

Bacterial and Fungal Infections Associated with Substance Use Disorders, Large Cohort of United States Hospitals, 2012-2017

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Supplementary Material

*Supplement eTable 1. **Diagnosis Codes for selected infections***

*Supplement eTable 2. **Diagnosis codes for substance use disorders***

*Supplement eTable 3. **Descriptive characteristics of patients hospitalized for selected infections***

**Supplement eTable 1. Diagnosis Codes for selected infections**

<b>ICD-9</b>	<b>ICD-10</b>
<b>Intracranial and intraspinal abscess</b>	
324.0	G06.0
324.1	G06.1
324.9	G06.2 G07
<b>Osteomyelitis</b>	
730.00	M86.00 M86.10 M86.20
730.01	M86.011 M86.012 M86.019 M86.111 M86.112 M86.119 M86.211 M86.212 M86.219
730.02	M86.021 M86.022 M86.029 M86.121 M86.122 M86.129 M86.221 M86.222 M86.229
730.03	M86.031 M86.032 M86.039 M86.131 M86.132 M86.139 M86.231 M86.232 M86.239
730.04	M86.041 M86.042 M86.049 M86.141 M86.142 M86.149 M86.241 M86.242 M86.249
730.05	M86.051 M86.052 M86.059 M86.151 M86.152 M86.159 M86.251 M86.252 M86.259
730.06	M86.061 M86.062 M86.069 M86.161 M86.162 M86.169 M86.261 M86.262 M86.269
730.07	M86.071 M86.072 M86.079 M86.171 M86.172 M86.179 M86.271 M86.272 M86.279
730.08	M86.08 M86.18 M86.28
730.09	M86.09 M86.19 M86.29
730.20	M86.9
730.21	M86.9
730.22	M86.9
730.23	M86.9
730.24	M86.9
730.25	M86.9
730.26	M86.9
730.27	M86.9
730.28	M46.20 M46.21 M46.22 M46.23 M46.24 M46.25 M46.26 M46.27 M46.28 M86.9
730.29	M86.9
<b>Infective Endocarditis</b>	
421.0	I33.0
421.1	I33.0 I39
421.9	I33.9
<b>Soft Skin Tissue Infections</b>	

566	K61.0 K61.1 K61.2 K61.3 K61.4
680.0	L02.02 L02.03
680.1	L02.12 L02.13
680.2	L02.221 L02.222 L02.223 L02.224 L02.225 L02.226 L02.229 L02.231 L02.232 L02.233 L02.234 L02.235 L02.236 L02.239
680.3	L02.421 L02.422 L02.423 L02.424 L02.429 L02.431 L02.432 L02.433 L02.434 L02.439
680.4	L02.521 L02.522 L02.529 L02.531 L02.532 L02.539
680.5	L02.32 L02.33
680.6	L02.425 L02.426 L02.429 L02.435 L02.436 L02.439
680.7	L02.621 L02.622 L02.629 L02.631 L02.632 L02.639
680.8	L02.821 L02.828 L02.831 L02.838
680.9	L02.92 L02.93
681.00	L02.511 L02.512 L02.519 L03.011 L03.012 L03.019 L03.021 L03.022 L03.029
681.01	L03.011 L03.012 L03.019
681.02	L03.011 L03.012 L03.019
681.10	L02.611 L02.612 L02.619 L03.031 L03.032 L03.039 L03.041 L03.042 L03.049
681.11	L03.031 L03.032 L03.039
681.9	L03.019 L03.029 L03.039 L03.049
682.0	K12.2 L02.01 L03.211 L03.212 L03.213
682.1	L02.11 L03.221 L03.222
682.2	L02.211 L02.212 L02.213 L02.214 L02.215 L02.216 L02.219 L03.311 L03.312 L03.313 L03.314 L03.315 L03.316 L03.319 L03.321 L03.322 L03.323 L03.324 L03.325 L03.326 L03.329
682.3	L02.411 L02.412 L02.413 L02.414 L02.419 L03.111 L03.112 L03.113 L03.114 L03.119 L03.121 L03.122 L03.123 L03.124 L03.129
682.4	L02.511 L02.512 L02.519 L03.113 L03.114 L03.119 L03.123 L03.124 L03.129
682.5	L02.31 L03.317 L03.327
682.6	L02.415 L02.416 L02.419 L03.115 L03.116 L03.119 L03.125 L03.126 L03.129

682.7	L02.611 L02.612 L02.619 L03.115 L03.116 L03.119 L03.125 L03.126 L03.129
682.8	L02.811 L02.818 L03.811 L03.818 L03.891 L03.898
682.9	L02.91 L03.90 L03.91 L98.3
683	L04.0 L04.1 L04.2 L04.3 L04.8 L04.9
684	L01.00 L01.01 L01.02 L01.03L01.09 L01.1
685.0	L05.01 L05.02
685.1	L05.91 L05.92
686.00	L08.0
686.01	L88
686.09	L08.81 L08.89
686.1	L92.8 L98.0
686.8	B78.1 E83.2 L08.82 L08.89
686.9	L08.9
707.00	L89.90 L89.91 L89.92 L89.93 L89.94 L89.95
707.01	L89.000 L89.001 L89.002 L89.003 L89.004 L89.009 L89.010 L89.011 L89.012 L89.013 L89.014 L89.019 L89.020 L89.021 L89.022 L89.023 L89.024 L89.029
	L89.100 L89.101 L89.102 L89.103 L89.104 L89.109 L89.110 L89.111 L89.112 L89.113 L89.114 L89.119 L89.120 L89.121 L89.122 L89.123 L89.124 L89.129
707.03	L89.130 L89.131 L89.132 L89.133 L89.134 L89.139 L89.140 L89.141 L89.142 L89.143 L89.144 L89.149 L89.150 L89.151 L89.152 L89.153 L89.154 L89.159 L89.40 L89.41L89.42 L89.43 L89.44 L89.45
707.04	L89.200 L89.201 L89.202 L89.203 L89.204 L89.209 L89.210 L89.211 L89.212 L89.213 L89.214 L89.219 L89.220 L89.221 L89.222 L89.223 L89.224 L89.229 L89.40 L89.41 L89.42 L89.43 L89.44 L89.45
<b>ICD-9</b>	<b>ICD-10</b>
707.05	L89.300 L89.301 L89.302 L89.303 L89.304 L89.309 L89.310 L89.311 L89.312 L89.313 L89.314 L89.319 L89.320 L89.321 L89.322 L89.323 L89.324 L89.329 L89.40 L89.41 L89.42 L89.43 L89.44 L89.45
707.06	L89.500 L89.501 L89.502 L89.503 L89.504 L89.509 L89.510 L89.511 L89.512 L89.513 L89.514 L89.519 L89.520 L89.521 L89.522 L89.523 L89.524 L89.529

