Supplementary material

Tables

Table S1. Characteristics of all individuals with first-time AKI

	All individuals with AKI, n (%)	Individuals with AKI included in the study, n (%)	Individuals with AKI not included in the study, n (%)
Number of individuals	265,161	98,072	167,089
Female	133,068 (50%)	48,485 (49%)	84,583 (51%)
Age (years), median (IQR)	73 (62-82)	71 (62-79)	74 (62-83)
pCr at index (µmol/l), median (IQR)	127 (96-171)	128 (99-167)	126 (94-174)
Baseline eGFR (ml/min/1.73m^2), median (IQR)	74 (52-93) (Missing=37,050)	74 (53-93)	74 (51-94) (Missing=37,050)
No. of outpatient pCr measurements before index, median (IQR)	5 (2-10)	8 (5-14)	3 (1-7)
AKI stage			
Stage 1	191,508 (72%)	76,020 (78%)	115,488 (69%)
Stage 2	43,752 (17%)	14,511 (15%)	29,241 (18%)
Stage 3	29,901 (11%)	7,541 (7.7%)	22,360 (13%)
Comorbidity (within prior 10 years)			
Hospital-diagnosed hypertension	103,912 (39%)	43,449 (44%)	60,463 (36%)
Atrial fibrillation/flutter	49,105 (19%)	18,431 (19%)	30,674 (18%)
Ischemic heart disease	54,846 (21%)	22,587 (23%)	32,259 (19%)
Heart failure	38,100 (14%)	14,261 (15%)	23,839 (14%)
Stroke	28,842 (11%)	8,991 (9.2%)	19,851 (12%)
Kidney disease[a]	15,916 (6.0%)	6,635 (6.8%)	9,281 (5.6%)
Asthma	10,258 (3.9%)	4,206 (4.3%)	6,052 (3.6%)
Chronic obstructive pulmonary disease	39,141 (15%)	13,291 (14%)	25,850 (15%)
Chronic liver disease	11,262 (4.2%)	3,722 (3.8%)	7,540 (4.5%)
Connective tissue disease	14,963 (5.6%)	7,642 (7.8%)	7,321 (4.4%)
Cancer	69,956 (26%)	24,716 (25%)	45,240 (27%)
Overweight or obesity	20,464 (7.7%)	9,751 (9.9%)	10,713 (6.4%)
Diabetes[b]	58,321 (22%)	28,151 (29%)	30,170 (18%)
Prescription drug use (within prior 90 days)			
ACE-I/ARB	97,779 (37%)	45,673 (47%)	52,106 (31%)
Thiazide or loop diuretics	108,277 (41%)	44,118 (45%)	64,159 (38%)
Calcium channel blockers	58,802 (22%)	26,482 (27%)	32,320 (19%)
NSAID	37,992 (14%)	15,011 (15%)	22,981 (14%)
Antibiotics	77,934 (29%)	27,120 (28%)	50,814 (30%)
Statins	71,037 (27%)	33,976 (35%)	37,061 (22%)
Cytostatic	10,314 (3.9%)	3,730 (3.8%)	6,584 (3.9%)
Follow-up information			

Duration of follow-up, median (IQR), y	2.0 (0.3-3.9)	3.1 (2.0-4.6)	1.0 (0.1-3.1)
No. of outpatient pCr measurements after index, median (IQR)	5 (1-13)	12 (7-21)	2 (0-6)
Deaths within one year after AKI	86,953 (33%)	3,057 (3.1%)	83,896 (50%)
Deaths within five years after AKI	137,217 (52%)	29,995 (31%)	107,222 (64%)
Kidney failure within one year after AKI	4,178 (1.6%)	282 (0.3%)	3,896 (2.3%)
Kidney failure within five years after AKI	6,466 (2.4%)	1,724 (1.8%)	4,742 (2.8%)

Notes: [a]Including diabetic nephropathy, hypertensive kidney disease, glomerular disease, tubulo-interstitial disease, congenital kidney disease. [b]Based on both diagnosis and prescription drug use.

Abbreviations: ACE-I, angiotensin-converting enzyme inhibitor; AKI, acute kidney injury; ARB, Angiotensin II receptor blocker; eGFR, estimated glomerular filtration rate; IQR, interquartile range; NSAID, Non-steroidal anti-inflammatory drug; pCr, plasma creatinine.

