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New York City Department of Health and Mental Hygiene (NYC DOHMH) Preliminary Review Team

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Table 1: Demographic Characteristics of Fee-for-Service Medicare Beneficiaries with Hepatitis C (HCV), With One or More Institutional or Non-Institutional Claim, 2016

| | All Medicare | e Beneficiaries | Medicare Bene | Beneficiaries with HCV | | |
|---------------------------------|--------------|-----------------|---------------|------------------------|--|--|
| Characteristic | Number | Percent (%) | Number | Percent (%) | | |
| All beneficiaries | 33,424,861 | 100% | 221,312 | 100% | | |
| Age and sex | • | | | | | |
| Male <65 years | 2,774,061 | 8.3 | 72,699 | 32.8 | | |
| Male 65-74 years | 6,980,422 | 20.9 | 49,344 | 22.3 | | |
| Male 75-84 years | 3,743,865 | 11.2 | 7,740 | 3.5 | | |
| Male 85+ years | 1,524,177 | 4.6 | 1,613 | 0.7 | | |
| Female <65 years | 2,588,795 | 7.7 | 47,034 | 21.3 | | |
| Female 65-74 years | 8,065,519 | 24.1 | 30,060 | 13.6 | | |
| Female 75-84 years | 4,836,005 | 14.5 | 9,870 | 4.5 | | |
| Female 85+ years | 2,912,017 | 8.7 | 2,952 | 1.3 | | |
| Race | | | | | | |
| Non-Hispanic white | 26,830,506 | 80.3 | 143,565 | 64.9 | | |
| Non-Hispanic black | 3,056,285 | 9.1 | 47,240 | 21.3 | | |
| Hispanic | 1,855,331 | 5.6 | 19,206 | 8.7 | | |
| Other | 1,682,739 | 5.0 | 11,301 | 5.1 | | |
| Original reason for entitlement | | | | | | |
| Age | 25,285,897 | 75.6 | 70,897 | 32.0 | | |
| Disability | 8,079,729 | 24.2 | 148,868 | 67.3 | | |
| ESRD only | 21,229 | 0.1 | 434 | 0.2 | | |
| ESRD and disability | 38,006 | 0.1 | 1,113 | 0.5 | | |
| Jrban/rural Residence | | | | | | |
| Super Rural | 2,417,659 | 7.2 | 11,817 | 5.3 | | |
| Rural | 6,563,416 | 19.6 | 34,262 | 15.5 | | |
| Urban | 24,443,786 | 73.1 | 175,233 | 79.2 | | |
| State | | | | | | |
| Alabama | 664,970 | 2.0 | 3,062 | 1.4 | | |
| Alaska | 77,748 | 0.2 | 738 | 0.3 | | |
| Arizona | 631,470 | 1.9 | 3,070 | 1.4 | | |
| Arkansas | 443,454 | 1.3 | 2,326 | 1.1 | | |
| California | 2,774,623 | 8.3 | 29,023 | 13.1 | | |
| Colorado | 443,753 | 1.3 | 2,727 | 1.2 | | |
| Connecticut | 408,436 | 1.2 | 2,905 | 1.3 | | |
| Delaware | 157,631 | 0.5 | 1,244 | 0.6 | | |
| DC | 58,274 | 0.2 | 1,307 | 0.6 | | |
| Florida | 2,213,073 | 6.6 | 14,434 | 6.5 | | |
| Georgia | 922,651 | 2.8 | 5,120 | 2.3 | | |
| Hawaii | 103,965 | 0.3 | 593 | 0.3 | | |
| Idaho | 183,034 | 0.5 | 929 | 0.4 | | |
| Illinois | 1,454,953 | 4.4 | 6,508 | 2.9 | | |
| Indiana | 814,778 | 2.4 | 4,015 | 1.8 | | |
| Iowa | 455,112 | 1.4 | 1,580 | 0.7 | | |
| Kansas | 395,280 | 1.2 | 1,932 | 0.9 | | |
| Kentucky | 585,535 | 1.8 | 3,477 | 1.6 | | |
| Louisiana | 498,464 | 1.5 | 4,328 | 2.0 | | |

Table 1: Demographic Characteristics of Fee-for-Service Medicare Beneficiaries with Hepatitis C (HCV), With One or More Institutional or Non-Institutional Claim, 2016

| | All Medicare | Beneficiaries | Medicare Bene | ficiaries with HCV |
|----------------|--------------|---------------|---------------|--------------------|
| Characteristic | Number | Percent (%) | Number | Percent (%) |
| Maine | 214,611 | 0.6 | 1,219 | 0.6 |
| Maryland | 747,755 | 2.2 | 6,996 | 3.2 |
| Massachusetts | 860,312 | 2.6 | 9,125 | 4.1 |
| Michigan | 1,159,132 | 3.5 | 7,647 | 3.5 |
| Minnesota | 348,787 | 1.0 | 2,168 | 1.0 |
| Mississippi | 450,878 | 1.3 | 2,207 | 1.0 |
| Missouri | 734,315 | 2.2 | 4,379 | 2.0 |
| Montana | 154,961 | 0.5 | 773 | 0.3 |
| Nebraska | 260,834 | 0.8 | 784 | 0.4 |
| Nevada | 262,034 | 0.8 | 2,039 | 0.9 |
| New Hampshire | 226,370 | 0.7 | 1,215 | 0.5 |
| New Jersey | 1,109,803 | 3.3 | 8,114 | 3.7 |
| New Mexico | 224,923 | 0.7 | 1,869 | 0.8 |
| New York | 1,780,197 | 5.3 | 13,376 | 6.0 |
| North Carolina | 1,168,518 | 3.5 | 7,509 | 3.4 |
| North Dakota | 89,751 | 0.3 | 236 | 0.1 |
| Ohio | 1,217,257 | 3.6 | 5,915 | 2.7 |
| Oklahoma | 524,233 | 1.6 | 3,508 | 1.6 |
| Oregon | 377,818 | 1.1 | 3,730 | 1.7 |
| Pennsylvania | 1,349,622 | 4.0 | 9,281 | 4.2 |
| Rhode Island | 103,182 | 0.3 | 832 | 0.4 |
| South Carolina | 677,287 | 2.0 | 2,624 | 1.2 |
| South Dakota | 116,046 | 0.3 | 301 | 0.1 |
| Tennessee | 737,076 | 2.2 | 4,437 | 2.0 |
| Texas | 2,180,469 | 6.5 | 14,936 | 6.7 |
| Utah | 200,906 | 0.6 | 694 | 0.3 |
| Vermont | 116,202 | 0.3 | 660 | 0.3 |
| Virginia | 1,002,695 | 3.0 | 4,887 | 2.2 |
| Washington | 760,183 | 2.3 | 6,328 | 2.9 |
| West Virginia | 290,171 | 0.9 | 1,529 | 0.7 |
| Wisconsin | 600,243 | 1.8 | 2,295 | 1.0 |
| Wyoming | 89,344 | 0.3 | 378 | 0.2 |