707.07	L89.600 L89.601 L89.602 L89.603 L89.604 L89.609 L89.610 L89.611 L89.612 L89.613 L89.614 L89.619 L89.620 L89.621 L89.622 L89.623 L89.624 L89.629
707.09	L89.810 L89.811 L89.812 L89.813 L89.814 L89.819 L89.890 L89.891 L89.892 L89.893 L89.894 L89.899
707.10	L97.901 L97.902 L97.903 L97.904 L97.905 L97.906 L97.908 L97.909 L97.911 L97.912 L97.913 L97.914 L97.915 L97.916 L97.918 L97.919 L97.921 L97.922 L97.923 L97.924 L97.925 L97.926 L97.928 L97.929
707.11	I70.231 I70.241 I70.331 I70.341 I70.431 I70.441 I70.531 I70.541 I70.631 I70.641 I70.731 I70.741 L97.101 L97.102 L97.103 L97.104 L97.105 L97.106 L97.108 L97.109 L97.111 L97.112 L97.113 L97.114 L97.115 L97.116 L97.118 L97.119 L97.121 L97.122 L97.123 L97.124 L97.125 L97.126 L97.128 L97.129
707.12	I70.232 I70.242 I70.332 I70.342 I70.432 I70.442 I70.532 I70.542 I70.632 I70.642 I70.732 I70.742 L97.201 L97.202 L97.203 L97.204 L97.205 L97.206 L97.208 L97.209 L97.211 L97.212 L97.213 L97.214 L97.215 L97.216 L97.218 L97.219 L97.221 L97.222 L97.223 L97.224 L97.225 L97.226 L97.228 L97.229
707.13	I70.233 I70.243 I70.333 I70.343 I70.433 I70.443 I70.533 I70.543 I70.633 I70.643 I70.733 I70.743 L97.301 L97.302 L97.303 L97.304 L97.305 L97.306 L97.308 L97.309 L97.311 L97.312 L97.313 L97.314 L97.315 L97.316 L97.318 L97.319 L97.321 L97.322 L97.323 L97.324 L97.325 L97.326 L97.328 L97.329
707.14	I70.234 I70.244 I70.334 I70.344 I70.434 I70.444 I70.534 I70.544 I70.634 I70.644 I70.734 I70.744 L97.401 L97.402 L97.403 L97.404 L97.405 L97.406 L97.408 L97.409 L97.411 L97.412 L97.413 L97.414 L97.415 L97.416 L97.418 L97.419 L97.421 L97.422 L97.423 L97.424 L97.425 L97.426 L97.428 L97.429
707.15	I70.235 I70.245 I70.335 I70.345 I70.435 I70.445 I70.535 I70.545 I70.635 I70.645 I70.735 I70.745 L97.501 L97.502 L97.503 L97.504 L97.505 L97.506 L97.508 L97.509 L97.511 L97.512 L97.513 L97.514 L97.515 L97.516 L97.518 L97.519 L97.521 L97.522 L97.523 L97.524 L97.525 L97.526 L97.528 L97.529
707.19	I70.238 I70.239 I70.248 I70.249 I70.338 I70.339 I70.348 I70.349 I70.438 I70.439 I70.448 I70.449 I70.538 I70.539 I70.548 I70.549 I70.638 I70.639 I70.648 I70.649 I70.738 I70.739 I70.748 I70.749 L97.801 L97.802 L97.803 L97.804 L97.805 L97.806 L97.808 L97.809 L97.811 L97.812 L97.813 L97.814 L97.815 L97.816 L97.818 L97.819 L97.821 L97.822 L97.823 L97.824 L97.825 L97.826 L97.828 L97.829
707.20	L89.009 L89.019 L89.029 L89.109 L89.119 L89.129 L89.139 L89.149 L89.159 L89.209 L89.219 L89.229 L89.309 L89.319 L89.329 L89.40 L89.509 L89.519 L89.529 L89.609 L89.619 L89.629 L89.819 L89.899 L89.90
707.21	L89.001 L89.011 L89.021 L89.101 L89.111 L89.121 L89.131 L89.141 L89.151 L89.41 L89.201 L89.211 L89.221 L89.301 L89.311 L89.321

	L89.501 L89.511 L89.521 L89.601 L89.611 L89.621 L89.811 L89.891 L89.91
707.22	L89.002 L89.012 L89.022 L89.102 L89.112 L89.122 L89.132 L89.142 L89.152 L89.202 L89.212 L89.222 L89.302 L89.312 L89.322 L89.42 L89.502 L89.512 L89.522 L89.602 L89.612 L89.622 L89.812 L89.892 L89.92
707.23	L89.003 L89.013 L89.023 L89.103 L89.113 L89.123 L89.133 L89.143 L89.153 L89.203 L89.213 L89.223 L89.303 L89.313 L89.323 L89.43 L89.503 L89.513 L89.523 L89.603 L89.613 L89.623 L89.813 L89.893 L89.93
707.24	L89.004 L89.014 L89.024 L89.104 L89.114 L89.124 L89.134 L89.144 L89.154 L89.204 L89.214 L89.224 L89.304 L89.314 L89.324 L89.44 L89.504 L89.514 L89.524 L89.604 L89.614 L89.624 L89.814 L89.894 L89.94
707.25	L89.000 L89.010 L89.020 L89.100 L89.110 L89.120 L89.130 L89.140 L89.150 L89.200 L89.210 L89.220 L89.300 L89.310 L89.320 L89.45 L89.500 L89.510 L89.520 L89.600 L89.610 L89.620 L89.810 L89.890 L89.95
707.8	I70.25 I70.35 I70.45 I70.55 I70.65 I70.75 L98.411 L98.412 L98.413 L98.414 L98.415 L98.416 L98.418 L98.419 L98.421 L98.422 L98.423 L98.424 L98.425 L98.426 L98.428 L98.429 L98.491 L98.492 L98.493 L98.494 L98.495 L98.496 L98.498 L98.499
707.9	L98.499
728.86	M72.6
785.4	E08.52 E09.52 E10.52 E11.52 I70.361 I70.362 I70.363 I70.368 I70.369 I70.461 I70.462 I70.463 I70.468 I70.469 I70.561 I70.562 I70.563 I70.568 I70.569 I70.661 I70.662 I70.663 I70.668 I70.669 I70.761 I70.762 I70.763 I70.768 I70.769 I73.01 I96
958.3	T79.8XXA
996.62	T82.7XXA
997.62	T87.40 T87.41 T87.42 T87.43 T87.44
998.51	T81.4XXA
998.59	K68.11 T81.4XXA
566	K61.0 K61.1 K61.2 K61.3 K61.4
680.0	L02.02 L02.03
680.1	L02.12 L02.13
680.2	L02.221 L02.222 L02.223 L02.224 L02.225 L02.226 L02.229 L02.231 L02.232 L02.233 L02.234 L02.235 L02.236 L02.239

