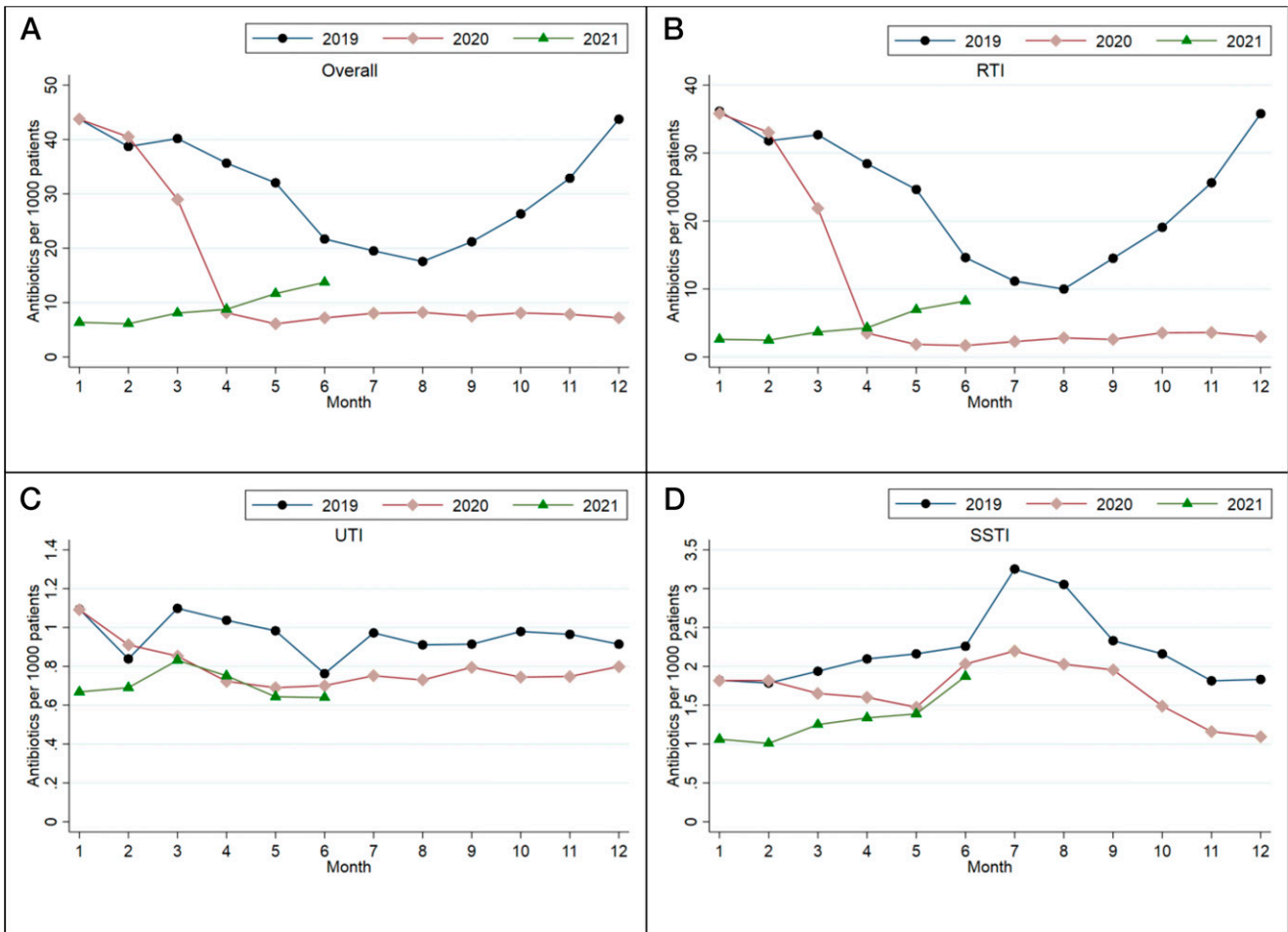
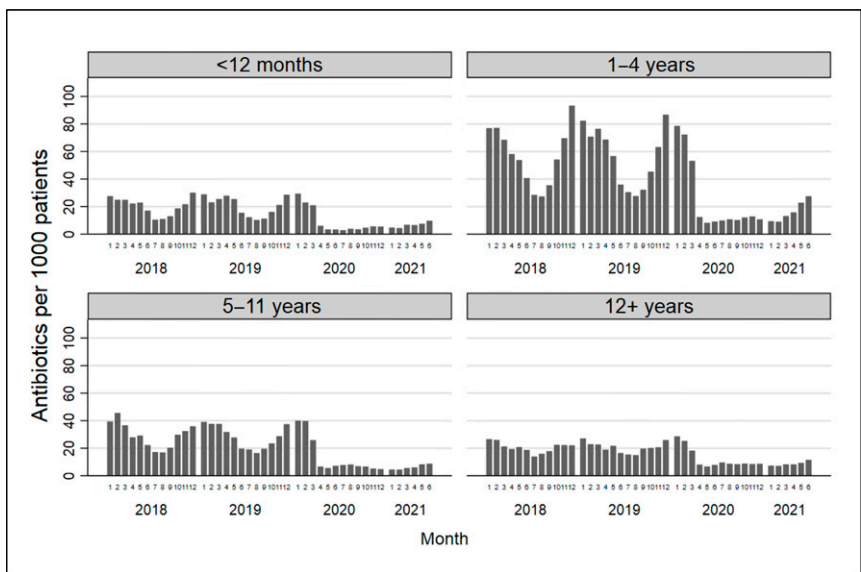


