Update on SDPI and Diabetes

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Thank you, Helen Maldonado!!!

This presentation

- Update on SDPI
- 2019 Diabetes in Indian Country Conference!!
- Diabetes in American Indian/Alaska Native (AI/AN) People
- Diabetes Management in 2018

SDPI Status

- SDPI received two separate authorizations, each for 25% of the usual $150 million/year
  - First quarter ($37.5 million): P.L. 115-63 on Sept 29, 2017
  - Second quarter ($37.5 million): P.L. 115-96 on Dec 22, 2017
- SDPI then received funding for all of FY 2018 and FY 2019 at current $150 million/year
  - P.L. 115-123 on Feb 9, 2018

Status of SDPI FY 2018 Grants

- December 2017: Notices of Grant Award (NoAs) sent out before the start of the 2018 budget period
  - NoAs cover January 1-December 31, 2018
  - Awarded 25% of each grant's full amount as the funds from the second authorization were not yet available
    - 25% covered the first quarter of the 2018 budget period (Jan 1-March 31, 2018)
- **The Division of Grants Management (DGM) has completed the process of revising all NoAs to award the remaining 75% of 2018 funds.**

SDPI FY 2019

- SDPI is fully funded for all of FY 2019
  - Calendar year budget cycle: December 31, 2019
- SDPI is on the mandatory side of the federal budget
  - President's FY 2019 Budget proposes to change SDPI to the discretionary side—Congress would have to approve
- Tribal Leaders Diabetes Committee (TLDC) recommended to the IHS Acting Director that national Tribal Consultation/Urban Confer take place on the SDPI FY 2019 funding distribution
  - IHS Acting Director issued DTLL/DUIOLL; was open til May 18
  - TLDC met May 21-22, formulated recommendations
  - IHS Acting Director will make final decisions
- Continuation application is now available!
  - **Application due date: September 2, 2018**

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IHS, Tribal, and Urban clinicians, community health providers, and SDPI grantees will:

- **LEARN** the latest information and earn CME/CE credits*
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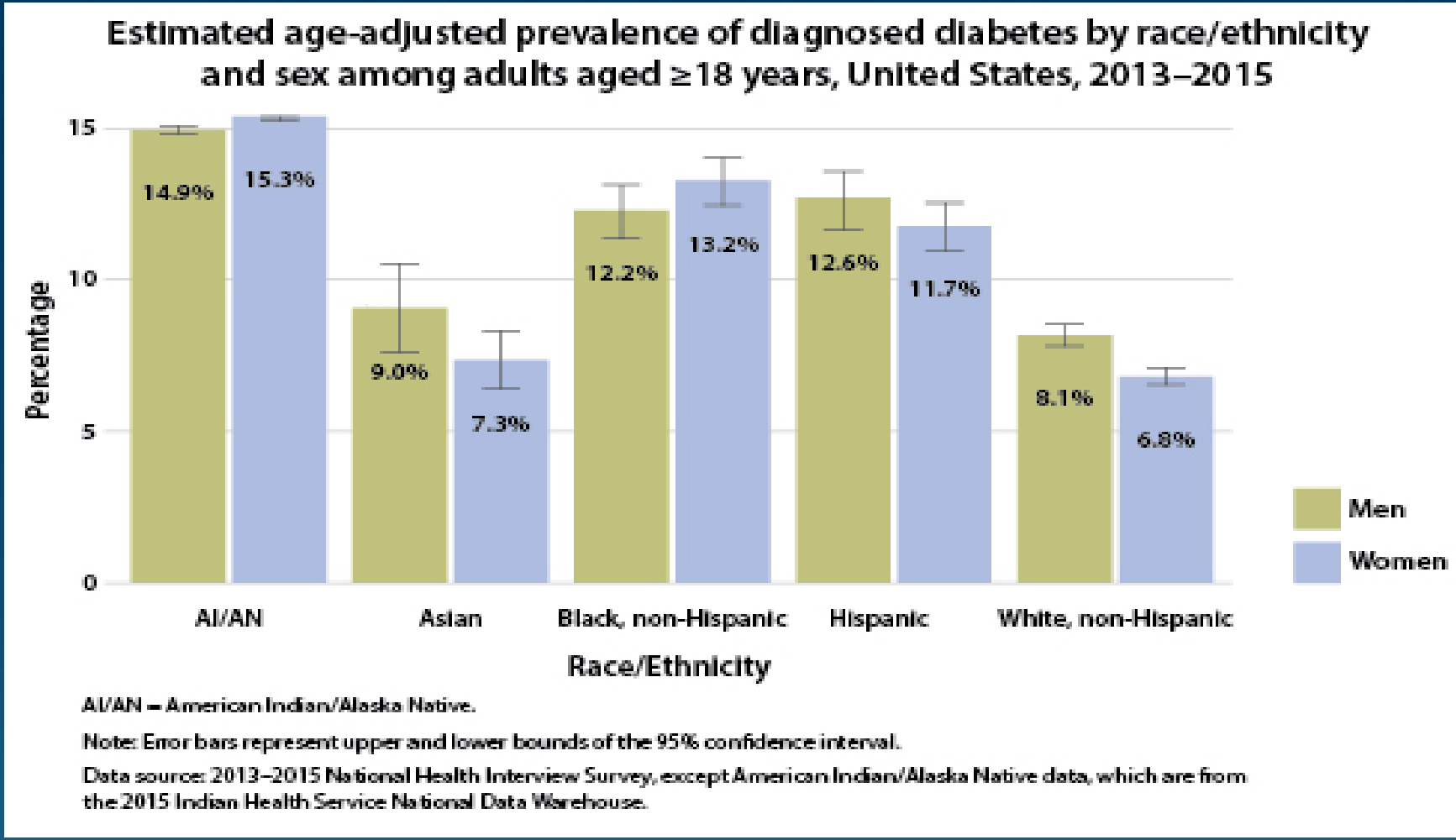
*ACCREDITATION: The Indian Health Service (IHS) Clinical Support Center is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The Indian Health Service Clinical Support Center is accredited with distinction as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

