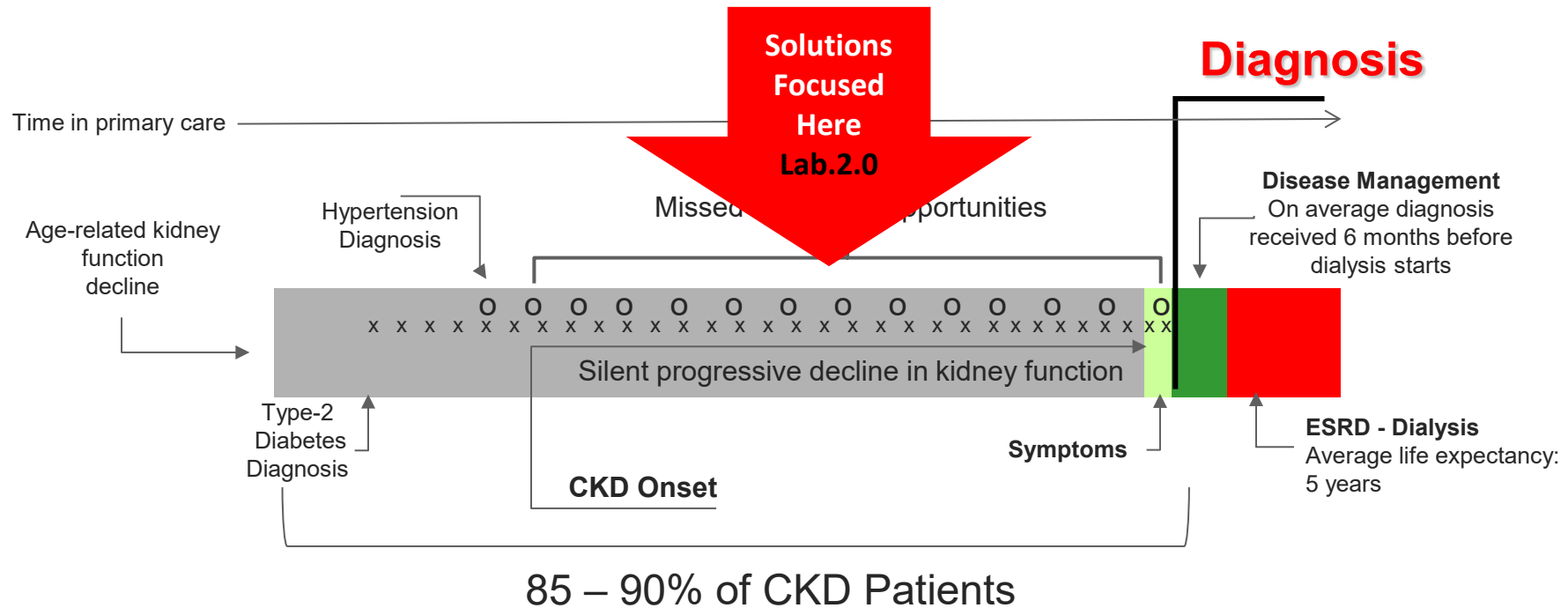


# Role of CL 2.0 in Chronic Kidney Disease Care



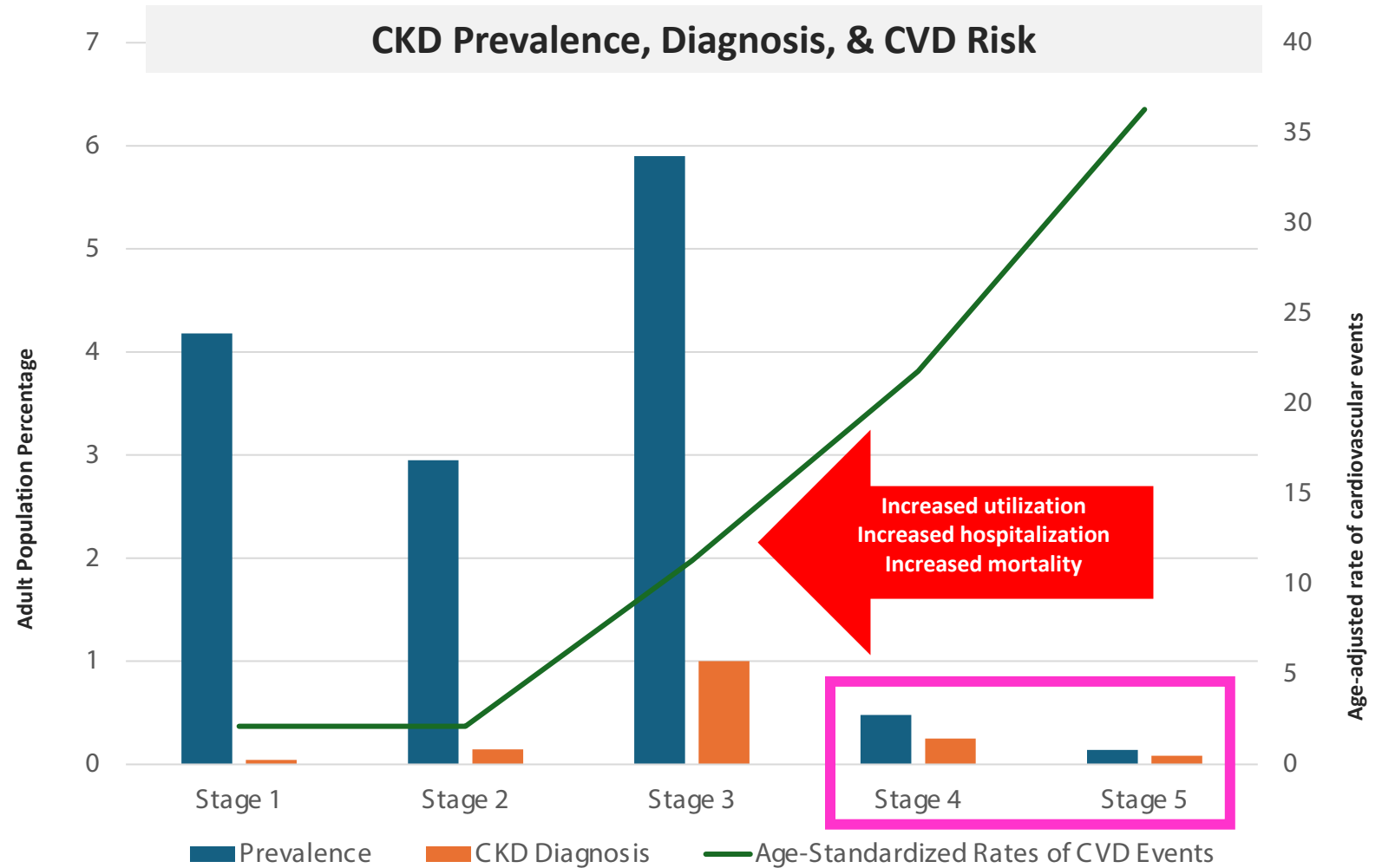
Adapted from:  
 NATIONAL KIDNEY FOUNDATION.

Szczzech, Lynda A, et al. "Primary Care Detection of Chronic Kidney Disease in Adults with Type-2 Diabetes: The ADD-CKD Study (Awareness, Detection and Drug Therapy in Type-2 Diabetes and Chronic Kidney Disease)." *PLOS One* 9(11); 2014:e110535 .

Tuot, Delphine S, et al. "Chronic Kidney Disease Awareness Among Individuals with Clinical Markers of Kidney Dysfunction." *Clin J Am Soc Nephrol* 6 (2011): 1838-1844.

# Chronic Kidney Disease

- Affects 15% of adult population
  - 37 million Americans
- Represents 15% of Medicare population but represents 25% of the spend
- 90% remain undetected in primary care
  - Including almost 40% of people in ESRD
- Is a cardiovascular risk multiplier
- HCC coding applies to CKD Stage 3 and higher
  - only 18% of people with Stage 3 diagnosed

