

Supplementary Table 1 Baseline characteristics of adult KPGA members with diabetes included and not included in study

Characteristic	Included	Not included*
<i>N</i>	22,854	15,216
<i>Demographics</i>		
Age (years, mean (SD))	59.4 (13.0)	55.9 (15.0)
Men (%)	44.5	45.4
Race (%)		
White	32.6	35.4
Black	57.4	49.9
Other	10.0	14.9
Social Vulnerability Index (%)		
Quartile 1 (low vulnerability)	22.8	23.6
Quartile 2	28.6	28.2
Quartile 3	27.3	26.1
Quartile 4 (high vulnerability)	21.3	21.9
Household income (\$USD; %)	70,300 (27,300)	69,900 (27,200)
≤\$50,000	24.0	24.6
\$50,001-\$100,000	64.1	63.6
\$100,001-\$150,000	10.1	9.6
>\$150,000	1.9	1.7
<i>Healthcare access</i>		
Flu shot in 2018 (%)	68.6	53.6
Wellness visit in 2018 (%)	66.4	53.1
<i>Comorbidities</i>		
Body Mass Index kg/m ² (mean (SD))	33.1 (7.15)	33.2 (7.45)
BMI (%)		
Not obese (<30 kg/m ²)	37.0	37.4
Obese (≥30 kg/m ²)	62.6	62.5
Smoker (%)	10.7	13.0
Hypertension (%)	81.7	72.8
Depression (%)	29.4	29.2
Chronic lung disease (%)	36.5	30.6
Renal failure (%)	20.2	18.7
Congestive heart failure (%)	12.9	14.7
Peripheral vascular disease (%)	26.8	19.8
Retinopathy	31.6	22.0
Neuropathy	22.5	20.7

Abbreviations: BMI = body mass index; SD = standard deviation); USD = United States dollars;

*Not included because died (n=2,159) or discontinued enrolment with KPGA (n=13,057) during follow-up

Supplementary Table 2 Linear GEE regression comparing mean diabetes care measurements in the during vs. pre pandemic period among KPGA adult members with prevalent diabetes who did and did not meeting annual screening guidelines for each care measurement, 2018-2021

Diabetes Care Process	Met annual guidelines				Did not meet annual guidelines			
	Pre-Pandemic (2018-2019)	During Pandemic (2020-2021)	Absolute Change (During vs. Pre)	Mean Difference (95%CI)*	Pre-Pandemic (2018-2019)	During Pandemic (2020-2021)	Absolute Change (During vs. Pre)	Mean Difference (95%CI)*
HbA1c (mean; %)	7.4 (1.6)	7.4 (1.6)	+0.09	0.12 (0.10, 0.14)	6.6 (1.9)	7.0 (2.1)	+0.35	0.31 (0.24, 0.38)
Systolic BP (mean (SD); mmHg)	132.3 (11.9)	134.0 (12.3)	+1.70	1.28 (1.14, 1.42)	134.0 (16.9)	133.2 (16.3)	-0.73	-1.11 (-2.32, 0.11)
Diastolic BP (mean (SD); mmHg)	72.2 (8.6)	71.9 (8.9)	-0.35	0.31 (0.22, 0.39)	75.9 (10.9)	74.9 (10.5)	-1.00	0.03 (-0.57, 0.64)
LDL cholesterol (mean (SD); mg/dL)	100.1 (42.0)	89.8 (34.5)	-10.3	-8.00 (-8.93, 7.06)	102.3 (40.2)	94.2 (37.8)	-8.1	-7.58 (-8.39, -6.76)
Creatinine (mean (SD) mg/dL)	1.1 (0.6)	1.1 (0.7)	+0.02	0.01 (0.00, 0.02)	1.1 (1.1)	1.1 (1.1)	+0.03	-0.05 (-0.07, -0.04)
				Odds Ratio (95%CI)				Odds Ratio (95%CI)
UACR (% >300mg/g)**	7.3	11.5	+4.2	1.62 (1.45, 1.81)	5.6	7.1	+1.5	1.29 (1.12, 1.47)

*Compares during vs. pre period, adjusted for baseline age; a 95%CI that doesn't include 0 is significant

**UACR was highly skewed and thus we compared the proportion of those with high risk of kidney disease (UACR >300 mg/g) pre and during the pandemic, and reported OR (95%CI) adjusted for baseline age

