

Supplementary Materials for
**Identifying heat-related diagnoses in emergency department visits among
adults in Chicago: A heat-wide association study**

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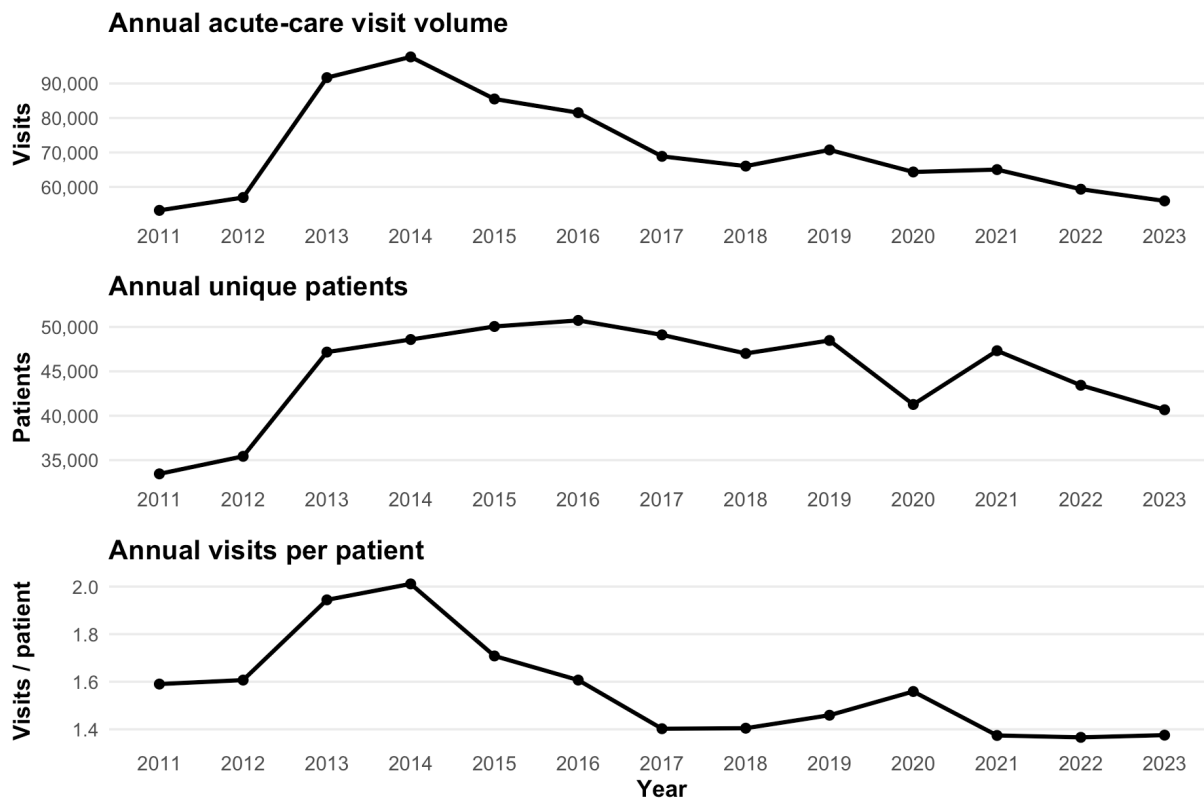
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Fig. S1.

Annual trends in visit volume and patient frequency during the May–September warm season. Annual acute-care visit volume, number of unique patients, and mean visits per unique patient across calendar years (2011–2023) within the specific warm-season period of May through September.



24 **Fig. S2.**

25 **Annual composition of contributing healthcare sites.** Annual composition of CAPriCORN
26 contributing sites in the warm-season (May–September) analytic cohort.

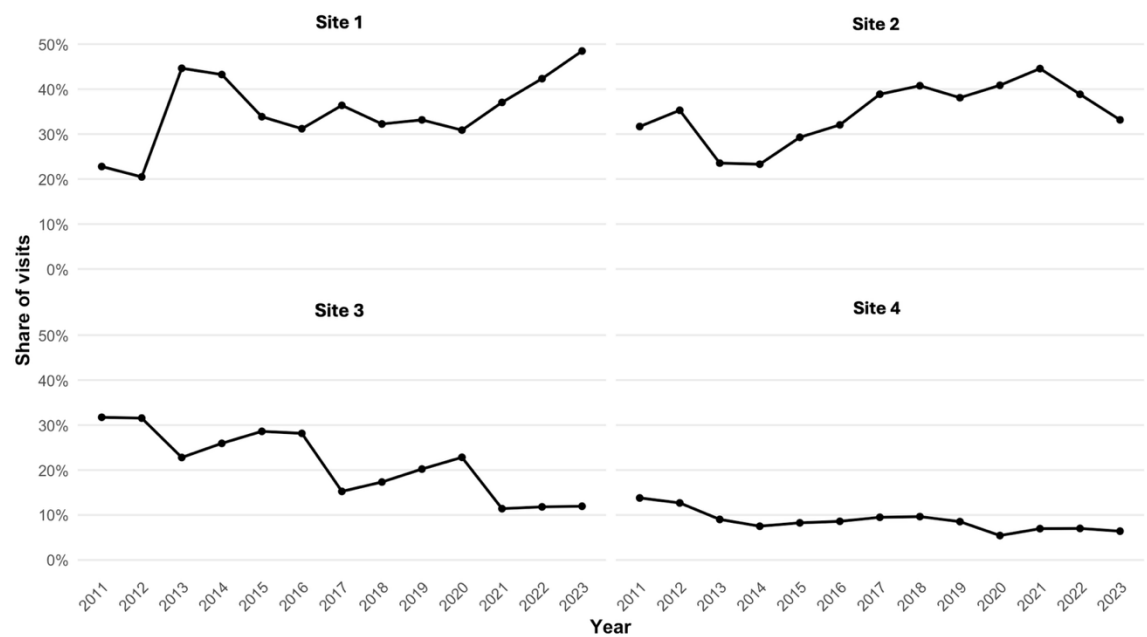


Fig. S3.

Annual demographic composition of the analytic cohort. Annual demographic composition of warm-season (May–September) acute-care visits across calendar years. Panels show temporal patterns in age, race/ethnicity, and sex composition within the analytic cohort.

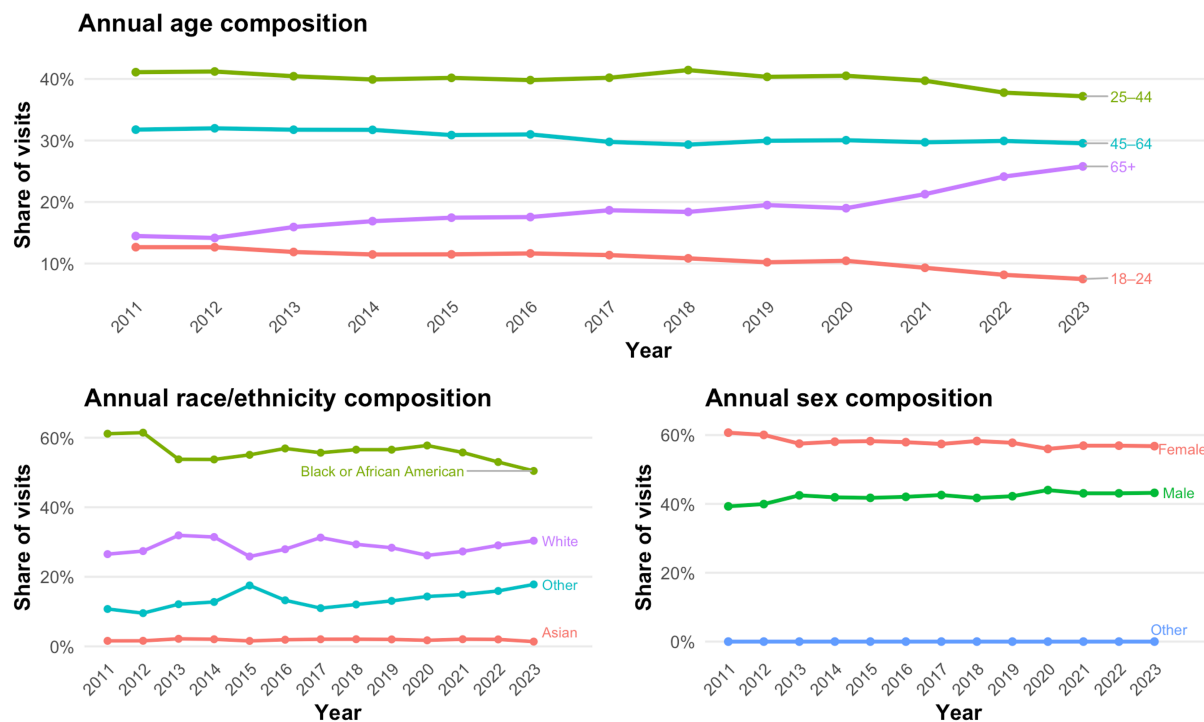


Fig. S4.

