Revitalizing Diabetes Care in Primary Care

IMPROVING CLINICAL INERTIA FOR DIABETES MANAGEMENT

Objectives

- Understand and identify your current population with diabetes and its characteristics

- List the potential causes of clinical inertia and develop strategies for overcoming inertia in clinical practice

- Identify specific technologies that can overcome barriers in your practice

- Discussed how these technologies can implement and change your clinical practice

Managing Patients with Diabetes in the Primary Care Setting

WHAT DOES YOUR DIABETES PATIENT POPULATION LOOK LIKE?

HAVE YOU DONE A SELF ASSESSMENT?

Diabetes in Our Population

- Type 1 diabetes
  - Represents 10% of diabetes in the USA, 2% worldwide
- Type 2 diabetes
  - Prevalence is 8.5% in the USA, 10.5% worldwide
  - Varies with ethnicity (Caucasian 7.5%, Hispanic 12.5%, Black 13%, Native Amer, 15%)
  - Incidence of in teens and young adults has nearly doubled in last 30 years
- Risk of diabetes varies with a1c
  - A1c 5.5 – 6.0 had ~20% risk of becoming diabetic in 5 years
- Primary care is the sole provider for 90% of diabetes care

Current Processes in Place to Manage Diabetes

- Do you use an EMR or other flow system to track the needs of persons with diabetes?

- What metrics do you track and how of you notified when they are due / delinquent?

  - A1c

  - Microalbumin

  - Eye / retinal exams

  - Foot exams

  - Vaccination status

Past vs. Current Paradigms of Patient Interaction

Past

- Face to face visit
- Provider interaction only
- Visit frequency q 3-6 months with PCM only
- SBGM
- Labs including A1c and ACR after visit
- Rely on patient reported adherence for drug and insulin regimens

Current

- In person or virtual visits
- Patient Centered Medical Team
- Visit frequency q 3 months with PCM with supplemented visits with nurse manager / CDE / RD
- CGM
- Real time A1c and ACR and / or labs prior to visit
- Telemedicine consultations with real time CGM data interpretation
- Smart pens; App adherence trackers; AID systems, etc.

Identifying Areas of Improvement

- Integrating guideline medication recommendations
  - Using GLP-1 and SGLT-2's with proven benefit in patients with ASCVD
  - Using SGLT-2's in patients with CHF and / or CKD
  - Using MRA's in patients with persistent proteinuria
- Integrating technology
  - CGM (Dexcom; Abbott Libre)
  - Smart Pens (Tempo, Inpen, etc.)
- Integrating new medications into practice
  - Weekly basal insulin
  - Multireceptor incretin mimetics
  - Inhaled insulin therapy (Afrezza)

How Do We Identify and Overcome Inertia?

WHOSE FAULT IS IT?

In your opinion, what are the primary challenges contributing to clinical inertia in healthcare?
(Type in Your Answers)