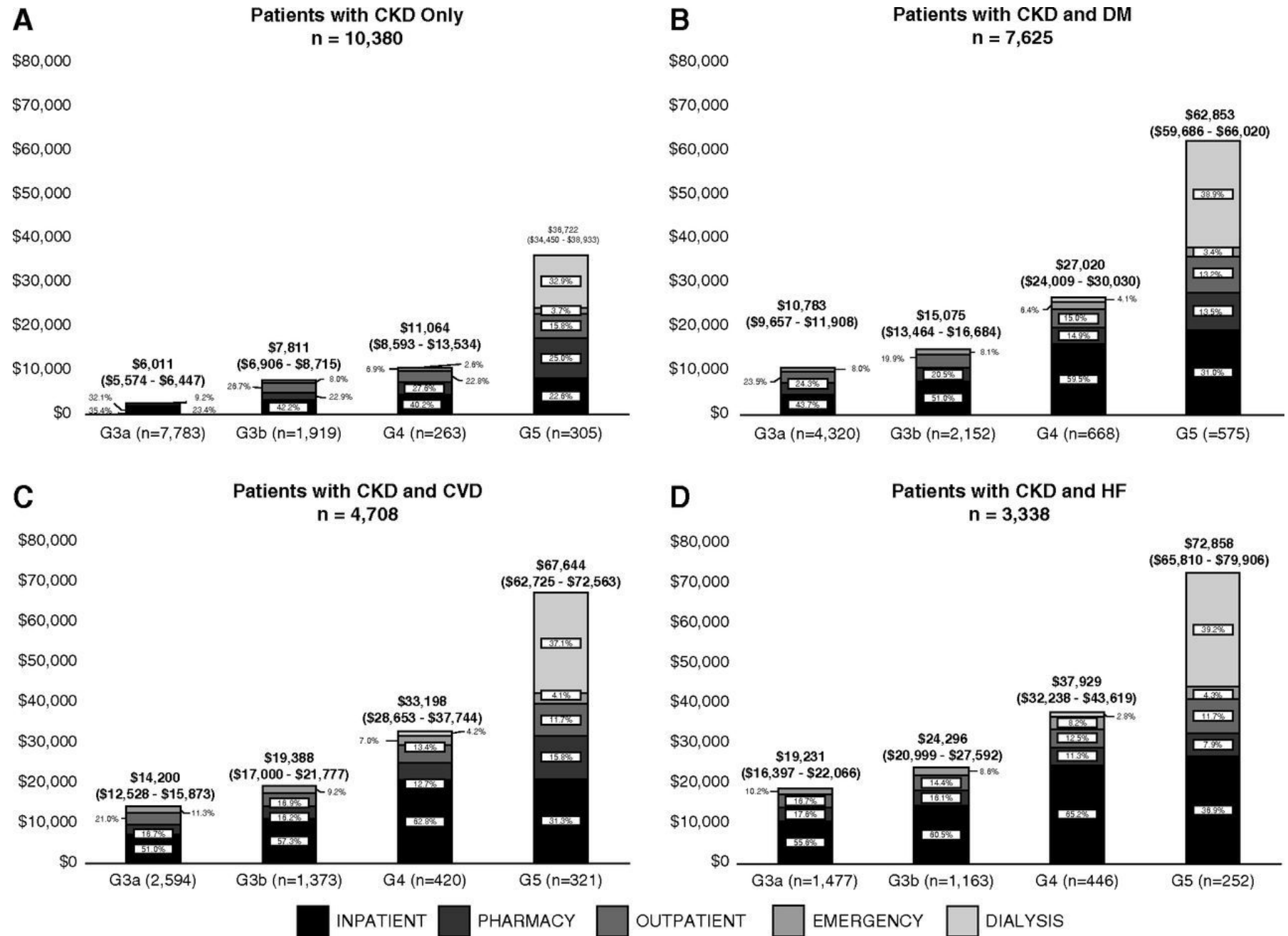


United States Renal Data System. 2015 USRDS annual data report: Epidemiology of Kidney Disease in the United States. National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2015.

Szczzech, L.A., et al., Primary care detection of chronic kidney disease in adults with type-2 diabetes: the ADD-CKD Study (awareness, detection and drug therapy in type 2 diabetes and chronic kidney disease). PloS one, 2014. 9(11): p. e110535.