More info coming soon. Visit diabetesinindiancountry.com

Diabetes in AI/AN People

CDC National Diabetes Statistics Report, 2017



Improving Trends in AI/AN People

- Diabetes prevalence
  - –Adults: the years of increasing diabetes prevalence stopped in 2011 and it has been fairly constant since
  - –Youth: the rise in diabetes prevalence stopped at least as early as 2006

IHS National Data Warehouse

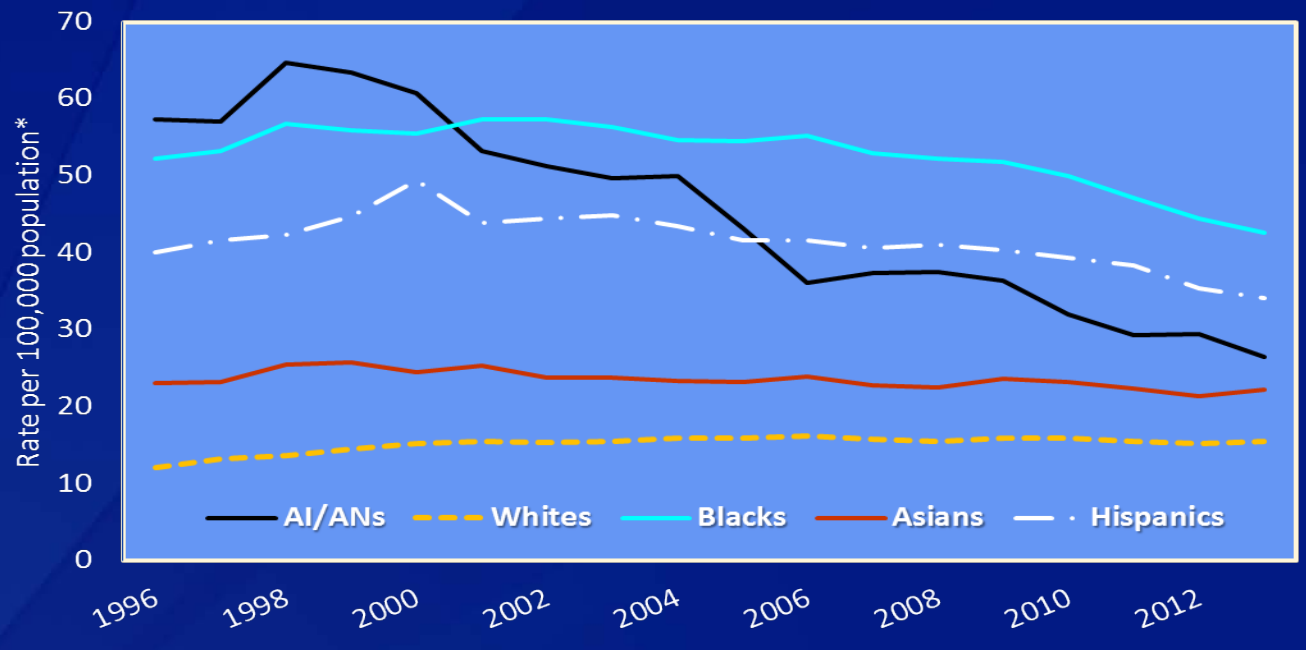
- Obesity in AI/AN youth ages 2-19 years has been stable for the past decade
  - "Obesity and Overweight in American Indian and Alaska Native Children, 2006–2015"

Am J Public Health 2017;107:1502-1507

Diabetes-related Kidney Failure

- CDC Vital Signs
  - **"Native Americans with Diabetes: Better diabetes care can reduce kidney failure"**
    - *MMWR*, January 10, 2017
    - https://www.cdc.gov/vitalsigns/aian-diabetes/index.html
- Used data from the U.S. Renal Data System, U.S. Census, and IHS Diabetes Audit

Kidney failure from diabetes among AI/AN adults decreased by *54%* (1996-2013)



*Rate per 100,000 population and age-adjusted based on the 2000 US standard population.
AI/AN=American Indians and Alaska Natives. Racial groups include persons of Hispanic and non-Hispanic origin; Hispanics may be of any race.
Source: Data from the US Renal Data System and the US Census.

How well has the Indian Health System done in reducing kidney disease risk factors?

In AI/AN patients with diabetes:

- **Blood pressure control**
  - Average BP: 132/76 in 2016
- **Blood sugar control**
  - Average A1C decreased 10% between 1996 and 2016

- **Use of kidney-protective medications** (ACE inhibitors/ARBs)
  - Prescribed in 76% in 2014
    - 36% higher than in NHANES patients with diabetes (2009-2014)
- **Kidney testing**
  - In pts ≥ age 65, 62% had urine protein test (UACR) in 2015
    - 55% higher than in Medicare patients with diabetes in 2013 (40%)

Diabetic Retinopathy

- IHS Joslin Vision Network Teleophthalmology Program (JVN)
  - –Established in 2000
  - –Exemplary telemedicine program
- Retrospective data analysis of *54,000* AI/AN people with diabetes who participated in the JVN program 2011-2016
- Compared with studies done in the 1980s and 1990s, the *prevalence of diabetic retinopathy and macular edema* ***decreased by over 50%***