POLL QUESTION #1

Clinical Inertia Overview

HCP Related Clinical Inertia

- Lack of time for patient education
- Unfamiliar with treatment options
- Concerns of side effects and hypoglycemia
- Perception that patients are unwilling to advance therapy
- Perception of needle phobia
- Concerns about patient cost and coverage
- Newer technologies increase work demands on staff
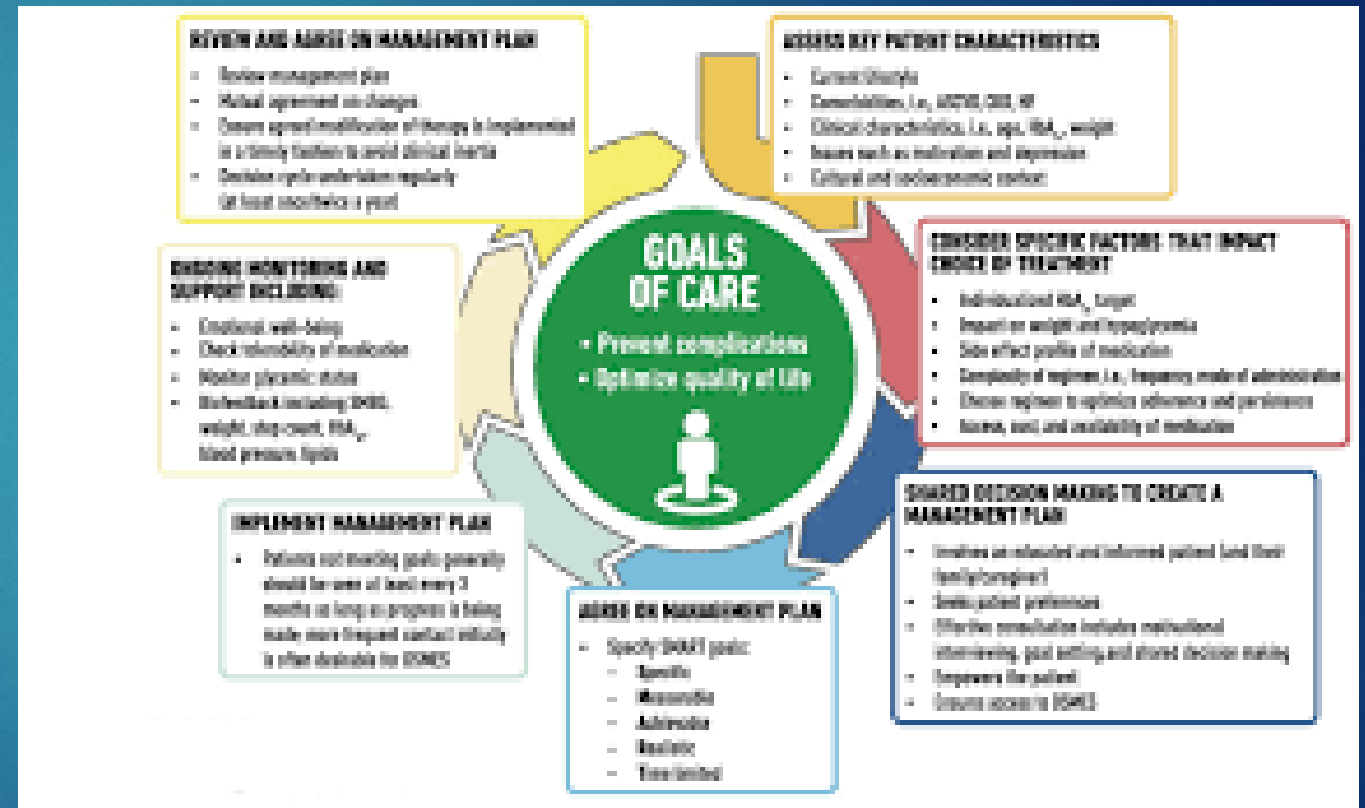
Patient Related Clinical Inertia

- Denial of disease and its effects
  - "I feel fine"
- Guilt that advancing therapy is a personal / lifestyle failure
- Concerns of polypharmacy
- Financial concerns
  - May not be openly shared
- Fear on injection / hypoglycemia
- Lack of support
- Poor access to care

'What kind of second opinion is that? It's the same thing Doctor Straczynski told me.'