680.3	L02.421 L02.422 L02.423 L02.424 L02.429 L02.431 L02.432 L02.433 L02.434 L02.439
680.4	L02.521 L02.522 L02.529 L02.531 L02.532 L02.539
680.5	L02.32 L02.33
680.6	L02.425 L02.426 L02.429 L02.435 L02.436 L02.439
680.7	L02.621 L02.622 L02.629 L02.631 L02.632 L02.639
680.8	L02.821 L02.828 L02.831 L02.838
680.9	L02.92 L02.93
681.00	L02.511 L02.512 L02.519 L03.011 L03.012 L03.019 L03.021 L03.022 L03.029
681.01	L03.011 L03.012 L03.019
681.02	L03.011 L03.012 L03.019
681.10	L02.611 L02.612 L02.619 L03.031 L03.032 L03.039 L03.041 L03.042 L03.049
681.11	L03.031 L03.032 L03.039
681.9	L03.019 L03.029 L03.039 L03.049
682.0	K12.2 L02.01 L03.211 L03.212 L03.213
682.1	L02.11 L03.221 L03.222
682.2	L02.211 L02.212 L02.213 L02.214 L02.215 L02.216 L02.219 L03.311 L03.312 L03.313 L03.314 L03.315 L03.316 L03.319 L03.321 L03.322 L03.323 L03.324 L03.325 L03.326 L03.329
682.3	L02.411 L02.412 L02.413 L02.414 L02.419 L03.111 L03.112 L03.113 L03.114 L03.119 L03.121 L03.122 L03.123 L03.124 L03.129
682.4	L02.511 L02.512 L02.519 L03.113 L03.114 L03.119 L03.123 L03.124 L03.129
682.5	L02.31 L03.317 L03.327
682.6	L02.415 L02.416 L02.419 L03.115 L03.116 L03.119 L03.125 L03.126 L03.129
682.7	L02.611 L02.612 L02.619 L03.115 L03.116 L03.119 L03.125 L03.126 L03.129
682.8	L02.811 L02.818 L03.811 L03.818 L03.891 L03.898
682.9	L02.91 L03.90 L03.91 L98.3
683	L04.0 L04.1 L04.2 L04.3 L04.8 L04.9
684	L01.00 L01.01 L01.02 L01.03L01.09 L01.1

685.0	L05.01 L05.02
685.1	L05.91 L05.92
686.00	L08.0
686.01	L88
686.09	L08.81 L08.89
686.1	L92.8 L98.0
686.8	B78.1 E83.2 L08.82 L08.89
686.9	L08.9
707.00	L89.90 L89.91 L89.92 L89.93 L89.94 L89.95
707.01	L89.000 L89.001 L89.002 L89.003 L89.004 L89.009 L89.010 L89.011 L89.012 L89.013 L89.014 L89.019 L89.020 L89.021 L89.022 L89.023 L89.024 L89.029
	L89.100 L89.101 L89.102 L89.103 L89.104 L89.109 L89.110 L89.111 L89.112 L89.113 L89.114 L89.119 L89.120 L89.121 L89.122 L89.123 L89.124 L89.129
707.03	L89.130 L89.131 L89.132 L89.133 L89.134 L89.139 L89.140 L89.141 L89.142 L89.143 L89.144 L89.149 L89.150 L89.151 L89.152 L89.153 L89.154 L89.159 L89.40 L89.41L89.42 L89.43 L89.44 L89.45
707.04	L89.200 L89.201 L89.202 L89.203 L89.204 L89.209 L89.210 L89.211 L89.212 L89.213 L89.214 L89.219 L89.220 L89.221 L89.222 L89.223 L89.224 L89.229 L89.40 L89.41 L89.42 L89.43 L89.44 L89.45
707.05	L89.300 L89.301 L89.302 L89.303 L89.304 L89.309 L89.310 L89.311 L89.312 L89.313 L89.314 L89.319 L89.320 L89.321 L89.322 L89.323 L89.324 L89.329 L89.40 L89.41 L89.42 L89.43 L89.44 L89.45
707.06	L89.500 L89.501 L89.502 L89.503 L89.504 L89.509 L89.510 L89.511 L89.512 L89.513 L89.514 L89.519 L89.520 L89.521 L89.522 L89.523 L89.524 L89.529
707.07	L89.600 L89.601 L89.602 L89.603 L89.604 L89.609 L89.610 L89.611 L89.612 L89.613 L89.614 L89.619 L89.620 L89.621 L89.622 L89.623 L89.624 L89.629
707.09	L89.810 L89.811 L89.812 L89.813 L89.814 L89.819 L89.890 L89.891 L89.892 L89.893 L89.894 L89.899
707.10	L97.901 L97.902 L97.903 L97.904 L97.905 L97.906 L97.908 L97.909 L97.911 L97.912 L97.913 L97.914 L97.915 L97.916 L97.918 L97.919 L97.921 L97.922 L97.923 L97.924 L97.925 L97.926 L97.928 L97.929
707.11	I70.231 I70.241 I70.331 I70.341 I70.431 I70.441 I70.531 I70.541 I70.631 I70.641 I70.731 I70.741 L97.101 L97.102 L97.103 L97.104 L97.105 L97.106 L97.108 L97.109 L97.111 L97.112 L97.113 L97.114



