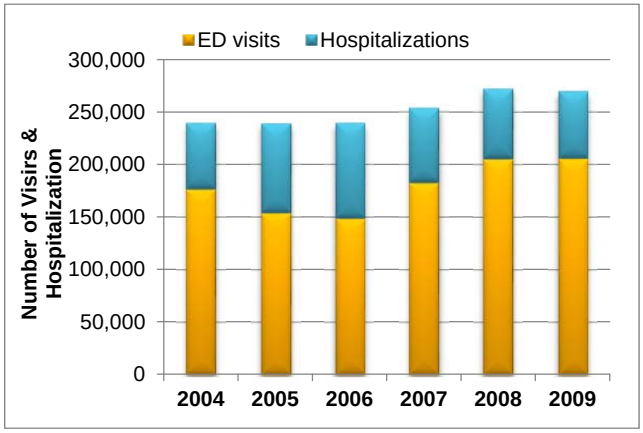
Emergency Department Visits and Hospitalizations

In 2009, Kansas City residents made 206,048 visits to hospital emergency departments (EDs) and 64,221 residents were admitted to hospitals (Figure 7.1). Of the patients hospitalized, 15.4% were admitted from emergency departments (Figure 7.2). Compared to 2008 data, the number of ED visits and hospitalizations declined. Based on the estimated 2009 population, the rate per 100 population for emergency department visits was 42.7 while for hospitalizations it was 13.3. The increase in ED visits is consistent with the national trend.[1] Nationally, the rate of hospitalization leveled off between 1995 and 2007 after declining during the period between 1980 and 1995.[2]

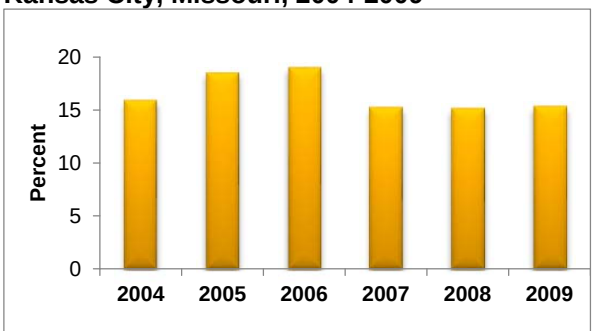
Figure 7.1. Emergency department visits and hospitalizations of Kansas City, MO, residents, 2004-2009



Persons aged greater than 65 years comprise 37% of hospital discharges and 43% of hospital days. More than half of all hospital procedures are outpatient.[3] Of persons discharged from a hospital, 6.8% are seen in an ED within 7 days of discharge.[4] Roughly 10% of those patients who return to the ED shortly after discharge are present with medical or surgical complications that may have been related to their recent hospitalization.

Older adults (aged at least 75 years), non-Hispanic blacks, persons of low socio-economic status, and persons with Medicaid coverage are more likely to have had at least one ED visit in a 12-month period than those in other age, race, income, and insurance groups.[5] Among individuals aged less than 65 years, the uninsured were no more likely than the insured to have had at least 1 ED visit in a 12-month period. Uninsured children who are hospitalized have higher rates of mortality than those with insurance.[6]

Figure 7.2. Percent of hospitalized residents admitted from an emergency department, Kansas City, Missouri, 2004-2009



Utilization rates per 100 population in different age groups (based on Census 2010 data) are shown in Figure 7.3. ED utilization was lowest for children and adolescents 5-14 years old. Hospital utilization rates, starting at 1-4 years old, increased with age. Non-Hispanic blacks had the highest ED visit utilization rate, nearly double that for non-Hispanic whites or Hispanics (Figure 7.4).

