Sex Differences in the Recognition, Monitoring and Management of Chronic Kidney Disease in Health Care – Observational Cohort Study

Supplemental Contents

eTable 1. Definition of comorbidities using ICD-10 codes and medications using anatomical therapeutic chemical codes

Comorbidity	ICD-10 codes
Myocardial infarction	I21.x, I22.x, I25.2
Congestive heart failure	I09.9, I11.0, I13.0, I13.2, I25.5, I42.0, I42.5-I42.9, I43.x, I50.x, P29.0
Peripheral vascular disease	I70.x, I71.x, I73.1, I73.8, I73.9, I77.1, I79.0, I79.2, K55.1, K55.8, K55.9, Z95.8, Z95.9
Cerebrovascular disease	G45.x, G46.x, H34.0, I60.x-I69.x
Ischemic stroke	G45.x, H34.0, I63.x-69.x
Dementia	F00.x-F03.x, F05.1, G30.x, G31.3
Chronic pulmonary disease	I27.8, I27.9, J40.x-J47.x, J60.x-J67.x, J68.4, J70.1, J70.3
Diabetes	E10.0, E.10.1, E10.6, E10.8, E10.9, E11.0, E11.1, E11.6, E11.8, E11.9, E12.0, E12.1, E12.6, E12.8, E12.9, E13.0, E13.1, E13.6, E13.8, E13.9, E14.0, E14.1, E14.6, E14.8, E14.9, E10.2-E10.5, E10.7, E11.2-E12.5, E12.7, E13.2-E13.5, E13.7, E14.2-E14.5, E14.7
Chronic kidney disease	E11.2, I13.1, I12.0, I13.2, N03.2-N03.7, N05.2-N05.7, N18.x, N19.x, N25.0, Z49.0-Z49.2, Z94.0, Z99.2
Malignancy, except skin tumors	C00.x-C26.x, C30.x-C34.x, C37.x-C41.x, C43.x, C45.x-C58.x, C60.x-C76.x, C81.x-C85.x, C88.x, C90.x-C97.x, C77.x-C80.x
Hypertension	I10.x-15.x except I13.1, I12.0, I13.2
Anatomical therapeutic chemical codes for medications	
Renin-angiotensin system inhibitors	C09
Statins	C10AA
Calcium channel blockers	C08
Beta-blocking agents	C07
Diuretics	C03
Other antihypertensive agents	C02

Comorbidities were identified using registrations dating back to 1997, except for malignancy, which was only evaluated during the 3 years prior to index date.
Medications were considered to be ongoing if a pharmacy fill occurred at index date or up to six months before.

eTable 2. Baseline characteristics for healthcare users at first eGFR measurement <60 mL/min/1.73m^2 in the Stockholm region from 2009 to 2017, overall and stratified by sex.

Characteristics	Men	Women	Overall
No. of individuals	101,558 (45%)	126,289 (55%)	227,847
Age, years	74 [66–81]	77 [68–85]	76 [67–83]
Age categories, years			
<65	24,146 (24%)	22,626 (18%)	46,772 (21%)
≥65 to <75	31,480 (31%)	32,503 (26%)	63,983 (28%)
≥75	45,932 (45%)	71,160 (56%)	117,092 (51%)
eGFR, mL/min/1.73m^2	51 ±10	51 ±10	51 ±10
CKD category			
G3a	80,738 (80%)	100,802 (80%)	181,540 (80%)
G3b	14,780 (15%)	19,427 (15%)	34,207 (15%)
G4	4,702 (5%)	5,071 (4%)	9,773 (4%)
G5ND	1,338 (1%)	989 (1%)	2,327 (1%)
Albuminuria			
No albuminuria test	67,303 (66%)	88,242 (70%)	155,45 (68%)
A1	19,556 (19%)	27,750 (22%)	47,306 (21%)
A2	9,321 (9%)	7,169 (6%)	16,490 (7%)
A3	5,378 (5%)	3,128 (2%)	8,506 (4%)
CKD diagnosis (ICD-10)	7,051 (7%)	4,277 (3%)	11,328 (5%)
History of nephrologist referral	5,906 (6%)	4,600 (4%)	10,506 (5%)
Meeting KDIGO criteria for referral among non-referred[a]	14,400 (15%)	13,616 (11%)	28,016 (13%)
Meeting regional criteria for referral among non-referred[b]	8,889 (9%)	8,576 (7%)	17,475 (8%)
Comorbidities			
Hypertension	62,508 (62%)	79,180 (63%)	141,688 (62%)
Diabetes	23,531 (23%)	21,179 (17%)	44,710 (20%)
Myocardial infarction	15,054 (15%)	10,235 (8%)	25,289 (11%)
Congestive heart failure	19,752 (20%)	21,091 (17%)	40,843 (18%)
Peripheral vascular disease	9,820 (10%)	7,947 (6%)	17,767 (8%)
Cerebrovascular disease	17,442 (17%)	18,212 (14%)	35,654 (16%)
Dementia	4,988 (5%)	8,713 (7%)	13,701 (6%)
Chronic pulmonary disease	15,007 (15%)	23,082 (18%)	38,089 (17%)
Recent cancer (3 years)	21,637 (21%)	19,106 (15%)	40,743 (18%)
Medications			
RASi	57,044 (56%)	58,909 (47%)	115,953 (51%)
Beta-blocking agents	47,735 (47%)	55,063 (44%)	102,798 (45%)
Diuretics	37,800 (37%)	54,531 (43%)	92,331 (41%)
Calcium channel blockers	29,557 (29%)	31,635 (25%)	61,192 (27%)
Other antihypertensives	3,005 (3%)	974 (1%)	3,979 (2%)
Statins	38,764 (38%)	36,342 (29%)	75,106 (33%)
Highest educational attainment			
Missing	2,494 (2%)	4,253 (3%)	6,747 (3%)
Compulsory school	26,825 (26%)	41,811 (38%)	68,636 (30%)
Secondary school	41,205 (41%)	47,999 (38%)	89,204 (39%)
University education	31,034 (31%)	32,226 (26%)	63,260 (28%)

Values for continuous data are mean ±SD or median [IQR] and count (%) for categorical data. Percent may not equal 100% due to rounding.

Abbreviations: eGFR, estimated glomerular filtration rate; IQR, interquartile range; SD, standard deviation; CKD, chronic kidney disease; ND, non-dialysis dependent; KDIGO, Kidney Disease: Improving Global Outcomes; RASi, renin-angiotensin system inhibitors.

[a]Meeting KDIGO referral criterion of eGFR <30 mL/min/1.73m^2, presence of albuminuria A3, or CKD and refractory hypertension.

[b]Meeting regional referral criterion of age <50 years, albuminuria A3 and age 50–80 years, albumin-creatinine ratio >100 mg/mmol and age >80 years, or eGFR <30 mL/min/1.73m^2 and age >80 years.

eTable 3. Baseline characteristics of healthcare users at first occurrence of an eGFR measurement <60 mL/min/1.73m^2 each year, by year of inclusion, in the Stockholm region from 2009 to 2017