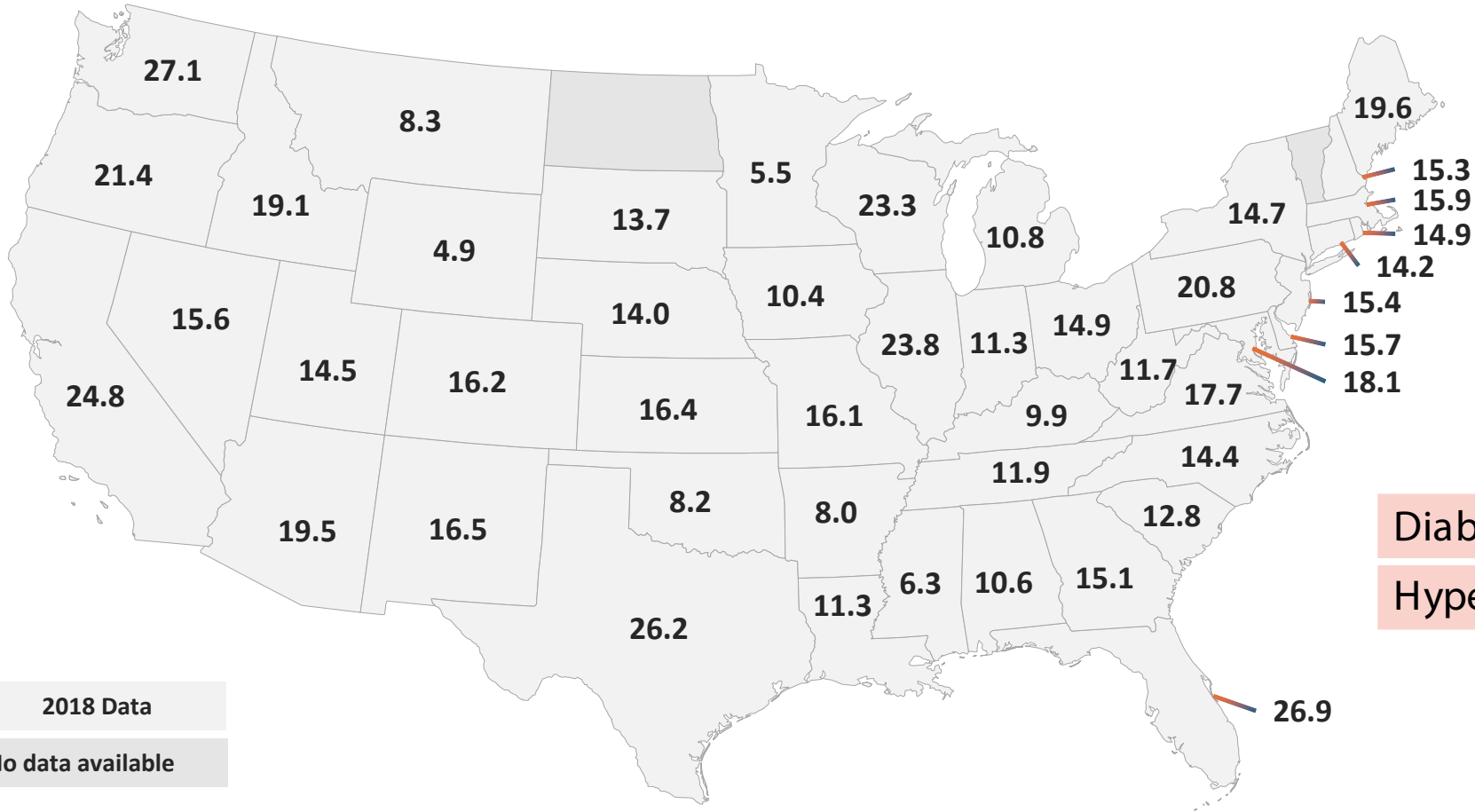
Go AS, Chertow GM, Fan D, McCulloch CE, Hsu C-y. Chronic Kidney Disease and the Risks of Death, Cardiovascular Events, and Hospitalization. New England Journal of Medicine. 2004;351(13):1296-1305.

**Annualized mean medical costs in total (95% CIs) and by resource adjusted for age, sex, and race/ethnicity for patients with CKD and (A) no comorbidities, (B) DM, (C) CVD, and (D) HF increased dramatically with declining kidney function.**



# 80.3% of at-risk patients did not receive guideline concordant assessment

28,295,982 at-risk patients (16.2% diabetes/63.8 % hypertension/20.1% diabetes and hypertension)