Figure 7.3. Utilization rates by age group for emergency department visits and hospitalizations, Kansas City, MO 2009

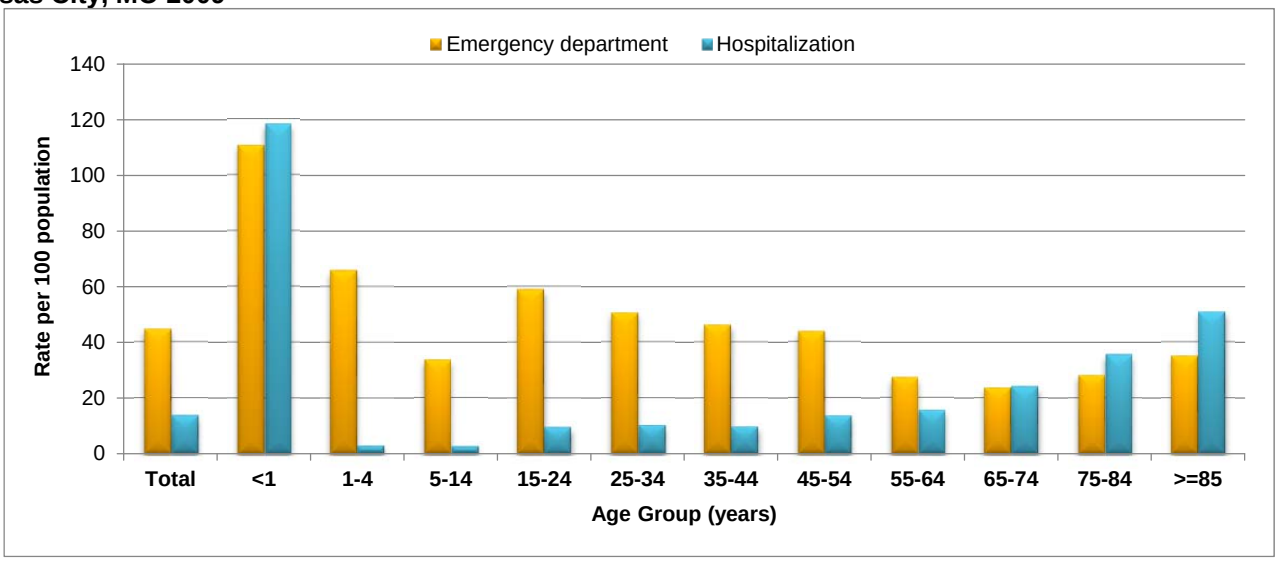
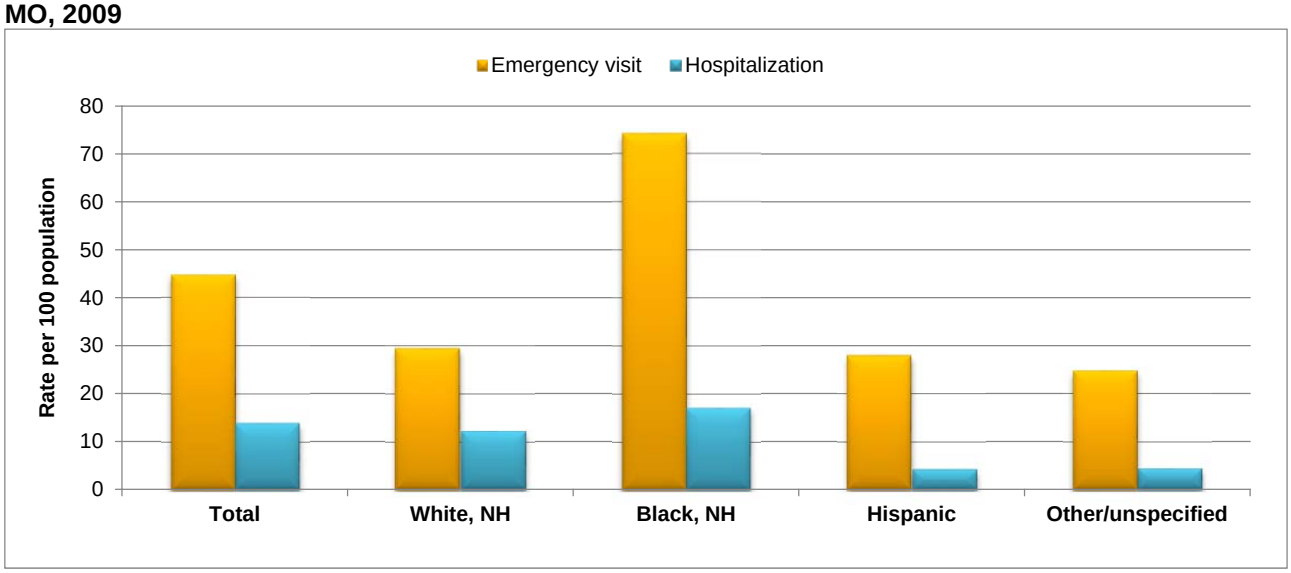


