

**Bundled Payment for All Inclusive Outpatient Wound Care Services in Non Hospital Based
Setting: Follow up Quantitative Analyses for the PRT
January 25, 2019**

Summary

In CY2016, almost 350,000 Medicare fee-for-service (FFS) beneficiaries visited a practitioner in an ambulatory care setting for treatment of a wound (Table 1). Four fifths of them saw an office-based practitioner; the remainder visited a hospital outpatient department or a clinic (e.g., outpatient facilities). Most beneficiaries had a single non-emergent wound-care visit in the calendar year. However, a significant number – 8 percent or more – had more than five visits during the year.

Almost 900,000 FFS claims for non-emergent wound care were paid in CY2016 (Table 2). Around three quarters of these visits were with office-based practitioners, where the mean allowed charge was \$95. Outpatient facility visits – at hospitals, Rural Health Centers, Federally Qualified Health Centers, and Critical Access Hospitals – comprised the remainder of non-emergent wound-care visits, with an average allowed charge of \$413.

Podiatrists provided the majority of ambulatory wound care services to Medicare FFS beneficiaries (Table 3). They accounted for three quarters of office-based services, and almost a fifth of outpatient facility services. The total number of services during the year – 1.2 million – is larger than the number of visits, because more than one wound care service can be provided during a visit.

Chronic ulcers, diabetic foot ulcers, and pressure ulcers accounted for three quarters of visits to office-based providers, and for nearly two thirds of visits to outpatient facilities (Table 4).

Tables 5 through 9 present data for selected types of wounds: chronic ulcers, diabetic foot ulcers, diabetic infections, diabetic skin ulcers, pressure ulcers, and venous ulcers.

Of approximately 225,000 Medicare FFS beneficiaries with a wound care claim in CY2016 for the selected wound types, four fifths received care in an office-based setting; the remainder received wound care in an outpatient facility (Table 5). One fifth had five or more visits in the year.

Beneficiaries with any of the selected wounds tended to be older than the general Medicare FFS population (Table 6). Common comorbidities among beneficiaries with wound care claims (for the selected wound types) were hypertension, diabetes, rheumatoid arthritis/osteoarthritis, and peripheral vascular disease.

Close to three quarters of the CY2016 wound care claims (for the selected wound types) were in an office setting (Table 7). The mean office-based charge was \$236, and mean beneficiary liability was \$51. In outpatient facilities, the mean outpatient charge was \$718 and mean beneficiary liability was \$153.

Podiatrists provided the majority of wound care services (for the selected wound types) in office-based settings (Table 8). In outpatient facilities, a mix of specialties (e.g., podiatrists, surgeons, internists) provided wound care.

The mean episode length for a wound care episode was 15.5 days (for the selected wound types), with a mean number of claims per episode of 1.8 (Table 9). Mean episode length and mean number of claims

per episode ranged from 6.4 days and 1.3 claims (diabetic infection) to 18.4 days and 2.2 claims (venous ulcers). The mean allowed charge for an episode was \$591 and the mean beneficiary liability was \$123 (for the selected wound types).

Data and definitions

This analysis is based on tabulations of a 20-percent sample of Medicare FFS claims. A wound care visit is defined as a claim that includes a wound diagnosis and a Current Procedural Terminology (CPT) or Healthcare Common Procedure Coding System (HCPCS) code indicating a wound care service. Wound diagnoses are based on work by Nussbaum, Carter, Fife, et al.¹ The original ICD-9 (International Classification of Diseases, Ninth Revision) diagnosis codes were converted to ICD-10 using the CMS general equivalence mappings, and codes were added to account for diabetic foot and skin ulcers that exist in ICD-10 but not explicitly in ICD-9. Appendix A contains a list of these diagnosis codes. Appendix B contains a list of CPT and HCPCS codes used to identify wound care services.

Visits were divided into outpatient facility and office-based settings using claims information. Facility visits were identified in Medicare outpatient claims; in order to distinguish visits for routine care from those for emergent care, the revenue center in which the wound care was billed was restricted to those for clinic-like services (see Appendix C for a list of these revenue centers). Office-based visits were determined from Medicare carrier claims; in order to be counted, the place of service must have been one reimbursed under the Physician Fee Schedule as non-facility (see Appendix D for a list of the places of service excluded).

Allowed charges for outpatient facility and office-based visits were tabulated from the claims. In the case of outpatient visits, the facility allowed charge from the outpatient claim was combined with practitioner allowed charges by matching the service dates on the claims. In the case of Federally Qualified Health Centers, Rural Health Centers, and some Critical Access Hospitals, professional services are billed through the outpatient facility and there is no corresponding carrier claim.

¹ An Economic Evaluation of the Impact, Cost, and Medicare Policy Implications of Chronic Nonhealing Wounds. *Value in Health* 21(2018) 27–32.

Table of Contents

Table 1. Number of beneficiaries with specified number of Medicare Fee-for-Service non-emergent wound care claims, CY2016	4
Table 2. Distribution of allowed charges for wound care in Medicare Fee-for-Service claims involving non-emergent wound care, CY2016	5
Table 3. Number of Medicare Fee-for-Service non-emergent wound care services, by provider specialty and place of service, CY2016	6
Table 4. Wound care claims, by place of service and broad type of wound, CY2016	7
Table 5. Number of beneficiaries with wound care for selected types of wounds,* by number of claims, CY2016	9
Table 6. Characteristics of Medicare Fee-for-Service population and of the population with claims for wound care for selected types of wounds,* CY2016.....	10
Table 7. Distribution of allowed charges and beneficiary liability for wound care, by type of wound, CY2016	11
Table 8. Number of Medicare Fee-for-Service wound care services for selected types of wounds,* by provider specialty and place of service, CY2016.....	12
Table 9. Episode length, allowed charges, and beneficiary liability for selected types of wounds, CY2016	13
Appendix A. Diagnoses used to identify non-emergent wound claims.....	14
Appendix B. CPT and HCPCS codes used to identify wound care	20
Appendix C. Revenue centers included in determination of wound care for facility visits.....	25
Appendix D. Places of service excluded from office-based visits	26

Table 1. Number of beneficiaries with specified number of Medicare Fee-for-Service non-emergent wound care claims, CY2016

Number of claims in CY	All Types of Claims		Outpatient Facility Claims *		Office-Based** Claims		Both Outpatient Facility and Office-Based Claims ***	
	Number of beneficiaries	Percent of total	Number of beneficiaries	Percent of total	Number of beneficiaries	Percent of total	Number of beneficiaries	Percent of total
Total	346,510	100.0	67,415	100.0	284,710	100.0	5,615	100.0
1	209,480	60.5	34,980	51.9	180,125	63.3	0	0.0
2	49,130	14.2	10,950	16.2	38,345	13.5	1,660	29.6
3	25,210	7.3	5,940	8.8	19,555	6.9	775	13.8
4	16,420	4.7	3,900	5.8	12,700	4.5	565	10.1
5	11,325	3.3	2,650	3.9	8,610	3.0	475	8.5
6-10	22,880	6.6	5,815	8.6	16,745	5.9	1,340	23.9
11-15	6,865	2.0	1,765	2.6	4,950	1.7	475	8.5
16 or more	5,200	1.5	1,415	2.1	3,680	1.3	325	5.8

SOURCE: Medicare Fee-for-Service 20-percent sample. See Appendices A and B for a list of diagnosis codes used to identify wound claims and CPT/HCPCS codes used to identify wound care.

* Outpatient Facility claims are counted as wound care only if the care is provided in a revenue center suggestive of a clinic-type visit; for example, if the service is provided in an emergency department, the claim is not counted.

** All places of care except those paid under the Physician Fee Schedule as facility-based: Off Campus-Outpatient Hospital, Inpatient Hospital, On Campus-Outpatient Hospital, Emergency Room – Hospital, Ambulatory Surgical Center, Inpatient Psychiatric Facility, Comprehensive Inpatient Rehabilitation Facility, Skilled Nursing Facility, Community Mental Health Center, Military Treatment Facility, Ambulance (Land, Air or Water), Hospice, Psychiatric Facility-Partial Hospitalization, Psychiatric Residential Treatment Center

*** These beneficiaries are included in counts for outpatient claims and office claims as well, according to the number of such claims they had.

