

SUPPLEMENTARY DATA

**Supplementary Table 1. ICD-9-CM classifications of hospitalizations with select infections**

Category	Infection	ICD-9-CM	
Any infection*	All codes below combined (excluding sepsis)		
Respiratory tract infection	Pneumonia	480-486	
	Influenza	487-488	
	Acute bronchitis and bronchiolitis	466.0, 466.1	
Kidney Infections	Pyelonephritis and perinephric abscess	590	
Skin and soft tissue infections	Cellulitis	681-682	
	Foot infections	Gangrene	040.0, 440.24, 785.4 730.07, 730.17, 730.27,
		Osteomyelitis of ankle and foot	730.97
		Foot ulcer	440.23, 707.14, 707.15, 707.1
		Cellulitis or abscess of foot or toe	680.7, 682.7, 681.10, 681.11
		Osteomyelitis	730.0, 730.1, 730.2, 730.9
Mycoses		110-118.x	
Postoperative wound infections		998.51, 998.59	
Sepsis		038.0-038.9, 995.91, 995.92	

\*Any infection is estimated as the number of hospitalizations that include any of the codes mentioned in Table 1, excluding sepsis.

Note: Categories are not mutually exclusive. For example, one hospitalization could have listed both a kidney infection and pneumonia, and this hospitalization will be counted in both pneumonia and kidney rates.

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**Supplementary Table2.** ICD-9-CM codes for comorbidities associated with infection-related hospitalizations

<i>Comorbidities</i>	<i>ICD-9-CM</i>
Myocardial infarction	410.x, 412.x
Congestive heart failure	398.91, 402.01, 402.11, 402.91, 404.01, 404.03, 404.11, 404.13, 404.91, 404.93, 425.4-425.9, 428.x
Peripheral vascular disease	093.0, 437.3, 440.X, 441.X, 443.1-443.9, 557.1 , 557.9, 785.4, V43.4, procedure 38.48
Cerebrovascular disease	362.34, 430.x-438.x
Dementia	290.x, 294.1, 331.2
Chronic pulmonary disease	416.8, 416.9, 490.x-505.x, 506.4, 508.1, 508.8
Peptic ulcer disease	531.x-534.x
Rheumatic disease	446.5, 710.0-710.4, 714.0-714.2, 714.8, 725.x
Mild liver disease	070.22, 070.23, 070.32, 070.33, 070.44, 070.54, 070.6, 070.9, 570.X, 571.X, 573.3, 573.4, 573.8, 573.9, V42.7
Hypertension	401.x
Hemiplegia or paraplegia	344.1, 342.x
Renal disease	582.x, 583-583.7, 585.x, 586.x, 588.x
Any malignancy, including lymphoma and leukemia, except malignant neoplasm of skin	140.1-172.x, 174.x-195.8, 200.x-208.x, 238.6
Moderate or severe liver disease	456.0-456.2, 572.2-572.8
Metastatic solid tumor	196.x-199.x
HIV/AIDS	042.x-044.x

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**Supplementary Table 3.** Time-stratified characteristics of patients with an infection-related hospitalization, by diabetes status, in the United States 2000—2015