JVN Program Data

Diabetes Management in 2018

Translating Clinical Guidelines to Patient Care:

Individualize

- In general, tighter control of glucose and blood pressure *earlier* in the course of diabetes has more benefits and fewer risks
  - However, there are fewer benefits and greater risks as diabetes and age progress
- Lipids
  - Statins: good evidence, especially in secondary prevention of CVD
  - Non-statin medications: evolving evidence
    - LDL lowering does not always equal CVD risk reduction

Glucose Control

- In general, tighter control of glucose earlier in the course of diabetes has more benefits and fewer risks
  - However, there are fewer benefits and greater risks as diabetes and age progress
- Hot Topics:
  - A1C targets over the lifespan, variability of the A1C test
  - Meds which reduce major CV events and CV mortality in patients with type 2 diabetes and CVD:
    - empagliflozin (Jardiance/SGLT-2 co-transporter)
      - reduce major CV events (Invokana/canaglifozin)
    - liraglutide (Victoza/GLP-1 agonist)
  - Help with weight issues (Saxenda/liraglutide)
  - Cost

A1C Targets

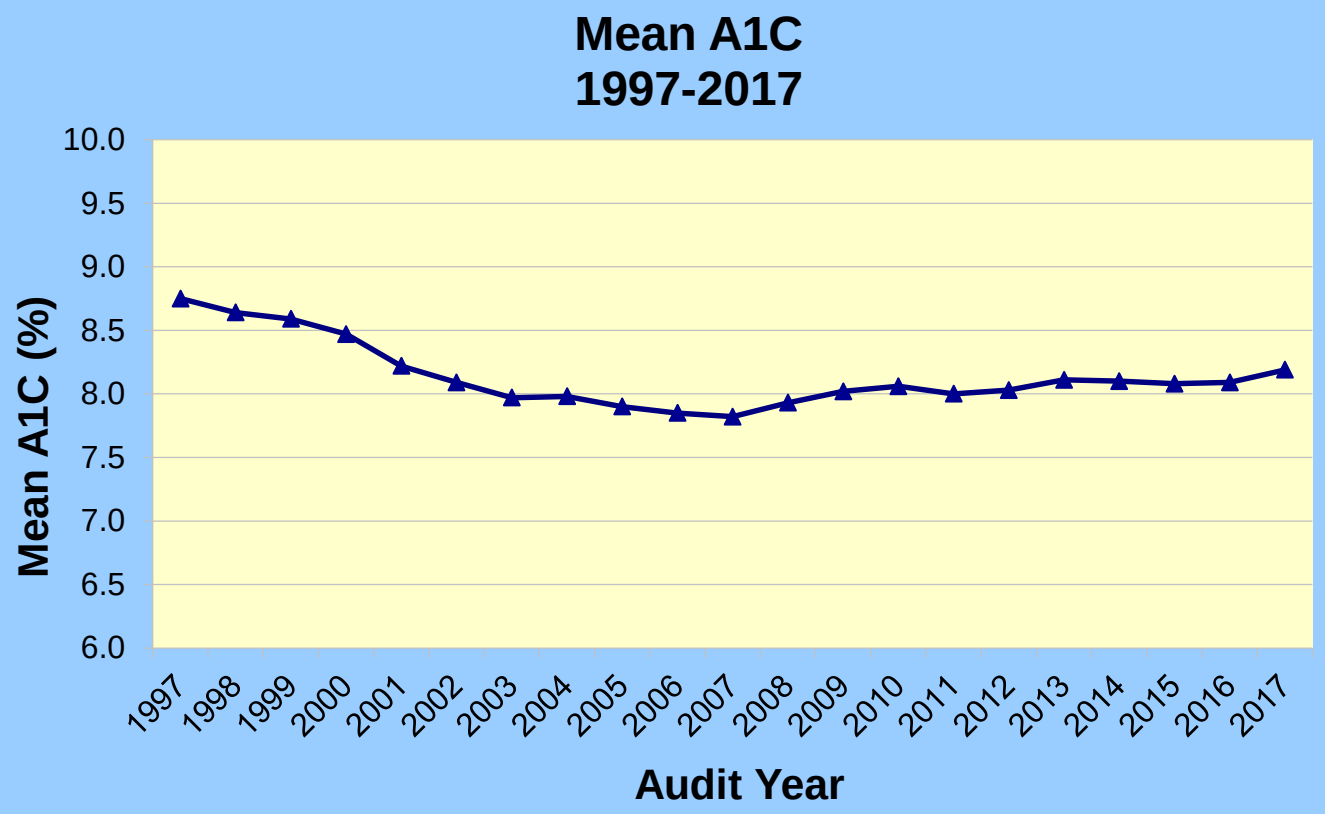
A1C Target Range Options Based On Individual Patient Factors

Major Comorbidity Present?	Microvascular Complications Present?		
	Absent or Mild	Moderate	Advanced
Absent (and/or >10-15 years of life expectancy)	**6.0-7.0%**	**7.0-8.0%**	**7.5-8.5%**
Present (and/or 5-10 years of life expectancy)	**7.0-8.0%**	**7.5-8.5%**	**7.5-8.5%**
Marked (and/or <5 years of life expectancy)	**8.0-9.0%**	**8.0-9.0%**	**8.0-9.0%**