Table 2. Distribution of allowed charges for wound care in Medicare Fee-for-Service claims involving non-emergent wound care, CY2016

Place of service		Number of claims	Mean Charges			Total Charges - Percentiles of Distribution								
			Total	Facility	Provider	99th	95th	90th	75th	Median	25th	10th	5th	1st
Office-based *														
___	Total**	686,815	\$95	---	---	\$407	\$207	\$141	\$86	\$77	\$71	\$68	\$67	\$42
11	Office	615,910	\$95	---	---	\$410	\$201	\$142	\$86	\$76	\$71	\$68	\$66	\$42
12	Home	24,925	\$92	---	---	\$466	\$159	\$114	\$86	\$77	\$74	\$71	\$70	\$60
13	Assisted Living Facility	5,155	\$85	---	---	\$225	\$149	\$92	\$83	\$76	\$71	\$68	\$68	\$61
14	Group Home	85	\$79	---	---	\$90	\$90	\$88	\$85	\$74	\$73	\$72	\$70	\$70
20	Urgent Care Facility	31,550	\$110	---	---	\$325	\$262	\$197	\$107	\$91	\$82	\$73	\$72	\$62
32	Nursing Facility	6,285	\$83	---	---	\$316	\$158	\$89	\$79	\$71	\$69	\$67	\$59	\$34
33	Custodial Care Facility	1,830	\$79	---	---	\$139	\$89	\$88	\$85	\$77	\$72	\$70	\$69	\$61
49	Independent Clinic	635	\$96	---	---	\$309	\$150	\$131	\$107	\$80	\$80	\$65	\$65	\$30
Outpatient Facility***														
___	Total **	202,380	\$413	\$355	\$27	\$3,227	\$1,543	\$947	\$314	\$235	\$150	\$80	\$47	\$23
13	Hospital-outpatient	176,475	\$448	\$389	\$31	\$3,490	\$1,603	\$1,227	\$344	\$241	\$208	\$107	\$63	\$29
71	Clinic-rural health	4,995	\$141	\$141	\$0	\$686	\$272	\$240	\$185	\$135	\$71	\$27	\$0	\$0
77	Clinic-Federally Qualified Health Center (FQHC)	1,500	\$55	\$55	\$0	\$109	\$94	\$84	\$64	\$53	\$43	\$30	\$20	\$2
85	Critical Access Hospital	19,405	\$198	\$120	\$3	\$1,937	\$506	\$349	\$222	\$127	\$72	\$34	\$25	\$21

SOURCE: Medicare Fee-for-Service 20-percent sample. See Appendices A and B for a list of diagnosis codes used to identify wound claims and CPT/HCPCS codes used to identify wound care.

* All places of service except those paid under the Physician Fee Schedule as facility-based: Off Campus-Outpatient Hospital, Inpatient Hospital, On Campus-Outpatient Hospital, Emergency Room – Hospital, Ambulatory Surgical Center, Inpatient Psychiatric Facility, Comprehensive Inpatient Rehabilitation Facility, Skilled Nursing Facility, Community Mental Health Center, Military Treatment Facility, Ambulance (Land, Air or Water), Hospice, Psychiatric Facility-Partial Hospitalization, Psychiatric Residential Treatment Center

** Includes places of service not shown separately because of small claim counts

*** Outpatient claims are counted as wound care only if the care is provided in a revenue center suggestive of a clinic-type visit; for example, if the service is provided in an emergency department the claim is not counted.

Table 3. Number of Medicare Fee-for-Service non-emergent wound care services, by provider specialty and place of service, CY2016

Specialty		Total		Outpatient Facility *		Office-Based**	
		Number of services ***	Percent of total	Number of services ***	Percent of total	Number of services ***	Percent of total
—	Total ****	1,204,035	100.0	517,215	100.0	686,820	100.0
48	Physician – Podiatry	608,935	50.6	96,630	18.7	512,305	74.6
02	Physician - General Surgery	114,040	9.5	99,195	19.2	14,845	2.2
08	Physician - Family Practice	106,710	8.9	68,575	13.3	38,135	5.6
11	Physician - Internal Medicine	64,065	5.3	51,175	9.9	12,890	1.9
93	Physician - Emergency Medicine	61,445	5.1	49,000	9.5	12,445	1.8
50	~ Nurse Practitioner	56,575	4.7	41,500	8.0	15,075	2.2
97	~ Physician Assistant	27,745	2.3	11,710	2.3	16,035	2.3
77	Physician - Vascular Surgery	21,635	1.8	17,065	3.3	4,570	0.7
24	Physician - Plastic and Reconstructive Surgery	21,105	1.8	16,780	3.2	4,325	0.6
44	Physician - Infectious Disease	17,960	1.5	13,560	2.6	4,400	0.6
07	Physician – Dermatology	14,420	1.2	735	0.1	13,685	2.0
20	Physician - Orthopedic Surgery	13,325	1.1	10,785	2.1	2,540	0.4
65	~ Portable X-ray Supplier (billing independently)	11,995	1.0	0	0.0	11,995	1.7
01	Physician - General Practice	11,835	1.0	7,090	1.4	4,745	0.7
25	Physician - Physical Medicine and Rehabilitation	10,600	0.9	7,210	1.4	3,390	0.5
	Other physician specialties	38,070	3.2	24,915	4.8	13,155	1.9
	Other non-physician specialties	3,575	0.3	1,290	0.2	2,285	0.3

SOURCE: Medicare Fee-for-Service 20-percent carrier claim sample. See Appendices A and B for a list of diagnosis codes used to identify wound claims and CPT/HCPCS codes used to identify wound care.

* Includes on-campus and off-campus settings.

** All places of service except those paid under the Physician Fee Schedule as facility-based: Off Campus-Outpatient Hospital, Inpatient Hospital, On Campus-Outpatient Hospital, Emergency Room – Hospital, Ambulatory Surgical Center, Inpatient Psychiatric Facility, Comprehensive Inpatient Rehabilitation Facility, Skilled Nursing Facility, Community Mental Health Center, Military Treatment Facility, Ambulance (Land, Air or Water), Hospice, Psychiatric Facility-Partial Hospitalization, Psychiatric Residential Treatment Center

*** Services are distinct procedures performed during a visit. Claims can comprise more than one service (and typically do).

**** Includes specialties not listed separately because of small sample sizes.

Table 4. Wound care claims, by place of service and broad type of wound, CY2016

Place of service *		All Types	Arterial Ulcers	Chronic Ulcers	Diabetic Foot Ulcer	Diabetic Infection	Diabetic Skin Ulcer	Pressure Ulcers
All Visits		889,190	14,320	406,535	105,890	6,845	11,875	133,530
Office-Based**								
Beneficiaries***		284,710	4,925	123,950	22,925	3,565	1,620	39,695
Visits		686,815	11,090	340,600	70,350	5,815	4,955	104,100
11	Office	615,910	10,040	323,860	68,410	5,715	4,455	89,485
12	Home	24,925	600	9,790	1,400	70	215	9,695
13	Assisted Living Facility	5,155	130	2,560	80	---	190	1,560
20	Urgent Care Facility	31,550	0	130	---	---	---	85
32	Nursing Facility	6,285	135	2,805	215	---	70	2,565
33	Custodial Care Facility	1,830	170	950	60	---	---	425
49	Independent Clinic	635	---	285	---	0	0	195
	Other	525	---	220	120	---	---	90
Outpatient Facility****								
Beneficiaries***		67,415	1,180	23,160	11,195	640	2,885	10,135
Visits		202,380	3,230	65,935	35,540	1,030	6,920	29,430
13	Hospital-outpatient	176,475	2,895	58,315	31,495	775	6,245	26,615
71	Clinic-rural health	4,995	---	1,215	500	---	---	170
77	Clinic-Federally Qualified Health Center (FQHC)	1,500	---	490	230	---	---	---
85	Critical Access Hospital	19,405	285	5,915	3,315	240	585	2,615

SOURCE: Medicare Fee-for-Service 20-percent carrier claim sample. See Appendix A for a list of diagnosis codes used to identify wound claims and CPT/HCPCS codes used to identify wound care.

--- suppressed due to cell size

* Totals include places of service not shown separately

** All places of care except those paid under the Physician Fee Schedule as facility-based: Off Campus-Outpatient Hospital, Inpatient Hospital, On Campus-Outpatient Hospital, Emergency Room – Hospital, Ambulatory Surgical Center, Inpatient Psychiatric Facility, Comprehensive Inpatient Rehabilitation Facility, Skilled Nursing Facility, Community Mental Health Center, Military Treatment Facility, Ambulance (Land, Air or Water), Hospice, Psychiatric Facility-Partial Hospitalization, Psychiatric Residential Treatment Center

*** Columns do not add to the total because beneficiaries with more than one type of wound care are counted more than once.

**** Outpatient claims are counted as wound care only if the care is provided in a revenue center suggestive of a clinic-type visit; for example, if the service is provided in an emergency department the claim is not counted.