Table S2. Characteristics of individuals with first-time AKI and with two or more outpatient pCr measurements before and after AKI

	Baseline eGFR ≥60 ml/min/1.73m^2, n (%)	Baseline eGFR <60 ml/min/1.73m^2, n (%)
Number of individuals	76,268	37,185
Female	26,402 (35%)	29,088 (78%)
Age (years), median (IQR)	68 (57-77)	77 (70-83)
pCr at index (µmol/l), median (IQR)	110 (88-133)	173 (144-216)
Baseline eGFR (ml/min/1.73m^2), median (IQR)	88 (75-101)	46 (37-53)
No. of outpatient pCr measurements before index, median (IQR)	7 (4-12)	9 (5-15)
AKI stage		
Stage 1	58,821 (77%)	29,124 (78%)
Stage 2	11,998 (16%)	4,813 (13%)
Stage 3	5,449 (7.1%)	3,248 (8.7%)
Comorbidity (within prior 10 years)		
Hospital-diagnosed hypertension	28,991 (38%)	19,787 (53%)
Atrial fibrillation/flutter	10,652 (14%)	9,860 (27%)
Ischemic heart disease	13,231 (17%)	11,938 (32%)
Heart failure	7,521 (9.9%)	8,228 (22%)
Stroke	6,146 (8.1%)	4,294 (12%)
Kidney disease[a]	2,975 (3.9%)	4,263 (11%)
Asthma	3,608 (4.7%)	1,212 (3.3%)
Chronic obstructive pulmonary disease	9,662 (13%)	5,376 (14%)
Chronic liver disease	3,488 (4.6%)	687 (1.8%)
Connective tissue disease	5,942 (7.8%)	2,223 (6.0%)
Cancer	17,177 (23%)	9,777 (26%)
Overweight or obesity	7,817 (10%)	3,171 (8.5%)
Diabetes[b]	18,614 (24%)	12,307 (33%)
Prescription drug use (within prior 90 days)		
ACE-I/ARB	30,794 (40%)	20,629 (55%)
Thiazide or loop diuretics	29,254 (38%)	20,529 (55%)
Calcium channel blockers	17,728 (23%)	12,069 (32%)
NSAID	12,416 (16%)	5,041 (14%)
Antibiotics	20,413 (27%)	10,632 (29%)
Statins	22,539 (30%)	15,480 (42%)
Cytostatic	3,022 (4.0%)	851 (2.3%)
Follow-up information		
Duration of follow-up, median (IQR), y	3.2 (2.0-4.8)	2.8 (1.8-4.3)
No. of outpatient pCr measurements after index, median (IQR)	11 (6-19)	13 (7-22)
Deaths within one year after AKI	2,013 (2.6%)	1,538 (4.1%)
Deaths within five years after AKI	19,422 (25%)	14,900 (40%)

Kidney failure within one year after AKI	33 (0.0%)	266 (0.7%)
Kidney failure within five years after AKI	321 (0.4%)	1,560 (4.2%)

Notes: [a]Including diabetic nephropathy, hypertensive kidney disease, glomerular disease, tubulo-interstitial disease, and congenital kidney disease. [b]Based on both diagnosis and prescription drug use.

Abbreviations: ACE-I, angiotensin-converting enzyme inhibitor; AKI, acute kidney injury; ARB, Angiotensin II receptor blocker; eGFR, estimated glomerular filtration rate; IQR, interquartile range; NSAID, Non-steroidal anti-inflammatory drug; pCr, plasma creatinine.

Table S3. Extrapolated eGFR levels and eGFR slopes before and after AKI from individuals with two or more outpatient pCr measurements before and after AKI

Baseline eGFR ≥60 ml/min/1.73m^2 (*n*=76,268)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2, median (IQR)	87.3 (73.8-101.0)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2, median (IQR)	81.8 (63.7-97.7)
Change in eGFR level, ml/min/1.73m^2, median (IQR)	−5.7 (−16.5 to 2.0)
Relative change in eGFR level, %, median (IQR)	−6.2 (−18.7 to 2.2)
eGFR slope before AKI, ml/min/1.73m^2/year, median (IQR)	−0.6 (−2.9 to 1.8)
eGFR slope after AKI, ml/min/1.73m^2/year, median (IQR)	−0.9 (−4.2 to 1.9)
Change in eGFR slope, ml/min/1.73m^2/year, median (IQR)	−0.5 (−6.1 to 4.6)
Baseline eGFR <60 ml/min/1.73m^2 (*n*=37,185)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2, median (IQR)	44.3 (34.8-52.3)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2, median (IQR)	40.0 (30.2-50.3)
Change in eGFR level, ml/min/1.73m^2, median (IQR)	−2.2 (−9.3 to 4.5)
Relative change in eGFR level, %, median (IQR)	−5.4 (−21.5 to 11.4)
eGFR slope before AKI, ml/min/1.73m^2/year, median (IQR)	−2.3 (−5.3 to −0.2)
eGFR slope after AKI, ml/min/1.73m^2/year, median (IQR)	−0.9 (−4.0 to 1.8)
Change in eGFR slope, ml/min/1.73m^2/year, median (IQR)	1.6 (−3.1 to 6.8)