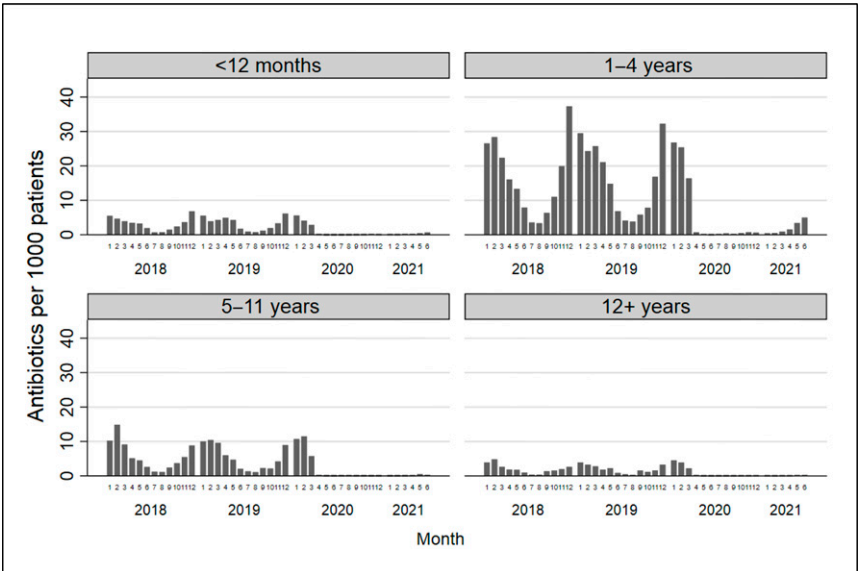
Supplemental Information

**SUPPLEMENTAL FIGURE 7**

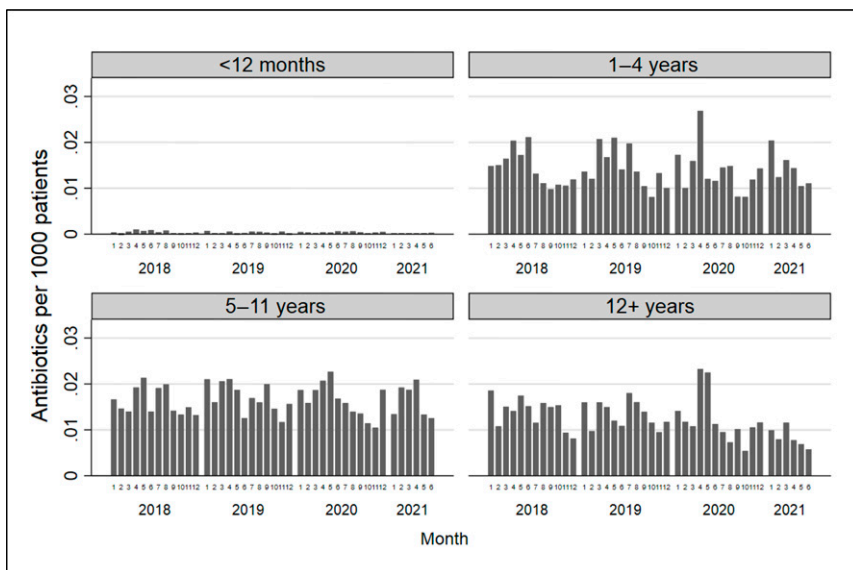
Antibiotic prescriptions per 1000 patients by month comparing 2019, 2020, and 2021. Months are numbered sequentially, starting with January (number 1).



SUPPLEMENTAL FIGURE 8
 Antibiotic prescriptions per 1000 patients by month from January 2018 to June 2021 for all antibiotics, stratified by age group. Months are numbered sequentially, starting with January (number 1).

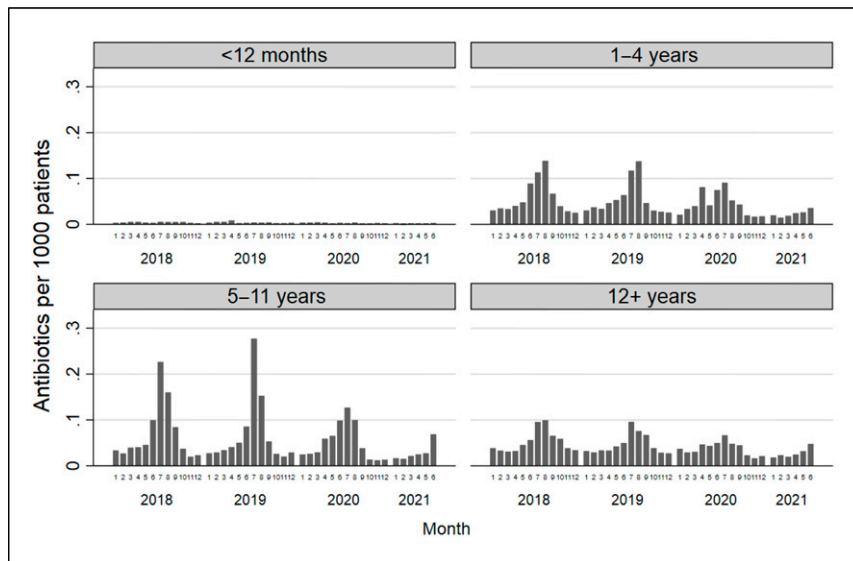


SUPPLEMENTAL FIGURE 9
 Antibiotic prescriptions by month from January 2018 to June 2021 for antibiotics prescribed at respiratory tract infection encounters, stratified by age group. Months are numbered sequentially, starting with January (number 1).