Source: Medicare Master Beneficiary Summary File, A/B/D, Chronic and Other Disabling Condition File, and 100 percent Feefor-Service Non-Institutional Claims, 2016.

Population includes Medicare beneficiaries with full-year Part A & B coverage. Excluded from this population are those beneficiaries with any months of Medicare Advantage (Part C), patients with End Stage Renal Disease, and beneficiaries residing outside the United States.

Beneficiaries with Hepatitis C were identified as those with one inpatient or two non-inpatient claims with an ICD-10 diagnosis code of B18.2.

Urban areas are defined as those zip codes located in a metropolitan area; rural areas are defined as those zip codes located in a non-metropolitan area, and "super-rural" is defined as zip codes in rural counties that are among the lowest quartile of all rural counties by population density.

Table 2: Number and Percent of Medicare Fee-for-Service Beneficiaries with Hepatitis C (HCV) with Selected Chronic and Potentially Disabling Conditions, by

Original Reason for Medicare Entitlement, 2016

| | | All Medi | icare Benef | iciaries | | Medicare Beneficiaries with HCV | | | | |
|---|-------------------------------|------------|--------------|----------------|-------------------|---------------------------------|---------|--------------|---------------|-------------------|
| | | Or | iginal Reaso | n for Entitleı | ment | All Medicare | Or | iginal Reaso | n for Entitle | ment |
| Condition | All Medicare Beneficiaries | Age | Disability | ESRD only | Disability & ESRD | Beneficiaries with HCV | Age | Disability | ESRD only | Disability & ESRD |
| Number of beneficiaries | 33,424,861 | 25,285,897 | 8,079,729 | 21,229 | 38,006 | 213,386 | 66,433 | 145,427 | 418 | 1,108 |
| | | Percent | with Condit | ion (%) | | | Percent | with Condit | ion (%) | |
| Hypertension | 57 | 59 | 50 | 78 | 83 | 59 | 64 | 57 | 82 | 87 |
| Rheumatoid Arthritis/Osteoarthritis | 32 | 32 | 32 | 25 | 24 | 36 | 33 | 38 | 30 | 30 |
| Depression | 17 | 13 | 29 | 16 | 19 | 36 | 19 | 44 | 27 | 26 |
| Tobacco Use Disorders | 8 | 5 | 19 | 7 | 9 | 35 | 14 | 45 | 25 | 22 |
| Liver Disease, Cirrhosis/excludes Hepatitis | 4 | 3 | 6 | 9 | 9 | 34 | 33 | 35 | 40 | 42 |
| Chronic Pain, Fatigue and Fibromyalgia | 14 | 11 | 26 | 15 | 18 | 33 | 17 | 41 | 22 | 25 |
| Diabetes | 27 | 26 | 30 | 47 | 57 | 31 | 30 | 31 | 53 | 63 |
| Hyperlipidemia | 45 | 47 | 37 | 53 | 56 | 31 | 35 | 28 | 48 | 52 |
| Anxiety Disorders | 16 | 12 | 27 | 13 | 16 | 31 | 15 | 39 | 18 | 20 |
| Anemia | 21 | 21 | 21 | 47 | 48 | 30 | 31 | 29 | 54 | 55 |
| Ischemic Heart Disease | 27 | 28 | 23 | 35 | 36 | 25 | 28 | 23 | 37 | 38 |
| Chronic Kidney Disease | 21 | 21 | 21 | 83 | 87 | 23 | 23 | 22 | 85 | 89 |
| Chronic Obstructive Pulmonary Disease | 12 | 10 | 16 | 9 | 9 | 22 | 16 | 24 | 17 | 14 |
| Asthma | 13 | 12 | 19 | 10 | 11 | 16 | 11 | 19 | 14 | 11 |
| Obesity | 15 | 12 | 22 | 19 | 24 | 16 | 10 | 18 | 15 | 18 |
| Bipolar Disorder | 4 | 2 | 11 | 3 | 4 | 15 | 3 | 21 | 6 | 4 |
| Heart Failure | 13 | 13 | 13 | 23 | 24 | 14 | 15 | 14 | 29 | 28 |
| Acquired Hypothyroidism | 15 | 16 | 13 | 14 | 13 | 12 | 14 | 11 | 12 | 11 |
| Cataract | 18 | 20 | 9 | 14 | 11 | 12 | 18 | 9 | 13 | 11 |
| Peripheral Vascular Disease | 12 | 12 | 11 | 17 | 20 | 11 | 13 | 10 | 22 | 19 |
| Schizophrenia and Other Psychotic Disorders | 3 | 2 | 9 | 2 | 2 | 10 | 3 | 13 | 5 | 4 |
| Benign Prostatic Hyperplasia | 7 | 8 | 5 | 7 | 7 | 7 | 10 | 6 | 9 | 11 |
| Alzheimer's Disease/or Senile Dementia | 11 | 12 | 8 | 7 | 6 | 7 | 9 | 6 | 6 | 5 |
| Schizophrenia | 2 | 0 | 7 | 1 | 1 | 7 | 1 | 9 | 1 | 1 |
| Glaucoma | 5 | 6 | 3 | 4 | 4 | 6 | 10 | 4 | 7 | 10 |
| HIV/AIDS | 0 | 0 | 1 | 1 | 1 | 6 | 2 | 8 | 4 | 4 |
| Epilepsy | 3 | 1 | 6 | 3 | 4 | 6 | 2 | 7 | 5 | 5 |
| Pressure Ulcers and Chronic Ulcers | 4 | 4 | 5 | 10 | 12 | 6 | 5 | 6 | 12 | 11 |
| Osteoporosis | 6 | 7 | 4 | 10 | 8 | 5 | 8 | 4 | 11 | 9 |
| Atrial Fibrillation | 8 | 9 | 5 | 10 | 8 | 5 | 8 | 3 | 9 | 6 |
| Stroke | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 4 |
| Sensory - Deafness and Hearing Impairment | 5 | 6 | 4 | 5 | 5 | 4 | 5 | 3 | 4 | 4 |

