

Negative Pressure Wound Therapy (NPWT)

Data Specification Version 1.0

This specification is for payer analytic teams conducting a population cost study comparing adherent and non-adherent NPWT patients. This document defines the study population, inclusion and exclusion criteria, codes required to capture all costs associated with a Diabetes (DM) diagnoses and wound vacuum use.

Chronic wound populations carry significant downstream costs including repeat debridement, infection-related admissions, amputation risk, and prolonged skilled nursing facility stays.

The resulting data pull allows for comparison of expenditures between two groups of patients using wound vacuums for NPWT: confirmed device new starts that were adherent to NPWT therapy (intervention group) and those were not adherent to NPWT therapy (control group). The goal is to build a cost-of-healthcare (COHC) narrative as a data-supported case that demonstrates the financial impact of adherence on DM-related medical and pharmacy spend. This evidence base is the foundation of a value-based program conversation between a payer and CPAP provider.

Definition and measurement parameters

Parameter	Specification
Study type	Retrospective cohort study using paid claims data
Population	Insured members with confirmed DM diagnosis and paid NPWT device claim
Adherence	≥22 hours/day of continuous device use
Measurement Window	90 days with a minimum 3-month paid claim runout
Index Date	Date of first NPWT claim
Prior enrollment	Minimum 3 months continuous enrollment prior to index date

Inclusion Criteria

Criterion	Definition/Rationale
Qualifying Wound Diagnosis	At least one paid medical claim with a qualifying wound ICD-10 diagnosis code
NPWT Paid Claim	At least one paid HCPCS NPWT claim during the study window (POS 12)
Continuous Enrollment	No gap in eligibility/coverage during the measurement period

Exclusion Criteria

Criterion	Definition/Rationale
Prior NPWT Claims	No NPWT claims within the preceeding 3 months of the Index Date
Inpatient-only NPWT use	Claims for inpatient NPWT only (POS 21)
Pediatric members (age <18)	Wound etiology and cost patterns differ materially in pediatric populations
Denied claims only	Members whose NPWT claims were entirely denied are not confirmed device recipients

Diagnosis, procedure, and device codes

Qualifying Wound Diagnosis Codes — ICD-10-CM

ICD-10 Code	Description	Population segment
L89.XX	Pressure ulcer (stage I–IV, unstageable, deep tissue)	Chronic wound — primary
L97.XX	Non-pressure chronic ulcer of lower limb	Chronic wound — primary

ICD-10 Code	Description	Population segment
L98.4XX	Non-pressure chronic ulcer of skin, other sites	Chronic wound
E11.621	Type 2 diabetes with foot ulcer	Diabetic wound
E11.622	Type 2 diabetes with other skin ulcer	Diabetic wound
E10.621	Type 1 diabetes with foot ulcer	Diabetic wound
I70.231–I70.239	Atherosclerosis of native arteries with ulceration	Vascular wound
I83.0XX–I83.2XX	Varicose veins with ulcer	Venous wound
T79.3XXA	Post-traumatic wound infection, initial encounter	Traumatic wound
M86.XX	Osteomyelitis (chronic, subacute)	Wound with bone involvement

NPWT Device & Supply Codes — HCPCS

HCPCS Code	Description	Use
E2402	Negative pressure wound therapy electrical pump, stationary or portable	Device ID / Index date
A6550	Wound care set, for use with NPWT pump	Supply ID
A7000	Canister, disposable, used with NPWT pump, each	Supply ID
A7001	Canister, non-disposable, used with NPWT pump, each	Supply ID
A6021	Dressing, non-contact, island, pad size ≤16 sq in	Dressing / Supply ID
A6024	Dressing, non-contact, island, pad size >48 sq in	Dressing / Supply ID
97607	NPWT using durable medical equipment, ≤50 sq cm (CPT)	Procedure / therapy confirmation
97608	NPWT using durable medical equipment, >50 sq cm (CPT)	Procedure / therapy confirmation
97605	NPWT using disposable device, wound ≤50 sq cm (CPT)	Procedure / disposable device
97606	NPWT using disposable device, wound >50 sq cm (CPT)	Procedure / disposable device

Related Wound Procedures — CPT

CPT Code	Description	Use
97597	Debridement, open wound, first 20 sq cm	Wound severity / cost driver
97598	Debridement, open wound, each additional 20 sq cm	Wound severity / cost driver
97602	Wound care, non-selective debridement, without anesthesia	Wound care utilization
11042	Debridement, subcutaneous tissue, first 20 sq cm	Surgical debridement
11043	Debridement, muscle and/or fascia, first 20 sq cm	Surgical debridement
11044	Debridement, bone, first 20 sq cm	Surgical debridement — high cost
27880	Amputation, leg, through tibia and fibula	Amputation — high cost sentinel event
27882	Amputation, leg, through tibia and fibula, open, circular	Amputation — high cost sentinel event
28805	Amputation, foot, transmetatarsal	Amputation — foot

Comorbidity Flags — ICD-10-CM

Condition	ICD-10 Codes	Clinical relevance
Type 2 diabetes	E11.0–E11.9	Primary driver of chronic wound formation; significantly elevates non-healing risk and cost
Peripheral vascular disease	I73.9, I70.2XX	Impairs wound perfusion; strongest predictor of non-healing in NPWT populations
Congestive heart failure	I50.1–I50.9	Reduces peripheral circulation; complicates healing and elevates inpatient risk

Condition	ICD-10 Codes	Clinical relevance
Chronic kidney disease	N18.1–N18.6	Impairs tissue repair; common co-occurrence in diabetic wound populations
Osteomyelitis	M86.0XX–M86.9	Bone infection complicating wound; significantly increases surgical and inpatient cost
Sepsis / wound infection	A41.XX, L08.XX	High-cost complication of non-adherence; frequent ED and inpatient driver
Obesity	E66.XX	Increases wound complexity and healing time; relevant to cost stratification
Depression / anxiety	F32.X, F33.X, F41.X	Correlated with reduced adherence across wound care populations