Annual diagnostic composition of the ten leading ICD-10 chapters (May-September).

Proportions of diagnoses for the ten most frequent ICD-10 chapters among warm-season (May-September) acute-care visits across calendar years 2011-2023.

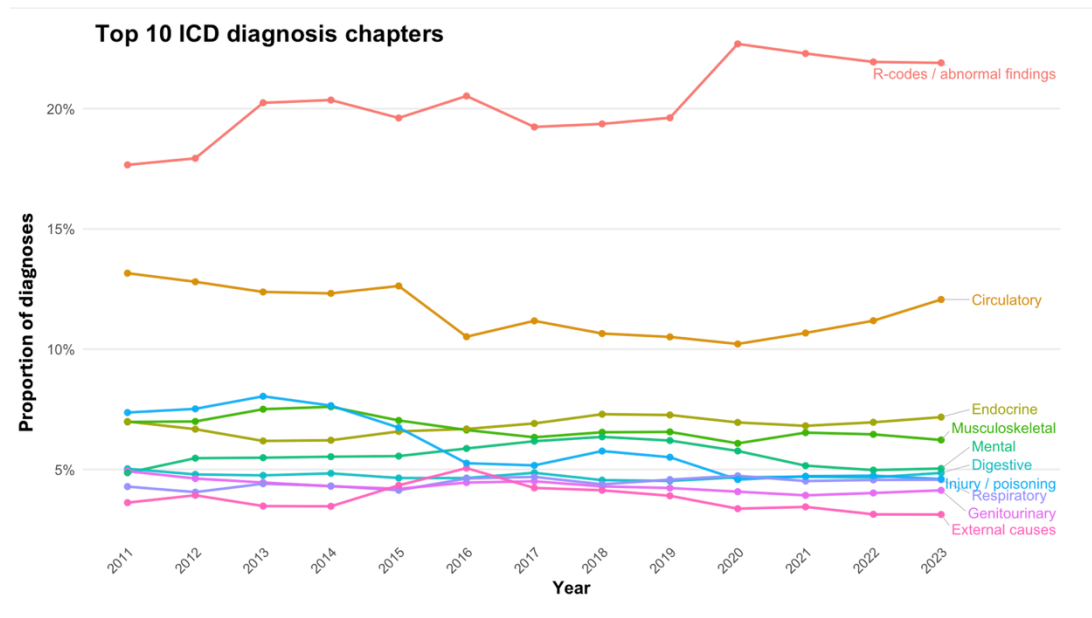


Fig. S5.

Annual trends in R-coded symptom- and sign-based diagnoses. Annual trends in R-coded (symptom- and sign-based) diagnosis proportion among warm-season (May–September) acute-care visits across calendar years. The upper panel shows the overall proportion of R-code diagnoses, and the lower panel shows CAPriCORN site-specific R-code proportions across participating healthcare systems.

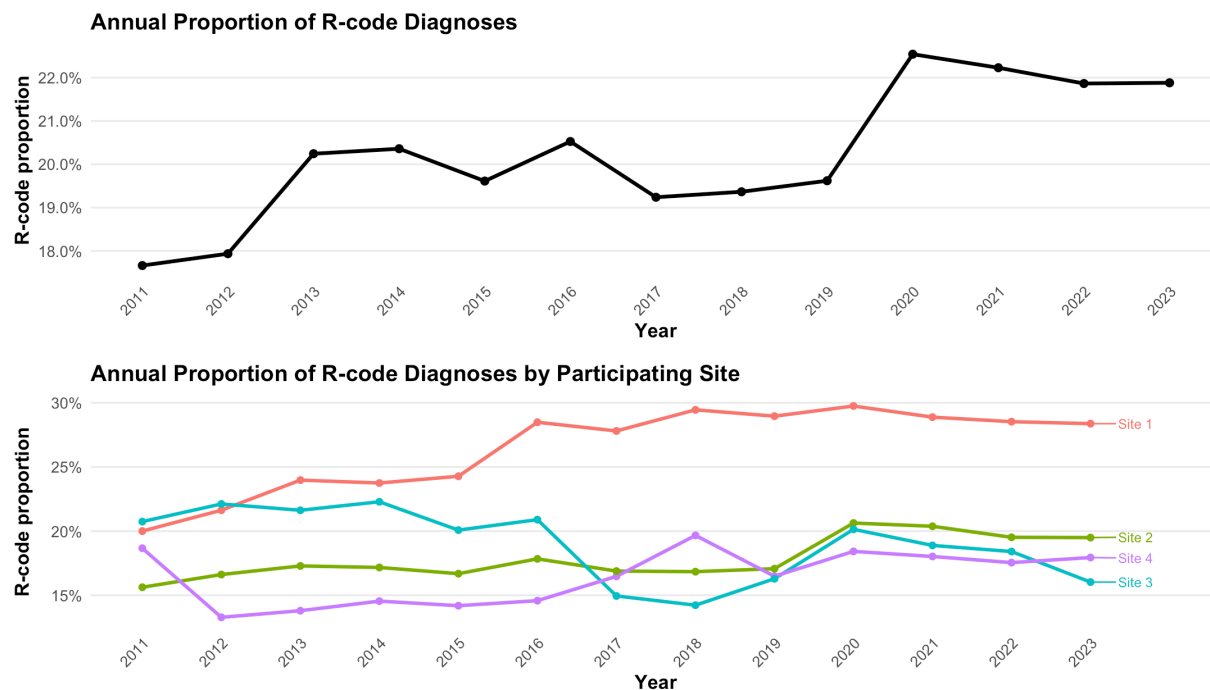


Fig. S6.

Representativeness of the EHR analytic cohort relative to the Census population.

Representativeness of the EHR analytic cohort relative to the Chicago adult population across demographic and geographic domains. Bars show the difference in percentage points (pp) between the EHR cohort composition and period-matched Census reference estimates for four domains: age group and sex (ACS S0101 1-year estimates, annual averages 2011–2023 excluding 2020, for which 1-year estimates were not released), race/ethnicity (ACS B02001, annual averages 2011–2019, prior to the 2021 race question redesign), and geographic region (ACS DP05 5-year estimates, three-period average: 2011–2015, 2014–2018, and 2019–2023). Positive values indicate over-representation of a stratum in the EHR cohort relative to the Census reference; negative values indicate under-representation; dashed lines mark ± 5 pp. Labels show the EHR cohort percentage versus the Census reference percentage for each stratum. EHR = Electronic health record; ACS = American Community Survey.

