IV IG: Closed Claims Summary

Kantar, Health Division

11/13/2019

# Goals:

* 1. identify unique patients
* 1A. identify hospital vs non-hospital vs hospital/non-hospital for each patient
  1. identify where patients are receiving their 1st, 2nd, and 3rd treatment vs 4+ treatments

# Tasks by goal:

* Goal 1 and 1A. Deduplicate claims and visits
  + determine visits per patient
  + determine hospital vs non-hospital vs hospital/non-hospital for each patient (“Visit Types”)
  + decide based on visit type whether a patient can be considered hospital vs vs non-hospital vs hospital/non-hospital
* Goal 3. Determine sequence of visits with Closed Claims
  + Percent of patient with Closed Claims
  + Determine sites for 1st, 2nd, 3rd, and 4+ visits

## Goal 1 and 1A

To complete goal 1 and 1A, we need to

* 1. Collapse the NPI taxonomies where possible –> Assigned to Pfizer
  2. Identify which NPI taxonomies are considered a hospital site or a non-hopital site –> Pfizer, or Pfizer and Kantar to discuss
  3. Identify the sites for each patient and, make a decision on whether a patient gets treatment at a hospital or non-hospital site –> Kantar after 1 and 2 are decided on
  4. Determine a time-window appropriate for linking a pharmacy visit to a medical visit

# Goal 2: Identify where patients are receiving their 1st, 2nd, and 3rd treatment vs 4+ treatments

Of the 219,602 patients in the open claims data, 97,630 or *44% have closed claims*. From these claims, we explore the sites of care for the 1st, 2nd, 3rd, and 4+ visits and where the patients are receiving these visits.

The maximum of visit for each patient range from 1 to 448 visits. The patient who has 448 visits has only institutional claims. Number of visits is then categorized into 1, 2, 3, and 4+ visits.

