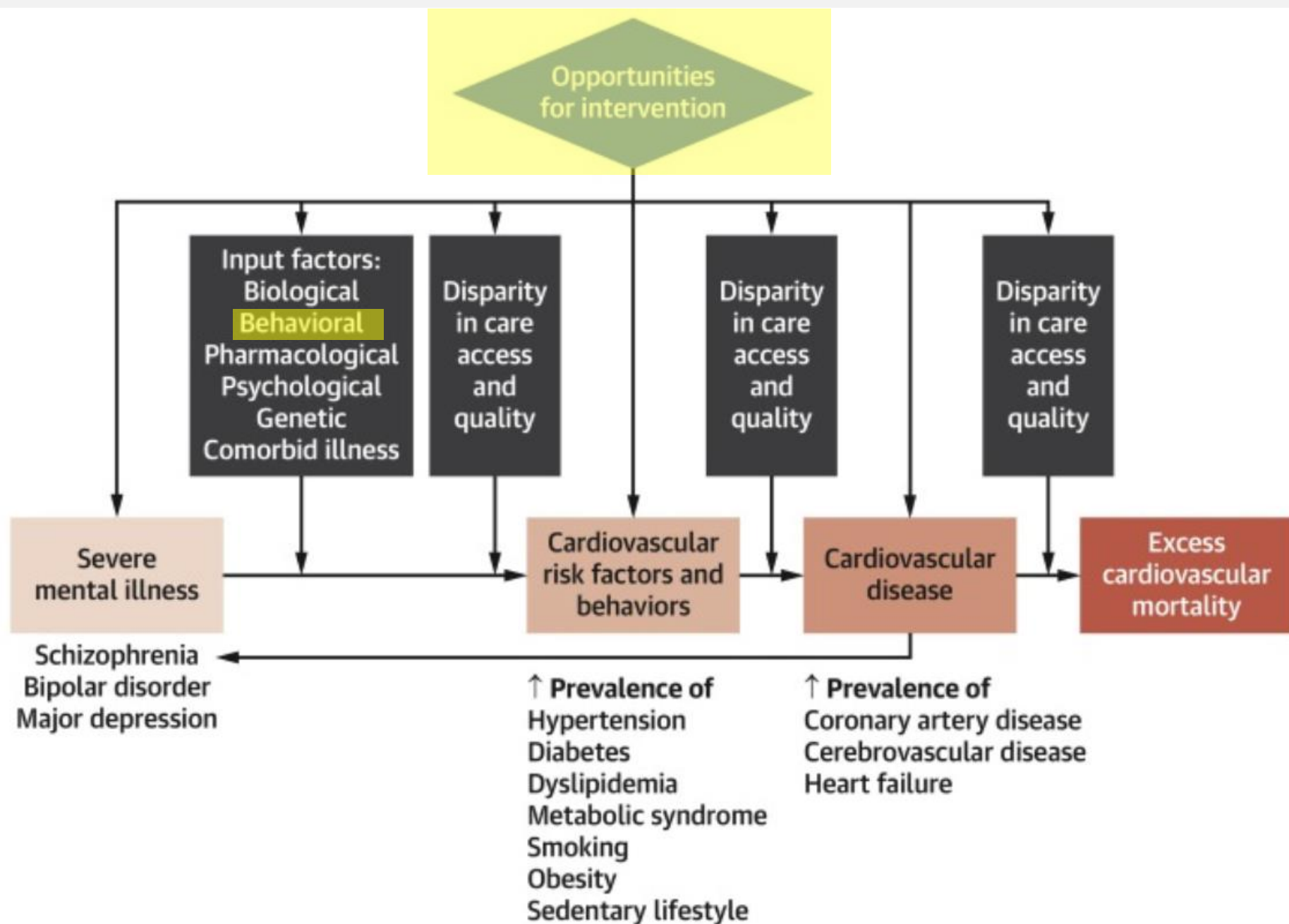
DEATH IN SMI

Mortality
Gap of
15 to 25
years







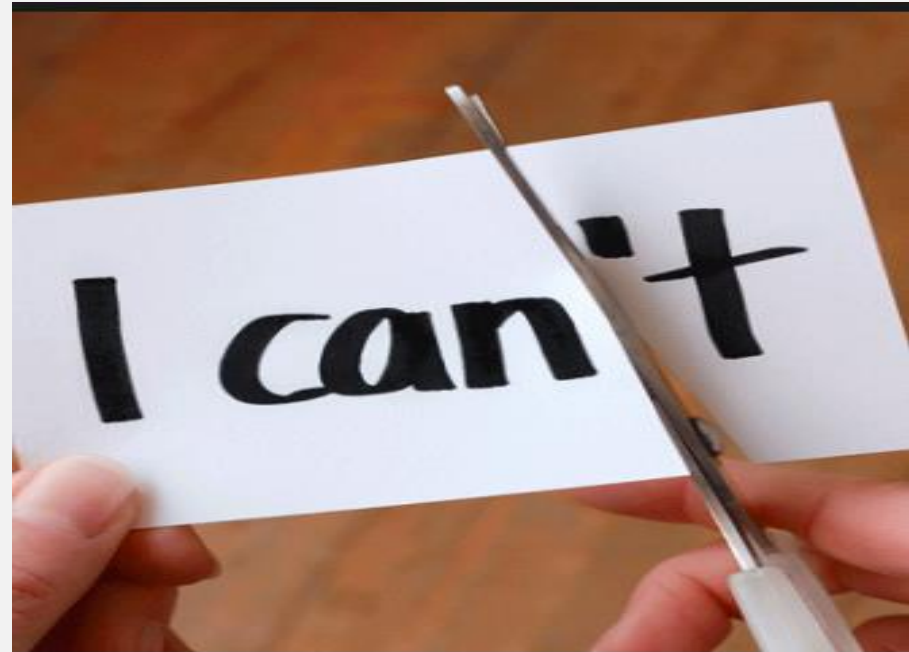




OPPORTUNITIES: BEHAVIOR CHANGE

WHAT IS MOTIVATIONAL INTERVIEWING?

Person-centered, evidence-based directive method for enhancing *intrinsic* motivation to change by exploring and resolving ambivalence with the individual.



A WAY OF
BEING



The Process

Planning

Evoking

Focusing

Engaging

THE PROCESS

Ask Permission: Would it be ok if we
discussed...?

Engaging

THE PROCESS

What?

Focusing

Engaging

THE PROCESS

Why?

Evoking

Focusing

Engaging

ACKNOWLEDGE & EVOKE

SUSTAIN
TALK



CHANGE
TALK

AMBIVALENCE

TYPES OF CHANGE TALK:

- **Desire:** I want to.... I'd really like to... I wish...
- **Ability:** I would... I can....I am able to...
- **Reason:** There are good reasons to...
This is important....
- **Need:** *I really need to...*
- **Commitment:** *I intend to... I will... I plan to...*
- **Activation:** I'm doing this today...
- **Taking Steps:** I went to my first group...



THE PROCESS

“How?”

Planning

Evoking

Focusing

Engaging

GOAL SETTING

S



M



A



R



T



CHANGING DIET

WEEKLY FOOD DIARY

GOALS:

	SUN	MON	TUE	WED	THU	FRI	SAT
Date							
Breakfast							
Lunch							
Dinner							
Snacks							
Water	○○○○ ○○○○	○○○○ ○○○○	○○○○ ○○○○	○○○○ ○○○○	○○○○ ○○○○	○○○○ ○○○○	○○○○ ○○○○
Notes							



CHANGING DIET

Where do you
get meals?

CHANGING DIET

Where do you get groceries?



CHANGING DIET

What is your food budget?

<https://doh.wa.gov/you-and-your-family/nutrition-and-physical-activity/healthy-eating/snap-match-programs/snap-market-match>

<https://www.buysalvagefood.com/salvage-grocers-washington.html>



CHANGING DIET



HIGHEST PROTEIN SUBWAY

cheatdaydesign.com

BEST SOURCES OF PROTEIN UNDER 700 CALORIES

(LISTED BY PROTEIN CONTENT)