Abbreviations: AKI, acute kidney injury; eGFR, estimated glomerular filtration rate; IQR, interquartile range.

Table S4. Extrapolated eGFR levels and eGFR slopes before and after AKI in individuals with a baseline eGFR ≥60 ml/min/1.73m^2 stratified by age group

Age group	Median (IQR)
<40 years (*n*=4,215)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	128.5 (112.6-141.5)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	121.1 (102.7-131.4)
Change in eGFR level, ml/min/1.73m^2	−8.0 (−19.0 to 0.6)
Relative change in eGFR level, %	−6.4 (−14.5 to 0.5)
eGFR slope before AKI, ml/min/1.73m^2/year	0.8 (−2.2 to 5.3)
eGFR slope after AKI, ml/min/1.73m^2/year	−0.9 (−3.4 to 1.8)
Change in eGFR slope, ml/min/1.73m^2/year	−2.0 (−8.6 to 3.3)
40-59 years (*n*=14,300)	
Extrapolated eGFR level at th2e time of AKI (regression before AKI), ml/min/1.73m^2	100.0 (80.6-111.0)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	93.0 (70.6-107.9)
Change in eGFR level, ml/min/1.73m^2	−5.2 (−15.7 to 2.0)
Relative change in eGFR level, %	−5.2 (−16.6 to 2.1)
eGFR slope before AKI, ml/min/1.73m^2/year	−0.7 (−3.2 to 1.7)
eGFR slope after AKI, ml/min/1.73m^2/year	−0.7 (−3.5 to 1.9)
Change in eGFR slope, ml/min/1.73m^2/year	−0.1 (−5.1 to 4.8)
60-79 years (*n*=35,413)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	85.4 (71.6-95.4)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	78.4 (61.5-92.7)
Change in eGFR level, ml/min/1.73m^2	−5.4 (−15.7 to 1.9)
Relative change in eGFR level, %	−6.3 (−19.1 to 2.2)
eGFR slope before AKI, ml/min/1.73m^2/year	−0.8 (−3.0 to 1.2)
eGFR slope after AKI, ml/min/1.73m^2/year	−1.0 (−4.3 to 1.8)
Change in eGFR slope, ml/min/1.73m^2/year	−0.3 (−5.3 to 4.4)
≥80 years (*n*=10,877)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	78.4 (69.3-85.3)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	72.2 (57.0-83.5)
Change in eGFR level, ml/min/1.73m^2	−5.7 (−16.4 to 1.9)
Relative change in eGFR level, %	−7.1 (−21.6 to 2.4)
eGFR slope before AKI, ml/min/1.73m^2/year	−0.8 (−2.6 to 1.1)
eGFR slope after AKI, ml/min/1.73m^2/year	−1.1 (−4.9 to 2.2)
Change in eGFR slope, ml/min/1.73m^2/year	−0.5 (−5.6 to 4.4)

Abbreviations: AKI, acute kidney injury; eGFR, estimated glomerular filtration rate; IQR, interquartile range.

Table S5. Extrapolated eGFR levels and eGFR slopes before and after AKI in individuals with a baseline eGFR <60 ml/min/1.73m^2 stratified by age group