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| --- | --- | --- | --- | --- | --- |
|  | Total (N = 364,874) | 1st Visit (N = 107,599) | 2nd Visit(N = 82,396) | 3rd Visit (N = 70,681) | 4+ Visits (N = 104,198) |
| **Provider Taxonomy Descriptions** |  |  |  |  |  |
| Agencies Home Health | 17,472 (6%) | 4,373 (5%) | 3,980 (6%) | 3,698 (7%) | 5,421 (7%) |
| Agencies Hospice Care Community Based | 80 (0%) | 21 (0%) | 14 (0%) | 15 (0%) | 30 (0%) |
| Agencies Public Health or Welfare | 18 (0%) | 6 (0%) | 4 (0%) | 4 (0%) | 4 (0%) |
| Agencies Voluntary or Charitable | 2 (0%) | 1 (0%) | 1 (0%) | 0 (0%) | 0 (0%) |
| Dermatology Procedural Dermatology | 4 (0%) | 2 (0%) | 0 (0%) | 0 (0%) | 2 (0%) |
| Advanced Heart Failure and Transplant Cardiology | 12 (0%) | 4 (0%) | 3 (0%) | 2 (0%) | 3 (0%) |
| Allergy and Immunology | 7,528 (3%) | 1,905 (2%) | 1,732 (3%) | 1,579 (3%) | 2,312 (3%) |
| Allergy and Immunology Clinical and Laboratory Immunology | 51 (0%) | 11 (0%) | 7 (0%) | 10 (0%) | 23 (0%) |
| Anesthesiology | 599 (0%) | 174 (0%) | 136 (0%) | 111 (0%) | 178 (0%) |
| Anesthesiology Critical Care Medicine | 4 (0%) | 1 (0%) | 1 (0%) | 1 (0%) | 1 (0%) |
| Anesthesiology Pain Medicine | 105 (0%) | 36 (0%) | 25 (0%) | 21 (0%) | 23 (0%) |
| Colon and Rectal Surgery | 15 (0%) | 5 (0%) | 3 (0%) | 2 (0%) | 5 (0%) |
| Dermatology | 885 (0%) | 263 (0%) | 206 (0%) | 176 (0%) | 240 (0%) |
| Dermatology Clinical and Laboratory Dermatological Immunology | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Dermatology Dermapathology | 46 (0%) | 12 (0%) | 11 (0%) | 11 (0%) | 12 (0%) |
| Dermatology Pediatric Dermatology | 5 (0%) | 1 (0%) | 1 (0%) | 1 (0%) | 2 (0%) |
| Emergency Medicine | 1,671 (1%) | 589 (1%) | 337 (1%) | 271 (1%) | 474 (1%) |
| Emergency Medicine Emergency Medical Services | 86 (0%) | 30 (0%) | 16 (0%) | 16 (0%) | 24 (0%) |
| Emergency Medicine Medical Toxicology | 2 (0%) | 2 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Emergency Medicine Pediatric Emergency Medicine | 45 (0%) | 20 (0%) | 7 (0%) | 7 (0%) | 11 (0%) |
| Family Medicine | 2,838 (1%) | 834 (1%) | 598 (1%) | 495 (1%) | 911 (1%) |
| Family Medicine Adolescent Medicine | 31 (0%) | 9 (0%) | 6 (0%) | 4 (0%) | 12 (0%) |
| Family Medicine Adult Medicine | 20 (0%) | 6 (0%) | 5 (0%) | 2 (0%) | 7 (0%) |
| Family Medicine Geriatric Medicine | 51 (0%) | 19 (0%) | 11 (0%) | 9 (0%) | 12 (0%) |
| Family Medicine Hospice and Palliative Medicine | 19 (0%) | 6 (0%) | 4 (0%) | 3 (0%) | 6 (0%) |
| General Practice | 973 (0%) | 296 (0%) | 216 (0%) | 183 (0%) | 278 (0%) |
| Hospitalist | 426 (0%) | 146 (0%) | 92 (0%) | 62 (0%) | 126 (0%) |
| Internal Medicine | 9,035 (3%) | 2,731 (3%) | 1,939 (3%) | 1,594 (3%) | 2,771 (4%) |
| Internal Medicine Addiction Medicine | 45 (0%) | 10 (0%) | 9 (0%) | 8 (0%) | 18 (0%) |
| Internal Medicine Adolescent Medicine | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Internal Medicine Allergy and Immunology | 888 (0%) | 210 (0%) | 203 (0%) | 181 (0%) | 294 (0%) |
| Internal Medicine Bariatric Medicine | 2 (0%) | 1 (0%) | 1 (0%) | 0 (0%) | 0 (0%) |
| Internal Medicine Cardiovascular Disease | 470 (0%) | 138 (0%) | 103 (0%) | 82 (0%) | 147 (0%) |
| Internal Medicine Clinical and Laboratory Immunology | 507 (0%) | 142 (0%) | 124 (0%) | 107 (0%) | 134 (0%) |
| Internal Medicine Clinical Cardiatric Electrophysiology | 6 (0%) | 3 (0%) | 0 (0%) | 0 (0%) | 3 (0%) |
| Allopathic and Osteopathic Physicians Colon and Rectal Surgery | 15 (0%) | 5 (0%) | 3 (0%) | 2 (0%) | 5 (0%) |
| Internal Medicine Critical Care Medicine | 275 (0%) | 85 (0%) | 64 (0%) | 52 (0%) | 74 (0%) |
| Internal Medicine Endocrinology Diabetes and Metabolism | 76 (0%) | 16 (0%) | 14 (0%) | 12 (0%) | 34 (0%) |
| Internal Medicine Gastroenterology | 362 (0%) | 103 (0%) | 61 (0%) | 57 (0%) | 141 (0%) |
| Internal Medicine Hematology | 1,522 (1%) | 462 (1%) | 350 (1%) | 284 (1%) | 426 (1%) |
| Internal Medicine Hematology and Oncology | 23,150 (9%) | 7,334 (9%) | 5,456 (9%) | 4,536 (9%) | 5,824 (8%) |
| Internal Medicine Hepatology | 1 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0%) |
| Internal Medicine Infectious Disease | 3,898 (1%) | 1,052 (1%) | 902 (1%) | 821 (2%) | 1,123 (1%) |
