

**Supplemental Data Table S1.** Accuracy and imprecision of three estimated glomerular filtration rate equations

Group	eGFR equation			P		
	2009 CKD-EPI [A]	2021 CKD-EPI [B]	EKFC [C]	[A] vs. [B]	[A] vs. [C]	[B] vs. [C]
<b>Male (N=1,018)</b>						
Median bias* (95% CI)	-0.2 (-1.1-0.9)	2.9 (1.9-3.9)	-1.8 (-3.0 to -0.7)	<0.001	<0.001	<0.001
P30 <sup>†</sup> (95% CI), %	80.6 (78.1-83.0)	78.8 (76.3-81.3)	80.6 (78.1-83.0)	0.018	1.000	0.060
RMSE (95% CI)	17.3 (16.2-18.4)	17.3 (16.2-18.3)	17.1 (16.0-18.1)			
<b>Female (N=636)</b>						
Median bias* (95% CI)	4.6 (3.7-5.5)	7.4 (6.3-8.3)	1.7 (0.7-2.9)	<0.001	<0.001	<0.001
P30 <sup>†</sup> (95% CI), %	74.5 (71.1-77.9)	70.4 (66.9-74)	79.2 (76.1-82.4)	<0.001	<0.001	<0.001
RMSE (95% CI)	16.5 (15.1-17.8)	17.5 (16.2-18.7)	16.0 (14.5-17.4)			
<b>Age &lt;50 yr (N=395)</b>						
Median bias* (95% CI)	5.1 (3.3-6.9)	7.7 (6.1-9.8)	3.3 (1.7-4.7)	<0.001	<0.001	<0.001
P30 <sup>†</sup> (95% CI), %	75.9 (71.7-80.2)	74.2 (69.9-78.5)	79.5 (75.5-83.5)	0.065	0.007	<0.001
RMSE (95% CI)	22.7 (20.9-24.4)	23.2 (21.3-24.8)	20.1 (18.3-21.8)			
<b>50 ≤ Age &lt; 65 yr (N=617)</b>						
Median bias* (95% CI)	-0.6 (-1.8-1.1)	2.8 (1.2-4.0)	-2.0 (-3.5 to -0.7)	<0.001	<0.001	<0.001
P30 <sup>†</sup> (95% CI), %	80.2 (77.1-83.4)	78.4 (75.2-81.7)	81.4 (78.3-84.4)	0.099	0.281	0.020
RMSE (95% CI)	16.6 (15.2-18.0)	16.4 (15.0-17.7)	17.5 (15.9-18.9)			
<b>Age ≥ 65 yr (N=642)</b>						
Median bias* (95% CI)	1.9 (1.1-2.9)	5.1 (4.0-6.0)	-0.7 (-1.5-0.3)	<0.001	<0.001	<0.001
P30 <sup>†</sup> (95% CI), %	77.7 (74.5-80.9)	73.7 (70.3-77.1)	79.1 (76.0-82.3)	<0.001	0.200	<0.001
RMSE (95% CI)	12.7 (11.8-13.7)	13.7 (12.7-14.6)	13.2 (12.1-14.2)			
<b>Male, creatinine &lt;0.9 mg/dL (N=203)</b>						
Median bias* (95% CI)	-5.2 (-10.2-1.6)	0.0 (-5.3-6.4)	-10.8 (-15.2 to -5.0)	<0.001	<0.001	<0.001
P30 <sup>†</sup> (95% CI), %	81.8 (76.5-87.1)	80.8 (75.4-86.2)	84.7 (79.8-89.7)	0.727	0.210	0.152
RMSE (95% CI)	26.4 (23.8-28.9)	25.8 (23.2-28.1)	25.8 (23.0-28.4)			
<b>Male, creatinine 0.9 ≥ mg/dL (N=815)</b>						
Median bias* (95% CI)	0.0 (-0.8-1.1)	3.2 (2.4-4.2)	-1.3 (-2.4-0.0)	<0.001	<0.001	<0.001
P30 <sup>†</sup> (95% CI), %	80.2 (77.5-83.0)	78.3 (75.5-81.1)	79.5 (76.7-82.3)	0.023	0.430	0.237
RMSE (95% CI)	14.2 (13.1-15.1)	14.4 (13.4-15.3)	14.1 (13.1-15.0)			
<b>Female, creatinine &lt;0.7 mg/dL (N=136)</b>						
Median bias* (95% CI)	3.4 (-3.0-6.5)	6.6 (0.1-9.5)	-4.3 (-9.1-1.2)	<0.001	<0.001	<0.001
P30 <sup>†</sup> (95% CI), %	86.8 (81.1-92.5)	86.0 (80.2-91.9)	89.0 (83.7-94.2)	1.000	0.453	0.289
RMSE (95% CI)	22.5 (19.0-25.4)	22.6 (19.3-25.4)	22.2 (18.5-25.2)			
<b>Female, creatinine ≥0.7 mg/dL (N=500)</b>						
Median bias* (95% CI)	4.8 (3.8-5.6)	7.6 (6.3-8.7)	2.3 (1.4-3.3)	<0.001	<0.001	<0.001
P30 <sup>†</sup> (95% CI), %	71.2 (67.2-75.2)	66.2 (62.1-70.3)	76.6 (72.9-80.3)	<0.001	<0.001	<0.001
RMSE (95% CI)	14.5 (13.0-15.8)	15.8 (14.5-17.1)	13.9 (12.3-15.4)			
<b>mGFR &lt;15 mL/min/1.73 m<sup>2</sup> (N=114)</b>						
Median bias* (95% CI)	3.7 (2.5-4.6)	4.6 (3.5-5.5)	4.7 (3.2-5.2)	<0.001	<0.001	<0.001
P30 <sup>†</sup> (95% CI), %	35.1 (26.3-43.8)	31.6 (23-40.1)	32.5 (23.9-41.1)	0.344	0.549	1.000
RMSE (95% CI)	10.6 (7.7-12.9)	11.7 (8.6-14.1)	10.5 (7.7-12.7)			