Missingness: Pre-Pandemic: HbA1c = 6.7%; BP = 1.7%; cholesterol = 19.0%; creatinine = 7.0%; UACR = 31.8%

During Pandemic: HbA1c = 8.2%; BP = 13.2%; cholesterol = 26.8%; creatinine = 6.3%; UACR = 39.4%

Abbreviations: BP = Blood Pressure; GEE = generalized estimating equation; IQR = interquartile range; KPGA = Kaiser Permanente Georgia; UACR = Urine-albumin-creatinine ratio

Supplementary Table 3 Logistic GEE regression comparing odds of completing at least one diabetes screening in the during vs. pre pandemic period among KPGA adult members with prevalent diabetes 2018-2021

Diabetes Care Process	% Meeting Guidelines		Absolute Change (During vs. Pre)	Odds Ratio (95%CI)*
	Pre-Pandemic (2018-2019)	During Pandemic (2020-2021)		
HbA1c	93.8	92.70	-1.1	0.83 (0.77, 0.90)
Blood Pressure	98.4	96.4	-2.0	0.43 (0.38, 0.49)
Cholesterol	81.6	74.3	-7.3	0.65 (0.62, 0.68)
Creatinine	93.6	94.6	1.0	1.20 (1.10, 1.30)
UACR	68.7	61.4	-7.3	0.72 (0.69, 0.75)
Eye exam	40.9	39.2	-1.7	0.92 (0.88, 0.96)
Foot exam	6.0	5.3	-0.7	0.88 (0.81, 0.95)

*Compares during vs. pre period, adjusted for baseline age.

Abbreviations: GEE = generalized estimating equation; KPGA = Kaiser Permanente Georgia; UACR = Urine-albumin-creatinine ratio

Supplementary Table 4 Logistic GEE regression comparing odds of completing at least one diabetes screening in the during vs. pre pandemic period among KPGA adult members with prevalent diabetes 2018-2021, stratified by age, sex, and race

Diabetes Care Process	% Meeting Guidelines		Absolute change (During vs. Pre)	Odds Ratio (95%CI)*
	Pre Pandemic (2018-2019)	During Pandemic (2020-2021)		
By Age				
<i><50 years</i>				
HbA1c	88.2	86.4	-1.8	0.82 (0.74, 0.91)
Blood Pressure	97.4	94.5	-2.9	0.46 (0.38, 0.57)
Cholesterol	75.5	66.4	-9.1	0.64 (0.59, 0.70)
Creatinine	85.6	88.2	2.6	1.25 (1.11, 1.40)
UACR	54.5	48.4	-6.1	0.78 (0.72, 0.85)
Eye exam	15.5	13.9	-1.6	0.88 (0.79, 0.99)
Foot exam	1.3	1.1	-0.2	NR
<i>≥ 50 years</i>				
HbA1c	95.4	94.5	-0.9	0.89 (0.78, 1.01)
Blood Pressure	98.7	97	-1.7	0.42 (0.36, 0.49)
Cholesterol	83.3	76.5	-6.8	0.65 (0.62, 0.69)
Creatinine	96	96.4	0.4	1.14 (1.02, 1.27)
UACR	72.8	65.1	-7.7	0.70 (0.67, 0.73)
Eye exam	48.2	46.5	-1.7	0.93 (0.9, 0.97)
Foot exam	7.3	6.5	-0.8	0.88 (0.81, 0.95)
By Sex				
<i>Women</i>				
HbA1c	93.6	92.2	-1.4	0.81 (0.73, 0.90)
Blood Pressure	98.9	97	-1.9	0.36 (0.29, 0.43)
Cholesterol	81.3	73.5	-7.8	0.64 (0.60, 0.68)
Creatinine	93.7	94.4	0.7	1.13 (1.01, 1.27)
UACR	64	57.1	-6.9	0.74 (0.70, 0.78)
Eye exam	41.7	39.7	-2	0.90 (0.85, 0.96)
Foot exam	5.3	4.4	-0.9	0.82 (0.73, 0.92)
<i>Men</i>				
HbA1c	94.1	93.3	-0.8	0.87 (0.77, 0.98)
Blood Pressure	97.8	95.7	-2.1	0.50 (0.42, 0.59)
Cholesterol	81.9	75.2	-6.7	0.67 (0.62, 0.72)
Creatinine	93.5	94.8	1.3	1.28 (1.13, 1.45)
UACR	74.6	66.8	-7.8	0.68 (0.64, 0.73)
Eye exam	39.9	38.7	-1.2	0.94 (0.88, 1.0)
Foot exam	6.8	6.4	-0.4	0.93 (0.83, 1.04)
By Race				
<i>White</i>				
HbA1c	93.2	92.5	-0.7	0.89 (0.79, 1.02)
Blood Pressure	98.6	96.7	-1.9	0.42 (0.33, 0.52)
Cholesterol	83.9	77.5	-6.4	0.66 (0.61, 0.72)
Creatinine	94.0	94.6	0.6	1.12 (0.96, 1.29)
UACR	65.8	57.7	-8.1	0.70 (0.66, 0.75)
Eye exam	44.2	42.1	-2.1	0.90 (0.83, 0.97)
Foot exam	5.6	5.4	-0.2	0.97 (0.84, 1.11)