Steak & Cheese Wrap 570 Calories 20g Fat 55g Carbs 43g Protein	Steak & Cheese Bowl 380 Calories 19g Fat 12g Carbs 42g Protein	Buffalo Chicken Wrap 560 Calories 19g Fat 56g Carbs 42g Protein
Grilled Chicken Wrap 470 Calories 11g Fat 54g Carbs 42g Protein	Roast Beef Wrap 500 Calories 14g Fat 58g Carbs 38g Protein	Rotisserie Chicken Wrap 500 Calories 15g Fat 54g Carbs 38g Protein
The Monster 6" 580 Calories 30g Fat 42g Carbs 36g Protein	Buffalo Chicken Bowl 380 Calories 21g Fat 13g Carbs 36g Protein	Grilled Chicken Bowl 200 Calories 4g Fat 9g Carbs 35g Protein
Chicken Teriyaki Bowl 350 Calories 5g Fat 46g Carbs 34g Protein	The Great Garlic 6" 570 Calories 29g Fat 43g Carbs 34g Protein	Chicken & Bacon Ranch 6" 570 Calories 29g Fat 43g Carbs 34g Protein
Turkey Cali Club 6" 580 Calories 32g Fat 43g Carbs 33g Protein	Subway Club 6" 500 Calories 24g Fat 43g Carbs 32g Protein	Rotisserie Chicken Bowl 220 Calories 8g Fat 8g Carbs 31g Protein

CHANGING DIET



CHANGING DIET

Portion Control:



CHANGING
DIET



Don't hurry



Cook and eat in
a good mood



Feel the taste
of food



Soft, relax
music



Eat your favorite
food last

Mindful Eating



Drink more
water



Respect your body
and health



Sit at a real table



Not multitasking

INCREASING PHYSICAL ACTIVITY



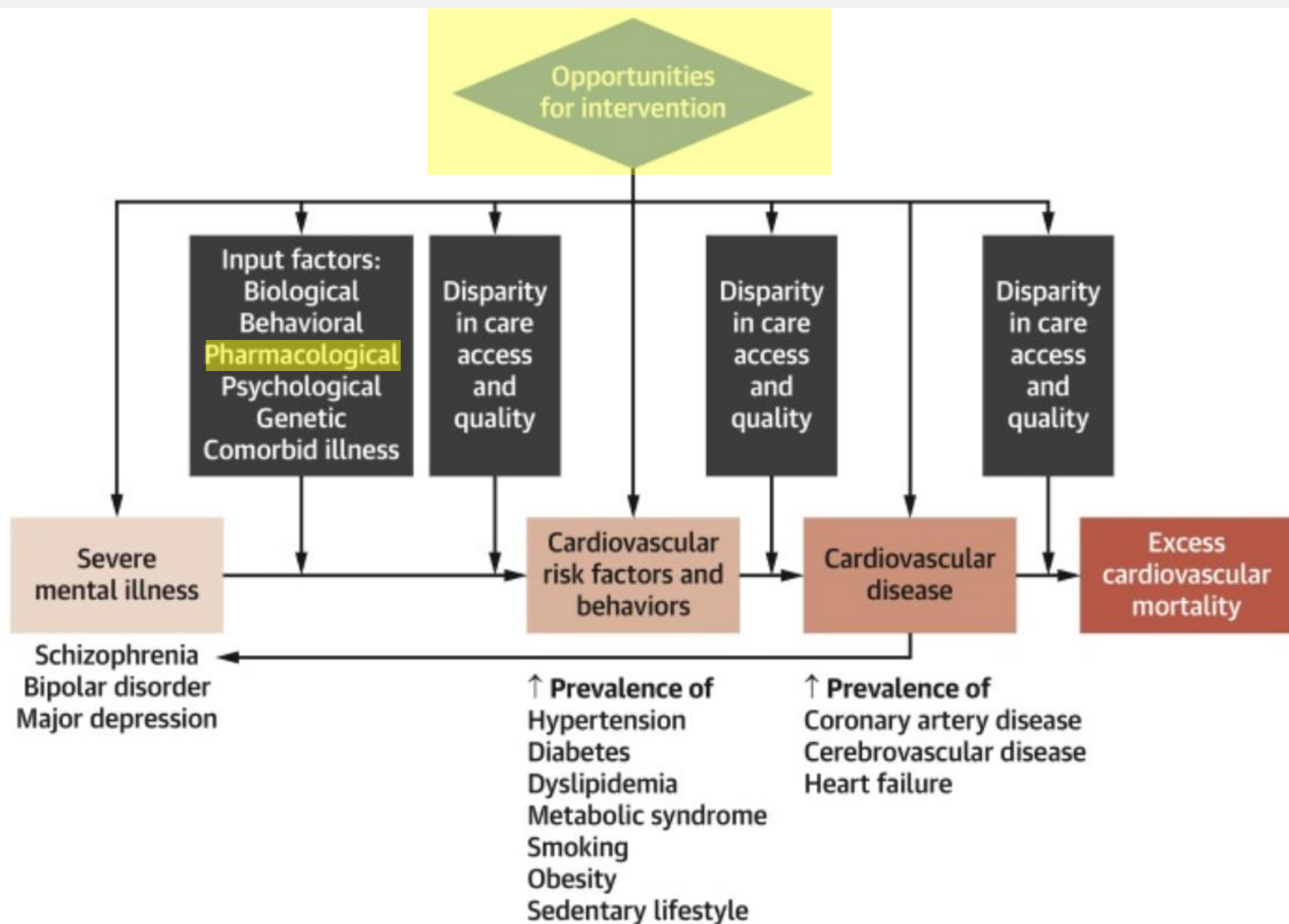
SMOKING

- Counseling + Meds > Either one alone
 - NRT
 - Wellbutrin
 - Varenicline/Cytisinicline

JAMA. 2022;327(6):566-577. doi:10.1001/jama.2022.0395

JAMA. 2023;330(2):152-160. doi:10.1001/jama.2023.10042

PATIENT ROLE PLAY



Relative MetS Risk of Commonly Used Antipsychotics

Drug	Receptor Antagonism (Based on Receptor Occupancy)			MetS Risk – Lipids	MetS Risk – Glucose	MetS Risk – Body Weight	
	5-HT _{2C}	H1	M3				
FGAs	Haloperidol	–	–	–	Low	Medium	Low
	Sulpiride	–	–	Low	Low	Low	Low
	Chlorpromazine	High	High	Low	High	High	High
SGAs	Clozapine	High	High	High	High	High	High
	Olanzapine	High	High	Low	High	High	High
	Risperidone	Medium	Medium	–	Medium	Medium	Medium
	Paliperidone	Medium	Low	–	Medium	Medium	Medium
	Quetiapine	Low	High	Low	Medium	Medium	Medium
	Ziprasidone	Medium	Low	–	Low	Low	Low
	Aripiprazole	Low	Low	–	Low	Low	Low
	Amisulpride	–	–	–	Low	Low	Low
	Asenapine	High	High	–	Medium	Medium	Medium
	Lurasidone	Medium	Low	–	Low	Low	Low
	Serindole	High	–	–	Low	Low	Medium
Cariprazine	Low	Low	–	Low	Medium	Low	
Brexpiprazole	Low	Low	–	Low	Low	Low	

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ADDING MEDS TO ATYPICALS

- Aripiprazole 5-15mg daily
- Metformin 500-2000mg daily

SWITCHING ANTIPSYCHOTICS

- Improvement in metabolic parameters:
 - Amisulpride (2 studies)
 - Aripiprazole (6 studies)
 - Lurasidone (2 studies)
 - Ziprasidone (5 studies)
- No deterioration in psychotic symptoms
- High discontinuation rates