	Diabetes	Proportion (95%CI) <sup>a</sup>				Trend 1 <sup>b</sup>		Trend 2 <sup>b</sup>	
		2000	2005	2010	2015	Year	Δ%/year*	Year	Δ%/year*
<i>Characteristics</i>									
Gender (men)	no	45.5 (45.5-46.2)	46 (45.6-46.4)	46.8 (46.4-47.2)	47.4 (47.2-47.6)	2000-2015	0.3*	n/a	
	yes	48.2 (47.8-48.7)	48.7 (48.4-49.1)	50.3 (49.9-50.6)	52.0 (51.8-52.2)	2000-2009	0.4*	2009-2015	0.8*
Age (years), mean	no	64.3 (63.8-64.8)	63.7 (63.2-64.2)	62.7 (62.2-63.2)	63.3 (63.1-63.5)	2000-2015	-0.1*	n/a	
	yes	66.3 (66.0-66.6)	65.8 (65.5-66.1)	65.4 (65.1-65.7)	65.6 (65.4-65.7)	2000-2015	-0.1*	n/a	
Hospitalization duration (days), median	no	5 (3-9)	5 (3-9)	5 (3-9)	5 (3-8)	NA			
	yes	6 (3-10)	5 (3-9)	5 (3-8)	5 (3-8)	NA			
<i>Comorbidities</i>									
Hypertension	no	25.9 (25.5-26.4)	32.0 (31.5-32.6)	34.0 (33.4-34.5)	35.4 (35.2-35.7)	2000-2004	5.3*	2004-2015	1.1*
	yes	39.4 (38.9-40)	47.6 (47.1-48.2)	45.6 (45.1-46.2)	43.9 (43.7-44.2)	2000-2004	4.6*	2004-2015	-0.5*
Myocardial Infarction	no	5.7 (5.5-6)	6.0 (5.8-6.3)	6.4 (6.2-6.6)	6.2 (6.1-6.3)	2000-2011	1.1*	2011-2015	-1.7*
	yes	8.2 (7.8-8.6)	8.2 (7.8-8.6)	8.6 (8.3-9.0)	7.9 (7.8-8.1)	2000-2012	0.5*	2012-2015	-3.6*
Congestive Heart Failure	no	21.4 (20.9-21.9)	22.9 (22.4-23.5)	20.5 (20.0-21.0)	22.5 (22.3-22.8)	2000-2012	-0.6	2012-2015	2.3
	yes	30.8 (30.2-31.4)	31.5 (30.9-32.1)	29.1 (28.5-29.7)	30.7 (30.4-31.0)	2000-2012	-0.7*	2012-2015	1.3
Peripheral Vascular Disease	no	6.9 (6.7-7.1)	6.9 (6.6-7.3)	7.4 (7.1-7.6)	7.5 (7.3-7.7)	2000-2015	0.6*	n/a	
	yes	21.9 (21.4-22.4)	18.0 (17.5-18.6)	16.9 (16.4-17.4)	16.8 (16.5-17.1)	2000-2006	-3.6*	2006-2015	-0.7*
Cerebrovascular disease	no	5.5 (5.3-5.7)	4.6 (4.5-4.8)	5.2 (5.1-5.4)	5 (4.9-5)	2000-2015	-0.2	n/a	
	yes	7.0 (6.7-7.3)	5.6 (5.4-5.8)	6.2 (6-6.4)	5.6 (5.5-5.8)	2000-2015	-0.9*	n/a	
Dementia	no	3.8 (3.6-4)	3.5 (3.3-3.7)	3.2 (3.1-3.4)	2.6 (2.5-2.7)	2000-2011	-1.1*	2011-2015	-6.4*
	yes	2.7 (2.5-2.8)	2.6 (2.5-2.8)	2.6 (2.5-2.7)	2.0 (2.0-2.1)	2000-2009	0.9	2009-2015	-5.6*
Chronic pulmonary disease	no	30.7 (30.1-31.3)	34.3 (33.7-34.9)	33.1 (32.4-33.8)	34.5 (34.2-34.8)	2000-2004	2.7*	2004-2015	0.1
	yes	24 (23.4-24.5)	30.9 (30.2-31.5)	32.4 (31.7-33.1)	32.3 (31.9-32.6)	2000-2006	5.1*	2006-2015	-0.0
Peptic ulcer disease	no	1.7 (1.6-1.7)	1.4 (1.3-1.5)	1.3 (1.2-1.3)	1.1 (1.1-1.2)	2000-2006	-3.6*	2006-2015	-1.5*
	yes	1.3 (1.3-1.4)	1.1 (1-1.2)	1.0 (1.0-1.1)	0.8 (0.8-0.8)	2000-2012	-3.0*	2012-2015	-5.8*
Rheumatic disease	no	2.8 (2.7-2.9)	3.2 (3.1-3.3)	3.6 (3.5-3.7)	3.9 (3.8-3.9)	2000-2012	2.7*	2012-2015	0.4
	yes	1.8 (1.7-1.9)	2.1 (2.1-2.2)	2.6 (2.5-2.7)	2.7 (2.6-2.7)	2000-2011	3.9*	2011-2015	-0.4
Mild liver disease	no	2.7 (2.6-2.8)	3.6 (3.4-3.7)	4.6 (4.3-4.8)	5.3 (5.2-5.5)	2000-2015	4.4*	n/a	
	yes	2.2 (2.0-2.3)	2.9 (2.8-3)	3.8 (3.6-4.0)	4.5 (4.4-4.6)	2000-2012	5.3*	2012-2015	2.1*
Moderate or severe liver disease	no	0.6 (0.6-0.7)	0.8 (0.7-0.8)	1.3 (1.2-1.4)	1.5 (1.5-1.6)	2000-2015	7.1*	n/a	
	yes	0.5 (0.5-0.5)	0.6 (0.6-0.6)	0.9 (0.9-1.0)	1.1 (1.0-1.1)	2000-2011	7.2*	2011-2015	2.4
Hemiplegia or paraplegia	no	1.9 (1.8-1.9)	1.9 (1.8-2)	2.8 (2.7-2.9)	2.9 (2.8-3.0)	2000-2015	3.5*	n/a	
	yes	1.1 (1-1.1)	1.1 (1.0-1.1)	1.6 (1.5-1.6)	1.6 (1.5-1.6)	2000-2015	3.0*	n/a	
Renal disease	no	5.1 (4.9-5.3)	7.7 (7.5-8.0)	13.1 (12.7-13.4)	15.2 (15.0-15.4)	2000-2007	14.6*	2007-2015	3.6*
	yes	14.6 (14.1-15.1)	17.2 (16.7-17.8)	27.9 (27.2-28.5)	31.0 (30.7-31.3)	2000-2009	8.6*	2009-2015	2.0

