

ACEis	7,682 (43.3%)	2,802 (54.5%)	2,025 (48.4%)	7,710 (43.8%)	0.99 (0.97-1.01)	2,545 (49.5%)	1.10 (1.06-1.14)	1,649 (39.7%)	1.22 (1.16-1.28)
ARBs	3,762 (21.2%)	977 (19.0%)	954 (22.8%)	4,829 (27.4%)	0.77 (0.74-0.80)	951 (18.5%)	1.03 (0.95-1.11)	923 (22.2%)	1.03 (0.95-1.11)
Spirolactone	4,017 (22.6%)	1,934 (37.6%)	891 (21.3%)	2,799 (15.9%)	1.42 (1.36-1.49)	1,513 (29.4%)	1.28 (1.21-1.35)	438 (10.6%)	2.02 (1.82-2.24)
Potassium supplements	6,010 (33.9%)	3,010 (58.5%)	1,214 (29.0%)	5,997 (34.1%)	0.99 (0.97-1.02)	3,031 (59.0%)	0.99 (0.96-1.03)	969 (23.3%)	1.24 (1.16-1.34)

¹Chronic kidney disease; ²Heart failure; ³Prevalence ratio of each characteristic in patients with hyperkalemia versus matched comparisons without hyperkalemia; ⁴mL/min/1.73m²; ⁵Myocardial infarction; ⁶Peripheral vascular disease; ⁷Cerebrovascular disease; ⁸Valvular heart disease

ACEis	3,402 (45.7%)	1,350 (53.8%)	694 (48.2%)	3,312 (44.8%)	1.02 (0.98-1.06)	1,305 (52.0%)	1.03 (0.98-1.09)	626 (43.6%)	1.11 (1.02-1.20)
ARBs	1,627 (21.8%)	503 (20.0%)	337 (23.4%)	1,987 (26.9%)	0.81 (0.77-0.86)	470 (18.7%)	1.07 (0.96-1.20)	333 (23.2%)	1.01 (0.88-1.15)
Spironolactone	2,124 (28.5%)	1,057 (42.1%)	442 (30.7%)	1,395 (18.9%)	1.51 (1.42-1.60)	861 (34.3%)	1.23 (1.14-1.32)	192 (13.4%)	2.30 (1.97-2.68)
Potassium supplements	2,837 (38.1%)	1,487 (59.2%)	544 (37.8%)	2,719 (36.8%)	1.04 (0.99-1.08)	1,454 (57.9%)	1.02 (0.98-1.07)	380 (26.5%)	1.43 (1.28-1.59)

¹Chronic kidney disease; ²Heart failure; ³Prevalence ratio of each characteristic in patients with hyperkalemia versus matched comparisons without hyperkalemia; ⁴mL/min/1.73m²; ⁵Myocardial infarction; ⁶Peripheral vascular disease; ⁷Cerebrovascular disease; ⁸Valvular heart disease

Supplementary Table S3. Baseline characteristics of patients with hyperkalemia (serum potassium above 6.0 mmol/L), and matched comparisons without hyperkalemia (no serum potassium above 6.0 mmol/L). Prevalence ratios (with 95% CIs) of characteristics in hyperkalemia patients (serum potassium above 6.0 mmol/L) vs their matched comparisons are shown.