	2009		2010		2011		2012		2013	
Characteristics	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
No. of individuals	30,961 (41%)	44,097 (59%)	29,965 (42%)	40,617 (58%)	29,733 (43%)	39,694 (57%)	30,442 (43%)	40,114 (57%)	33,272 (43%)	43,389 (57%)
Age, years	78 [69–84]	81 [73–87]	78 [69–85]	81 [73–87]	78 [69–85]	82 [73–88]	77 [69–84]	81 [73–87]	77 [69–84]	81 [72–87]
Age categories, years										
<65	4,911 (16%)	5,158 (12%)	4,577 (15%)	4,167 (10%)	4,483 (15%)	4,072 (10%)	4,504 (15%)	4,342 (11%)	5,008 (15%)	4,646 (11%)
≥65 to <75	7,900 (26%)	8,225 (19%)	7,665 (26%)	7,595 (19%)	7,818 (26%)	7,474 (19%)	8,469 (28%)	8,216 (20%)	9,486 (29%)	9,204 (21%)
≥75	18,150 (59%)	30,714 (70%)	17,723 (59%)	28,855 (71%)	17,432 (59%)	28,148 (71%)	17,469 (57%)	27,586 (69%)	18,778 (56%)	29,539 (68%)
eGFR, mL/min/1.73m^3	48 ±11	48 ±11	47 ±11	47 ±11	47 ±12	47 ±11	48 ±11	48 ±11	48 ±11	48 ±11
CKD category										
G3a	21,151 (68%)	30,201 (68%)	19,892 (66%)	27,017 (67%)	19,890 (67%)	26,500 (67%)	20,764 (68%)	27,239 (68%)	22,902 (69%)	29,571 (68%)
G3b	6,909 (22%)	10,472 (24%)	7,166 (24%)	10,175 (25%)	6,933 (23%)	9,833 (25%)	6,807 (22%)	9,636 (24%)	7,442 (22%)	10,470 (24%)
G4	2,365 (8%)	2,944 (7%)	2,367 (8%)	3,000 (7%)	2,375 (8%)	2,906 (7%)	2,370 (8%)	2,874 (7%)	2,375 (7%)	2,917 (7%)
G5ND	536 (2%)	480 (1%)	540 (2%)	425 (1%)	535 (2%)	455 (1%)	501 (2%)	395 (1%)	553 (2%)	431 (1%)
Albuminuria										
No albuminuria test	19,529 (63%)	29,389 (67%)	18,911 (63%)	27,470 (68%)	19,161 (64%)	27,724 (70%)	19,944 (66%)	28,213 (70%)	21,496 (65%)	30,413 (70%)
A1	5,817 (19%)	10,246 (23%)	5,406 (18%)	8,908 (22%)	5,147 (17%)	8,258 (21%)	5,321 (17%)	8,505 (21%)	6,147 (19%)	9,348 (22%)
A2	3,397 (11%)	3,123 (7%)	3,451 (12%)	3,002 (7%)	3,293 (11%)	2,554 (6%)	3,159 (10%)	2,340 (6%)	3,401 (10%)	2,468 (6%)
A3	2,218 (7%)	1,339 (3%)	2,197 (7%)	1,237 (3%)	2,132 (7%)	1,158 (3%)	2,018 (7%)	1,086 (3%)	2,228 (7%)	1,160 (3%)
CKD diagnosis (ICD-10)	4,647 (15%)	3,057 (7%)	5,030 (17%)	3,359 (8%)	5,521 (19%)	3,649 (9%)	5,843 (20%)	3,899 (10%)	6,434 (19%)	4,341 (10%)
History of nephrologist referral	3,160 (10%)	2,512 (6%)	3,416 (11%)	2,617 (6%)	3,713 (12%)	2,734 (7%)	4,009 (13%)	3,002 (7%)	4,354 (13%)	3,262 (8%)
Meeting KDIGO criteria for referral among non-referred[a]	4,888 (18%)	5,746 (14%)	4,626 (17%)	5,493 (14%)	4,476 (17%)	5,373 (15%)	4,290 (16%)	5,213 (14%)	4,618 (16%)	5,334 (13%)
Meeting regional criteria for referral among non-referred[b]	2,402 (9%)	2,984 (7%)	2,303 (9%)	2,846 (8%)	2,157 (8%)	2,781 (7%)	2,096 (8%)	2,685 (7%)	2,188 (8%)	2,682 (7%)
Comorbidities										
Hypertension	19,915 (64%)	29,086 (66%)	20,307 (68%)	28,608 (70%)	20,975 (71%)	28,904 (73%)	22,192 (73%)	29,758 (74%)	24,457 (74%)	32,346 (75%)
Diabetes	8,335 (27%)	8,945 (20%)	8,320 (28%)	8,666 (21%)	8,457 (28%)	8,761 (22%)	8,600 (28%)	8,850 (22%)	9,380 (28%)	9,455 (22%)
Myocardial infarction	5,970 (19%)	4,989 (11%)	5,915 (20%)	4,745 (12%)	5,857 (20%)	4,702 (12%)	5,829 (19%)	4,536 (11%)	6,279 (19%)	4,615 (11%)
Congestive heart failure	8,509 (27%)	10,644 (24%)	8,353 (28%)	10,342 (25%)	8,284 (28%)	10,113 (25%)	8,152 (27%)	9,914 (25%)	8,642 (26%)	10,098 (23%)
Peripheral vascular disease	3,979 (13%)	3,606 (8%)	4,011 (13%)	3,623 (9%)	4,121 (14%)	3,609 (9%)	4,195 (14%)	3,615 (9%)	4,444 (13%)	3,855 (9%)
Cerebrovascular disease	6,610 (21%)	7,706 (17%)	6,525 (22%)	7,520 (19%)	6,589 (22%)	7,423 (19%)	6,719 (22%)	7,531 (19%)	7,147 (21%)	8,106 (19%)
Dementia	1,904 (6%)	3,738 (8%)	1,887 (6%)	3,628 (9%)	1,938 (7%)	3,647 (9%)	1,910 (6%)	3,545 (9%)	2,017 (6%)	3,846 (9%)
Chronic pulmonary disease	4,720 (15%)	7,565 (17%)	4,690 (16%)	7,600 (19%)	4,877 (16%)	7,744 (20%)	5,091 (17%)	8,364 (21%)	5,653 (17%)	9,171 (21%)
Recent cancer (3 years)	7,564 (24%)	6,744 (15%)	7,231 (24%)	6,251 (15%)	7,287 (25%)	6,215 (16%)	7,468 (25%)	6,408 (16%)	7,920 (24%)	6,724 (16%)
Medications										
RASi	17,789 (57%)	20,599 (47%)	17,708 (59%)	20,162 (50%)	18,197 (61%)	20,535 (52%)	18,938 (62%)	21,324 (53%)	20,807 (63%)	23,232 (54%)
Beta-blocking agents	16,511 (53%)	21,689 (49%)	16,130 (54%)	20,417 (50%)	16,087 (54%)	20,256 (51%)	16,351 (54%)	20,329 (51%)	17,712 (53%)	21,759 (50%)
Diuretics	15,385 (50%)	24,634 (56%)	14,683 (49%)	22,814 (56%)	14,163 (48%)	21,761 (55%)	13,862 (46%)	20,755 (52%)	14,231 (43%)	21,259 (49%)
Calcium channel blockers	9,227 (30%)	11,512 (26%)	9,267 (31%)	11,058 (27%)	9,455 (32%)	11,029 (28%)	9,900 (33%)	11,448 (29%)	11,101 (33%)	12,517 (29%)
Other antihypertensives	768 (2%)	318 (1%)	832 (3%)	291 (1%)	872 (3%)	293 (1%)	935 (3%)	349 (1%)	1,054 (3%)	394 (1%)
Statins	12,884 (42%)	13,765 (31%)	12,883 (43%)	13,130 (32%)	12,850 (43%)	12,813 (32%)	13,048 (43%)	12,883 (32%)	14,432 (43%)	13,824 (32%)
Highest educational attainment										
Missing	946 (3%)	1,752 (4%)	830 (3%)	1,547 (4%)	826 (3%)	1,425 (4%)	734 (2%)	1,330 (3%)	779 (2%)	1,399 (3%)
Compulsory school	9,285 (30%)	17,879 (41%)	8,823 (29%)	16,311 (40%)	8,588 (29%)	15,560 (40%)	8,557 (28%)	15,037 (37%)	8,916 (27%)	15,631 (36%)
Secondary school	12,369 (40%)	16,066 (36%)	12,077 (40%)	15,011 (37%)	11,941 (40%)	14,674 (37%)	12,253 (40%)	15,107 (37%)	13,438 (40%)	16,360 (38%)
University education	8,361 (27%)	8,400 (19%)	8,235 (27%)	7,748 (19%)	8,378 (28%)	7,905 (20%)	8,898 (29%)	8,760 (22%)	10,139 (30%)	9,999 (23%)