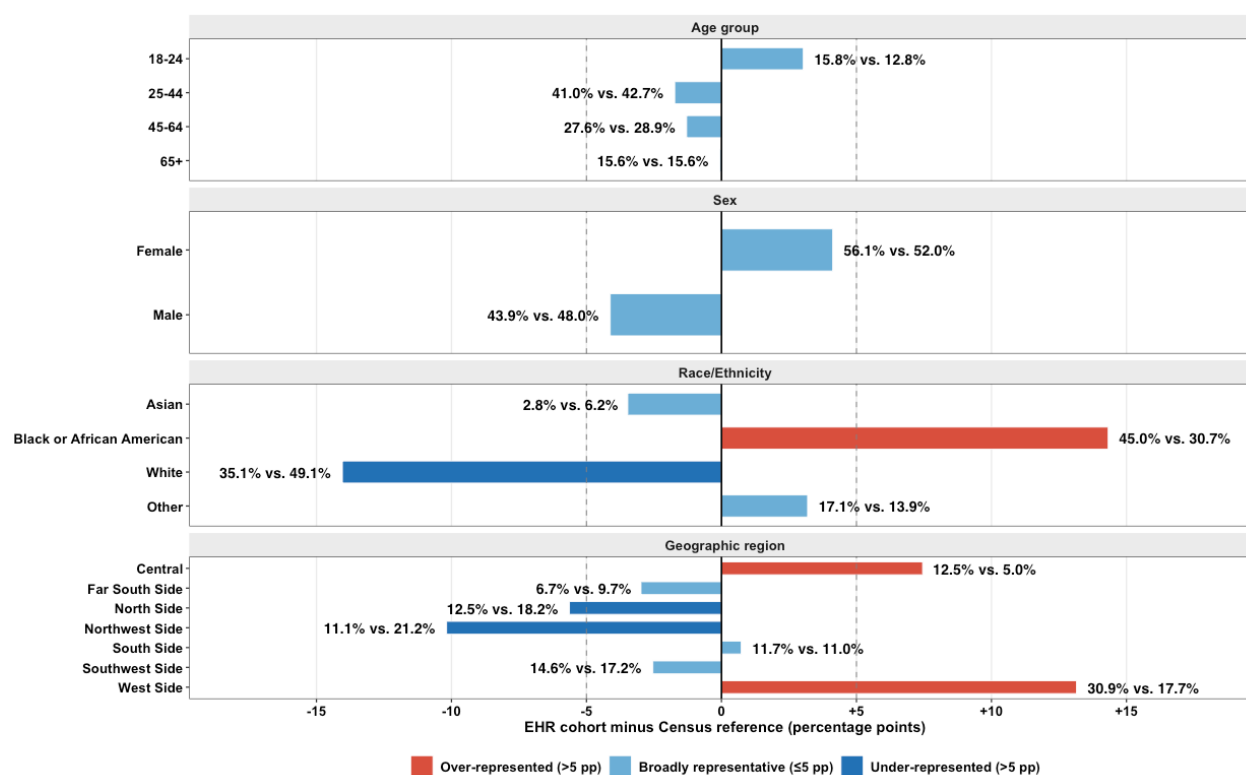


Fig. S7.

Cumulative (lag 0–3) exposure-response associations between temperature and emergency department/urgent care (ED) visits for injury and poisoning-related diagnoses. Cumulative (lag 0–3) exposure-response associations between temperature and emergency department/urgent care visits for injury, poisoning, and external-cause diagnoses. OR = Odds ratio; MRT = Minimum risk temperature.

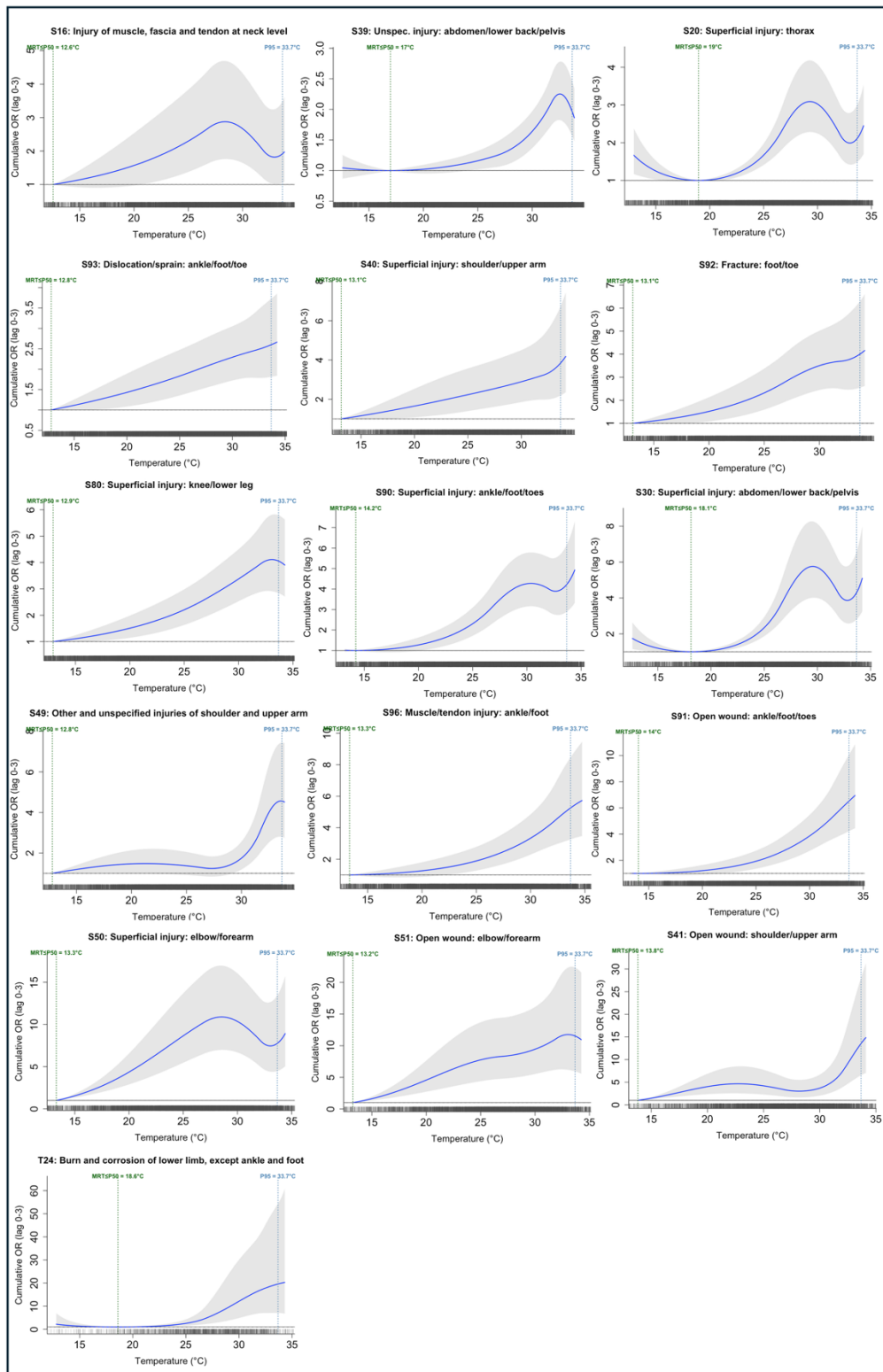


Fig. S8.

Cumulative (lag 0–3) exposure-response associations between temperature and emergency department/urgent care (ED) visits for external causes of morbidity. Cumulative (lag 0–3) exposure-response associations between temperature and emergency department/urgent care visits for external-causes of morbidity. OR = Odds ratio; MRT = Minimum risk temperature

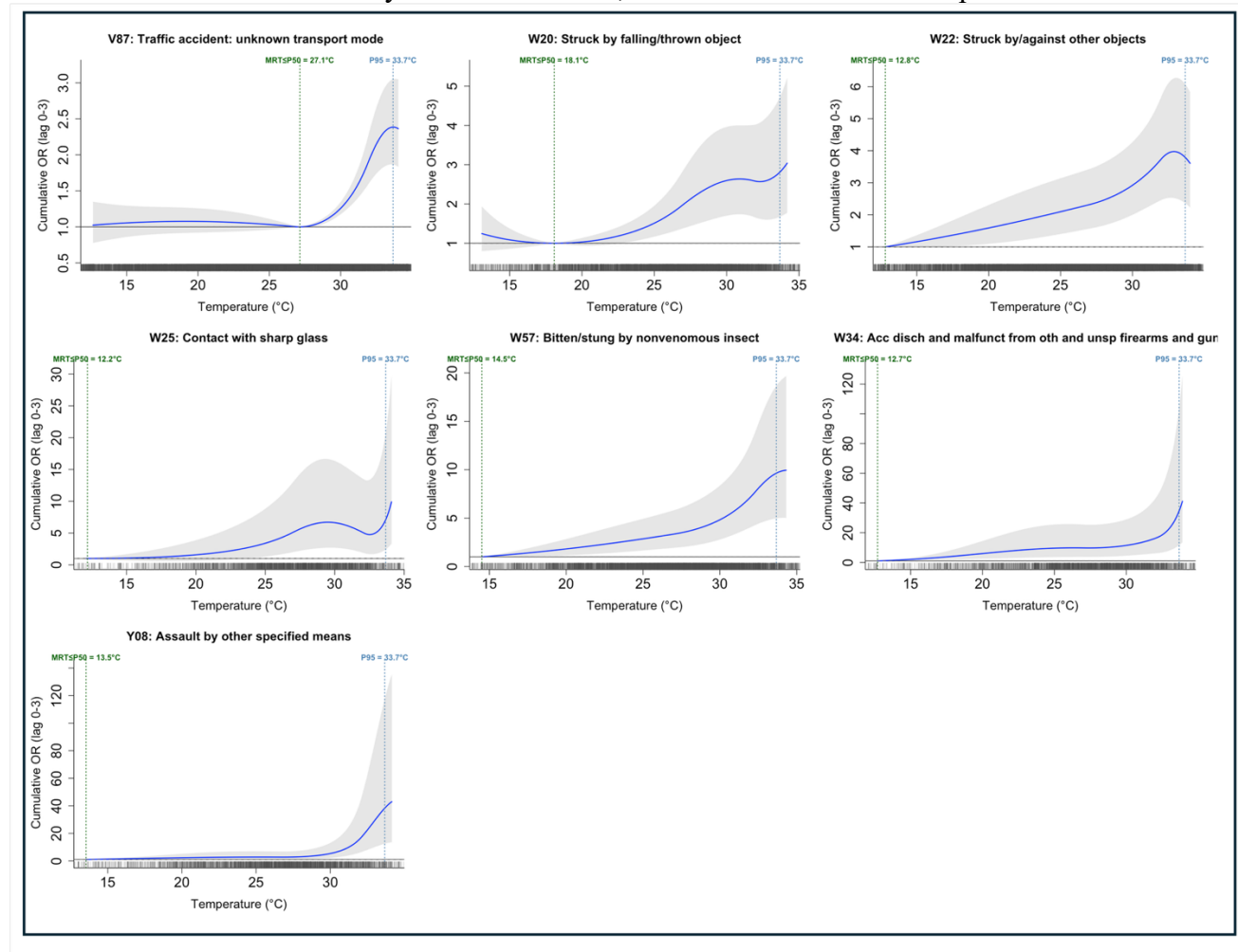


Fig. S9.