Age group	Median (IQR)
<40 years (*n*=166)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	35.7 (24.5-50.0)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	33.9 (23.3-51.1)
Change in eGFR level, ml/min/1.73m^2	−0.7 (−5.6 to 5.2)
Relative change in eGFR level, %	−2.3 (−18.9 to 16.5)
eGFR slope before AKI, ml/min/1.73m^2/year	−5.4 (−10.9 to −2.7)
eGFR slope after AKI, ml/min/1.73m^2/year	−3.2 (−8.7 to 0.2)
Change in eGFR slope, ml/min/1.73m^2/year	1.9 (−3.7 to 9.0)
40-59 years (*n*=1,972)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	47.0 (36.4-54.3)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	43.1 (31.6-53.2)
Change in eGFR level, ml/min/1.73m^2	−2.0 (−8.6 to 4.5)
Relative change in eGFR level, %	−4.6 (−19.5 to 11.7)
eGFR slope before AKI, ml/min/1.73m^2/year	−3.1 (−7.4 to −0.6)
eGFR slope after AKI, ml/min/1.73m^2/year	−1.0 (−4.1 to 1.6)
Change in eGFR slope, ml/min/1.73m^2/year	2.3 (−2.4 to 8.3)
60-79 years (*n*=19,138)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	45.6 (36.4-53.0)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	41.1 (31.6-50.8)
Change in eGFR level, ml/min/1.73m^2	−2.4 (−9.3 to 4.1)
Relative change in eGFR level, %	−5.6 (−20.8 to 10.1)
eGFR slope before AKI, ml/min/1.73m^2/year	−2.4 (−5.4 to −0.3)
eGFR slope after AKI, ml/min/1.73m^2/year	−0.8 (−3.6 to 1.7)
Change in eGFR slope, ml/min/1.73m^2/year	1.7 (−2.6 to 6.6)
≥80 years (*n*=11,991)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	41.1 (32.2-49.8)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	37.2 (27.9-47.9)
Change in eGFR level, ml/min/1.73m^2	−2.0 (−9.0 to 4.6)
Relative change in eGFR level, %	−5.4 (−22.4 to 12.5)
eGFR slope before AKI, ml/min/1.73m^2/year	−2.0 (−4.6 to −0.1)
eGFR slope after AKI, ml/min/1.73m^2/year	−1.0 (−4.5 to 1.9)
Change in eGFR slope, ml/min/1.73m^2/year	1.1 (−3.7 to 6.1)

Abbreviations: AKI, acute kidney injury; eGFR, estimated glomerular filtration rate; IQR, interquartile range.

Table S6. Extrapolated eGFR levels and eGFR slopes before and after AKI by baseline eGFR groups

Age group	Median (IQR)
Baseline ≥90 ml/min/1.73m^2 (*n*=)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	102.0 (94.8-112.9)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	97.8 (87.4-109.8)
Change in eGFR level, ml/min/1.73m^2	-5.2 (-14.8 to 1.0)
Relative change in eGFR level, %	-5.0 (-13.6 to 1.0)
eGFR slope before AKI, ml/min/1.73m^2/year	-0.3 (-2.0 to 1.9)
eGFR slope after AKI, ml/min/1.73m^2/year	-0.9 (-3.6 to 1.4)
Change in eGFR slope, ml/min/1.73m^2/year	-0.9 (-5.8 to 3.1)
Baseline 60-89 ml/min/1.73m^2 (*n*=)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	75.0 (66.5-82.9)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	67.6 (55.3-80.1)
Change in eGFR level, ml/min/1.73m^2	-5.9 (-17.0 to 2.6)
Relative change in eGFR level, %	-7.9 (-22.9 to 3.5)
eGFR slope before AKI, ml/min/1.73m^2/year	-1.2 (-3.6 to 1.1)
eGFR slope after AKI, ml/min/1.73m^2/year	-0.9 (-4.6 to 2.3)
Change in eGFR slope, ml/min/1.73m^2/year	0.2 (-5.3 to 5.6)
Baseline 45-59 ml/min/1.73m^2 (*n*=)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	51.8 (47.5-56.2)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	47.6 (39.2-55.7)
Change in eGFR level, ml/min/1.73m^2	-3.9 (-12.2 to 3.8)
Relative change in eGFR level, %	-7.5 (-23.3 to 7.5)
eGFR slope before AKI, ml/min/1.73m^2/year	-2.1 (-5.2 to 0.1)
eGFR slope after AKI, ml/min/1.73m^2/year	-0.8 (-4.2 to 2.1)
Change in eGFR slope, ml/min/1.73m^2/year	1.5 (-3.5 to 6.8)
Baseline <45 ml/min/1.73m^2 (*n*=)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	34.5 (27.9-39.8)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	32.1 (25.0-39.7)
Change in eGFR level, ml/min/1.73m^2	-1.0 (-6.6 to 4.6)
Relative change in eGFR level, %	-3.1 (-19.2 to 14.9)
eGFR slope before AKI, ml/min/1.73m^2/year	-2.5 (-5.2 to -0.6)
eGFR slope after AKI, ml/min/1.73m^2/year	-1.0 (-3.8 to 1.4)
Change in eGFR slope, ml/min/1.73m^2/year	1.5 (-2.4 to 6.1)

Abbreviations: AKI, acute kidney injury; eGFR, estimated glomerular filtration rate; IQR, interquartile range.