	Patients with hyperkalemia			Matched comparisons without hyperkalemia					
	CKD ¹	HF ²	Diabetes	CKD	PR ³	HF	PR ³	Diabetes	PR ³
Total	3,258 (100%)	1,164 (100%)	574 (100%)	3,250 (100%)	1.00 (1.00-1.00)	1,164 (100%)	1.00 (1.00-1.00)	585 (100%)	1.00 (1.00-1.00)
Female	1,435 (44.0%)	523 (44.9%)	213 (37.1%)	1,428 (43.9%)	1.00 (0.95-1.06)	523 (44.9%)	1.00 (0.91-1.09)	215 (36.8%)	1.01 (0.87-1.17)
Median age (range)	75 (64.7-82.4)	79 (69.8-84.8)	72 (62.1-80.4)	75 (65.1-82.6)	. (-.)	79 (69.7-84.8)	. (-.)	72 (62.3-80.4)	. (-.)
<65	836 (25.7%)	185 (15.9%)	184 (32.1%)	803 (24.7%)	1.04 (0.96-1.13)	185 (15.9%)	1.00 (0.83-1.21)	187 (32.0%)	1.00 (0.85-1.19)
65-74	794 (24.4%)	265 (22.8%)	163 (28.4%)	798 (24.6%)	0.99 (0.91-1.08)	265 (22.8%)	1.00 (0.86-1.16)	167 (28.5%)	0.99 (0.83-1.19)
75-84	1,052 (32.3%)	431 (37.0%)	165 (28.7%)	1,064 (32.7%)	0.99 (0.92-1.06)	431 (37.0%)	1.00 (0.90-1.11)	169 (28.9%)	1.00 (0.83-1.19)
85+	576 (17.7%)	283 (24.3%)	62 (10.8%)	585 (18.0%)	0.98 (0.88-1.09)	283 (24.3%)	1.00 (0.87-1.15)	62 (10.6%)	1.02 (0.73-1.42)
eGFR level ⁴									
eGFR ≥60	10 (0.3%)	39 (3.4%)	55 (9.6%)	48 (1.5%)	0.21 (0.11-0.41)	127 (10.9%)	0.31 (0.22-0.44)	211 (36.1%)	0.27 (0.20-0.35)
eGFR 45-59	246 (7.6%)	62 (5.3%)	56 (9.8%)	646 (19.9%)	0.38 (0.33-0.44)	162 (13.9%)	0.38 (0.29-0.51)	135 (23.1%)	0.42 (0.32-0.56)
eGFR 30-44	633 (19.4%)	188 (16.2%)	106 (18.5%)	972 (29.9%)	0.65 (0.60-0.71)	307 (26.4%)	0.61 (0.52-0.72)	126 (21.5%)	0.86 (0.68-1.08)
eGFR 15-29	1,166 (35.8%)	456 (39.2%)	178 (31.0%)	1,004 (30.9%)	1.16 (1.08-1.24)	388 (33.3%)	1.18 (1.05-1.31)	74 (12.6%)	2.45 (1.92-3.13)
eGFR <15	1,039 (31.9%)	355 (30.5%)	157 (27.4%)	484 (14.9%)	2.14 (1.94-2.36)	133 (11.4%)	2.67 (2.23-3.20)	18 (3.1%)	8.89 (5.53-14.28)
Dialysis	164 (5.0%)	64 (5.5%)	21 (3.7%)	79 (2.4%)	2.07 (1.59-2.70)	31 (2.7%)	2.06 (1.35-3.15)	6 (1.0%)	3.57 (1.45-8.77)
Qualifying event of hyperkalemia									
5.5-5.9									
6.0-6.4	2,002 (61.4%)	713 (61.3%)	358 (62.4%)	0 (0.0%)	(-)	0 (0.0%)	(-)	0 (0.0%)	(-)
6.5-6.9	711 (21.8%)	258 (22.2%)	127 (22.1%)	0 (0.0%)	(-)	0 (0.0%)	(-)	0 (0.0%)	(-)
≥7.0	545 (16.7%)	193 (16.6%)	89 (15.5%)	0 (0.0%)	(-)	0 (0.0%)	(-)	0 (0.0%)	(-)
Main risk factors									
Diabetes	1,060 (32.5%)	412 (35.4%)	574 (100%)	963 (29.6%)	1.10 (1.02-1.18)	327 (28.1%)	1.26 (1.12-1.42)	585 (100%)	1.00 (1.00-1.00)
CKD	3,258 (100%)	910 (78.2%)	389 (67.8%)	3,250 (100%)	1.00 (1.00-1.00)	835 (71.7%)	1.09 (1.04-1.14)	306 (52.3%)	1.30 (1.18-1.43)
Heart failure	845 (25.9%)	1,164 (100%)	166 (28.9%)	720 (22.2%)	1.17 (1.07-1.28)	1,164 (100%)	1.00 (1.00-1.00)	104 (17.8%)	1.63 (1.31-2.02)
Hypertension	2,530 (77.7%)	1,041 (89.4%)	478 (83.3%)	2,759 (84.9%)	0.91 (0.89-0.94)	1,056 (90.7%)	0.99 (0.96-1.01)	457 (78.1%)	1.07 (1.01-1.13)
Other comorbidities									
MI ⁵	544 (16.7%)	358 (30.8%)	107 (18.6%)	622 (19.1%)	0.87 (0.79-0.97)	393 (33.8%)	0.91 (0.81-1.02)	132 (22.6%)	0.83 (0.66-1.04)
HF	780 (23.9%)	0 (0.0%)	153 (26.7%)	706 (21.7%)	1.10 (1.01-1.21)	0 (0.0%)	. (-.)	102 (17.4%)	1.53 (1.22-1.91)
PVD ⁶	501 (15.4%)	219 (18.8%)	81 (14.1%)	497 (15.3%)	1.01 (0.90-1.13)	206 (17.7%)	1.06 (0.90-1.26)	97 (16.6%)	0.85 (0.65-1.12)
CVD ⁷	603 (18.5%)	244 (21.0%)	110 (19.2%)	750 (23.1%)	0.80 (0.73-0.88)	255 (21.9%)	0.96 (0.82-1.12)	138 (23.6%)	0.81 (0.65-1.01)
Any malignant disease	767 (23.5%)	200 (17.2%)	121 (21.1%)	746 (23.0%)	1.03 (0.94-1.12)	192 (16.5%)	1.04 (0.87-1.25)	147 (25.1%)	0.84 (0.68-1.04)
Afib or flutter	812 (24.9%)	488 (41.9%)	153 (26.7%)	711 (21.9%)	1.14 (1.04-1.24)	508 (43.6%)	0.96 (0.87-1.06)	102 (17.4%)	1.53 (1.22-1.91)
VHD ⁸	389 (11.9%)	272 (23.4%)	55 (9.6%)	308 (9.5%)	1.26 (1.09-1.45)	201 (17.3%)	1.35 (1.15-1.59)	48 (8.2%)	1.17 (0.81-1.69)
Charlson comorbidity index									
0	516 (15.8%)	145 (12.5%)	99 (17.2%)	599 (18.4%)	0.86 (0.77-0.96)	197 (16.9%)	0.74 (0.60-0.90)	109 (18.6%)	0.93 (0.72-1.18)
1	598 (18.4%)	217 (18.6%)	107 (18.6%)	601 (18.5%)	0.99 (0.90-1.10)	254 (21.8%)	0.85 (0.73-1.00)	118 (20.2%)	0.92 (0.73-1.17)
2	759 (23.3%)	225 (19.3%)	122 (21.3%)	729 (22.4%)	1.04 (0.95-1.14)	211 (18.1%)	1.07 (0.90-1.26)	131 (22.4%)	0.95 (0.76-1.18)
≥3	1,385 (42.5%)	577 (49.6%)	246 (42.9%)	1,321 (40.6%)	1.05 (0.99-1.11)	502 (43.1%)	1.15 (1.05-1.25)	227 (38.8%)	1.10 (0.96-1.27)