Figure 7.4. Rates by race/ethnicity for emergency department visits and hospitalizations, Kansas City, MO, 2009



Emergency department visits

Overall, the ED utilization rate was 44.8 per 100 population, higher than the 2008 national rate of 39.[7] Approximately 21.0% of the visits were for injury, the leading reason for ED visits both locally and nationally. The reasons for the ED visits are shown in Table 7.1, while data by age groups and racial/ethnic groups are shown in Tables 7.2 and 7.3. Acute respiratory disease was the 2nd leading reason for ED visits across racial/ethnic groups and for persons aged less than 65 years.

Nationally, 41.8% of ED visits are billed nearly equally to Medicaid/Medicare, 34.6% to private insurance, and 17.7% to the uninsured.[8]

Table 7.1. Reasons for emergency department visits, Kansas City, MO, 2009

Reason	Visits	Reason	Visits	Reason	Visits
AIDS	92	Disease, chronic, tonsils & adenoids	11	Herpes zoster	249
Alcoholic cirrhosis	29	Disease, endocrine/metabolic	1,040	Hyperplasia of prostate	34
Appendicitis	113	Disease, esophagus	587	Infection, respiratory acute	11,793
Arteriosclerosis	4	Disease, genitourinary other	3,221	Infection, viral unspecified	
Asthma	3835	Disease, musculoskeletal system & connective tissue	14,197	Infection & parasitic, other	4,969
Calculus of kidney/urinary tract	907	Disease, nervous system	11,292	Infection, urinary tract	3,252
Cancer, breast	6	Disease, oral cavity	5,218	Influenza	1,179
Cancer, colorectal	8	Disease, other		Inguinal hernia	1,892
Cancer, digestive organs & peritoneum	8	Disease, pancreas	180	Intestine, diverticulitis	200
Cancer, female reproductive organs	2	Disease, respiratory other	2,403	Intestine, obstruction	100
Cancer, lung	15	Disease, skin & subcutaneous tissue	11,254	Injury	42,980
Cancer, other	132	Disorder, breast	272	Nutritional deficiency	18
Chickenpox	47	Disorder, digestive functional	1,021	Orchitis & epididymitis	185
Cholelithiasis	354	Disorder, digestive other	858	Pain & symptoms, genital	1,040
Conditions originating in perinatal period	257	Disorder, menstruation	616	Pneumonia	1,679
Congenital anomalies	61	Disorder, mental	6,948	Pregnancy & birth, complications	5,072
Cystitis	358	Disorder, vagina noninflammatory	790	Pregnancy, ectopic & molar	128
Diabetes	1,158	Endometriosis	20	Septicemia	15
Disease, blood/blood forming organs	1,000	Gastritis & duodenitis	565	Streptococcal sore throat	1,260
Disease, cervix/vagina inflammatory	1,664	Gastrointestinal hemorrhage	383	Stroke	263
Disease, circulatory other	2,443	Heart disease	1,007	Ulcers, stomach/small intestine	50
Disease, chronic lower respiratory	2,475	Herpes simplex	242	Other/not specified	52,597

Table 7.2. Leading causes of emergency department visits by age group, Kansas City, MO, 2009