Table 2: Number and Percent of Medicare Fee-for-Service Beneficiaries with Hepatitis C (HCV) with Selected Chronic and Potentially Disabling Conditions, by

Original Reason for Medicare Entitlement, 2016

| | | All Medicare Beneficiaries | | | | | Medicare Beneficiaries with HCV | | | | |
|------------------------|---------------|---------------------------------|------------|-----------|--------------|---------------|---------------------------------|------------|-----------|--------------|--|
| | | Original Reason for Entitlement | | | | All Medicare | Original Reason for Entitlement | | | nent | |
| | All Medicare | | | | Disability & | Beneficiaries | | | | Disability & | |
| Condition | Beneficiaries | Age | Disability | ESRD only | ESRD | with HCV | Age | Disability | ESRD only | ESRD | |
| Mobility Impairments | 3 | 2 | 5 | 3 | 4 | 4 | 2 | 4 | 3 | 4 | |
| Prostate Cancer | 3 | 4 | 1 | 3 | 2 | 2 | 3 | 1 | 3 | 2 | |
| Leukemia and Lymphomas | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | |
| Breast Cancer | 3 | 3 | 2 | 2 | 1 | 2 | 3 | 1 | 1 | 1 | |
| Alzheimer's Disease | 4 | 5 | 2 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | |
| Colorectal Cancer | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | |
| Lung Cancer | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |

Source: Medicare Master Beneficiary Summary File, A/B/D, Chronic and Other Disabling Condition File, 2016.

Population includes Medicare beneficiaries with full-year Part A & B coverage. Excluded from this population are those beneficiaries with any months of Medicare Advantage (Part C), patients with End Stage Renal Disease, and beneficiaries residing outside the United States.

Beneficiaries with Hepatitis C were identified as those with one inpatient or two non-inpatient claims with an ICD-10 diagnosis code of B18.2 or Z22.52.

| Table 3: Top 50 Primary Diagnoses for Emergency Department Visits by Fee-for-Service Medicare |
|---|
| Beneficiaries with Hepatitis C (HCV), 2016 |

