

IIIIPOPULI

Service Line Grouping for Real-World Growth



Introduction

For any health system strategic planning or service line growth analyses, the relevance, completeness and structure of the data being reviewed is fundamental. With over 100,000 procedure codes from three different coding systems currently in use, having consistent and complete mappings is critically important.

Today, there is no single standard grouping tool or technology in place. There are publicly available groupers, generally designed for distinct use cases, and there are commercially developed and sold groupers. Health systems and other healthcare organizations may choose to implement one of these groupers or, more often, develop their own, which are typically focused on hospital-based care.

Here, we introduce Populi's Signature Procedure Service Line Grouper, designed to be complete, cross-channel and growth-focused. We then provide background on several other groupers and procedure code types, and conclude with our observed code mapping improvements.



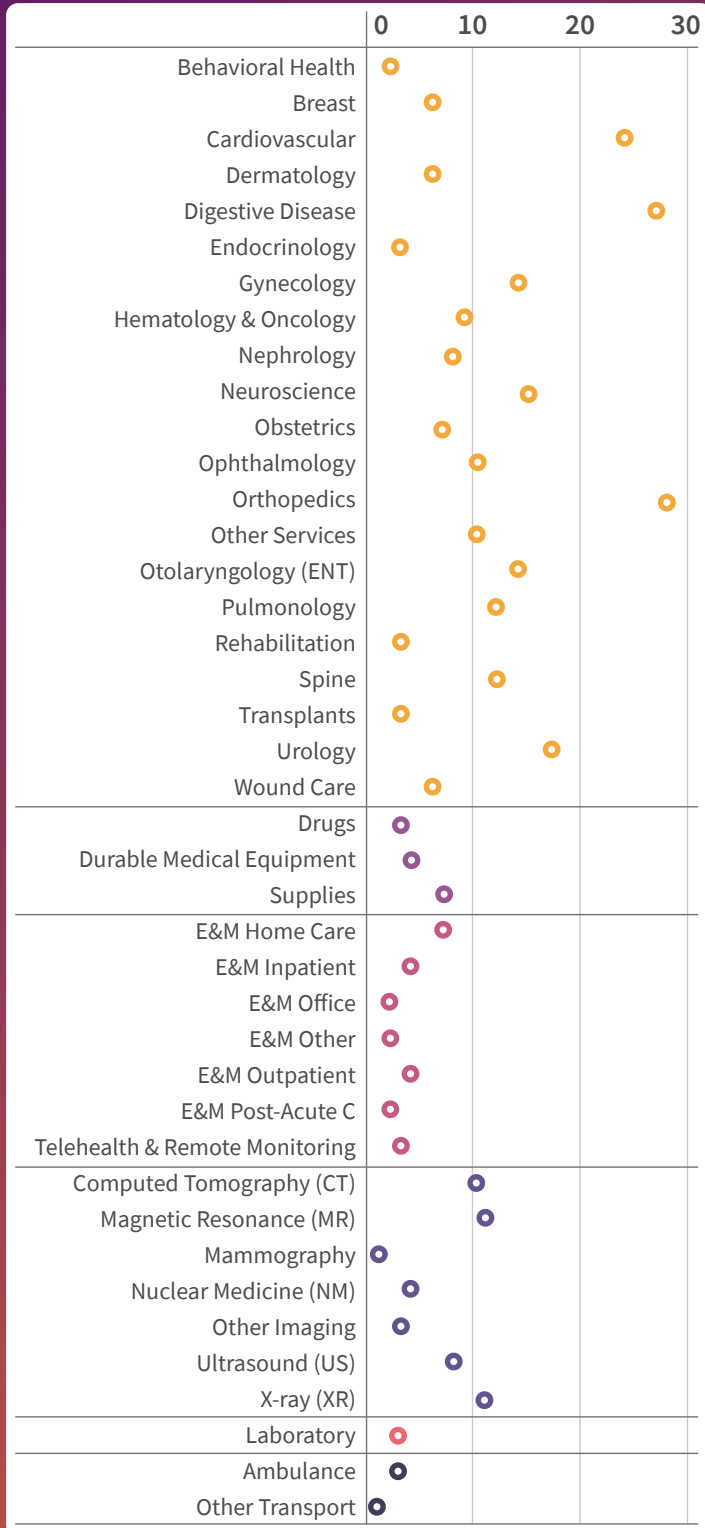
Populi's Signature Procedure Code Grouper

Service Categories By Procedure Volume



Every Service Line and Sub-Service Line is grouped to a Service Category, facilitating faster analyses.

