New AHA CKM staging:
Cardiologist Perspective

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Outline

- Aims of the new CKM staging
- Basic overview of the staging
- The “Good”
- The “Opportunities”
- Let’s finish positive

The Aim

- Goals
  - **Clarity** on the **Definition** of CKM;
  - **Promotes Prevention** across the life course;
  - **Harmonization** across **subspecialty guidelines** and **emerging evidence;**
  - Incorporate considerations of **SDOH** into care models;
  - **Reduce care fragmentation** by **patient-centered interdisciplinary care**.

- Staging construct that reflects the **pathophysiology**, **spectrum of risk**, and opportunities for **prevention and care optimization** within CKM

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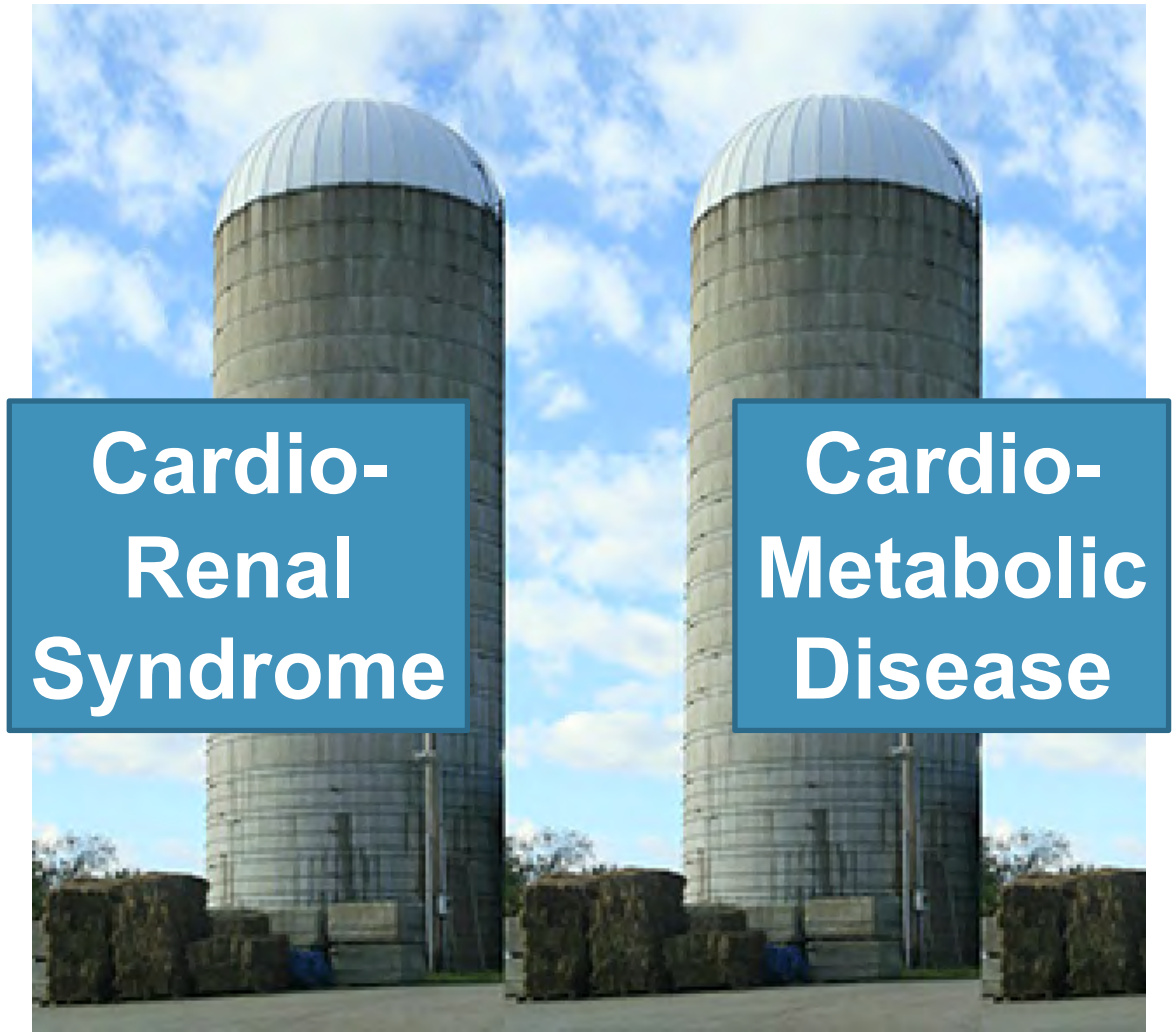
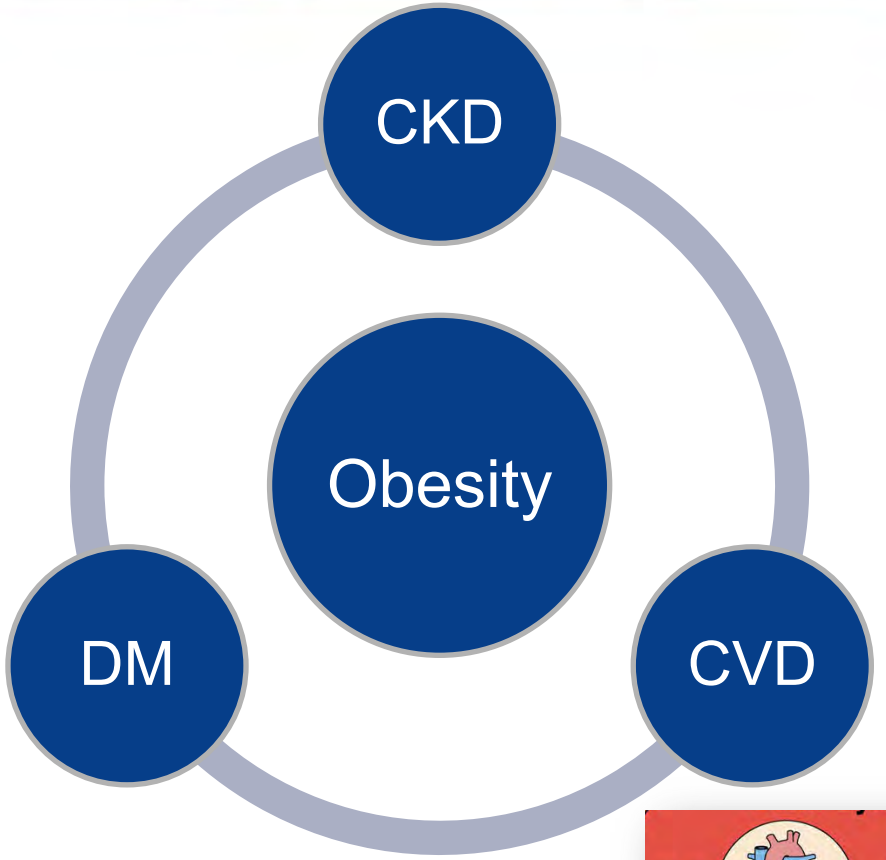
Why is this Needed?



