Outpatient Excess Days in Acute Care (EDAC) Technical Expert Panel (TEP) Meeting Summary

Development, Reevaluation, and Implementation of Outpatient Outcome/Efficiency Measures
Outpatient EDAC Measure Development TEP Meeting: March 23, 2026

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1. Project Overview

The Centers for Medicare & Medicaid Services (CMS) contracted with Acumen, LLC, its non-profit partner firm The SPHERE Institute, and subcontractors (hereafter jointly referred to as "Acumen") to develop, reevaluate, and implement CMS outpatient outcome and efficiency measures for CMS public reporting and payment programs. As part of its measure development and re-specification process, Acumen convenes groups of stakeholders who contribute direction and input to the measure developer.

Acumen solicited nominations for a Technical Expert Panel (TEP) to develop a measure assessing Excess Days in Acute Care (EDAC) following an outpatient procedure or surgery for potential use in the Hospital Outpatient Quality Reporting (Hospital OQR) and Ambulatory Surgical Center Quality Reporting (ASCQR) programs. The nomination period occurred from January 26, 2026 to February 27, 2026.

2. TEP Meeting: March 23, 2026

This meeting summary document outlines the purpose, discussion, and recommendations from the Outpatient EDAC Measure Development TEP meeting. Section 2.1 provides an overview of the meeting goals and process. Section 2.2 summarizes the discussion and recommendations from the TEP.

2.1 Meeting Aims and Format

The goal of the TEP was to provide input on the following topics that could assist with developing an outpatient EDAC measure:

(i) Review the potential cohort of patient encounters to include within the measure, as well as how to categorize procedure types for use in public reporting
(ii) Discuss the proper timeframe during which subsequent acute care could be reasonably attributed back to the index outpatient procedure, as well as whether this should vary by outpatient setting and/or procedure type
(iii) Review the proposed methodology for risk adjustment and overall measure calculation

Acumen hosted the meeting online via webinar, which was attended by 16 of the 17 TEP members. Acumen's moderating team included the following individuals: Nathaniel Anderson, Project Manager;

Rose Do, Project Director/Clinician; Cheng Lin, Measure Development & Reevaluation Lead. Dr. Dheeraj Mahajan served as TEP Chair. Three Person and Family Engagement (PFE) TEP members (i.e., members with relevant experience as a patient, family/caregiver representative) attended the meeting, which included Janice Tufte, Karen Fernandes, and Steve West. The Outpatient EDAC Development TEP Membership List contains the full list of members, including names, professional roles, employers, and clinical specialties, where applicable.[1]

Prior to the meeting, Acumen provided the TEP with materials to inform the discussion. This included the meeting agenda and a slide deck with embedded empirical results from testing analyses.

After the meeting, Acumen sent a recording of the webinar to TEP members and polled them on their preferences to ensure the measure development recommendations are based on formal, well-documented input. Based on similar meeting discussion practices, the threshold for support was >60% consensus among poll responses. This document summarizes the TEP members' input from both the discussion as well as the poll. As this meeting is part of the measure development process, these are preliminary discussions and materials, which do not represent any final decisions about the measure specifications.

2.2 Measure Background

During the first portion of the meeting, Acumen facilitated introductions for TEP members and discussed the goals for the meeting. Acumen then described the proposed EDAC measure, including context behind CMS's interest in developing this claims-based measure, its potential benefits to the Hospital OQR and ACSQR programs, and an overview of the proposed measure specifications.

During the background, Acumen addressed comments and questions on the EDAC measure:

- Acumen discussed the rationale for developing this measure, which would build off several existing outpatient hospitalization measures already present in the Hospital OQR and ASCQR programs.[2] Essentially, outpatient settings provide a broad range of services, necessitating expansion of the cohort to better characterize services rendered.
    - Several members applauded the effort, with at least one noting they already measured similar outcomes at their own institution. They emphasized the need to capture events related to the initial outpatient procedure to produce a valid and acceptable measure of quality. Another member discussed the importance of effective instructions at discharge, which led to fruitful discussion about the mechanisms in which facilities can improve in the quality of their services and subsequent outcomes (e.g., instrument sterilization, employing appropriate risk-stratification, etc.).
    - Responses to the post-TEP survey emphasized this conclusion, where 14 of 15 (93%) respondents indicated agreement with the statement, "An EDAC measure can differentiate good from poor quality of care among facilities that provide outpatient

[1] The Outpatient EDAC Measure Development TEP Membership List is available on the "CMS Updates to Established TEPs" Page (https://mmshub.cms.gov/get-involved/technical-expert-panel/updates).