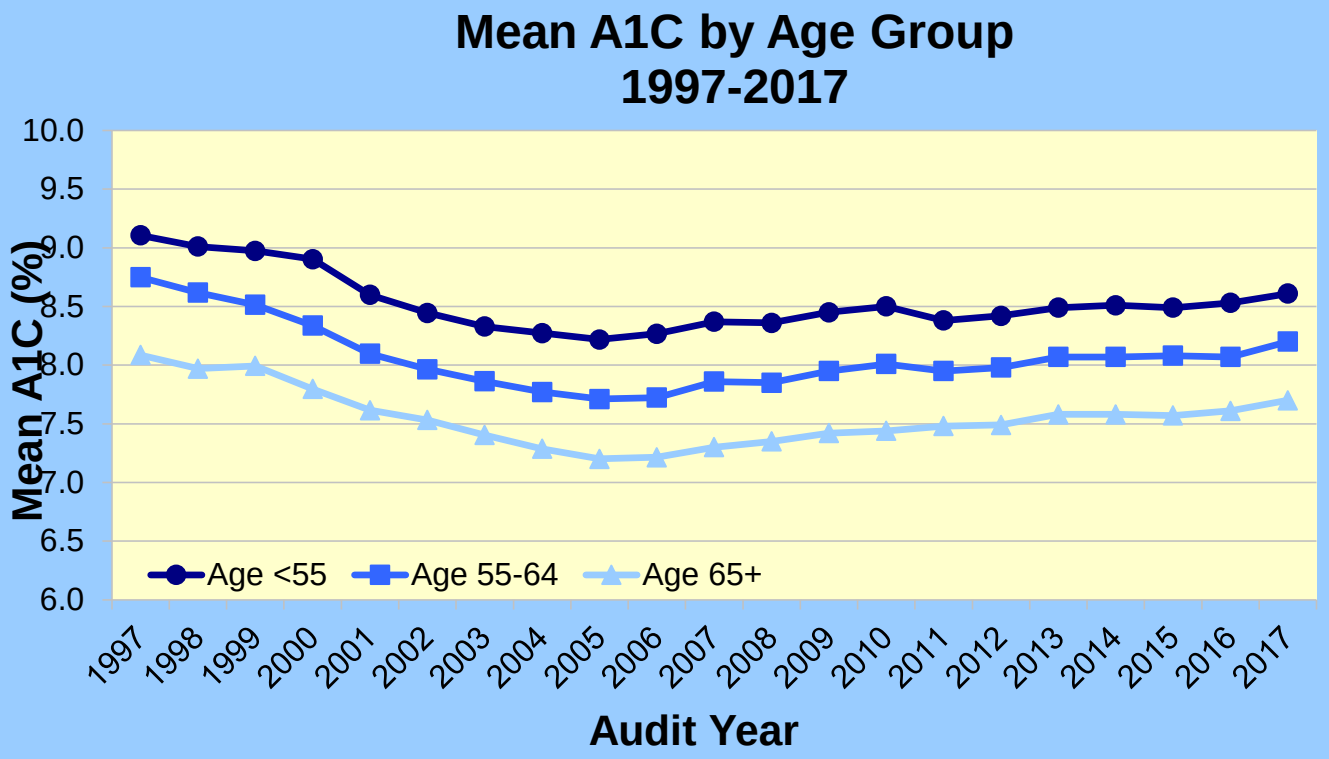
Adapted from the Department of Veterans Affairs and the Department of Defense (VA/DoD) Management of Diabetes Mellitus Guideline.

Major comorbidity includes but is not limited to significant CVD, severe CKD, severe COPD, severe chronic liver disease, recent stroke, and life-threatening malignancy.

Microvascular disease includes retinopathy, neuropathy, or CKD (albuminuria and/or decreased GFR).



Source: IHS Diabetes Care and Outcomes Audit



Source: IHS Diabetes Care and Outcomes Audit

Blood Pressure Control

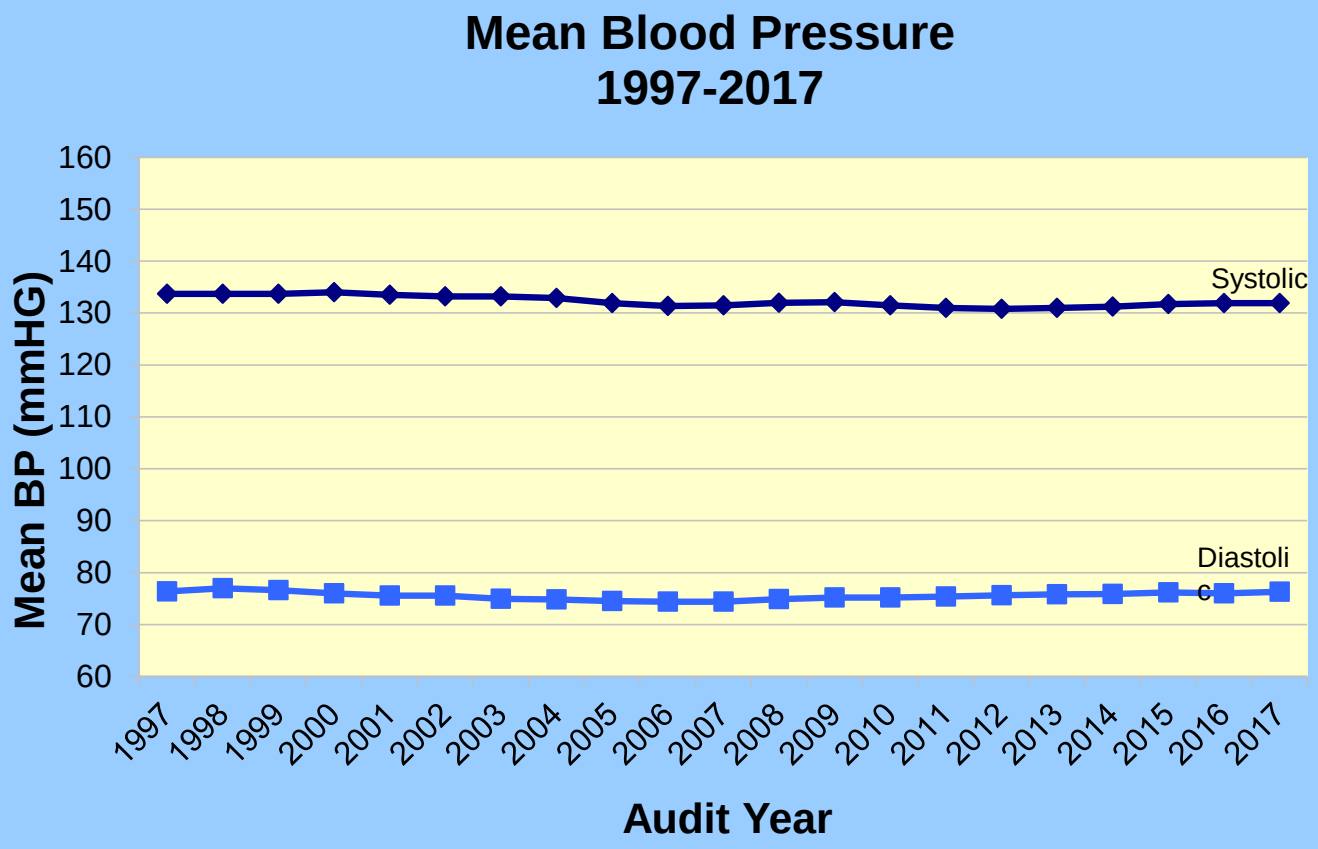
- In general, tighter control of blood pressure *earlier* in the course of diabetes has more benefits and fewer risks
  - However, there are fewer benefits and greater risks as diabetes and age progress

