Baseline Characteristics and Early Results from the GEMINI-RAPA Project: Improving the quality of CKD care with risk prediction and personalized recommendations

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INTRODUCTION

- CKD affects 1 in 7 Americans and can lead to progression to dialysis, cardiovascular disease, and early mortality.
- Effective interventions exist to slow the progression of CKD and prevent heart failure, but implementation remains a challenge, and use of guideline recommended testing and therapies remain low.
- Routine, complete collection of guideline recommended blood and urine tests allowing accurate risk prediction with personalized treatment recommendations can improve CKD care, when integrated into clinical workflow.

OBJECTIVES

- To implement **risk prediction algorithms** and **clinical decision support** for identifying patients at risk of CKD progression and improving quality of CKD care
  - More than 30 nephrologists and 20,000 patients with CKD.
- Baseline characteristics and 12 month post intervention data are presented here

THE GEMINI PROJECT

PRELIMINARY RESULTS

Table 1. Descriptive characteristics of the study cohort.

VARIABLE	HIGH RISK; N (%)	LOW/INTERMEDIATE RISK; N (%)	TOTAL
Number of patients	4,575 (28)	11,551 (72)	16,126
Male; N (%)	2,091 (46)	5,109 (44)	7,200 (45)
Mean age (± SD)	71.8 (± 13.6)	71.3 (± 12.2)	71.4 (± 12.6)
Diabetes	3,133 (68)	5,797 (50)	8,930 (55)
Hypertension	4,199 (92)	10,182 (88)	14,381 (89)
Heart Failure	332 (7)	506 (4)	838 (5)
Any other CVD	729 (16)	1,624 (14)	2,353 (15)

Table 2. Early results on improvements to CKD care.

CKD CARE INDICATOR	RELATIVE CHANGE (FROM 2022)
% of Risk Patients with a Recent UACR Test:	> 300% Increase
% of High-Risk Patients with a Recent Prescription for:	
RAAS Inhibitor	19.0% Increase
SGLT2 Inhibitor	95.8% Increase
Non-Steroidal MRA	65.4% Increase

CONCLUSIONS

Integration of a highly accurate machine model for CKD progression when paired with EHR linked clinical decision support improves guideline recommended testing in patients with CKD.

Enrollment of additional sites and longer follow up will be needed to observe changes in goal directed medical therapy and patient outcomes.

Effects of these process improvements on clinical outcomes will be evaluated.

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REFERENCES

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