eTable 3 (Cont'd).	2014		2015		2016		2017	
Characteristics	Men	Women	Men	Women	Men	Women	Men	Women
No. of individuals	34,640 (44%)	44,152 (56%)	36,802 (44%)	45,946 (56%)	36,991 (45%)	45,398 (55%)	40,135 (45%)	49,284 (55%)
Age, years	77 [69–84]	80 [72–87]	77 [69–84]	80 [72–87]	77 [70–84]	80 [72–87]	77 [70–84]	79 [72–87]
Age categories, years								
<65	5,076 (15%)	4,634 (11%)	5,565 (15%)	4,992 (11%)	5,420 (15%)	4,766 (11%)	6,039 (15%)	5,518 (11%)
≥65 to <75	9,997 (29%)	9,971 (23%)	10,718 (29%)	10,475 (23%)	10,610 (29%)	10,531 (23%)	11,570 (29%)	11,690 (24%)
≥75	19,567 (56%)	29,547 (67%)	20,519 (56%)	30,479 (66%)	20,961 (57%)	30,101 (66%)	22,526 (56%)	32,076 (65%)
eGFR, mL/min/1.73m^3	48 ±11	48 ±11	48 ±11	48 ±10	48 ±11	48 ±10	48 ±11	48 ±10
CKD category								
G3a	23,942 (69%)	30,378 (69%)	25,602 (70%)	31,746 (69%)	26,020 (70%)	31,718 (70%)	28,403 (71%)	34,796 (71%)
G3b	7,670 (22%)	10,492 (24%)	8,147 (22%)	10,843 (24%)	7,943 (21%)	10,364 (23%)	8,572 (21%)	11,171 (23%)
G4	2,478 (7%)	2,878 (7%)	2,485 (7%)	2,945 (6%)	2,507 (7%)	2,892 (6%)	2,625 (7%)	2,925 (6%)
G5ND	550 (2%)	404 (1%)	568 (2%)	412 (1%)	521 (1%)	424 (1%)	535 (1%)	392 (1%)
Albuminuria								
No albuminuria test	19,822 (57%)	28,456 (64%)	19,483 (53%)	27,519 (57%)	18,297 (49%)	25,770 (57%)	19,153 (48%)	26,912 (55%)
A1	7,701 (22%)	11,299 (26%)	9,062 (25%)	13,189 (29%)	9,541 (26%)	13,880 (31%)	10,825 (27%)	15,790 (32%)
A2	4,376 (13%)	3,047 (7%)	5,093 (14%)	3,669 (8%)	5,706 (15%)	4,009 (9%)	6,365 (16%)	4,694 (10%)
A3	2,741 (8%)	1,350 (3%)	3,164 (9%)	1,569 (3%)	3,447 (9%)	1,739 (4%)	3,792 (9%)	1,888 (4%)
CKD diagnosis (ICD-10)	7,225 (21%)	4,919 (11%)	7,934 (22%)	5,557 (12%)	8,833 (24%)	6,167 (14%)	9,892 (25%)	6,910 (14%)
History of nephrologist referral	4,746 (14%)	3,529 (8%)	5,172 (14%)	3,808 (8%)	5,544 (15%)	4,125 (9%)	6,029 (15%)	4,485 (9%)
Meeting KDIGO criteria for referral among non-referred[a]	4,993 (17%)	5,395 (13%)	5,320 (17%)	5,618 (13%)	5,390 (17%)	5,757 (14%)	5,723 (17%)	5,883 (13%)
Meeting regional criteria for referral among non-referred[b]	2,471 (8%)	2,652 (7%)	2,635 (8%)	2,825 (7%)	2,719 (9%)	2,729 (7%)	2,916 (9%)	2,840 (6%)
Comorbidities								
Hypertension	25,992 (75%)	33,606 (76%)	27,896 (76%)	35,220 (77%)	28,493 (77%)	35,265 (78%)	30,989 (77%)	38,176 (77%)
Diabetes	10,024 (29%)	9,667 (22%)	10,721 (29%)	10,092 (22%)	11,029 (30%)	10,045 (22%)	12,012 (30%)	10,813 (22%)
Myocardial infarction	6,454 (19%)	4,636 (11%)	6,738 (18%)	4,759 (10%)	6,917 (19%)	4,703 (10%)	7,382 (18%)	4,862 (10%)
Congestive heart failure	8,720 (25%)	10,052 (23%)	8,982 (24%)	10,059 (22%)	9,118 (25%)	10,026 (22%)	9,628 (24%)	10,277 (21%)
Peripheral vascular disease	4,647 (13%)	3,863 (9%)	4,868 (13%)	3,929 (9%)	4,854 (13%)	3,955 (9%)	5,166 (13%)	4,032 (8%)
Cerebrovascular disease	7,431 (21%)	8,045 (18%)	7,651 (21%)	8,474 (18%)	7,692 (21%)	8,319 (18%)	8,262 (21%)	8,826 (18%)
Dementia	2,091 (6%)	3,697 (8%)	2,162 (6%)	3,856 (8%)	2,214 (6%)	3,886 (9%)	2,437 (6%)	4,269 (9%)
Chronic pulmonary disease	6,034 (17%)	9,720 (22%)	6,561 (18%)	10,379 (23%)	6,626 (18%)	10,596 (23%)	7,436 (19%)	11,731 (24%)
Recent cancer (3 years)	8,312 (24%)	6,970 (16%)	8,752 (24%)	7,362 (16%)	9,041 (24%)	7,552 (17%)	9,993 (25%)	8,235 (17%)
Medications								
RASi	21,906 (63%)	24,344 (55%)	23,481 (64%)	25,748 (56%)	23,882 (65%)	25,992 (57%)	26,004 (65%)	28,156 (57%)
Beta-blocking agents	18,221 (53%)	22,315 (51%)	19,236 (52%)	22,984 (50%)	19,390 (52%)	23,001 (51%)	20,729 (52%)	24,398 (50%)
Diuretics	14,273 (41%)	20,823 (47%)	14,444 (39%)	20,756 (45%)	14,301 (39%)	20,155 (44%)	14,840 (37%)	20,389 (41%)
Calcium channel blockers	11,806 (34%)	13,080 (30%)	12,641 (34%)	13,751 (30%)	13,121 (35%)	13,899 (31%)	14,404 (36%)	15,372 (31%)
Other antihypertensives	1,200 (3%)	449 (1%)	1,287 (4%)	507 (1%)	1,140 (4%)	556 (1%)	1,511 (4%)	656 (1%)
Statins	15,281 (44%)	14,312 (32%)	16,447 (45%)	15,060 (33%)	16,879 (46%)	15,079 (33%)	18,523 (46%)	16,454 (33%)
Highest educational attainment								
Missing	768 (2%)	1,324 (3%)	753 (2%)	1,325 (3%)	801 (2%)	1,285 (3%)	780 (2%)	1,335 (3%)
Compulsory school	9,154 (26%)	15,128 (34%)	9,370 (25%)	15,047 (33%)	9,102 (25%)	14,432 (32%)	9,699 (24%)	14,811 (30%)
Secondary school	14,036 (41%)	16,822 (38%)	14,960 (41%)	17,667 (38%)	15,061 (41%)	17,581 (39%)	16,477 (41%)	19,343 (39%)
University education	10,682 (31%)	10,878 (25%)	11,719 (32%)	11,907 (26%)	12,027 (33%)	12,100 (27%)	13,179 (33%)	13,795 (28%)

Values for continuous data are mean ±SD or median [IQR] and count (%) for categorical data. Percent may not equal 100% due to rounding.

Abbreviations: eGFR, estimated glomerular filtration rate; IQR, interquartile range; SD, standard deviation; CKD, chronic kidney disease; ND, non-dialysis dependent; KDIGO, Kidney Disease: Improving Global Outcomes; RASi, renin-angiotensin system inhibitors.

[a]Meeting KDIGO referral criterion of eGFR <30 mL/min/1.73m^2, presence of albuminuria A3, or CKD and refractory hypertension.