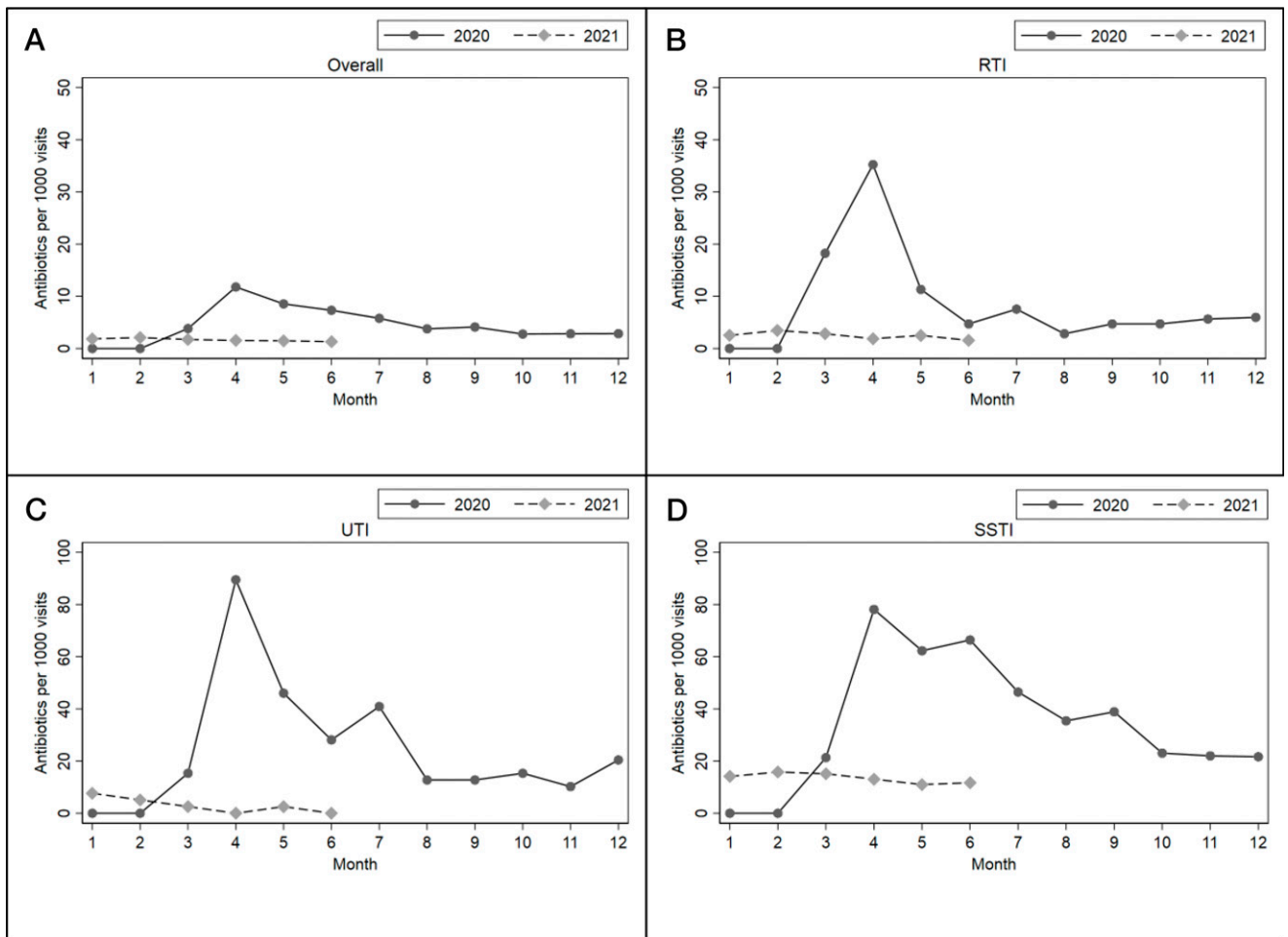
SUPPLEMENTAL FIGURE 10

Antibiotic prescriptions by month from January 2018 to June 2021 for antibiotics prescribed at urinary tract infection encounters, stratified by age group. Months are numbered sequentially, starting with January (number 1).