- Hot Topics
  - Dueling Guidelines: JNC 8 Panel, ACC/AHA
    - <130/80 or <140/90

Blood Pressure Targets

	Treatment Target Options		
	Consider <130/80	**<140/90**	Consider <150/90
Factors to Consider	• Younger • Healthier • Low risk for hypotension • Higher cardiovascular disease risk* • Target is achievable without burdensome side effects	• **MOST PATIENTS**	• Older • Multiple advanced comorbidities • High risk for hypotension • Polypharmacy • Lower targets are unachievable due to side effects

**High CVD risk is a 10-year atherosclerotic cardiovascular event risk of 10% or higher based on the 2013 ACC/AHA pooled cohort equation risk calculator.* http://www.cvriskcalculator.com/



Source: IHS Diabetes Care and Outcomes Audit

Lipid Management

- Use of statins for almost all adult patients with diabetes
- Hot Topics
  - Use of non-statin medications: Ezetimibe, PCSK-9 inhibitors
    - Evidence is still evolving
    - Use in addition to statins? In which patients?
    - Use instead of statins in statin-intolerant patients?
  - LDL goals again? How low to go?

Lipid & Aspirin Therapy in Type 2 Diabetes

Lipid & Aspirin Therapy in Type 2 Diabetes

Lipid Panel Screening

Order a lipid panel:
- at diagnosis of diabetes
- if < 40 years old and not on a statin, consider annual lipid panel
- at age 40 if not yet on a statin to establish treatment baseline
- as needed every 1-5 years (e.g. to evaluate adherence to lipid therapy)

For all patients with diabetes, initiate lifestyle therapy, then:

AGE	ASCVD Risk Factors*	Statin Therapy
<40 years	None	None
	1 or more	Moderate or High Intensity
	ASCVD**	High Intensity
40-75 years	None	Moderate Intensity
	1 or more	High Intensity
	ASCVD**	High Intensity
>75 years	None	Moderate Intensity
	1 or more	Moderate or High Intensity
	ASCVD**	High Intensity

* ASCVD (Atherosclerotic Cardiovascular Disease) Risk Factors include: LDL ≥ 100mg/dL, high blood pressure, smoking, chronic kidney disease, albuminuria, and family history of premature ASCVD

** ASCVD is atherosclerosis affecting the vasculature of any of the following: heart, periphery (e.g., legs, carotids), and brain (e.g., stroke, transient ischemic attack)

Statin intolerance: Consider trying a different statin. If unable to tolerate daily statin, there may still be benefit from less than daily dosing. There is little evidence of ASCVD benefit from monotherapy with non-statin lipid medications.

Combination therapy (statin plus non-statin lipid medication): There is little evidence of ASCVD benefit with combination therapy.***

Elevated Triglycerides (≥ 500 mg/dL): identify secondary causes and consider triglyceride lowering therapy to reduce the risk of pancreatitis

*** Limited data suggests ezetimibe plus moderate intensity statin (when high intensity statin is not tolerated) may provide a small reduction in risk of ASCVD events over moderate intensity statin therapy alone if initiated within 10 days of an acute coronary event in patients age ≥50 years

Statin Medications	Moderate Intensity Dose	High Intensity Dose
Atorvastatin (Lipitor®)****	10-20 mg	40-80 mg
Rosuvastatin (Crestor®)	5-10 mg	20-40 mg
Simvastatin (Zocor®)	20-40 mg	NA
Pravastatin (Pravachol®)	40 mg	NA

**** *Note: Only atorvastatin 40-80mg is on the IHS National Core Formulary*

Contraindications: acute liver disease, pregnancy, nursing mothers

Statin drug interactions: consult package insert prior to prescribing
Simvastatin - Caution or contraindication with strong CYP3A4 inhibitors (e.g., azole antifungals, erythromycins, HIV protease inhibitors, nefazodone)
All statins - Caution or contraindication with gemfibrozil, cyclosporine, or danazole.
Decrease dose of simvastatin with niacin, amiodarone, diltiazem, amlodipine, and grapefruit

Check ALT before initiating therapy; Routine monitoring not necessary

Non-statin lipid medications may have a secondary role in certain select patients.