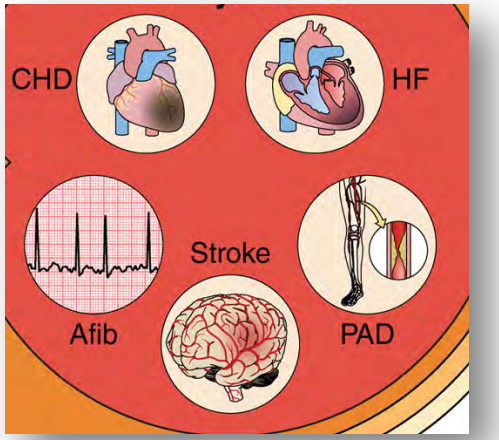
CKM Definition

A health disorder attributable to connections among Obesity, DM, CKD and CV disease

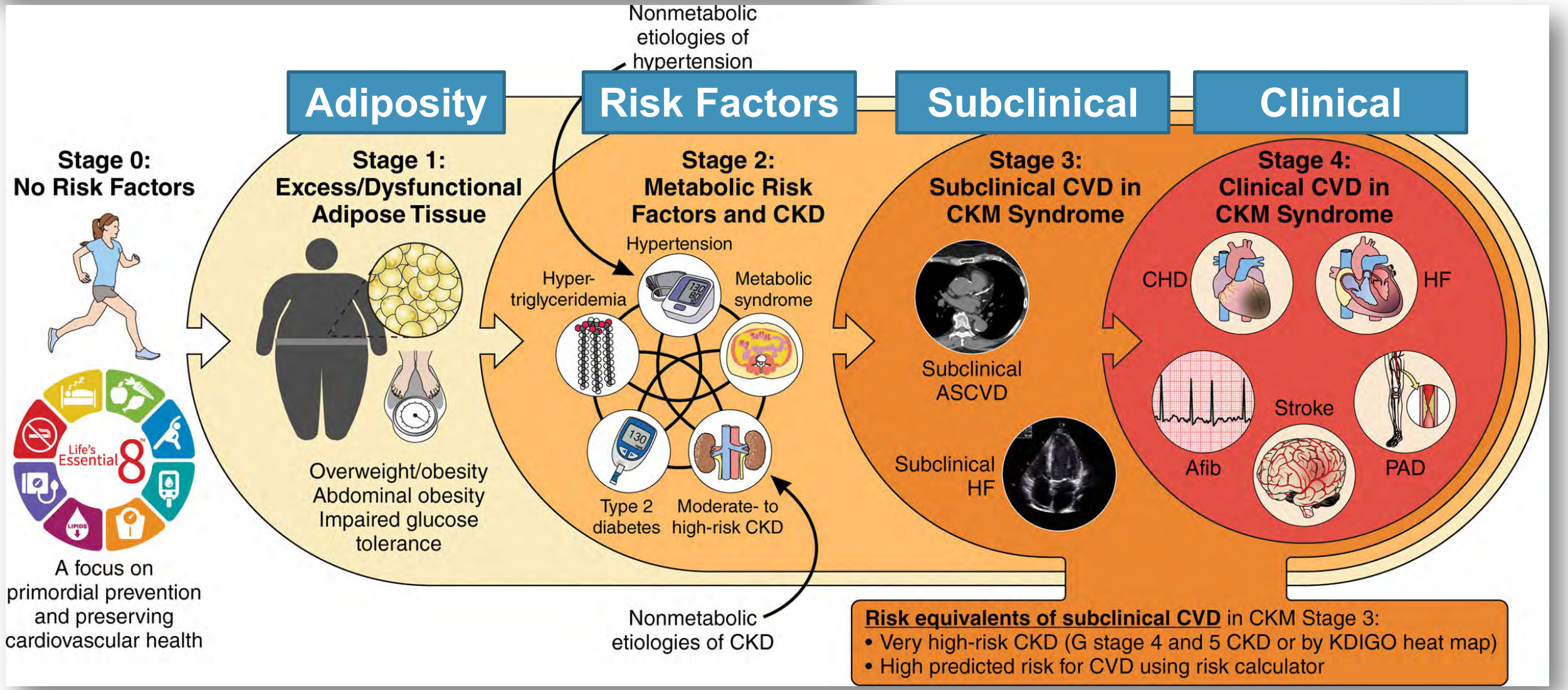