Table 4 (continued). Wound care claims, by place of service and broad type of wound, CY2016

Place of service *		All Types	Skin Disorders	Skin Infections	Surgical Infections	Surgical Wounds	Traumatic Wounds	Venous Infections	Venous Ulcers
All Visits		889,190	19,100	3,005	11,235	24,440	103,820	3,835	44,765
Office-Based**									
Beneficiaries***		284,710	13,260	2,010	5,630	7,655	75,980	2,275	6,520
Visits		686,815	16,480	2,905	8,705	10,900	84,195	3,380	23,340
11	Office	615,910	16,065	2,800	7,665	10,520	52,075	3,165	21,655
12	Home	24,925	285	---	330	60	1,170	105	1,160
13	Assisted Living Facility	5,155	60	---	---	---	250	55	210
20	Urgent Care Facility	31,550	---	---	520	260	30,390	---	---
32	Nursing Facility	6,285	---	---	105	---	175	0	140
33	Custodial Care Facility	1,830	---	---	---	---	---	---	90
49	Independent Clinic	635	---	0	---	---	---	0	60
	Other	525	---	---	---	---	65	---	---
Outpatient Facility****									
Beneficiaries***		67,415	1,465	80	1,440	5,775	15,030	375	7,080
Visits		202,380	2,620	100	2,530	13,540	19,625	455	21,425
13	Hospital-outpatient	176,475	2,260	95	2,035	12,265	13,910	390	19,180
71	Clinic-rural health	4,995	80	---	---	190	2,540	---	165
77	Clinic-Federally Qualified Health Center (FQHC)	1,500	---	---	90	60	435	---	---
85	Critical Access Hospital	19,405	235	---	360	1,025	2,740	55	2,035

SOURCE: Medicare Fee-for-Service 20-percent carrier claim sample. See Appendix A for a list of diagnosis codes used to identify wound claims and CPT/HCPSC codes used to identify wound care.

--- suppressed due to cell size

* Totals include places of service not shown separately

** All places of care except those paid under the Physician Fee Schedule as facility-based: Off Campus-Outpatient Hospital, Inpatient Hospital, On Campus-Outpatient Hospital, Emergency Room – Hospital, Ambulatory Surgical Center, Inpatient Psychiatric Facility, Comprehensive Inpatient Rehabilitation Facility, Skilled Nursing Facility, Community Mental Health Center, Military Treatment Facility, Ambulance (Land, Air or Water), Hospice, Psychiatric Facility-Partial Hospitalization, Psychiatric Residential Treatment Center

*** Columns do not add to the total because beneficiaries with more than one type of wound care are counted more than once.

**** Outpatient claims are counted as wound care only if the care is provided in a revenue center suggestive of a clinic-type visit; for example, if the service is provided in an emergency department the claim is not counted.

Table 5. Number of beneficiaries with wound care for selected types of wounds,* by number of claims, CY2016

Number of claims in CY2016	All types of claims		Outpatient Facility Claims**		Office-based claims***		Both Outpatient Facility and Office-based Claims****	
	Number of beneficiaries	Percent of total	Number of beneficiaries	Percent of total	Number of beneficiaries	Percent of total	Number of beneficiaries	Percent of total
Total	224,900	100.0	47,125	100.0	181,620	100.0	3,845	100.0
1	104,695	46.6	20,335	43.2	87,465	48.2	0	0.0
2	41,350	18.4	8,805	18.7	33,260	18.3	665	17.3
3	22,460	10.0	4,900	10.4	17,925	9.9	525	13.7
4	14,605	6.5	3,275	6.9	11,555	6.4	450	11.7
5	10,320	4.6	2,265	4.8	7,980	4.4	390	10.1
6-10	20,655	9.2	4,875	10.3	15,515	8.5	1,135	29.5
11-15	6,130	2.7	1,450	3.1	4,535	2.5	415	10.8
16 or more	4,685	2.1	1,220	2.6	3,385	1.9	265	6.9

SOURCE: Medicare Fee-for-Service 20-percent sample. See Appendix A for a list of diagnosis codes used to identify wound claims and CPT/HCPCS codes used to identify wound care.

* Limited to the following broad wound types: chronic ulcers, diabetic foot ulcers, diabetic infections, diabetic skin ulcers, pressure ulcers, and venous ulcers

** Outpatient claims are counted as wound care only if the care is provided in a revenue center suggestive of a clinic-type visit; for example, if the service is provided in an emergency department the claim is not counted.

*** All places of care except those paid under the Physician Fee Schedule as facility-based: Off Campus-Outpatient Hospital, Inpatient Hospital, On Campus-Outpatient Hospital, Emergency Room – Hospital, Ambulatory Surgical Center, Inpatient Psychiatric Facility, Comprehensive Inpatient Rehabilitation Facility, Skilled Nursing Facility, Community Mental Health Center, Military Treatment Facility, Ambulance (Land, Air or Water), Hospice, Psychiatric Facility-Partial Hospitalization, Psychiatric Residential Treatment Center

**** These beneficiaries are included in counts for outpatient claims and office claims as well, according to the number of such claims they had.

Table 6. Characteristics of Medicare Fee-for-Service population and of the population with claims for wound care for selected types of wounds,* CY2016

Characteristic	Total Part B FFS Population	Population with 1+ claim in any of the selected wound types	Population with 5+ claims in any of the selected wound types
FFS beneficiaries	36,512,836	224,900	37,675
Age			
Under age 65	16.9%	17.2%	20.8%
Ages 65-69	25.9	14.5	16.3
Ages 70-74	19.6	15.9	17.5
Ages 75 and older	37.5	52.5	45.4
Sex			
Male	45.2	48.1	54.0
Female	54.8	51.9	46.0
Selected chronic conditions			
Diabetes End-of-Year Flag	27.0	61.5	68.3
Heart Failure End-of-Year Flag	13.5	36.4	38.0
Rheumatoid Arthritis / Osteoarthritis	31.3	52.8	51.7
Hypertension End-of-Year Flag	55.5	83.3	85.0
Mobility Impairments	2.8	7.5	7.9
Obesity	14.6	30.4	34.9
Peripheral Vascular Disease	11.8	54.1	59.7

SOURCE: Medicare Fee-for-Service 20-percent sample. See Appendix A for a list of diagnosis codes used to identify wound claims and CPT/HCPCS codes used to identify wound care.

* Limited to the following broad wound types: chronic ulcers, diabetic foot ulcers, diabetic infections, diabetic skin ulcers, pressure ulcers, and venous ulcers

Table 7. Distribution of allowed charges and beneficiary liability for wound care, by type of wound, CY2016

		Wound Type						
Measure	Total	Chronic Ulcers	Diabetic Foot Ulcer	Diabetic Infection	Diabetic Skin Ulcer	Pressure Ulcers	Venous Ulcers	
Office-based*								
Claims		549,160	340,600	70,350	5,815	4,955	104,100	23,340
Allowed charges	Mean	\$236	\$223	\$313	\$256	\$334	\$156	\$528
	25th percentile	\$75	\$74	\$73	\$99	\$83	\$76	\$90
	Median	\$111	\$110	\$98	\$157	\$141	\$110	\$162
	75th percentile	\$167	\$163	\$169	\$277	\$197	\$162	\$259
Beneficiary liability	Mean	\$51	\$48	\$66	\$54	\$69	\$35	\$107
	25th percentile	\$15	\$15	\$15	\$19	\$17	\$15	\$18
	Median	\$23	\$23	\$22	\$32	\$28	\$23	\$33
	75th percentile	\$36	\$35	\$37	\$55	\$39	\$35	\$58
Outpatient Facility**								
Claims		160,280	65,935	35,540	1,030	6,920	29,430	21,425
Allowed charges	Mean	\$718	\$637	\$874	\$1,917	\$815	\$634	\$733
	25th percentile	\$233	\$231	\$238	\$246	\$240	\$226	\$243
	Median	\$326	\$303	\$363	\$499	\$357	\$316	\$339
	75th percentile	\$668	\$571	\$840	\$1,603	\$754	\$629	\$766
Beneficiary liability	Mean	\$153	\$134	\$185	\$449	\$175	\$136	\$159
	25th percentile	\$48	\$48	\$49	\$65	\$49	\$47	\$51
	Median	\$72	\$68	\$77	\$123	\$79	\$69	\$74
	75th percentile	\$152	\$128	\$189	\$364	\$168	\$140	\$175

SOURCE: Medicare Fee-for-Service 20-percent sample. See Appendix A for a list of diagnosis codes used to identify wound claims and CPT/HCPCS codes used to identify wound care.