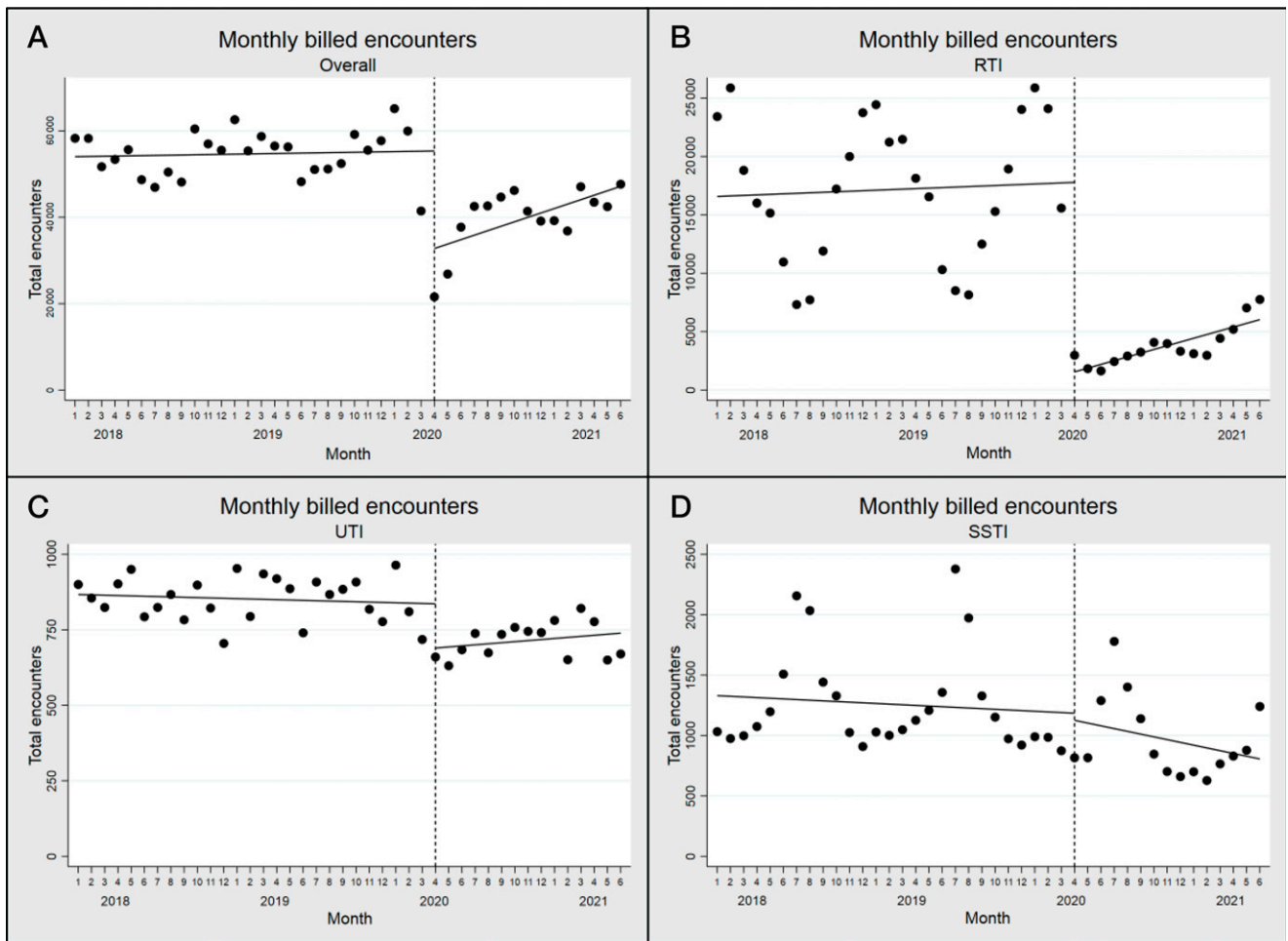
SUPPLEMENTAL FIGURE 11

Antibiotic prescriptions by month from January 2018 to June 2021 for antibiotics prescribed at skin and soft tissue infection encounters, stratified by age group. Months are numbered sequentially, starting with January (number 1).



SUPPLEMENTAL FIGURE 12

Primary care billed telemedicine patient encounters by month from January 2020 to June 2021. Months are numbered sequentially, starting with January (number 1).



SUPPLEMENTAL FIGURE 13

Interrupted time series analysis for monthly visit volume from January 2018 to June 2021. Months are numbered sequentially, starting with January (number 1). Dashed line indicates first full month of the pandemic, April 2020.