[b]Meeting regional referral criterion of age <50 years, albuminuria A3 and age 50–80 years, albumin-creatinine ratio >100 mg/mmol and age >80 years, or eGFR <30 mL/min/1.73m^2 and age >80 years

eTable 4. Odds ratios of having received a CKD diagnosis by sex at first eGFR measurement <60 mL/min/1.73m^2 in the Stockholm region from 2009 to 2017

		Proportion with diagnosis		Odds Ratio (95% CI) of carrying a CKD diagnosis at baseline			
	No. of individuals	Men	Women	Unadjusted OR Women vs Men	P-value	Adjusted OR[d] Women vs Men	P-value
Overall	227,847	6.9%	3.4%	0.47 (0.45–0.49)	<0.001	0.55 (0.53–0.58)	<0.001
By age categories, years							
<65	46,772	8.9%	5.0%	0.54 (0.50–0.58)	<0.001	0.63 (0.56–0.69)	<0.001
65 to 75	63,983	5.7%	2.4%	0.40 (0.37–0.44)	<0.001	0.51 (0.46–0.57)	<0.001
>75	117,092	6.8%	3.3%	0.47 (0.45–0.50)	<0.001	0.50 (0.46–0.53)	<0.001
By presence of comorbidities							
Hypertension	141,688	8.6%	4.1%	0.46 (0.44–0.48)	<0.001	0.55 (0.52–0.58)	<0.001
Diabetes	44,710	11.8%	7.0%	0.56 (0.53–0.60)	<0.001	0.62 (0.57–0.67)	<0.001
CVD	82,793	9.3%	5.3%	0.55 (0.52–0.58)	<0.001	0.52 (0.49–0.56)	<0.001
By CKD category							
G3a	181,540	3.5%	1.5%	0.40 (0.38–0.43)	<0.001	0.52 (0.48–0.56)	<0.001
G3b	34,207	14.0%	6.4%	0.42 (0.39–0.45)	<0.001	0.48 (0.44–0.53)	<0.001
G4	9,773	33.2%	23.3%	0.61 (0.56–0.67)	<0.001	0.63 (0.57–0.71)	<0.001
G5ND	2,327	41.9%	38.8%	0.88 (0.75–1.04)	0.142	0.82 (0.65–1.03)	0.09
Albuminuria[a]	24,996	19.6%	13.2%	0.62 (0.58–0.66)	<0.001	0.63 (0.57–0.69)	<0.001
Meeting KDIGO criteria for referral[b]	32,652	21.2%	13.9%	0.60 (0.57–0.64)	<0.001	0.63 (0.58–0.68)	<0.001
Meeting regional criteria for referral[c]	21,239	23.4%	16.0%	0.62 (0.58–0.67)	<0.001	0.61 (0.55–0.67)	<0.001
Previously referred	10,506	58.5%	45.8%	0.60 (0.55–0.65)	<0.001	0.67 (0.61–0.73)	<0.001

Abbreviations: OR, odds ratio; CI, confidence interval; CVD, cardiovascular disease; CKD, chronic kidney disease; ND, non-dialysis dependent; KDIGO, Kidney Disease: Improving Global Outcomes.

[a]Albuminuria A2 and A3 combined.

[b]Meeting KDIGO referral criterion of eGFR <30 mL/min/1.73m^2, presence of albuminuria A3, or CKD and refractory hypertension.

[c]Meeting regional referral criterion of age <50 years, albuminuria A3 and age 50–80 years, albumin-creatinine ratio >100 mg/mmol and age >80 years, or eGFR <30 mL/min/1.73m^2 and age >80 years.

[d]Adjusted for age at creatinine measurement, albuminuria category (no test, albuminuria A1, A2, A3), eGFR, history of referral, KDIGO criteria for referral, highest educational attainment, hypertension, diabetes, myocardial infarction, congestive heart failure, peripheral vascular disease, cerebrovascular disease, dementia, chronic obstructive pulmonary disease, and malignancy.

eTable 5. Risk of receiving a diagnosis of CKD, visiting a nephrologist, re-measurement of creatinine and measurement of albuminuria in the next 18 months using men in 2009 as reference, by sex and year of inclusion and at first occurrence of an eGFR measurement <60 mL/min/1.73m^2 in the Stockholm region from 2009 to 2017

	Unadjusted hazard ratio (95% CI)			
Year	CKD diagnosis	Visiting a nephrologist	Re-measurement of creatinine	Measurement of albuminuria
2009				
Men	1.00	1.00	1.00	1.00
Women	0.45 (0.42–0.48)	0.42 (0.38–0.46)	0.77 (0.76–0.79)	0.79 (0.77–0.81)
2010				
Men	1.12 (1.06–1.19)	1.10 (1.02–1.19)	1.03 (1.01–1.05)	0.95 (0.92–0.98)
Women	0.48 (0.45–0.51)	0.45 (0.41–0.49)	0.81 (0.80–0.82)	0.72 (0.70–0.74)
2011				
Men	1.15 (1.08–1.22)	1.17 (1.08–1.27)	1.01 (1.00–1.03)	0.93 (0.91–0.97)
Women	0.53 (0.50–0.56)	0.55 (0.51–0.61)	0.80 (0.79–0.81)	0.71 (0.69–0.73)
2012				
Men	1.24 (1.17–1.32)	1.19 (1.10–1.29)	1.02 (1.01–1.04)	1.06 (1.03–1.08)
Women	0.63 (0.59–0.67)	0.61 (0.56–0.66)	0.83 (0.82–0.84)	0.80 (0.78–0.82)
2013				
Men	1.28 (1.21–1.35)	1.19 (1.10–1.28)	1.03 (1.01–1.04)	1.26 (1.23–1.29)
Women	0.66 (0.62–0.70)	0.57 (0.52–0.62)	0.81 (0.80–0.82)	0.93 (0.91–0.95)
2014				
Men	1.37 (1.30–1.45)	1.22 (1.13–1.32)	1.01 (1.00–1.03)	1.43 (1.40–1.47)
Women	0.67 (0.64–0.71)	0.58 (0.53–0.63)	0.81 (0.79–0.82)	1.06 (1.03–1.08)
2015				
Men	1.45 (1.37–1.53)	1.20 (1.11–1.29)	1.00 (0.99–1.02)	1.50 (1.46–1.54)
Women	0.74 (0.70–0.78)	0.63 (0.58–0.68)	0.80 (0.79–0.81)	1.13 (1.10–1.15)
2016				
Men	1.69 (1.60–1.78)	1.19 (1.10–1.28)	1.00 (0.99–1.02)	1.60 (1.56–1.64)
Women	0.91 (0.86–0.96)	0.63 (0.58–0.69)	0.81 (0.80–0.83)	1.22 (1.19–1.25)
2017				
Men	1.72 (1.64–1.81)	0.90 (0.83–0.97)	0.97 (0.96–0.99)	1.59 (1.56–1.63)
Women	1.04 (0.99–1.10)	0.48 (0.44–0.52)	0.78 (0.77–0.79)	1.22 (1.19–1.25)

Abbreviations: CKD, chronic kidney disease; eGFR, estimated glomerular filtration rate; CI, confidence interval.

eTable 6. Hazard ratios of receiving a diagnosis of CKD and visiting a nephrologist in the next 18 months from first eGFR measurement <60 mL/min/1.73m^2 in the Stockholm region from 2009 to 2017, by KDIGO and regional criteria for referral, comparing women to men

	CKD diagnosis[a]			Visiting a nephrologist[b]		
	No. of individuals	Unadjusted HR (95% CI)	P-value	No. of individuals	Unadjusted HR (95% CI)	P-value
Among people satisfying KDIGO criteria for referral						
eGFR <30	8,412	0.65 (0.60–0.72)	<0.001	9,462	0.53 (0.48–0.60)	<0.001
Refractory hypertension	14,054	0.51 (0.46–0.57)	<0.001	14,423	0.52 (0.46–0.60)	<0.001
Albuminuria A3	5,199	0.63 (0.55–0.72)	<0.001	6,350	0.72 (0.62–0.84)	<0.001
Regional criteria for referral						
Age <50 and eGFR <60	9,360	0.56 (0.49–0.64)	<0.001	8,887	0.63 (0.55–0.71)	<0.001
A3 and age 50–80	3,846	0.64 (0.54–0.75)	<0.001	3,879	0.71 (0.58–0.86)	0.004
ACR>100 if age>80	17	0.93 (0.05–14.8)	0.957	N/A	N/A	N/A
eGFR <30 and age >80	3,801	0.55 (0.48–0.63)	<0.001	4,693	0.43 (0.35–0.53)	<0.001

Abbreviations: CKD, chronic kidney disease; eGFR, estimated glomerular filtration rate; KDIGO, Kidney Disease: Improving Global Outcomes; HR, hazard ratio.

[a]Among people without a CKD diagnosis before inclusion.