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Supplemental Data Table S1. Continued

Group	eGFR equation			<i>P</i>		
	2009 CKD-EPI [A]	2021 CKD-EPI [B]	EKFC [C]	[A] vs. [B]	[A] vs. [C]	[B] vs. [C]
<b>15 ≤ mGFR &lt; 30 mL/min/1.73 m<sup>2</sup> (N=142)</b>						
Median bias* (95% CI)	4.6 (2.9–6.4)	6.7 (4.9–8.1)	4.6 (3.1–6.5)	<0.001	0.130	<0.001
P30 <sup>†</sup> (95% CI), %	51.4 (43.2–59.6)	46.5 (38.3–54.7)	53.5 (45.3–61.7)	0.065	0.453	0.002
RMSE (95% CI)	12.7 (8.6–15.7)	14.2 (10.2–17.3)	11.9 (8.2–14.7)			
<b>30 ≤ mGFR &lt; 45 mL/min/1.73 m<sup>2</sup> (N=183)</b>						
Median bias* (95% CI)	4.9 (3.7–6.2)	7.7 (6.5–9.2)	3.0 (2.0–5.2)	<0.001	<0.001	<0.001
P30 <sup>†</sup> (95% CI), %	69.9 (63.3–76.6)	62.8 (55.8–69.8)	72.1 (65.6–78.6)	0.001	0.219	<0.001
RMSE (95% CI)	12.4 (10.7–13.9)	14.4 (12.6–16.0)	11.3 (9.6–12.7)			
<b>45 ≤ mGFR &lt; 60 mL/min/1.73 m<sup>2</sup> (N=223)</b>						
Median bias* (95% CI)	3.4 (1.9–5.6)	7.0 (5.4–9.1)	1.5 (–0.1–3.0)	<0.001	<0.001	<0.001
P30 <sup>†</sup> (95% CI), %	78.0 (72.6–83.5)	71.3 (65.4–77.2)	83.9 (79.0–88.7)	<0.001	0.002	<0.001
RMSE (95% CI)	14.4 (12.1–16.3)	16.4 (14.1–18.4)	12.2 (10.6–13.6)			
<b>60 ≤ mGFR &lt; 90 mL/min/1.73 m<sup>2</sup> (N=544)</b>						
Median bias* (95% CI)	3.5 (2.2–4.8)	7.8 (6.4–9.1)	0.2 (–1.2–1.3)	<0.001	<0.001	<0.001
P30 <sup>†</sup> (95% CI), %	87.5 (84.7–90.3)	85.1 (82.1–88.1)	90.3 (87.8–92.7)	0.011	0.008	<0.001
RMSE (95% CI)	15.2 (13.9–16.5)	16.9 (15.5–18.1)	12.8 (12.0–13.7)			
<b>mGFR ≥ 90 mL/min/1.73 m<sup>2</sup> (N=448)</b>						
Median bias* (95% CI)	–11.7 (–13.6 to –10.0)	–7.5 (–9.2 to –5.4)	–16.2 (–18.1 to –14.2)	<0.001	<0.001	<0.001
P30 <sup>†</sup> (95% CI), %	90.0 (87.2–92.7)	91.7 (89.2–94.3)	89.5 (86.7–92.3)	0.077	0.839	0.143
RMSE (95% CI)	23.3 (21.6–24.9)	21.2 (19.6–22.7)	25.1 (23.2–26.8)			

\*Bias is calculated as eGFR minus mGFR, and the units are mL/min/1.73 m<sup>2</sup>. The Wilcoxon signed-rank test was used to compare the bias between eGFR equations; †P30 is the proportion of eGFR within 30% of mGFR. The P30 of the three eGFR equations was compared using the McNemar test.

Conversion factors for units: serum creatinine in mg/dL to μmol/L, 88.4×.

Abbreviations: BMI, body mass index; Chronic Kidney Disease Epidemiology Collaboration; CI, confidence interval; eGFR, estimated glomerular filtration rate; EKFC, European Kidney Function Consortium; mGFR, measured glomerular filtration rate; RMSE, root mean square error