Services Lines Broken Down By Sub-Service Lines



While developing our claims- and consumer-based analytics, Populi encountered the challenges of working with existing procedure groupers. Thus, a decision was made to create a new grouper that aligns with consumer and growth needs. The aim was to have no unmapped or overly general mapped procedure codes, in order to better summarize services and generate better insight into how to target growth, starting with strategic planning and ending with direct-to-consumer and direct-to-provider targeting.

The results are highly promising. One key development was the introduction of a third tier of mapping beyond the traditional Service Line and Sub-Service Line. Called Service Category, it begins with eight distinct areas. Within those eight categories are 43 distinct service lines, with the majority (35) allocated to three key categories of Clinical, Evaluation & Management and Imaging. Those 43 Service Lines are further subdivided into 344 distinct Sub-Service Lines, of which 265 are focused within the Clinical Category Service Lines.

This number of distinct mappings might seem highly detailed, but the results are impressively clear. Within the Populi Signature Service Lines, key strategic service lines are aligned and all codes mapped directly into distinct and familiar structures.

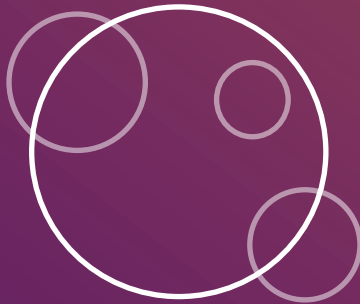
Background: Code Groupers

There are many types of service line groupers that exist, and procedure-based groupings are among the most popular because they directly relate to the services that health systems provide and are reimbursed for. Below is a summary of these procedure-based groupings, why they exist and where there may be limitations:



BETOS

As noted by CMS, the purpose of the Berenson-Eggers Type of Service (BETOS) classification system is to allow “researchers to group healthcare service codes for Medicare Part B services into clinically meaningful categories and subcategories.” This grouper has a limited use case of evaluating Medicare expenditures and creates service lines that are overly weighted toward a 65+ population. This means, for example, that commonly referred to service lines like obstetrics are grouped within general medicine/surgery categories.



AHRQ Clinical Classifications Software (CCS)

Developed through a partnership sponsored by the Agency for Healthcare Research and Quality (AHRQ), this grouper’s purpose is to help assess clinical quality and “inform decision-making at the national, state, and community levels.” While this is a broader and more clinically applicable set of use cases, it is limited when applied to certain growth scenarios because it excludes or creates broad summary groupings that are useful for quality, but may not be as useful to growth, such as imaging or evaluation and management codes.



Commercial Groupers

Most service line groupers that include other proprietary and industry-standard groupings tend to exclude a fair number of codes that may not be highly utilized, or are otherwise mapped unusually. They often produce broad summaries that need to be disaggregated to get to the most relevant procedures. In addition, most existing commercial grouper tools were developed for use by hospitals, which introduces an inpatient and hospital-based outpatient bias in aggregating procedures.



Self-Developed Groupers

Many health systems create and manage their own service line groupings, most of which align with their specific financial use cases to track and trend revenues and costs. These service lines also tend to focus predominantly on hospital-based services, which means clinic, emerging ambulatory and office-based services go largely ungrouped or are bucketed together, not within distinct service lines. This makes it difficult to trend utilization, revenue and cost patterns for specific service lines across all settings of care.

Summary Evaluation

There is not one standard when it comes to defining healthcare service lines, which can create variation in understanding healthcare consumption and trends, particularly when attempting to utilize multiple market intelligence data sources. Most “standard” service line groups were created for a specific purpose or use case relating to cost containment or quality and may not be compatible with truly understanding consumer utilization trends and accurately informing growth strategies.

Background: Procedure Code Systems

To further this discussion, it is important to understand how many types of coding systems there are, how many procedure codes exist and how often they are updated.

International Classification of Diseases (ICD) ICD-10-PCS

Summary

- What care the patient received
- Approx. 87,000 codes
- Centers for Medicare and Medicaid Services (CMS)
- One major update per year
- 17 sections relate to the type of procedure being performed

Purpose

- Originally a way to document mortality
- Tends to be a more granular and clinical-based coding system
- Procedure and diagnosis are typically combined on a claim and mapped to one diagnosis-related group (DRG)

Current Procedural Terminology (CPT)

Summary

- What the provider did
- Approx. 10,000 codes
- American Medical Association (AMA)
- One major update per year with quarterly supplemental updates
- Six major groupings that range from Anesthesia and Surgery to Evaluation and Management
- Typically more summarized than ICD-10-PCS codes

Purpose

Created for reimbursement purposes, so it tends to be highly oriented to how clinical and non-clinical services are paid, especially in the outpatient and clinic settings of care.