[b]Among people who have not visited a nephrologist before inclusion.

eTable 7. Cumulative incidence and hazard ratios of re-measurement of creatinine and measurement of albuminuria (both metrics together) in the next 18 months from first eGFR measurement <60 mL/min/1.73m^2 in the Stockholm region from 2009 to 2017, women compared to men

		18-month cumulative incidence estimates (95% CI)		Hazard ratio (95% CI) of re-measurement of creatinine and measurement of albuminuria in the next 18 months			
	No. of individuals	Men	Women	Unadjusted HR Women vs Men	P-value	Adjusted HR[d] Women vs Men	P-value
Overall	227,847	34.0% (33.7–34.3)	27.5% (27.3–27.8)	0.75 (0.74–0.76)	<0.001	0.88 (0.86–0.89)	<0.001
By age categories, years							
<65	46,772	41.1% (40.5–41.8)	36.3% (35.6–36.9)	0.83 (0.81–0.86)	<0.001	0.92 (0.90–0.95)	<0.001
65 to 75	63,983	38.2% (37.6–38.7)	32.7% (32.2–33.2)	0.79 (0.77–0.81)	<0.001	0.89 (0.87–0.92)	<0.001
>75	117,092	27.5% (27.1–27.9)	22.4% (22.1–22.7)	0.76 (0.74–0.78)	<0.001	0.83 (0.81–0.85)	<0.001
By presence of comorbidities							
Hypertension	141,688	37.9% (37.5–38.3)	30.2% (29.8–30.5)	0.73 (0.72–0.74)	<0.001	0.89 (0.87–0.91)	<0.001
Diabetes	44,710	54.8% (54.2–55.4)	48.6% (47.9–49.3)	0.80 (0.78–0.83)	<0.001	0.90 (0.88–0.93)	<0.001
CVD	82,793	32.5% (32.1–33.0)	25.4% (25.0–25.9)	0.73 (0.71–0.75)	<0.001	0.89 (0.87–0.92)	<0.001
By CKD category							
G3a	181,540	32.9% (32.6–33.2)	27.3% (27.0–27.5)	0.78 (0.76–0.79)	<0.001	0.89 (0.88–0.91)	<0.001
G3b	34,207	35.2% (34.5–36.0)	26.7% (26.0–27.3)	0.68 (0.65–0.70)	<0.001	0.83 (0.80–0.87)	<0.001
G4	9,773	43.9% (42.5–45.4)	32.9% (31.6–34.2)	0.66 (0.62–0.70)	<0.001	0.87 (0.82–0.93)	<0.001
G5ND	2,327	53.4% (50.6–56.0)	48.0% (44.8–51.1)	0.83 (0.74–0.93)	0.001	0.91 (0.80–1.02)	0.10
Albuminuria[a]	24,996	63.0% (62.2–63.8)	57.7% (56.7–58.6)	0.85 (0.82–0.88)	<0.001	0.94 (0.91–0.97)	<0.001
Meeting KDIGO criteria for referral[b]	32,652	50.2% (49.5–51.0)	39.9% (39.1–40.7)	0.72 (0.70–0.74)	<0.001	0.89 (0.86–0.92)	<0.001
Meeting regional criteria for referral[c]	21,239	50.1% (49.1–51.0)	39.0% (38.1–40.0)	0.72 (0.69–0.75)	<0.001	0.90 (0.86–0.94)	<0.001
Previously referred	10,506	63.6% (62.4–64.8)	57.4% (55.9–58.8)	0.83 (0.79–0.87)	<0.001	0.99 (0.94–1.04)	0.72

Abbreviations: HR, hazard ratio; CI, confidence interval; CVD, cardiovascular disease; CKD, chronic kidney disease; ND, non-dialysis dependent; KDIGO, Kidney Disease: Improving Global Outcomes.

[a]Albuminuria A2 and A3 combined.

[b]Meeting KDIGO referral criterion of eGFR <30 mL/min/1.73m^2, presence of albuminuria A3, or CKD and refractory hypertension.

[c]Meeting regional referral criterion of age <50 years, albuminuria A3 and age 50–80 years, albumin-creatinine ratio >100 mg/mmol and age >80 years, or eGFR <30 mL/min/1.73m^2 and age >80 years.

[d]Adjusted for age at creatinine measurement, albuminuria category (no test, albuminuria A1, A2, A3), eGFR, history of referral, KDIGO criteria for referral, highest educational attainment, hypertension, diabetes, myocardial infarction, congestive heart failure, peripheral vascular disease, cerebrovascular disease, dementia, chronic obstructive pulmonary disease, and malignancy.

eTable 8. Risk of re-measurement of creatinine or measurement of albuminuria in the next 18 months from first eGFR measurement <60 mL/min/1.73m^2 in the Stockholm region from 2009 to 2017, women compared with men

		Hazard ratio (95% CI) of re-measurement of creatinine in the next 18 months		Hazard ratio (95% CI) of measurement of albuminuria in the next 18 months	
	No. of individuals	Adjusted HR§ Women vs Men	P-value	Adjusted HR[d] Women vs Men	P-value
Overall	227,847	0.81 (0.80–0.82)	<0.001	0.89 (0.88–0.91)	<0.001
By age categories, years					
<65	46,772	0.82 (0.81–0.84)	<0.001	0.93 (0.91–0.96)	<0.001
65 to 75	63,983	0.79 (0.77–0.80)	<0.001	0.91 (0.88–0.93)	<0.001
>75	117,092	0.80 (0.79–0.82)	<0.001	0.85 (0.83–0.87)	<0.001
By presence of comorbidities					
Hypertension	141,688	0.82 (0.81–0.83)	<0.001	0.90 (0.89–0.92)	<0.001
Diabetes	44,710	0.83 (0.81–0.84)	<0.001	0.92 (0.89–0.94)	<0.001
CVD	82,793	0.83 (0.82–0.85)	<0.001	0.90 (0.88–0.93)	<0.001
By CKD category					
G3a	181,540	0.82 (0.81–0.83)	<0.001	0.91 (0.90–0.93)	<0.001
G3b	34,207	0.82 (0.80–0.84)	<0.001	0.84 (0.81–0.88)	<0.001
G4	9,773	0.81 (0.78–0.85)	<0.001	0.88 (0.82–0.94)	<0.001
G5ND	2,327	0.92 (0.84–1.00)	0.06	0.92 (0.81–1.03)	0.14
Albuminuria[a]	24,996	0.89 (0.86–0.91)	<0.001	0.96 (0.93–0.99)	0.01
Meeting KDIGO criteria for referral[b]	32,652	0.85 (0.83–0.87)	<0.001	0.90 (0.87–0.93)	<0.001
Meeting regional criteria for referral[c]	21,239	0.89 (0.87–0.92)	<0.001	0.91 (0.87–0.95)	<0.001
Previously referred	10,506	0.89 (0.86–0.93)	<0.001	0.99 (0.94–1.05)	0.89

Abbreviations: HR, hazard ratio; CI, confidence interval; CVD, cardiovascular disease; CKD, chronic kidney disease; ND, non-dialysis dependent; KDIGO, Kidney Disease: Improving Global Outcomes.

[a]Albuminuria A2 and A3 combined.

[b]Meeting KDIGO referral criterion of eGFR <30 mL/min/1.73m^2, presence of albuminuria A3, or CKD and refractory hypertension.

[c]Meeting regional referral criterion of age <50 years, albuminuria A3 and age 50–80 years, albumin-creatinine ratio >100 mg/mmol and age >80 years, or eGFR <30 mL/min/1.73m^2 and age >80 years.