SUPPLEMENTAL TABLE 2 Antibiotics Included in Primary Outcome Definition

Antibiotic ^a	Amoxicillin, amoxicillin-clavulanate, azithromycin, cefaclor, cefadroxil, cefdinir, cefditoren, cefixime, cefotaxime (IM), cefotetan (IM), cefpodoxime, ceftazidime, ceftriaxone (IM), cefuroxime, cephalixin, ciprofloxacin, clarithromycin, clindamycin, delafloxacin, dicloxacillin, doxycycline, erythromycin, fidaxomicin, fosfomicin, levofloxacin, linezolid, metronidazole, minocycline, moxifloxacin, nitrofurantoin, norfloxacin, ofloxacin, penicillin (oral and IM), tedizolid, tetracycline, tinidazole, trimethoprim/sulfamethoxazole, vancomycin
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IM, intramuscular.

^a Only oral antibiotics were included except where indicated otherwise.

SUPPLEMENTAL TABLE 3 ICD-10-CM Codes for Disease Categories

Disease Category	ICD-10-CM Code
RTI	A37 (whooping cough), A38 (scarlet fever), A48.1 (Legionnaires' disease), A70 (<i>Chlamydia psittaci</i> infections), B01.2 (varicella pneumonia), B05.2 (measles complicated by pneumonia), B25.0 (cytomegaloviral pneumonitis), B34.0 (adenovirus infection), B34.2 (coronavirus infection), B97.0 (adenovirus infection), B97.2 (coronavirus infection), B97.4 (respiratory syncytial virus), B97.81 (human metapneumovirus infection), H65/H66/H67 (otitis media), H68/H69 (Eustachian tube disorders), H70 (mastoiditis), J00 (acute nasopharyngitis), J01 (acute sinusitis), J02 (acute pharyngitis), J03 (acute tonsillitis), J04 (acute laryngitis/tracheitis), J05 (croup/epiglottitis), J06 (other acute URIs), J09.x (influenza A), J10/J11 (influenza), J12 (viral pneumonia), J13-J18 (pneumonia), J20 (acute bronchitis), J21 (acute bronchiolitis), J31.1/J31.2 (chronic nasopharyngitis/pharyngitis), J32 (chronic sinusitis), J35.0 (chronic tonsillitis), J36 (peritonsillar abscess), J37 (chronic laryngitis/tracheitis), J39.0/J39.1 (pharyngeal abscess), J40 (unspecified bronchitis), J41/J42 (chronic bronchitis), J43 (emphysema), J85.0-J85.2 (lung abscess), J86 (pyothorax), R04.2/R04.89/R04.9 (hemoptysis/respiratory hemorrhage), R05 (cough), R06.02 (shortness of breath), R06.03 (acute respiratory distress), R06.1 (stridor), R06.2 (wheezing), R06.82 (tachypnea), R07.0 (pain in throat), R09.3 (abnormal sputum), R09.82 (postnasal drip), U07.1 (COVID-19 infection)