Table S7. Extrapolated eGFR levels and eGFR slopes before and after AKI in individuals with a baseline eGFR ≥60 ml/min/1.73m^2 stratified by AKI stage, location, and setting

Stage of AKI	**Median (IQR)**
Stage 1 (*n*=49,927)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	86.9 (73.4-100.6)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	81.6 (63.7-97.4)
Change in eGFR level, ml/min/1.73m^2	−5.5 (−15.7 to 1.8)
Relative change in eGFR level, %	−6.0 (−17.9 to 2.0)
eGFR slope before AKI, ml/min/1.73m^2/year	−0.7 (−2.9 to 1.5)
eGFR slope after AKI, ml/min/1.73m^2/year	−0.9 (−4.1 to 1.8)
Change in eGFR slope, ml/min/1.73m^2/year	−0.4 (−5.5 to 4.4)
Stage 2 (*n*=10,257)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	85.9 (72.8-98.7)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	79.9 (62.3-95.3)
Change in eGFR level, ml/min/1.73m^2	−5.4 (−16.7 to 2.2)
Relative change in eGFR level, %	−6.0 (−20.0 to 2.5)
eGFR slope before AKI, ml/min/1.73m^2/year	−0.8 (−3.0 to 1.3)
eGFR slope after AKI, ml/min/1.73m^2/year	−0.9 (−4.5 to 1.9)
Change in eGFR slope, ml/min/1.73m^2/year	−0.3 (−5.9 to 4.5)
Stage 3 (*n*=4,621)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	86.5 (73.5-98.1)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	78.0 (60.3-94.9)
Change in eGFR level, ml/min/1.73m^2	−6.7 (−19.0 to 1.6)
Relative change in eGFR level, %	−7.6 (−22.8 to 1.8)
eGFR slope before AKI, ml/min/1.73m^2/year	−0.8 (−2.9 to 1.2)
eGFR slope after AKI, ml/min/1.73m^2/year	−0.8 (−4.2 to 2.2)
Change in eGFR slope, ml/min/1.73m^2/year	0.0 (−5.3 to 4.7)
Location at the time of AKI	
Community-acquired (*n*=41,350)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	88.0 (74.1-101.9)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	81.7 (63.3-98.1)
Change in eGFR level, ml/min/1.73m^2	−6.2 (−16.8 to 1.2)
Relative change in eGFR level, %	−6.8 (−19.0 to 1.4)
eGFR slope before AKI, ml/min/1.73m^2/year	−0.8 (−3.1 to 1.5)
eGFR slope after AKI, ml/min/1.73m^2/year	−0.8 (−4.0 to 2.0)
Change in eGFR slope, ml/min/1.73m^2/year	−0.2 (−5.3 to 4.8)

Hospital-acquired (*n*=23,455)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	84.7 (72.1-97.1)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	80.0 (63.1-95.0)
Change in eGFR level, ml/min/1.73m^2	−4.3 (−14.6 to 2.8)
Relative change in eGFR level, %	−4.9 (−17.5 to 3.3)
eGFR slope before AKI, ml/min/1.73m^2/year	−0.7 (−2.6 to 1.4)
eGFR slope after AKI, ml/min/1.73m^2/year	−1.1 (−4.5 to 1.6)
Change in eGFR slope, ml/min/1.73m^2/year	−0.7 (−5.9 to 3.8)
Setting of AKI	
Sepsis-related (*n*=2,645)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	85.0 (72.0-97.4)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	79.8 (62.4-94.8)
Change in eGFR level, ml/min/1.73m^2	−5.2 (−15.1 to 2.4)
Relative change in eGFR level, %	−5.7 (−18.1 to 2.8)
eGFR slope before AKI, ml/min/1.73m^2/year	−0.6 (−2.6 to 1.3)
eGFR slope after AKI, ml/min/1.73m^2/year	−1.1 (−4.8 to 1.8)
Change in eGFR slope, ml/min/1.73m^2/year	−0.6 (−5.8 to 4.2)
Surgery-related (*n*=15,594)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	84.8 (71.6-97.3)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	79.4 (62.7-94.8)
Change in eGFR level, ml/min/1.73m^2	−4.5 (−15.2 to 2.6)
Relative change in eGFR level, %	−5.1 (−18.2 to 3.0)
eGFR slope before AKI, ml/min/1.73m^2/year	−0.7 (−2.6 to 1.3)
eGFR slope after AKI, ml/min/1.73m^2/year	−1.0 (−4.3 to 1.5)
Change in eGFR slope, ml/min/1.73m^2/year	−0.5 (−5.4 to 3.8)