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Malignancy, except malignant neoplasm of skin	no	9.0 (8.7-9.2)	9.4 (9.0-9.7)	10.6 (10.0-11.3)	10.4 (10.1-10.7)	2000-2015	1.3*	n/a	
	yes	4.7 (4.5-4.8)	5.2 (5.1-5.4)	6.2 (5.9-6.5)	6.1 (5.9-6.2)	2000-2012	2.8*	2012-2015	-1.7
Metastatic solid tumour	no	4.1 (3.9-4.2)	4.2 (4.1-4.4)	4.6 (4.3-5.1)	4.4 (4.2-4.5)	2000-2015	0.8*	n/a	
	yes	1.8 (1.7-1.9)	2.0 (1.9-2.1)	2.4 (2.2-2.5)	2.1 (2.0-2.2)	2000-2010	3.1*	2010-2015	-2.4*
HIV/AIDS	no	2.3 (1.9-2.8)	2.0 (1.6-2.4)	1.8 (1.4-2.2)	1.2 (1.1-1.3)	2000-2015	-4.9*		
	yes	0.4 (0.3-0.5)	0.4 (0.3-0.5)	0.5 (0.4-0.6)	0.4 (0.3-0.4)	2000-2008	2.1	2008-2015	-4.9*

<sup>a</sup>Data are reported as the proportions and 95%CI, unless otherwise stated <sup>b</sup>Indicates the year in which linear trends change in either direction or magnitude;; n/a no second trend identified; NA linear trend not assessed as data are not normally distributed. \*p<0.05; Data sources: AHRQ, the National Inpatient Sample

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**Supplementary Table 4.** Age-standardized rates of all hospitalizations with skin and soft tissue infections, by amputation\* and diabetes status, U.S. 2000-2015

	Hospitalization rate (per 1,000 people) (95%CI)				Year	Trend 1		Trend 2		
	2000	2005	2010	2015		Δ%/year	p-value	Year	Δ%/year	p-value
<i>Diabetes</i>										
Skin infection and amputation	5.14 (4.35-5.92)	3.76 (3.15-4.38)	3.14 (2.63-3.64)	4.62 (4-5.24)	2000-2009	-5.47	<0.001	2009-2015	6.11	<0.001
Skin infection and no amputation	27.41 (25.9-28.93)	28.09 (26.69-29.48)	26.29 (25.12-27.46)	32.14 (30.94-33.34)	2000-2015	0.41	0.25	n/a		
<i>No diabetes</i>										
Skin infection and amputation	0.2 (0.16-0.24)	0.17 (0.13-0.2)	0.15 (0.11-0.19)	0.15 (0.11-0.18)	2000-2013	-3.24	<0.001	2013-2015	4.4	0.3
Skin infection and no amputation	3.68 (3.56-3.81)	4.65 (4.5-4.79)	4.92 (4.77-5.06)	4.66 (4.55-4.77)	2000-2006	4.73	<0.001	2006-2015	-0.58	<0.05

n/a no second trend identified; \*amputation was defined as non-traumatic lower limb extremity, ICD-9-CM codes: 84.1