UTI	N10 (acute pyelonephritis), N11.0/N11.1 (chronic pyelonephritis), N13.6 (pyonephrosis), N15.1 (renal and perinephric abscess), N30.0/N30.2/N30.8/N30.9 (cystitis), N34.0 (urethral abscess), N39.0 (UTI unspecified site), 003.38/003.88/004.88/007.38/008.83 (UTI after spontaneous/induced abortion or ectopic pregnancy), 023.0/023.1/023.3/023.4 (UTI in pregnancy), 086.2 (UTI after delivery), P39.3 (neonatal UTI), R30.0 (dysuria), R35.0 (frequency of micturition), R39.15 (urgency of urination), R82.7 (bacteriuria/other abnormal findings on microbiological examination of urine), T86.13 (kidney transplant infection)
SSTI	A46 (erysipelas), H00.03 (eyelid abscess), H60 (except H60.2/H60.4/H60.5) (otitis externa), H61.0 (chondritis/perichondritis of external ear), H62.4 (other otitis externa), I89.1 (lymphangitis), J34.0 (abscess/furuncle/carbuncle of nose), J95.02 (tracheostomy stoma infection), K12.2 (cellulitis/abscess of mouth), L01 (impetigo), L02 (cutaneous abscess/furuncle/carbuncle), L03 (cellulitis and acute lymphangitis), L04 (acute lymphadenitis), L05.0 (pilonidal cyst with abscess), L08 (other local skin and subcutaneous tissue infections), L66.3 (perifolliculitis capitis abscedens), L73.1-L73.9 (follicular disorders), L88 (pyoderma gangrenosum), M79.3 (unspecified panniculitis), N61 (inflammatory disorders of the breast), 091 (except 091.1) (infections of breast associated with pregnancy/puerperium/lactation), P39.0/P39.4 (neonatal infective mastitis/skin infection), S01.05/S01.15/S01.25/S01.35/S01.45/S01.55/S01.85/S01.95 (bite of head), S10.17/S10.87/S10.97/S11.015/S11.025/S11.035/S11.15/S11.25/S11.85/S11.95 (bite of neck/throat), S21.05/S21.15/S21.25/S21.35/S21.45/S21.95 (bite of thorax), S31.05/S31.15/S31.25/S31.35/S31.45/S31.55/S31.65/S31.805/S31.815/S31.825/S31.835 (bite of abdomen/lower back/pelvis/genitalia), S41.05/S41.15 (bite of shoulder/upper arm), S51.05/S51.85 (bite of elbow/forearm), S61.05/S61.15/S61.25/S61.35/S61.45/S61.55 (bite of wrist/hand/fingers), S71.05/S71.15 (bite of hip/thigh), S81.05/S81.85 (bite of knee/lower leg), S91.05/S91.15/S91.25/S91.35 (bite of ankle/foot/toes), T80.212 (local infection due to central venous catheter), T86.822 (skin graft infection), W50.3 (accidental human bite), W53.01/W53.11/W53.31/W53.81 (rodent bite), W54.0 (dog bite), W55.01/W55.11/W55.21/W55.31/W55.41/W55.51/W55.81 (other mammal bite), W56.01/W56.11/W56.21/W56.31/W56.41/W56.51/W56.81 (nonvenomous marine animal bite), W58.01/W58.11 (crocodile/alligator bite), W59.01/W59.11/W59.21/W59.81 (other nonvenomous reptile bite), W61.01/W61.11/W61.21/W61.51/W61.61/W61.91 (bird bite), Y04.1 (assault by human bite)