– Including HF, AF, CHD, stroke, PAD



At Risk for CVD + **Existing CVD**



Cardiovascular-Kidney-Metabolic Health:



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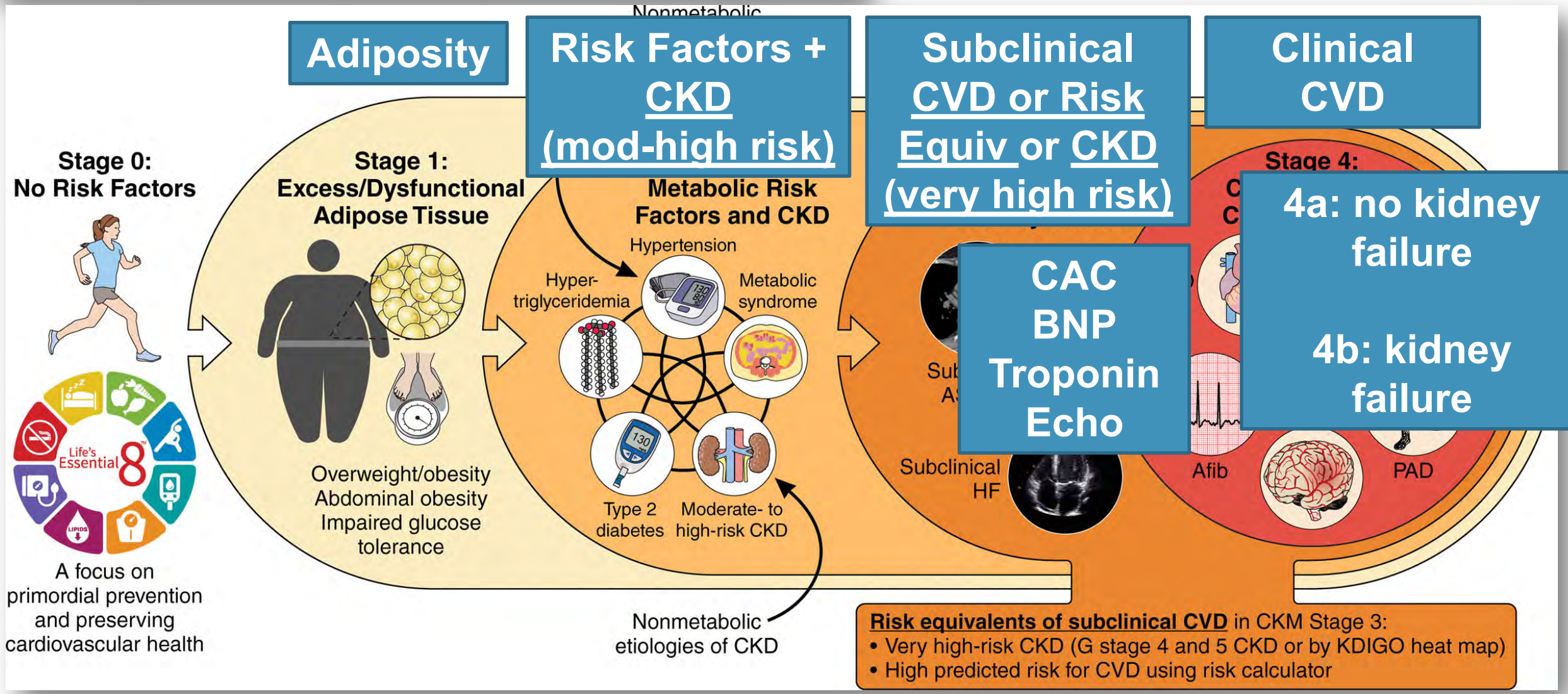