| | | All Medicar | e Beneficiaries | Medicare Beneficiaries with HCV | | |
|---------|--|-------------|-----------------------|---------------------------------|-----------------------|--|
| ICD-10 | Description of Diagnosis | Visits (N) | Percent of visits (%) | Visits (N) | Percent of visits (%) | |
| | All primary diagnoses | 15,728,034 | 100% | 312,950 | 100% | |
| R079 | Chest pain, unspecified | 457,093 | 2.9 | 8,876 | 2.8 | |
| R0789 | Other chest pain | 449,636 | 2.9 | 8,249 | 2.6 | |
| R109 | Unspecified abdominal pain | 215,645 | 1.4 | 6,793 | 2.2 | |
| M545 | Low back pain | 211,622 | 1.3 | 5,932 | 1.9 | |
| J441 | Chronic obstructive pulmonary disease w exacerbation | 213,481 | 1.4 | 5,608 | 1.8 | |
| N390 | Urinary tract infection, site not specified | 431,282 | 2.7 | 4,912 | 1.6 | |
| F10129 | Alcohol abuse with intoxication, unspecified | 41,709 | 0.3 | 4,089 | 1.3 | |
| R51 | Headache | 197,957 | 1.3 | 3,939 | 1.3 | |
| G8929 | Other chronic pain | 78,759 | 0.5 | 3,908 | 1.2 | |
| I10 | Essential (primary) hypertension | 234,543 | 1.5 | 2,804 | 0.9 | |
| F329 | Major depressive disorder, single episode, unspecified | 49,705 | 0.3 | 2,778 | 0.9 | |
| J209 | Acute bronchitis, unspecified | 154,366 | 1.0 | 2,701 | 0.9 | |
| R112 | Nausea with vomiting, unspecified | 129,654 | 0.8 | 2,681 | 0.9 | |
| R45851 | Suicidal ideations | 35,098 | 0.2 | 2,597 | 0.8 | |
| F419 | Anxiety disorder, unspecified | 84,773 | 0.5 | 2,489 | 0.8 | |
| R55 | Syncope and collapse | 271,589 | 1.7 | 2,464 | 0.8 | |
| R1013 | Epigastric pain | 89,781 | 0.6 | 2,436 | 0.8 | |
| R1084 | Generalized abdominal pain | 70,289 | 0.4 | 2,419 | 0.8 | |
| E1165 | Type 2 diabetes mellitus with hyperglycemia | 69,752 | 0.4 | 2,353 | 0.8 | |
| J189 | Pneumonia, unspecified organism | 143,693 | 0.9 | 2,277 | 0.7 | |
| R42 | Dizziness and giddiness | 238,929 | 1.5 | 2,195 | 0.7 | |
| S0990XA | Unspecified head injury, initial encounter | 186,413 | 1.2 | 2,131 | 0.7 | |
| K5900 | Constipation, unspecified | 149,426 | 1.0 | 2,074 | 0.7 | |
| M549 | Back pain, unspecified | 71,080 | 0.5 | 2,044 | 0.7 | |
| R4182 | Altered mental status, unspecified | 92,298 | 0.6 | 2,038 | 0.7 | |
| R531 | Weakness | 162,860 | 1.0 | 1,947 | 0.6 | |
| K529 | Noninfectious gastroenteritis and colitis, unspecified | 104,329 | 0.7 | 1,857 | 0.6 | |
| J069 | Acute upper respiratory infection, unspecified | 108,769 | 0.7 | 1,832 | 0.6 | |
| R188 | Other ascites | 8,460 | 0.1 | 1,831 | 0.6 | |
| J40 | Bronchitis, not specified as acute or chronic | 98,696 | 0.6 | 1,774 | 0.6 | |
| R1011 | Right upper quadrant pain | 40,512 | 0.3 | 1,689 | 0.5 | |
| Z760 | Encounter for repeat prescription | 31,627 | 0.2 | 1,680 | 0.5 | |
| R0602 | Shortness of breath | 88,962 | 0.6 | 1,676 | 0.5 | |
| L03116 | | 63,241 | 0.4 | 1,642 | 0.5 | |
| M542 | Neck pain | 61,363 | 0.4 | 1,536 | 0.5 | |
| S39012A | Strain of muscle, fascia and tendon of lower back | 64,766 | 0.4 | 1,505 | 0.5 | |
| E860 | Dehydration | 119,432 | 0.8 | 1,471 | 0.5 | |
| R197 | Diarrhea, unspecified | 84,736 | 0.5 | 1,373 | 0.4 | |
| R05 | Cough | 69,180 | 0.4 | 1,311 | 0.4 | |
| F10120 | Alcohol abuse with intoxication, uncomplicated | 12,330 | 0.1 | 1,308 | 0.4 | |
| R600 | Localized edema | 52,594 | 0.3 | 1,292 | 0.4 | |
| | | _ | | | | |
| R569 | Unspecified convulsions | 48,365 | 0.3 | 1,240 | 0.4 | |
| G40909 | Epilepsy, unspecified, not intractable, without status epilepticus | 49,477 | 0.3 | 1,224 | 0.4 | |
| M25561 | Pain in right knee | 49,251 | 0.3 | 1,223 | 0.4 | |
| S161XXA | Strain of muscle, fascia and tendon at neck level, initial | 54,439 | 0.3 | 1,220 | 0.4 | |
| L03115 | Cellulitis of right lower limb | 53,347 | 0.3 | 1,216 | 0.4 | |
| F1010 | Alcohol abuse, uncomplicated | 11,594 | 0.1 | 1,210 | 0.4 | |
| K7460 | Unspecified cirrhosis of liver | 3,880 | 0.0 | 1,210 | 0.4 | |
| J449 | Chronic obstructive pulmonary disease, unspecified | 47,847 | 0.3 | 1,199 | 0.4 | |

| | Table 3: Top 50 Primary Diagnoses for Emergency Department Visits by Fee-for-Service Medicare Beneficiaries with Hepatitis C (HCV), 2016 | | | | | | | | | | | |
|--------|---|--|-----------------------|------------|-----------------------|--|--|--|--|--|--|--|
| | | All Medicare Beneficiaries Medicare Beneficiaries with HCV | | | | | | | | | | |
| ICD-10 | Description of Diagnosis | Visits (N) | Percent of visits (%) | Visits (N) | Percent of visits (%) | | | | | | | |
| G43909 | Migraine, unspecified, not intractable | 62,209 | 0.4 | 1,173 | 0.4 | | | | | | | |
| | All other primary diagnoses | 9,807,195 | 62.4 | 185,524 | 59.3 | | | | | | | |

Source: Medicare Master Beneficiary Summary File, A/B/D, Chronic and Other Disabling Condition File, and 100 percent Fee-for-Service Non-Institutional Claims, 2016.

Population includes Medicare beneficiaries with full-year Part A & B coverage. Excluded from this population are those beneficiaries with any months of Medicare Advantage (Part C), patients with End Stage Renal Disease, and beneficiaries residing outside the United States.

Beneficiaries with Hepatitis C were identified as those with one inpatient or two non-inpatient claims with an ICD-10 diagnosis code of B18.2.

