

# SECONDARY STROKE PREVENTION

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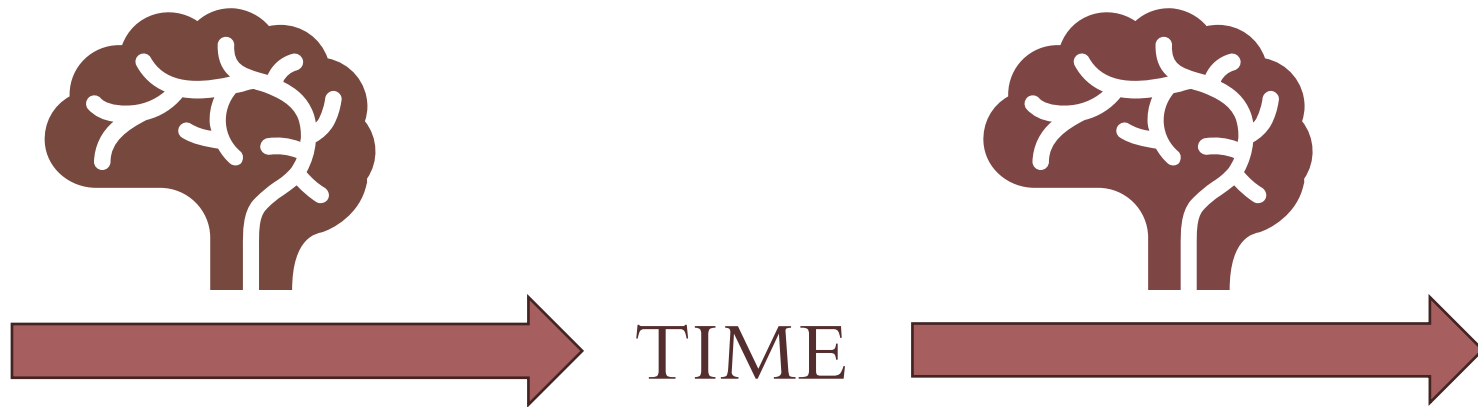
May 2026

Disclosures

None

# OUTLINE

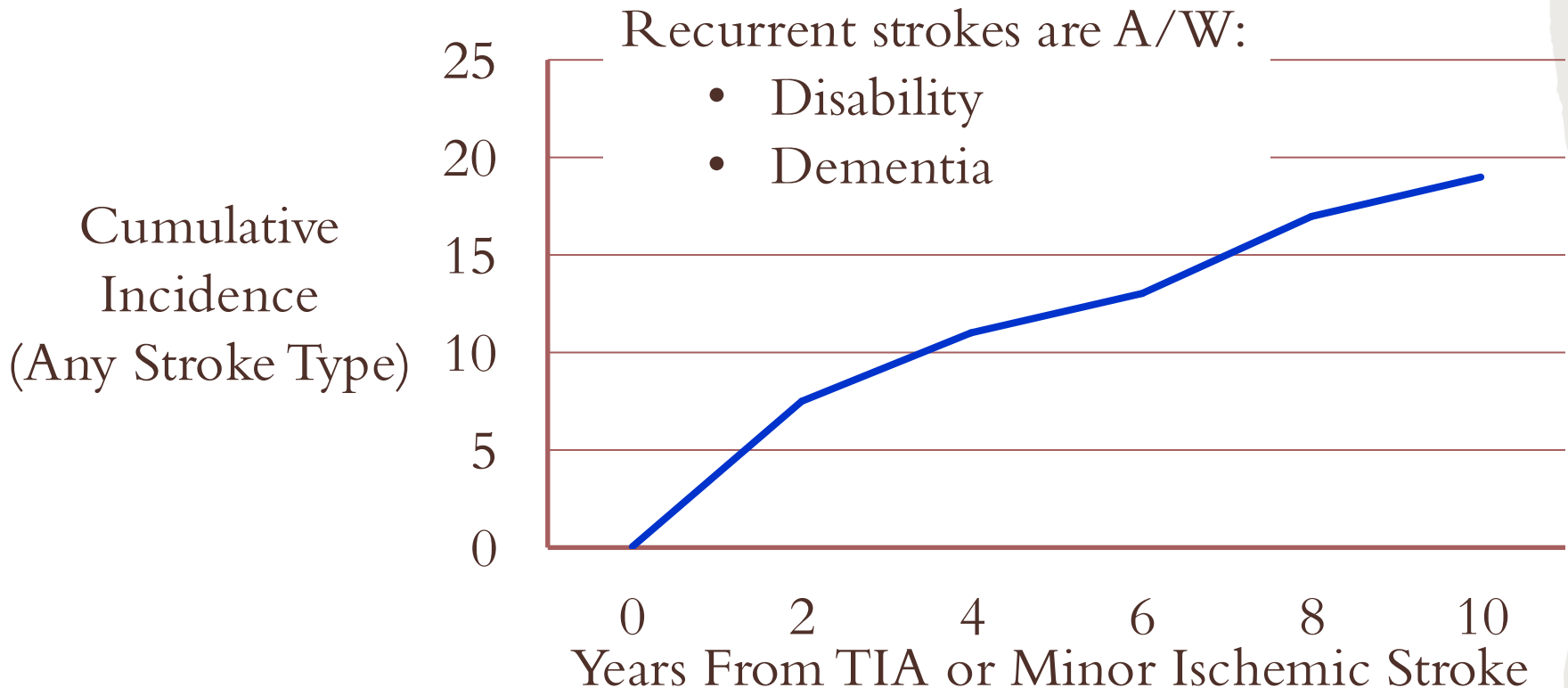
1. General concepts
2. Focus on secondary prevention  
Five specific treatments
3. The quality gap  
Can organized care fill it?



A first stroke indicates vulnerable brain.