Age group (years)	Ranking									
	1	2	3	4	5	6	7	8	9	10
Total 206,048	Injury 42,980	Diseases musculo-skeletal/ connective tissue 14,197	Diseases nervous system 11,292	Diseases skin/ subcutane-ous tissues 11,254	Acute respiratory infection 11,793	Mental disorders 6,948	Diseases of oral cavity 5,218	Complica-tions of birth/ pregnancy 5,072	All other infectious/ parasitic diseases 4,969	Asthma 3,835
0-4 26,050	Injury 4,026	Diseases nervous system 3,078	Acute respiratory infection 2,538	Diseases skin/ subcutane-ous tissues 1,634	All other infectious/ parasitic diseases 1,389	Other respiratory diseases 612	Asthma 586	Pneumonia 485	Inguinal hernia 299	Influenza 190
5-14 20,093	Injury 5,446	Acute respiratory infection 1,523	Diseases nervous system 1,426	Diseases skin/ subcutane-ous tissues 1,271	Asthma 908	All other infectious/ parasitic diseases 788	Diseases musculo-skeletal/ connective tissue 499	Strep throat 498	Diseases of oral cavity 278	Influenza 266
15-24 37,304	Injury 8,142	Complica-tions of birth/ pregnancy 2,903	Acute respiratory infection 2,587	Diseases skin/ subcutane-ous tissues 2,242	Diseases musculo-skeletal/ connective tissue 1,629	Diseases nervous system 1,352	Diseases of oral cavity 1,131	Mental disorders 1,122	All other infectious/ parasitic diseases 1,069	Urinary tract infec-tion 971
25-34 38,204	Injury 7,743	Diseases musculo-skeletal/ connective tissue 2,670	Acute respiratory infection 2,145	Diseases skin/ subcutane-ous tissues 2,119	Complica-tions of birth/ pregnancy 1,876	Diseases nervous system 1,833	Diseases of oral cavity 1,746	Mental disorders 1,447	Other genitouri-nary dis-eases 893	All other infectious/ parasitic diseases 804
35-44 28,274	Injury 5,936	Diseases musculo-skeletal/ connective tissue 2,838	Diseases skin/ subcu-taneous tissues 1,527	Mental disorders 1,396	Diseases nervous system 1,371	Acute respiratory infection 1,265	Diseases of oral cavity 899	Asthma 478	Other genitouri-nary dis-eases 443	Other circulatory diseases 431
45-54 28,557	Injury 5,581	Diseases musculo-skeletal/ connective tissue 3,432	Mental disorders 1,868	Diseases skin/ subcutane-ous tissues 1,440	Diseases nervous system 1,242	Acute respiratory infection 1,050	Other circulatory diseases 714	Diseases of oral cavity 666	CLRD[1] 453	Other genitouri-nary dis-eases 433
55-64 13,906	Injury 2,813	Diseases musculo-skeletal/ connective tissue 1,594	Diseases nervous system 614	Mental disorders 587	Diseases skin/ subcutane-ous tissues 577	Acute respiratory infection 428	Other circulatory diseases 369	CLRD[1] 311	Heart disease 216	Diabetes 209
65-74 6,378	Injury 1,407	Diseases musculo-skeletal/ connective tissue 697	Diseases skin/ subcu-taneous tissues 252	Other circulatory diseases 223	Diseases nervous system 191	CLRD[1] 162	Acute respiratory infection 154	Mental disorders 152	Urinary tract infection 142	Heart disease 117
75-84 4,807	Injury 1,172	Urinary tract infection 171	Other circulatory diseases 154	Diseases skin/ subcutane-ous tissues 134	Diseases nervous system 134	Heart disease 123	Mental disorders 119	CLRD 103	Acute respiratory infection 85	Other genitouri-nary dis-eases 63
≥85 2,475	Injury 714	Diseases musculo-skeletal/ connective tissue 247	Urinary tract infection 105	Heart disease 89	Other circulatory diseases 83	Mental disorders 65	Diseases skin/ subcutane-ous tissues 58	Diseases nervous system 51	CLRD[1] 32	Stroke 25

[1] CLDR = chronic lower respiratory disease

Table 7.3. Leading causes of emergency department visits by race/ethnicity, Kansas City, MO, 2009[1]