| Internal Medicine Interventional Cardiology | 38 (0%) | 10 (0%) | 5 (0%) | 8 (0%) | 15 (0%) |
| Internal Medicine Medical Oncology | 4,372 (2%) | 1,294 (2%) | 976 (2%) | 814 (2%) | 1,288 (2%) |
| Internal Medicine Nephrology | 1,396 (1%) | 433 (1%) | 359 (1%) | 278 (1%) | 326 (0%) |
| Internal Medicine Pulmonary Disease | 788 (0%) | 216 (0%) | 171 (0%) | 146 (0%) | 255 (0%) |
| Internal Medicine Rheumatology | 2,981 (1%) | 883 (1%) | 675 (1%) | 597 (1%) | 826 (1%) |
| Internal Medicine Sleep Medicine | 67 (0%) | 19 (0%) | 14 (0%) | 14 (0%) | 20 (0%) |
| Internal Medicine Transplant Hepatology | 1 (0%) | 1 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Neurological Surgery | 140 (0%) | 43 (0%) | 31 (0%) | 28 (0%) | 38 (0%) |
| Neuromusculoskeletal Medicine and OMM | 164 (0%) | 46 (0%) | 43 (0%) | 25 (0%) | 50 (0%) |
| Neuromusculoskeletal Medicine Sports Medicine | 359 (0%) | 105 (0%) | 81 (0%) | 71 (0%) | 102 (0%) |
| Nuclear Medicine | 14 (0%) | 4 (0%) | 0 (0%) | 1 (0%) | 9 (0%) |
| Nuclear Medicine Nuclear Imaging and Therapy | 1 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0%) |
| Obstetrics and Gynecology | 720 (0%) | 237 (0%) | 149 (0%) | 127 (0%) | 207 (0%) |
| Obstetrics and Gynecology Gynecologic Oncology | 1,026 (0%) | 307 (0%) | 242 (0%) | 212 (0%) | 265 (0%) |
| Obstetrics and Gynecology Gynecology | 412 (0%) | 128 (0%) | 93 (0%) | 70 (0%) | 121 (0%) |
| Obstetrics and Gynecology Maternal and Fetal Medicine | 186 (0%) | 60 (0%) | 40 (0%) | 33 (0%) | 53 (0%) |
| Obstetrics and Gynecology Obstetrics | 10 (0%) | 5 (0%) | 2 (0%) | 1 (0%) | 2 (0%) |
| Obstetrics and Gynecology Reproductive Endocrinology | 34 (0%) | 5 (0%) | 5 (0%) | 3 (0%) | 21 (0%) |
| Ophthalmic Plastic and Reconstructive Surgery | 4 (0%) | 2 (0%) | 0 (0%) | 0 (0%) | 2 (0%) |
| Ophthalmology | 233 (0%) | 69 (0%) | 42 (0%) | 36 (0%) | 86 (0%) |
| Ophthalmology Dental Providers Dentist | 24 (0%) | 7 (0%) | 4 (0%) | 3 (0%) | 10 (0%) |
| Ophthalmology Dental Providers Dentist Oral and Maxillofacial Surgery | 4 (0%) | 1 (0%) | 0 (0%) | 0 (0%) | 3 (0%) |
| Ophthalmology Glaucoma Specialist | 2 (0%) | 1 (0%) | 0 (0%) | 1 (0%) | 0 (0%) |
| Oral and Maxillofacial Surgery | 88 (0%) | 24 (0%) | 21 (0%) | 17 (0%) | 26 (0%) |
| Orthopedic Surgery | 412 (0%) | 112 (0%) | 93 (0%) | 91 (0%) | 116 (0%) |
| Orthopedic Surgery Adult Reconstructive Orthopedic Surgery | 5 (0%) | 1 (0%) | 1 (0%) | 0 (0%) | 3 (0%) |
| Orthopedic Surgery Foot and Ankle Surgery | 3 (0%) | 1 (0%) | 1 (0%) | 0 (0%) | 1 (0%) |
| Orthopedic Surgery Hand Surgery | 7 (0%) | 3 (0%) | 3 (0%) | 0 (0%) | 1 (0%) |
| Orthopedic Surgery Orthopedic Surgery of the Spine | 2 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 2 (0%) |
| Orthopedic Surgery Orthopedic Trauma | 1 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0%) |
| Orthopedic Surgery Sports Medicine | 6 (0%) | 2 (0%) | 1 (0%) | 0 (0%) | 3 (0%) |
| Otolaryngology | 116 (0%) | 24 (0%) | 23 (0%) | 18 (0%) | 51 (0%) |
| Otolaryngology Facial Plastic Surgery | 5 (0%) | 2 (0%) | 2 (0%) | 1 (0%) | 0 (0%) |
| Otolaryngology Otolaryngic Allergy | 15 (0%) | 1 (0%) | 0 (0%) | 0 (0%) | 14 (0%) |
| Otolaryngology Otology & Neurotology | 1 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0%) |
| Otolaryngology Pediatric Otolaryngology | 13 (0%) | 3 (0%) | 0 (0%) | 3 (0%) | 7 (0%) |
| Otolaryngology Plastic Surgery within the Head and Neck | 2 (0%) | 0 (0%) | 1 (0%) | 0 (0%) | 1 (0%) |
| Pain Medicine Interventional Pain Medicine | 40 (0%) | 14 (0%) | 8 (0%) | 9 (0%) | 9 (0%) |
| Pain Medicine | 93 (0%) | 25 (0%) | 24 (0%) | 21 (0%) | 23 (0%) |
| Pathology Anatomic Pathology | 37 (0%) | 5 (0%) | 3 (0%) | 3 (0%) | 26 (0%) |
| Pathology Anatomic Pathology and Clinical Pathology | 326 (0%) | 99 (0%) | 69 (0%) | 48 (0%) | 110 (0%) |
| Pathology Clinical Pathology | 44 (0%) | 7 (0%) | 5 (0%) | 1 (0%) | 31 (0%) |
| Pathology Clinical Pathology Laboratory Medicine | 436 (0%) | 142 (0%) | 92 (0%) | 78 (0%) | 124 (0%) |
| Pathology Cytopathology | 7 (0%) | 0 (0%) | 2 (0%) | 1 (0%) | 4 (0%) |
| Pathology Dermapathology | 1 (0%) | 1 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Pathology Hematology | 84 (0%) | 25 (0%) | 20 (0%) | 16 (0%) | 23 (0%) |
| Pathology Immunopathology | 27 (0%) | 6 (0%) | 2 (0%) | 3 (0%) | 16 (0%) |