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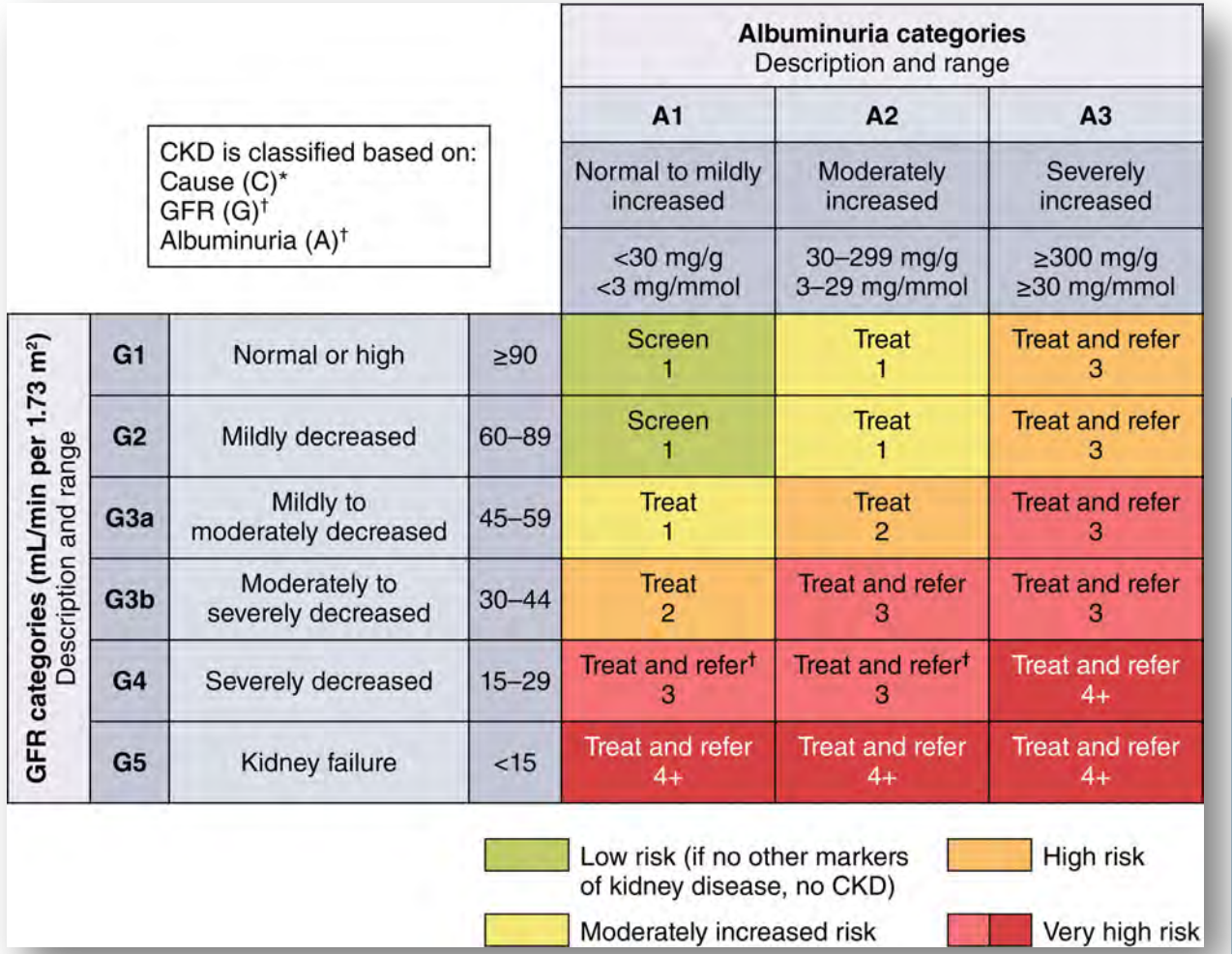
KDIGO heat map for CKD classification



CKD is classified based on: Cause (C)* GFR (G)† Albuminuria (A)†				Albuminuria categories Description and range		
				A1	A2	A3
				Normal to mildly increased	Moderately increased	Severely increased
				<30 mg/g <3 mg/mmol	30–299 mg/g 3–29 mg/mmol	≥300 mg/g ≥30 mg/mmol
GFR categories (mL/min per 1.73 m²) Description and range	G1	Normal or high	≥90	Screen 1	Treat 1	Treat and refer 3
	G2	Mildly decreased	60–89	Screen 1	Treat 1	Treat and refer 3
	G3a	Mildly to moderately decreased	45–59	Treat 1	Treat 2	Treat and refer 3
	G3b	Moderately to severely decreased	30–44	Treat 2	Treat and refer 3	Treat and refer 3
	G4	Severely decreased	15–29	Treat and refer† 3	Treat and refer† 3	Treat and refer 4+
	G5	Kidney failure	<15	Treat and refer 4+	Treat and refer 4+	Treat and refer 4+

Low risk (if no other markers of kidney disease, no CKD)
Moderately increased risk
High risk
Very high risk

Cause

GFR

Albuminuria

Clinicians are encouraged to measure urine albumin-creatinine ratio in addition to eGFR in those with

CKD, DM, HTN, MetS for

fully characterizing CKD and CVD risk (particularly heart failure).

