



## Symmetry™ Procedure Episode Groups™, a Methodological Overview

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## Defining Procedure Episode Groups

Procedure Episode Groups (PEG) measure the quality and cost of care provided by surgical specialists as accurately as that provided by primary care practitioners and medical specialists. This analysis is essential for pay-for-performance, network tiering, and other initiatives that demand valid and robust approaches to measuring value in health care.

PEG creates a unit of analysis based on procedural events. These units of analysis provide summary cost information, event duration, the surgeon or proceduralist and specialty, and a sequential map describing the workup and conservative care thru the post-operative care including indicators of failed procedures.

Required input includes standard payment claim information, along with member eligibility and demographic information. PEG, along with the other Symmetry components, provides summary information and provides information at the claim line to aid in linking summary data with the detailed claim information, and to other Symmetry component outputs including episodes of care, member risk information, and compliance to evidence based medicine.

## Key PEG Concepts

A preliminary requirement for PEG processing is evaluation of claims information by the Symmetry Episode Treatment Groups® (ETG®). ETG is a part of the Symmetry Suite of products. ETG provides some clues on how claims define or group to Procedure Episode Groups.

PEG categorizes about 180 distinct procedure groups known as PEG Anchor Categories. Examples of Anchor Categories are Coronary Artery Bypass Graft and Carpal Tunnel Release, Arthroscopic. These are groups of similar Anchor Procedures that clinicians can more specifically define as Coronary Artery Bypass, Using Arterial Grafts; Single Arterial Grafts, or Coronary Artery Bypass, Vein Only; Two Coronary Venous Grafts. PEG includes a grouping hierarchy of procedure practice categories to provide a meaningful classification structure for grouping and analysis, such as Cardiology or Neurological/Orthopedic Surgery.

You must also consider diagnostic and minor treatment procedures when evaluating these anchor categories. PEG calls these Target Procedures. PEG groups specific target procedures, like the specific anchor procedures, into categories. Each PEG anchor category includes a list of Target Categories that may associate to the anchor category. Examples for Carpal Tunnel Release, Arthroscopic include MRI of Any Upper Extremity Joint and Pain Management. Pain Management then includes target procedures that are more specific, like Injection, Anesthetic Agent; Trigeminal Nerve, Any Division or Branch. These target categories provide a map of the care that has been provided, which you use to compare with clinical and statistical standards of care.

Target categories help define the bigger picture of the procedure episode. These provide a picture where all of the associations have a strong clinical relevance to the procedure episode. But this does not provide a complete picture. What of the claims that have, perhaps, less clinical relevance? Certainly, there is a high probability that other claims near the procedure date are associated with the procedure.

Evaluation of the procedure takes into account both the temporal association of the claim to the procedure and the relevance of the claim to the procedure. The target category association, as identified above, identifies the clinical relevance to the procedure. PEG evaluates the association of related ETG to the procedure for the temporal association. For example, PEG may associate claims associated with the ETG Ischemic Heart Disease with the PEG Coronary Artery Bypass Graft.

Determining the proximity of the claim date with the anchor procedure is an important consideration. As mentioned earlier in this paper, PEG must consider the temporal distance from the procedure when making the decision to associate non-target categories. So the mechanism for associating pharmacy and medical claims to a PEG anchor lies in creating multiple time windows.

There is a close time frame defined by a certain number of days prior to the anchor procedure, and a certain number of days after. Within this time period, the software evaluates non-target claims by determining if they have an association with an ETG related to the particular anchor category.

PEG defines a further time frame in a similar fashion by defining days prior and post the anchor procedure. In this time frame, it evaluates the target procedures on whether or not there is a valid relationship between the anchor category and the target category.

Each anchor category then, has 4 time window definitions that include days prior for the close and further time windows, and days post for the close and further time windows. PEG determines these by clinical and statistical analysis of each of the approximately 180 anchor categories. Ingenix makes these available for review by customers. The PEG anchor category Carpal Tunnel Release, Arthroscopic, for instance, has a close time frame defined by 2 weeks prior and 6 weeks post, and a further time frame defined by 3 months prior, and 6 months post procedure. Additionally, PEG can accept customized time frame values, and use these customized time windows for evaluation in certain applications, or perhaps certain regions that require recalibrating these time window definitions.

## Completing Episodes

Another important factor when applying PEG results is to understand if the episode is complete. PEG may tag episodes as incomplete because the member's eligibility has expired before the time frames after the procedure have been reached, or the member wasn't covered before the evaluation periods began. There is also the possibility that there was a competing PEG anchor category within the time frames prior to and post procedure. PEG identifies and differentiates these reasons as eligibility issues or competing PEG, as well as differentiating whether it was the closer or further time frame where the issue occurred. This allows analysts to investigate these results further, or exclude them from their analysis.

Peg outputs a summary record for each PEG episode, whether or not completed. This includes the PEG anchor category and dates that include

the procedure itself, as well as the beginning and end of the episode based on the first and last associated claim date. It identifies the member and cost information, including allowed amount and paid amounts totaled, as well as broken out into types of service such as management, surgery, facility, pharmacy, inpatient, and outpatient. These records also indicate the laterality for such procedures as Knee Replacement Surgery, and as described in the previous paragraph, indicate the completeness for both prior to the procedure, and post procedure.

PEG attributes episodes to the physician who performed the procedure. It includes this information along with the physician's specialty on the summary record. Determining this attribution is often a straight forward decision, although when there may be more than one physician to consider, PEG applies specialty rankings and other methodological considerations in order to make the best decision.

PEG appends claim data that are associated with Procedure Episodes with information including the PEG anchor category, and episode identifier, the target category, and if appropriate, a flag for the target category claims if the information is related to an ETG that is not normally related to the PEG.

## Summary

PEG provides a new and expanded insight into the health care industry. Building on more than a decade of Symmetry experience, PEG provides the building blocks for value-based comparisons based on the procedure. By gathering relevant claims that describe the procedure's cost and sequence of care from work-up and conservative care through recovery and follow up care, PEG reflects the complexity and costs of the procedure and its sequence of care.

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*This paper provides a brief overview of the Symmetry PEG methodology and output. If you would like a more detailed description, refer to the white paper "Symmetry PEG, Assessing Surgical Specialists with Value-Based Measurement." In addition, there are many other resources available through the PEG Transparency Program, including a tutorial.*