Abbreviations: AKI, acute kidney injury; eGFR, estimated glomerular filtration rate; IQR, interquartile range.

Table S8. Extrapolated eGFR levels and eGFR slopes before and after AKI in individuals with a baseline eGFR <60 ml/min/1.73m^2 stratified by AKI stage, location, and setting

Stage of AKI	**Median (IQR)**
Stage 1 (*n*=26,093)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	43.8 (34.6-51.9)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	39.8 (30.3-50.1)
Change in eGFR level, ml/min/1.73m^2	−2.1 (−8.8 to 4.3)
Relative change in eGFR level, %	−5.2 (−20.6 to 11.0)
eGFR slope before AKI, ml/min/1.73m^2/year	−2.3 (−5.1 to −0.3)
eGFR slope after AKI, ml/min/1.73m^2/year	−0.9 (−4.0 to 1.8)
Change in eGFR slope, ml/min/1.73m^2/year	1.5 (−2.9 to 6.4)
Stage 2 (*n*=4,254)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	47.2 (39.4-53.7)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	41.6 (32.1-51.3)
Change in eGFR level, ml/min/1.73m^2	−3.9 (−11.7 to 3.6)
Relative change in eGFR level, %	−8.4 (−25.3 to 8.6)
eGFR slope before AKI, ml/min/1.73m^2/year	−2.2 (−5.2 to −0.2)
eGFR slope after AKI, ml/min/1.73m^2/year	−0.7 (−3.9 to 2.1)
Change in eGFR slope, ml/min/1.73m^2/year	1.8 (−3.1 to 6.8)
Stage 3 (*n*=2,920)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	40.6 (26.9-51.3)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	36.1 (24.8-48.1)
Change in eGFR level, ml/min/1.73m^2	−1.5 (−8.8 to 4.6)
Relative change in eGFR level, %	−4.2 (−22.5 to 14.2)
eGFR slope before AKI, ml/min/1.73m^2/year	−2.4 (−5.4 to −0.4)
eGFR slope after AKI, ml/min/1.73m^2/year	−0.8 (−3.9 to 1.5)
Change in eGFR slope, ml/min/1.73m^2/year	1.6 (−2.6 to 6.3)
Location at the time of AKI	
Community-acquired (*n*=18,096)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	44.3 (34.9-52.2)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	39.2 (29.5-49.5)
Change in eGFR level, ml/min/1.73m^2	−2.9 (−10.3 to 3.8)
Relative change in eGFR level, %	−7.1 (−24.0 to 9.6)
eGFR slope before AKI, ml/min/1.73m^2/year	−2.6 (−5.8 to −0.4)
eGFR slope after AKI, ml/min/1.73m^2/year	−0.7 (−3.7 to 2.1)
Change in eGFR slope, ml/min/1.73m^2/year	2.1 (−2.5 to 7.6)

Hospital-acquired (*n*=15,171)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	44.0 (34.3-52.1)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	40.6 (30.8-50.7)
Change in eGFR level, ml/min/1.73m^2	−1.5 (−7.8 to 4.7)
Relative change in eGFR level, %	−3.7 (−18.2 to 12.4)
eGFR slope before AKI, ml/min/1.73m^2/year	−2.0 (−4.5 to −0.1)
eGFR slope after AKI, ml/min/1.73m^2/year	−1.1 (−4.2 to 1.3)
Change in eGFR slope, ml/min/1.73m^2/year	1.0 (−3.4 to 5.3)
Setting of AKI	
Sepsis-related (*n*=1,529)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	44.4 (34.6-52.3)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	40.7 (30.5-50.9)
Change in eGFR level, ml/min/1.73m^2	−2.1 (−8.6 to 4.4)
Relative change in eGFR level, %	−5.2 (−20.2 to 11.1)
eGFR slope before AKI, ml/min/1.73m^2/year	−1.9 (−4.4 to 0.0)
eGFR slope after AKI, ml/min/1.73m^2/year	−1.0 (−4.4 to 1.7)
Change in eGFR slope, ml/min/1.73m^2/year	0.9 (−3.8 to 5.6)
Surgery-related (*n*=9,087)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	45.4 (36.0-52.9)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	41.7 (32.0-51.4)
Change in eGFR level, ml/min/1.73m^2	−1.7 (−8.1 to 4.3)
Relative change in eGFR level, %	−4.0 (−18.2 to 11.0)
eGFR slope before AKI, ml/min/1.73m^2/year	−2.0 (−4.5 to −0.2)
eGFR slope after AKI, ml/min/1.73m^2/year	−1.0 (−3.8 to 1.2)
Change in eGFR slope, ml/min/1.73m^2/year	1.0 (−3.1 to 5.1)