Non-Statin Lipid Medication	Usual Dose	Consider if
Gemfibrozil (Lopid®)	600 mg BID	Triglyceride levels are very high
Fenofibrate (Tricor®, others)	145 mg Daily	Triglyceride levels are very high
Fish Oil (Lovaza®, others)	2-4 g Daily	Triglyceride levels are very high
Ezetimibe (Zetia®)	10 mg Daily	With moderate intensity statin when patient cannot tolerate high intensity statin

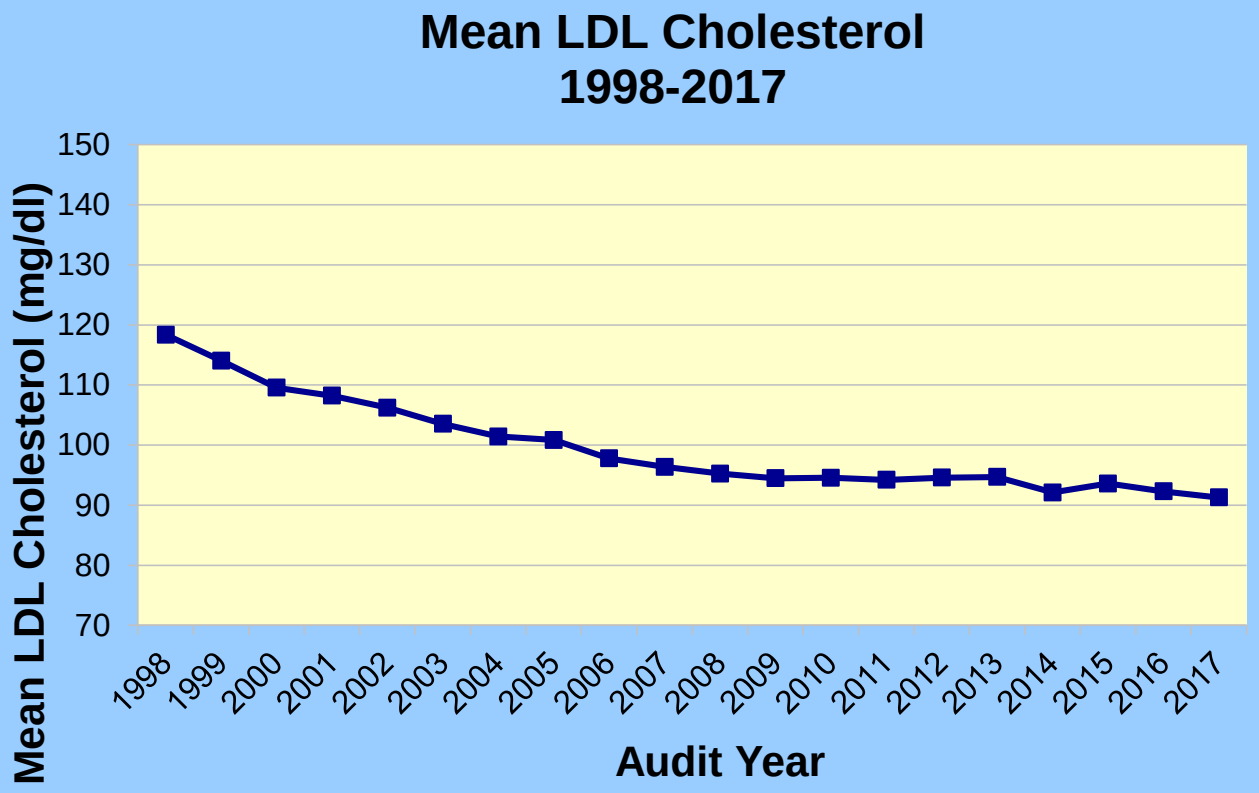
Note: *Medications in green are not on the IHS National Core Formulary*
Consult a complete prescribing reference for more detailed information. This algorithm is not intended for treatment selection in children or in women who are or could become pregnant.

Aspirin Therapy for ASCVD

Secondary Prevention:
Patients with a history of ASCVD should receive aspirin 75-162mg daily if they are not at increased risk of bleeding.
If allergic to aspirin, consider clopidogrel 75mg daily.

Primary Prevention:
Consider aspirin 75-162mg daily in patients with increased risk of ASCVD, (e.g., age ≥50 years and one or more risk factors*), if they are not at increased risk of bleeding.
Aspirin is not recommended in patients at lower risk of ASCVD, (e.g., age <50 years with no other major ASCVD risk factors*).

Ref: ADA Clinical Practice Recommendations, Diabetes Care 2017; 40, Supplement 1.
ACC/AHA Cholesterol Guideline, J Am Coll Cardiol 2014; 63:2889-934.