| | | All Me Benefi | | Medicare Beneficiaries with HCV | | |
|------------|---|-------------------|---------------------------------|------------------------------------|---------------------------|--|
| DRG | Description of DRG | Discharges (N) | Percent of Discharges (%) | Discharges (N) | Percent of Discharges (%) | |
| | All DRGs | 9,644,654 | 100% | 185,795 | 100% | |
| 885 | Psychoses | 457,093 | 4.7 | 21,930 | 11.8 | |
| 871 | Septicemia or severe sepsis without mv >96 hours with mcc | 449,636 | 4.7 | 10,108 | 5.4 | |
| 897 | Alcohol, drug abuse or dependence without rehabilitation therapy without mcc | 215,645 | 2.2 | 7,631 | 4.1 | |
| 442 | Disorders of liver except malignancy, cirrhosis or alcoholic hepatitis with cc | 211,622 | 2.2 | 4,145 | 2.2 | |
| 603 | Cellulitis without mcc | 213,481 | 2.2 | 3,873 | 2.1 | |
| 392 | Esophagitis, gastroenteritis and miscellaneous digestive disorders without mcc | 431,282 | 4.5 | 3,495 | 1.9 | |
| 470 | Major joint replacement or reattachment of lower extremity without mcc | 41,709 | 0.4 | 3,472 | 1.9 | |
| 190 | Chronic obstructive pulmonary disease with mcc | 197,957 | 2.1 | 3,312 | 1.8 | |
| 291 | Heart failure and shock with mcc | 78,759 | 0.8 | 3,202 | 1.7 | |
| 872 | Septicemia or severe sepsis without mv >96 hours without mcc | 234,543 | 2.4 | 3,027 | 1.6 | |
| 189 | Pulmonary edema and respiratory failure | 49,705 | 0.5 | 2,892 | 1.6 | |
| 441 | Disorders of liver except malignancy, cirrhosis or alcoholic hepatitis with mcc | 154,366 | 1.6 | 2,810 | 1.5 | |
| 683 | Renal failure with cc | 129,654 | 1.3 | 2,690 | 1.4 | |
| 292 | Heart failure and shock with cc | 35,098 | 0.4 | 2,656 | 1.4 | |
| 378 | GI hemorrhage with cc | 84,773 | 0.9 | 2,656 | 1.4 | |
| 191 | Chronic obstructive pulmonary disease with cc | 271,589 | 2.8 | 2,549 | 1.4 | |
| 917 | Poisoning and toxic effects of drugs with mcc | 89,781 | 0.9 | 2,493 | 1.3 | |
| 895 | Alcohol, drug abuse or dependence with rehabilitation therapy | 70,289 | 0.7 | 2,437 | 1.3 | |
| 433 | Cirrhosis and alcoholic hepatitis with cc | 69,752 | 0.7 | 2,385 | 1.3 | |
| 682 | Renal failure with mcc | 143,693 | 1.5 | 2,096 | 1.1 | |
| 432 | Cirrhosis and alcoholic hepatitis with mcc | 238,929 | 2.5 | 2,085 | 1.1 | |
| 853 | Infectious and parasitic diseases with OR procedure with mcc | 186,413 | 1.9 | 2,071 | 1.1 | |
| 194 | Simple pneumonia and pleurisy with cc | 149,426 | 1.5 | 1,985 | 1.1 | |
| 638 | Diabetes with cc | 71,080 | 0.7 | 1,849 | 1.0 | |
| 641 | Miscellaneous disorders of nutrition, metabolism, fluids & electrolytes w/o mcc | 92,298 | 1.0 | 1,779 | 1.0 | |
| 690 | Kidney and urinary tract infections without mcc | 162,860 | 1.7 | 1,767 | 1.0 | |
| 193 | Simple pneumonia and pleurisy with mcc | 104,329 | 1.1 | 1,732 | 0.9 | |
| 881 | Depressive neuroses | 108,769 | 1.1 | 1,732 | 0.9 | |
| 918 | Poisoning and toxic effects of drugs without mcc | 8,460 | 0.1 | 1,572 | 0.8 | |
| 313 | Chest pain | 98,696 | 1.0 | 1,530 | 0.8 | |
| 812 | Red blood cell disorders without mcc | 40,512 | 0.4 | 1,495 | 0.8 | |
| 981 | Extensive OR procedure unrelated to principal diagnosis with mcc | 31,627 | 0.3 | 1,448 | 0.8 | |
| 208 | Respiratory system diagnosis w ventilator support <=96 hours | 88,962 | 0.9 | 1,352 | 0.7 | |
| 894 | Alcohol, drug abuse or dependence, left AMA | 63,241 | 0.7 | 1,276 | 0.7 | |
| 309 | Cardiac arrhythmia and conduction disorders with cc | 61,363 | 0.6 | 1,198 | 0.6 | |
| 439 | Disorders of pancreas except malignancy with cc | 64,766 | 0.7 | 1,191 | 0.6 | |
| 101 | Seizures without mcc | 119,432 | 1.2 | 1,169 | 0.6 | |
| 192 | Chronic obstructive pulmonary disease without cc/mcc | 84,736 | 0.9 | 1,114 | 0.6 | |
| 896 | Alcohol, drug abuse or dependence without rehabilitation therapy with mcc | 69,180 | 0.7 | 1,107 | 0.6 | |
| 377 | GI hemorrhage with mcc | 12,330 | 0.1 | 1,097 | 0.6 | |
| 948 | Signs and symptoms without mcc | 52,594 | 0.5 | 1,079 | 0.6 | |
| 177 | Respiratory infections and inflammations with mcc | 48,365 | 0.5 | 1,075 | 0.6 | |
| 57 | Degenerative nervous system disorders without mcc | 49,477 | 0.5 | 1,064 | 0.6 | |
| 65 | Intracranial hemorrhage or cerebral infarction with cc or tpa in 24 hours | 49,477 | 0.5 | 1,064 | 0.6 | |
| 287 | Circulatory disorders except ami, with cardiac catheterization without mcc | | 0.5 | | 0.6 | |
| | · · · · · | 54,439 | | 1,006 | | |
| 552 | Medical back problems without mcc | 53,347 | 0.6 | 989 | 0.5 | |
| 312 460 | Syncope and collapse | 11,594 | 0.1 | 934 | 0.5 | |
| 4611 | Spinal fusion except cervical without mcc | 3,880 | 0.0 | 932 | 0.5 | |
| | Continued and the state of the | 47.04 | ^ - | 040 | ~ - | |
| 870 372 | Septicemia or severe sepsis with mv >96 hours Major gastrointestinal disorders and peritoneal infections with cc | 47,847 62,209 | 0.5 0.6 | 918 861 | 0.5 0.5 | |

Source: Medicare Master Beneficiary Summary File, A/B/D, Chronic and Other Disabling Condition File, and 100 percent Fee-for-Service Non-Institutional Claims, 2016. Population includes Medicare beneficiaries with full-year Part A & B coverage. Excluded from this population are those beneficiaries with any months of Medicare Advantage (Part C), patients with End Stage Renal Disease, and beneficiaries residing outside the United States.