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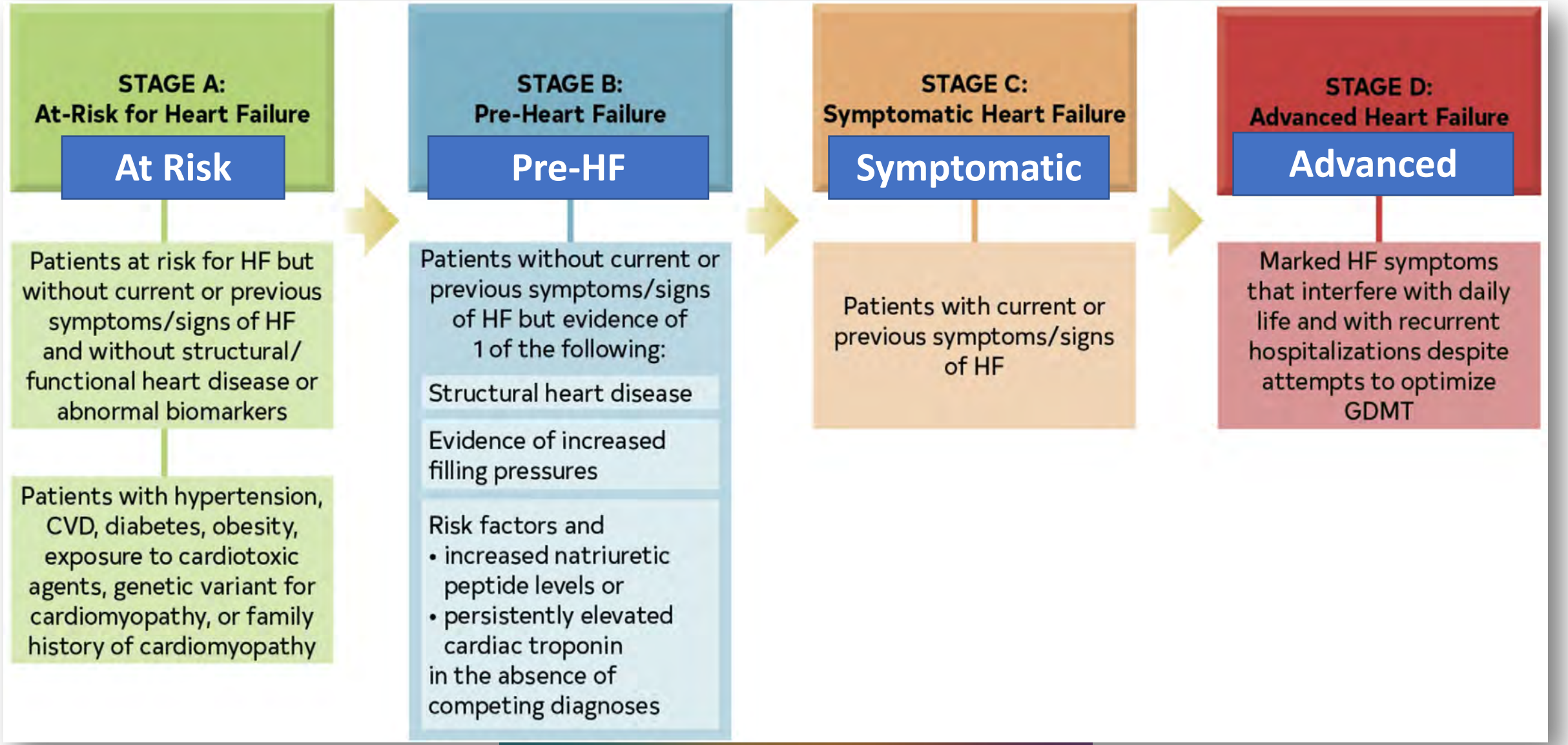
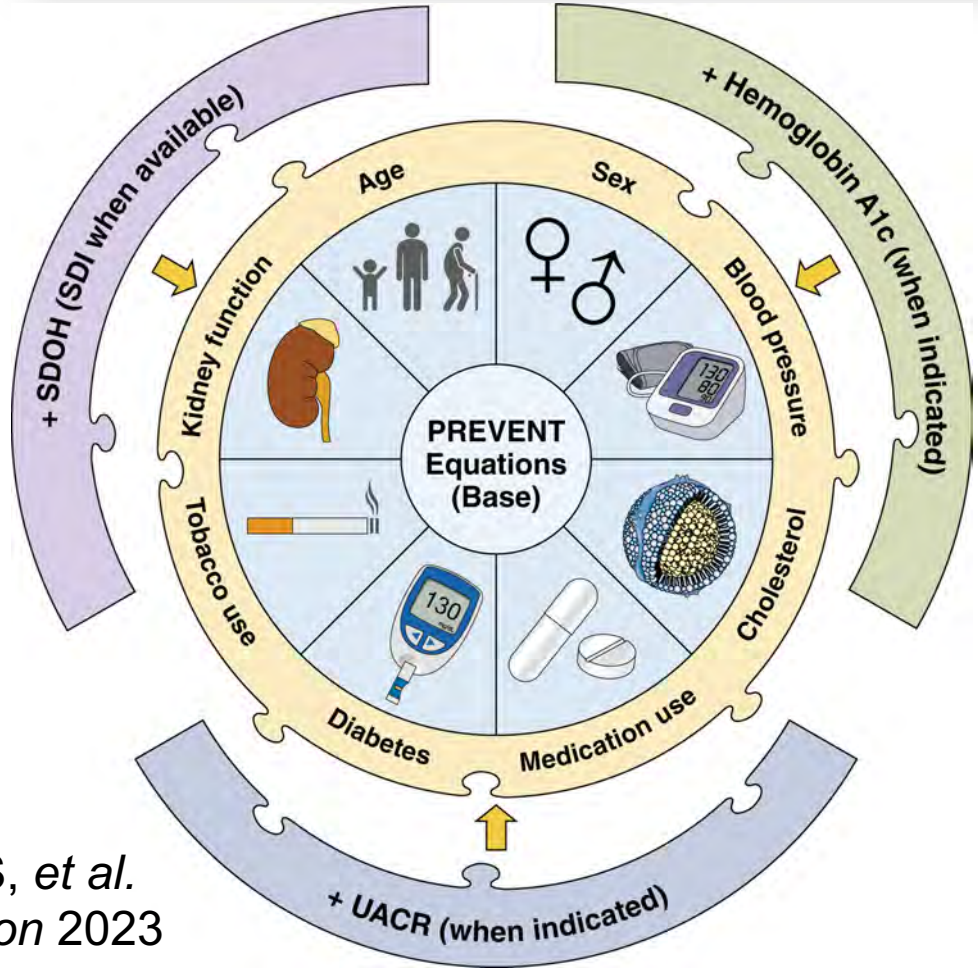
2022 ACC/AHA/HFSA Revised HF Stages and Primary Prevention