| Pathology Molecular Genetic Pathology | 5 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 5 (0%) |
| Pathology Neuropathology | 5 (0%) | 2 (0%) | 1 (0%) | 1 (0%) | 1 (0%) |
| Pediatrics | 3,438 (1%) | 1,175 (1%) | 729 (1%) | 558 (1%) | 976 (1%) |
| Adolescent Medicine | 79 (0%) | 27 (0%) | 21 (0%) | 14 (0%) | 17 (0%) |
| Pediatrics Developmental–Behavioral Pediatrics | 49 (0%) | 23 (0%) | 11 (0%) | 7 (0%) | 8 (0%) |
| Pediatrics Neonatal-Perinatal Medicine | 29 (0%) | 14 (0%) | 5 (0%) | 2 (0%) | 8 (0%) |
| Pediatrics Neurodevelopmental Disabilities | 8 (0%) | 4 (0%) | 2 (0%) | 1 (0%) | 1 (0%) |
| Pediatrics Pediatric Allergy and Immunology | 351 (0%) | 80 (0%) | 76 (0%) | 70 (0%) | 125 (0%) |
| Pediatrics Pediatric Cardiology | 57 (0%) | 19 (0%) | 13 (0%) | 8 (0%) | 17 (0%) |
| Pediatric Critical Care Medicine | 38 (0%) | 12 (0%) | 8 (0%) | 8 (0%) | 10 (0%) |
| Pediatrics Pediatric Emergency Medicine | 86 (0%) | 40 (0%) | 14 (0%) | 12 (0%) | 20 (0%) |
| Pediatrics Pediatric Endocrinology | 19 (0%) | 3 (0%) | 2 (0%) | 3 (0%) | 11 (0%) |
| Pediatric Gastroenterology | 63 (0%) | 17 (0%) | 8 (0%) | 11 (0%) | 27 (0%) |
| Pediatrics Pediatric Hematology-Oncology | 3,268 (1%) | 1,217 (1%) | 754 (1%) | 577 (1%) | 720 (1%) |
| Pediatrics Pediatric Infectious Diseases | 171 (0%) | 43 (0%) | 36 (0%) | 35 (0%) | 57 (0%) |
| Pediatrics Pediatric Nephrology | 101 (0%) | 45 (0%) | 28 (0%) | 12 (0%) | 16 (0%) |
| Pediatrics Pediatric Pulmonology | 68 (0%) | 16 (0%) | 14 (0%) | 11 (0%) | 27 (0%) |
| Pediatrics Pediatric Rheumatology | 558 (0%) | 155 (0%) | 127 (0%) | 116 (0%) | 160 (0%) |
| Pediatrics Pediatric Transplant Hepatology | 3 (0%) | 1 (0%) | 1 (0%) | 1 (0%) | 0 (0%) |
| Pediatrics Sleep Medicine | 4 (0%) | 0 (0%) | 1 (0%) | 1 (0%) | 2 (0%) |
| Physical Medicine and Rehabilitation | 155 (0%) | 43 (0%) | 33 (0%) | 29 (0%) | 50 (0%) |
| Physical Medicine and Rehabilitation Hospice and Palliative Medicine | 2 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 2 (0%) |
| Physical Medicine and Rehabilitation Neuromuscular Medicine | 15 (0%) | 4 (0%) | 4 (0%) | 3 (0%) | 4 (0%) |
| Physical Medicine and Rehabilitation Pain Medicine | 4 (0%) | 3 (0%) | 0 (0%) | 0 (0%) | 1 (0%) |
| Physical Medicine and Rehabilitation Pediatric Rehabilitation Medicine | 9 (0%) | 4 (0%) | 2 (0%) | 2 (0%) | 1 (0%) |
| Physical Medicine and Rehabilitation Spinal Cord Injury Medicine | 1 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0%) |
| Physical Medicine and Rehabilitation Sports Medicine | 3 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 3 (0%) |
| Physicians Plastic Surgery | 26 (0%) | 7 (0%) | 1 (0%) | 4 (0%) | 14 (0%) |
| Plastic Surgery Surgery of the Hand | 3 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 3 (0%) |
| Preventive Medicine Public Health and General Preventive Medicine | 8 (0%) | 3 (0%) | 3 (0%) | 2 (0%) | 0 (0%) |
| Preventive Medicine Undersea and Hyperbaric Medicine | 4 (0%) | 1 (0%) | 1 (0%) | 1 (0%) | 1 (0%) |
| Psychiatry | 706 (0%) | 191 (0%) | 167 (0%) | 150 (0%) | 198 (0%) |
| Psychiatry and Neurology | 3 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 3 (0%) |
| Psychiatry and Neurology Child and Adolescent Psychiatry | 11 (0%) | 2 (0%) | 3 (0%) | 3 (0%) | 3 (0%) |
| Psychiatry and Neurology Clinical Neurophysiology | 651 (0%) | 187 (0%) | 137 (0%) | 110 (0%) | 217 (0%) |
| Psychiatry and Neurology Diagnostic Neuroimaging | 33 (0%) | 9 (0%) | 9 (0%) | 8 (0%) | 7 (0%) |
| Psychiatry and Neurology Neurocritical Care | 10 (0%) | 2 (0%) | 1 (0%) | 1 (0%) | 6 (0%) |
| Psychiatry and Neurology Neurology | 13,466 (5%) | 4,044 (5%) | 3,244 (5%) | 2,797 (5%) | 3,381 (4%) |
| Psychiatry and Neurology Neurology with Special Qualifications in Child Neurology | 286 (0%) | 84 (0%) | 73 (0%) | 53 (0%) | 76 (0%) |
| Psychiatry and Neurology Neuromuscular Medicine | 249 (0%) | 71 (0%) | 56 (0%) | 42 (0%) | 80 (0%) |
| Psychiatry and Neurology Pain Medicine | 7 (0%) | 4 (0%) | 1 (0%) | 1 (0%) | 1 (0%) |
| Psychiatry and Neurology Sleep Medicine | 228 (0%) | 59 (0%) | 56 (0%) | 46 (0%) | 67 (0%) |
| Psychiatry and Neurology Vascular Neurology | 34 (0%) | 9 (0%) | 5 (0%) | 4 (0%) | 16 (0%) |