Healthcare System Related Inertia

- Lack of team based approach
- Insufficient dietary support
- Formulary limited
- Prior authorization process inefficient
- Lack of access to care
- Poor coordination of care
- Lack of transition between inpatient and outpatient setting
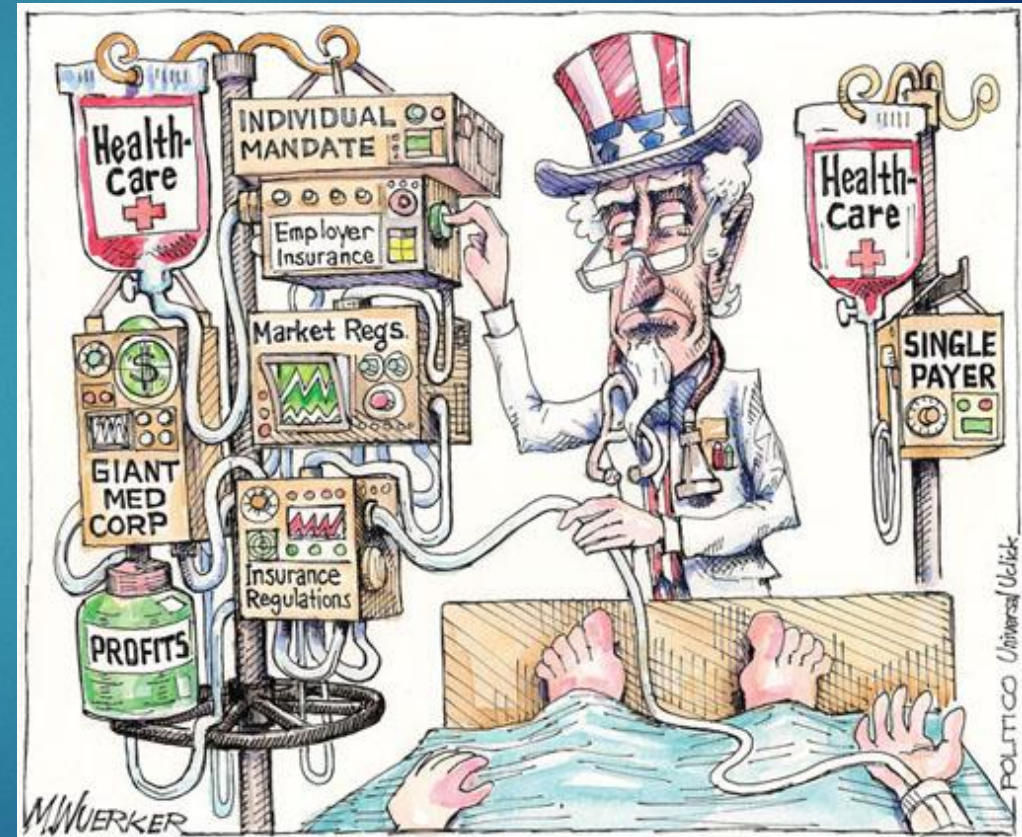
Clinical Inertia Worsens Clinical Outcomes
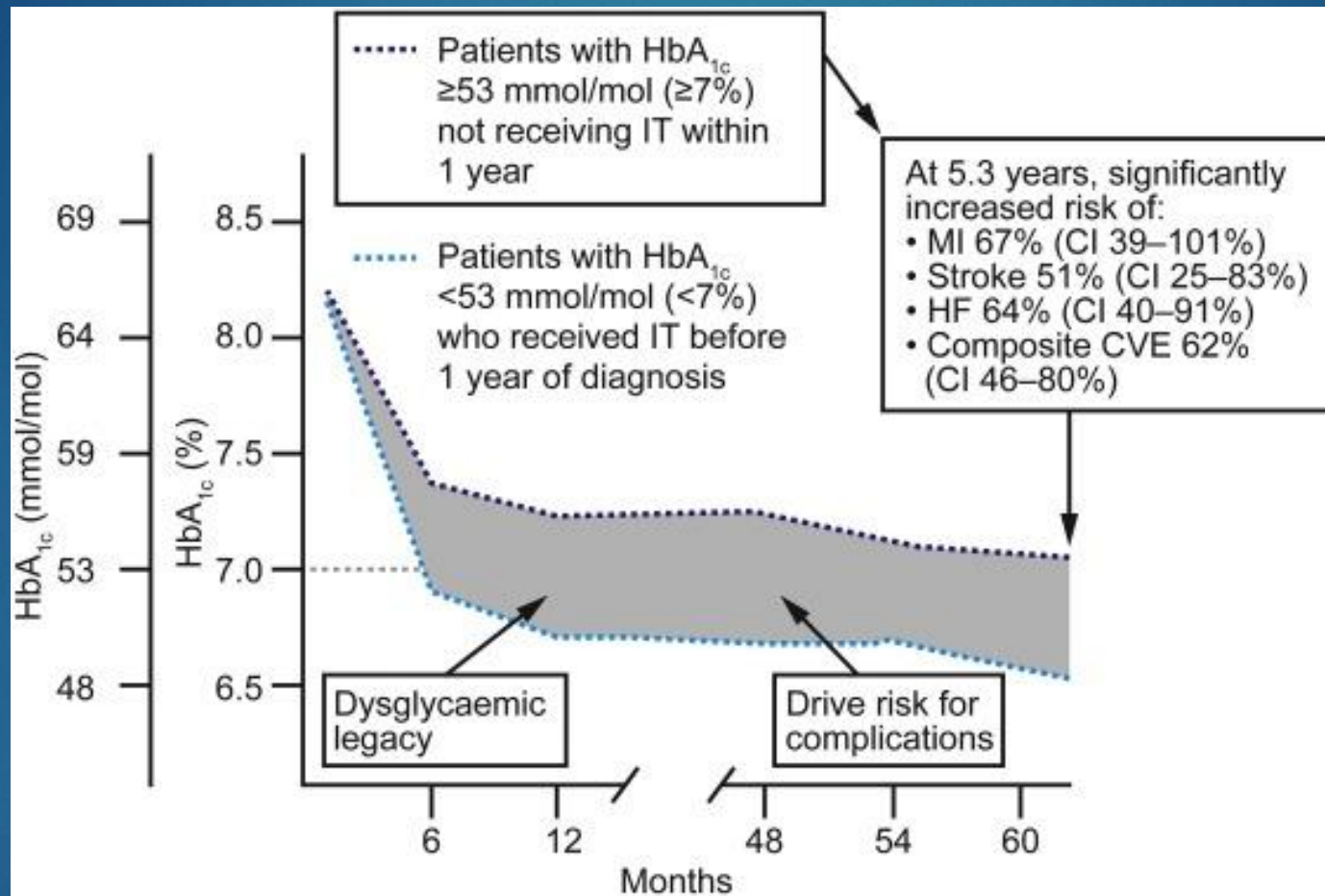
S.K. Paul, K. Klein, B.L. Thorsted, *et al.*
Delay in treatment intensification increases the risks of cardiovascular events in patients with type 2 diabetes
Cardiovasc. Diabetol., 14 (2015), p. 100