	L97.115 L97.116 L97.118 L97.119 L97.121 L97.122 L97.123 L97.124 L97.125 L97.126 L97.128 L97.129
707.12	I70.232 I70.242 I70.332 I70.342 I70.432 I70.442 I70.532 I70.542 I70.632 I70.642 I70.732 I70.742 L97.201 L97.202 L97.203 L97.204 L97.205 L97.206 L97.208 L97.209 L97.211 L97.212 L97.213 L97.214 L97.215 L97.216 L97.218 L97.219 L97.221 L97.222 L97.223 L97.224 L97.225 L97.226 L97.228 L97.229
707.13	I70.233 I70.243 I70.333 I70.343 I70.433 I70.443 I70.533 I70.543 I70.633 I70.643 I70.733 I70.743 L97.301 L97.302 L97.303 L97.304 L97.305 L97.306 L97.308 L97.309 L97.311 L97.312 L97.313 L97.314 L97.315 L97.316 L97.318 L97.319 L97.321 L97.322 L97.323 L97.324 L97.325 L97.326 L97.328 L97.329
707.14	I70.234 I70.244 I70.334 I70.344 I70.434 I70.444 I70.534 I70.544 I70.634 I70.644 I70.734 I70.744 L97.401 L97.402 L97.403 L97.404 L97.405 L97.406 L97.408 L97.409 L97.411 L97.412 L97.413 L97.414 L97.415 L97.416 L97.418 L97.419 L97.421 L97.422 L97.423 L97.424 L97.425 L97.426 L97.428 L97.429
707.15	I70.235 I70.245 I70.335 I70.345 I70.435 I70.445 I70.535 I70.545 I70.635 I70.645 I70.735 I70.745 L97.501 L97.502 L97.503 L97.504 L97.505 L97.506 L97.508 L97.509 L97.511 L97.512 L97.513 L97.514 L97.515 L97.516 L97.518 L97.519 L97.521 L97.522 L97.523 L97.524 L97.525 L97.526 L97.528 L97.529
707.19	I70.238 I70.239 I70.248 I70.249 I70.338 I70.339 I70.348 I70.349 I70.438 I70.439 I70.448 I70.449 I70.538 I70.539 I70.548 I70.549 I70.638 I70.639 I70.648 I70.649 I70.738 I70.739 I70.748 I70.749 L97.801 L97.802 L97.803 L97.804 L97.805 L97.806 L97.808 L97.809 L97.811 L97.812 L97.813 L97.814 L97.815 L97.816 L97.818 L97.819 L97.821 L97.822 L97.823 L97.824 L97.825 L97.826 L97.828 L97.829
707.20	L89.009 L89.019 L89.029 L89.109 L89.119 L89.129 L89.139 L89.149 L89.159 L89.209 L89.219 L89.229 L89.309 L89.319 L89.329 L89.40 L89.509 L89.519 L89.529 L89.609 L89.619 L89.629 L89.819 L89.899 L89.90
707.21	L89.001 L89.011 L89.021 L89.101 L89.111 L89.121 L89.131 L89.141 L89.151 L89.41 L89.201 L89.211 L89.221 L89.301 L89.311 L89.321 L89.501 L89.511 L89.521 L89.601 L89.611 L89.621 L89.811 L89.891 L89.91
707.22	L89.002 L89.012 L89.022 L89.102 L89.112 L89.122 L89.132 L89.142 L89.152 L89.202 L89.212 L89.222 L89.302 L89.312 L89.322 L89.42 L89.502 L89.512 L89.522 L89.602 L89.612 L89.622 L89.812 L89.892 L89.92
707.23	L89.003 L89.013 L89.023 L89.103 L89.113 L89.123 L89.133 L89.143 L89.153 L89.203 L89.213 L89.223 L89.303 L89.313 L89.323 L89.43 L89.503 L89.513 L89.523 L89.603 L89.613 L89.623 L89.813 L89.893 L89.93

707.24	L89.004 L89.014 L89.024 L89.104 L89.114 L89.124 L89.134 L89.144 L89.154 L89.204 L89.214 L89.224 L89.304 L89.314 L89.324 L89.44 L89.504 L89.514 L89.524 L89.604 L89.614 L89.624 L89.814 L89.894 L89.94
707.25	L89.000 L89.010 L89.020 L89.100 L89.110 L89.120 L89.130 L89.140 L89.150 L89.200 L89.210 L89.220 L89.300 L89.310 L89.320 L89.45 L89.500 L89.510 L89.520 L89.600 L89.610 L89.620 L89.810 L89.890 L89.95
707.8	I70.25 I70.35 I70.45 I70.55 I70.65 I70.75 L98.411 L98.412 L98.413 L98.414 L98.415 L98.416 L98.418 L98.419 L98.421 L98.422 L98.423 L98.424 L98.425 L98.426 L98.428 L98.429 L98.491 L98.492 L98.493 L98.494 L98.495 L98.496 L98.498 L98.499
707.9	L98.499
728.86	M72.6
785.4	E08.52 E09.52 E10.52 E11.52 I70.361 I70.362 I70.363 I70.368 I70.369 I70.461 I70.462 I70.463 I70.468 I70.469 I70.561 I70.562 I70.563 I70.568 I70.569 I70.661 I70.662 I70.663 I70.668 I70.669 I70.761 I70.762 I70.763 I70.768 I70.769 I73.01 I96
958.3	T79.8XXA
996.62	T82.7XXA
997.62	T87.40 T87.41 T87.42 T87.43 T87.44
998.51	T81.4XXA
998.59	K68.11 T81.4XXA
566	K61.0 K61.1 K61.2 K61.3 K61.4
680.0	L02.02 L02.03
680.1	L02.12 L02.13
680.2	L02.221 L02.222 L02.223 L02.224 L02.225 L02.226 L02.229 L02.231 L02.232 L02.233 L02.234 L02.235 L02.236 L02.239
680.3	L02.421 L02.422 L02.423 L02.424 L02.429 L02.431 L02.432 L02.433 L02.434 L02.439
680.4	L02.521 L02.522 L02.529 L02.531 L02.532 L02.539
680.5	L02.32 L02.33
680.6	L02.425 L02.426 L02.429 L02.435 L02.436 L02.439
680.7	L02.621 L02.622 L02.629 L02.631 L02.632 L02.639
680.8	L02.821 L02.828 L02.831 L02.838
680.9	L02.92 L02.93