SUPPLEMENTAL TABLE 4 ICD-10-CM Codes for Respiratory Tract Infection Disease Categories

RTI Disease Category	ICD-10-CM Code
Bronchitis	J20 (acute bronchitis), J40 (unspecified bronchitis)
Sinusitis	J01 (acute sinusitis), J32 (chronic sinusitis)
Pharyngitis	A38.1/A38.8/A38.9 (scarlet fever), J02 (acute pharyngitis), J03 (acute tonsillitis), J06.0 (acute laryngopharyngitis), J31.1/J31.2 (chronic nasopharyngitis/pharyngitis), J35.0 (chronic tonsillitis), J36 (peritonsillar abscess), J39.0/J39.1 (pharyngeal abscess)
Otitis media	A38.0 (scarlet fever with otitis media), H65/H66/H67 (otitis media), J10.83/J11.83 (influenza with otitis media)
Pneumonia	A37.01/A37.11/A37.81/A37.91 (whooping cough with pneumonia), A48.1 (Legionnaires' disease), A70 (<i>Chlamydia psittaci</i> infections), B01.2 (varicella pneumonia), B05.2 (measles complicated by pneumonia), B25.0 (cytomegaloviral pneumonitis), J09. × 1 (influenza A pneumonia), J10.00/J10.01/J10.08/J11.00/J11.08 (influenza pneumonia), J12 (viral pneumonia), J13-J18 (pneumonia), J85.0-J85.2 (lung abscess), J86 (pyothorax)
Other bacterial respiratory infection	A37.00/A37.10/A37.80/A37.90 (whooping cough without pneumonia), H70 (mastoiditis)
Other upper respiratory infection	B34.0 (adenovirus infection), B34.2 (coronavirus infection), B97.0 (adenovirus infection), B97.2 (coronavirus infection), B97.4 (RSV), B97.81 (human metapneumovirus infection), H68/H69 (Eustachian tube disorders), J00 (acute nasopharyngitis), J04 (acute laryngitis/tracheitis), J05 (croup/epiglottitis), J06.9 (acute unspecified URI), J09. × 2/J09. × 3/J09. × 9 (influenza A), J10.1/J10.2/J10.81/J10.82/J10.89/J11.1/J11.2/J11.81/J11.82/J11.89 (influenza), J21 (acute bronchiolitis), J37 (chronic laryngitis/tracheitis), U07.1 (COVID-19 infection)
Nonspecific respiratory symptoms	R04.2/R04.89/R04.9 (hemoptysis/respiratory hemorrhage), R05 (cough), R06.02 (shortness of breath), R06.03 (acute respiratory distress), R06.1 (stridor), R06.2 (wheezing), R06.82 (tachypnea), R07.0 (pain in throat), R09.3 (abnormal sputum), R09.82 (postnasal drip)
COPD	J43 (emphysema), J41/J42 (chronic bronchitis), J44 (COPD)