Geographic stratification of Chicago planning regions. Geographic stratification of Chicago into seven regions as defined by the Chicago Department of Public Health (CDPH) Planning Regions: Central, North, Northwest, South, Southwest, Far South, and West Sides.

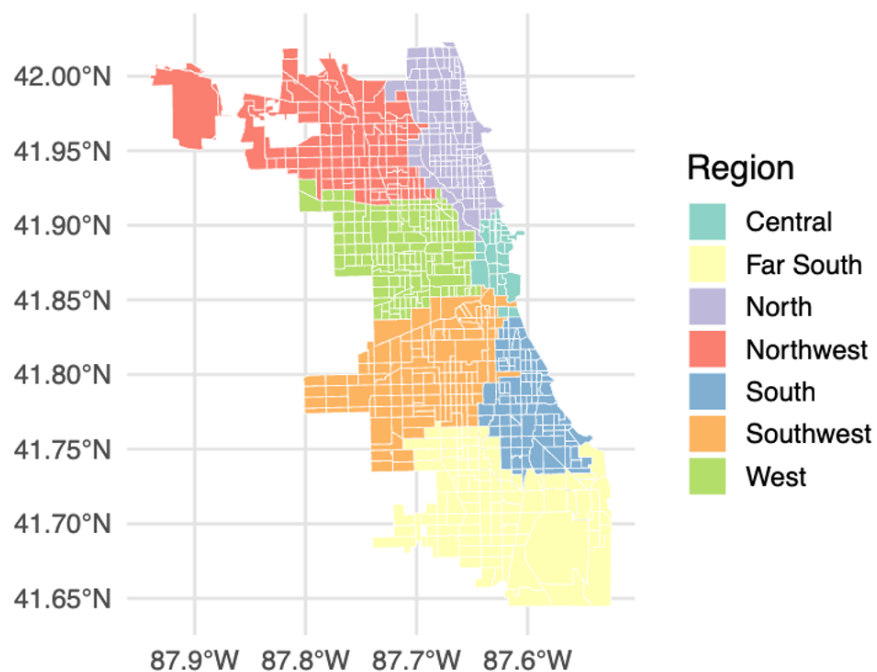


Table S1.

First-stage screening results for heat-associated ED/UC diagnoses. The 44 codes met all screening criteria: positive temperature coefficient, BH-adjusted $p < 0.10$, at least 30% of visits on days above the warm-season 70th temperature percentile (29.74°C), and at least 100 warm-season counts. IRR = incidence rate ratio.

Code	Description	IRR	Lower	Upper	Adj. p	Rel. freq.
T67	Effects of heat and light	1.29	1.22	1.37	<0.01	0.76
X30	Exposure to excessive natural heat	1.41	1.31	1.52	<0.01	0.78
R60	Edema	1.02	1.01	1.02	<0.01	0.30
S90	Superficial injury of ankle, foot and toes	1.03	1.02	1.04	<0.01	0.32
S80	Superficial injury of knee and lower leg	1.02	1.01	1.03	<0.01	0.32
W25	Contact with sharp glass	1.05	1.03	1.07	<0.01	0.35
W57	Bitten or stung by nonvenomous insect or arthropod	1.04	1.02	1.06	<0.01	0.33
E41	Nutritional marasmus	1.07	1.04	1.10	<0.01	0.31
I5A	Non-ischemic myocardial injury (non-traumatic)	1.04	1.02	1.06	<0.01	0.32
S91	Open wound of ankle, foot and toes	1.02	1.01	1.04	<0.01	0.33
S50	Superficial injury of elbow and forearm	1.03	1.01	1.04	<0.01	0.33
E86	Volume depletion	1.01	1.01	1.01	<0.01	0.31
R21	Rash and other nonspecific skin eruption	1.01	1.01	1.02	<0.01	0.30
S92	Fracture of foot and toe, except ankle	1.02	1.01	1.03	<0.01	0.31
S40	Superficial injury of shoulder and upper arm	1.02	1.01	1.04	<0.01	0.33
N17	Acute kidney failure	1.01	1.00	1.01	<0.01	0.30
V87	Traffic accident of specified type but victim's mode of transport unknown	1.01	1.01	1.02	<0.01	0.31
T75	Other and unspecified effects of other external causes	1.09	1.03	1.14	<0.01	0.36
W05	Fall involving non-motorized scooter	1.06	1.02	1.10	<0.01	0.33
K00	Disorders of tooth development and eruption	1.09	1.03	1.15	<0.01	0.35
R63	Symptoms and signs concerning food and fluid intake	1.01	1.00	1.02	<0.01	0.31
S51	Open wound of elbow and forearm	1.02	1.01	1.04	0.02	0.33
V18	Pedal cycle rider injured in other transport accidents	1.04	1.01	1.06	0.02	0.35
S30	Superficial injury of abdomen, lower back, pelvis and external genitals	1.02	1.01	1.03	0.03	0.32
S41	Open wound of shoulder and upper arm	1.02	1.01	1.04	0.04	0.34
S39	Other and unspecified injuries of abdomen, lower back, lumbar spine and pelvis	1.01	1.00	1.02	0.04	0.30
L89	Pressure ulcer	1.01	1.00	1.02	0.05	0.31
W20	Struck by thrown, projected or falling object	1.02	1.01	1.04	0.05	0.32
D3A	Benign neuroendocrine tumors	1.06	1.02	1.12	0.06	0.31
Y08	Assault by other specified means	1.03	1.01	1.06	0.06	0.34
W22	Striking against or struck by other objects	1.01	1.00	1.02	0.06	0.33
S20	Superficial injury of thorax	1.02	1.00	1.03	0.06	0.31
W34	Accidental discharge and malfunction from other and unspecified firearms	1.03	1.01	1.06	0.07	0.36
G35	Multiple sclerosis	1.02	1.00	1.03	0.07	0.30
S49	Other and unspecified injuries of shoulder and upper arm	1.01	1.00	1.03	0.07	0.30
S96	Injury of muscle and tendon at ankle and foot level	1.02	1.00	1.03	0.07	0.30
S93	Dislocation and sprain of joints and ligaments of ankle and foot	1.01	1.00	1.02	0.07	0.30
I83	Varicose veins of lower extremities	1.02	1.00	1.04	0.07	0.33
T24	Burn and corrosion of lower limb, except ankle and foot	1.05	1.01	1.09	0.08	0.35
N08	Glomerular disorders in diseases classified elsewhere	1.02	1.00	1.04	0.08	0.32
A40	Streptococcal sepsis	1.04	1.01	1.07	0.08	0.33
Q87	Other specified congenital malformation syndromes affecting multiple systems	1.06	1.01	1.11	0.09	0.32
F12	Mental and behavioral disorders due to cannabinoids	1.01	1.00	1.01	0.09	0.31
S16	Injury of muscle, fascia and tendon at neck level	1.02	1.00	1.03	0.09	0.31

Table S2.

Same-day and cumulative lag 0–1, 0–2, and 0–3 ORs (95% CIs) for the 23 injury, poisoning, and external-cause diagnoses, estimated with distributed lag non-linear models in a time-stratified case-crossover design. All codes met Stage 1 screening criteria and the primary Stage 2 selection criterion (cumulative lag 0–3 lower 95% CI > 1 and events-per-variable ≥ 10). Codes are ordered from smallest to largest cumulative lag 0–3 OR.