Abbreviations: AKI, acute kidney injury; eGFR, estimated glomerular filtration rate; IQR, interquartile range.

Table S9. Extrapolated eGFR levels and eGFR slopes before and after AKI in individuals with a baseline eGFR ≥60 ml/min/1.73m^2 stratified by calendar period

Calendar period	Median (IQR)
2010-2013 (*n*=19,302)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	87.2 (73.4-100.8)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	80.8 (63.2-97.0)
Change in eGFR level, ml/min/1.73m^2	−5.9 (−16.4 to 1.4)
Relative change in eGFR level, %	−6.5 (−18.8 to 1.6)
eGFR slope before AKI, ml/min/1.73m^2/year	−0.7 (−4.4 to 2.9)
eGFR slope after AKI, ml/min/1.73m^2/year	−1.0 (−3.3 to 0.8)
Change in eGFR slope, ml/min/1.73m^2/year	−0.5 (−5.9 to 4.4)
2014-2015 (*n*=21,641)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	87.4 (73.9-101.0)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	81.7 (63.9-97.4)
Change in eGFR level, ml/min/1.73m^2	−5.8 (−15.9 to 1.5)
Relative change in eGFR level, %	−6.3 (−18.1 to 1.6)
eGFR slope before AKI, ml/min/1.73m^2/year	−0.6 (−2.5 to 1.4)
eGFR slope after AKI, ml/min/1.73m^2/year	−0.9 (−3.7 to 1.5)
Change in eGFR slope, ml/min/1.73m^2/year	−0.5 (−4.7 to 3.3)
2016-2017 (*n*=23,862)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	85.9 (72.7-98.7)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	80.7 (62.7-96.3)
Change in eGFR level, ml/min/1.73m^2	−5.0 (−16.0 to 2.6)
Relative change in eGFR level, %	−5.5 (−18.7 to 2.9)
eGFR slope before AKI, ml/min/1.73m^2/year	−0.8 (−2.5 to 0.8)
eGFR slope after AKI, ml/min/1.73m^2/year	−0.7 (−5.9 to 3.9)
Change in eGFR slope, ml/min/1.73m^2/year	−0.1 (−6.2 to 5.8)

Abbreviations: AKI, acute kidney injury; eGFR, estimated glomerular filtration rate; IQR, interquartile range.

Table S10. Extrapolated eGFR levels and eGFR slopes before and after AKI in individuals with a baseline eGFR <60 ml/min/1.73m^2 stratified by calendar period

Calendar period	Median (IQR)
2010-2013 (*n*=10,346)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	43.2 (33.7-51.5)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	39.1 (29.6-49.3)
Change in eGFR level, ml/min/1.73m^2	−2.1 (−9.0 to 4.3)
Relative change in eGFR level, %	−5.4 (−21.1 to 11.5)
eGFR slope before AKI, ml/min/1.73m^2/year	−2.7 (−7.1 to 0.5)
eGFR slope after AKI, ml/min/1.73m^2/year	−0.9 (−3.2 to 1.0)
Change in eGFR slope, ml/min/1.73m^2/year	1.8 (−3.1 to 7.2)
2014-2015 (*n*=10,226)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	44.6 (35.4-52.4)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	40.4 (30.6-50.4)
Change in eGFR level, ml/min/1.73m^2	−2.2 (−9.0 to 4.1)
Relative change in eGFR level, %	−5.3 (−20.4 to 10.5)
eGFR slope before AKI, ml/min/1.73m^2/year	−2.2 (−4.8 to −0.4)
eGFR slope after AKI, ml/min/1.73m^2/year	−0.8 (−3.5 to 1.4)
Change in eGFR slope, ml/min/1.73m^2/year	1.5 (−2.1 to 5.4)
2016-2017 (*n*=12,695)	
Extrapolated eGFR level at the time of AKI (regression before AKI), ml/min/1.73m^2	44.6 (34.9-52.3)
Extrapolated eGFR level at the time of AKI (regression after AKI), ml/min/1.73m^2	40.0 (30.0-50.3)
Change in eGFR level, ml/min/1.73m^2	−2.3 (−9.5 to 4.4)
Relative change in eGFR level, %	−5.7 (−22.2 to 11.0)
eGFR slope before AKI, ml/min/1.73m^2/year	−2.1 (−4.4 to −0.5)
eGFR slope after AKI, ml/min/1.73m^2/year	−0.9 (−5.2 to 3.1)
Change in eGFR slope, ml/min/1.73m^2/year	1.4 (−3.6 to 6.9)