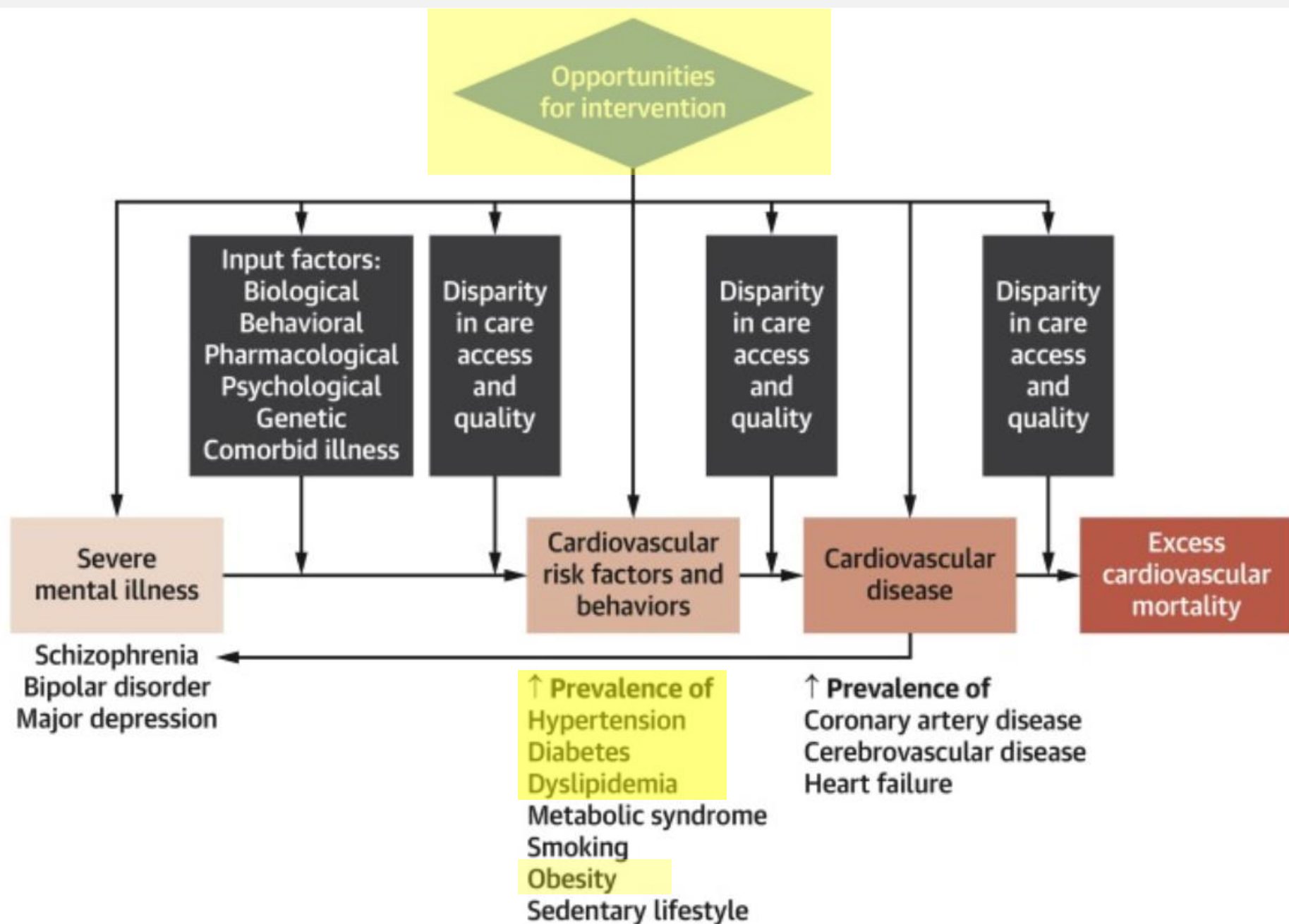


OTHER PSYCHOTROPICS AND METABOLIC CHANGES

- Antidepressants: TCAs
- Mood stabilizers: Valproic Acid

OTHER
PSYCHOTROPICS
AND METABOLIC
CHANGES





SCREENING: ATYPICALS

	Baseline	4 weeks	8 weeks	12 weeks	Quarterly	Annually	Every 5 years
Personal/family history	X					X	
Weight (BMI)	X	X	X	X	X		
Waist circumference	X					X	
Blood pressure	X			X		X	
Fasting plasma glucose	X			X		X	
Fasting lipid profile	X			X			X

LIPID SCREENING

- **Once at age 20, then:**
 - **Higher Risk:** men 25-30, women 30-35

HTN

DM2

Fam hx
CVD

Tob Use

- **Lower Risk:** men 35, women 45
- **If no evidence of ASCVD:** every 4-6 years

HTN SCREENING

- Age 40, every 3-5 years
- If increased risk, at age 18, annually
 - Black, overweight or obese

DIABETES SCREENING

- Start:
 - Age 45 OR
 - Age 18 if overweight/obese
- Every 3 years is normal; q6-12 months if abnormal