Medications									
ACEis	1,516 (46.5%)	659 (56.6%)	304 (53.0%)	1,485 (45.7%)	1.02 (0.97-1.07)	599 (51.5%)	1.10 (1.02-1.19)	262 (44.8%)	1.18 (1.05-1.33)
ARBs	711 (21.8%)	231 (19.8%)	128 (22.3%)	843 (25.9%)	0.84 (0.77-0.92)	249 (21.4%)	0.93 (0.79-1.09)	158 (27.0%)	0.83 (0.67-1.01)
Spironolactone	1,024 (31.4%)	533 (45.8%)	203 (35.4%)	637 (19.6%)	1.60 (1.47-1.75)	429 (36.9%)	1.24 (1.13-1.37)	82 (14.0%)	2.52 (2.01-3.17)
Potassium supplements	1,319 (40.5%)	723 (62.1%)	230 (40.1%)	1,202 (37.0%)	1.09 (1.03-1.16)	664 (57.0%)	1.09 (1.02-1.16)	168 (28.7%)	1.40 (1.19-1.64)

¹Chronic kidney disease; ²Heart failure; ³Prevalence ratio of each characteristic in patients with hyperkalemia versus matched comparisons without hyperkalemia; ⁴mL/min/1.73m²; ⁵Myocardial infarction; ⁶Peripheral vascular disease; ⁷Cerebrovascular disease; ⁸Valvular heart disease

Supplementary Table S4: Primary (first-listed) discharge diagnoses during acute hospital admissions during which HK occurred.