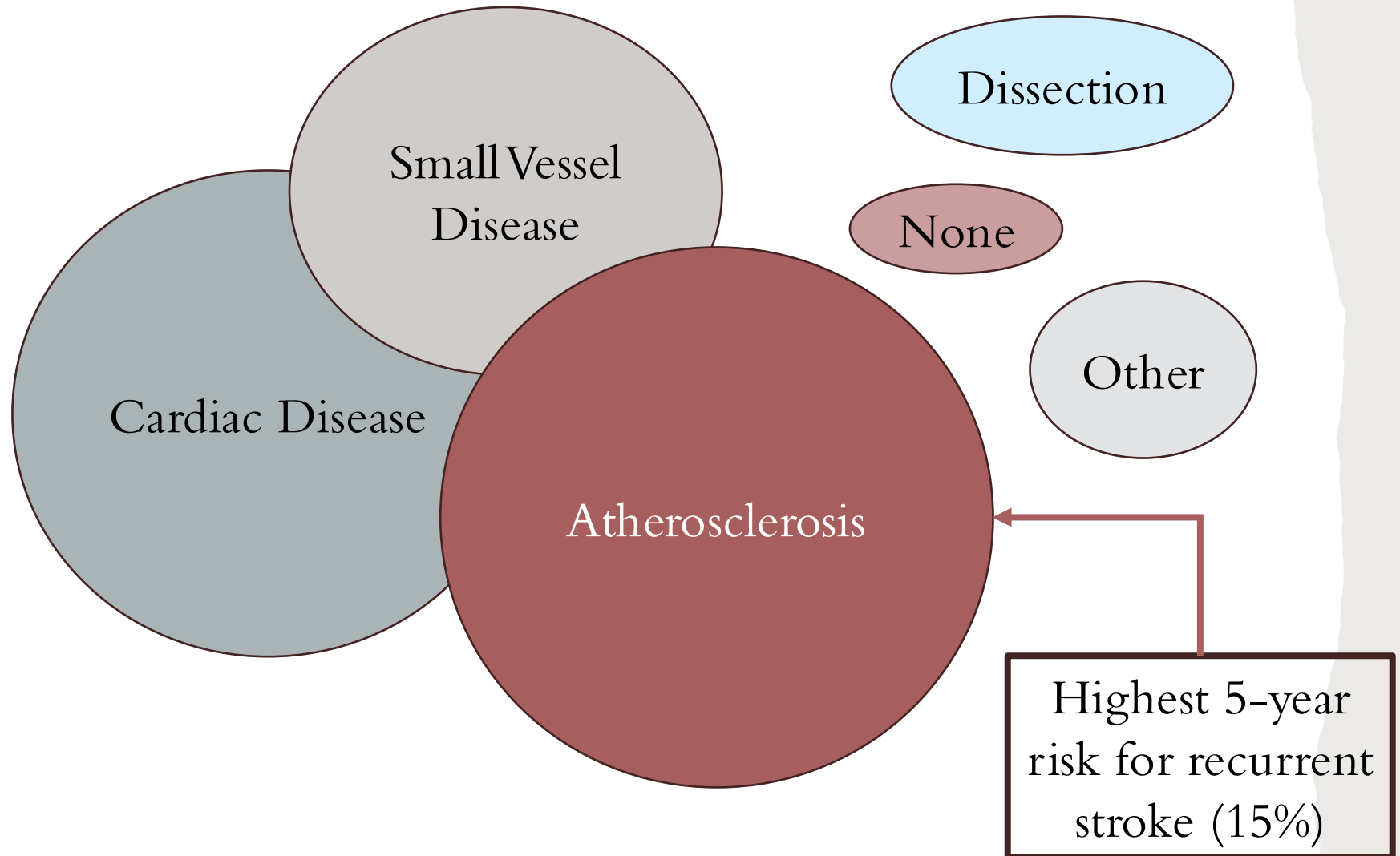
A second indicates vulnerable health care.

# RISK OF RECURRENCE AFTER TIA OR MINOR ISCHEMIC STROKE



N Skajaa Neurology 2021; G. Hobeau Lancet Neurol 2022;21:889.  
PERSIST Collaborators JAMA 2025; Del Bene JAMA Neuro 2025. RA  
Joundi Neurology 2024;104:e210131. Boulanger JAHA 2018;7:e007267