SUMMARY OF WHEN TO SCREEN


- Lipids: Age 20, then every 5 years if normal
- BP: Age 18, then annually if normal
- Blood glucose/A1c: Age 18, every 3-5 years if normal


A WORD ON
TREATMENT



DYSLIPIDEMIA: FASTING V NON-FASTING LABS



 TG + LDL

 TChol + HDL

NON-HDL CHOLESTEROL

Non-HDL Cholesterol = T Chol – HDL

LDL \approx Non HDL Cholesterol – 30

TREATMENT: PRIMARY PREVENTION OF
CVD

STATINS

TREATMENT: LDL AND PRIMARY PREVENTION OF CVD

- (fasting) LDL \geq 190 \rightarrow STATIN (high intensity)
- (fasting) LDL \geq 70 and $<$ 190:
 - DM2 and age 40-75 \rightarrow STATIN (high intensity)
 - No DM2 and age 40-75 \rightarrow RISK STRATIFICATION

ASCVD RISK STRATIFICATION

<https://www.cvriskcalculator.com/>

Age (years)

40-79

Gender

Male

Female

Race

African American

Other

Total cholesterol (mg/dL)

130-320

HDL cholesterol (mg/dL)

20-100

Systolic blood pressure (mmHg)

90-200

Diastolic blood pressure (mmHg)

30-140

Treated for high blood pressure

No

Yes

Diabetes

No

Yes

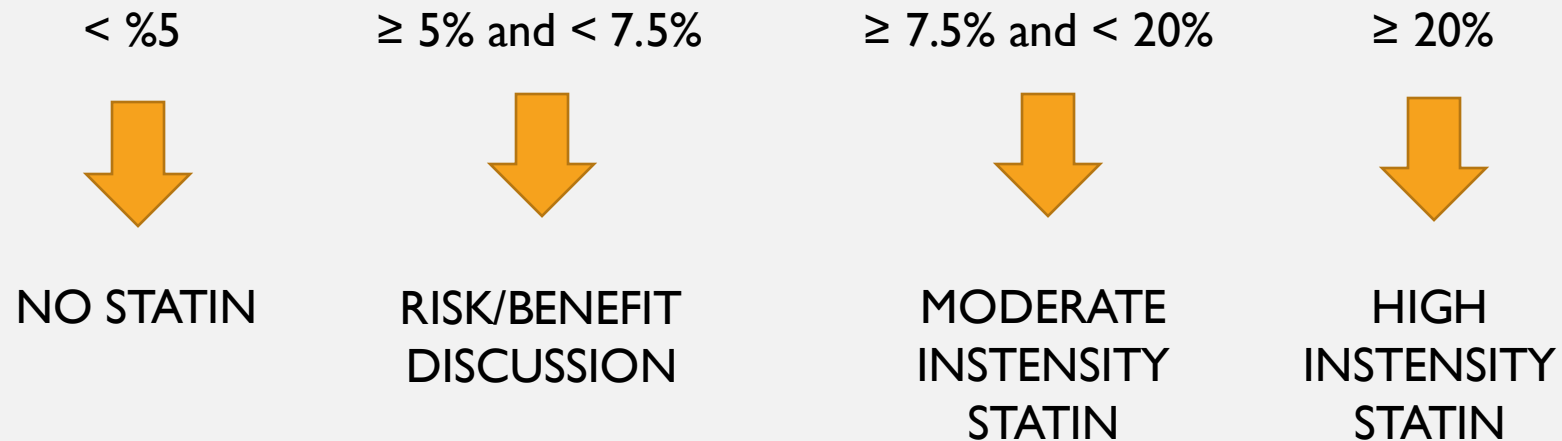
Smoker

No

Yes

ASCVD RISK STRATIFICATION: NO DM2

10-year ASCVD Risk:



ASCVD RISK STRATIFICATION: DM2

10-year ASCVD Risk:

< 7.5%



MODERATE
INTENSITY
STATIN

≥ 7.5%



HIGH
INTENSITY
STATIN

STATIN DOSING

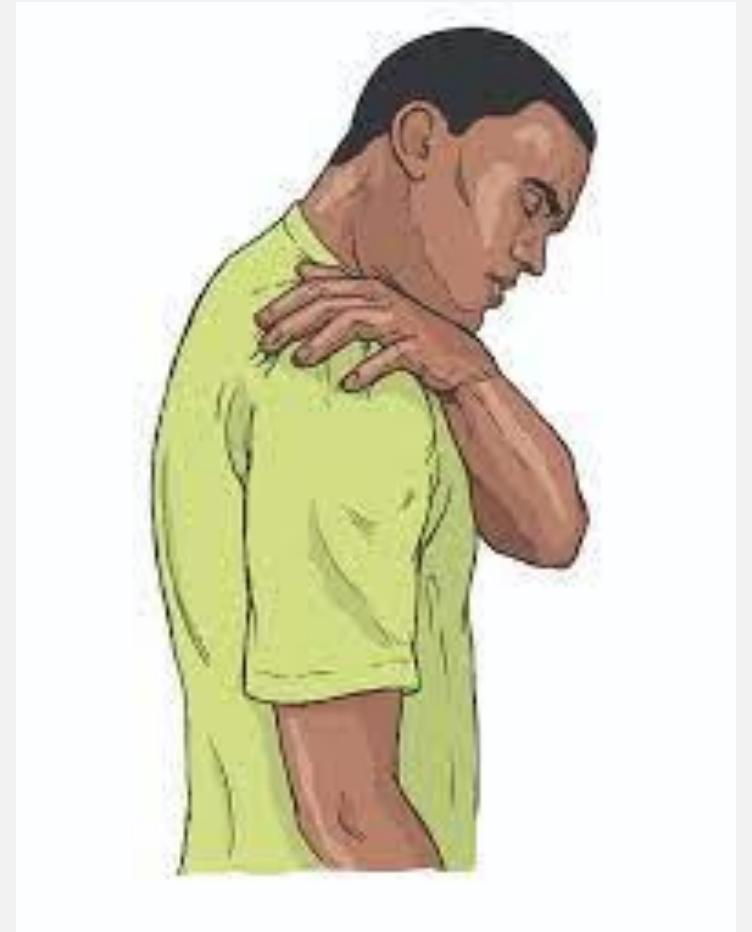
	High Intensity	Moderate Intensity	Low Intensity
LDL reduction	≥50%	30%–49%	<30%
	Atorvastatin (40 mg†) 80 mg Rosuvastatin 20 mg (40 mg)	Atorvastatin 10 mg (20 mg) Rosuvastatin (5 mg) 10 mg Simvastatin 20–40 mg§	Simvastatin 10 mg
	...	Pravastatin 40 mg (80 mg)	Pravastatin 10–20 mg

MONITORING ON STATIN

- Check fasting LDL 6-8 weeks after initiating therapy to assess for efficacy and adherence
 - High intensity → 50%
 - Moderate intensity → 30%
- Monitor thereafter annually to assess adherence

STATIN SIDE EFFECTS

- 5-20%: Myalgias
 - Check CK if severe pain or weakness
 - Discontinue statin until pain resolves, then reintroduce



DIABETES: DIAGNOSIS

	Normal	Prediabetes	Diabetes
Hemoglobin A1c	< 5.7%	5.7% - 6.4%	≥ 6.5%
Fasting Plasma Glucose	< 100 mg/dL	100 - 125 mg/dL	≥ 126 mg/dL
Oral Glucose Tolerance	< 140 mg/dL	140 - 199 mg/dL	≥ 200 mg/dL