681.00	L02.511 L02.512 L02.519 L03.011 L03.012 L03.019 L03.021 L03.022 L03.029
681.01	L03.011 L03.012 L03.019
681.02	L03.011 L03.012 L03.019
681.10	L02.611 L02.612 L02.619 L03.031 L03.032 L03.039 L03.041 L03.042 L03.049
681.11	L03.031 L03.032 L03.039
681.9	L03.019 L03.029 L03.039 L03.049
682.0	K12.2 L02.01 L03.211 L03.212 L03.213
682.1	L02.11 L03.221 L03.222
682.2	L02.211 L02.212 L02.213 L02.214 L02.215 L02.216 L02.219 L03.311 L03.312 L03.313 L03.314 L03.315 L03.316 L03.319 L03.321 L03.322 L03.323 L03.324 L03.325 L03.326 L03.329
682.3	L02.411 L02.412 L02.413 L02.414 L02.419 L03.111 L03.112 L03.113 L03.114 L03.119 L03.121 L03.122 L03.123 L03.124 L03.129
682.4	L02.511 L02.512 L02.519 L03.113 L03.114 L03.119 L03.123 L03.124 L03.129
682.5	L02.31 L03.317 L03.327
682.6	L02.415 L02.416 L02.419 L03.115 L03.116 L03.119 L03.125 L03.126 L03.129
682.7	L02.611 L02.612 L02.619 L03.115 L03.116 L03.119 L03.125 L03.126 L03.129
682.8	L02.811 L02.818 L03.811 L03.818 L03.891 L03.898
682.9	L02.91 L03.90 L03.91 L98.3
683	L04.0 L04.1 L04.2 L04.3 L04.8 L04.9
684	L01.00 L01.01 L01.02 L01.03L01.09 L01.1
685.0	L05.01 L05.02
685.1	L05.91 L05.92
686.00	L08.0
686.01	L88
686.09	L08.81 L08.89
686.1	L92.8 L98.0
686.8	B78.1 E83.2 L08.82 L08.89
686.9	L08.9

707.00	L89.90 L89.91 L89.92 L89.93 L89.94 L89.95
707.01	L89.000 L89.001 L89.002 L89.003 L89.004 L89.009 L89.010 L89.011 L89.012 L89.013 L89.014 L89.019 L89.020 L89.021 L89.022 L89.023 L89.024 L89.029
	L89.100 L89.101 L89.102 L89.103 L89.104 L89.109 L89.110 L89.111 L89.112 L89.113 L89.114 L89.119 L89.120 L89.121 L89.122 L89.123 L89.124 L89.129
707.03	L89.130 L89.131 L89.132 L89.133 L89.134 L89.139 L89.140 L89.141 L89.142 L89.143 L89.144 L89.149 L89.150 L89.151 L89.152 L89.153 L89.154 L89.159 L89.40 L89.41L89.42 L89.43 L89.44 L89.45
707.04	L89.200 L89.201 L89.202 L89.203 L89.204 L89.209 L89.210 L89.211 L89.212 L89.213 L89.214 L89.219 L89.220 L89.221 L89.222 L89.223 L89.224 L89.229 L89.40 L89.41 L89.42 L89.43 L89.44 L89.45
707.05	L89.300 L89.301 L89.302 L89.303 L89.304 L89.309 L89.310 L89.311 L89.312 L89.313 L89.314 L89.319 L89.320 L89.321 L89.322 L89.323 L89.324 L89.329 L89.40 L89.41 L89.42 L89.43 L89.44 L89.45
707.06	L89.500 L89.501 L89.502 L89.503 L89.504 L89.509 L89.510 L89.511 L89.512 L89.513 L89.514 L89.519 L89.520 L89.521 L89.522 L89.523 L89.524 L89.529
707.07	L89.600 L89.601 L89.602 L89.603 L89.604 L89.609 L89.610 L89.611 L89.612 L89.613 L89.614 L89.619 L89.620 L89.621 L89.622 L89.623 L89.624 L89.629
707.09	L89.810 L89.811 L89.812 L89.813 L89.814 L89.819 L89.890 L89.891 L89.892 L89.893 L89.894 L89.899
707.10	L97.901 L97.902 L97.903 L97.904 L97.905 L97.906 L97.908 L97.909 L97.911 L97.912 L97.913 L97.914 L97.915 L97.916 L97.918 L97.919 L97.921 L97.922 L97.923 L97.924 L97.925 L97.926 L97.928 L97.929
707.11	I70.231 I70.241 I70.331 I70.341 I70.431 I70.441 I70.531 I70.541 I70.631 I70.641 I70.731 I70.741 L97.101 L97.102 L97.103 L97.104 L97.105 L97.106 L97.108 L97.109 L97.111 L97.112 L97.113 L97.114 L97.115 L97.116 L97.118 L97.119 L97.121 L97.122 L97.123 L97.124 L97.125 L97.126 L97.128 L97.129
707.12	I70.232 I70.242 I70.332 I70.342 I70.432 I70.442 I70.532 I70.542 I70.632 I70.642 I70.732 I70.742 L97.201 L97.202 L97.203 L97.204 L97.205 L97.206 L97.208 L97.209 L97.211 L97.212 L97.213 L97.214 L97.215 L97.216 L97.218 L97.219 L97.221 L97.222 L97.223 L97.224 L97.225 L97.226 L97.228 L97.229
707.13	I70.233 I70.243 I70.333 I70.343 I70.433 I70.443 I70.533 I70.543 I70.633 I70.643 I70.733 I70.743 L97.301 L97.302 L97.303 L97.304 L97.305 L97.306 L97.308 L97.309 L97.311 L97.312 L97.313 L97.314 L97.315 L97.316 L97.318 L97.319 L97.321 L97.322 L97.323 L97.324 L97.325 L97.326 L97.328 L97.329