# PRESUMED CAUSE (ASCOD) DETERMINES 2° PREVENTION



## SECONDARY PREVENTION

### Therapy For Unusual Causes

Dissection

Vasculitis

FMD

LVAD

Melas

Endocarditis

More

### Therapy For Specific Causes

Carotid Stenosis

Atrial Fibrillation

PFO

### Therapy For Risk Factors

Hypertension

Diabetes

Hyperlipidemia

Obesity

Smoking

Nutrition

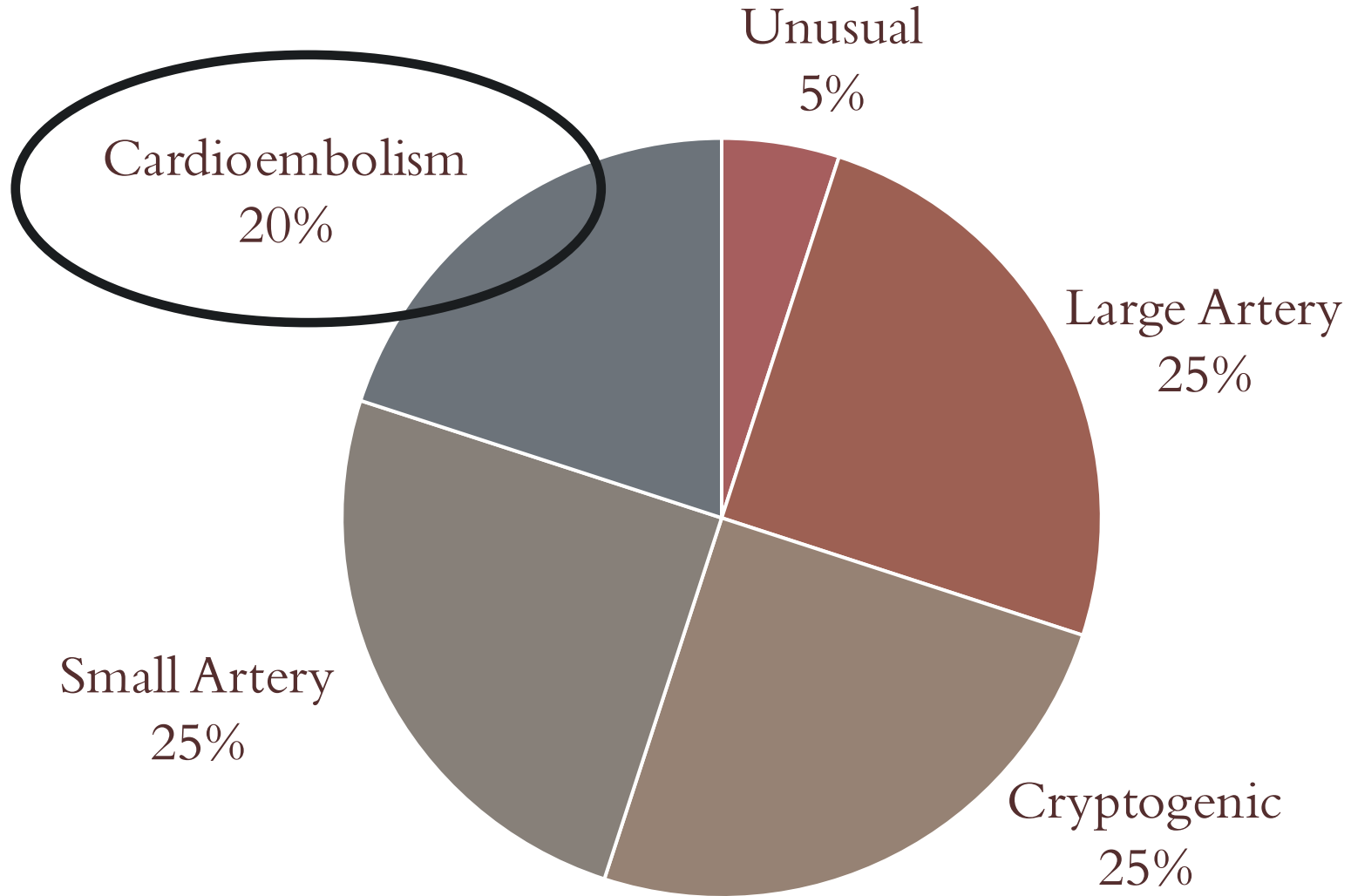
Physical Activity

And . . . Antiplatelet Therapy

# ATRIAL FIBRILLATION



# ISCHEMIC STROKE ETIOLOGY





## ATRIAL FIBRILLATION GUIDELINES AND SCIENCE SINCE 2025

Apixaban is  
safer than  
rivaroxaban

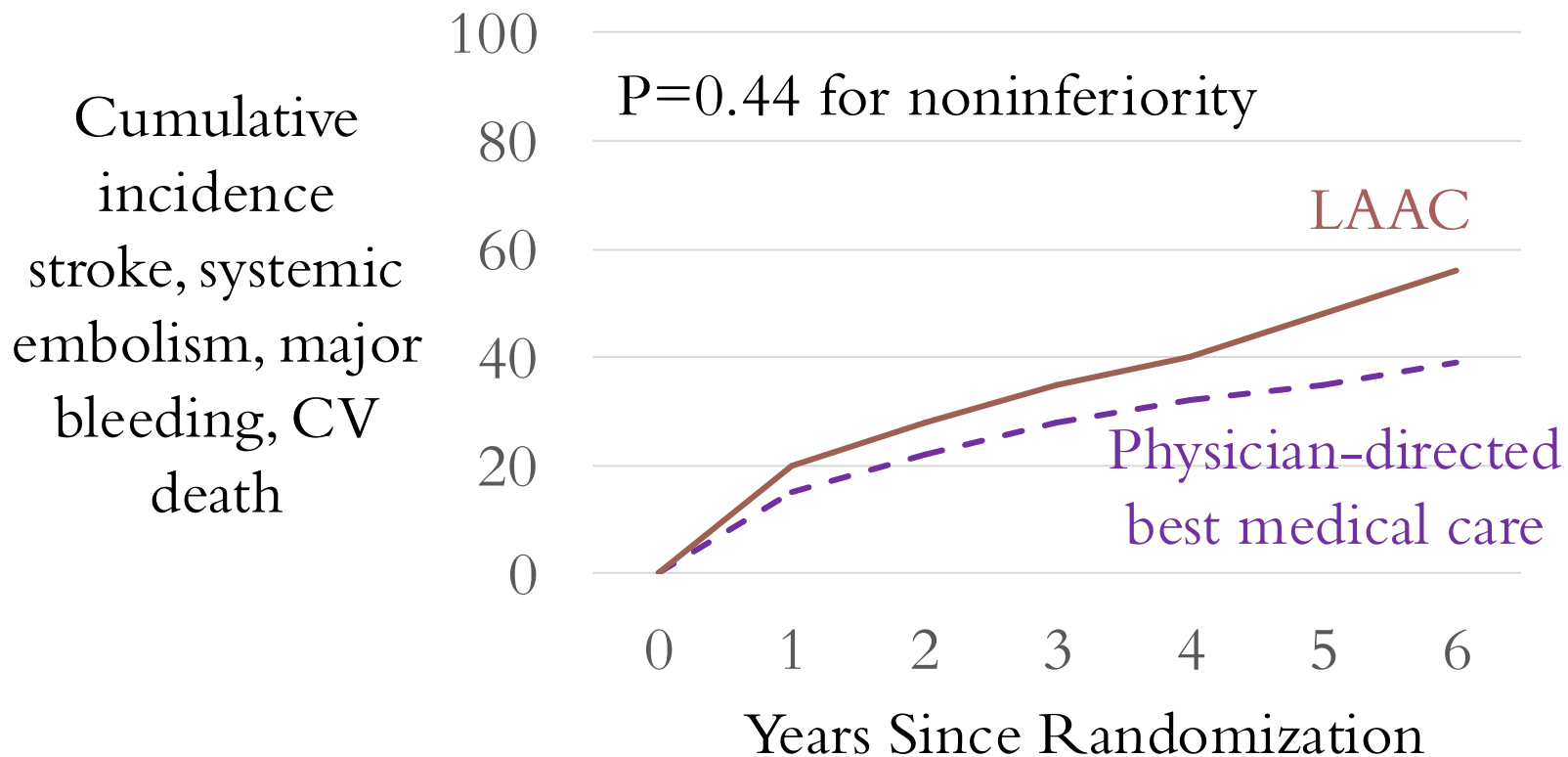
CHAMPION and CLOSURE AF trials  
suggest DOAC remains preferable to  
transcatheter LAAO for most patients,  
with exceptions on case-by case basis.