ICD-10 code and description	Same-day OR (lag 0)	Cumulative OR (lag 0–1)	Cumulative OR (lag 0–2)	Cumulative OR (lag 0–3)
Injury, poisoning and certain other consequences of external causes				
S16: Injury of muscle, fascia and tendon at neck level	1.28 (0.97–1.68)	1.50 (1.01–2.23)	1.70 (1.02–2.82)	1.92 (1.05–3.48)
S39: Other and unspecified injuries of abdomen, lower back, lumbar spine and pelvis	1.19 (1.07–1.31)	1.41 (1.22–1.64)	1.68 (1.39–2.03)	1.96 (1.57–2.46)
S20: Superficial injury of thorax	1.23 (1.05–1.44)	1.48 (1.18–1.86)	1.77 (1.32–2.38)	2.11 (1.49–3.00)
S93: Dislocation and sprain of joints and ligaments of ankle and foot	1.30 (1.10–1.53)	1.66 (1.31–2.12)	2.10 (1.54–2.85)	2.60 (1.81–3.73)
S40: Superficial injury of shoulder and upper arm	1.58 (1.22–2.04)	2.18 (1.50–3.18)	2.88 (1.78–4.65)	3.84 (2.19–6.73)
S92: Fracture of foot and toe, except ankle	1.51 (1.23–1.87)	2.17 (1.60–2.95)	3.00 (2.04–4.42)	4.00 (2.55–6.29)
S80: Superficial injury of knee and lower leg	1.51 (1.28–1.78)	2.17 (1.71–2.76)	3.01 (2.22–4.08)	4.06 (2.84–5.79)
S90: Superficial injury of ankle, foot and toes	1.50 (1.26–1.79)	2.16 (1.67–2.78)	3.03 (2.19–4.18)	4.22 (2.89–6.15)
S30: Superficial injury of abdomen, lower back, pelvis and external genitals	1.44 (1.18–1.75)	2.09 (1.58–2.77)	3.03 (2.11–4.33)	4.29 (2.80–6.56)
S49: Other and unspecified injuries of shoulder and upper arm	1.54 (1.23–1.92)	2.28 (1.64–3.16)	3.28 (2.16–4.97)	4.56 (2.80–7.44)
S96: Injury of muscle and tendon at ankle and foot level	1.55 (1.24–1.95)	2.35 (1.70–3.24)	3.51 (2.34–5.28)	5.25 (3.26–8.46)
S91: Open wound of ankle, foot and toes	1.71 (1.40–2.09)	2.78 (2.08–3.71)	4.33 (2.99–6.27)	6.52 (4.23–10.05)
S50: Superficial injury of elbow and forearm	1.98 (1.54–2.55)	3.27 (2.27–4.71)	5.02 (3.15–8.00)	7.76 (4.48–13.43)
S51: Open wound of elbow and forearm	1.98 (1.45–2.70)	3.73 (2.39–5.83)	6.73 (3.82–11.84)	11.53 (5.95–22.34)
S41: Open wound of shoulder and upper arm	1.97 (1.39–2.79)	3.89 (2.38–6.36)	7.46 (4.01–13.87)	13.54 (6.54–28.01)
T24: Burn and corrosion of lower limb, except ankle and foot	2.63 (1.55–4.47)	5.54 (2.68–11.47)	10.54 (4.31–25.76)	19.60 (7.07–54.33)
External causes of morbidity				
V87: Traffic accident of specified type but victim's mode of transport unknown	1.22 (1.10–1.35)	1.53 (1.32–1.79)	1.93 (1.58–2.37)	2.39 (1.87–3.05)
W20: Struck by thrown, projected or falling object	1.33 (1.05–1.69)	1.72 (1.23–2.41)	2.20 (1.43–3.40)	2.81 (1.67–4.72)
W22: Striking against or struck by other objects	1.46 (1.18–1.82)	2.12 (1.55–2.90)	2.93 (1.96–4.38)	3.79 (2.37–6.08)
W25: Contact with sharp glass	2.04 (1.22–3.40)	3.23 (1.55–6.69)	4.70 (1.87–11.83)	7.09 (2.43–20.65)
W57: Bitten or stung by nonvenomous insect or arthropod	1.93 (1.41–2.65)	3.43 (2.20–5.35)	5.81 (3.31–10.20)	9.65 (4.98–18.67)
W34: Accidental discharge and malfunction from other and unspecified firearms	2.88 (1.72–4.82)	7.15 (3.41–14.98)	16.16 (6.32–41.28)	34.57 (11.56–103.40)
Y08: Assault by other specified means	2.90 (1.72–4.90)	7.42 (3.50–15.73)	17.38 (6.70–45.06)	38.31 (12.49–117.55)

Table S3.

Exploratory age-stratified same-day and cumulative lag 0–3 ORs (95% CIs) from Stage 2 models. Diagnoses shown met the primary Stage 2 numerical reporting criteria within each age stratum.

Age Group	Code	Diagnosis Name	Same-day OR (lag 0)	Cumulative OR (lag 0-3)
18–24	S80	Superficial injury: knee/lower leg	3.29 (1.95–5.57)	49.65 (16.54–149.09)
	S91	Open wound: ankle/foot/toes	1.82 (1.18–2.82)	14.94 (5.03–44.41)
	S50	Superficial injury: elbow/forearm	1.69 (1.07–2.65)	10.48 (3.75–29.31)
	E86	Volume depletion	1.58 (1.22–2.03)	8.83 (4.80–16.23)
	R21	Rash / nonspecific skin eruption	1.67 (1.30–2.16)	7.17 (4.07–12.64)
	N17	Acute kidney failure	1.59 (1.06–2.40)	6.78 (2.52–18.26)
	S93	Disloc & sprain of joints & ligaments at ankl, ft & toe lev	1.29 (0.87–1.93)	3.83 (1.64–8.91)
	F12	Mental and behavioural disorders due to cannabinoids	1.29 (1.06–1.58)	2.92 (1.80–4.76)
	S96	Injury of muscle and tendon at ankle and foot level	1.21 (0.81–1.83)	2.86 (1.06–7.74)
	S39	Unspec. injury: abdomen/lower back/pelvis	1.29 (0.97–1.71)	2.86 (1.54–5.33)
	V87	Traffic accident: unknown transport mode	1.28 (1.02–1.59)	2.62 (1.54–4.47)
25–44	S41	Open wound: shoulder/upper arm	2.68 (1.65–4.36)	53.24 (18.97–149.43)
	S51	Open wound: elbow/forearm	2.37 (1.53–3.66)	20.76 (8.00–53.86)
	W22	Striking against or struck by other objects	2.20 (1.58–3.05)	15.28 (7.51–31.12)
	W25	Contact with sharp glass	2.33 (1.42–3.80)	14.22 (5.44–37.16)
	S90	Superficial injury: ankle/foot/toes	1.99 (1.46–2.73)	11.80 (6.10–22.84)
	S91	Open wound: ankle/foot/toes	1.85 (1.46–2.34)	11.33 (6.84–18.79)
	S50	Superficial injury: elbow/forearm	2.12 (1.43–3.14)	10.72 (4.57–25.12)
	S16	Injury of muscle, fascia and tendon at neck level	1.97 (1.32–2.95)	9.06 (3.87–21.22)
	S40	Superficial injury: shoulder/upper arm	1.86 (1.24–2.80)	8.19 (3.41–19.66)
	R63	Symptoms: food/fluid intake	1.57 (1.26–1.95)	7.08 (4.25–11.77)
	S80	Superficial injury: knee/lower leg	1.74 (1.31–2.32)	6.94 (3.69–13.07)
	V87	Traffic accident: unknown transport mode	1.64 (1.32–2.04)	6.24 (3.86–10.09)
	E86	Volume depletion	1.61 (1.32–1.97)	6.02 (3.90–9.28)
	S96	Injury of muscle and tendon at ankle and foot level	1.59 (1.26–2.01)	5.69 (3.46–9.35)
	N17	Acute kidney failure	1.56 (1.25–1.95)	4.36 (2.69–7.07)
	S49	Other/unspecified injury: shoulder/upper arm	1.40 (1.11–1.76)	4.05 (2.33–7.03)
	S30	Superficial injury: abdomen/lower back/pelvis	1.45 (1.05–2.00)	3.92 (1.96–7.84)
	G35	Multiple sclerosis	1.34 (0.99–1.82)	3.71 (1.77–7.78)
	W57	Bitten/stung by nonvenomous insect	1.39 (0.86–2.23)	3.54 (1.31–9.54)
	S20	Superficial injury: thorax	1.44 (1.09–1.91)	3.34 (1.87–5.98)
	W20	Struck by falling/thrown object	1.40 (0.99–1.99)	2.52 (1.18–5.39)
	R60	Edema	1.31 (1.07–1.61)	2.27 (1.46–3.52)
	R21	Rash / nonspecific skin eruption	1.22 (1.00–1.51)	2.02 (1.29–3.17)
	S93	Disloc & sprain of joints & ligaments at ankl, ft & toe lev	1.16 (0.97–1.39)	1.90 (1.29–2.79)
	F12	Mental and behavioural disorders due to cannabinoids	1.12 (0.99–1.27)	1.79 (1.33–2.41)
45–64	S96	Injury of muscle and tendon at ankle and foot level	2.25 (1.36–3.72)	23.27 (8.19–66.15)
	S92	Fracture: foot/toe	2.23 (1.54–3.23)	18.81 (8.61–41.09)
	S93	Disloc & sprain of joints & ligaments at ankl, ft & toe lev	1.88 (1.30–2.71)	10.31 (4.72–22.51)
	S91	Open wound: ankle/foot/toes	1.95 (1.29–2.96)	9.93 (4.03–24.48)
	S50	Superficial injury: elbow/forearm	2.09 (1.23–3.57)	7.04 (2.30–21.54)
	S40	Superficial injury: shoulder/upper arm	1.62 (0.98–2.67)	3.41 (1.14–10.23)
	R60	Edema	1.51 (1.27–1.80)	3.28 (2.25–4.77)
	N17	Acute kidney failure	1.39 (1.20–1.60)	3.20 (2.34–4.38)
	S80	Superficial injury: knee/lower leg	1.30 (1.07–1.59)	3.00 (1.89–4.76)
	E86	Volume depletion	1.28 (1.14–1.44)	2.81 (2.16–3.65)
	R21	Rash / nonspecific skin eruption	1.31 (1.03–1.67)	2.51 (1.49–4.25)
	I83	Varicose veins of lower extremities	1.36 (0.93–1.98)	2.47 (1.05–5.84)
	F12	Mental and behavioural disorders due to cannabinoids	1.21 (1.01–1.45)	2.09 (1.36–3.22)
	S90	Superficial injury: ankle/foot/toes	1.23 (0.94–1.61)	1.93 (1.08–3.43)
	S39	Unspec. injury: abdomen/lower back/pelvis	1.09 (0.91–1.31)	1.63 (1.06–2.50)
65+	S49	Other/unspecified injury: shoulder/upper arm	3.12 (1.84–5.28)	57.33 (18.65–176.27)