Chapter	CKD ¹			HF ²			Diabetes		
	Total number of patients admitted with the current chapter	Percentage (out of the cohort)	Percentage (out of the cohort with admissions)	Total number of patients admitted with the current chapter	Percentage (out of the cohort)	Percentage (out of the cohort with admissions)	Total number of patients admitted with the current chapter	Percentage (out of the cohort)	Percentage (out of the cohort with admissions)
	Number of patients	N=17,747			N=5,141			N=4,183	
Number of patients with acute hospital admission	N=7,069			N=2,897			N=1,288		
Event during acute hospital admission	7,069	39.8%	100%	2,897	56.4%	100%	1,288	30.8%	100%
Infectious diseases	432	2.4%	6.1%	108	2.1%	3.7%	88	2.1%	6.8%
Neoplasms	471	2.7%	6.7%	68	1.3%	2.3%	70	1.7%	5.4%
Hematological diseases	163	0.9%	2.3%	44	0.9%	1.5%	20	0.5%	1.6%
Endocrine, nutritional and metabolic disorders	455	2.6%	6.4%	125	2.4%	4.3%	167	4.0%	13.0%
Mental and behavioral disorders	40	0.2%	0.6%	12	0.2%	0.4%	8	0.2%	0.6%
Diseases of the nervous system	57	0.3%	0.8%	13	0.3%	0.4%	21	0.5%	1.6%
Diseases of the eye and adnexa	2	0.0%	0.0%	0	0.0%	0.0%	0	0.0%	0.0%
Diseases of the ear and mastoid process	3	0.0%	0.0%	0	0.0%	0.0%	1	0.0%	0.1%
Diseases of the circulatory system	1,377	7.8%	19.5%	1,280	24.9%	44.2%	213	5.1%	16.5%

Chapter	CKD ¹			HF ²			Diabetes		
	Total number of patients admitted with the current chapter	Percentage (out of the cohort)	Percentage (out of the cohort with admissions)	Total number of patients admitted with the current chapter	Percentage (out of the cohort)	Percentage (out of the cohort with admissions)	Total number of patients admitted with the current chapter	Percentage (out of the cohort)	Percentage (out of the cohort with admissions)
	Diseases of the respiratory system	1,054	5.9%	14.9%	516	10.0%	17.8%	207	4.9%
Diseases of the digestive system	797	4.5%	11.3%	183	3.6%	6.3%	147	3.5%	11.4%
Diseases of the skin and subcutaneous tissue	42	0.2%	0.6%	12	0.2%	0.4%	12	0.3%	0.9%
Musculoskeletal and connective tissue diseases	100	0.6%	1.4%	27	0.5%	0.9%	20	0.5%	1.6%
Diseases of the genitourinary system	623	3.5%	8.8%	121	2.4%	4.2%	76	1.8%	5.9%
Pregnancy, childbirth and the puerperium	3	0.0%	0.0%	0	0.0%	0.0%	8	0.2%	0.6%
Perinatal conditions	1	0.0%	0.0%	0	0.0%	0.0%	0	0.0%	0.0%
Congenital malformations	6	0.0%	0.1%	2	0.0%	0.1%	1	0.0%	0.1%
Symptoms, signs and abnormal findings	487	2.7%	6.9%	124	2.4%	4.3%	87	2.1%	6.8%
Injuries	543	3.1%	7.7%	127	2.5%	4.4%	84	2.0%	6.5%
External causes of morbidity and mortality	1	0.0%	0.0%	0	0.0%	0.0%	0	0.0%	0.0%

Chapter	CKD ¹			HF ²			Diabetes		
	Total number of patients admitted with the current chapter	Percentage (out of the cohort)	Percentage (out with admissions)	Total number of patients admitted with the current chapter	Percentage (out of the cohort)	Percentage (out with admissions)	Total number of patients admitted with the current chapter	Percentage (out of the cohort)	Percentage (out with admissions)
	Health status factors and health services contact	412	2.3%	5.8%	135	2.6%	4.7%	58	1.4%

¹Chronic kidney disease; ²Heart failure;

Supplementary Table S5. Healthcare resource use and mean costs (€) associated with elevated potassium level >5.5 mmol/L.