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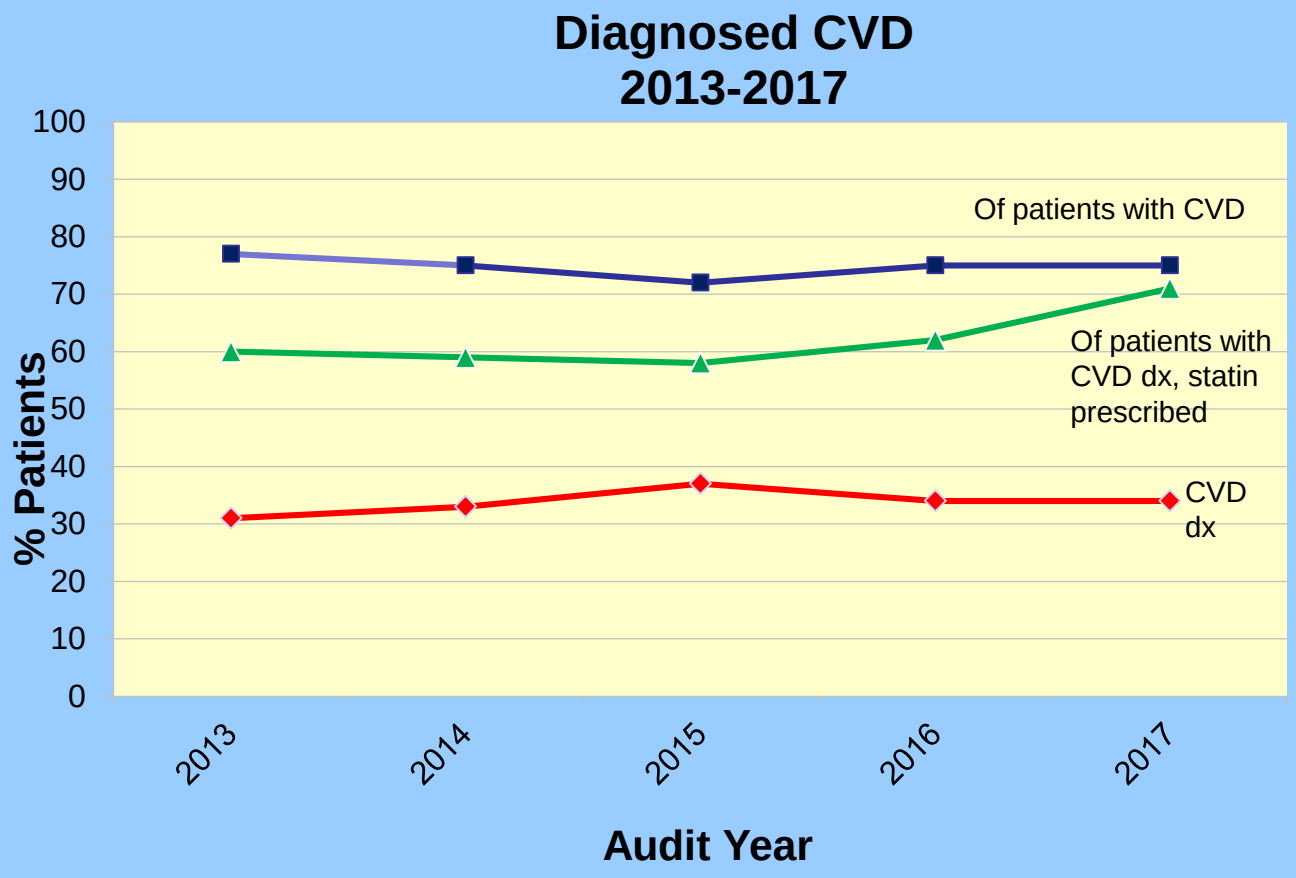

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Individualize

- Clinical guidelines and performance measures should *inform* the care of individual patients
- But the characteristics, needs, risks, and preferences of each patient should dictate the care they receive

What is Chronic Kidney Disease?

CKD is at least 3 months ("chronic") of either:

- Decreased kidney FUNCTION (ability to filter the blood),

or

- Evidence of kidney DAMAGE (e.g. protein in the urine)
  - Earliest indicator

- Monitoring the 2 together over time tell a lot about what diabetes and hypertension are doing to the kidneys, including where they're heading and how fast they're going there…

National Kidney Foundation (NKF) Definition of CKD

- **Kidney Function**. Glomerular filtration rate (GFR) <60 mL/min/1.73 m2 for ≥ 3 months with or without kidney damage

--Or--

- **Kidney damage** for ≥ 3 months, with or without decreased GFR, manifested by either:
  - Pathologic abnormalities; or
  - Markers of kidney damage, such as **proteinuria**

National Kidney Foundation. Am J Kidney Dis. 2002;39(suppl 1):S1-S266

So what about Proteinuria?

- **Albumin** is the primary protein excreted by kidneys damaged by diabetic nephropathy
  - "Proteinuria" and "Albuminuria" often used interchangeably
- It matters a lot:
  - How much albumin is being excreted
  - How fast that is rising
  - If an intervention manages to reduce it
- Terminology has changed
  - Was: micro/macroalbuminuria
  - Now: "Urine Albumin Excretion" or "Albuminuria"
- Continuous risk variable

Albuminuria—as important as eGFR

- Community-based cohort study of 920,000 pts
- **Risks of mortality, MI, progression to kidney failure associated with a given level of eGFR are independently ↑'d with higher levels of albuminuria**
- Example: who's at higher risk?
  - pt with eGFR >60 and UACR 400 mg/g= Stage 1 (0-2)
  - pt with eGFR of 50 and UACR <30mg/g=Stage 3
  - **The first pt has 2-10x higher risk than the second!**

JAMA 2010;303(5):423-429

Why is UACR recommended?