Age Group	Code	Diagnosis Name	Same-day OR (lag 0)	Cumulative OR (lag 0-3)
	I83	Varicose veins of lower extremities	1.83 (1.26–2.65)	14.41 (6.20–33.50)
	S39	Unspec. injury: abdomen/lower back/pelvis	1.93 (1.35–2.76)	8.60 (3.95–18.72)
	S20	Superficial injury: thorax	1.65 (1.01–2.72)	4.46 (1.57–12.69)
	R60	Edema	1.64 (1.37–1.96)	4.33 (2.92–6.42)
	S80	Superficial injury: knee/lower leg	1.57 (1.08–2.28)	4.30 (1.94–9.52)
	F12	Mental and behavioural disorders due to cannabinoids	1.52 (0.91–2.52)	4.11 (1.40–12.09)
	L89	Pressure ulcer	1.53 (1.14–2.05)	3.85 (2.00–7.41)
	S30	Superficial injury: abdomen/lower back/pelvis	1.51 (0.88–2.56)	3.63 (1.16–11.37)
	R63	Symptoms: food/fluid intake	1.49 (1.16–1.90)	3.32 (1.93–5.69)
	N17	Acute kidney failure	1.39 (1.23–1.57)	2.86 (2.18–3.75)
	R21	Rash / nonspecific skin eruption	1.46 (1.12–1.91)	2.68 (1.51–4.76)
	E86	Volume depletion	1.17 (1.00–1.37)	1.55 (1.09–2.20)

Table S4.

Exploratory sex-stratified same-day and cumulative lag 0–3 ORs (95% CIs) from Stage 2 models. Diagnoses shown met the primary Stage 2 numerical reporting criteria within each sex stratum.

Sex	Code	Diagnosis Name	Same-day OR (lag 0)	Cumulative OR (lag 0-3)
Female	S51	Open wound: elbow/forearm	2.55 (1.50–4.35)	26.15 (8.54–80.02)
	W57	Bitten/stung by nonvenomous insect	2.18 (1.48–3.22)	16.62 (7.22–38.24)
	S91	Open wound: ankle/foot/toes	2.10 (1.65–2.67)	13.80 (8.32–22.90)
	S96	Injury of muscle and tendon at ankle and foot level	1.84 (1.38–2.46)	12.36 (6.80–22.46)
	W22	Striking against or struck by other objects	2.00 (1.46–2.75)	9.89 (4.92–19.88)
	N08	Glomerular disorders in other diseases	1.64 (1.14–2.37)	7.44 (3.20–17.31)
	S30	Superficial injury: abdomen/lower back/pelvis	1.53 (1.17–2.01)	5.09 (2.88–9.01)
	G35	Multiple sclerosis	1.74 (1.24–2.42)	5.04 (2.46–10.31)
	S80	Superficial injury: knee/lower leg	1.48 (1.20–1.84)	4.41 (2.76–7.06)
	S50	Superficial injury: elbow/forearm	1.81 (1.26–2.61)	4.39 (2.00–9.65)
	S16	Injury of muscle, fascia and tendon at neck level	1.79 (1.24–2.58)	4.35 (1.98–9.56)
	R60	Edema	1.61 (1.40–1.85)	4.23 (3.10–5.77)
	S93	Disloc & sprain of joints & ligaments at ankl, ft & toe lev	1.40 (1.13–1.74)	4.01 (2.54–6.34)
	V87	Traffic accident: unknown transport mode	1.37 (1.20–1.57)	4.01 (2.89–5.56)
	W20	Struck by falling/thrown object	1.44 (1.06–1.97)	3.88 (1.91–7.87)
	F12	Mental and behavioural disorders due to cannabinoids	1.37 (1.20–1.56)	3.75 (2.78–5.07)
	S90	Superficial injury: ankle/foot/toes	1.47 (1.16–1.86)	3.67 (2.22–6.08)
	L89	Pressure ulcer	1.52 (1.12–2.06)	3.46 (1.77–6.76)
	N17	Acute kidney failure	1.43 (1.27–1.61)	3.17 (2.44–4.12)
	S49	Other/unspecified injury: shoulder/upper arm	1.42 (1.01–1.98)	3.16 (1.53–6.49)
	S20	Superficial injury: thorax	1.31 (1.06–1.63)	3.03 (1.87–4.90)
	S40	Superficial injury: shoulder/upper arm	1.45 (1.02–2.06)	2.93 (1.37–6.25)
	S92	Fracture: foot/toe	1.40 (1.07–1.84)	2.90 (1.63–5.18)
	R21	Rash / nonspecific skin eruption	1.39 (1.18–1.65)	2.89 (2.01–4.17)
	S39	Unspec. injury: abdomen/lower back/pelvis	1.19 (1.04–1.35)	2.11 (1.56–2.86)
	E86	Volume depletion	1.26 (1.11–1.43)	2.09 (1.58–2.76)
	R63	Symptoms: food/fluid intake	1.21 (1.05–1.39)	2.04 (1.48–2.80)
Male	Y08	Assault by other specified means	2.21 (1.32–3.72)	18.56 (5.94–57.98)
	S41	Open wound: shoulder/upper arm	1.99 (1.31–3.03)	17.96 (7.37–43.72)
	N08	Glomerular disorders in other diseases	2.09 (1.33–3.27)	17.70 (6.31–49.69)
	S50	Superficial injury: elbow/forearm	2.08 (1.45–2.99)	11.91 (5.57–25.45)
	W34	Accidental firearm discharge	2.07 (1.25–3.44)	11.55 (3.91–34.12)
	W57	Bitten/stung by nonvenomous insect	1.76 (1.18–2.63)	8.55 (3.58–20.43)
	S51	Open wound: elbow/forearm	1.77 (1.20–2.61)	7.81 (3.38–18.03)
	S92	Fracture: foot/toe	1.73 (1.24–2.40)	6.95 (3.42–14.12)
	S40	Superficial injury: shoulder/upper arm	1.71 (1.30–2.23)	6.03 (3.37–10.79)
	S49	Other/unspecified injury: shoulder/upper arm	1.62 (1.20–2.18)	5.88 (3.05–11.32)
	W25	Contact with sharp glass	1.76 (1.04–3.00)	5.59 (1.94–16.14)
	S90	Superficial injury: ankle/foot/toes	1.61 (1.20–2.16)	5.07 (2.71–9.51)
	I83	Varicose veins of lower extremities	1.51 (1.07–2.12)	4.54 (2.08–9.92)
	L89	Pressure ulcer	1.50 (1.11–2.02)	4.06 (2.09–7.90)
	E86	Volume depletion	1.36 (1.23–1.50)	3.77 (3.03–4.70)
	S80	Superficial injury: knee/lower leg	1.59 (1.23–2.05)	3.75 (2.17–6.50)
	S30	Superficial injury: abdomen/lower back/pelvis	1.30 (0.97–1.74)	3.61 (1.90–6.85)
	N17	Acute kidney failure	1.45 (1.29–1.63)	3.50 (2.71–4.53)
	S91	Open wound: ankle/foot/toes	1.38 (1.03–1.85)	3.35 (1.76–6.39)
	W22	Striking against or struck by other objects	1.26 (1.04–1.53)	3.29 (2.10–5.16)
	R60	Edema	1.43 (1.21–1.68)	2.87 (2.00–4.12)
	R63	Symptoms: food/fluid intake	1.35 (1.07–1.70)	2.57 (1.55–4.27)
	S39	Unspec. injury: abdomen/lower back/pelvis	1.26 (1.03–1.54)	2.25 (1.44–3.53)
	R21	Rash / nonspecific skin eruption	1.28 (1.08–1.52)	2.08 (1.45–2.99)
	S96	Injury of muscle and tendon at ankle and foot level	1.25 (0.96–1.64)	1.97 (1.09–3.54)
	V87	Traffic accident: unknown transport mode	1.19 (1.02–1.39)	1.90 (1.35–2.66)