	Patients with hyperkalemia					Matched comparisons without hyperkalemia					Difference within the cohort – Difference within the comparisons (€) (95% CI)
	6 months before (€)	(Mean number of events)	6 months after (€)	(Mean number of events)	Difference within the cohort (€)	6 months before (€)	(Mean number of events)	6 months after (€)	(Mean number of events)	Difference within the comparisons (€)	
Chronic kidney disease											
Number of patients	N=7,447					N=7,391					
Acute hospitalizations ¹	5,549	(1.05)	11,508	(1.57)	5,959	2,419	(0.52)	2,720	(0.52)	301	5,658 (5,074;6,242)
Dialysis	50	(0.01)	249	(0.02)	199	57	(0.00)	69	(0.01)	12	187 (111;263)
Ventilator	1,147	(0.03)	4,031	(0.11)	2,883	414	(0.01)	545	(0.01)	132	2,752 (2,323;3,180)
ICU	1,455	(0.06)	4,739	(0.19)	3,283	508	(0.03)	688	(0.03)	179	3,104 (2,668;3,539)
Non-acute hospitalizations	2,085	(0.38)	3,158	(0.36)	1,073	1,260	(0.21)	1,144	(0.19)	-116	1,189 (875;1,504)
Outpatient visits	2,042	(5.62)	1,987	(6.25)	-55	1,254	(3.60)	1,350	(3.71)	96	-151 (-315;13)
GP consultations	89	(4.62)	71	(3.69)	-18	83	(4.30)	78	(4.05)	-5	-13 (-16;-11)
GP contacts	204	(16.16)	187	(14.60)	-17	143	(12.37)	144	(12.23)	1	-19 (-25;-12)
Prescriptions	654	(25.61)	426	(17.39)	-228	597	(22.45)	559	(21.93)	-38	-190 (-215;-164)
Overall cost	10,623	-	17,337	-	6,715	5,756	-	5,996	-	240	6,475 (5,752;7,197)
Heart failure											
Number of patients	N=2,511					N=2,511					
Acute hospitalizations	6,659	(1.42)	11,628	(1.69)	4,969	5,230	(1.14)	4,467	(0.96)	-762	5,731 (4,797;6,664)

Dialysis	155	(0.02)	214	(0.02)	59	47	(0.01)	41	(0.01)	-6	65 (-70;199)
Ventilator	911	(0.03)	3,872	(0.11)	2,961	606	(0.02)	620	(0.02)	14	2,947 (2,302;3,592)
ICU	1,282	(0.07)	4,688	(0.20)	3,406	816	(0.05)	805	(0.04)	-11	3,417 (2,719;4,115)
Non-acute hospitalizations	1,962	(0.30)	3,088	(0.32)	1,126	1,656	(0.24)	1,755	(0.24)	99	1,027 (439;1,616)
Outpatient visits	1,837	(5.70)	1,847	(6.15)	10	1,141	(4.16)	1,211	(4.72)	70	-60 (-282;162)
GP consultations	96	(4.97)	73	(3.81)	-23	98	(5.11)	92	(4.80)	-6	-17 (-22;-11)
GP contacts	263	(19.52)	218	(16.01)	-46	210	(16.60)	209	(16.46)	-1	-44 (-59;-29)
Prescriptions	704	(30.16)	429	(18.84)	-276	650	(26.90)	579	(25.96)	-70	-205 (-251;-159)
Overall cost	11,521	-	17,283	-	5,761	8,985	-	8,314	-	-671	6,432 (5,223;7,642)

Diabetes

Number of patients	N=4,183					N=4,151					
Acute hospitalizations	5,219	(0.97)	11,380	(1.49)	6,161	1,325	(0.31)	1,400	(0.32)	75	6,086 (4,757;7,415)
Dialysis	96	(0.01)	207	(0.02)	111	16	(0.00)	0	(0.00)	-16	128 (-23;278)
Ventilator	912	(0.03)	4,099	(0.11)	3,186	127	(0.00)	202	(0.01)	76	3,111 (2,142;4,080)
ICU	1,306	(0.06)	4,770	(0.20)	3,463	176	(0.01)	241	(0.01)	65	3,399 (2,382;4,416)
Non-acute hospitalizations	1,840	(0.32)	3,249	(0.36)	1,408	865	(0.16)	711	(0.14)	-154	1,562 (927;2,197)
Outpatient visits	1,896	(5.45)	1,850	(6.02)	-46	946	(2.95)	924	(2.91)	-22	-24 (-304;257)
GP consultations	102	(5.26)	82	(4.27)	-19	89	(4.61)	82	(4.29)	-6	-13 (-19;-7)
GP contacts	234	(18.88)	208	(16.49)	-26	151	(13.16)	148	(12.64)	-3	-23 (-39;-7)
Prescriptions	694	(27.36)	469	(19.01)	-225	532	(20.76)	513	(20.74)	-19	-207 (-275;-139)
Overall cost	9,985	-	17,238	-	7,253	3,907	-	3,779	-	-128	7,381 (5,802;8,961)

¹Acute hospitalizations with procedures of interest including dialysis, ventilator, and ICU are presented, respectively.

Supplementary Table S6. Healthcare resource use and mean costs (€) associated with elevated potassium level >6.0 mmol/L.