Race/ ethnicity	Ranking									
	1	2	3	4	5	6	7	8	9	10
Total 206,048	Injury 42,980	Diseases musculo-skeletal/ connective tissue 14,197	Diseases nervous system 11,292	Diseases skin/ subcuta-neous tissues 11,254	Acute respiratory infection 11,793	Mental disorders 6,948	Diseases of oral cavity 5,218	Complica-tions of birth/ pregnancy 5,072	All other infectious/ parasitic diseases 4,969	Asthma 3,835
White, non-Hispanic 80,393	Injury 21,034	Diseases musculo-skeletal/ connective tissue 5,846	Diseases nervous system 3,988	Diseases skin/ subcuta-neous tissues 3,871	Mental disorders 3,783	Acute respiratory disease 3,520	Diseases of oral cavity 2,225	Complica-tions pregnancy & birth 1,730	Urinary tract infection 1,235	All other infectious/ parasitic diseases 1,201
Black, non-Hispanic 102,237	Injury 17,864	Diseases musculo-skeletal/ connective tissue 7,290	Acute respiratory disease 6,708	Diseases skin/ subcuta-neous tissues 6,142	Diseases nervous system 5,594	All other infectious/ parasitic diseases 3,068	Complica-tions pregnancy & birth 2,764	Mental disorders 2,763	Asthma 2,590	Diseases of oral cavity 2,587
Hispanic 12,881	Injury 2,137	Diseases nervous system 1,047	Acute respiratory disease 777	Diseases skin/ subcuta-neous tissues 692	Diseases musculo-skeletal/ connective tissue 420	All other infectious/ parasitic diseases 402	Other genitouri-nary diseases 324	Complica-tions pregnancy & birth 277	Asthma 194	Other circulatory diseases 193
Asian 1,331	Injury 243	Acute respiratory disease 83	Diseases musculo-skeletal/ connective tissue 63	Diseases nervous system 59	Diseases skin/ subcuta-neous tissues 54	Complica-tions pregnancy & birth 40	All other infectious/ parasitic diseases 37	Diseases of oral cavity 24	Pneumo-nia 24	Urinary tract infection 22
Native American 267	Injury 51	Diseases musculo-skeletal/ connective tissue 34	Acute respiratory disease 19	Mental disorders 16	Diseases nervous system 14	Diseases skin/ subcuta-neous tissues 13	Diseases of oral cavity 10			
Other/not specified 8,939	Injury 1,651	Acute respiratory disease 686	Diseases nervous system 590	Diseases musculo-skeletal/ connective tissue 544	Diseases skin/ subcuta-neous tissues 482	Complica-tions pregnancy & birth 256	All other infectious/ parasitic diseases 256	Mental disorders 236	Diseases of oral cavity 180	Other respiratory diseases 128

[1] If there were 5 or fewer cases, the data was not included; [2] CLRD = chronic lower respiratory disease

Hospitalizations

According to the federal Agency for Healthcare Research and Quality, 10% of hospital stays are potentially preventable. It is also stated that 3.9% of acute conditions and 6.2% of chronic conditions are preventable.[9] The majority (60%) of potentially preventable hospital stays are for patients aged at least 65 years. Hospital stays for patients living in the poorest communities are more likely to be potentially preventable (11.7%) and nearly 10% of all uninsured stays were for potentially preventable conditions. The Missouri Hospital Association reports that Kansas City, Missouri, has notably higher rates of overall, chronic, and acute potentially preventable hospitalizations when compared to the Kansas City bi-state area.[10]

The overall hospital utilization rate was 14.0 per 100 population. The reasons for hospitalization are shown in Table 7.5, while the leading causes by age and race/ethnicity are presented in Tables 7.6 and 7.7. Overall, pregnancy-related issues and birth was the leading reason for hospitalization, followed by mental disorders, and heart disease.