Steps to Overcoming Inertia

- Self assess areas of weakness, lack of knowledge, lack of comfort with medication / disease state / treatment paradigm
- Motivational interviewing and shared decision making with patients
  - What are their goals?
  - What barriers to these goal do they perceive?
  - What do patients think of the HCP's goals?
- Provide patients with multiple solutions
- Knowledge is Power
  - HCP awareness of guidelines, medication options and inertia
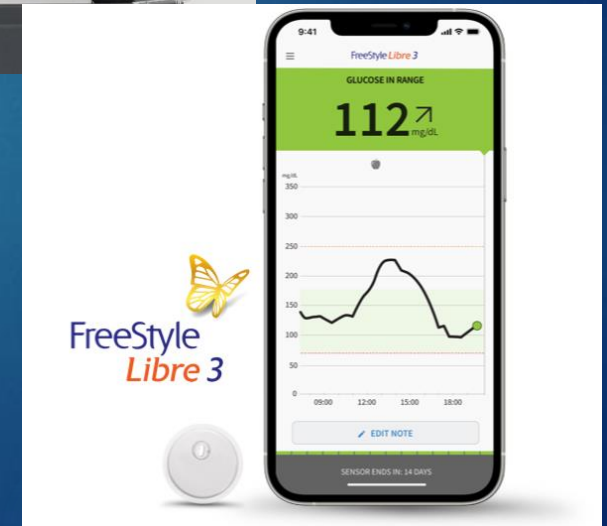 - Use technology to improve clinical decision making

Using Technology to Improve Clinical Decision Making

Simple Technology To Revitalize Your Diabetes Clinic Workflow

▶ Point of Care A1c

▶ Point of Care Microalbumin
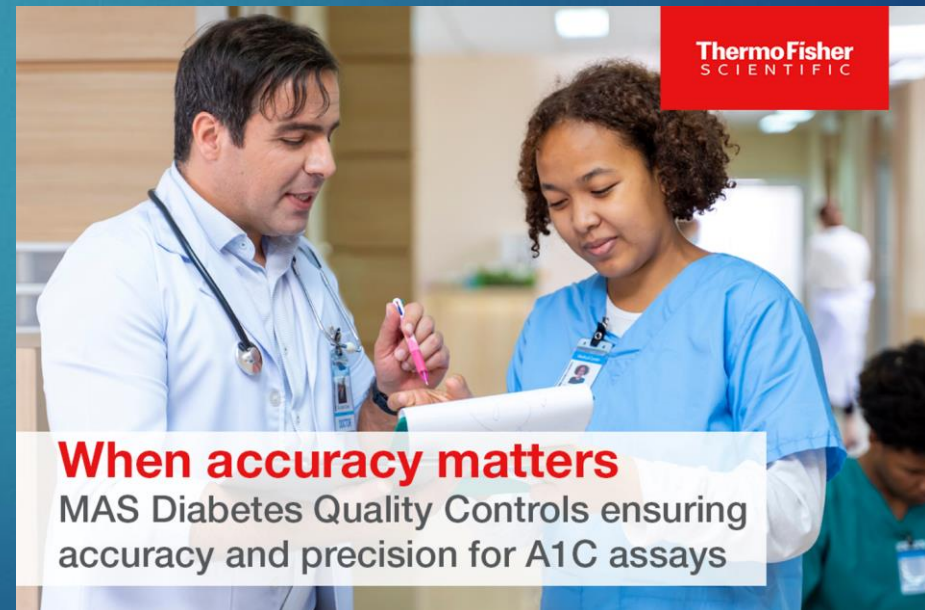
▶ Continuous Glucose Monitoring

Point of Care HgbA1c

Do you currently test HgbA1c at the point-of-care in your practice?

POLL QUESTION #2

What is Point of Care A1c Testing?