| Radiology Diagnostic Radiology | 514 (0%) | 167 (0%) | 85 (0%) | 73 (0%) | 189 (0%) |
| Radiology Radiation Oncology | 3,308 (1%) | 946 (1%) | 775 (1%) | 676 (1%) | 911 (1%) |
| Radiology Vascular and Interventional Radiology | 94 (0%) | 25 (0%) | 16 (0%) | 13 (0%) | 40 (0%) |
| Surgery | 617 (0%) | 204 (0%) | 152 (0%) | 115 (0%) | 146 (0%) |
| Surgery Pediatric Surgery | 9 (0%) | 4 (0%) | 1 (0%) | 1 (0%) | 3 (0%) |
| Surgery Plastic and Reconstructive Surgery | 23 (0%) | 4 (0%) | 5 (0%) | 5 (0%) | 9 (0%) |
| Surgery Surgery of the Hand | 3 (0%) | 2 (0%) | 0 (0%) | 0 (0%) | 1 (0%) |
| Surgery Surgical Critical Care | 8 (0%) | 2 (0%) | 2 (0%) | 1 (0%) | 3 (0%) |
| Surgery Surgical Oncology | 15 (0%) | 4 (0%) | 2 (0%) | 3 (0%) | 6 (0%) |
| Surgery Vascular Surgery | 21 (0%) | 4 (0%) | 2 (0%) | 4 (0%) | 11 (0%) |
| Thoracic Surgery (Cardiothoracic Vascular Surgery) | 14 (0%) | 4 (0%) | 2 (0%) | 2 (0%) | 6 (0%) |
| Transplant Surgery | 895 (0%) | 297 (0%) | 232 (0%) | 193 (0%) | 173 (0%) |
| Urology | 91 (0%) | 22 (0%) | 18 (0%) | 14 (0%) | 37 (0%) |
| Urology Pediatric Urology | 3 (0%) | 0 (0%) | 1 (0%) | 1 (0%) | 1 (0%) |
| Ambulatory Health Care Facilities Clinic-Center Ambulatory Surgical | 3,338 (1%) | 1,283 (2%) | 782 (1%) | 589 (1%) | 684 (1%) |
| Ambulatory Health Care Facilities Clinic-Center Radiology Mammography | 9 (0%) | 5 (0%) | 1 (0%) | 1 (0%) | 2 (0%) |
| Ambulatory Health Care Facilities Clinic-Center Radiology Mobile Mammography | 147 (0%) | 42 (0%) | 31 (0%) | 31 (0%) | 43 (0%) |
| Ambulatory Health Care Facilities Clinic Center Mental Health | 19 (0%) | 8 (0%) | 5 (0%) | 2 (0%) | 4 (0%) |
| Ambulatory Health Care Facilities Clinic Center Multi-Specialty | 4,863 (2%) | 1,522 (2%) | 1,138 (2%) | 962 (2%) | 1,241 (2%) |
| Ambulatory Health Care Facilities Clinic Center Physical Therapy | 151 (0%) | 50 (0%) | 31 (0%) | 23 (0%) | 47 (0%) |
| Ambulatory Health Care Facilities Clinic Center Radiology | 164 (0%) | 51 (0%) | 43 (0%) | 34 (0%) | 36 (0%) |
| Ambulatory Health Care Facilities Clinic Center Rehabilitation | 174 (0%) | 55 (0%) | 46 (0%) | 29 (0%) | 44 (0%) |
| Ambulatory Health Care Facilities Clinic Center Rehabilitation Comprehensive Outpatient Rehabilitation Facility (CORF) | 53 (0%) | 15 (0%) | 12 (0%) | 12 (0%) | 14 (0%) |
| Ambulatory Health Care Facilities Clinic Center Rural Health | 58 (0%) | 19 (0%) | 13 (0%) | 9 (0%) | 17 (0%) |
| Ambulatory Health Care Facilities End-Stage Renal Disease (ESRD) Treatment | 2,347 (1%) | 771 (1%) | 522 (1%) | 439 (1%) | 615 (1%) |
| Ambulatory Health Care Facilities Federally Qualified Health Center (FQHC) | 8 (0%) | 7 (0%) | 1 (0%) | 0 (0%) | 0 (0%) |
| Behavioral Health and Social Service Providers Psychologist | 76 (0%) | 26 (0%) | 20 (0%) | 13 (0%) | 17 (0%) |
| Behavioral Health and Social Service Providers Psychologist Addiction (Substance Abuse Disorder) | 1 (0%) | 1 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Behavioral Health and Social Service Providers Psychologist Clinical | 164 (0%) | 54 (0%) | 40 (0%) | 28 (0%) | 42 (0%) |
| Behavioral Health and Social Service Providers Psychologist Clinical Child and Adolescent | 9 (0%) | 5 (0%) | 0 (0%) | 0 (0%) | 4 (0%) |
| Behavioral Health and Social Service Providers Psychologist Cognitive and Behavioral | 13 (0%) | 3 (0%) | 3 (0%) | 1 (0%) | 6 (0%) |
| Behavioral Health and Social Service Providers Psychologist Counseling | 5 (0%) | 1 (0%) | 1 (0%) | 1 (0%) | 2 (0%) |
| Behavioral Health and Social Service Providers Psychologist Health | 2 (0%) | 2 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Behavioral Health and Social Service Providers Social Worker Clinical | 415 (0%) | 152 (0%) | 99 (0%) | 79 (0%) | 85 (0%) |
| Chiropractic Providers Chiropractor | 463 (0%) | 152 (0%) | 86 (0%) | 82 (0%) | 143 (0%) |
| Chiropractic Providers Chiropractor Occupational Medicine | 23 (0%) | 2 (0%) | 2 (0%) | 1 (0%) | 18 (0%) |
| Chiropractic Providers Chiropractor Rehabilitation | 1 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0%) |
| Dietary and Nutritional Service Providers Dietician Registered | 845 (0%) | 247 (0%) | 198 (0%) | 166 (0%) | 234 (0%) |
| Dietary and Nutritional Service Providers Dietician Registered Nutrition Pediatric | 2 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 2 (0%) |