Heidenreich PA, *et al.*
J Card Fail 2022

High Predicted CV Risk – New CKM Risk Predictor

Novel Prediction Equations for Absolute Risk Assessment of Total Cardiovascular Disease Incorporating Cardiovascular-Kidney-Metabolic Health: A Scientific Statement From the American Heart Association



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The PREVENT models

Interrelatedness and upstream effect of CKM conditions on CVD risk

- **Sex-specific** risk equations
- **Remove race** from risk prediction
- Newly include **eGFR** as a predictor
- Include **HF** as an outcome
- +/- additional markers of **kidney, metabolic, and social risk**

Proposed Clinical Application

Screen for CKM Risk

- Assess Life's Essential 8 (dietary patterns, physical activity, sleep duration and quality, nicotine exposure, body mass index, blood pressure, lipids, and blood sugar)
- Consider additional testing as clinically indicated: HbA1c, UACR, etc.

Assess CVD Risk

Among adults aged 30-79 y

- Calculate: 10- and 30-y absolute risk of CVD, ASCVD, and HF with PREVENT
- Personalize: In the setting of a clinician-patient discussion, consider risk-enhancing factors for shared decision-making
- Reclassify: In those at intermediate risk or when there is uncertainty, consider sequential testing with biomarkers or imaging

Determine CKM Stage

- CKM Stage 0: No CKM risk factors
- CKM Stage 1: Excess or dysfunctional adiposity
- CKM Stage 2: Metabolic risk factors or CKD
- CKM Stage 3: Subclinical CVD, very high-risk CKD, or high predicted CVD risk by PREVENT
- CKM Stage 4: Clinical CVD

Reduce CKM Risk

- Promote CKM health, prevent CKM progression, prioritize CKM regression
- Treat CKM factors and consider cardioprotective therapies according to guideline recommendations when indicated (eg, statin, SGLT2i, GLP-1RA)
- Screen for and address adverse SDOH
- Reassess CKM factors at guideline-recommended intervals