* All places of care except those paid under the Physician Fee Schedule as facility-based: Off Campus-Outpatient Hospital, Inpatient Hospital, On Campus-Outpatient Hospital, Emergency Room – Hospital, Ambulatory Surgical Center, Inpatient Psychiatric Facility, Comprehensive Inpatient Rehabilitation Facility, Skilled Nursing Facility, Community Mental Health Center, Military Treatment Facility, Ambulance (Land, Air or Water), Hospice, Psychiatric Facility-Partial Hospitalization, Psychiatric Residential Treatment Center

Table 8. Number of Medicare Fee-for-Service wound care services for selected types of wounds,* by provider specialty and place of service, CY2016

Provider Specialty		Place of Service			Wound Type					
		Total	Outpatient Facility**	Office-based***	Chronic Ulcers	Diabetic Foot Ulcer	Diabetic Infection	Diabetic Skin Ulcer	Pressure Ulcers	Venous Ulcers
All		982,090	432,930	549,160	558,610	137,665	9,910	20,760	171,190	83,955
48	Physician - Podiatry	573,400	91,210	482,190	372,155	80,040	6,570	3,570	94,055	17,010
02	Physician - General Surgery	91,945	82,095	9,850	42,075	11,265	745	3,160	18,940	15,760
08	Physician - Family Practice	64,490	55,905	8,585	28,260	9,270	675	3,305	13,530	9,450
11	Physician - Internal Medicine	48,655	44,530	4,125	21,260	7,955	250	2,010	9,010	8,170
93	Physician - Emergency Medicine	43,265	41,230	2,035	20,750	6,275	235	2,800	6,785	6,420
77	Physician - Vascular Surgery	16,890	13,420	3,470	8,555	1,640	100	420	1,880	4,295
44	Physician - Infectious Disease	14,445	11,440	3,005	7,960	1,325	250	510	2,340	2,060
24	Physician - Plastic and Reconstructive Surgery	11,970	10,645	1,325	5,400	1,400	130	410	3,055	1,575
25	Physician - Physical Medicine and Rehabilitation	9,230	5,915	3,315	3,100	1,655	60	845	1,930	1,640
01	Physician - General Practice	8,770	5,915	2,855	3,115	960	55	490	2,950	1,200
20	Physician - Orthopedic Surgery	8,485	6,970	1,515	4,825	970	305	180	1,645	560
84	Physician - Preventive Medicine	5,370	5,100	270	2,625	1,145	*	*	815	625
05	Physician - Anesthesiology	5,140	550	4,590	1,895	1,055	*	*	320	1,860
07	Physician - Dermatology	2,815	385	2,430	2,160	0	*	*	200	435
	Other physician specialties	16,475	12,995	3,480	7,295	1,635	120	1,065	3,575	2,785
50	Nurse Practitioner	39,240	34,750	4,490	18,345	7,080	240	1,370	6,470	5,735
97	Physician Assistant	10,605	8,790	1,815	4,725	2,445	*	*	1,790	1,235
65	Portable X-ray Supplier (billing independently)	9,340	0	9,340	3,260	1,400	*	*	1,620	2,940
	Other non-physician specialties	1,560	1,085	475	850	150	*	*	280	200

SOURCE: Medicare Fee-for-Service 20-percent sample. See Appendix A for a list of diagnosis codes used to identify wound claims and CPT/HCPCS codes used to identify wound care.

* Limited to the following broad wound types: chronic ulcers, diabetic foot ulcers, diabetic infections, diabetic skin ulcers, pressure ulcers, and venous ulcers

** Outpatient claims are counted as wound care only if the care is provided in a revenue center suggestive of a clinic-type visit; for example, if the service is provided in an emergency department the claim is not counted.

*** All places of care except those paid under the Physician Fee Schedule as facility-based: Off Campus-Outpatient Hospital, Inpatient Hospital, On Campus-Outpatient Hospital, Emergency Room – Hospital, Ambulatory Surgical Center, Inpatient Psychiatric Facility, Comprehensive Inpatient Rehabilitation Facility, Skilled Nursing Facility, Community Mental Health Center, Military Treatment Facility, Ambulance (Land, Air or Water), Hospice, Psychiatric Facility-Partial Hospitalization, Psychiatric Residential Treatment Center

Table 9. Episode length, allowed charges, and beneficiary liability for selected types of wounds, CY2016

Measure		Wound Type							All wound types with 5+ visits
		Total	Chronic Ulcers	Diabetic Foot Ulcer	Diabetic Infection	Diabetic Skin Ulcer	Pressure Ulcers	Venous Ulcers	
Episodes*		169,950	101,255	21,620	3035	2860	32,655	8525	9920
Episode length (days)	Mean	15.5	15.0	17.0	6.4	15.5	16.0	18.4	89.6
	25th percentile	1	1	1	1	1	1	1	54
	Median	1	1	1	1	1	1	1	84
	75th percentile	15	15	22	1	21	15	27	118
Number of claims	Mean	1.8	1.7	1.9	1.3	1.8	1.7	2.2	7.4
	25th percentile	1	1	1	1	1	1	1	5
	Median	1	1	1	1	1	1	1	6
	75th percentile	2	2	2	1	2	2	2	8
Allowed charges	Mean	\$591	\$481	\$955	\$745	\$1,359	\$423	\$1,301	\$3,249
	25th percentile	\$115	\$110	\$127	\$141	\$191	\$115	\$198	\$598
	Median	\$184	\$170	\$227	\$225	\$387	\$178	\$437	\$1,055
	75th percentile	\$374	\$316	\$532	\$330	\$1,001	\$345	\$1,058	\$2,521
Beneficiary Liability	Mean	\$123	\$99	\$198	\$153	\$276	\$90	\$274	\$673
	25th percentile	\$23	\$22	\$26	\$28	\$39	\$23	\$42	\$120
	Median	\$38	\$35	\$47	\$45	\$79	\$37	\$91	\$221
	75th percentile	\$80	\$68	\$115	\$67	\$208	\$75	\$232	\$525

SOURCE: Medicare Fee-for-Service 20-percent sample. See Appendix A for a list of diagnosis codes used to identify wound claims and CPT/HCPCS codes used to identify wound care.

* Episodes are limited to those that began on or after March 1, 2016 and concluded before or on October 31, 2016. An episode is considered complete when more than a selected number of days passes without a wound care claim (chosen based on analysis of claims data):

Pressure ulcers, venous ulcers: 70 days

Other wounds: 64 days

Appendix A. Diagnoses used to identify non-emergent wound claims

Wound Type	ICD-10 Codes
ARTERIAL ULCERS	I70.231, I70.232, I70.233, I70.234, I70.235, I70.238, I70.239, I70.241, I70.242, I70.243, I70.244, I70.245, I70.248, I70.249, I70.25, I70.261, I70.262, I70.263, I70.268, I70.269, CHRONIC ULCERS I70.331, I70.332, I70.333, I70.334, I70.335, I70.338, I70.339, I70.341, I70.342, I70.343, I70.344, I70.345, I70.348, I70.349, I70.35, I70.431, I70.432, I70.433, I70.434, I70.435, I70.438, I70.439, I70.441, I70.442, I70.443, I70.444, I70.445, I70.448, I70.449, I70.45, I70.531, I70.532, I70.533, I70.534, I70.535, I70.538, I70.539, I70.541, I70.542, I70.543, I70.544, I70.545, I70.548, I70.549, I70.55, I70.631, I70.632, I70.633, I70.634, I70.635, I70.638, I70.639, I70.641, I70.642, I70.643, I70.644, I70.645, I70.648, I70.649, I70.65, I70.731, I70.732, I70.733, I70.734, I70.735, I70.738, I70.739, I70.741, I70.742, I70.743, I70.744, I70.745, I70.748, I70.749, I70.75, L97.101, L97.102, L97.103, L97.104, L97.109, L97.111, L97.112, L97.113, L97.114, L97.119, L97.121, L97.122, L97.123, L97.124, L97.129, L97.201, L97.202, L97.203, L97.204, L97.209, L97.211, L97.212, L97.213, L97.214, L97.219, L97.221, L97.222, L97.223, L97.224, L97.229, L97.301, L97.302, L97.303, L97.304, L97.309, L97.311, L97.312, L97.313, L97.314, L97.319, L97.321, L97.322, L97.323, L97.324, L97.329, L97.401, L97.402, L97.403, L97.404, L97.409, L97.411, L97.412, L97.413, L97.414, L97.419, L97.421, L97.422, L97.423, L97.424, L97.429, L97.501, L97.502, L97.503, L97.504, L97.509, L97.511, L97.512, L97.513, L97.514, L97.519, L97.521, L97.522, L97.523, L97.524, L97.529, L97.801, L97.802, L97.803, L97.804, L97.809, L97.811, L97.812, L97.813, L97.814, L97.819, L97.821, L97.822, L97.823, L97.824, L97.829, L97.901, L97.902, L97.903, L97.904, L97.909, L97.911, L97.912, L97.913, L97.914, L97.919, L97.921, L97.922, L97.923, L97.924, L97.929, L98.411, L98.412, L98.413, L98.414, L98.419, L98.421, L98.422, L98.423, L98.424, L98.429, L98.491, L98.492, L98.493, L98.494, L98.499, M72.6
DIABETIC FOOT ULCER	E08.621, E09.621, E10.621, E11.621
DIABETIC INFECTION	A31.1, A43.1, A48.0, B95.1, L02.611, L02.612, L02.619, L02.621, L02.622, L02.629, L02.631, L02.632, L02.639, L08.1, M86.361, M86.362, M86.369, M86.371, M86.372, M86.379, M86.461, M86.462, M86.469, M86.471, M86.472, M86.479, M86.561, M86.562, M86.569, M86.571, M86.572, M86.579, M86.661, M86.662, M86.669, M86.671, M86.672, M86.679, M86.8X6, M86.8X7, T84.60XA, T84.610A, T84.611A, T84.612A, T84.613A, T84.614A, T84.615A, T84.619A, T84.620A, T84.621A, T84.622A, T84.623A, T84.624A, T84.625A, T84.629A, T84.63XA, T84.69XA, T84.7XXA, T85.72XA, T85.79XA, T86.842, T87.40, T87.41, T87.42, T87.43, T87.44
DIABETIC SKIN ULCER	E08.622, E09.622, E10.622, E11.622