- Able to get a Hgb A1c on a single fingerstick
  - CLIA-waived
- Results come back in 2-3 minutes
- Clinics are able to bill for service

ThermoFisher SCIENTIFIC

When accuracy matters
MAS Diabetes Quality Controls ensuring accuracy and precision for A1C assays

Patient Centered Benefits of A1c Testing

- Allows for meaningful discussion about diabetes regardless of the situation
  - No SBGM or CGM
  - Forgot to get labs prior to the visit
  - Patient has immediate concerns or now symptoms c/w diabetes
  - New patients concern that they have had or do have diabetes but no recent labs
- Immediate results make visit more meaningful
  - Patient won't know results until the visit improves dialog
- Improved provider-patient relationship

Provider Benefits to A1c Testing

- Increases the efficiency of the visit
  - Actionable data within 2-3 minutes
- Allows for provider to adapt to the situation at hand
- Helps achieve a1c targets
  - More frequent testing has been shown to correlate with better outcomes
  - Increases MACRA A1c goals
- Improves disease identification
  - More easily track progression from normoglycemia to prediabetes to diabetes

Point of Care A1c Accuracy

- Highly correlative with venous samples
  - -0.021% vs. -0,005%
  - Coefficient of variation similar
- Total error 2.87-4.75%
  - Needs < 6% for FDA approval
- CLIA Waived
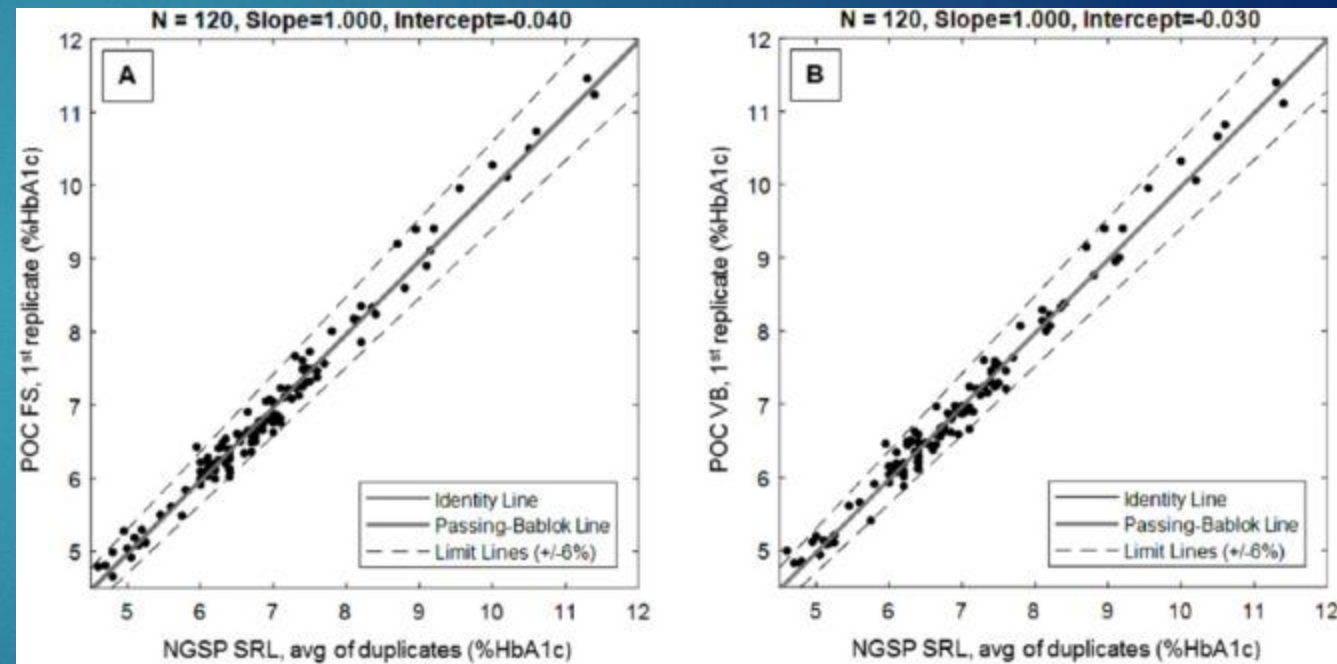
Point of Care A1c Workflow

- Medical assistants prep chart to identify patient with abnormal glucose values and no A1c in chart with 90 days

- Supplies are set out in room or kept in central location

- Use of testing daily ensure machine quality checks and supplies are ready to go

- A1c testing can be batched when lab draws do occur and point of care testing can fill in the "gaps"

- OVERCOMING DIABETES CLINICAL INERTIA WONT HAPPEN IF THE VALUE IS NOT PRESENT AT THE TIME OF THE VISIT

Point of Care Albumin to Creatinine Ratio

How important is Albumin to Creatinine Ratio testing for assessing Kidney Function?