707.14	I70.234 I70.244 I70.334 I70.344 I70.434 I70.444 I70.534 I70.544 I70.634 I70.644 I70.734 I70.744 L97.401 L97.402 L97.403 L97.404 L97.405 L97.406 L97.408 L97.409 L97.411 L97.412 L97.413 L97.414 L97.415 L97.416 L97.418 L97.419 L97.421 L97.422 L97.423 L97.424 L97.425 L97.426 L97.428 L97.429
707.15	I70.235 I70.245 I70.335 I70.345 I70.435 I70.445 I70.535 I70.545 I70.635 I70.645 I70.735 I70.745 L97.501 L97.502 L97.503 L97.504 L97.505 L97.506 L97.508 L97.509 L97.511 L97.512 L97.513 L97.514 L97.515 L97.516 L97.518 L97.519 L97.521 L97.522 L97.523 L97.524 L97.525 L97.526 L97.528 L97.529
707.19	I70.238 I70.239 I70.248 I70.249 I70.338 I70.339 I70.348 I70.349 I70.438 I70.439 I70.448 I70.449 I70.538 I70.539 I70.548 I70.549 I70.638 I70.639 I70.648 I70.649 I70.738 I70.739 I70.748 I70.749 L97.801 L97.802 L97.803 L97.804 L97.805 L97.806 L97.808 L97.809 L97.811 L97.812 L97.813 L97.814 L97.815 L97.816 L97.818 L97.819 L97.821 L97.822 L97.823 L97.824 L97.825 L97.826 L97.828 L97.829
707.20	L89.009 L89.019 L89.029 L89.109 L89.119 L89.129 L89.139 L89.149 L89.159 L89.209 L89.219 L89.229 L89.309 L89.319 L89.329 L89.40 L89.509 L89.519 L89.529 L89.609 L89.619 L89.629 L89.819 L89.899 L89.90
707.21	L89.001 L89.011 L89.021 L89.101 L89.111 L89.121 L89.131 L89.141 L89.151 L89.41 L89.201 L89.211 L89.221 L89.301 L89.311 L89.321 L89.501 L89.511 L89.521 L89.601 L89.611 L89.621 L89.811 L89.891 L89.91
707.22	L89.002 L89.012 L89.022 L89.102 L89.112 L89.122 L89.132 L89.142 L89.152 L89.202 L89.212 L89.222 L89.302 L89.312 L89.322 L89.42 L89.502 L89.512 L89.522 L89.602 L89.612 L89.622 L89.812 L89.892 L89.92
707.23	L89.003 L89.013 L89.023 L89.103 L89.113 L89.123 L89.133 L89.143 L89.153 L89.203 L89.213 L89.223 L89.303 L89.313 L89.323 L89.43 L89.503 L89.513 L89.523 L89.603 L89.613 L89.623 L89.813 L89.893 L89.93
707.24	L89.004 L89.014 L89.024 L89.104 L89.114 L89.124 L89.134 L89.144 L89.154 L89.204 L89.214 L89.224 L89.304 L89.314 L89.324 L89.44 L89.504 L89.514 L89.524 L89.604 L89.614 L89.624 L89.814 L89.894 L89.94
707.25	L89.000 L89.010 L89.020 L89.100 L89.110 L89.120 L89.130 L89.140 L89.150 L89.200 L89.210 L89.220 L89.300 L89.310 L89.320 L89.45 L89.500 L89.510 L89.520 L89.600 L89.610 L89.620 L89.810 L89.890 L89.95
707.8	I70.25 I70.35 I70.45 I70.55 I70.65 I70.75 L98.411 L98.412 L98.413 L98.414 L98.415 L98.416 L98.418 L98.419 L98.421 L98.422 L98.423 L98.424 L98.425 L98.426 L98.428 L98.429 L98.491 L98.492 L98.493 L98.494 L98.495 L98.496 L98.498 L98.499

707.9	L98.499
728.86	M72.6
785.4	E08.52 E09.52 E10.52 E11.52 I70.361 I70.362 I70.363 I70.368 I70.369 I70.461 I70.462 I70.463 I70.468 I70.469 I70.561 I70.562 I70.563 I70.568 I70.569 I70.661 I70.662 I70.663 I70.668 I70.669 I70.761 I70.762 I70.763 I70.768 I70.769 I73.01 I96
958.3	T79.8XXA
996.62	T82.7XXA
997.62	T87.40 T87.41 T87.42 T87.43 T87.44
998.51	T81.4XXA
998.59	K68.11 T81.4XXA
<b>Viral Hepatitis B, C, and D</b>	
070.2 070.21 070.22 070.23 070.3 070.31 070.32 070.33	B16.2 B19.11 B16.0 B18.1
070.4 070.41 070.42 070.44 070.49 070.5 070.50 070.51 070.52 070.54 070.59 070.6 070.60 070.7 070.70	B18.0 B16.9 B19.10 B16.1 B18.1 B18.0 B17.11 B17.0 B18.2 B17.8 B17.10 B17.0 B18.2
070.71 070.9	B17.8 B18.8 B18.9 B19.0 B19.20 B19.21 B17.9 B19.9

## Supplement eTable 2. Diagnosis codes for substance use disorders

ICD-9		ICD-10	
<b>Opiates or Opioids</b>			
304.0*	Opioid type dependence	F11.1*	Opioid abuse
304.7*	Combinations of opioid type drug with any other drug dependence	F11.2*	Opioid dependence
305.5*	Opioid abuse	F11.9*	Opioid use
965.00	Poisoning by opium (alkaloids), unspecified	T40.0*	Poisoning by Opium
965.01	Poisoning by heroin	T40.1*	Poisoning by heroin
965.02	Poisoning by methadone		
965.09	Poisoning by other opiates and related narcotics		
<b>Cocaine</b>			
304.2*	Cocaine dependence	F14.1*	Cocaine abuse
305.6*	Cocaine abuse	F14.2*	Cocaine dependence
		F14.9*	Cocaine use, unspecified
		T40.5*	Poisoning by cocaine
<b>Amphetamines or Stimulants</b>			
304.4*	Amphetamine and other psychostimulant dependence	F15.1*	Other stimulant abuse
305.7*	Amphetamine or related acting sympathomimetic abuse	F15.2*	Other stimulant dependence
		F15.9*	Other stimulant use
<b>Hallucinogens</b>			
304.5*	Hallucinogen dependence	F16.1*	Hallucinogen abuse
305.3*	Hallucinogen abuse	F16.2*	Hallucinogen dependence