Abbreviations: AKI, acute kidney injury; eGFR, estimated glomerular filtration rate; IQR, interquartile range.

Table S11. Characteristics of individuals with a rapid decline in eGFR after AKI

	Baseline eGFR ≥60 ml/min/1.73m^2, n (%)	Baseline eGFR <60 ml/min/1.73m^2, n (%)
Number of individuals	13,869	6,715
Female	5,255 (38%)	4,961 (74%)
Age (years), median (IQR)	70 (60-78)	77 (70-84)
pCr at index (µmol/l), median (IQR)	112 (90-135)	171 (142-213)
Baseline eGFR (ml/min/1.73m^2), median (IQR)	85 (73-97)	47 (37-54)
No. of outpatient pCr measurements before index, median (IQR)	9 (5-15)	10 (6-17)
AKI stage		
Stage 1	10,501 (76%)	5,274 (79%)
Stage 2	2,366 (17%)	852 (13%)
Stage 3	1,002 (7.2%)	589 (8.8%)
Comorbidity (within prior 10 years)		
Hospital-diagnosed hypertension	6,003 (43%)	3,711 (55%)
Atrial fibrillation/flutter	2,374 (17%)	1,931 (29%)
Ischemic heart disease	2,682 (19%)	2,134 (32%)
Heart failure	1,822 (13%)	1,647 (25%)
Stroke	1,254 (9.0%)	805 (12%)
Kidney disease[a]	726 (5.2%)	929 (14%)
Asthma	695 (5.0%)	225 (3.4%)
Chronic obstructive pulmonary disease	2,122 (15%)	1,109 (17%)
Chronic liver disease	813 (5.9%)	158 (2.4%)
Connective tissue disease	1,069 (7.7%)	446 (6.6%)
Cancer	3,889 (28%)	1,870 (28%)
Overweight or obesity	1,491 (11%)	623 (9.3%)
Diabetes[b]	4,239 (31%)	2,542 (38%)
Prescription drug use (within prior 90 days)		
ACE-I/ARB	6,032 (43%)	3,773 (56%)
Thiazide or loop diuretics	5,842 (42%)	3,784 (56%)
Calcium channel blockers	3,625 (26%)	2,216 (33%)
NSAID	2,084 (15%)	852 (13%)
Antibiotics	4,015 (29%)	2,053 (31%)
Statins	4,299 (31%)	2,704 (40%)
Cytostatic	793 (5.7%)	210 (3.1%)
Follow-up information		
Duration of follow-up, median (IQR), y	2.3 (1.5-3.5)	2.0 (1.3-2.9)
No. of outpatient pCr measurements after index, median (IQR)	11 (7-20)	11 (7-18)
Deaths within one year after AKI	822 (5.9%)	615 (9.2%)
Deaths within five years after AKI	5,890 (42%)	3959 (59%)
Kidney failure within one year after AKI	25 (0.2%)	151 (2.2%)

Kidney failure within five years after AKI	218 (1.6%)	703 (10.5%)

Notes: [a]Including diabetic nephropathy, hypertensive kidney disease, glomerular disease, tubulo-interstitial disease, and congenital kidney disease. [b]Based on both diagnosis and prescription drug use.

Abbreviations: ACE-I, angiotensin-converting enzyme inhibitor; AKI, acute kidney injury; ARB, Angiotensin II receptor blocker, eGFR, estimated glomerular filtration rate; IQR, interquartile range; NSAID, Non-steroidal anti-inflammatory drug, pCr, plasma creatinine.