More evidence shows early  
OAC initiation ( $\leq 4$  days) after  
AIS is safe & effective.

DO Kleindorfer Stroke 2021;52:e364. JA Goglar Circ 2024;149:e1H-M Dehbi  
Lancet 2025;406:43. RA Bernstein JAMA Neuro 2025;82:1213. GM Marcus  
NEJM 2026. LA Castellucci NEJM 2026;394:1051. DJWerring Lancet 2024

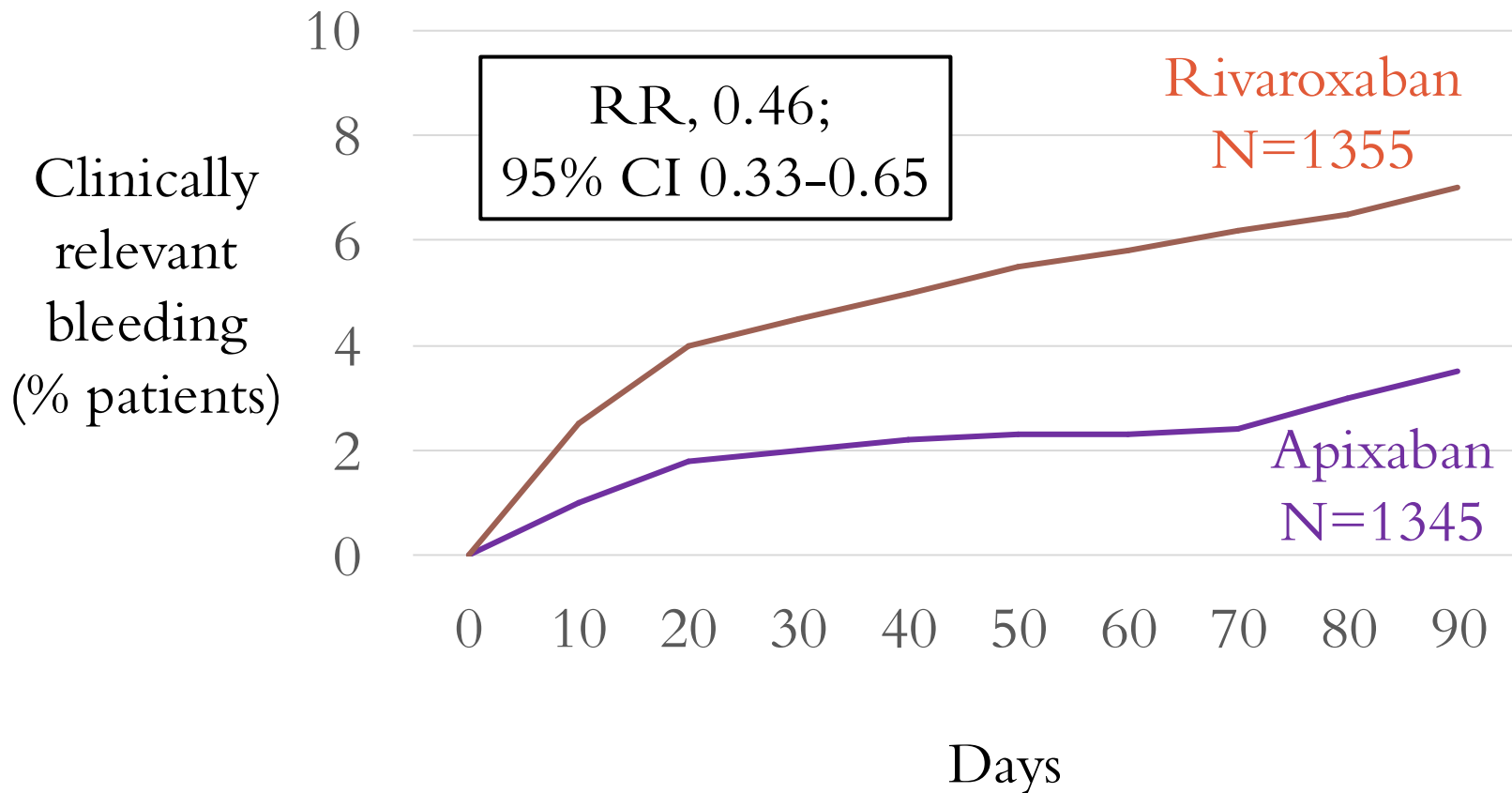
## CLOSURE-AF (N=912 PATIENTS)