<i>Black</i>				
HbA1c	94.2	93.0	-1.2	0.81 (0.73, 0.90)
Blood Pressure	98.5	96.5	-2	0.42 (0.35, 0.50)
Cholesterol	79.6	71.6	-8	0.65 (0.61, 0.69)
Creatinine	93.6	94.9	1.3	1.26 (1.13, 1.41)
UACR	70.9	64.1	-6.8	0.73 (0.69, 0.77)
Eye exam	39.3	38.2	-1.1	0.94 (0.89, 1.00)
Foot exam	6.8	5.9	-0.9	0.85 (0.77, 0.94)
<i>Other</i>				
HbA1c	93.6	91.8	-1.8	0.76 (0.61, 0.96)
Blood Pressure	97.2	94.9	-2.3	0.52 (0.38, 0.72)
Cholesterol	85.7	78.9	-6.8	0.62 (0.53, 0.72)
Creatinine	92.5	93.1	0.6	1.12 (0.96, 1.29)
UACR	65.5	57.7	-7.8	0.71 (0.63, 0.80)
Eye exam	39.1	35.7	-3.4	0.84 (0.73, 0.96)
Foot exam	2.6	1.7	-0.9	0.65 (0.43, 0.98)

*Compares during vs. pre period, adjusted for baseline age.

Abbreviations: GEE = generalized estimating equation; KPGA = Kaiser Permanente Georgia; UACR = Urine-albumin-creatinine ratio

Supplementary Table 5 Logistic GEE regression comparing odds of completing meeting annual diabetes care guidelines in the during vs. pre pandemic period among KPGA adult members with prevalent diabetes 2018-2021 and excluding people with prevalent retinopathy, neuropathy, or CHF*

Diabetes Care Process	% Meeting Annual Guidelines		Absolute Change (During vs. Pre)	Odds Ratio (95%CI)**
	Pre-Pandemic (2018-2019)	During Pandemic (2020-2021)		
<i>Overall population</i>				
HbA1c	79.0	75.1	-3.9	0.80 (0.76, 0.83)
Blood Pressure	91.0	76.8	-14.2	0.32 (0.30, 0.35)
Cholesterol	37.9	28.1	-9.8	0.63 (0.60, 0.67)
Creatinine	68.9	67.1	-1.8	0.92 (0.87, 0.97)
UACR	26.1	22.7	-3.4	0.83 (0.78, 0.88)
Eye exam	8.8	7.1	-1.7	0.77 (0.70, 0.86)
Foot exam	0.3	0.2	-0.1	0.51 (0.30, 0.88)

*Study population N=12,347

**Compares during vs. pre period, adjusted for baseline age.

Abbreviations: CHF = congestive heart failure; GEE = generalized estimating equation; KPGA = Kaiser Permanente Georgia; UACR = Urine-albumin-creatinine ratio

Supplementary Table 6 Logistic GEE regression comparing odds of meeting annual diabetes care guidelines in the during vs. pre pandemic period among KPGA adult members with prevalent diabetes 2018-2021, stratified by age, sex, and race and excluding people with prevalent retinopathy, neuropathy, or CHF*