POLL QUESTION #3

The Basics of Urine Albumin

- Normal urine albumin is < 30 mg / day
  - Moderately increase albuminuria is 30-300 mg / day
    - AKA "microalbuminuria"
  - Macroalbuminuria is > 300 mg / day
- Can be falsely elevated in specific conditions and needs to be persistent
  - Fever, exercise, infection, heart failure, elevated glucose, stress, elevated BP
  - Persistent is defined as 3-6 months in the absence of above factors with ideally 3 or more test periods
- Albumin / Creatinine ratio (ACR) is highly correlative with 24 hour urine albumin excretion and is much easier to perform
  - Also avoid false negatives and positives of semiquantitative albumin concentrations that can be false due to changes in urine volume
  - 30 – 300 mg /g of albumin / creatinine is 100% sensitive with 30 – 300 mg / day

Limitations of Testing

- Although first morning void testing is likely best, data unclear if timing matters

- Vigorous exercise in the last 24 hours can routine result in false positive values

- There is normal individual alburminuric variation of 20-30 percent daily

  - This combined with lab error means that repeat testing for "persistency" is critical

- ACR will be underestimated if the creatinine levels are high or low

  - Large / muscular males will have false negatives

 - Smaller sarcopenic females tend to be falsely positive

KDIGO Heat Map

		Prognosis of CKD by GFR and albuminuria categories: KDIGO 2012		Persistent albuminuria categories Description and range		
				A1 Normal to mildly increased < 30 mg/g < 3 mg/mmol	**A2** Moderately increased 30–300 mg/g 3–30 mg/mmol	**A3** Severely increased > 300 mg/g > 30 mg/mmol
GFR categories (ml/min/1.73 m²) Description and range	**G1**	Normal or high	≥ 90	Green	Yellow	Orange
	G2	Mildly decreased	60–89	Green	Yellow	Orange
	G3a	Mildly to moderately decreased	45–59	Yellow	Orange	Red
	G3b	Moderately to severely decreased	30–44	Orange	Red	Red
	G4	Severely decreased	15–29	Red	Red	Red
	G5	Kidney failure	< 15	Red	Red	Red

Green: low risk (if no other markers of kidney disease, no CKD); Yellow: moderately increased risk; Orange: high risk; Red: very high risk.

Clinical Decision Making with ACR

- Step 1: Confirm that patient is persistently positive
  - Rule out false positive conditions
  - Retest for 2 of 3 samples over 3-6 months to confirm
- Step 2: Control Glucose
- Step 3: Control BP
  - Ideally using ACE /ARB inhibitors but not both
  - May use CCB's (non-DHP's) or thiazide as needed
- Step 4: Add ACE / ARB
  - If not already taking and / or if BP is controlled
- Step 5: Add SGLT-2 inhibitor
- Step 6: Add MRA (finerenone)
- Step 7: Add GLP-1 inhibitor (with renal data)