- Albumin is primary protein excreted in DM pts
- Most accurate, reproducible test
  - Quantitative test
    - vs. semi-quantitative “test strip” tests
  - Allows for early detection and meaningful monitoring of CKD
- Done on spot specimen any time of day
  - No need for timed specimens (e.g. 24 hr, first morning specimens)
- Accounts for urine concentration using ratio to creatinine
  - Excrete about 1 gm of creatinine in urine each 24 hrs
- Normal: < 30mg/g

UACR

- Rate of rise as well as absolute value
  - Continuous variable ("micro" and "macro" arbitrary)
    - Extra credit: Where did the 300mg cut-off come from?
- If intervene and decrease urine albumin excretion, this is a real reduction in risk of progression
  - Most recent UACR is prognostic, even if previous test results were higher *Am J Kidney Dis* 2008;51:759-766
- When can we stop ordering UACRs every year?
  - Not known, should individualize

CKD Stages and Corresponding Focus of Kidney-Related Care

Table 10.1—CKD stages and corresponding focus of kidney-related care

CKD stage†			Focus of kidney-related care			
Stage	eGFR (mL/min/1.73 m^2)	Evidence of kidney damage*	Diagnose cause of kidney injury	Evaluate and treat risk factors for CKD progression**	Evaluate and treat CKD complications***	Prepare for renal replacement therapy
No clinical evidence of CKD	≥60	—				
1	≥90	+	√	√		
2	60–89	+	√	√		
3	30–59	+/−	√	√	√	
4	15–29	+/−		√	√	√
5	<15	+/−			√	√

†CKD stages 1 and 2 are defined by evidence of kidney damage (+), while CKD stages 3–5 are defined by reduced eGFR with or without evidence of kidney damage (+/−). *Kidney damage is most often manifest as albuminuria (UACR ≥30 mg/g Cr) but can also include glomerular hematuria, other abnormalities of the urinary sediment, radiographic abnormalities, and other presentations. **Risk factors for CKD progression include elevated blood pressure, glycemia, and albuminuria. ***See **Table 10.2**.

Microvascular Complications and Foot Care:
Standards of Medical Care in Diabetes - 2018. *Diabetes Care* 2018; 41 (Suppl. 1): S105-S118

Food Insecurity

- Diet quality associated with weight gain even if calories restricted

  JAMA 2014;311(21):2167-2168

- Prevalence of overweight in women ↑'s as food insecurity ↑

  J Nutr 2001;131:1738-1745

- Pregnancy: food insecurity associated with pre-pregnancy obesity, ↑ pregnancy weight gain, and gestational diabetes

  Am Diet Assoc 2010;110:692-701

- ↑ Risk for poor blood sugar control

  Diabetes Care 2012;35:233-238

- 42% of households below poverty level are food insecure
  - as are 21% of all households with children

  NEJM 2010;363:6-9

- Screen for food insecurity and connect people to food resources
  - Food Insecurity Assessment Tool on IHS Division of Diabetes website

Food Insecurity Assessment Tool and Resource List

To help your patients and clients improve their health, it is important to understand food insecurity and provide them with resources to get more healthy food.

When patients/clients and their children cannot get enough healthy food, they have food insecurity. They:

- Are at greater risk for being emotionally distressed.
- Eat less expensive foods which are often unhealthy.
- Have little choice over what kinds of food to buy or receive for free, making it difficult or impossible to eat balanced meals.
- Have periods when they don't eat, then overeat when food is available. If they have diabetes, this makes it very difficult to manage blood sugar.
- Have a greater risk for being overweight or obese.
- Are more likely to get diseases like diabetes.

To help your patients/clients lessen food insecurity, take these three steps:

1. Read each statement* and ask your client if the statement is often true, sometimes true, rarely true, or never true.

   - Within the past 12 months, we worried whether our food would run out before we got money to buy more. ☐ Often True ☐ Sometimes True ☐ Rarely True ☐ Never True

   - Within the past 12 months, the food we bought just didn't last and we didn't have money to get more. ☐ Often True ☐ Sometimes True ☐ Rarely True ☐ Never True

2. If your client responds "often true" or "sometimes true" to either statement, they likely have food insecurity. Help them get more food by filling out the list of resources (see next page) and giving it to them.

   You can also fill out the list, make copies, and leave them in waiting rooms and other areas for community members to pick up.

3. Advocate for nourishing foods in your community. Take steps to increase the availability of nutritious, affordable food.

   * Hager ER, Quigg AM, Black MM, Coleman SM, Heeren T, Rose-Jacobs R, et al. Development and validity of a 2-item screen to identify families at risk for food insecurity. Pediatrics. 2010 Jul 1; 126(1):26-32.

Produced by the IHS Division of Diabetes Treatment and Prevention, 2015. To print this, go to www.diabetes.ihs.gov and search **Food Insecurity Tool** in the upper right corner of the web page.

Where to Get Food Assistance in This Community

Community Name: _____ Date: _____

Not having enough food for yourself and your family is stressful. Lack of good food makes it difficult to provide nutritious meals that help children grow and adults stay healthy. The thought of not having enough food can make you worry.

There are resources to help. If you need food assistance, please don't wait to contact the programs on this list. They can help you get the food you need for yourself and your family.*

Program Name	Contact Name	Contact Number	Other Important Information (Location, Who Can Qualify, Hours, etc.)
SNAP - Supplemental Nutrition Assistance (Food Stamps)			
Food Distribution (Commodities)			
Women, Infants, and Children (WIC)			
School Lunch and Breakfast Program			
Summer Food Service Program for Children			
Senior Center			
Meals on Wheels			
Tribal Food Program			
Farmers Markets			
Community Gardens			
Food Bank / Food Pantry			
"Mobile Grocery Store" Truck			
Church / Place of Worship			
Social Services			

*Check with the program to see if you qualify to get food.

Produced by the IHS Division of Diabetes Treatment and Prevention, 2015. To print this, go to www.ihs.gov/diabetes and search **Food Insecurity** using 'exact match' on the Education Materials and Resources (Online Catalog) webpage.

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