	Patients with hyperkalemia					Matched comparisons without hyperkalemia					Difference within the cohort – Difference within the comparisons (€) (95% CI)
	6 months before (€)	(Mean number of events)	6 months after (€)	(Mean number of events)	Difference within the cohort (€)	6 months before (€)	(Mean number of events)	6 months after (€)	(Mean number of events)	Difference within the comparisons (€)	
Chronic kidney disease											
Number of patients	N=3,258					N=3,250					
Acute hospitalizations ¹	6,732	(1.22)	13,414	(1.84)	6,682	2,781	(0.59)	3,182	(0.60)	401	6,281 (5,320;7,242)
Dialysis	99	(0.02)	362	(0.03)	264	24	(0.00)	89	(0.01)	65	198 (71;325)
Ventilator	1,529	(0.04)	4,337	(0.12)	2,808	400	(0.01)	611	(0.02)	211	2,597 (1,906;3,287)
ICU	1,891	(0.08)	5,230	(0.23)	3,338	565	(0.03)	761	(0.04)	195	3,143 (2,434;3,851)
Non-acute hospitalizations	2,642	(0.43)	3,113	(0.36)	471	1,374	(0.24)	1,217	(0.21)	-157	628 (131;1,125)
Outpatient visits	2,545	(6.72)	2,541	(7.49)	-4	1,544	(4.24)	1,546	(4.38)	2	-6 (-306;293)
GP consultations	89	(4.60)	63	(3.29)	-26	86	(4.47)	78	(4.06)	-8	-18 (-22;-13)
GP contacts	219	(16.91)	181	(13.74)	-37	154	(13.09)	155	(12.89)	1	-38 (-50;-27)
Prescriptions	676	(26.42)	364	(15.24)	-312	555	(22.04)	524	(21.60)	-31	-281 (-321;-241)
Overall cost	12,904	-	19,678	-	6,774	6,494	-	6,702	-	208	6,565 (5,392;7,738)
Heart failure											
Number of patients	N=1,164					N=1,164					
Acute hospitalizations	7,199	(1.57)	12,123	(1.77)	4,924	5,111	(1.17)	4,627	(1.01)	-484	5,408 (3,949;6,867)

Dialysis	171	(0.03)	239	(0.03)	68	97	(0.01)	80	(0.01)	-17	85 (-77;246)
Ventilator	849	(0.03)	3,741	(0.10)	2,892	377	(0.02)	714	(0.02)	336	2,556 (1,581;3,531)
ICU	1,303	(0.08)	4,972	(0.22)	3,669	564	(0.06)	865	(0.05)	301	3,368 (2,320;4,415)
Non-acute hospitalizations	2,139	(0.31)	2,747	(0.29)	608	1,577	(0.26)	1,698	(0.23)	122	487 (-376;1,349)
Outpatient visits	2,373	(7.03)	2,430	(7.33)	57	1,440	(4.79)	1,535	(5.27)	94	-37 (-418;343)
GP consultations	94	(4.87)	60	(3.12)	-34	100	(5.14)	90	(4.68)	-10	-25 (-32;-17)
GP contacts	283	(20.71)	195	(14.34)	-88	208	(16.78)	203	(16.17)	-4	-83 (-106;-61)
Prescriptions	776	(32.25)	358	(15.96)	-418	707	(28.52)	631	(27.53)	-76	-342 (-417;-267)
Overall cost	12,863	-	17,913	-	5,050	9,141	-	8,784	-	-358	5,407 (3,508;7,307)

Diabetes

Number of patients	N=574				N=585						
Acute hospitalizations	7,571	(1.19)	14,537	(1.81)	6,966	1,771	(0.41)	1,544	(0.35)	-227	7,193 (4,624;9,762)
Dialysis	108	(0.01)	356	(0.03)	248	0	(0.00)	0	(0.00)	0	248 (-35;532)
Ventilator	1,848	(0.05)	5,585	(0.13)	3,737	30	(0.00)	252	(0.01)	221	3,516 (1,544;5,488)
ICU	2,363	(0.11)	6,877	(0.26)	4,514	154	(0.01)	177	(0.01)	24	4,490 (2,497;6,484)
Non-acute hospitalizations	2,298	(0.32)	3,548	(0.39)	1,251	1,095	(0.17)	754	(0.14)	-341	1,591 (454;2,729)
Outpatient visits	2,317	(6.70)	2,261	(7.25)	-56	1,187	(3.65)	1,072	(3.42)	-115	59 (-441;559)
GP consultations	105	(5.42)	75	(3.90)	-30	93	(4.84)	84	(4.36)	-9	-20 (-30;-10)
GP contacts	240	(19.28)	202	(15.77)	-38	173	(14.40)	164	(13.41)	-9	-29 (-57;-2)
Prescriptions	759	(29.47)	381	(16.95)	-378	508	(20.31)	494	(20.60)	-15	-363 (-493;-234)

Overall cost	13,291	-	21,006	-	7,715	4,828	-	4,112	-	-715	8,430
											(5,481;11,379)

¹Acute hospitalizations with procedures of interest including dialysis, ventilator, and ICU are presented, respectively.