Wound Type	ICD-10 Codes
PRESSURE ULCERS	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, 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, L89.200, 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, L89.300, 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, 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, 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, L89.810, L89.811, L89.812, L89.813, L89.814, L89.819, L89.890, L89.891, L89.892, L89.893, L89.894, L89.899, L89.90, L89.91, L89.92, L89.93, L89.94, L89.95
SKIN DISORDERS	E08.628, E09.628, E20.1, E83.59, L12.0, L12.8, L12.9, L13.8, L13.9, L14., L26., L30.4, L44.8, L44.9, L45., L52., L53.8, L54., L56.4, L58.0, L58.1, L58.9, L59.0, L59.8, L59.9, L73.2, L88., L92.0, L92.1, L94.2, L94.4, L95.0, L95.1, L95.8, L95.9, L98.2, L98.8, L98.9, L99., M33.00, M33.01, M33.02, M33.09, M33.10, M33.11, M33.12, M33.19, M33.90, M33.91, M33.92, M33.99, M36.0, Q81.0, Q81.1, Q81.2, Q81.8, Q81.9, Q82.8, Q82.9, T33.011A, T33.012A, T33.019A, T33.02XA, T33.09XA, T33.1XXA, T33.2XXA, T33.3XXA, T33.40XA, T33.41XA, T33.42XA, T33.511A, T33.512A, T33.519A, T33.521A, T33.522A, T33.529A, T33.531A, T33.532A, T33.539A, T33.60XA, T33.61XA, T33.62XA, T33.70XA, T33.71XA, T33.72XA, T33.811A, T33.812A, T33.819A, T33.821A, T33.822A, T33.829A, T33.831A, T33.832A, T33.839A, T33.90XA, T33.99XA, T34.011A, T34.012A, T34.019A, T34.02XA, T34.09XA, T34.1XXA, T34.2XXA, T34.3XXA, T34.40XA, T34.41XA, T34.42XA, T34.511A, T34.512A, T34.519A, T34.521A, T34.522A, T34.529A, T34.531A, T34.532A, T34.539A, T34.60XA, T34.61XA, T34.62XA, T34.70XA, T34.71XA, T34.72XA, T34.811A, T34.812A, T34.819A, T34.821A, T34.822A, T34.829A, T34.831A, T34.832A, T34.839A, T34.90XA, T34.99XA, T66.XXXA, SKIN INFECTIONS B47.9, L08.0, L08.81, L08.89
SURGICAL INFECTIONS	A42.2, B46.0, B46.1, B46.2, B46.3, B46.4, B46.5, B46.8, B46.9, K12.2, K61.0, K61.1, K61.2, K61.3, K61.4, K68.11, L02.01, L02.02, L02.03, L02.11, L02.12, L02.13, L02.211, L02.212, L02.213, L02.214, L02.215, L02.216, L02.219, 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, L02.31, L02.32, L02.33, L02.411, L02.412, L02.413, L02.414, L02.419, L02.421, L02.422, L02.423, L02.424, L02.429, L02.431, L02.432, L02.433, L02.434, L02.439, L02.511, L02.512, L02.519, L02.521, L02.522, L02.529, L02.531, L02.532, L02.539, L02.811, L02.818, L02.821, L02.828, L02.831, L02.838,

Wound Type	ICD-10 Codes
	L02.91, L02.92, L02.93, L03.011, L03.012, L03.019, L03.021, L03.022, L03.029, L03.039, L03.049, L03.111, L03.112, L03.113, L03.114, L03.119, L03.121, L03.122, L03.123, L03.124, L03.129, L03.211, L03.212, L03.221, L03.222, L03.311, L03.312, L03.313, L03.314, L03.315, L03.316, L03.317, L03.319, L03.321, L03.322, L03.323, L03.324, L03.325, L03.326, L03.327, L03.329, L03.811, L03.818, L03.891, L03.898, L03.90, L03.91, L98.3, N61., T79.8XXA, T81.4XXA, T84.50XA, T84.51XA, T84.52XA, T84.53XA, T84.54XA, T84.59XA
SURGICAL WOUNDS	D78.01, D78.02, D78.21, D78.22, D78.81, D78.89, E36.01, E36.02, E36.8, E89.810, E89.811, E89.89, G97.31, G97.32, G97.51, G97.52, H59.011, H59.012, H59.013, H59.019, H59.031, H59.032, H59.033, H59.039, H59.091, H59.092, H59.093, H59.099, H59.111, H59.112, H59.113, H59.119, H59.121, H59.122, H59.123, H59.129, H59.311, H59.312, H59.313, H59.319, H59.321, H59.322, H59.323, H59.329, H59.811, H59.812, H59.813, H59.819, H59.88, H59.89, H95.21, H95.22, H95.41, H95.42, H95.811, H95.812, H95.813, H95.819, H95.88, H95.89, I97.410, I97.411, I97.418, I97.42, I97.610, I97.611, I97.618, I97.62, J95.61, J95.62, J95.830, J95.831, K60.3, K60.4, K60.5, K91.3, K91.61, K91.62, K91.81, K91.82, K91.83, K91.840, K91.841, K91.89, L05.01, L05.02, L05.91, L05.92, L76.01, L76.02, L76.21, L76.22, L76.81, L76.82, M96.0, M96.621, M96.622, M96.629, M96.631, M96.632, M96.639, M96.65, M96.661, M96.662, M96.669, M96.671, M96.672, M96.679, M96.69, M96.810, M96.811, M96.830, M96.831, M96.89, N82.2, N82.3, N82.4, N98.1, N98.2, N98.3, N98.8, N98.9, N99.61, N99.62, N99.820, N99.821, O90.0, S08.811A, S08.812A, S47.1XXA, S47.2XXA, S47.9XXA, S57.00XA, S57.01XA, S57.02XA, S57.80XA, S57.81XA, S57.82XA, S67.00XA, S67.01XA, S67.02XA, S67.10XA, S67.190A, S67.191A, S67.192A, S67.193A, S67.194A, S67.195A, S67.196A, S67.197A, S67.198A, S67.20XA, S67.21XA, S67.22XA, S67.30XA, S67.31XA, S67.32XA, S67.40XA, S67.41XA, S67.42XA, S67.90XA, S67.91XA, S67.92XA, S68.110A, S68.111A, S68.112A, S68.113A, S68.114A, S68.115A, S68.116A, S68.117A, S68.118A, S68.119A, S68.120A, S68.121A, S68.122A, S68.123A, S68.124A, S68.125A, S68.126A, S68.127A, S68.128A, S68.129A, S68.610A, S68.611A, S68.612A, S68.613A, S68.614A, S68.615A, S68.616A, S68.617A, S68.618A, S68.619A, S68.620A, S68.621A, S68.622A, S68.623A, S68.624A, S68.625A, S68.626A, S68.627A, S68.628A, S68.629A, S77.00XA, S77.01XA, S77.02XA, S77.10XA, S77.11XA, S77.12XA, S77.20XA, S77.21XA, S77.22XA, S87.00XA, S87.01XA, S87.02XA, S87.80XA, S87.81XA, S87.82XA, S97.00XA, S97.01XA, S97.02XA, S97.101A, S97.102A, S97.109A, S97.111A, S97.112A, S97.119A, S97.121A, S97.122A, S97.129A, S97.80XA, S97.81XA, S97.82XA, T81.30XA, T81.31XA, T81.32XA, T81.33XA, T81.83XA, T81.89XA, T82.310A, T82.311A, T82.312A, T82.318A, T82.319A, T82.320A, T82.321A, T82.322A, T82.328A, T82.329A, T82.330A, T82.331A, T82.332A, T82.338A, T82.339A, T82.390A, T82.391A, T82.392A, T82.398A, T82.399A, T82.41XA, T82.42XA, T82.43XA, T82.49XA, T82.510A, T82.511A, T82.513A, T82.514A, T82.515A, T82.518A, T82.520A, T82.521A, T82.523A, T82.524A, T82.525A,