760.73		F16.9*	Hallucinogen use
		T40.8X*	Poisoning by lysergide [LSD]
		T40.90*	Poisoning by unspecified psychodysleptics
		T40.99*	Poisoning by other psychodysleptics
<b>Other drugs or unspecified drug use</b>			
305.4*	Sedative, hypnotic or anxiolytic abuse	F13.1*	Sedative, hypnotic or anxiolytic abuse
304.1*	Sedative, hypnotic or anxiolytic dependence	F13.2*	Sedative, hypnotic or anxiolytic dependence
292*	Drug-induced mental disorders	F13.9*	Sedative, hypnotic or anxiolytic use
304.6*	Other specified drug dependence	F19.1*	Other psychoactive substance abuse
304.8*	Combinations of drug dependence excluding opioid type drug	F19.2*	Other psychoactive substance dependence
304.9*	Unspecified drug dependence	F19.9*	Other psychoactive substance use
305.8*	Nondependent antidepressant type abuse	F18.1*	Inhalant abuse
305.9*	Nondependent other mixed or unspecified drug abuse	F18.9*	Inhalant dependence
648.3*	Drug dependence complicating pregnancy childbirth or the puerperium	F55*	Abuse of non-psychoactive substances
V65.42	Counseling on substance use and abuse	O99.32*	Drug use complicating pregnancy, childbirth, and the puerperium

\*includes all codes beginning with substring



**Supplement Table 3. Descriptive characteristics of patients hospitalized for selected infections**

**eTable 3.1 Characteristics of patients hospitalized with infective endocarditis as primary diagnosis, Premier Healthcare Database, 2012-2017**

	2012	2013	2014	2015	2015a	2016	2017
Weighted N	12,415	12,081	11,600	8,898	2,788	11,760	12,939
Rate per 100,000b	5.29	5.10	4.85	4.90	4.60	4.80	5.25
Mean age in years	56.4	55.7	55.0	54.4	52.4	52.6	51.4
Age (years)	%	%	%	%	%	%	%
18-44	27.1	29.2	32.6	32.6	36.7	38.2	41.7
45-64	36.8	35.7	32.2	34.3	33.1	32.0	29.3
65+	36.1	35.1	35.2	33.1	30.2	29.8	28.9
Sex							
Male	62.3	62.6	61.3	61.4	61.2	61.0	57.6
Race							
Black	11.9	11.3	9.4	8.8	9.7	9.1	9.5
Other	15.6	15.4	12.5	10.9	8.4	8.1	8.9
Unknown	0.2	0.2	0.1	1.5	1.9	1.9	1.5
White	72.3	73.1	78.0	78.9	80.0	80.9	80.1
Health insurance							
Medicaid	17.2	18.5	23.0	25.5	27.4	28.5	32.7
Medicare	45.4	42.3	42.6	40.7	39.9	38.1	37.4
Other	14.5	15.4	12.6	11.5	13.3	11.4	11.8
Private	22.8	23.8	21.7	22.4	19.4	22.0	18.2
Region							
Midwest	18.6	20.1	19.7	18.5	21.0	18.5	20.9
Northeast	22.7	23.1	21.8	23.6	20.0	21.9	20.4

South	38.0	38.6	38.7	37.4	38.2	40.2	39.3
West	20.7	18.2	19.9	20.5	20.8	19.5	19.4
<b>Secondary diagnoses</b>							
HIV	1.1	1.1	1.1	1.2	1.2	1.4	1.0
Hepatitis B, C, and D virus	12.0	13.8	14.7	17.0	20.4	20.6	24.7
Substance use disorders <sup>c</sup>	20.9	25.0	27.5	29.7	35.3	34.1	41.0
<b>Outcomes</b>							
Length of stay	11.9	12.2	12.0	12.2	12.1	12.3	12.5
Died	7.1	7.2	6.8	6.5	3.9	5.5	5.3
Hospitalization costs (mean, USD)	30,969	31,593	32,177	33,050	32,047	34,545	34,945

aIncludes data after September 30, 2015

bPopulation estimates derived from United States census website

c Includes opioids, cocaine, amphetamines, hallucinogens, or other/ unspecified drugs (Appendix B)

**eTable 3.2 Characteristics of patients hospitalized with osteomyelitis as primary diagnosis, Premier Healthcare Database, 2012-2017**

	2012	2013	2014	2015	2015a	2016	2017
Weighted N	39,246	39,623	40,537	28,516	11,498	47,458	35,773
Rate per 100,000 <sup>b</sup>	16.72	16.72	16.94	15.70	18.99	19.39	14.52
Mean age in years	59.6	60.0	59.7	60.1	60.0	59.6	58.9
<b>Age (years)</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
18-44	18.6	19.0	19.4	18.6	16.5	17.1	20.8
45-64	42.3	40.7	40.9	41.0	45.5	45.2	41.6
65+	39.1	40.4	39.7	40.4	38.0	37.7	37.6
<b>Sex</b>							
Male	62.3	62.3	62.6	63.0	65.5	64.9	62.8
<b>Race</b>							
Black	14.3	13.5	13.0	13.1	14.1	14.1	11.6
Other	14.7	15.5	13.6	10.4	8.4	8.2	9.1
Unknown	0.1	0.3	0.2	1.4	1.5	1.4	2.2
White	71.0	70.7	73.2	75.2	76.0	76.3	77.3