Number of time-at-risk by	N=5,141		N=3,702		N=5,141		N=4,655				
half-year term											
Acute hospitalizations	5,799	(1.30)	13,409	(2.12)	7,609	4,934	(1.12)	4,590	(1.03)	-344	7,954 (7,063;8,676)
Dialysis	85	(0.01)	211	(0.02)	126	36	(0.01)	34	(0.00)	-2	127 (49;229)
Ventilator	636	(0.02)	4,035	(0.12)	3,399	606	(0.02)	463	(0.02)	-143	3,542 (3,039;4,127)
ICU	928	(0.06)	4,808	(0.21)	3,880	830	(0.05)	692	(0.04)	-138	4,018 (3,457;4,607)
Non-acute hospitalizations	1,759	(0.29)	4,414	(0.45)	2,655	1,820	(0.28)	1,849	(0.26)	29	2,626 (2,163;3,105)
Outpatient visits	1,463	(4.84)	2,132	(7.80)	669	1,130	(4.03)	1,354	(5.11)	224	445 (283;614)
GP consultations	97	(5.04)	117	(6.11)	20	98	(5.07)	102	(5.31)	4	16 (12;20)
GP contacts	241	(18.17)	310	(23.29)	69	203	(16.06)	220	(17.41)	17	52 (41;63)
Prescriptions	647	(27.68)	653	(29.02)	7	622	(25.89)	644	(28.27)	21	-14 (-45;13)
Overall cost	10,006	-	21,035	-	11,029	8,807	-	8,758	-	-49	11,078 (10,031;12,034)

Diabetes

Number of time-at-risk by	N=4,183		N=3,572		N=4,151		N=4,073				
half-year term											
Acute hospitalizations	3,056	(0.66)	7,976	(1.15)	4,920	1,195	(0.28)	1,096	(0.25)	-98	5,019 (4,427;5,627)
Dialysis	33	(0.00)	85	(0.01)	52	9	(0.00)	0	(0.00)	-9	61 (7;118)
Ventilator	260	(0.01)	2,572	(0.07)	2,312	146	(0.00)	121	(0.00)	-25	2,337 (1,929;2,792)
ICU	440	(0.03)	3,075	(0.13)	2,635	166	(0.01)	166	(0.01)	-0	2,635 (2,216;3,076)
Non-acute hospitalizations	1,311	(0.23)	2,575	(0.34)	1,264	661	(0.12)	614	(0.12)	-48	1,312 (975;1,650)
Outpatient visits	1,369	(4.01)	1,704	(5.56)	336	955	(2.67)	948	(2.69)	-6	342 (176;520)

GP consultations	97	(4.99)	108	(5.61)	12	86	(4.45)	82	(4.25)	-4	15 (12;19)
GP contacts	189	(15.99)	228	(19.02)	39	143	(12.51)	140	(12.14)	-2	41 (33;49)
Prescriptions	548	(22.48)	547	(22.82)	-1	458	(18.08)	467	(19.30)	10	-11 (-37;17)
Overall cost	6,569	-	13,138	-	6,570	3,497	-	3,348	-	-149	6,719 (5,943;7,440)

¹Acute hospitalizations with procedures of interest including dialysis, ventilator, and ICU are presented, respectively.

†Cost weighted by time-at-risk was calculated as overall cost within the 6-month period divided by the total number of person in half-year term

Supplementary Table S8. Healthcare resource use and mean costs (€) associated with elevated potassium level >5.0 mmol/L 1 month before and after HK.