2022 KDIGO Guidelines
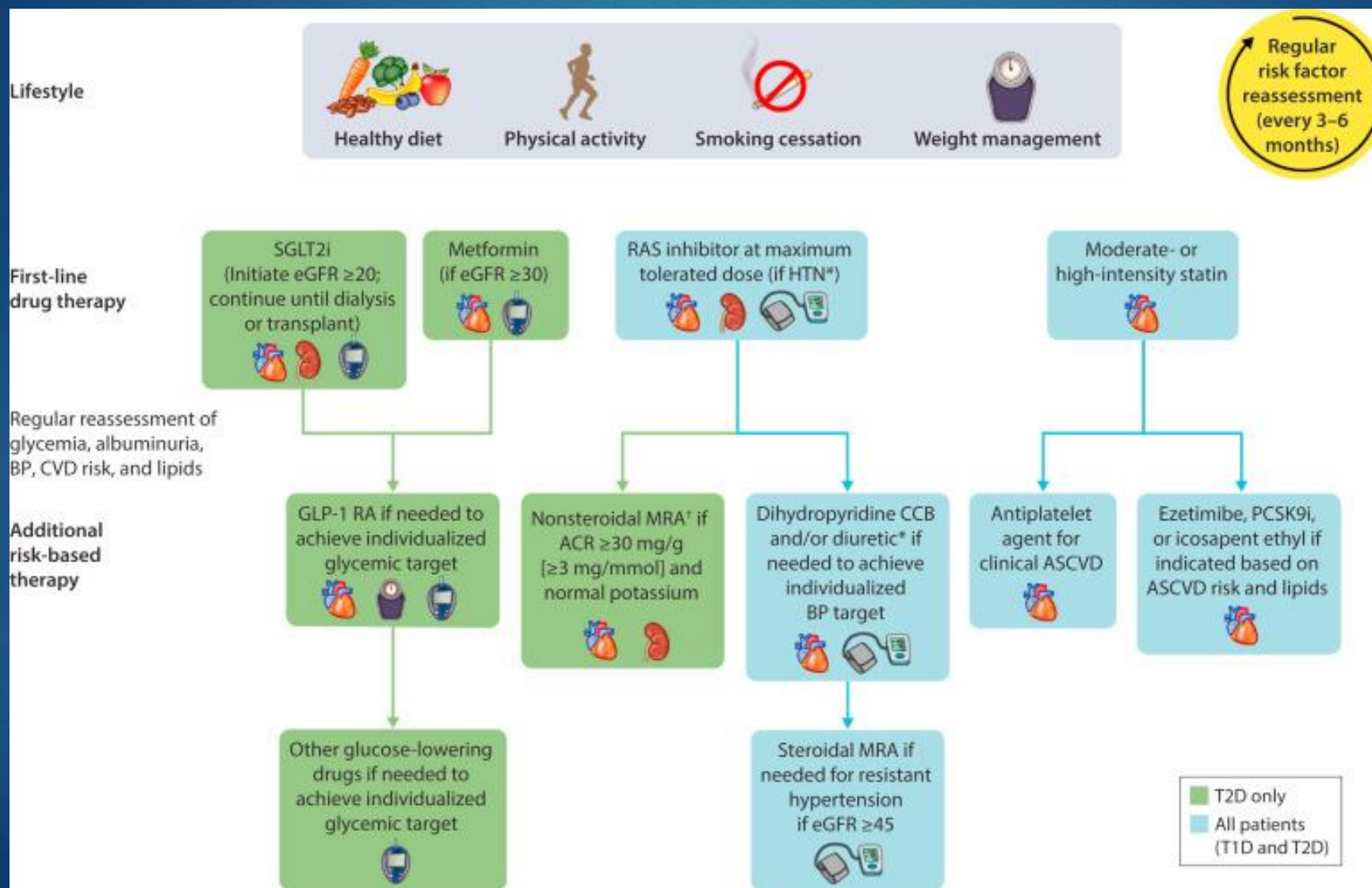
Provider Benefits to ACR Testing

- Allows for on the spot clinical decision making
  - Need to have the value prior to / at the time of the visit to make meaningful adjustments
- Major guidelines recommend screening at diagnosis and annually at a minimum
- Several of the drug classes to improve outcomes (SGLT-2's, GLP-1's and MRA's) are branded and therefore need justification for their use and cost
- Albuminuria is an independent risk factor for ASCVD and can play a role in risk assessment
- ALL THESE ADJUSTMENTS WONT HAPPEN IF THE VALUE IS NOT PRESENT AT THE TIME OF THE VISIT

Continuous Glucose Monitoring

A TECHNOLOGY WHOSE TIME HAS COME

How would you describe your familiarity with Time-in-Range? (Select One)

POLL QUESTION #4

CGM Options

- Intermittent Scanning
  - Abbott Freestyle 14 Day or Libre 2
- Real Time
  - Abbott Freestyle Libre 3
  - Dexcom G6 or G7
  - Medtronic Guardian Connect
- Implantable
  - Eversense

Who is a Candidate for CGM?

- ADA and EASD agree real time CGM should be offered
  - Type 1 diabetes
  - Type 2 diabetes on MDI
  - Type 2 diabetes on basal insulin
  - Persons at risk for hypoglycemia
  - Anyone on intermittent scanning CGM that is nonadherent to therapy
  - Pregnant women with diabetes on insulin
- Intermittent scanning may be considered
 - Those at lower risk for hypoglycemia
  - Limited technology support

Clinical Efficacy of CGM Therapy

- Multiple prospective RCT's on multiple products have consistently demonstrated
  - A1c reductions of ~ 0.6 – 1% from a baseline of ~ 8% (similar to meds)
  - Increase Time in Range (TIR) of ~ 10-15%
  - Reduction in Level 2 and 3 hypoglycemia of ~ 20-40%
  - Reduction in Time Below Range (TBR) of ~ 10%
- Improved quality of life metrics
  - Decreased fear of hypoglycemia
  - Increase awareness of impact of diet on glucose values
  - Increase in exercise / physical activity
- Decrease in ER visits, hospitalization and missed work

Ambulatory Glucose Profile (AGP)