Table 7.5. Reasons for hospitalizations, Kansas City, MO, 2009

Reason	Visits	Reason	Visits	Reason	Visits
AIDS	140	Disease, chronic, tonsils & adenoids	12	Infection, respiratory acute	524
Alcoholic cirrhosis	226	Disease, endocrine/metabolic	1,249	Infection & parasitic, other	820
Appendicitis	299	Disease, esophagus	353	Infection, urinary tract	511
Arteriosclerosis	179	Disease, genitourinary other	1,351	Influenza	112
Asthma	871	Disease, musculoskeletal/connective tissue	2,638	Inguinal hernia	693
Calculus of kidney/urinary tract	203	Disease, nervous system	1,326	Intestine, diverticulitis	500
Cancer, breast	49	Disease, oral cavity	80	Intestine, obstruction	514
Cancer, colorectal	191	Disease, pancreas	476	Injury	4,693
Cancer, digestive organs/peritoneum	180	Disease, respiratory other	1,463	Newborns	7,375
Cancer, female reproductive organs	27	Disease, skin/subcutaneous tissues	1,239	Nutritional deficiency	214
Cancer, lung	189	Disorder, breast	26	Orchitis & epididymitis	18
Cancer, oral	24	Disorder, digestive functional	180	Pain & symptoms, genital	46
Cancer, prostate	101	Disorder, digestive other	846	Pneumonia	1,395
Cancer, other	1,260	Disorder, menstruation	136	Pregnancy & birth, complications	8,120
Certain conditions originating in perinatal period	283	Disorder, mental	5,485	Pregnancy/ectopic & molar	66
Cholelithiasis	397	Disorder, vagina noninflammatory		Septicemia	1,003
Congenital anomalies	183	Endometriosis	46	Streptococcal sore throat	23
Cystitis	30	Gastritis & duodenitis	159	Stroke	1,291
Diabetes	1,138	Gastrointestinal hemorrhage	310	Tuberculosis	15
Disease, blood/blood forming organs	765	Heart disease	4,688	Ulcers, stomach/small intestine	257
Disease, cervix/vagina inflammatory	25	Herpes simplex	22	Other/not specified	4,599
Disease, circulatory other	1,552	Herpes zoster	20		
Disease, chronic lower respiratory	943	Hyperplasia of prostate	72		

Table 7.7. Leading causes of hospitalizations by race/ethnicity, Kansas City, MO, 2009[1]

Race/ ethnicity	Ranking									
	1	2	3	4	5	6	7	8	9	10
All 64,221	Complica-tions of pregnancy/ birth 8,120	Newborns 7,375	Mental disorders 5,485	Injury 4,697	Heart disease 4,688	Diseases musculo-skeletal/ connective tissue 2,638	Cancer 2,021	Other circulatory diseases 1,552	Other respiratory diseases 1,463	Pneumo-nia 1,395
White, non-Hispanic 33,655	Complica-tions of pregnancy/ birth 3,616	Newborns 3,363	Mental disorders 3,104	Heart disease 2,764	Injury 2,670	Diseases musculo-skeletal/ connective tissue 1,834	Cancer 1,139	Pneumo-nia 843	Other respiratory diseases 837	Other circulatory diseases 684
Black, non-Hispanic 23,617	Complica-tions of pregnancy/ birth 2,939	Newborns 2,546	Mental disorders 2,025	Heart disease 1,690	Injury 1,653	Cancer 743	Other circulatory diseases 687	Diseases musculo-skeletal/ connective tissue 686	Diabetes 606	Asthma 590
Hispanic 2,007	Complica-tions of pregnancy/ birth 356	Newborns 315	Injury 140	Heart disease 97	Mental disorders 72	Acute respiratory disease 62	Certain conditions in perinatal period 44	Asthma 41	Stroke 39	Cancer 39
Asian 606	Complica-tions of pregnancy/ birth 153	Newborns 146	Injury 30	Mental disorders 24	Heart disease 20	Pneumo-nia 16	Cancer 15	Other respiratory diseases 13	Stroke 10	Other circulatory diseases 9
Native American 79	Mental disease 20	Newborns 8	Complica-tions of pregnancy/ birth 7	Injury 6						
Other/not specified 4,257	Complica-tions of pregnancy/ birth 1,049	Newborns 991	Mental disorders 240	Injury 198	Other circulatory diseases 145	Heart disease 112	Diabetes 70	Cancer 84	Other genitouri-nary diseases 49	Other respiratory diseases 49