	Patients with hyperkalemia					Matched comparisons without hyperkalemia					Difference within the cohort – Difference within the comparisons (€) (95% CI)
	6 months before (€)	(Mean number of events)	6 months after (€)	(Mean number of events)	Difference within the cohort (€)	6 months before (€)	(Mean number of events)	6 months after (€)	(Mean number of events)	Difference within the comparisons (€)	
Chronic kidney disease											
Number of patients	N=17,747					N=17,608					
Acute hospitalizations ¹	1,378	(0.27)	4,925	(0.65)	3,547	450	(0.10)	810	(0.15)	360	3,187 (2,984;3,391)
Dialysis	11	(0.00)	63	(0.00)	52	7	(0.00)	21	(0.00)	14	38 (13;62)
Ventilator	221	(0.01)	1,864	(0.05)	1,643	77	(0.00)	195	(0.00)	119	1,524 (1,359;1,688)
ICU	311	(0.01)	2,248	(0.09)	1,936	99	(0.00)	234	(0.01)	134	1,802 (1,630;1,974)
Non-acute hospitalizations	494	(0.07)	1,418	(0.13)	924	217	(0.03)	324	(0.05)	107	817 (705;929)
Outpatient visits	302	(1.01)	327	(1.19)	25	198	(0.58)	213	(0.64)	16	9 (-10;29)
GP consultations	16	(0.81)	21	(1.08)	5	14	(0.73)	15	(0.80)	1	4 (3;4)
GP contacts	47	(3.28)	56	(4.21)	9	26	(2.14)	28	(2.35)	3	6 (5;8)
Prescriptions	101	(4.17)	94	(3.92)	-7	94	(3.63)	94	(3.69)	0	-7 (-11;-4)
Overall cost	2,338	-	6,841	-	4,503	999	-	1,485	-	486	4,017 (3,785;4,249)
Heart failure											
Number of patients	N=5,141					N=5,141					
Acute hospitalizations	2,164	(0.46)	6,149	(0.87)	3,984	1,727	(0.39)	1,921	(0.40)	194	3,790 (3,377;4,203)

Dialysis	19	(0.00)	69	(0.01)	50	12	(0.00)	8	(0.00)	-5	55 (-1;110)
Ventilator	320	(0.01)	2,242	(0.07)	1,923	190	(0.01)	246	(0.01)	56	1,867 (1,540;2,194)
ICU	460	(0.03)	2,640	(0.12)	2,180	299	(0.02)	353	(0.02)	54	2,126 (1,796;2,456)
Non-acute hospitalizations	500	(0.08)	1,750	(0.14)	1,250	563	(0.08)	439	(0.07)	-124	1,374 (1,141;1,607)
Outpatient visits	290	(1.09)	287	(1.19)	-3	222	(0.85)	231	(0.91)	9	-12 (-40;15)
GP consultations	19	(0.98)	20	(1.02)	1	19	(1.00)	18	(0.94)	-1	2 (1;3)
GP contacts	66	(4.35)	63	(4.38)	-3	49	(3.54)	44	(3.24)	-5	2 (-2;6)
Prescriptions	114	(5.25)	99	(4.65)	-15	110	(4.92)	112	(4.99)	2	-16 (-23;-10)
Overall cost	3,154	-	8,368	-	5,213	2,690	-	2,764	-	74	5,140 (4,672;5,607)

Diabetes

Number of patients	N=574					N=585					
Acute hospitalizations	1,081	(0.22)	3,980	(0.51)	2,899	211	(0.05)	170	(0.05)	-41	2,940 (2,593;3,288)
Dialysis	10	(0.00)	25	(0.00)	15	0	(0.00)	0	(0.00)	0	15 (-12;42)
Ventilator	99	(0.00)	1,591	(0.05)	1,493	9	(0.00)	2	(0.00)	-7	1,500 (1,217;1,783)
ICU	192	(0.01)	1,876	(0.08)	1,684	20	(0.00)	22	(0.00)	2	1,682 (1,399;1,965)
Non-acute hospitalizations	478	(0.07)	1,150	(0.11)	673	109	(0.02)	102	(0.02)	-7	680 (489;870)
Outpatient visits	268	(0.91)	305	(1.12)	37	164	(0.49)	161	(0.48)	-2	40 (6;74)
GP consultations	17	(0.88)	25	(1.27)	7	15	(0.77)	14	(0.71)	-1	8 (7;10)
GP contacts	43	(3.31)	60	(4.69)	16	26	(2.20)	24	(2.10)	-2	18 (15;21)
Prescriptions	98	(4.18)	89	(3.85)	-10	78	(3.20)	77	(3.16)	-2	-8 (-14;-2)
Overall cost	1,985	-	5,608	-	3,623	603	-	547	-	-56	3,678 (3,280;4,076)

¹Acute hospitalizations with procedures of interest including dialysis, ventilator, and ICU are presented, respectively