| Eye and Vision Service Providers Optometrist | 133 (0%) | 43 (0%) | 29 (0%) | 22 (0%) | 39 (0%) |
| Eye and Vision Service Providers Optometrist Corneal and Contact Management | 1 (0%) | 1 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Eye and Vision Service Providers Technician Technologist Optician | 8 (0%) | 4 (0%) | 0 (0%) | 1 (0%) | 3 (0%) |
| Female Pelvic Medicine and Reconstructive Surgery | 2 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 2 (0%) |
| Group Single-Specialty | 3 (0%) | 1 (0%) | 1 (0%) | 1 (0%) | 0 (0%) |
| Hospital Units Medicare Defined Swing Bed Unit | 305 (0%) | 99 (0%) | 61 (0%) | 56 (0%) | 89 (0%) |
| Hospital Units Psychiatric Unit | 2,922 (1%) | 988 (1%) | 639 (1%) | 503 (1%) | 792 (1%) |
| Hospital Units Rehabilitation Unit | 1,960 (1%) | 690 (1%) | 420 (1%) | 326 (1%) | 524 (1%) |
| Hospitals General Acute Care Hospital | 55,616 (21%) | 19,211 (23%) | 12,792 (21%) | 10,296 (20%) | 13,317 (18%) |
| Hospitals General Acute Care Hospital Children | 6,720 (2%) | 2,548 (3%) | 1,572 (3%) | 1,224 (2%) | 1,376 (2%) |
| Hospitals General Acute Care Hospital Critical Access | 2,148 (1%) | 612 (1%) | 480 (1%) | 410 (1%) | 646 (1%) |
| Hospitals Long Term Care Hospital | 115 (0%) | 42 (0%) | 26 (0%) | 24 (0%) | 23 (0%) |
| Hospitals Psychiatric Hospital | 652 (0%) | 179 (0%) | 125 (0%) | 105 (0%) | 243 (0%) |
| Hospitals Rehabilitation Hospital | 547 (0%) | 204 (0%) | 125 (0%) | 105 (0%) | 113 (0%) |
| Hospitals Special(ty) Hospital | 1,153 (0%) | 349 (0%) | 271 (0%) | 219 (0%) | 314 (0%) |
| Internal Medicine Hospice and Palliative Medicine | 64 (0%) | 21 (0%) | 12 (0%) | 12 (0%) | 19 (0%) |
| Laboratories Clinical Medical Laboratory | 2,052 (1%) | 600 (1%) | 448 (1%) | 373 (1%) | 631 (1%) |
| Laboratories Physiological Laboratory | 139 (0%) | 48 (0%) | 31 (0%) | 24 (0%) | 36 (0%) |
| Nursing and Custodial Care Facilities Nursing Facility | 39 (0%) | 10 (0%) | 9 (0%) | 9 (0%) | 11 (0%) |
| Nursing and Custodial Care Facilities Skilled Nursing Facility | 253 (0%) | 91 (0%) | 56 (0%) | 41 (0%) | 65 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Clinical Nurse Specialist | 25 (0%) | 5 (0%) | 5 (0%) | 1 (0%) | 14 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Clinical Nurse Specialist Acute Care | 1 (0%) | 1 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Clinical Nurse Specialist Adult Health | 4 (0%) | 0 (0%) | 1 (0%) | 0 (0%) | 3 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Clinical Nurse Specialist Family Health | 1 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Clinical Nurse Specialist Oncology | 10 (0%) | 3 (0%) | 0 (0%) | 1 (0%) | 6 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Clinical Nurse Specialist Oncology Pediatrics | 18 (0%) | 5 (0%) | 2 (0%) | 4 (0%) | 7 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Clinical Nurse Specialist Pediatrics | 7 (0%) | 1 (0%) | 2 (0%) | 1 (0%) | 3 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Nurse Anesthetist Certified Registered | 252 (0%) | 86 (0%) | 49 (0%) | 43 (0%) | 74 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Nurse Practitioner | 2,072 (1%) | 492 (1%) | 407 (1%) | 338 (1%) | 835 (1%) |
| Physician Assistants and Advanced Practice Nursing Providers Nurse Practitioner Acute Care | 95 (0%) | 30 (0%) | 18 (0%) | 8 (0%) | 39 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Nurse Practitioner Adult Health | 355 (0%) | 86 (0%) | 55 (0%) | 43 (0%) | 171 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Nurse Practitioner Family | 1,087 (0%) | 236 (0%) | 205 (0%) | 171 (0%) | 475 (1%) |