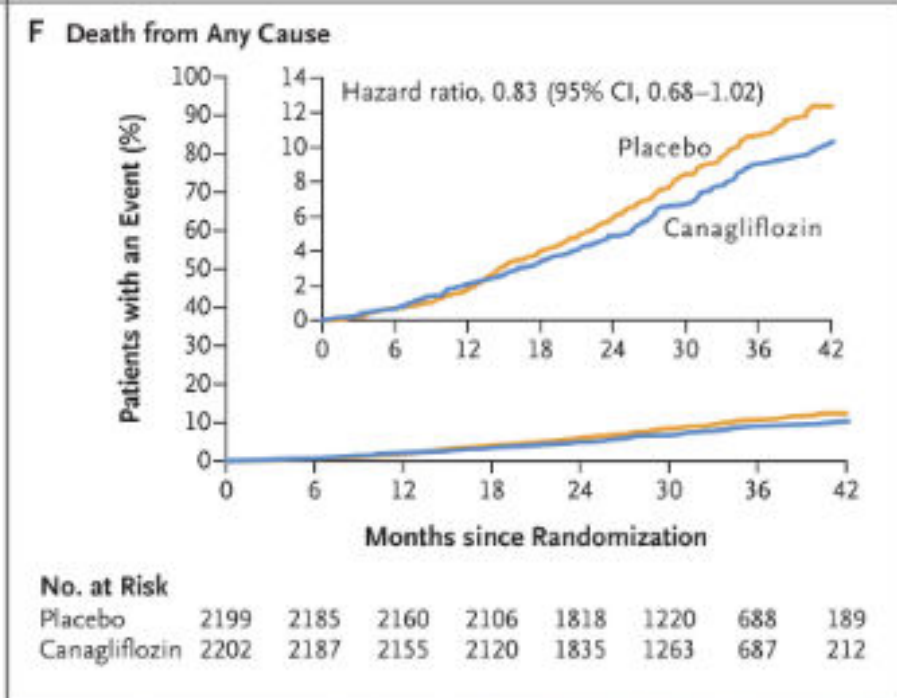
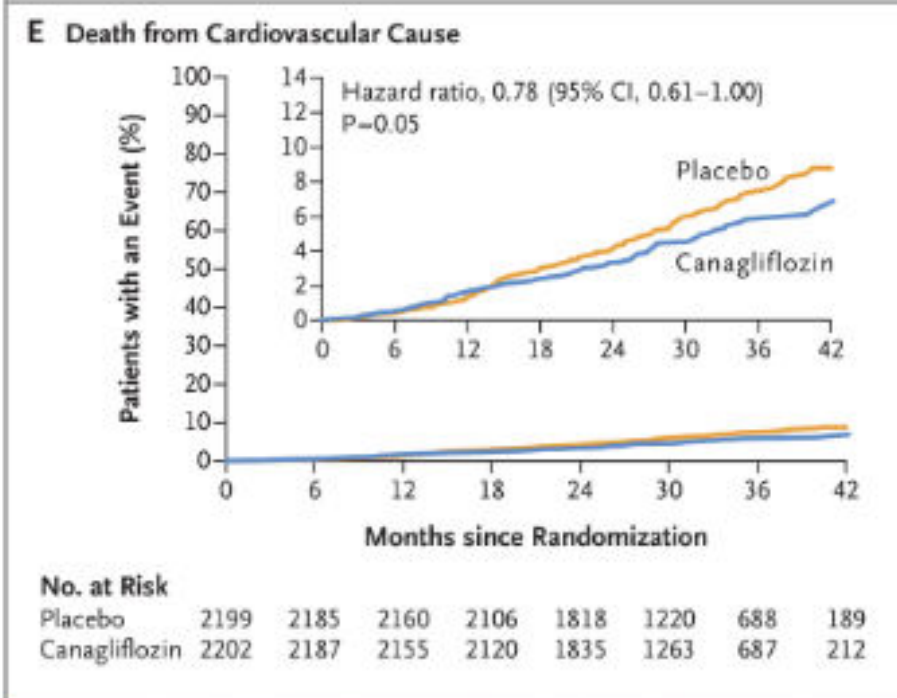