[1] If there were 5 or fewer cases, the data was not included;

Table 7.6. Leading causes of hospitalizations by age group, Kansas City, MO, 2009

Age group (years)	Ranking									
	1	2	3	4	5	6	7	8	9	10
Total 64,221	Complications of pregnancy/ birth 8,120	Newborns 7,375	Mental disorders 5,485	Injury 4,696	Heart disease 4,688	Diseases musculo-skeletal/ connective tissue 2,638	Cancer 2,021	Other circulatory diseases 1,552	Other respiratory diseases 1,463	Pneumonia 1,395
0-4 9,339	Newborns 7,375	Acute respiratory infection 377	Certain conditions in perinatal period 282	Asthma 167	Congenital anomalies 100	Injury 96	Pneumonia 94	Diseases skin/ subcutaneous tissues 92	Diseases nervous system 49	Other respiratory diseases 43
5-14 1,670	Mental disorders 710	Asthma 172	Injury 112	Diseases blood/blood forming organs 69	Pneumonia 55	Appendicitis 46	Diseases nervous system 45	Diseases skin/ subcutaneous tissues 37	Diseases musculo-skeletal/ connective tissue 37	Diabetes 28
15-24 6,146	Complications of pregnancy/ birth 3,193	Mental disorders 1,087	Injury 448	Diseases blood/blood forming organs 158	Diabetes 90	Other genitor-urinary tract disease 86	Diseases skin/ subcutaneous tissues 81	Diseases nervous system 77	Asthma 59	All other infectious/ parasitic diseases 59
25-34 7,921	Complications of pregnancy/ birth 3,992	Mental disorders 969	Injury 522	Diabetes 179	Diseases blood/blood forming organs 139	Diseases nervous system 135	Diseases skin/ subcutaneous tissues 128	Diseases musculo-skeletal/ connective tissue 111	Other genitor-urinary tract disease 104	Heart disease 103
35-44 6,026	Mental disorders 916	Complications of pregnancy/ birth 909	Injury 549	Cancer 266	Heart disease 240	Diseases musculo-skeletal/ connective tissue 203	Other circulatory diseases 196	Diseases skin/ subcutaneous tissues 186	Diabetes 143	Diseases nervous system 142
45-54 8,967	Mental disorders 996	Injury 814	Heart disease 747	Diseases musculo-skeletal/ connective tissue 472	Cancer 381	Other circulatory diseases 375	Diseases skin/ subcutaneous tissues 266	Diabetes 256	Other respiratory diseases 237	Diseases nervous system 227
55-64 7,991	Heart disease 1,007	Injury 675	Diseases musculo-skeletal/ connective tissue 633	Mental disorders 460	Cancer 445	Other respiratory diseases 292	Stroke 286	Other circulatory diseases 271	CLRD[1] 233	Pneumonia 232
65-74 6,495	Heart disease 1,001	Injury 545	Diseases musculo-skeletal/ connective tissue 544	Cancer 392	Other respiratory diseases 261	Other circulatory diseases 257	Stroke 252	CLRD[1] 225	Pneumonia 212	Other genitourinary tract disease 211
75-84 6,089	Heart disease 957	Injury 534	Diseases musculo-skeletal/ connective tissue 428	Cancer 29	Stroke 291	Other respiratory diseases 257	Other genitourinary tract disease 242	Pneumonia 238	Other circulatory diseases 214	Septicemia 203
≥85 3,580	Heart disease 561	Injury 401	Stroke 185	Pneumonia 171	Other respiratory diseases 166	Diseases musculo-skeletal/ connective tissue 152	Urinary tract infection 139	Diseases nervous system 120	Other circulatory diseases 112	Other genitor-urinary tract disease 102

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