| Physician Assistants and Advanced Practice Nursing Providers Nurse Practitioner Gerontology | 43 (0%) | 10 (0%) | 6 (0%) | 4 (0%) | 23 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Nurse Practitioner Neonatal | 1 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Nurse Practitioner Obstetrics and Gynecology | 3 (0%) | 0 (0%) | 0 (0%) | 1 (0%) | 2 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Nurse Practitioner Pediatrics | 310 (0%) | 82 (0%) | 67 (0%) | 56 (0%) | 105 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Nurse Practitioner Perinatal | 2 (0%) | 0 (0%) | 1 (0%) | 0 (0%) | 1 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Nurse Practitioner Primary Care | 46 (0%) | 9 (0%) | 6 (0%) | 5 (0%) | 26 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Nurse Practitioner Psychiatric Mental Health | 6 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 6 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Nurse Practitioner Women’s Health | 8 (0%) | 1 (0%) | 1 (0%) | 0 (0%) | 6 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Physician Assistant | 601 (0%) | 170 (0%) | 108 (0%) | 68 (0%) | 255 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Physician Assistant Medical | 629 (0%) | 168 (0%) | 146 (0%) | 118 (0%) | 197 (0%) |
| Physician Assistants and Advanced Practice Nursing Providers Physician Assistant Surgical | 13 (0%) | 4 (0%) | 2 (0%) | 2 (0%) | 5 (0%) |
| Podiatric Medicine and Surgery Service Providers Podiatrist | 24 (0%) | 8 (0%) | 4 (0%) | 4 (0%) | 8 (0%) |
| Podiatric Medicine and Surgery Service Providers Podiatrist Foot and Ankle Surgery | 15 (0%) | 10 (0%) | 1 (0%) | 0 (0%) | 4 (0%) |
| Podiatric Medicine and Surgery Service Providers Podiatrist Primary Podiatric Medicine | 3 (0%) | 1 (0%) | 1 (0%) | 1 (0%) | 0 (0%) |
| Respiratory Developmental Rehabilitative and Restorative Service Providers Occupational Therapist | 115 (0%) | 39 (0%) | 30 (0%) | 24 (0%) | 22 (0%) |
| Respiratory Developmental Rehabilitative and Restorative Service Providers Occupational Therapist Feeding Eating &Swallowing | 206 (0%) | 60 (0%) | 46 (0%) | 39 (0%) | 61 (0%) |
| Respiratory Developmental Rehabilitative and Restorative Service Providers Occupational Therapist Hand | 1 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (0%) |
| Respiratory Developmental Rehabilitative and Restorative Service Providers Occupational Therapist Pediatrics | 3 (0%) | 1 (0%) | 1 (0%) | 0 (0%) | 1 (0%) |
| Respiratory Developmental Rehabilitative and Restorative Service Providers Physical Therapist | 177 (0%) | 56 (0%) | 36 (0%) | 33 (0%) | 52 (0%) |
| Respiratory Rehabilitative and Restorative Service Providers Physical Therapist Sports | 1 (0%) | 1 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Speech Language and Hearing Service Providers | 138 (0%) | 25 (0%) | 22 (0%) | 19 (0%) | 72 (0%) |
| Speech Language and Hearing Service Providers Audiologist | 18 (0%) | 4 (0%) | 2 (0%) | 4 (0%) | 8 (0%) |
| Suppliers Durable Medical Equipment and Medical Supplies | 21,256 (8%) | 5,379 (7%) | 4,806 (8%) | 4,439 (9%) | 6,632 (9%) |
| Suppliers Durable Medical Equipment and Medical Supplies Oxygen Equipment and Supplies | 538 (0%) | 142 (0%) | 124 (0%) | 119 (0%) | 153 (0%) |
| Suppliers Pharmacy | 7,475 (3%) | 2,082 (3%) | 1,687 (3%) | 1,488 (3%) | 2,218 (3%) |
| Suppliers Pharmacy Clinic Pharmacy | 113 (0%) | 42 (0%) | 22 (0%) | 15 (0%) | 34 (0%) |
| Suppliers Pharmacy Community Retail Pharmacy | 3,922 (1%) | 1,025 (1%) | 862 (1%) | 776 (1%) | 1,259 (2%) |
| Suppliers Pharmacy Compounding Pharmacy | 3,023 (1%) | 796 (1%) | 682 (1%) | 599 (1%) | 946 (1%) |
| Suppliers Pharmacy Home Infusion Therapy Pharmacy | 9,307 (3%) | 2,380 (3%) | 2,168 (4%) | 1,992 (4%) | 2,767 (4%) |
| Suppliers Pharmacy Institutional Pharmacy | 447 (0%) | 142 (0%) | 111 (0%) | 90 (0%) | 104 (0%) |
| Suppliers Pharmacy Long-term Care Pharmacy | 138 (0%) | 35 (0%) | 34 (0%) | 32 (0%) | 37 (0%) |
| Suppliers Pharmacy Mail Order Pharmacy | 2,056 (1%) | 485 (1%) | 459 (1%) | 432 (1%) | 680 (1%) |
| Suppliers Pharmacy Managed Care Organization Pharmacy | 15 (0%) | 4 (0%) | 3 (0%) | 4 (0%) | 4 (0%) |
| Suppliers Pharmacy Specialty Pharmacy | 4,261 (2%) | 1,025 (1%) | 906 (1%) | 834 (2%) | 1,496 (2%) |
| Suppliers Portable X-Ray Supplier | 46 (0%) | 13 (0%) | 11 (0%) | 11 (0%) | 11 (0%) |
| Suppliers Prosthetic Orthotic Supplier | 9 (0%) | 1 (0%) | 1 (0%) | 1 (0%) | 6 (0%) |
| Transportation Services Ambulance | 1,419 (1%) | 463 (1%) | 312 (1%) | 259 (0%) | 385 (1%) |
| Transportation Services Ambulance Air Transport | 1,834 (1%) | 672 (1%) | 434 (1%) | 315 (1%) | 413 (1%) |
| Transportation Services Ambulance Land Transport | 705 (0%) | 236 (0%) | 154 (0%) | 123 (0%) | 192 (0%) |
| Missing | 94,225 (26%) | 25,687 (24%) | 20,954 (25%) | 18,548 (26%) | 29,036 (28%) |