Eligibility: Atrial fibrillation  
High risk stroke and bleeding



# COBRA TRIAL (N=1370 PATIENTS)

Eligibility: Acute DT or PE  
≥18 years of age  
renal insufficiency



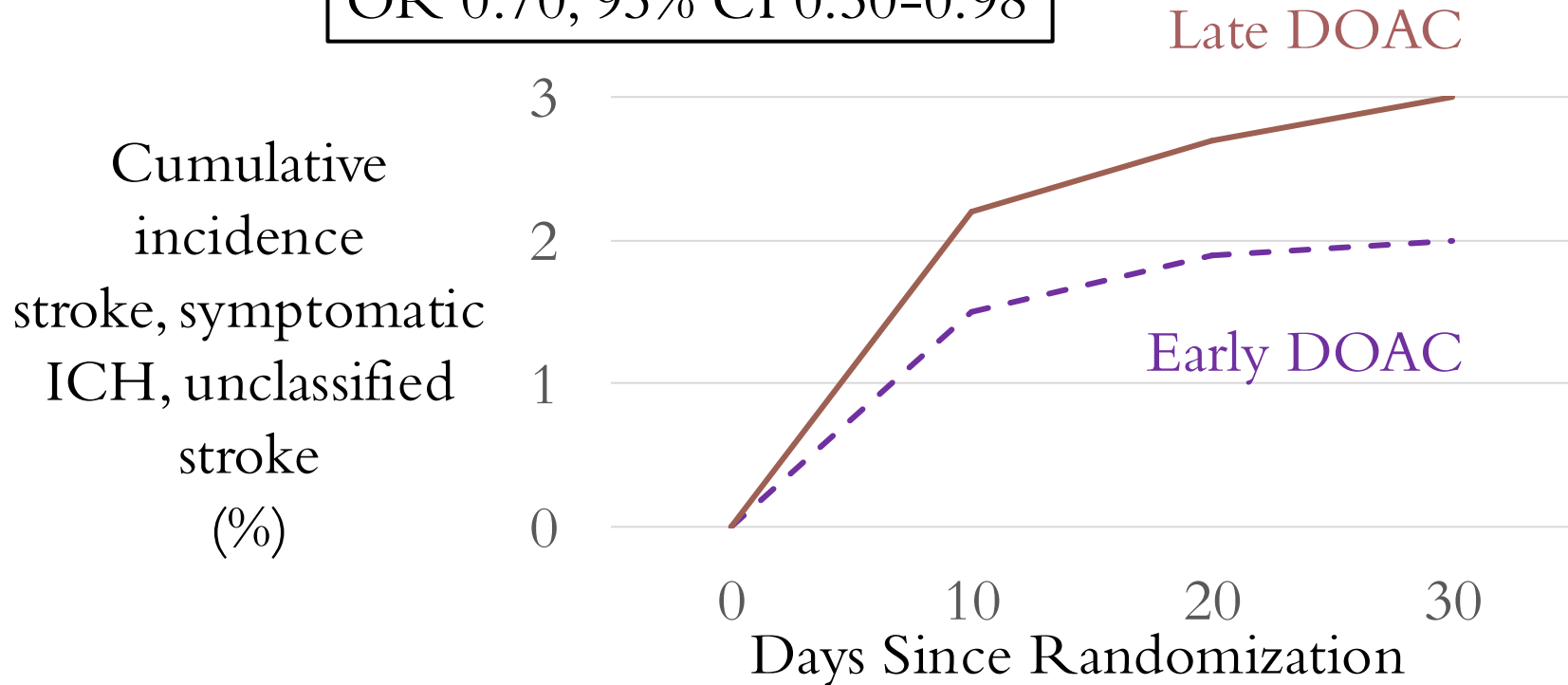
# CATALYST META-ANALYSIS

Eligibility: RCT

Patients with acute ischemic stroke & AF

Assigned to early or later ( $\leq 4$ d vs  $\geq 5$ d) DOAC

OR 0.70; 95% CI 0.50-0.98



~10% of patients discontinue  
OAC each year.

# HYPERTENSION

# GOALS BP RX AFTER STROKE

AHA/ACC 2025  
<130/<80



ESC 2024  
120-129/70-79

ADA 2026  
<130/<80★

★ADA: encourage goal of SBP<120  
if at high CV or kidney risk

DW Jones Hypertension 2025;82:e212. ADA Diab Care 2026;49 (suppl 1); RM Carey Ann Intern Med 2018; 168:351; DO Kleindorfer Stroke 2021;52:e364-467. ESC EJC 2024;45:3912-4018



# New in 2025 AHA/ACC HTN Guidelines

- Initiate therapy with 2 first-line agents in a single pill when BP  $\geq 140$  SBP or  $\geq 90$  DBP (stage 2)
- Screen for hyperaldosteronism more often
- Prescribe an ACEi or ARB in adults with diabetes and CKD (eGFR  $< 60$  or albuminuria)

# New 2025 AHA/ACC HTN Guidelines (Continued)

Deliver care in interdisciplinary teams that frequently interact with patients guided by home monitoring & treatment protocols (COR 1)

Interact monthly with adults who have uncontrolled blood pressure to monitor adherence and response to therapy until controlled (COR 1)

<40% of patients with stroke have BP <130/80  
6 months after hospitalization

# DIABETES

# WHY ATTEND TO DIABETES IN PATIENTS WITH STROKE?

It affects 30% of patients

It is associated with increased risk for  
recurrent stroke

Management is highly effective for  
prevention of vascular events

# Fundamental Goals of Diabetes Care

1. Control glucose

2. Prevent disease complications

Macrovascular: stroke and heart disease

Microvascular: eye, kidney, peripheral nerves

3. Avoid Rx complications (e.g., hypoglycemia)

# 2026 ADA Standards of Care

For patients with ASCVD (including ischemic stroke)

- Prescribe an SGLT2i and/or GLP1 RA with proven CV benefit irrespective of A1c.
- Manage ASCVD risk factors (e.g. lipids, HTN)

Continuous glucose monitoring for all patients on insulin [or] . . . any diabetes treatment where CGM aids in management

# DO GLP1 RECEPTOR AGONISTS PREVENT STROKE?

Study	Year Published	GLP1-RA	PTS	HR for Stroke	95% CI
Meta analysis	2021	Several★	T2D	0.83	0.76-0.92
SELECT	2023	SQ Sema	Obesity & ASCVD, no T2D	0.93	0.74-1.15
SOUL	2025	Oral Sema	T2D & ASCVD	0.88	0.70-1.11
SURPASS†	2025	Tirzepatide	T2D & ASCVD	0.91	0.76-1.09