| Table 5: A | Table 5: Annual per Beneficiary and Total Medicare Part A, B, and D Fee-for-Service Expenditures for Medicare Beneficiaries with Hepatitis C, 2016. | | | | | | | | | | | |
|---------------------------|---|--------------------------|--------------|--|---|---|--|--|--|--|--|--|
| | Total An | nual Expenditures (in | \$ millions) | Annual I | Per Beneficiary Expe | nditures (\$) | | | | | | |
| | All beneficiaries with HCV (N=221,298) | with HCV Hospital visits | | All beneficiaries with HCV (N=221,298) | Beneficiaries with HCV & No outpatient hospital visits (N=105,100) | Beneficiaries with HCV & Outpatient hospital visits (N=116,198) | | | | | | |
| Part A | | | | | | | | | | | | |
| Inpatient | \$2,235.2 | \$1,192.9 | \$1,042.3 | \$10,100 | \$11,349 | \$8,969 | | | | | | |
| Related to HCV | \$704.2 | \$347.2 | \$357.0 | \$3,182 | \$3,303 | \$3,072 | | | | | | |
| Skilled nursing facility | \$315.0 | \$190.7 | \$124.4 | \$1,424 | \$1,814 | \$1,070 | | | | | | |
| Related to HCV | \$58.5 | \$31.0 | \$27.5 | \$264 | \$295 | \$236 | | | | | | |
| Hospice | \$66.6 | \$38.5 | \$28.1 | \$301 | \$366 | \$242 | | | | | | |
| Related to HCV | \$16.1 | \$7.6 | \$8.5 | \$73 | \$72 | \$73 | | | | | | |
| Home health | \$157.2 | \$84.2 | \$73.1 | \$711 | \$801 | \$629 | | | | | | |
| Related to HCV | \$23.8 | \$10.4 | \$13.4 | \$108 | \$99 | \$115 | | | | | | |
| Part B | | | | | | | | | | | | |
| Outpatient hospital | \$692.6 | \$239.4 | \$453.2 | \$3,130 | \$2,278 | \$3,900 | | | | | | |
| Related to HCV | \$81.7 | \$4.0 | \$77.7 | \$369 | \$38 | \$669 | | | | | | |
| Evaluation and Management | \$416.6 | \$215.5 | \$201.2 | \$1,882 | \$2,050 | \$1,731 | | | | | | |
| Related to HCV | \$34.0 | \$14.4 | \$19.7 | \$154 | \$137 | \$169 | | | | | | |
| Procedures | \$202.6 | \$96.0 | \$106.6 | \$915 | \$913 | \$917 | | | | | | |
| Related to HCV | \$3.9 | \$1.1 | \$2.8 | \$18 | \$10 | \$24 | | | | | | |
| Imaging | \$75.7 | \$37.2 | \$38.5 | \$342 | \$354 | \$331 | | | | | | |
| Related to HCV | \$2.1 | \$0.9 | \$1.2 | \$9 | \$8 | \$11 | | | | | | |
| Tests | \$118.3 | \$62.5 | \$55.7 | \$534 | \$595 | \$479 | | | | | | |
| Related to HCV | \$18.3 | \$10.2 | \$8.1 | \$83 | \$97 | \$70 | | | | | | |
| Part B drugs | \$244.3 | \$77.0 | \$167.3 | \$1,104 | \$733 | \$1,440 | | | | | | |
| Related to HCV | \$2.0 | \$0.6 | \$1.4 | \$9 | \$5 | \$12 | | | | | | |
| Other | \$102.6 | \$53.7 | \$49.0 | \$464 | \$511 | \$421 | | | | | | |
| Related to HCV | \$1.5 | \$0.7 | \$0.8 | \$7 | \$7 | \$7 | | | | | | |
| Durable medical equipment | \$85.7 | \$38.2 | \$47.6 | \$387 | \$363 | \$409 | | | | | | |
| Related to HCV | \$0.5 | \$0.1 | \$0.4 | \$2 | \$1 | \$3 | | | | | | |
| Part D | | | | | | | | | | | | |
| Drugs | \$4,445.6 | \$1,530.5 | \$2,915.0 | \$20,087 | \$14,562 | \$25,085 | | | | | | |
| Related to HCV | \$3,092.0 | \$942.3 | \$2,149.7 | \$13,971 | \$8,965 | \$18,500 | | | | | | |
| Parts A, B, and D | | | | | | | | | | | | |
| Total | \$9,158.0 | \$3,856.2 | \$5,301.8 | \$41,380 | \$36,688 | \$45,624 | | | | | | |
| Related to HCV | \$4,038.6 | \$1,370.4 | \$2,668.3 | \$18,249 | \$13,038 | \$22,962 | | | | | | |

Source: Medicare Master Beneficiary Summary File, A/B/D, the 100 percent Fee-for-Service Institutional and Non-Institutional Claims files, and the Part D Event File, 2016. Population includes Medicare beneficiaries with full-year Part A & B coverage. Excluded from this population are those beneficiaries with any months of Medicare Advantage (Part C), patients with End Stage Renal Disease, and beneficiaries residing outside the United States.

Beneficiaries with Hepatitis C were identified as those with one inpatient or two non-inpatient claims with an ICD-10 diagnosis code of B18.2. Expenditures related to Hepatitis C were identified as claims with at least one of these ICD-10 diagnosis codes as a primary or secondary condition.

Outpatient hospital visits were identified as claims with Type of Bill (TOB) code = 13, 43, and 85.