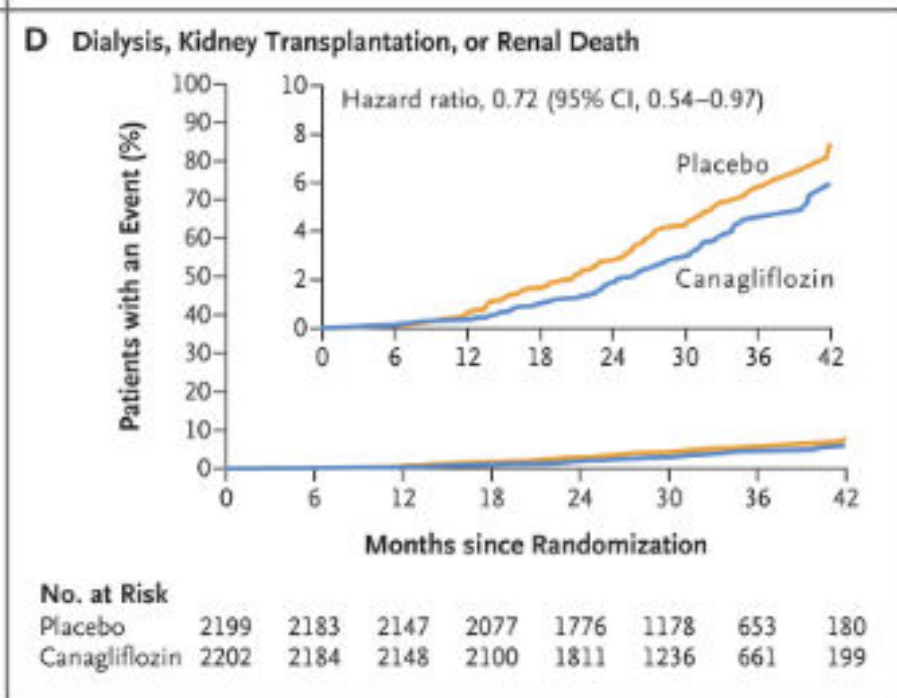
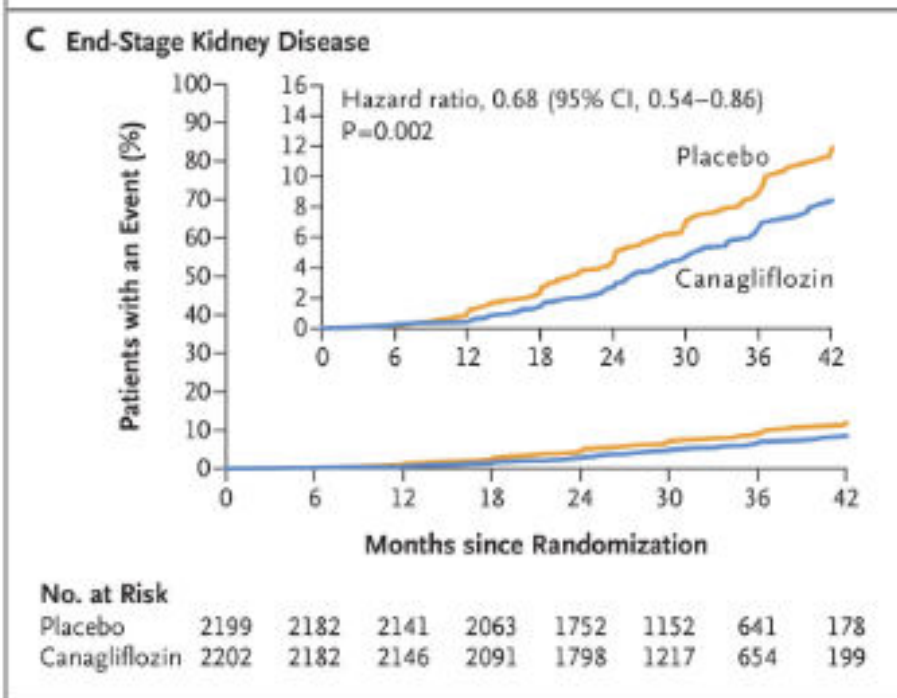