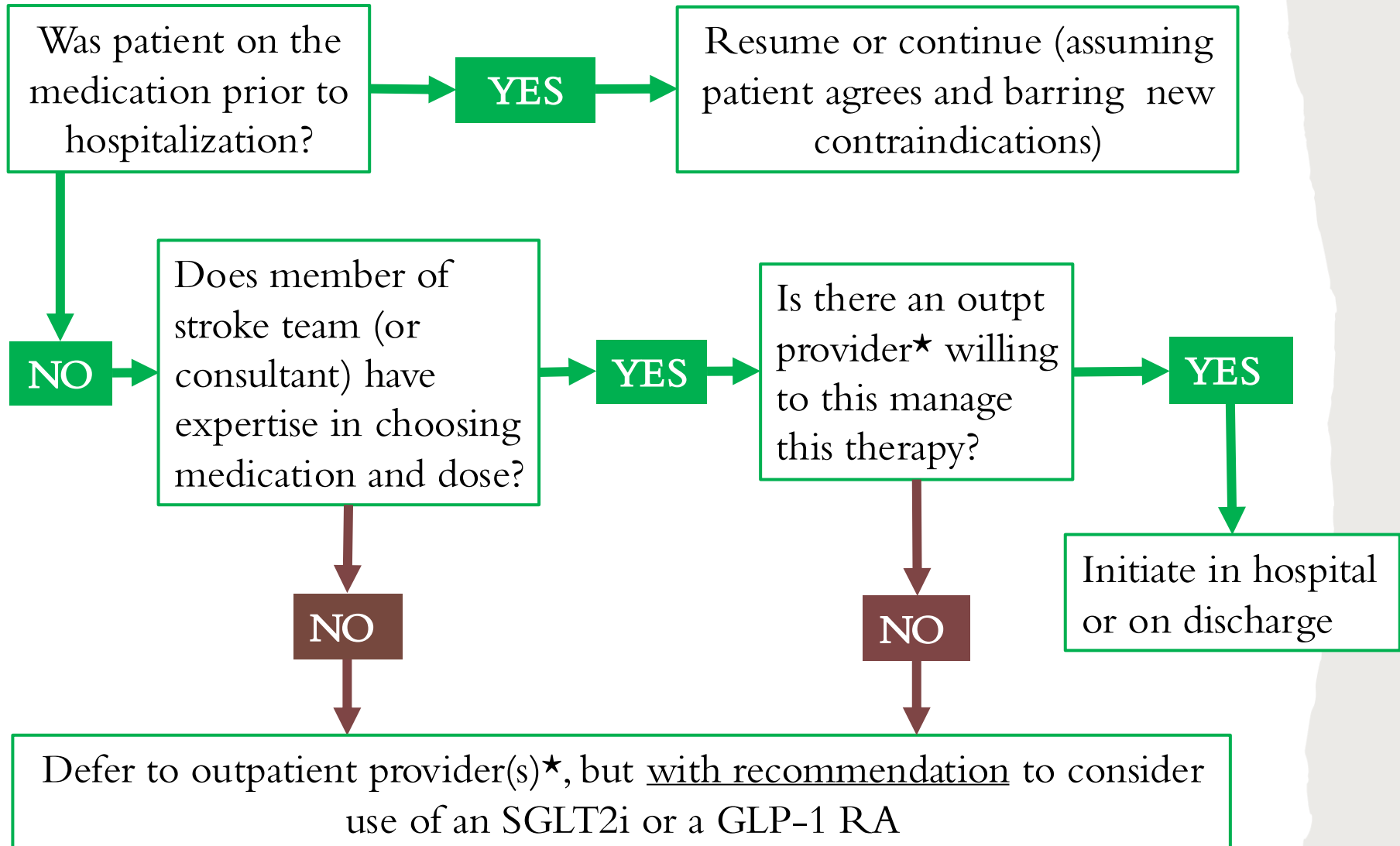
★lixisenatide, liraglutide, semaglutide, exenatide, albiglutide, dulaglutide, semaglutide, efpeglenatide.

†SURPASS-CVOT was a non-inferiority trial compared with dulaglutide.

N Sattar Lancet Diab Endo 2021;9:653. DK McGuire NEJM 2025.AM  
Lincoff NEJM 2023. SJ Nicholls NEJM 2025;393:2409



# Should an SGLT2i or GLP1 RA be prescribed before discharge for T2D?



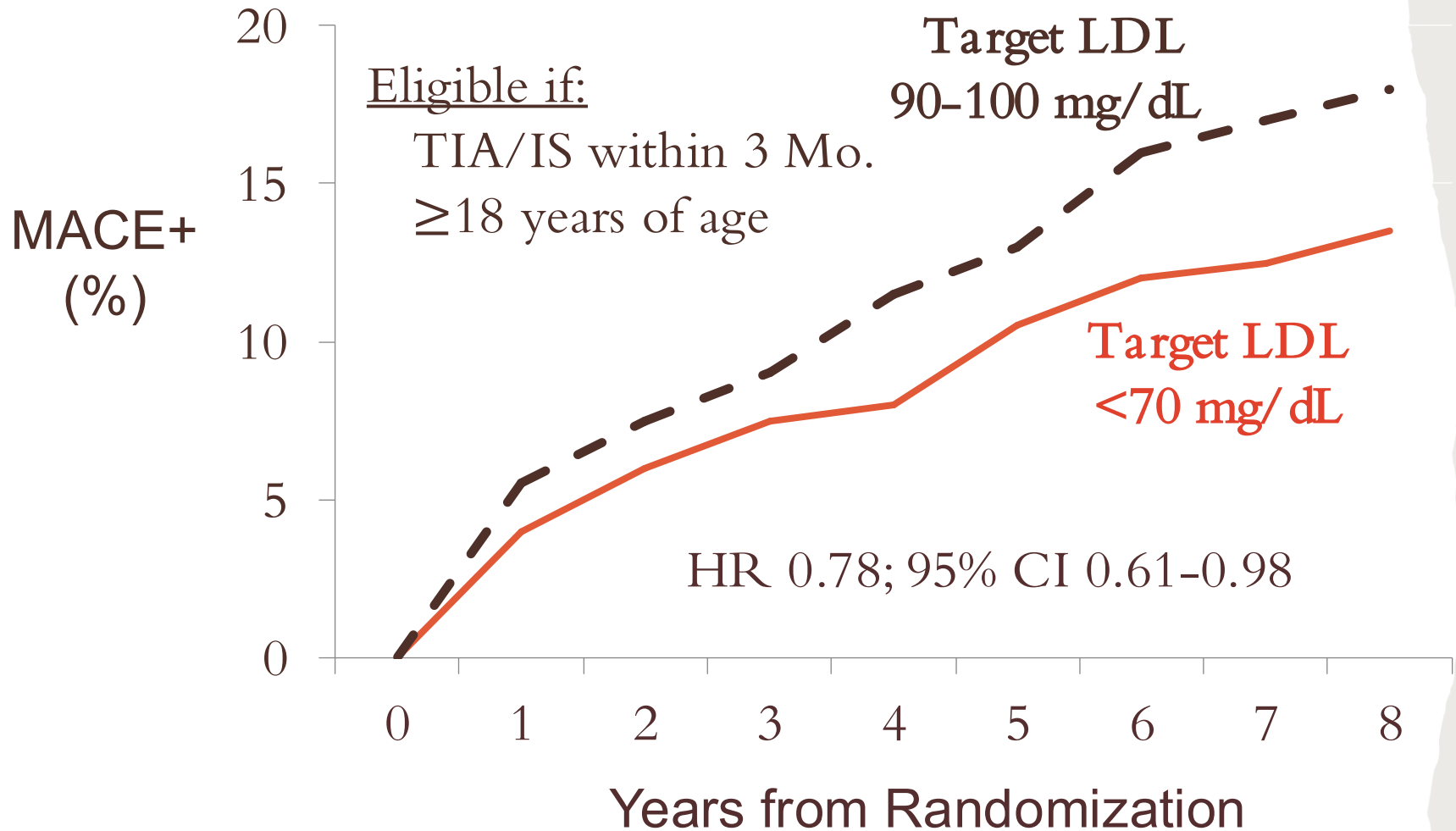
# LIPID MANAGEMENT

“Lower is better for longer.”