Table S5.

Exploratory race/ethnicity-stratified same-day and cumulative lag 0–3 ORs (95% CIs) from Stage 2. Diagnoses shown met the primary Stage 2 numerical reporting criteria within each race/ethnicity stratum.

Race/Ethnicity	Code	Diagnosis Name	Same-day OR (lag 0)	Cumulative OR (lag 0-3)
Asian	E86	Volume depletion	1.48 (0.91–2.39)	3.61 (1.27–10.27)
Black or African American	S41	Open wound: shoulder/upper arm	2.64 (1.62–4.28)	36.27 (13.02–101.04)
	W57	Bitten/stung by nonvenomous insect	2.28 (1.55–3.34)	12.67 (5.70–28.14)
	S51	Open wound: elbow/forearm	2.04 (1.26–3.31)	11.86 (4.18–33.65)
	W20	Struck by falling/thrown object	2.02 (1.21–3.39)	9.23 (3.18–26.77)
	S90	Superficial injury: ankle/foot/toes	1.69 (1.36–2.09)	7.99 (5.07–12.58)
	W25	Contact with sharp glass	1.84 (1.12–3.03)	7.14 (2.54–20.10)
	N08	Glomerular disorders in other diseases	1.48 (1.08–2.04)	6.33 (3.02–13.24)
	W22	Striking against or struck by other objects	1.52 (1.13–2.06)	5.46 (2.82–10.59)
	S91	Open wound: ankle/foot/toes	1.64 (1.18–2.29)	5.41 (2.67–10.98)
	S80	Superficial injury: knee/lower leg	1.50 (1.25–1.81)	4.26 (2.86–6.34)
	S49	Other/unspecified injury: shoulder/upper arm	1.38 (1.09–1.75)	4.19 (2.33–7.54)
	R60	Edema	1.46 (1.27–1.68)	3.04 (2.24–4.14)
	S92	Fracture: foot/toe	1.36 (1.04–1.79)	2.76 (1.55–4.91)
	S93	Disloc & sprain of joints & ligaments at ankl, ft & toe lev	1.26 (0.99–1.61)	2.58 (1.53–4.34)
	S96	Injury of muscle and tendon at ankle and foot level	1.21 (0.96–1.54)	2.56 (1.51–4.35)
	N17	Acute kidney failure	1.31 (1.17–1.46)	2.39 (1.88–3.05)
	V87	Traffic accident: unknown transport mode	1.27 (1.06–1.52)	2.37 (1.58–3.57)
	S50	Superficial injury: elbow/forearm	1.45 (1.03–2.03)	2.29 (1.11–4.71)
	E86	Volume depletion	1.22 (1.11–1.33)	2.26 (1.82–2.81)
	R21	Rash / nonspecific skin eruption	1.24 (1.10–1.41)	2.20 (1.67–2.89)
	S39	Unspec. injury: abdomen/lower back/pelvis	1.14 (1.01–1.30)	2.04 (1.52–2.74)
	F12	Mental and behavioural disorders due to cannabinoids	1.16 (1.04–1.30)	2.01 (1.54–2.62)
	R63	Symptoms: food/fluid intake	1.14 (0.99–1.32)	1.52 (1.11–2.07)
Other	S80	Superficial injury: knee/lower leg	1.77 (1.32–2.36)	10.37 (5.35–20.11)
	S40	Superficial injury: shoulder/upper arm	1.82 (1.15–2.88)	9.38 (3.36–26.19)
	S90	Superficial injury: ankle/foot/toes	1.55 (1.08–2.21)	6.84 (3.10–15.10)
	R60	Edema	1.89 (1.34–2.65)	5.55 (2.66–11.58)
	R21	Rash / nonspecific skin eruption	1.56 (1.10–2.22)	5.14 (2.37–11.13)
	E86	Volume depletion	1.61 (1.22–2.11)	4.98 (2.72–9.14)
	R63	Symptoms: food/fluid intake	1.53 (0.98–2.37)	4.02 (1.52–10.64)
	V87	Traffic accident: unknown transport mode	1.49 (1.12–1.98)	4.00 (2.17–7.40)
	S39	Unspec. injury: abdomen/lower back/pelvis	1.54 (1.05–2.27)	3.40 (1.43–8.09)
	S93	Disloc & sprain of joints & ligaments at ankl, ft & toe lev	1.31 (0.85–2.01)	3.09 (1.20–7.97)
	S20	Superficial injury: thorax	1.34 (0.91–1.96)	2.95 (1.25–6.93)
	N17	Acute kidney failure	1.41 (1.10–1.79)	2.74 (1.59–4.73)
White	S50	Superficial injury: elbow/forearm	2.75 (1.78–4.25)	26.71 (10.71–66.63)
	S51	Open wound: elbow/forearm	2.30 (1.36–3.88)	23.90 (7.87–72.63)
	S30	Superficial injury: abdomen/lower back/pelvis	2.19 (1.53–3.13)	21.00 (9.74–45.31)
	S40	Superficial injury: shoulder/upper arm	2.28 (1.38–3.75)	14.58 (4.79–44.33)
	S39	Unspec. injury: abdomen/lower back/pelvis	1.85 (1.41–2.43)	8.49 (4.68–15.41)
	N17	Acute kidney failure	1.81 (1.53–2.13)	8.11 (5.64–11.66)
	S20	Superficial injury: thorax	1.70 (1.29–2.24)	6.91 (3.70–12.89)
	L89	Pressure ulcer	1.72 (1.11–2.65)	6.21 (2.39–16.19)
	W22	Striking against or struck by other objects	1.59 (1.19–2.13)	5.80 (3.02–11.13)
	S80	Superficial injury: knee/lower leg	1.67 (1.24–2.23)	5.68 (3.00–10.75)
	S90	Superficial injury: ankle/foot/toes	1.73 (1.20–2.49)	5.54 (2.52–12.19)
	I83	Varicose veins of lower extremities	1.45 (0.99–2.14)	4.82 (1.97–11.82)
	R60	Edema	1.59 (1.29–1.95)	4.23 (2.69–6.65)
	V87	Traffic accident: unknown transport mode	1.35 (1.07–1.72)	3.93 (2.30–6.72)

Race/Ethnicity	Code	Diagnosis Name	Same-day OR (lag 0)	Cumulative OR (lag 0-3)
	E86	Volume depletion	1.39 (1.16–1.66)	3.51 (2.38–5.18)
	S96	Injury of muscle and tendon at ankle and foot level	1.51 (1.05–2.17)	3.38 (1.59–7.18)
	S49	Other/unspecified injury: shoulder/upper arm	1.51 (1.05–2.18)	3.24 (1.46–7.16)
	R63	Symptoms: food/fluid intake	1.31 (1.07–1.59)	2.95 (1.91–4.54)
	R21	Rash / nonspecific skin eruption	1.43 (1.11–1.85)	2.86 (1.65–4.97)
	F12	Mental and behavioural disorders due to cannabinoids	1.25 (1.04–1.50)	2.47 (1.60–3.82)
	S92	Fracture: foot/toe	1.18 (0.93–1.50)	2.10 (1.24–3.55)
	S93	Disloc & sprain of joints & ligaments at ankl, ft & toe lev	1.14 (0.92–1.41)	1.61 (1.01–2.58)

Table S6.