Using the closed claims, we can proritize the NPI taxonomies to classify as hospital or non-hospital. From the table above we can see, around 26% of the visits are missing NPI data these will get dropped from the analysis. The largest percentage of IG is administered at a hospital (21%) “Hospitals General Acute Care Hospital” and other hospital sites will get collapsed into this. This includes:

* Hospital Units Medicare Defined Swing Bed Unit
* Hospital Units Psychiatric Unit
* Hospital Units Rehabilitation Unit
* Hospitals General Acute Care Hospital
* Hospitals General Acute Care Hospital Children
* Hospitals General Acute Care Hospital Critical Access
* Hospitals Long Term Care Hospital
* Hospitals Psychiatric Hospital
* Hospitals Rehabilitation Hospital
* Hospitals Special(ty) Hospital

IG infusion in hospital sizes is highest at the 1st visit (23%) and tapers to 18% at the 4th + visit.

Following hospitalizations, the next largest percentage of IG visits is “Internal Medicine Hematology and Oncology” at 9% followed by “Suppliers Durable Medical Equipment and Medical Supplies” at 8%. This percentage is lower at the 1st visit ( 7%) and increases at the 4th + visit (9%).

The following list shows the decreasing percentage of visits at sites where IG is given.

* Hospitals General Acute Care Hospital (21%)
* Internal Medicine Hematology and Oncology (9%)
* Suppliers Durable Medical Equipment and Medical Supplies (8%)
* Agencies Home Health (6%)
* Psychiatry and Neurology: Neurology (5%)
* Internal Medicine (3%)
* Allergy and Immunology (3%)
* Suppliers Pharmacy (3%)

These sites account for 58% of the visits. Once we can identify patients as visiting a hospital site, a non-hospital site, or both a hospital and non-hospital site. we can repeat this exercise looking at unique patients instead of visits.

There are several taxonomies where there are such a few numbers of visits that if identifying the site proves to be difficult we should consider removing them from the analysis. For these sites there are only 1, 2, oe 3 visits ovserved.

* Agencies Voluntary or Charitable
* Dermatology Clinical and Laboratory Dermatological Immunology
* Emergency Medicine Medical Toxicology
* Internal Medicine Adolescent Medicine
* Internal Medicine Bariatric Medicine
* Internal Medicine Transplant Hepatology
* Nuclear Medicine Nuclear Imaging and Therapy
* Ophthalmology Glaucoma Specialist
* Orthopedic Surgery Foot and Ankle Surgery
* Orthopedic Surgery Orthopedic Surgery of the Spine
* Orthopedic Surgery Orthopedic Trauma
* Otolaryngology Otology & Neurotology
* Otolaryngology Plastic Surgery within the Head and Neck
* Pathology Dermapathology
* Pediatrics Pediatric Transplant Hepatology
* Physical Medicine and Rehabilitation Hospice and Palliative Medicine
* Physical Medicine and Rehabilitation Spinal Cord Injury Medicine
* Physical Medicine and Rehabilitation Sports Medicine
* Plastic Surgery Surgery of the Hand
* Preventive Medicine Undersea and Hyperbaric Medicine
* Surgery Surgery of the Hand
* Urology Pediatric Urology
* Chiropractic Providers Chiropractor Rehabilitation
* Dietary and Nutritional Service Providers Dietician Registered Nutrition Pediatric
* Eye and Vision Service Providers Optometrist Corneal and Contact Management
* Female Pelvic Medicine and Reconstructive Surgery
* Physician Assistants and Advanced Practice Nursing Providers Clinical Nurse Specialist Acute Care
* Physician Assistants and Advanced Practice Nursing Providers Clinical Nurse Specialist Family Health
* Physician Assistants and Advanced Practice Nursing Providers Nurse Practitioner Neonatal
* Physician Assistants and Advanced Practice Nursing Providers Nurse Practitioner Obstetrics and Gynecology
* Physician Assistants and Advanced Practice Nursing Providers Nurse Practitioner Perinatal
* Podiatric Medicine and Surgery Service Providers Podiatrist Primary Podiatric Medicine
* Respiratory Developmental Rehabilitative and Restorative Service Providers Occupational Therapist Hand
* Respiratory Rehabilitative and Restorative Service Providers Physical Therapist Sports