Roger Blumenthal  
Chair

ACC/AHA guideline writing group 2026

# TREAT STROKE TO TARGET

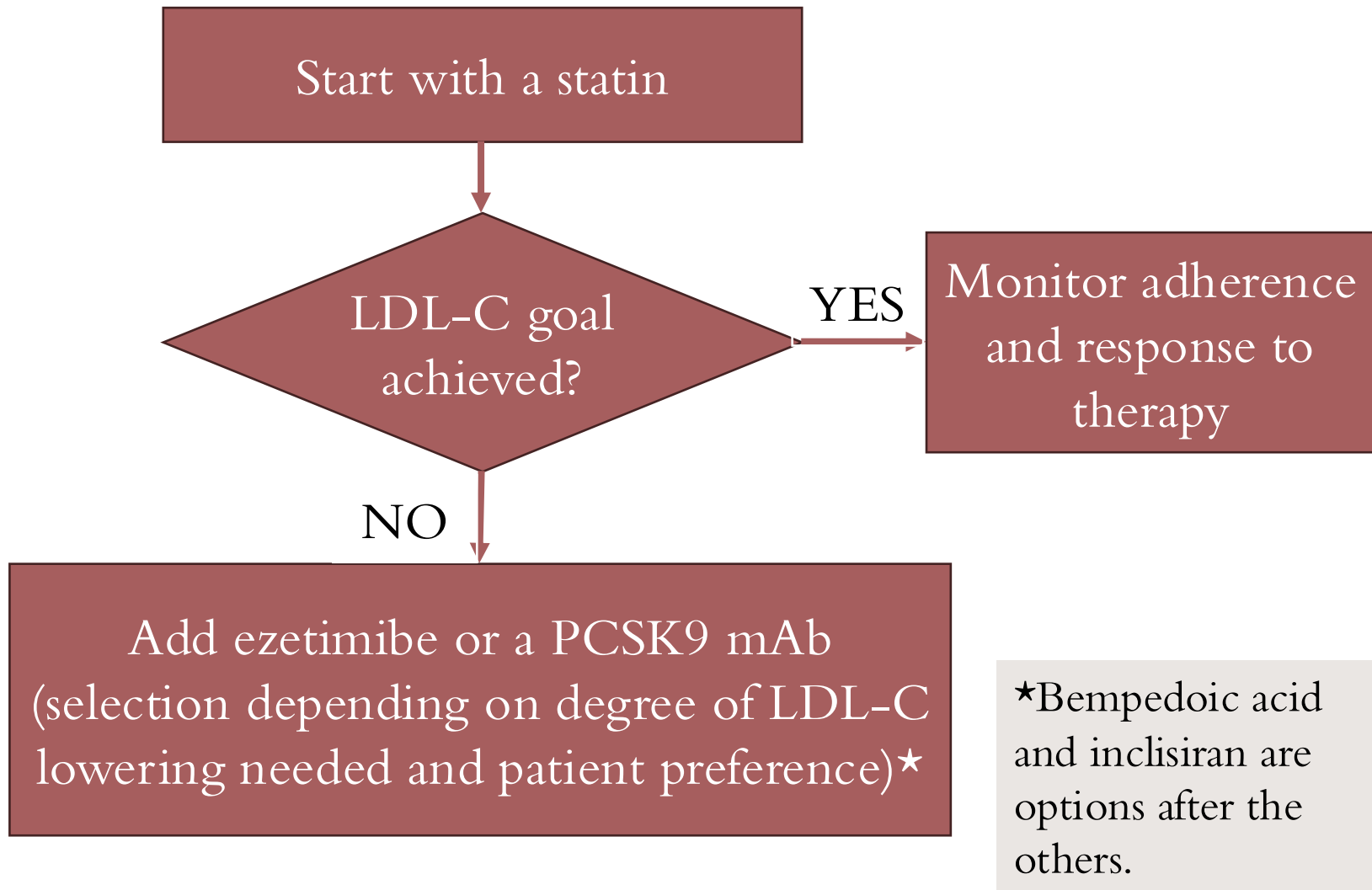


## NEW LDL TARGETS (SELECTED GROUPS)

Patient Group	Target*	
	LDL-C	% Reduction
No ASCVD but Borderline/intermediate risk†	<100 mg/dL	≥30%-≥50%
No ASCVD but high risk†	<70 mg/dL	≥50%
ASCVD but Not very high risk†	<70 mg/dL	≥50%
ASCVD & very high risk‡	<55 mg/dL	≥50%
<p>*Both targets should be achieved.</p> <p>†Risk is based on PREVENT-ASCVD. Borderline=3%-&lt;5%, Intermediate=5%-&lt;10%, High=≥10% in 10 years.</p> <p>‡Very high risk=≥2 major ASCVD events or with 1 major ASCVD event and ≥high-risk features (age≥65, CABG or PCI, current smoker, DM, CHF, HTN, LDL-C ≥ on Rx.</p>		

RS Blumental JACC 2026;

# HOW TO ACHIEVE LDL-C GOAL (FOR MOST PATIENTS)



# WHAT WOULD A CARDIOLOGIST DO IN THE HOSPITAL?

## 2025 AHA/ACC Guideline for ACS

In patients with ACS, high-intensity statin therapy is recommended to reduce the risk of MACE  
(COR 1, LOE A)

# OBESITY



SHOULD WE HELP PATIENTS  
WITH STROKE & OBESITY  
ACHIEVE A HEALTHY WEIGHT?