Diabetes Care Process	% Meeting Annual Guidelines		Absolute change (During vs. Pre)	Odds Ratio (95%CI)**
	Pre Pandemic (2018-2019)	During Pandemic (2020-2021)		
By Age				
<i><50 years</i>				
HbA1c	64.2	60.5	-3.7	0.85 (0.79, 0.92)
Blood Pressure	87.6	70.7	-16.9	0.34 (0.30, 0.38)
Cholesterol	29.7	20.5	-9.2	0.61 (0.55, 0.68)
Creatinine	53.4	54.5	1.1	1.04 (0.96, 1.14)
UACR	20.1	16.6	-3.5	0.79 (0.71, 0.89)
Eye exam	1.8	1.7	-0.1	0.94 (0.67, 1.32)
Foot exam	0.1	0.0	-0.1	NR
<i>≥ 50 years</i>				
HbA1c	83.2	79.3	-3.9	0.77 (0.73, 0.82)
Blood Pressure	92.6	79.7	-12.9	0.31 (0.29, 0.35)
Cholesterol	41.7	31.6	-10.1	0.72 (0.69, 0.75)
Creatinine	76.1	72.9	-3.2	0.85 (0.79, 0.91)
UACR	28.9	25.5	-3.4	0.79 (0.71, 0.89)
Eye exam	12.1	9.6	-2.5	0.78 (0.70, 0.85)
Foot exam	0.4	0.2	-0.2	Not reported
By Sex				
<i>Women</i>				
HbA1c	77.3	73.4	-3.9	0.80 (0.75, 0.85)
Blood Pressure	93.1	79.9	-13.2	0.29 (0.26, 0.32)
Cholesterol	36.3	26.3	-10	0.62 (0.58, 0.67)
Creatinine	68.4	65.7	-2.7	0.87 (0.81, 0.94)
UACR	22.5	19.5	-3	0.83 (0.77, 0.90)
Eye exam	8.3	7	-1.3	0.82 (0.72, 0.94)
Foot exam	0.3	0.1	-0.2	NR
<i>Men</i>				
HbA1c	81	77.2	-3.8	0.79 (0.74, 0.85)
Blood Pressure	88	72.5	-15.5	0.35 (0.31, 0.38)
Cholesterol	40.2	30.6	-9.6	0.65 (0.60, 0.71)
Creatinine	69.5	69.1	-0.4	0.98 (0.90, 1.07)
UACR	31.3	27.3	-4	0.82 (0.76, 0.90)
Eye exam	9.5	7.2	-2.3	0.71 (0.6, 0.84)
Foot exam	0.4	0.2	-0.2	NR
By Race				
<i>White</i>				
HbA1c	78.2	75.1	-3.1	0.78 (0.73, 0.83)
Blood Pressure	91.7	78.3	-13.4	0.32 (0.28, 0.36)
Cholesterol	42.1	31.4	-10.7	0.62 (0.57, 0.68)
Creatinine	69.9	67.7	-2.2	0.89 (0.81, 0.99)
UACR	24	19.9	-4.1	0.78 (0.70, 0.87)
Eye exam	11.3	9.1	-2.2	0.77 (0.65, 0.91)

Foot exam	0.2	0.2	0.0	NR
<i>Black</i>				
HbA1c	79.3	75.1	-4.2	0.78 (0.73, 0.83)
Blood Pressure	91.3	77.4	-13.9	0.32 (0.29, 0.36)
Cholesterol	33.8	24.7	-9.1	0.64 (0.59, 0.69)
Creatinine	68.8	67.3	-1.5	0.93 (0.87, 1.00)
UACR	27.3	24.5	-2.8	0.86 (0.80, 0.93)
Eye exam	7.8	6.4	-1.4	0.80 (0.69, 0.92)
Foot exam	0.4	0.2	-0.2	NR
<i>Other</i>				
HbA1c	79.3	75.2	-4.1	0.78 (0.68, 0.90)
Blood Pressure	87.7	69.5	-18.2	0.32 (0.26, 0.39)
Cholesterol	47.5	36.2	-11.3	0.62 (0.53, 0.73)
Creatinine	66.4	64	-2.4	0.89 (0.76, 1.05)
UACR	25.7	21.1	-4.6	0.77 (0.64, 0.92)
Eye exam	7.3	4.8	-2.5	0.63 (0.45, 0.87)
Foot exam	0.1	0.0	-0.1	NR

*Study population N=12,347

**Compares during vs. pre period, adjusted for baseline age.

Abbreviations: CHF = congestive heart failure; GEE = generalized estimating equation; KPGA = Kaiser Permanente Georgia; UACR = Urine-albumin-creatinine ratio

NR = not reported due to small sample size