Health insurance								
Medicaid	15.5	15.8	18.7	19.7	21.0	20.3	22.4	
Medicare	52.0	53.5	53.0	52.7	51.8	52.1	50.5	
Other	12.8	12.2	9.6	8.9	9.0	9.1	10.3	
Private	19.8	18.4	18.8	18.8	18.3	18.5	16.8	
Region								
Midwest	22.3	22.5	22.4	21.1	20.2	20.8	20.7	
Northeast	20.2	21.6	20.7	19.8	21.4	20.3	19.7	
South	39.1	38.1	38.4	39.6	38.1	39.0	40.3	
West	18.4	17.8	18.6	19.6	20.4	19.8	19.3	
Secondary diagnoses								
HIV	1.1	1.0	1.1	0.8	1.0	0.8	1.3	
Hepatitis B, C, and D virus	5.8	5.9	6.8	7.7	7.4	7.3	10.5	
Substance use disorders <sup>c</sup>	9.3	10.1	12.7	12.9	12.4	12.3	18.4	
Outcomes								
Length of stay	7.8	8.0	7.7	7.7	8.1	8.3	8.6	
Died	1.6	1.6	1.5	1.5	1.3	1.4	1.6	
Hospitalization costs (mean, USD)	15,528	15,564	15,316	15,908	16,848	17,953	19,231	

aIncludes data after September 30, 2015

bPopulation estimates derived from United States census website

c Includes opioids, cocaine, amphetamines, hallucinogens, or other/ unspecified drugs (Appendix B)

**eTable 3.3 Characteristics of patients hospitalized with central nervous system abscess as primary diagnosis, Premier Healthcare Database, 2012-2017**

	2012	2013	2014	2015	2015a	2016	2017
Weighted N	7,801	7,722	7,480	5,849	1,982	8,764	9,144
Rate per 100,000 <sup>b</sup>	3.32	3.26	3.13	3.22	3.27	3.58	3.71
Mean age in years	56.7	56.8	56.8	56.6	56.4	56.3	56.3
Age (years)	%	%	%	%	%	%	%
18-44	20.6	20.4	20.3	22.1	20.3	22.8	23.2
45-64	48.5	48.9	48.3	46.1	50.1	46.0	46.5

65+	30.9	30.8	31.4	31.8	29.7	31.2	30.3
<b>Sex</b>							
Male	60.2	61.6	62.3	64.3	66.8	60.5	62.2
<b>Race</b>							
Black	11.3	12.8	10.1	9.5	11.0	11.3	9.2
Other	17.5	15.7	15.0	11.0	8.6	8.6	9.6
Unknown	0.3	0.1	0.5	1.5	1.6	1.9	2.7
White	71.0	71.5	74.4	78.0	78.9	78.2	78.5
<b>Health insurance</b>							
Medicaid	17.4	16.6	19.2	21.8	21.5	24.3	26.9
Medicare	38.5	41.2	39.6	38.5	39.4	40.7	38.3
Other	17.2	14.9	13.7	12.0	10.7	11.2	10.9
Private	26.8	27.3	27.4	27.6	28.4	23.8	23.9
<b>Region</b>							
Midwest	18.7	20.0	19.3	19.2	21.7	22.3	20.9
Northeast	18.8	17.0	17.4	17.1	16.1	16.5	17.8
South	39.7	40.2	39.0	41.7	40.2	38.9	39.8
West	22.9	22.8	24.4	22.0	22.1	22.3	21.5
<b>Secondary diagnoses</b>							
HIV	1.8	1.6	1.3	1.3	0.6	2.0	1.7
Hepatitis B, C, and D virus	11.2	10.5	11.9	13.4	11.1	14.1	15.1
Substance use disorders <sup>c</sup>	16.6	17.2	19.3	21.6	17.2	22.1	25.5
<b>Outcomes</b>							
Length of stay	12.2	11.3	11.4	12.2	10.5	11.5	11.9
Died	4.8	4.5	3.7	4.0	3.3	3.6	3.3
Hospitalization costs (mean, USD)	30,400	27,250	28,948	30,769	27,011	28,517	30,883

<sup>a</sup>Includes data after September 30, 2015

<sup>b</sup>Population estimates derived from United States census website

<sup>c</sup>Includes opioids, cocaine, amphetamines, hallucinogens, or other/ unspecified drugs (Appendix B)

**eTable 3.4 Characteristics of patients hospitalized with skin and soft tissue infections as primary diagnosis, Premier Healthcare Database, 2012-2017**

	2012	2013	2014	2015	2015a	2016	2017
Weighted N	845,300	822,250	804,036	583,746	213,320	862,065	860,161
Rate per 100,000b	360.13	347.04	335.94	321.29	352.23	352.14	349.20
Mean age in years	53.5	53.6	53.8	54.4	57.6	57.8	58.1
Age (years)	%	%	%	%	%	%	%
18-44	27.2	27.2	26.5	26.1	24.9	24.2	23.6
45-64	38.7	38.4	38.6	38.5	38.1	38.4	38.2
65+	34.2	34.4	34.9	35.5	37.0	37.4	38.2
Sex							
Male	51.7	52.4	52.7	52.7	53.7	54.1	54.7
Race							
Black	12.5	12.1	11.5	11.3	12.2	12.3	12.1
Other	14.6	14.9	13.6	10.6	9.1	8.9	9.4
Unknown	0.1	0.2	0.2	1.2	1.4	1.8	1.9
White	72.9	72.8	74.7	76.9	77.2	77.1	76.8
Health insurance							
Medicaid	14.6	14.8	18.8	19.6	19.3	19.2	19.6
Medicare	45.1	45.7	46.1	46.4	48.2	48.2	49.0
Other	15.4	15.8	11.6	10.6	10.3	10.4	10.2
Private	24.9	23.8	23.5	23.4	22.2	22.2	21.2
Region							
Midwest	22.6	22.6	21.9	22.1	21.8	21.6	21.4
Northeast	21.0	20.1	19.7	19.1	18.8	19.3	19.5
South	38.6	38.5	38.5	39.0	39.2	39.2	39.2
West	17.8	18.8	19.9	19.7	20.2	19.9	19.9
Secondary diagnoses							
HIV	1.1	1.0	1.0	0.9	0.9	1.0	1.0
Hepatitis B, C, and D virus	4.0	4.2	4.3	4.5	4.5	4.6	4.6
Substance use disordersc	7.6	8.8	9.7	10.6	10.1	10.3	10.9

Outcomes							
Length of stay	5.1	5.0	5.0	5.0	5.3	5.3	5.4
Died	1.3	1.3	1.3	1.3	1.6	1.5	1.7
Hospitalization costs (mean, USD)	8,811	8,893	9,297	9,366	10,726	11,089	11,957

aIncludes data after September 30, 2015

bPopulation estimates derived from United States census website

c Includes opioids, cocaine, amphetamines, hallucinogens, or other/ unspecified drugs (Appendix B)