[d]Adjusted for age at creatinine measurement, albuminuria category (no test, albuminuria A1, A2, A3), eGFR, history of referral, KDIGO criteria for referral, highest educational attainment, hypertension, diabetes, myocardial infarction, congestive heart failure, peripheral vascular disease, cerebrovascular disease, dementia, chronic obstructive pulmonary disease, and malignancy.

eTable 9. Hazard ratios of re-measurement of creatinine and measurement of albuminuria in the next 18 months from first eGFR measurement <60 mL/min/1.73m^2 in the Stockholm region from 2009 to 2017, by KDIGO and regional criteria for referral, comparing women to men

		Re-measurement of creatinine		Measurement of albuminuria	
	No. of individuals	Unadjusted HR (95% CI)	P-value	Unadjusted HR (95% CI)	P-value
Among people satisfying KDIGO criteria for referral					
eGFR <30	12,100	0.76 (0.73–0.79)	<0.001	0.68 (0.64–0.72)	<0.001
Refractory hypertension	16,015	0.80 (0.77–0.83)	<0.001	0.71 (0.68–0.75)	<0.001
Albuminuria A3	8,506	0.89 (0.85–0.93)	<0.001	0.90 (0.86–0.96)	<0.001
Regional criteria for referral					
Age <50	10,463	0.93 (0.89–0.97)	0.001	0.88 (0.83–0.94)	<0.001
A3 and age 50–80	5,248	0.89 (0.84–0.95)	<0.001	0.91 (0.85–0.98)	0.013
ACR>100 if age>80	24	0.84 (0.35–1.98)	0.689	0.70 (0.22–2.21)	0.543
eGFR <30 and age >80	5,512	0.75 (0.70–0.79)	<0.001	0.66 (0.59–0.73)	<0.001

Abbreviations: CKD, chronic kidney disease; eGFR, estimated glomerular filtration rate; KDIGO, Kidney Disease: Improving Global Outcomes; HR, hazard ratio.

eTable 10. Unadjusted odds ratio of current RASi and statin treatment using men in 2009 as reference, by sex and year of inclusion

	Unadjusted odds ratio (95% CI)		
Year	RASi treatment Albuminuria A3	RASi treatment Albuminuria A2 and diabetes	Statin treatment Age ≥50 years
2009			
Men	1.00	1.00	1.00
Women	0.60 (0.52–0.69)	0.75 (0.63–0.89)	0.63 (0.61–0.65)
2010			
Men	1.13 (0.99–1.30)	1.13 (0.96–1.34)	1.06 (1.02–1.09)
Women	0.67 (0.57–0.77)	0.77 (0.65–0.91)	0.67 (0.65–0.69)
2011			
Men	1.16 (1.01–1.34)	1.16 (0.98–1.38)	1.07 (1.04–1.11)
Women	0.80 (0.68–0.93)	0.76 (0.64–0.91)	0.66 (0.64–0.69)
2012			
Men	1.17 (1.02–1.34)	1.12 (0.94–1.33)	1.06 (1.02–1.09)
Women	0.73 (0.62–0.85)	0.78 (0.65–0.94)	0.66 (0.64–0.68)
2013			
Men	1.24 (1.08–1.42)	1.03 (0.87–1.22)	1.08 (1.05–1.11)
Women	0.70 (0.60–0.81)	0.77 (0.64–0.92)	0.65 (0.63–0.67)
2014			
Men	1.22 (1.07–1.38)	1.08 (0.92–1.27)	1.11 (1.08–1.15)
Women	0.83 (0.71–0.96)	0.77 (0.65–0.91)	0.67 (0.65–0.69)
2015			
Men	1.17 (1.03–1.33)	1.01 (0.87–1.18)	1.14 (1.11–1.18)
Women	0.72 (0.62–0.83)	0.83 (0.71–0.98)	0.68 (0.66–0.70)
2016			
Men	1.06 (0.94–1.20)	1.01 (0.87–1.17)	1.19 (1.15–1.22)
Women	0.75 (0.65–0.86)	0.87 (0.74–1.03)	0.70 (0.68–0.72)
2017			
Men	0.97 (0.86–1.09)	1.02 (0.88–1.18)	1.21 (1.18–1.25)
Women	0.64 (0.57–0.74)	0.85 (0.73–1.00)	0.70 (0.68–0.72)

Abbreviations: RASi, renin-angiotensin system inhibitors; CI, confidence interval.

eTable 11. Supporting analysis: Hazard ratios of receiving a CKD diagnosis and visiting a nephrologist in the next 18 months among patients with two consecutive measurements of eGFR <60 mL/min/1.73m^2 (i.e. confirmed CKD), women compared with men

	Hazard ratio (95% CI) of receiving an incident CKD diagnosis in the next 18 months			Hazard ratio (95% CI) of visiting a nephrologist in the next 18 months		
	No. of individuals	Unadjusted HR Women vs Men	P-value	No. of individuals	Unadjusted HR Women vs Men	P-value
Overall	80,849	0.42 (0.40–0.44)	<0.001	80,761	0.43 (0.40–0.46)	<0.001
By age categories, years						
<65	7,987	0.54 (0.48–0.62)	<0.001	7,082	0.55 (0.48–0.64)	<0.001
65 to 75	19,286	0.44 (0.39–0.49)	<0.001	18,982	0.51 (0.44–0.58)	<0.001
>75	53,576	0.41 (0.38–0.44)	<0.001	54,697	0.42 (0.38–0.47)	<0.001
By presence of comorbidities						
Hypertension	54,849	0.42 (0.39–0.45)	<0.001	55,353	0.44 (0.40–0.48)	<0.001
Diabetes	17,445	0.47 (0.43–0.52)	<0.001	17,958	0.51 (0.45–0.59)	<0.001
CVD	33,425	0.46 (0.42–0.50)	<0.001	34,497	0.44 (0.39–0.49)	<0.001
By CKD category						
G3a	56,696	0.32 (0.29–0.35)	<0.001	55,843	0.37 (0.33–0.42)	<0.001
G3b	19,578	0.38 (0.34–0.41)	<0.001	19,981	0.39 (0.34–0.44)	<0.001
G4	4,085	0.49 (0.43–0.55)	<0.001	4,491	0.47 (0.40–0.56)	<0.001
G5ND	490	0.62 (0.45–0.87)	0.005	446	0.70 (0.46–1.07)	0.10
Albuminuria[a]	10,139	0.60 (0.54–0.67)	<0.001	9,662	0.62 (0.53–0.71)	<0.001
Meeting KDIGO criteria for referral[b]	13,209	0.55 (0.50–0.60)	<0.001	13,378	0.54 (0.48–0.60)	<0.001
Meeting regional criteria for referral[c]	5,225	0.63 (0.56–0.71)	<0.001	5,207	0.49 (0.42–0.57)	<0.001

Risk of receiving a CKD diagnosis is among those without prior diagnosis. Risk of visiting a nephrologist is among those without prior referral.

Abbreviations: HR, hazard ratio; CI, confidence interval; CVD, cardiovascular disease; CKD, chronic kidney disease; ND, non-dialysis dependent; KDIGO, Kidney Disease: Improving Global Outcomes.

[a]Albuminuria A2 and A3 combined.

[b]Meeting KDIGO referral criterion of eGFR <30 mL/min/1.73m^2, presence of albuminuria A3, or CKD and refractory hypertension.

[c]Meeting regional referral criterion of age <50 years, albuminuria A3 and age 50–80 years, albumin-creatinine ratio >100 mg/mmol and age >80 years, or eGFR <30 mL/min/1.73m^2 and age >80 years.

eTable 12. Supporting analysis: Hazard ratios of re-measurement of creatinine or measurement of albuminuria in the next 18 months among patients with two consecutive measurements of eGFR <60 mL/min/1.73m^2 (i.e. confirmed CKD), women compared with men

	Hazard ratio (95% CI) of re-measurement of creatinine in the next 18 months			Hazard ratio (95% CI) of measurement of albuminuria in the next 18 months		
	No. of individuals	Unadjusted HR Women vs Men	P-value	No. of individuals	Unadjusted HR Women vs Men	P-value
Overall	88,549	0.81 (0.80–0.83)	<0.001	88,549	0.73 (0.71–0.75)	<0.001
By age categories, years						
<65	9,860	0.89 (0.85–0.92)	<0.001	9,860	0.84 (0.80–0.89)	<0.001
65 to 75	20,999	0.83 (0.80–0.85)	<0.001	20,999	0.82 (0.79–0.86)	<0.001
>75	57,690	0.81 (0.79–0.82)	<0.001	57,690	0.76 (0.74–0.78)	<0.001
By presence of comorbidities						
Hypertension	60,919	0.81 (0.80–0.82)	<0.001	60,919	0.70 (0.68–0.72)	<0.001
Diabetes	20,314	0.83 (0.81–0.86)	<0.001	20,314	0.76 (0.74–0.79)	<0.001
CVD	37,722	0.83 (0.81–0.85)	<0.001	37,722	0.69 (0.67–0.72)	<0.001
By CKD category						
G3a	58,709	0.81 (0.79–0.82)	<0.001	58,709	0.78 (0.75–0.80)	<0.001
G3b	22,282	0.81 (0.79–0.83)	<0.001	22,282	0.69 (0.66–0.73)	<0.001
G4	6,362	0.87 (0.83–0.91)	<0.001	6,362	0.60 (0.56–0.65)	<0.001
G5ND	1,196	1.01 (0.89–1.13)	0.933	1,196	0.73 (0.63–0.85)	<0.001
Albuminuria[a]	13,420	0.87 (0.84–0.90)	<0.001	13,420	0.82 (0.79–0.86)	<0.001
Meeting KDIGO criteria for referral[b]	17,575	0.88 (0.85–0.90)	<0.001	17,575	0.66 (0.63–0.69)	<0.001
Meeting regional criteria for referral[c]	8,323	0.87 (0.83–0.91)	<0.001	8,323	0.61 (0.57–0.64)	<0.001

