

# IMPROVING CKD CARE QUALITY THROUGH RISK STRATIFICATION INTEGRATION INTO THE ELECTRONIC HEALTH RECORD: THE GEMINI-USRC STUDY

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## BACKGROUND

CKD affects about 15% of Americans. Loss of kidney function leads to dialysis, cardiovascular disease, and premature mortality. Therapies exist that slow CKD progression, however, implementation remains a challenge and utilization remain low.

A point of care tool (Kidney Disease Progression Report [KDPR]), combining risk stratification with identified medication opportunities customized for each individual patient, may improve utilization of guideline recommended therapies and ultimately, clinical outcomes.

In this study, we aim to assess two proprietary machine-learning risk models (based on stage of CKD), and the use of a clinical decision support tool to identify patients at risk of CKD progression in two nephrology practices with over 15000 patients.

Specifically, it is our aim to determine whether integration of a KDPR tool into the electronic health record of community-based nephrology practices influences adherence to guideline recommended CKD management over a 2-year period

## OBJECTIVE AND METHODS

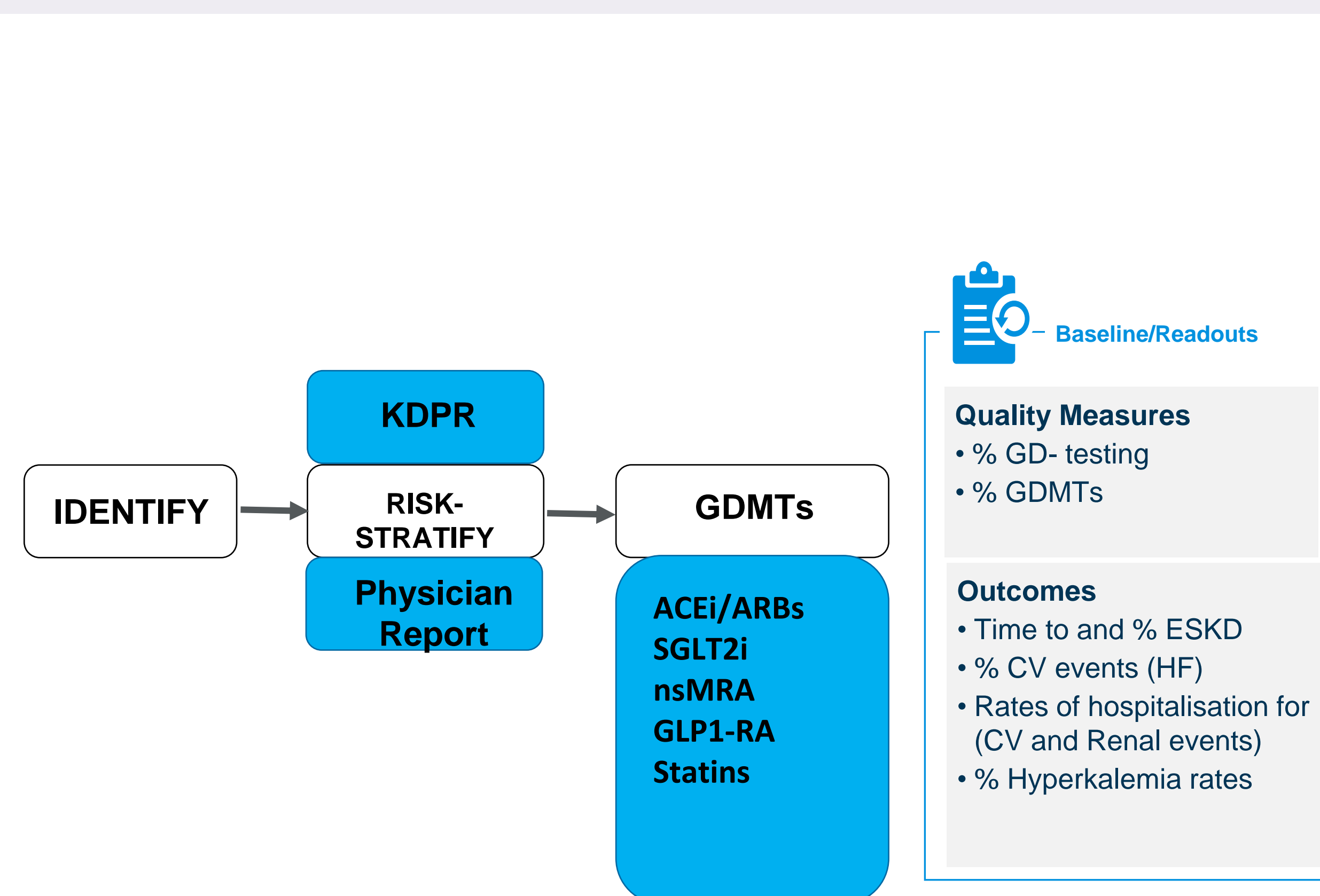
GEMINI is an observational, descriptive, secondary data study assessing both retrospective and prospective time periods, with a quality improvement and implementation science focus.

The primary objective is to develop a scalable and replicable model for integration of a CKD risk assessment tool into the electronic health record (EHR) of community-based nephrology practices.

After assessing baseline adherence to guideline-directed medical therapies (GDMTs); RAASi, SGLT2i, GLP1RA, statins, S-MRA, NS-MRA (Finerenone), we will describe the change in use of these therapies after integration of the KDPR tool into the EHR.

Secondary objectives will describe the incidence rate of CKD complications characterized by receipt of guideline recommended therapy (progression of CKD to ESKD, anemia (Hb < 11 g/dL), hyperkalemia (K > 5.5. mEq/L), and metabolic acidosis (HCO<sub>3</sub> < 22 mEq/L).

## WORKFLOW



## OVERVIEW OF KDPR



## BASELINE CHARACTERISTICS

Baseline Characteristics	N (%)
All	15,778
Age, years, mean	71
Sex, male	7,227 (46)
Race	
White	7,721 (49)
Black or African American	3,369 (21)
Other	4,246 (27)
Unknown	442 (3)
Urinary albumin-to-creatinine ratio	
Measured ACR	4,558 (28.9)
Estimated ACR	7,476 (47.4)
No assessment of proteinuria	3,744 (23.7)
Medical History	
Hypertension	14,304 (91)
Type 2 Diabetes	4,014 (25.4)
Cardiovascular	2,125 (13.5)

## CONCLUSIONS

We aim to demonstrate the feasibility of integrating a risk stratification tool into physician EHR and to assess whether this integration can improve adherence and increase utilization of guideline-recommended treatment of patients with CKD.

## CONTACT INFORMATION

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