Wound Type	ICD-10 Codes
------------	--------------

T82.528A, T82.529A, T82.530A, T82.531A, T82.533A, T82.534A, T82.535A, T82.538A, T82.590A, T82.591A, T82.593A, T82.594A, T82.595A, T82.598A, T84.110A, T84.111A, T84.112A, T84.113A, T84.114A, T84.115A, T84.116A, T84.117A, T84.119A, T84.120A, T84.121A, T84.122A, T84.123A, T84.124A, T84.125A, T84.126A, T84.127A, T84.129A, T84.190A, T84.191A, T84.192A, T84.193A, T84.194A, T84.195A, T84.196A, T84.197A, T84.199A, T84.210A, T84.213A, T84.216A, T84.218A, T84.220A, T84.223A, T84.226A, T84.228A, T84.290A, T84.293A, T84.296A, T84.298A, T84.310A, T84.318A, T84.320A, T84.328A, T84.390A, T84.398A, T84.410A, T84.418A, T84.420A, T84.428A, T84.490A, T84.498A, T85.81XA, T85.82XA, T85.83XA, T85.84XA, T85.85XA, T85.86XA, T85.89XA, T86.820, T86.821, T86.822, T86.828, T86.829, T86.848, T86.849, T87.1X1, T87.1X2, T87.1X9, T87.2, T87.50, T87.51, T87.52, T87.53, T87.54, T87.81, T87.89, T87.9, Z48.01, Z48.02, Z48.03, Z48.89, Z89.411, Z89.412, Z89.419, Z89.421, Z89.422, Z89.429, Z89.441, Z89.442, Z89.449, Z89.511, Z89.512, Z89.519, Z89.611, Z89.612, Z89.619

TRAUMATIC WOUNDS

S21.001A, S21.002A, S21.009A, S21.011A, S21.012A, S21.019A, S21.031A, S21.032A, S21.039A, S21.051A, S21.052A, S21.059A, S21.101A, S21.102A, S21.109A, S21.111A, S21.112A, S21.119A, S21.121A, S21.122A, S21.129A, S21.131A, S21.132A, S21.139A, S21.141A, S21.142A, S21.149A, S21.151A, S21.152A, S21.159A, S21.201A, S21.202A, S21.209A, S21.211A, S21.212A, S21.219A, S21.221A, S21.222A, S21.229A, S21.231A, S21.232A, S21.239A, S21.241A, S21.242A, S21.249A, S21.251A, S21.252A, S21.259A, S21.90XA, S21.91XA, S21.92XA, S21.93XA, S21.94XA, S21.95XA, S28.1XXA, S28.211A, S28.212A, S28.219A, S28.221A, S28.222A, S28.229A, S29.021A, S29.022A, S29.029A, S31.000A, S31.010A, S31.020A, S31.030A, S31.040A, S31.050A, S31.100A, S31.101A, S31.102A, S31.103A, S31.104A, S31.105A, S31.109A, S31.110A, S31.111A, S31.112A, S31.113A, S31.114A, S31.115A, S31.119A, S31.130A, S31.131A, S31.132A, S31.133A, S31.134A, S31.135A, S31.139A, S31.150A, S31.151A, S31.152A, S31.153A, S31.154A, S31.155A, S31.159A, S31.20XA, S31.21XA, S31.23XA, S31.25XA, S31.30XA, S31.31XA, S31.33XA, S31.35XA, S31.40XA, S31.41XA, S31.43XA, S31.45XA, S31.501A, S31.502A, S31.511A, S31.512A, S31.531A, S31.532A, S31.551A, S31.552A, S31.801A, S31.803A, S31.805A, S31.809A, S31.811A, S31.813A, S31.815A, S31.819A, S31.821A, S31.823A, S31.825A, S31.829A, S31.831A, S31.833A, S31.835A, S31.839A, S38.211A, S38.212A, S38.221A, S38.222A, S38.231A, S38.232A, S39.021A, S39.022A, S39.023A, S41.001A, S41.002A, S41.009A, S41.011A, S41.012A, S41.019A, S41.031A, S41.032A, S41.039A, S41.051A, S41.052A, S41.059A, S41.101A, S41.102A, S41.109A, S41.111A, S41.112A, S41.119A, S41.131A, S41.132A, S41.139A, S41.151A, S41.152A, S41.159A, S51.001A, S51.002A, S51.009A, S51.011A, S51.012A, S51.019A, S51.031A, S51.032A, S51.039A, S51.051A, S51.052A, S51.059A, S51.801A, S51.802A, S51.809A, S51.811A, S51.812A, S51.819A, S51.831A, S51.832A, S51.839A, S51.851A,

Wound Type	ICD-10 Codes
------------	--------------

S51.852A, S51.859A, S56.021A, S56.022A, S56.029A, S56.121A, S56.122A, S56.123A, S56.124A, S56.125A, S56.126A, S56.127A, S56.128A, S56.129A, S56.221A, S56.222A, S56.229A, S56.321A, S56.322A, S56.329A, S56.421A, S56.422A, S56.423A, S56.424A, S56.425A, S56.426A, S56.427A, S56.428A, S56.429A, S56.521A, S56.522A, S56.529A, S56.821A, S56.822A, S56.829A, S56.921A, S56.922A, S56.929A, S61.001A, S61.002A, S61.009A, S61.011A, S61.012A, S61.019A, S61.031A, S61.032A, S61.039A, S61.051A, S61.052A, S61.059A, S61.101A, S61.102A, S61.109A, S61.111A, S61.112A, S61.119A, S61.131A, S61.132A, S61.139A, S61.151A, S61.152A, S61.159A, S61.200A, S61.201A, S61.202A, S61.203A, S61.204A, S61.205A, S61.206A, S61.207A, S61.208A, S61.209A, S61.210A, S61.211A, S61.212A, S61.213A, S61.214A, S61.215A, S61.216A, S61.217A, S61.218A, S61.219A, S61.230A, S61.231A, S61.232A, S61.233A, S61.234A, S61.235A, S61.236A, S61.237A, S61.238A, S61.239A, S61.250A, S61.251A, S61.252A, S61.253A, S61.254A, S61.255A, S61.256A, S61.257A, S61.258A, S61.259A, S61.300A, S61.301A, S61.302A, S61.303A, S61.304A, S61.305A, S61.306A, S61.307A, S61.308A, S61.309A, S61.310A, S61.311A, S61.312A, S61.313A, S61.314A, S61.315A, S61.316A, S61.317A, S61.318A, S61.319A, S61.330A, S61.331A, S61.332A, S61.333A, S61.334A, S61.335A, S61.336A, S61.337A, S61.338A, S61.339A, S61.350A, S61.351A, S61.352A, S61.353A, S61.354A, S61.355A, S61.356A, S61.357A, S61.358A, S61.359A, S61.401A, S61.402A, S61.409A, S61.411A, S61.412A, S61.419A, S61.431A, S61.432A, S61.439A, S61.451A, S61.452A, S61.459A, S61.501A, S61.502A, S61.509A, S61.511A, S61.512A, S61.519A, S61.531A, S61.532A, S61.539A, S61.551A, S61.552A, S61.559A, S71.001A, S71.002A, S71.009A, S71.011A, S71.012A, S71.019A, S71.031A, S71.032A, S71.039A, S71.051A, S71.052A, S71.059A, S71.101A, S71.102A, S71.109A, S71.111A, S71.112A, S71.119A, S71.131A, S71.132A, S71.139A, S71.151A, S71.152A, S71.159A, S81.001A, S81.002A, S81.009A, S81.011A, S81.012A, S81.019A, S81.031A, S81.032A, S81.039A, S81.051A, S81.052A, S81.059A, S81.801A, S81.802A, S81.809A, S81.811A, S81.812A, S81.819A, S81.831A, S81.832A, S81.839A, S81.851A, S81.852A, S81.859A, S91.001A, S91.002A, S91.009A, S91.011A, S91.012A, S91.019A, S91.031A, S91.032A, S91.039A, S91.051A, S91.052A, S91.059A, S91.101A, S91.102A, S91.103A, S91.104A, S91.105A, S91.106A, S91.109A, S91.111A, S91.112A, S91.113A, S91.114A, S91.115A, S91.116A, S91.119A, S91.131A, S91.132A, S91.133A, S91.134A, S91.135A, S91.136A, S91.139A, S91.151A, S91.152A, S91.153A, S91.154A, S91.155A, S91.156A, S91.159A, S91.201A, S91.202A, S91.203A, S91.204A, S91.205A, S91.206A, S91.209A, S91.211A, S91.212A, S91.213A, S91.214A, S91.215A, S91.216A, S91.219A, S91.231A, S91.232A, S91.233A, S91.234A, S91.235A, S91.236A, S91.239A, S91.251A, S91.252A, S91.253A, S91.254A, S91.255A, S91.256A, S91.259A, S91.301A, S91.302A, S91.309A, S91.311A, S91.312A, S91.319A, S91.331A, S91.332A, S91.339A, S91.351A, S91.352A, S91.359A