- Recommend in 2019 Consensus Guidelines on CGM
  - Similar to an EKG for glucose
  - One page document in 3 sections
- Delineates TIR, TAR, TBG in graphical and numeric forms
- Gives 24 hour median glucose curves for pattern recognition and daily variation
- 2 week CGM data to compare pattern identification within individual days

Figure 1: The key visual features of an ambulatory glucose profile report[26]*
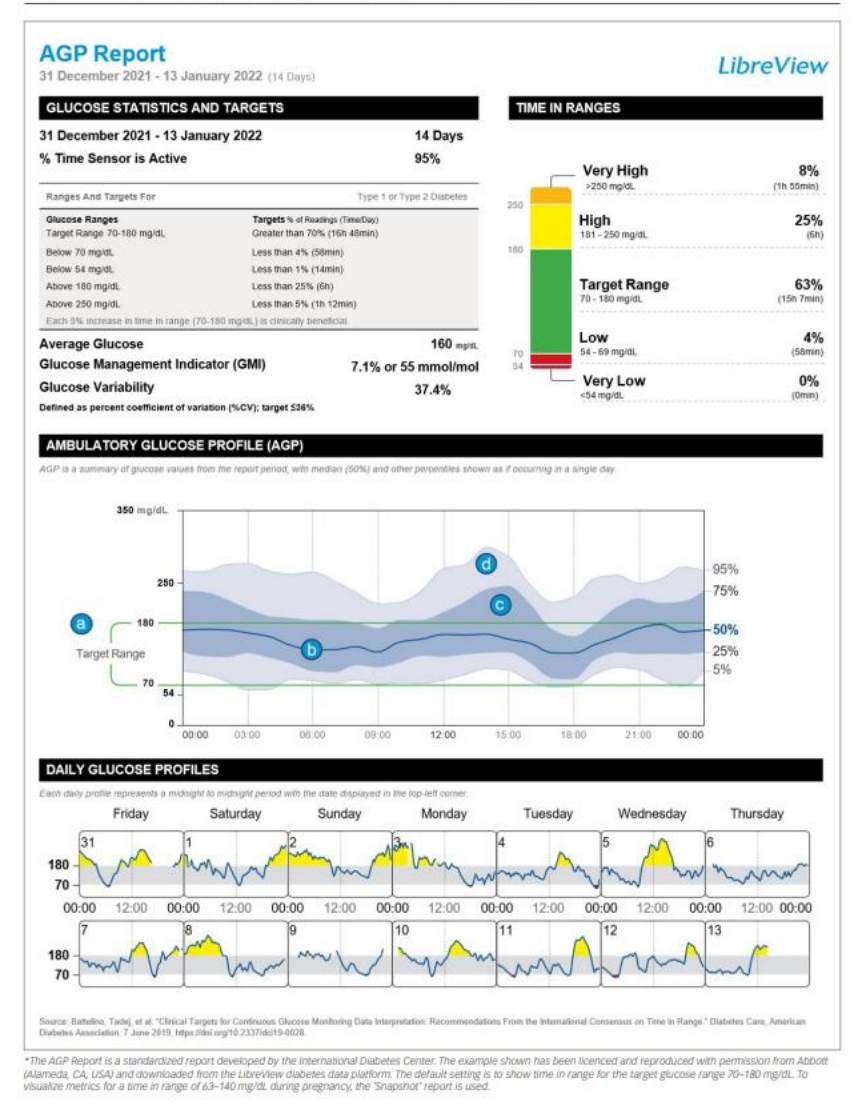
CGM Workflow

- All CGM products have web based sites that allow HCP's to create a profile
  - Patient data can be manually downloaded or cloud synced to their patient profile within the providers patient list
  - An AGP or other report can be generated and saved as a pdf to be uploaded into the chart within 1-2 minutes
- Reports can be review just prior to the visit in order to facilitate a more thorough and directed / efficient patient interaction
  - While staff can be trained to do this for the provider, cloud syncing allows the provider to do this instantly after setting up the patient one time
- CGM interpretation is a billable event (95251)
  - Covered by most payers at a minimum of every 3 months

Putting it Into Practice

A SUMMARY OF ACTIONABLE STEPS

Summary

- Clinical inertia is persistent and multifactorial
- While everyone is prone to it, the first step is to assess areas of weakness that can allow for improvement in care delivered
- We identified 3 affordable and readily available technologies that have immediate clinical impact on decision making
  - Point of care A1c testing
  - Point of care Albumin to creatine ratio testing (ACR)
  - Continuous Glucose Monitoring (CGM)
- Recommend integrating each of these technologies one at a time and when appropriate to your practice