Yes, If

# BENEFICIAL EFFECTS OF WEIGHT LOSS

↓ Blood Pressure

↓ CRP

↓ Glucose

↑ Insulin sensitivity

↓ Triglyceride

↑ HDL

❖ Effects are proportional to weight loss

❖ Minimal beneficial loss  $\approx 5\%$

JB Dixon JAMA 2008;299:316-323; ME Lean Lancet 2018;391:403; K KF Petersen Diabetes;54:603; DPP Research Gp Lancet 2009;374::1677-86; JPH Wilding NEJM 2021;

## SELECT TRIAL

Eligibility:  $\geq 45$  years of age  
BMI  $\geq 27$  kg/m<sup>2</sup>  
Established CVD (MI, stroke, PAD)  
No diabetes, ESKD, or CHF

18% of  
participants



## INCRETINS APPROVED★ FOR WEIGHT LOSS

Agent	Type	Route of Admin	% Wt Loss At ~ 1 year
Semaglutide	GLP1 RA	SQ	15%
Tirzepatide	GLP1/GIP RA	SQ	15%-21%
Orforglipron	GLP1 RA	Oral	10%

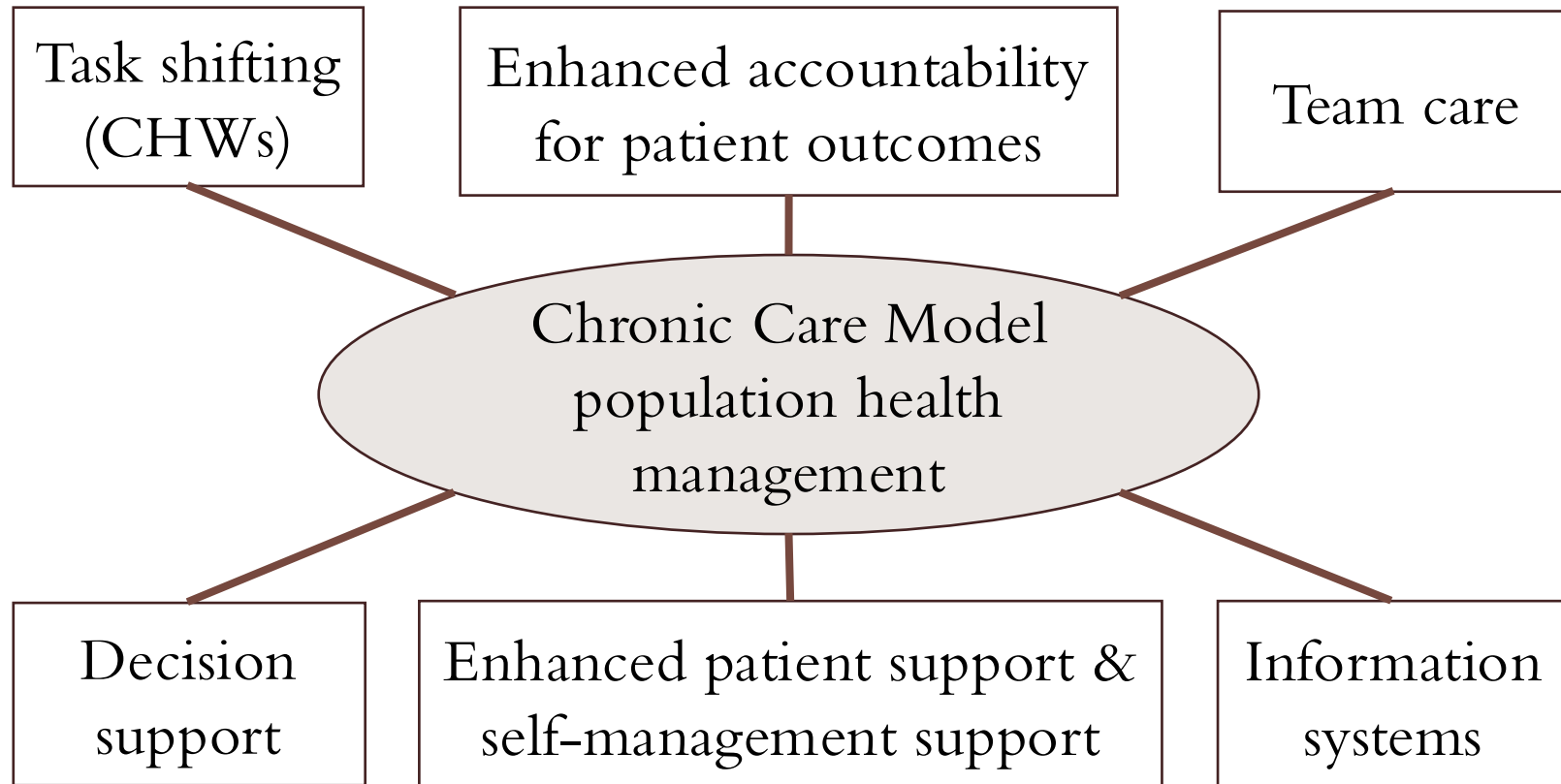
★Approved in combination with diet and physical activity for patients with overweight and  $\geq 1$  weight-related complication OR obesity ( $\text{BMI} \geq \text{Kg/m}^2$ )

# QUALITY OF CARE POST STROKE

# Hypertension Is an Indicator of Care Quality

<40% of patients with stroke have BP <130/80  
6 months after hospitalization

Many patients need more help.  
This requires redesign of our delivery systems.



DW Jones Hypertension 2025;82:e212. KT Mills NEJM 2026;394:1376. J He Lancet 2023;401:928. MG Jaffe JAMA 2013;310:699. J Ogren BMC Neuro 2018;18:153; J Joubert IJS 2020. EH Wagner Milbank Quart 1996;74:511.

## WHAT WE HAVE COVERED

- ❖ OAC for atrial fibrillation
- ❖ Hypertension
- ❖ Diabetes
- ❖ Lipids
- ❖ Obesity
- ❖ Care delivery





See 'em soon

See 'em often

Get 'em to goal  
(guideline directed therapy)

END

Thank You

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