Wound Type	ICD-10 Codes
VENOUS INFECTIONS	B78.1, E83.2, L08.82, L08.9
VENOUS ULCERS	I83.001, I83.002, I83.003, I83.004, I83.005, I83.008, I83.009, I83.011, I83.012, I83.013, I83.014, I83.015, I83.018, I83.019, I83.021, I83.022, I83.023, I83.024, I83.025, I83.028, I83.029, I83.10, I83.11, I83.12, I83.201, I83.202, I83.203, I83.204, I83.205, I83.208, I83.209, I83.211, I83.212, I83.213, I83.214, I83.215, I83.218, I83.219, I83.221, I83.222, I83.223, I83.224, I83.225, I83.228, I83.229, I87.011, I87.012, I87.013, I87.019, I87.031, I87.032, I87.033, I87.039, I87.311, I87.312, I87.313, I87.319, I87.331, I87.332, I87.333, I87.339, I87.391, I87.392, I87.393, I87.399

Note: ICD-9 codes from Nussbaum et al. were converted to ICD-10 using CMS general equivalence mappings. In cases where more than one ICD-9 code maps to an ICD-10 code, a single wound type was chosen arbitrarily for that ICD-10 code. Codes for diabetic foot ulcers and diabetic skin ulcers were added, as in ICD-9 these diagnoses required two codes.

Appendix B. CPT and HCPCS codes used to identify wound care

CPT/HCPCS codes indicating wound care	
00752	Anesthesia for procedure to repair upper abdominal incisional hernia and/or wound opening
10180	Drainage of wound infection after surgery
12001	Repair of wound (2.5 centimeters or less) of the scalp, neck, underarms, trunk, arms and/or legs
12002	Repair of wound (2.6 to 7.5 centimeters) of the scalp, neck, underarms, genitals, trunk, arms and/or legs
12004	Repair of wound (7.6 to 12.5 centimeters) of the scalp, neck, underarms, genitals, trunk, arms and/or legs
12005	Repair of wound (12.6 to 20.0 centimeters) of the scalp, neck, underarms, genitals, trunk, arms and/or legs
12006	Repair of wound (20.1 to 30.0 centimeters) of the scalp, neck, underarms, genitals, trunk, arms and/or legs
12007	Repair of wound (over 30.0 centimeters) of the scalp, neck, underarms, genitals, trunk, arms and/or legs
12011	Repair of wound (2.5 centimeters or less) of the face, ears, eyelids, nose, lips, and/or mucous membranes
12013	Repair of wound (2.6 to 5.0 centimeters) of the face, ears, eyelids, nose, lips, and/or mucous membranes
12014	Repair of wound (5.1 to 7.5 centimeters) of the face, ears, eyelids, nose, lips, and/or mucous membranes
12015	Repair of wound (7.6 to 12.5 centimeters) of the face, ears, eyelids, nose, lips, and/or mucous membranes
12016	Repair of wound (12.6 to 20.0 centimeters) of the face, ears, eyelids, nose, lips, and/or mucous membranes
12017	Repair of wound (20.1 to 30.0 centimeters) of the face, ears, eyelids, nose, lips, and/or mucous membranes
12018	Repair of wound (over 30.0 centimeters) of the face, ears, eyelids, nose, lips, and/or mucous membranes
12020	Repair of separation of wound closure
12021	Repair of separation of wound closure with insertion of packing
12031	Repair of wound (2.5 centimeters or less) of the scalp, underarms, trunk, arms, and/or legs
12032	Repair of wound (2.6 to 7.5 centimeters) of the scalp, underarms, trunk, arms, and/or legs
12034	Repair of wound (7.6 to 12.5 centimeters) of the scalp, underarms, trunk, arms, and/or legs
12035	Repair of wound (12.6 to 20.0 centimeters) of the scalp, underarms, trunk, arms, and/or legs
12036	Repair of wound (20.1 to 30.0 centimeters) of the scalp, underarms, trunk, arms, and/or legs
12037	Repair of wound (over 30.0 centimeters) of the scalp, underarms, trunk, arms, and/or legs
12041	Repair of wound (2.5 centimeters or less) of neck, hands, feet, and/or genitals
12042	Repair of wound (2.6 to 7.5 centimeters) of neck, hands, feet, and/or genitals
12044	Repair of wound (7.6 to 12.5 centimeters) of neck, hands, feet, and/or genitals
12045	Repair of wound (12.6 to 20.0 centimeters) of neck, hands, feet, and/or genitals
12046	Repair of wound (20.1 to 30.0 centimeters) of neck, hands, feet, and/or genitals
12047	Repair of wound (over 30.0 centimeters) of neck, hands, feet, and/or genitals
12051	Repair of wound (2.5 centimeters or less) of face, ears, eyelids, nose, lips, and/or mouth
12052	Repair of wound (2.6 to 5.0 centimeters) of face, ears, eyelids, nose, lips, and/or mouth
12053	Repair of wound (5.1 to 7.5 centimeters) of face, ears, eyelids, nose, lips, and/or mouth

CPT/HCPCS codes indicating wound care	
12054	Repair of wound (7.6 to 12.5 centimeters) of face, ears, eyelids, nose, lips, and/or mouth
12055	Repair of wound (12.6 to 20.0 centimeters) of face, ears, eyelids, nose, lips, and/or mouth
12056	Repair of wound (20.1 to 30.0 centimeters) of face, ears, eyelids, nose, lips, and/or mouth
12057	Repair of wound (over 30.0 centimeters) of face, ears, eyelids, nose, lips, and/or mouth
13160	Second repair of surgical wound
15002	Preparation of graft site at trunk, arms, or legs (first 100 sq cm or 1% body area infants and children)
15003	Preparation of graft site at trunk, arms, or legs
15004	Preparation of graft site of face, scalp, eyelids, mouth, neck, ears, eye region, genitals, hands, feet, and/or multiple fingers or toes (first 100 sq cm or 1% body area of infants and children)
15005	Preparation of graft site of face, scalp, eyelids, mouth, neck, ears, eye region, genitals, hands, feet, and/or multiple fingers or toes
15271	Application of skin substitute (wound surface up to 100 sq cm) to trunk, arms, or legs (first 25 sq cm or less)
15272	Application of skin substitute (wound surface up to 100 sq cm) to trunk, arms, or legs
15273	Application of skin substitute (wound surface greater or equal to 100 sq cm) to trunk, arms, or legs (first 100 sq cm or 1% body area of infants and children)
15274	Application of skin substitute (wound surface greater or equal to 100 sq cm) to trunk, arms, or legs
15275	Application of skin substitute (wound surface up to 100 sq cm) to face, scalp, eyelids, mouth, neck, ears, eye region, genitals, hands, feet, and/or multiple fingers or toes (first 25 sq cm or less)
15276	Application of skin substitute (wound surface up to 100 sq cm) to face, scalp, eyelids, mouth, neck, ears, eye region, genitals, hands, feet, and/or multiple fingers or toes
15277	Application of skin substitute (wound surface great than or equal to 100 sq cm) to face, scalp, eyelids, mouth, neck, ears, eye region, genitals, hands, feet, and/or multiple fingers or toes (first 100 sq cm or 1% body area of infants and children)
15278	Application of skin substitute (wound surface great than or equal to 100 sq cm) to face, scalp, eyelids, mouth, neck, ears, eye region, genitals, hands, feet, and/or multiple fingers or toes
20100	Exploration of penetrating wound of neck
20101	Exploration of penetrating wound of chest
20102	Exploration of penetrating wound of abdomen, flank, or back
20103	Exploration of penetrating wound of arm or leg
31800	Suture of wound or injury to windpipe cartilage
31805	Suture of wound or injury to windpipe cartilage
33300	Repair of wound to heart
33305	Repair of wound to heart on heart-lung machine
42900	Suture of wound or injury in the throat
43410	Suture of wound or injury to esophagus
43415	Suture of wound or injury to esophagus
43840	Suture of perforated ulcer, wound, or injury of stomach or upper small bowel
47350	Suture of liver wound to control bleeding
47360	Suturing liver wound to control bleeding
47361	Suture of liver wound to control bleeding
47362	Re-exploration of liver wound with removal of packing
50500	Suture of wound or injury of kidney
51860	Suture of wound, injury, or rupture of the bladder