DIABETES TREATMENT

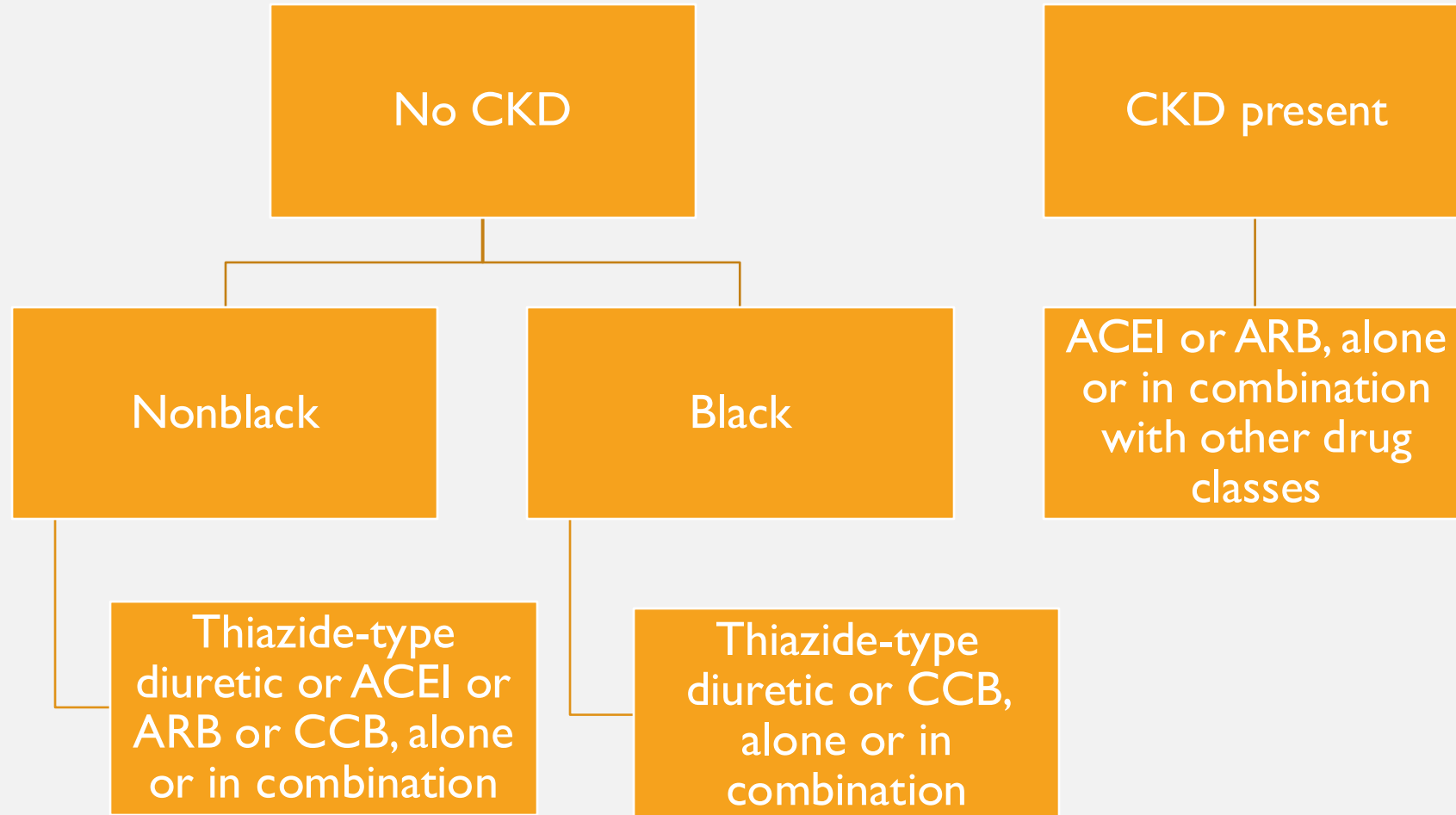
- Metformin is first line
- Start 500mg qday to bid
- Expect GI side effects
- Don't use if GFR less than 45

HTN DX

BP 130/80 or higher on 3 or more readings



TREATMENT OF HTN



Antihypertensive class	Common side effects	Monitoring
Thiazide diuretic	Electrolyte disturbances, sexual dysfunction (men), orthostatic hypotension	Na, K, Cr every 3 months
ACE Inhibitors	Cough, hyperkalemia	NA, K, Cr every 3 months
Calcium Channel Blockers	Edema, headache, constipation	none

TREATMENT OF HTN

- If patient does not have CKD,
Amlodipine 5mg daily (can increase to 10mg daily)

SUMMARY

- CVD and SMI go together like peanut butter and jelly
- People with SMI die from CVD too often and too early
- Let's change this!
 - Use motivational interviewing to encourage behavior change
 - If metabolic problems when prescribing psychotropics: consider subtracting/adding/switching
 - Screen Lipids, BP, BG in adults with SMI starting around age 18
 - Make friends with a primary care provider
 - Statins, metformin, and amlodipine are fairly easy to prescribe