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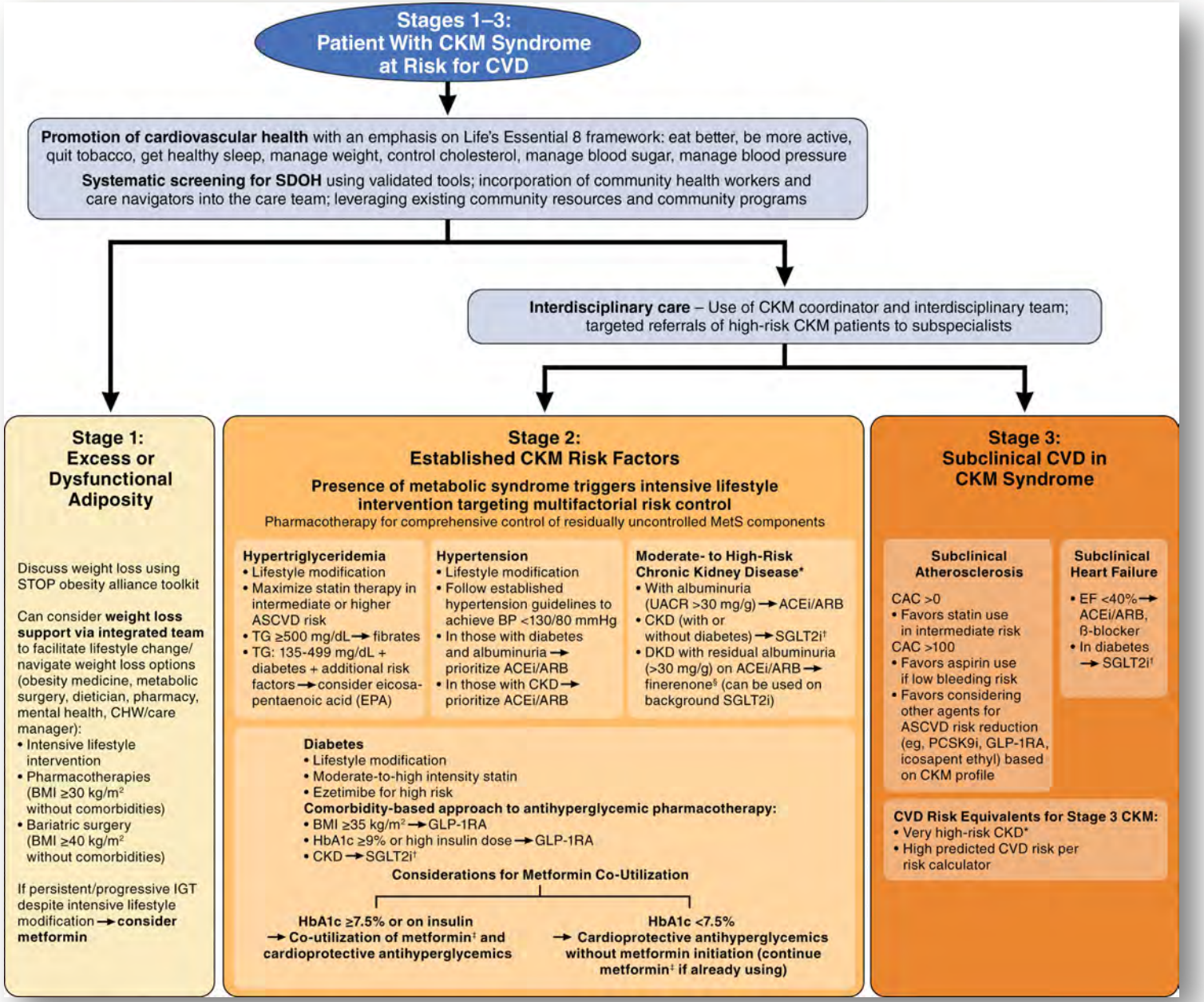
Algorithm for the management of patients with CKM syndrome Stages 1-3



Wt Loss

Statin & Fibrates

EPA

PCSK9i

SGLT2i

GLP1-RA

ACE/ARB

ARNI

MRA

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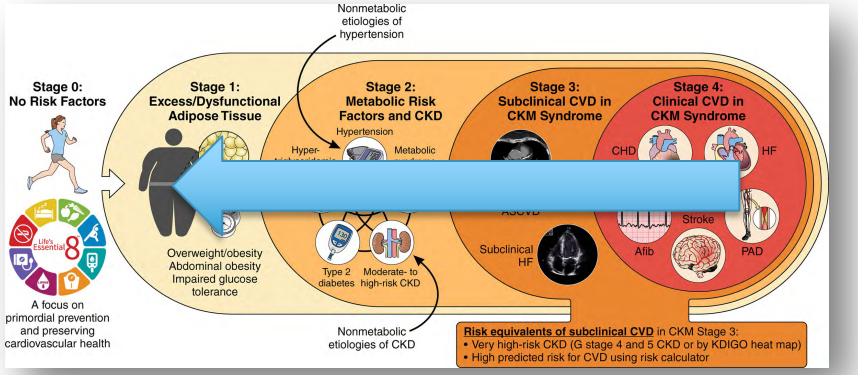
The “Good”

- “Move beyond subspecialty silos to collaborative interdisciplinary care models [to] support more **holistic patient care** approaches”
- “**Risk enhancing factors**” - high-risk demographic groups, sex-specific, SDOH, etc
  - SDOH: screening tools – financial strain, literacy, safety, etc
- Supports enhanced **screening** – annual BMI and waist circumference
- Opportunity to **promote CKM stage regression**



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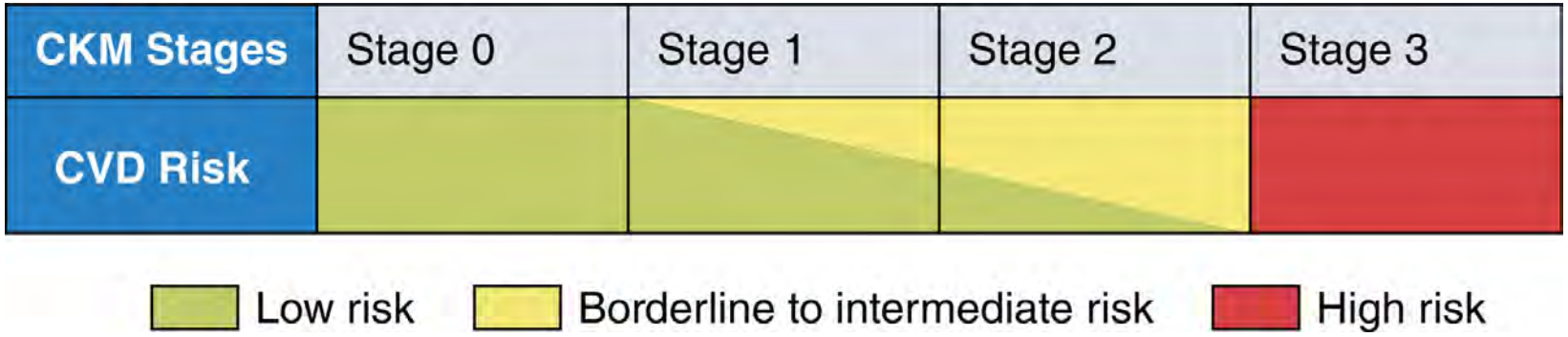
Opportunities