CPT/HCPCS codes indicating wound care	
51865	Suture of wound, injury, or rupture of bladder
53502	Suture of bladder canal (urethra) wound or injury, female
53505	Suture of bladder canal (urethra) wound or injury, penis
53510	Suture of bladder canal (urethra) wound or injury
53515	Suture of bladder canal (urethra) wound or injury, prostate
61571	Treatment of penetrating brain wound
65286	Repair of lacerated cornea and/or sclera
65290	Repair of injured eye muscle or tendon
65778	Insertion of amniotic membrane to eye surface
65779	Insertion of amniotic membrane to eye surface with sutures
66250	Revision or repair of operative wound of eye
67930	Suture of recent wound of the eyelid involving lid margin
67935	Repair of wound of eyelid margin
97597	Removal of tissue from wounds per session
97598	Removal of tissue from wounds per session
97602	Removal of tissue from wounds per session
97605	Negative pressure wound therapy, surface area less than or equal to 50 square centimeters, per session
97606	Negative pressure wound therapy, surface area greater than 50 square centimeters, per session
97607	Negative pressure wound therapy utilizing disposable, non-durable medical equipment
97608	Negative pressure wound therapy utilizing disposable, non-durable medical equipment
97610	Low frequency, non-contact, non-thermal ultrasound wound assessment, and instructions for ongoing care, per day
A6000	Wound warming wound cover
A6010	Collagen based wound filler
A6011	Collagen gel/paste wound fil
A6024	Collagen dsg wound filler
A6154	Wound pouch each
A6196	Alginate dressing <=16 sq in
A6197	Alginate drsg >16 <=48 sq in
A6198	Alginate dressing > 48 sq in
A6199	Alginate drsg wound filler
A6209	Foam drsg <=16 sq in w/o bdr
A6210	Foam drg >16<=48 sq in w/o b
A6211	Foam drg > 48 sq in w/o brdr
A6212	Foam drg <=16 sq in w/border
A6213	Foam drg >16<=48 sq in w/bdr
A6214	Foam drg > 48 sq in w/border
A6215	Foam dressing wound filler
A6231	Hydrogel dsg<=16 sq in
A6232	Hydrogel dsg>16<=48 sq in

CPT/HCPCS codes indicating wound care	
A6233	Hydrogel dressing >48 sq in
A6234	Hydrocolld drg <=16 w/o bdr
A6235	Hydrocolld drg >16<=48 w/o b
A6236	Hydrocolld drg > 48 in w/o b
A6237	Hydrocolld drg <=16 in w/bdr
A6238	Hydrocolld drg >16<=48 w/bdr
A6239	Hydrocolld drg > 48 in w/bdr
A6240	Hydrocolld drg filler paste
A6241	Hydrocolloid drg filler dry
A6242	Hydrogel drg <=16 in w/o bdr
A6243	Hydrogel drg >16<=48 w/o bdr
A6244	Hydrogel drg >48 in w/o bdr
A6245	Hydrogel drg <= 16 in w/bdr
A6246	Hydrogel drg >16<=48 in w/b
A6247	Hydrogel drg > 48 sq in w/b
A6248	Hydrogel drsg gel filler
A6251	Absorpt drg <=16 sq in w/o b
A6252	Absorpt drg >16 <=48 w/o bdr
A6253	Absorpt drg > 48 sq in w/o b
A6254	Absorpt drg <=16 sq in w/bdr
A6255	Absorpt drg >16<=48 in w/bdr
A6256	Absorpt drg > 48 sq in w/bdr
A6260	Wound cleanser any type/size
A6261	Wound filler gel/paste /oz
A6262	Wound filler dry form / gram
A6550	Neg pres wound ther drsg set
A9272	Disp wound suct, drsg/access
C5271	Low cost skin substitute app
C5272	Low cost skin substitute app
C5273	Low cost skin substitute app
C5274	Low cost skin substitute app
C5275	Low cost skin substitute app
C5276	Low cost skin substitute app
C5277	Low cost skin substitute app
C5278	Low cost skin substitute app
C9363	Integra meshed bil wound mat
E0231	Wound warming device
E0232	Warming card for nwt
E0769	Electric wound treatment dev
E2402	Neg press wound therapy pump

CPT/HCPCS codes indicating wound care	
G0168	Wound closure by adhesive
G0247	Routine footcare pt w lops
G0282	Elect stim wound care not pd
G0283	Elec stim other than wound
G0295	Electromagnetic therapy onc
G0456	Neg pre wound <=50 sq cm
G0457	Neg pres wound >50 sq cm
G0460	Autologous prp for ulcers
G8571	Ster wd ifx 30 d postop
G8572	No ster wd ifx
G8627	Surg proc w/in 30 days
G8628	No surg proc w/in 30 days
K0743	Portable home suction pump
K0744	Absorp drg <= 16 suc pump
K0745	Absorp drg >16<=48 suc pump
K0746	Absorp drg >48 suc pump
Q4102	Oasis wound matrix
Q4104	Integra bmwd
Q4114	Integra flowable wound matri
Q4119	Matristem wound matrix
Q4124	Oasis tri-layer wound matrix
Q4161	Bio-connekt per square cm
Q4162	Amnio bio and woundex flow
Q4163	Amnio bio and woundex sq cm
S0630	Removal of sutures
S9055	Procuren or other growth fac
S9097	Home visit wound care

Appendix C. Revenue centers included in determination of wound care

Revenue Center Code	Description
0500	Outpatient services-general classification
0509	Outpatient services-other
0510	Clinic-general classification
0511	Clinic-chronic pain center
0512	Clinic-dental center
0513	Clinic-psychiatric
0514	Clinic-OB-GYN
0515	Clinic-pediatric
0516	Clinic-urgent care clinic
0517	Clinic-family practice clinic
0519	Clinic-other
0520	Free-standing clinic-general classification
0521	Free-standing clinic-Clinic visit by a member to RHC/FQHC
0522	Free-standing clinic-Home visit by RHC/FQHC practitioner
0523	Free-standing clinic-family practice
0524	Free-standing clinic - visit by RHC/FQHC practitioner to a member in a covered Part A SNF stay
0525	Free-standing clinic - visit by RHC/FQHC practitioner to a member in a SNF (not in a covered Part A stay)
0526	Free-standing clinic-urgent care
0527	Free-standing clinic-RHC/FQHC visiting nurse service(s) to a member's home when in a home health
0528	Free-standing clinic-visit by RHC/FQHC practitioner to other non RHC/FQHC site (e.g. scene of accident)
0529	Free-standing clinic-other
0530	Osteopathic services-general classification
0531	Osteopathic services-osteopathic therapy
0539	Osteopathic services-other
0657	Hospice services-physician services
0659	Hospice services-other
0940	Other therapeutic services-general classification
0949	Other therapeutic services-other
0960	Professional fees-general classification
0969	Professional fees-other
0977	Professional fees-physical therapy
0982	Professional fees-outpatient services
0983	Professional fees-clinic

Appendix D. Places of service excluded from office-based visits

Place of Service Code	Description
19	Off Campus-Outpatient Hospital
21	Inpatient Hospital
22	On Campus-Outpatient Hospital
23	Emergency Room – Hospital
24	Ambulatory Surgical Center
51	Inpatient Psychiatric Facility
61	Comprehensive Inpatient Rehabilitation Facility
31	Skilled Nursing Facility
53	Community Mental Health Center
26	Military Treatment Facility
41	Ambulance - Land
42	Ambulance – Air or Water
34	Hospice
52	Psychiatric Facility-Partial Hospitalization
56	Psychiatric Residential Treatment Center