Diabetes & Hypertension	41.4%
Hypertension	10.5%

2018 Data  
No data available

Alfego, D., Ennis, J., Gillespie, B., Lewis, M. J., Montgomery, E., Ferre, S., Vassalotti, J., Letovsky, S. (2021). Chronic kidney disease testing among at-risk adults in the U.S. remains low: Real-world evidence from a national laboratory database. *Diabetes Care*.

New Interventions demonstrate significant reductions in cardiovascular risk and progression of kidney disease (e.g. SGLT2 inhibitor use)

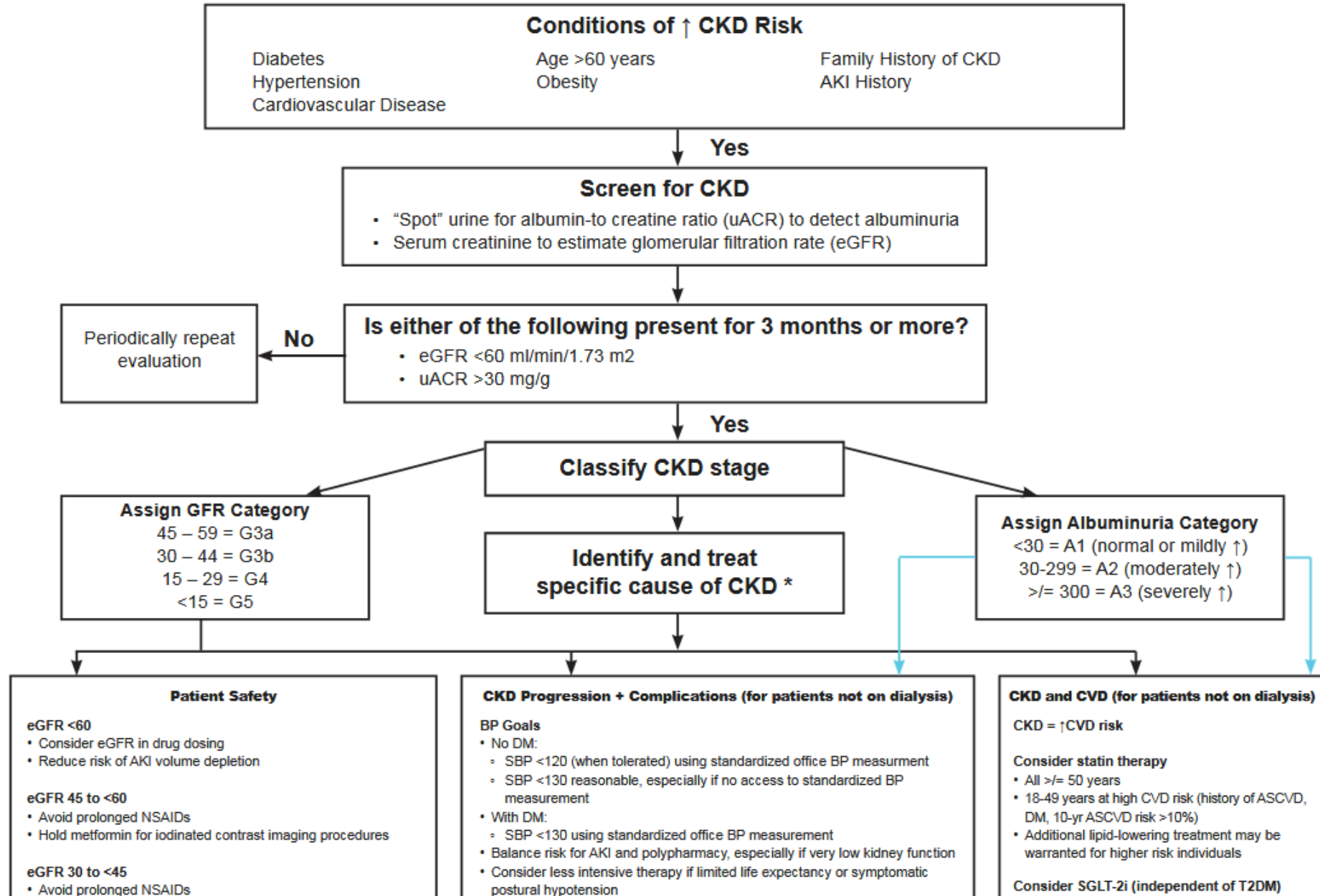


Perkovic V, Jardine MJ, Neal B, et al. Canagliflozin and Renal Outcomes in Type 2 Diabetes and Nephropathy. *New England Journal of Medicine*. 2019;380(24):2295-2306.



Can the Lab guide patient care?

Yes for CKD!



## Using Predictive Capacity with Clinical Lab 2.0 - A Patient Vignette -

- 44 year-old white male with recent lab work showing kidney dysfunction
  - **Pathology's role in the existing healthcare paradigm**
    - Lab delivers high accuracy test result and is no longer involved
    - PCP engages nephrologist resulting in delayed care-worsening disease
    - Multiple unnecessary visits to receive diagnosis
  - **Pathology's role in the future healthcare paradigm**
    - Lab-initiated care protocol implemented
    - No nephrologist referral needed
    - Timely care driven by protocol and care guidelines-improving outcomes
    - Reduced number of healthcare visits

## Solution to Proactive Prediction Population Health Model

Develop and apply  
clinical decision  
rules applicable to  
the organization

Design and test  
interventions using  
clinical decision  
rules

Implement clinical  
decision rules for  
improved outcomes  
and population  
health