Part D drugs related to Hepatitis C includes: Victrelis, boceprevir, Daklinza, daclatasvir, Zepatier, ilasvir/grazoprevir, Roferon, Interferon alpha-2a, Intron A, Interferon alpha-2b, Infergen, interferon alphacon-1, Harvoni, ledipasvir/sofosbuvir, Technivie, ombitasvir/paritaprevir/ritonavir, Viekira Pak, ombitasvir/paritaprevir/ritonavir/dasabuvir, Pegasys, pegylated interferon, Pegintron, pegylated interferon alpha-2b, CoPegus, ribavirin, Rebetol, Olysio, simeprevir, Sovaldi, sofosbuvir, Epclusa, sofosbuvir/velpatasvir, Incivek, telaprevir, Rebetol.

| Table 6: Annual per Beneficiary Part A, B, and D Fee-for-Service Expenditures for Medicare Beneficiaries with Hepatitis C, by Selected Characteristics, 2016 | | | | | | | | | | | | |
|--|------------------------------|--------------------|-------------|--------------|----------|-----------|--------------------------------|----------------|---------|--------------------------|------------------------|---------------------------------|
| | | | Total Expen | ditures (\$) | | | Part A Expend | litures (\$) | | Part B Expenditures (\$) | | |
| | Eligible enrollees (N) | Parts A, B, & D | Part A | Part B | Part D | Inpatient | Skilled Nursing Facility | Home Health | Hospice | Outpatient Hospital | Physician/ Supplier | Durable Medical Equipment |
| All Beneficiaries with HCV | 221,312 | \$41,380 | \$12,536 | \$8,759 | \$20,087 | \$10,100 | \$1,424 | \$301 | \$711 | \$3,130 | \$5,242 | \$387 |
| Gender/Age Subgroups | | | | | | | | | | | | |
| Males <65 years | 72,699 | \$46,798 | \$13,494 | \$10,186 | \$23,119 | \$11,503 | \$1,207 | \$253 | \$531 | \$3,279 | \$6,465 | \$442 |
| Males 65-74 years | 49,344 | \$38,792 | \$12,387 | \$8,011 | \$18,394 | \$9,824 | \$1,597 | \$346 | \$620 | \$3,126 | \$4,562 | \$323 |
| Males 75-84 years | 7,740 | \$38,506 | \$15,067 | \$9,826 | \$13,613 | \$11,034 | \$2,374 | \$583 | \$1,076 | \$3,347 | \$6,133 | \$346 |
| Males 85+ years | 1,613 | \$36,248 | \$18,903 | \$8,754 | \$8,591 | \$11,749 | \$4,265 | \$1,009 | \$1,880 | \$2,762 | \$5,727 | \$265 |
| Females <65 years | 47,034 | \$42,344 | \$11,968 | \$8,271 | \$22,105 | \$10,001 | \$1,074 | \$187 | \$706 | \$3,251 | \$4,581 | \$439 |
| Females 65-74 years | 30,060 | \$35,869 | \$10,252 | \$7,574 | \$18,042 | \$7,746 | \$1,411 | \$264 | \$831 | \$2,818 | \$4,406 | \$350 |
| Females 75-84 years | 9,870 | \$32,649 | \$11,555 | \$7,491 | \$13,604 | \$7,922 | \$1,926 | \$458 | \$1,249 | \$2,575 | \$4,643 | \$273 |
| Females 85+ years | 2,952 | \$31,503 | \$16,809 | \$7,357 | \$7,336 | \$9,611 | \$3,845 | \$1,265 | \$2,088 | \$2,229 | \$4,884 | \$244 |
| Race/Ethnicity | | <u>'</u> | | | | | <u>'</u> | • | | _ | <u>'</u> | |
| White, non-Hispanic | 143,565 | \$40,231 | \$12,249 | \$8,909 | \$19,074 | \$9,976 | \$1,324 | \$312 | \$637 | \$3,098 | \$5,427 | \$384 |
| Black, non-Hispanic | 47,240 | \$44,328 | \$13,135 | \$8,482 | \$22,711 | \$10,210 | \$1,745 | \$266 | \$914 | \$3,299 | \$4,776 | \$407 |
| Hispanic | 19,206 | \$46,415 | \$14,467 | \$9,007 | \$22,942 | \$11,775 | \$1,557 | \$322 | \$813 | \$3,105 | \$5,490 | \$412 |
| Other | 11,301 | \$35,105 | \$10,376 | \$7,592 | \$17,137 | \$8,371 | \$1,113 | \$269 | \$623 | \$2,871 | \$4,414 | \$307 |
| Original Reason for Entitlement | | | | | | | | | | | | |
| Age | 70,897 | \$34,645 | \$10,933 | \$7,394 | \$16,320 | \$8,291 | \$1,536 | \$363 | \$743 | \$2,768 | \$4,383 | \$243 |
| Disability | 148,868 | \$44,483 | \$13,235 | \$9,359 | \$21,890 | \$10,900 | \$1,369 | \$272 | \$694 | \$3,275 | \$5,644 | \$440 |
| ESRD | 434 | \$51,105 | \$19,972 | \$14,125 | \$17,007 | \$17,203 | \$1,679 | \$118 | \$972 | \$6,251 | \$6,446 | \$1,428 |
| Both disability and ESRD | 1,113 | \$51,640 | \$18,076 | \$13,351 | \$20,212 | \$15,544 | \$1,461 | \$228 | \$843 | \$5,455 | \$5,677 | \$2,219 |
| Location of Residence | | | | | | | | | | | | |
| Super Rural | 11,817 | \$36,984 | \$10,032 | \$8,009 | \$18,945 | \$8,384 | \$963 | \$263 | \$422 | \$3,648 | \$3,988 | \$373 |
| Rural | 34,262 | \$38,982 | \$10,643 | \$8,528 | \$19,811 | \$8,793 | \$1,008 | \$291 | \$551 | \$3,237 | \$4,874 | \$417 |
| Urban | 175,233 | \$42,146 | \$13,073 | \$8,855 | \$20,218 | \$10,471 | \$1,536 | \$305 | \$761 | \$3,074 | \$5,398 | \$383 |

Source: Medicare Master Beneficiary Summary File, A/B/D, and 100 percent Fee-for-Service Non-Institutional, Institutional, and Part D Event Files, 2016.

Population includes Medicare beneficiaries with full-year Part A & B coverage. Excluded from this population are those beneficiaries with any months of Medicare Advantage (Part C), patients with End Stage Renal Disease, and beneficiaries residing outside the United States. Beneficiaries with no claims in 2015 or 2016 could not be assigned to this group and thus are excluded.