Healthcare Common Procedure Coding System (HCPCS)

Summary

- What the provider used
- >10,000 codes
- Centers for Medicare and Medicaid Services (CMS)
- One major update per year with quarterly supplemental updates
- Level I is CPT Category I codes
- Level II codes primarily relate to non-physician services such as materials, supplies, and durable medical equipment (DME)

Purpose

Established to provide a standardized voluntary coding system for Medicare and Medicaid. Now used for healthcare transactions, reimbursement is a motive in coding decisions.



Populi Signature Service Lines

Examples of Improvements

Unmapped Codes

BETOS

16,000

Unmapped codes that map to 43 service lines

Populi Signature Service Lines

75% of the BETOS unmapped codes map to the Clinical Service Category, which is important to most claims analytics and growth use cases.

Of these, more than 50% map to:



Cardiovascular



Orthopedics



Digestive Disease

These are key strategic service lines for most health systems.

Service Line Improvements

Cardiovascular

BETOS

Divided among 7 service lines, primarily:



Procedures



Null



Imaging



Tests

37 sub-service lines, primarily:

- Major procedure CV other
- Major procedure other
- Endoscopy other
- Major procedure cardiovascular aneurysm repair
- Imaging/procedure other
- Null

Populi Signature Service Lines

Of the 21 Clinical Service Lines, Cardiovascular is one of the largest with 24 distinct sub-service lines.

This enables a more in-depth review without comingling of unrelated procedures of Cardiovascular services, which is a robust and growing service line for most health systems.

Populi Signature Service Lines

Examples of Improvements

Service Line Improvements Orthopedics

BETOS

4

Service Lines

- There is not a level of specificity around major growth areas within Orthopedics, such as joint replacements
- Hip and knee replacements are bucketed in one group
- Other types of joint replacements and major orthopedic procedures are grouped into a large “other” category

Populi Signature Service Lines

28

Distinct sub-service lines

Specific groupings for joint replacements:

- Hip
- Knee
- Shoulder
- Elbow
- Hand/wrist
- Foot/ankle

This enables better understanding of the orthopedics market and the ability to target downstream growth tactics from provider through to consumer.

Service Line Improvements Obstetrics

BETOS

Because BETOS is focused on Medicare expenditures, service lines like obstetrics are obfuscated, with codes landing in a general “other procedures” sub-service line.

In other types of groupings, obstetrics is often lumped together in one “delivery” group.

Populi Signature Service Lines

7

Distinct sub-service lines

Separate groups for vaginal delivery and C-sections

This allows better insight into complete women’s health utilization trends.

In summary, using well-mapped service lines is critical to analyzing and trending consumer utilization and market growth needs. These analytics are important across any healthcare organization, from strategic planning to business development to marketing, specifically to accomplish:



Market planning: understand consumer consumption of healthcare services based on common clinical service lines

Organic and targeted growth opportunity: more appropriately discover provider patterns and clinical mix; understand the intersection between providers based on summary and detailed service lines

Direct-to-consumer targeting: drive clinical propensity modeling based on a more detailed mapping of service lines that also tie to complete market analysis

The Bottom Line

Data analytics in healthcare has exploded and improved the potential for strategic planning and service line growth analyses to provide real insights. However, the grouping of healthcare procedures has lagged behind this explosion. Populi, Inc. chose to tackle this problem by developing a completely new methodology to create the Populi Signature Procedure Service Line Grouper. It has yielded logical and more useful mappings of each procedure code to a Service Category, Service Line and Sub-Service Line, to aid health systems and healthcare providers in analyzing their markets.

Populi's customers have given rave reviews to the new structure, finding it logical and highly focused, and often eliminating the need to investigate market activity at the specific code level. While that may be necessary in some instances, the new grouper has brought greater ease and efficiency to many planning and analysis activities.

Get a Proof of Concept Demo

If your organization would like to test out how the Populi service lines function compared to your current methodology, contact us for a code comparison exercise and market analysis.

[Populi.ai/Request-Demo](https://populi.ai/Request-Demo)



About Populi

Populi is an analytics-as-a-service company that makes access to healthcare analytics easy. We enable healthcare organizations to achieve strategic growth by delivering the analytics they need in the platforms they work in every day.