Exploratory geographic-region-stratified same-day and cumulative lag 0–3 ORs (95% CIs) from Stage 2. Diagnoses shown met the primary Stage 2 numerical reporting criteria within each Chicago region.

Geographic Region	Code	Diagnosis Name	Same-day OR (lag 0)	Cumulative OR (lag 0-3)
Central	S20	Superficial injury: thorax	1.68 (1.07–2.66)	9.94 (3.48–28.37)
	R60	Edema	1.61 (1.11–2.32)	5.01 (2.22–11.33)
	N17	Acute kidney failure	1.54 (1.18–2.02)	4.53 (2.50–8.21)
	F12	Mental and behavioural disorders due to cannabinoids	1.63 (1.09–2.44)	4.52 (1.89–10.85)
	S93	Disloc & sprain of joints & ligaments at ankl, ft & toe lev	1.48 (0.87–2.53)	3.92 (1.27–12.10)
	S80	Superficial injury: knee/lower leg	1.56 (1.03–2.36)	3.83 (1.52–9.68)
	L89	Pressure ulcer	1.28 (0.82–2.01)	3.68 (1.20–11.27)
Far South Side	S93	Disloc & sprain of joints & ligaments at ankl, ft & toe lev	1.59 (0.99–2.56)	7.50 (2.45–22.90)
	F12	Mental and behavioural disorders due to cannabinoids	1.55 (0.93–2.57)	4.48 (1.56–12.87)
	R60	Edema	1.49 (1.10–2.00)	2.79 (1.46–5.33)
North Side	R60	Edema	2.36 (1.64–3.41)	17.84 (8.10–39.31)
	S92	Fracture: foot/toe	1.56 (1.06–2.29)	8.19 (3.26–20.58)
	N17	Acute kidney failure	1.91 (1.41–2.58)	7.03 (3.68–13.43)
	S96	Injury of muscle and tendon at ankle and foot level	1.39 (0.88–2.19)	3.81 (1.35–10.76)
	S39	Unspec. injury: abdomen/lower back/pelvis	1.57 (1.12–2.19)	3.11 (1.55–6.24)
	E86	Volume depletion	1.38 (1.07–1.79)	2.90 (1.66–5.08)
Northwest Side	W22	Striking against or struck by other objects	1.95 (1.17–3.25)	14.52 (4.61–45.77)
	R60	Edema	1.91 (1.30–2.82)	7.37 (3.21–16.90)
	S39	Unspec. injury: abdomen/lower back/pelvis	1.57 (0.98–2.53)	4.97 (1.79–13.83)
	V87	Traffic accident: unknown transport mode	1.43 (0.99–2.05)	4.89 (2.08–11.50)
	N17	Acute kidney failure	1.62 (1.19–2.20)	4.49 (2.33–8.68)
	R63	Symptoms: food/fluid intake	1.42 (0.84–2.41)	4.48 (1.48–13.59)
	E86	Volume depletion	1.31 (1.04–1.65)	3.33 (1.87–5.96)
	R21	Rash / nonspecific skin eruption	1.55 (0.96–2.49)	3.18 (1.10–9.18)
	F12	Mental and behavioural disorders due to cannabinoids	1.25 (0.89–1.75)	2.85 (1.23–6.59)
South Side	S90	Superficial injury: ankle/foot/toes	2.22 (1.40–3.55)	24.58 (9.19–65.73)
	S80	Superficial injury: knee/lower leg	2.05 (1.45–2.90)	18.51 (8.12–42.19)
	S96	Injury of muscle and tendon at ankle and foot level	1.64 (0.98–2.75)	5.84 (1.99–17.18)
	S39	Unspec. injury: abdomen/lower back/pelvis	1.49 (0.96–2.32)	4.93 (1.87–13.01)
	S93	Disloc & sprain of joints & ligaments at ankl, ft & toe lev	1.36 (0.80–2.32)	3.50 (1.14–10.75)
	R21	Rash / nonspecific skin eruption	1.30 (1.02–1.66)	3.08 (1.80–5.27)
	E86	Volume depletion	1.28 (1.03–1.58)	2.74 (1.61–4.65)
	V87	Traffic accident: unknown transport mode	1.23 (0.89–1.70)	2.54 (1.13–5.71)
	F12	Mental and behavioural disorders due to cannabinoids	1.23 (0.94–1.59)	2.52 (1.35–4.71)
	N17	Acute kidney failure	1.14 (0.96–1.35)	1.91 (1.26–2.91)
	R21	Rash / nonspecific skin eruption	2.78 (1.95–3.99)	29.29 (13.62–63.02)
Southwest Side	R63	Symptoms: food/fluid intake	1.78 (1.27–2.49)	8.23 (3.99–16.95)
	S92	Fracture: foot/toe	1.48 (1.00–2.19)	6.45 (2.53–16.42)
	R60	Edema	1.66 (1.24–2.23)	4.70 (2.49–8.89)
	V87	Traffic accident: unknown transport mode	1.50 (0.94–2.38)	4.42 (1.65–11.85)
	S91	Open wound: ankle/foot/toes	1.62 (1.04–2.55)	4.39 (1.60–12.05)
	N17	Acute kidney failure	1.42 (1.14–1.77)	3.05 (1.88–4.95)
	E86	Volume depletion	1.30 (1.11–1.52)	2.94 (2.04–4.22)
	S93	Disloc & sprain of joints & ligaments at ankl, ft & toe lev	1.28 (0.93–1.75)	2.54 (1.24–5.18)
	N08	Glomerular disorders in other diseases	2.21 (1.37–3.54)	26.82 (9.22–77.95)

Geographic Region	Code	Diagnosis Name	Same-day OR (lag 0)	Cumulative OR (lag 0-3)
	W25	Contact with sharp glass	2.00 (1.20–3.35)	14.19 (4.80–41.92)
	S80	Superficial injury: knee/lower leg	2.09 (1.57–2.77)	13.94 (7.55–25.75)
	S50	Superficial injury: elbow/forearm	2.18 (1.41–3.37)	11.95 (4.68–30.52)
	I83	Varicose veins of lower extremities	1.69 (1.13–2.53)	11.41 (4.28–30.47)
	S91	Open wound: ankle/foot/toes	1.84 (1.28–2.66)	9.20 (4.29–19.72)
	W57	Bitten/stung by nonvenomous insect	1.86 (1.17–2.95)	9.11 (3.41–24.36)
	S92	Fracture: foot/toe	2.06 (1.35–3.13)	8.81 (3.61–21.51)
	S90	Superficial injury: ankle/foot/toes	1.74 (1.25–2.43)	7.80 (3.82–15.91)
	S49	Other/unspecified injury: shoulder/upper arm	1.59 (1.17–2.16)	6.53 (3.12–13.69)
	S30	Superficial injury: abdomen/lower back/pelvis	1.38 (0.98–1.95)	4.95 (2.35–10.42)
	W22	Striking against or struck by other objects	1.39 (0.99–1.95)	3.70 (1.77–7.74)
	E86	Volume depletion	1.44 (1.23–1.70)	3.56 (2.50–5.05)
	S20	Superficial injury: thorax	1.32 (1.01–1.73)	3.36 (1.73–6.53)
	N17	Acute kidney failure	1.45 (1.26–1.68)	3.25 (2.37–4.46)
	V87	Traffic accident: unknown transport mode	1.32 (1.15–1.52)	3.24 (2.29–4.57)
	S40	Superficial injury: shoulder/upper arm	1.50 (0.99–2.26)	3.19 (1.30–7.80)
	G35	Multiple sclerosis	1.63 (0.98–2.71)	3.01 (1.01–8.96)
	R60	Edema	1.28 (1.11–1.48)	2.51 (1.83–3.43)
	S16	Injury of muscle, fascia and tendon at neck level	1.28 (0.98–1.69)	2.49 (1.40–4.43)
	R21	Rash / nonspecific skin eruption	1.27 (1.02–1.57)	2.01 (1.27–3.19)
	S39	Unspec. injury: abdomen/lower back/pelvis	1.16 (0.98–1.38)	2.00 (1.31–3.06)
	S93	Disloc & sprain of joints & ligaments at ankl, ft & toe lev	1.20 (0.90–1.60)	1.90 (1.02–3.55)
	F12	Mental and behavioural disorders due to cannabinoids	1.06 (0.93–1.21)	1.37 (1.00–1.88)