Urban areas are defined as those zip codes located in a metropolitan area; rural areas are defined as those zip codes located in a non-metropolitan area, and "super-rural" is defined as zip codes in rural counties that are among the lowest quartile of all rural counties by population density.

| Table 6a: Annual Per Beneficiary Part A, B, and D Expenditures for Medicare Fee-for-Service Beneficiaries, by Selected Characteristics, 2016 | | | | | | | | | | | | |
|--|------------------------------|--------------------|--------------|--------------|---------|-----------|--------------------------------|----------------|---------|--------------------------|------------------------|---------------------------------|
| | | , | Total Expend | ditures (\$) | | | Part A Expend | litures (\$) | | Part B Expenditures (\$) | | |
| | Eligible enrollees (N) | Parts A, B, & D | Part A | Part B | Part D | Inpatient | Skilled Nursing Facility | Home Health | Hospice | Outpatient Hospital | Physician/ Supplier | Durable Medical Equipment |
| All Medicare Beneficiaries | 33,424,861 | \$11,829 | \$4,848 | \$4,440 | \$2,541 | \$3,282 | \$752 | \$490 | \$323 | \$1,601 | \$2,633 | \$207 |
| Gender/Age Subgroups | | | | | | | | | | | | |
| Males <65 years | 2,774,061 | \$13,112 | \$4,513 | \$3,958 | \$4,641 | \$3,725 | \$395 | \$296 | \$97 | \$1,577 | \$2,047 | \$335 |
| Males 65-74 years | 6,980,422 | \$9,049 | \$3,319 | \$3,826 | \$1,904 | \$2,676 | \$327 | \$219 | \$97 | \$1,444 | \$2,209 | \$172 |
| Males 75-84 years | 3,743,865 | \$13,304 | \$5,766 | \$5,380 | \$2,158 | \$4,112 | \$844 | \$508 | \$303 | \$1,935 | \$3,224 | \$221 |
| Males 85+ years | 1,524,177 | \$16,529 | \$9,491 | \$5,314 | \$1,725 | \$5,263 | \$1,999 | \$1,163 | \$1,066 | \$1,745 | \$3,387 | \$181 |
| Females <65 years | 2,588,795 | \$15,316 | \$4,549 | \$5,180 | \$5,587 | \$3,673 | \$394 | \$384 | \$98 | \$2,127 | \$2,677 | \$376 |
| Females 65-74 years | 8,065,519 | \$9,144 | \$3,013 | \$4,032 | \$2,099 | \$2,273 | \$364 | \$282 | \$95 | \$1,424 | \$2,438 | \$169 |
| Females 75-84 years | 4,836,005 | \$12,679 | \$5,514 | \$4,873 | \$2,292 | \$3,476 | \$1,020 | \$669 | \$349 | \$1,647 | \$3,037 | \$189 |
| Females 85+ years | 2,912,017 | \$15,841 | \$9,459 | \$4,464 | \$1,918 | \$4,338 | \$2,293 | \$1,324 | \$1,503 | \$1,438 | \$2,880 | \$146 |
| Race/Ethnicity | | | | | | | | | | | | |
| White, non-Hispanic | 26,830,506 | \$11,787 | \$4,821 | \$4,552 | \$2,413 | \$3,237 | \$769 | \$472 | \$343 | \$1,641 | \$2,706 | \$205 |
| Black, non-Hispanic | 3,056,285 | \$13,163 | \$5,668 | \$4,240 | \$3,256 | \$3,949 | \$821 | \$637 | \$259 | \$1,590 | \$2,392 | \$258 |
| Hispanic | 1,855,331 | \$11,982 | \$4,936 | \$3,920 | \$3,126 | \$3,400 | \$634 | \$635 | \$266 | \$1,337 | \$2,381 | \$201 |
| Other | 1,682,739 | \$9,916 | \$3,677 | \$3,603 | \$2,636 | \$2,670 | \$487 | \$348 | \$172 | \$1,271 | \$2,185 | \$146 |
| Original Reason for Entitlement | | | | | | | | | | | | |
| Age | 25,285,897 | \$10,680 | \$4,581 | \$4,251 | \$1,849 | \$2,969 | \$767 | \$484 | \$361 | \$1,483 | \$2,615 | \$153 |
| Disability | 8,079,729 | \$15,325 | \$5,643 | \$4,993 | \$4,689 | \$4,224 | \$705 | \$509 | \$205 | \$1,955 | \$2,678 | \$360 |
| ESRD | 21,229 | \$25,258 | \$10,226 | \$10,390 | \$4,643 | \$8,658 | \$894 | \$560 | \$115 | \$4,362 | \$4,414 | \$1,613 |
| Both disability and ESRD | 38,006 | \$25,790 | \$10,222 | \$9,996 | \$5,572 | \$8,661 | \$834 | \$633 | \$93 | \$3,461 | \$4,046 | \$2,490 |
| Location of Residence | | | | | | | | | | | | |
| Super Rural | 2,417,659 | \$10,548 | \$8,485 | \$4,190 | \$4,295 | \$2,946 | \$775 | \$332 | \$243 | \$2,066 | \$1,905 | \$219 |
| Rural | 6,563,416 | \$11,070 | \$8,599 | \$4,173 | \$4,426 | \$3,042 | \$692 | \$409 | \$283 | \$1,776 | \$2,165 | \$232 |
| Urban | 24,443,786 | \$12,160 | \$9,552 | \$4,538 | \$5,015 | \$3,380 | \$766 | \$527 | \$341 | \$1,508 | \$2,831 | \$199 |

Source: Medicare Master Beneficiary Summary File, A/B/D, and 100 percent Fee-for-Service Non-Institutional, Institutional, and Part D Event Files, 2016.

Population includes Medicare beneficiaries with full-year Part A & B coverage. Excluded from this population are those beneficiaries with any months of Medicare Advantage (Part C), patients with End Stage Renal Disease, and beneficiaries residing outside the United States.

Urban areas are defined as those zip codes located in a metropolitan area; rural areas are defined as those zip codes located in a non-metropolitan area, and "super-rural" is defined as zip codes in rural counties that are among the lowest quartile of all rural counties by population density.