Abbreviations: HR, hazard ratio; CI, confidence interval; CVD, cardiovascular disease; CKD, chronic kidney disease; ND, non-dialysis dependent; KDIGO, Kidney Disease: Improving Global Outcomes.
[a]Albuminuria A2 and A3 combined.
[b]Meeting KDIGO referral criterion of eGFR <30 mL/min/1.73m^2, presence of albuminuria A3, or CKD and refractory hypertension.
[c]Meeting regional referral criterion of age <50 years, albuminuria A3 and age 50–80 years, albumin-creatinine ratio >100 mg/mmol and age >80 years, or eGFR <30 mL/min/1.73m^2 and age >80 years.

eTable 13. Differences in odds of being on renin-angiotensin system inhibitor treatment or statin treatment among people with a recorded visit to a nephrologist any time prior to their first eGFR measurement <60 mL/min/1.73m^2 in the Stockholm region from 2009 to 2017, women compared to men

		Proportion of patients treated		Odds (95% CI) of receiving guideline-recommended medications			
	No. of individuals	Men	Women	Unadjusted OR Women vs Men	P-value	Adjusted OR[a] Women vs Men	P-value
RASi							
Overall	10,506	66.5%	56.4%	0.65 (0.60–0.71)	<0.001	0.78 (0.71–0.85)	<0.001
Among people with diabetes and albuminuria A2	704	80.3%	78.0%	0.87 (0.60–1.28)	0.48	0.79 (0.53–1.22)	0.29
Among people with albuminuria A3	2,156	84.1%	76.9%	0.63 (0.50–0.79)	<0.001	0.70 (0.55–0.90)	0.005
Statins							
Overall	10,506	41.1%	31.6%	0.66 (0.61–0.72)	<0.001	0.81 (0.74–0.89)	<0.001
Among people aged ≥50 years	8,930	44.7%	34.6%	0.65 (0.60–0.71)	<0.001	0.84 (0.76–0.93)	0.001
Among people aged 18 to 49 years with							
Coronary disease	20	78.6%	33.3%	0.20 (0.03–1.46)	0.11	N/A	
Diabetes	214	53.6%	40.5%	0.59 (0.34–1.02)	0.06	0.85 (0.44–1.65)	0.64
Prior ischemic stroke	28	52.9%	45.5%	0.89 (0.20–3.90)	0.88	N/A	

Abbreviations: OR, odds ratio; CI, confidence interval; RASi, renin-angiotensin system inhibitors.
[a]Adjusted for age at creatinine measurement, albuminuria category (no test, albuminuria A1, A2, A3), eGFR, history of referral, KDIGO criteria for referral, highest educational attainment, hypertension, diabetes, myocardial infarction, congestive heart failure, peripheral vascular disease, cerebrovascular disease, dementia, chronic obstructive pulmonary disease, and malignancy.

eTable 14. Supporting analyses: Study outcomes among men and women with probable CKD (first-encountered eGFR measurement <60 mL/min/1.73m^2) in the Stockholm region during 2015 to 2017, using the Lund-Malmö eGFR equation

			CKD stage							
	Overall		3a		3b		4		5ND	
	Unadjusted HR (95% CI) Women vs Men	P-value	Unadjusted HR (95% CI) Women vs Men	P-value	Unadjusted HR (95% CI) Women vs Men	P-value	Unadjusted HR (95% CI) Women vs Men	P-value	Unadjusted HR (95% CI) Women vs Men	P-value
Receiving a CKD diagnosis	0.47 (0.44–0.51)	<0.001	0.44 (0.40–0.48)	<0.001	0.58 (0.50–0.67)	<0.001	0.82 (0.66–1.01)	0.06	0.66 (0.43–1.01)	0.06
Visiting a nephrologist	0.54 (0.48–0.59)	<0.001	0.51 (0.44–0.58)	<0.001	0.61 (0.49–0.76)	<0.001	0.92 (0.72–1.17)	0.48	0.75 (0.48–1.16)	0.19
Re-measurement of creatinine	0.75 (0.73–0.76)	<0.001	0.75 (0.74–0.77)	<0.001	0.78 (0.75–0.82)	<0.001	0.86 (0.79–0.94)	0.001	0.97 (0.79–1.19)	0.75
Measurement of albuminuria	0.76 (0.74–0.78)	<0.001	0.77 (0.75–0.80)	<0.001	0.71 (0.66–0.76)	<0.001	0.84 (0.74–0.97)	0.01	1.04 (0.79–1.36)	0.78

			CKD stage							
	Overall		3a		3b		4		5ND	
	Unadjusted OR (95% CI) Women vs Men	P-value	Unadjusted OR (95% CI) Women vs Men	P-value	Unadjusted OR (95% CI) Women vs Men	P-value	Unadjusted OR (95% CI) Women vs Men	P-value	Unadjusted OR (95% CI) Women vs Men	P-value
Using RASi	0.72 (0.70–0.74)	<0.001	0.70 (0.67–0.73)	<0.001	0.83 (0.76–0.91)	<0.001	0.83 (0.69–0.99)	0.04	0.79 (0.53–1.18)	0.25
Using statins	0.63 (0.61–0.66)	<0.001	0.63 (0.60–0.65)	<0.001	0.62 (0.56–0.69)	<0.001	0.70 (0.58–0.86)	<0.001	0.65 (0.40–1.05)	0.08

Risk of receiving a CKD diagnosis is among those without prior diagnosis.

Abbreviations: HR, hazard ratio; CI, confidence interval; CKD, chronic kidney disease; ND, non-dialysis dependent; OR, odds ratio; CI, confidence interval. RASi, renin-angiotensin system inhibitors.

eTable 15. Supporting analyses: Study outcomes among men and women with probable CKD (first-encountered eGFR measurement <60 mL/min/1.73m^2) in the Stockholm region during 2009 to 2017, additionally adjusted for serum/plasma creatinine