- Cardio-centric:
  - "However, the greatest clinical impact of CKM syndrome with regard to morbidity and premature mortality is through the disproportionate burden of CVD"
  - "The greatest clinical consequence of the increased CVD risk in CKM syndrome is a reduction in survival."
  - "Offers the opportunity to identify individuals earlier in their disease process to promote preventive efforts before the progression to overt clinical CVD"



Moderate to High Risk CKD

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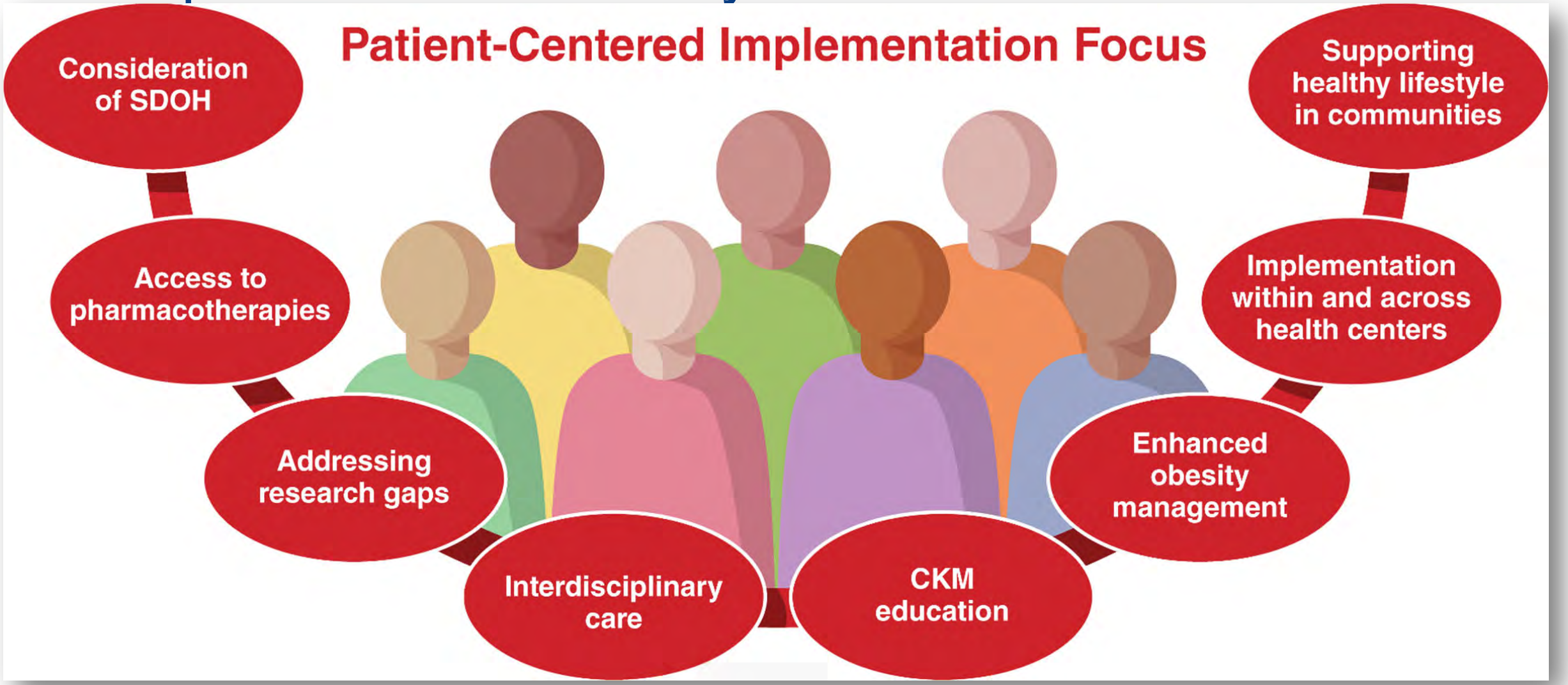
Opportunities

Components of a CKM syndrome call to action



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Summary

- CKM: connections among Obesity, DM, CKD and CV disease
- Positives: Prevention, SDOH, reduce care fragmentation and care optimization in a patient-centered manner
- Opportunities: simplify the terminology, opportunities for global and additional stakeholder engagement & need to validate and make data-driven