COPD, chronic obstructive pulmonary disease.

SUPPLEMENTAL TABLE 5 Interrupted Time Series Analysis Statistical Results for Antibiotic Prescriptions per 1000 Patients by Month From January 2018 to June 2021

	Overall	RTI	UTI	SSTI
Prepandemic monthly rate of change in antibiotic prescriptions per 1000 patients (95% CI)	-0.04 (-0.50 to 0.43)	-0.04 (-0.51 to 0.42)	-0.00 (-0.01 to 0.00)	-0.01 (-0.03 to 0.01)
Immediate change in antibiotic prescriptions per 1000 patients at pandemic onset (95% CI)	-25.2 (-32.9 to -17.5)	-22.6 (-30.2 to -15.1)	-0.19 (-0.27 to -0.11)	-0.26 (-0.75 to 0.24)
Pandemic monthly rate of change in antibiotic prescriptions per 1000 patients (95% CI)	0.25 (-0.01 to 0.51)	0.29 (0.08 to 0.49)	-0.00 (-0.01 to 0.00)	-0.04 (-0.08 to 0.01)
Difference between prepandemic and pandemic monthly rate of change in antibiotic prescriptions per 1000 patients (95% CI)	0.29 (-0.24 to 0.82)	0.33 (-0.17 to 0.84)	-0.00 (-0.01 to 0.01)	-0.03 (-0.08 to 0.02)

SUPPLEMENTAL TABLE 6 Interrupted Time Series Analysis Statistical Results for Monthly Visit Volume From January 2018 to June 2021 for Billed Encounters

	Overall	RTI	UTI	SSTI
Prepandemic monthly rate of change in billed encounter vol (95% CI)	49.2 (–286.1 to 379.9)	44.5 (–269.0 to 358.1)	–1.1 (–4.7 to 2.4)	–5.4 (–24.1 to 13.4)
Immediate change in billed encounter volume at pandemic onset (95% CI)	–22 588.2 (–32 221.2 to –12 955.3)	–16 224.7 (–21 203.2 to –11 246.1)	–146.3 (–224.6 to –68.0)	–59.2 (–546.3 to 428.0)
Pandemic monthly rate of change in billed encounter volume (95% CI)	1028.1 (252.2 to 1803.9)	319.9 (175.8 to 464.0)	3.5 (–4.0 to 11.0)	–22.8 (–63.6 to 18.0)
Difference between prepandemic and pandemic monthly rate of change in billed encounter volume (95% CI)	978.9 (135.5 to 1822.3)	275.4 (–69.7 to 620.5)	4.7 (–3.6 to 12.9)	–17.5 (–62.4 to 27.4)