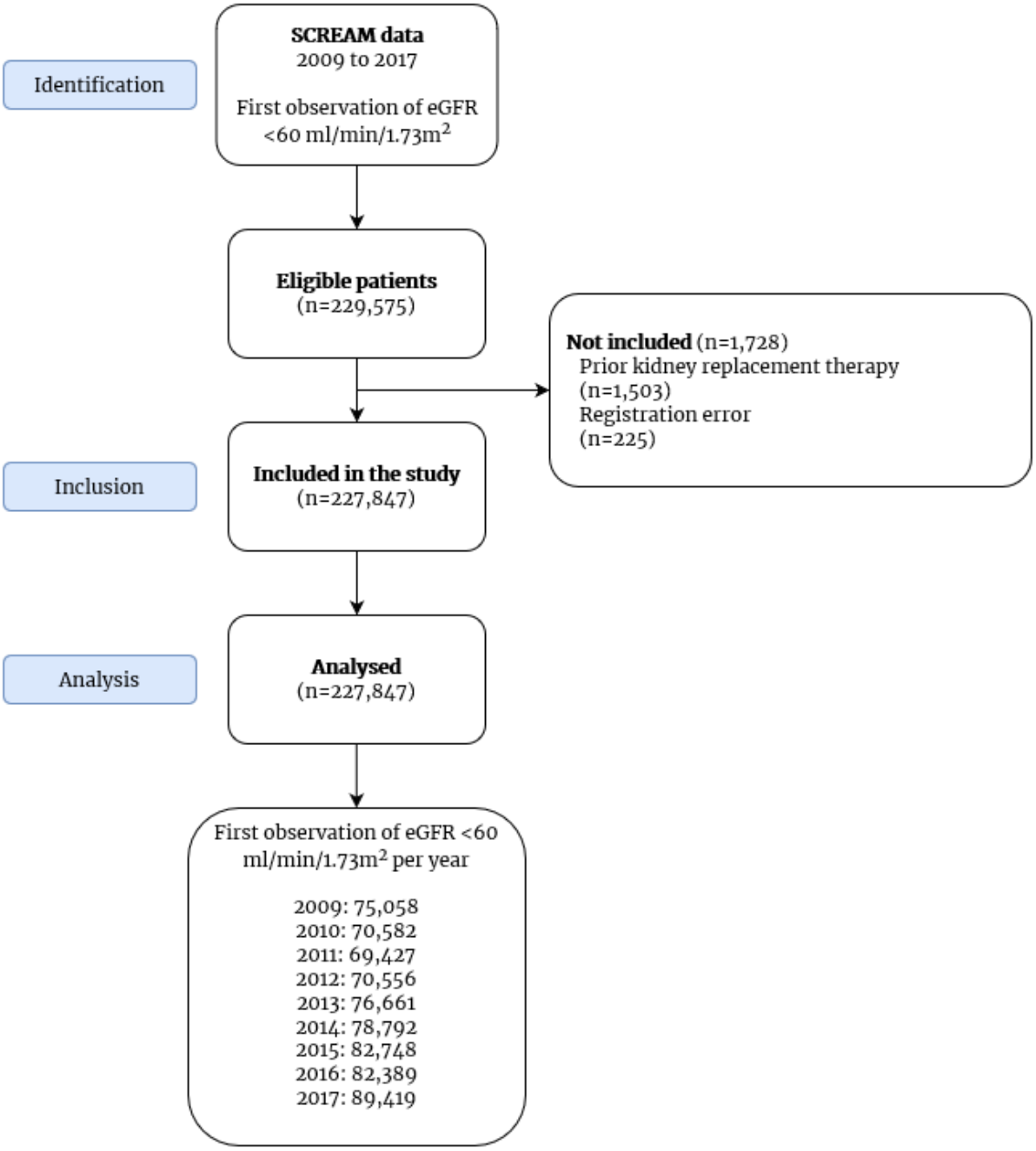
	Adjusted HR (95% CI) Women vs Men	P-value
Receiving a CKD diagnosis	0.43 (0.41–0.45)	<0.001
Visiting a nephrologist	0.56 (0.53–0.60)	<0.001
Re-measurement of creatinine	0.83 (0.82–0.84)	<0.001
Measurement of albuminuria	0.90 (0.89–0.92)	<0.001
	Adjusted OR (95% CI) Women vs Men	P-value
On RASi treatment	0.63 (0.62–0.64)	<0.001
On statin treatment	0.77 (0.75–0.79)	<0.001

Abbreviations: HR, hazard ratio; OR, odds ratio; CI, confidence interval. RASi, renin-angiotensin system inhibitors.
[a]Adjusted for age at creatinine measurement, albuminuria category (no test, albuminuria A1, A2, A3), eGFR, history of referral, KDIGO criteria for referral, highest educational attainment, hypertension, diabetes, myocardial infarction, congestive heart failure, peripheral vascular disease, cerebrovascular disease, dementia, chronic obstructive pulmonary disease, malignancy and plasma or serum creatinine at the time of inclusion.

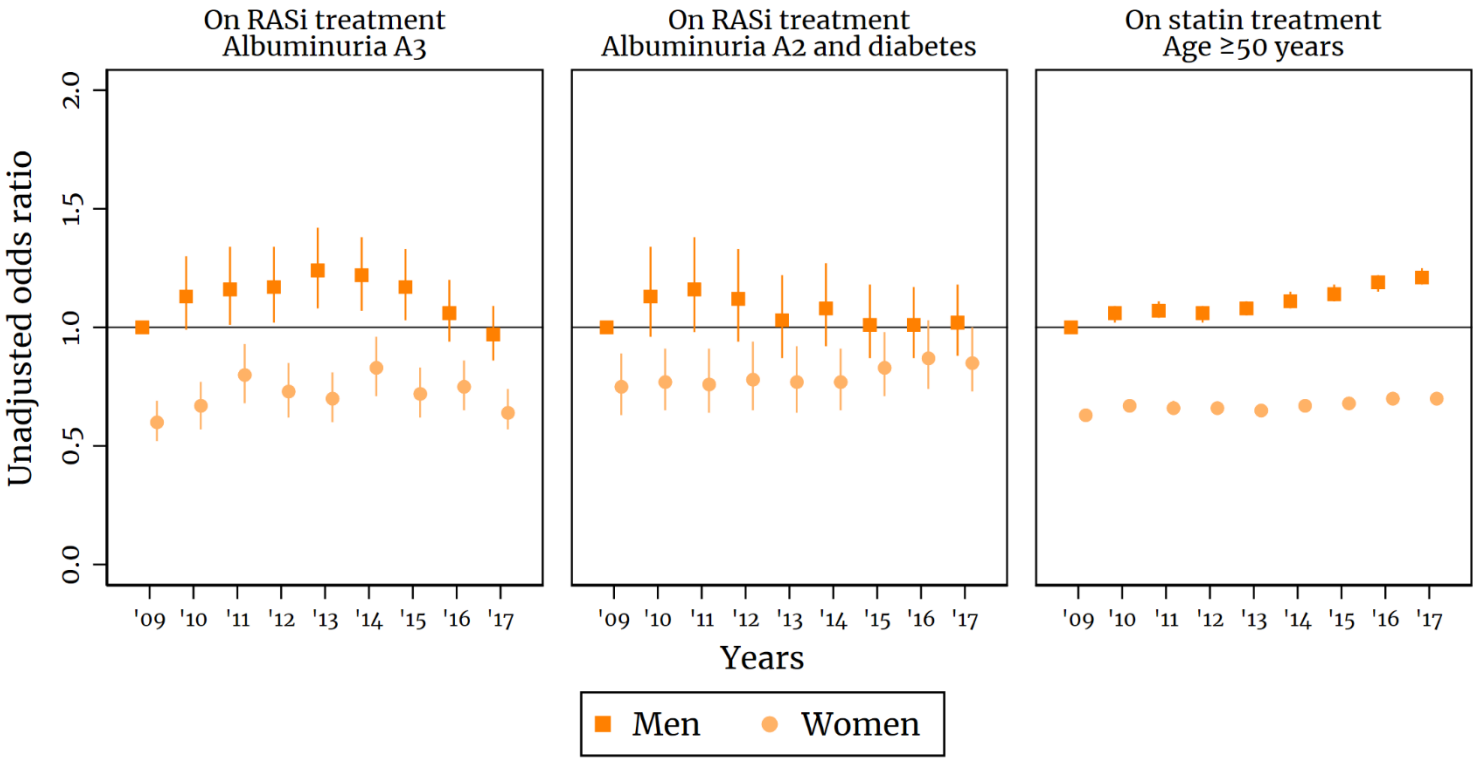
Table 16. Supporting analyses: Study outcomes among men and women with probable CKD (first-encountered eGFR measurement <60 mL/min/1.73m^2) in the Stockholm region during 2009 to 2017, evaluating two distinct periods (before or after automatic eGFR reporting) with P-value for interaction terms

	Unadjusted HR (95% CI) Women vs Men		
	Patients identified before 2015	Patients identified in 2015 or later	P-value for interaction
Receiving a CKD diagnosis	0.42 (0.40–0.44)	0.47 (0.44–0.51)	0.008
Visiting a nephrologist	0.44 (0.41–0.46)	0.53 (0.48–0.59)	0.001
Re-measurement of creatinine	0.76 (0.75–0.77)	0.73 (0.72–0.74)	<0.001
Measurement of albuminuria	0.78 (0.76–0.79)	0.76 (0.74–0.78)	0.12
	Unadjusted OR (95% CI) Women vs men		
	Patients identified before 2015	Patients identified in 2015 or later	P-value for interaction
On RASi treatment	0.67 (0.66–0.69)	0.72 (0.70–0.74)	0.001
On statin treatment	0.66 (0.65–0.67)	0.63 (0.61–0.66)	0.07

Abbreviations: HR, hazard ratio; CI, confidence interval; CKD, chronic kidney disease; OR, odds ratio; CI, confidence interval; RASi, renin-angiotensin system inhibitors.



eFigure 1. Patient flow chart into the study.



eFigure 2. Time trends in the odds of being on RASi or statin treatment, between men and women during the period 2009-2017. In each year, the first encountered eGFR <60 ml/min/1.73m^2 was considered the cohort baseline. Men in 2009 were selected as the reference category. The odds ratios are presented in eTable 10**.**