[2] The existing outpatient hospitalization measures capture the rate of subsequent acute care (i.e., unplanned hospital admission, emergency department stay, or time spent in observation status) within seven days of receiving a subset of outpatient procedures. There are separate measures by procedure type, which are as follows: ASC-12/OP-32 - colonoscopy, ASC-17 - orthopedic surgery, ASC-18 - urology surgery, ASC-19/OP-36 - general surgery, and OP-35 - chemotherapy.

procedures." The same number of participants also indicated that the measure would be a valuable addition to the Hospital OQR program, and 13 of 15 (87%) responses indicated the measure would be a valuable addition to the ASCQR program.
    - Acumen outlined the limitations in administrative claims, including very little information related to patient-level biomarkers which can influence a facility's overall performance relative to their peers. Acumen noted that an EDAC measure can still function alongside process measures that can more directly assess issues brought up by several PFE members during the conversation, such as instrument sterilization or glucose control.[3]
    - Acumen noted that for other patient-level characteristics captured within administrative claims (e.g., frailty), these could be incorporated into the measure through risk adjustment, which was discussed in a subsequent section of the presentation.
- Several comments and questions sought to clarify how the measure would work. In response to a question about individual practitioner-level assessment across sites, Acumen clarified that this measure is intended to assess quality at the hospital and facility-level. Another participant suggested using the measure to investigate how staffing or referral patterns without particular subsets of facilities may lead to worse outcomes. Acumen anticipated that if adopted into the Hospital OQR and ASCQR programs, these patterns would be monitored as part of measure implementation. Another member asked about the data source and indicated some skepticism regarding the quality of information available on claims. Acumen noted this data source would not impose any additional provider burden on data collection. One participant asked about whether EDAC would replace or complement existing outpatient hospitalization measures in Hospital OQR and/or ASCQR, and Acumen indicated this was under consideration within CMS. Either approach appeared viable based on current analysis and testing results.

2.3 Proposed Measure Cohort

This section of the meeting focused on identifying the proper cohort of procedure types and encounters for the measure. In operationalizing post-procedural EDAC into a measure, it is important to thoughtfully expand the cohort so that any quality signal is not concealed by background variation from a high volume of low-risk procedures. The greatest opportunity would be to focus on higher risk procedures in order to capture true variation in provider quality. Acumen's approach to achieving these aims is described below:

1. Establish a baseline group of procedure types based on the current policy context (i.e., procedures included in existing outpatient hospitalization measures in both Hospital OQR and ASCQR, procedures coming off the inpatient only list).
2. Identify candidates for expansion based on volume in outpatient settings (top 400 procedure types performed in HOPDs) to ensure sufficient sample size for reliable measurement.
3. Screen candidates for measurable, attributable quality signal by focusing on three criteria:
    - Intrinsic Complication Potential — Does the procedure create pathways to unplanned acute care at rates meaningfully above zero?
    - Provider Modifiability — Can technique, training, case selection, and facility protocols plausibly affect complication rates?

[3] Process measures for these aspects of care quality do not currently exist in the Hospital OQR and ASCQR programs, and as such would need to be introduced in the future.

- Attribution Clarity — When unplanned acute care occurs, can the event be linked to the procedure in diagnosis codes?

4. Exclude very minor and superficial procedures where subsequent acute care is unlikely to be procedure-related, and may dilute overall quality signals.

Acumen then discussed this conceptual approach with the TEP, during which they expressed the following feedback:

- One TEP member brought up that the three criteria (Intrinsic Complication Potential, Provider Modifiability, Attribution Clarity) may vary by patient characteristic. Acumen agreed this is a possibility and noted its plan to address this consideration through risk adjustment.
- One TEP member noted the importance of including procedures where there is ample volume to make reasonable comparisons such that hospitals and facilities can make improvements to their performance that are real and impactful.
- The same TEP member noted complexities around staged procedures that may introduce challenges for defining the measure's cohort. Acumen noted that the unplanned inpatient admission algorithm used as part of the measure's numerator should ensure these instances of anticipated follow-up care are not inappropriately flagged in the outcome.

Next, the TEP reviewed the proposed procedure cohort. To facilitate TEP review, Acumen presented selected high-volume procedures, generally organized by body system subclassifications. These are displayed below in Table 1:

Table 1. Examples of Procedures Proposed for Inclusion in the EDAC Cohort

Body System Subclassification	General Description/Examples of Procedures Included
Major Abdominal/GI/Colorectal Procedures	Endoscopies and biopsies, hernia repair, cholecystectomy
Musculoskeletal	Joint repair or replacement (i.e., knee, shoulder, etc.), amputation
Cardiac/Vascular	Cardiac catheterization and intervention, AF ablation, AV fistula creation, peripheral vascular interventions
Kidney/Urinary	Cystoscopy, lithotripsy, TURP, ureteral stenting, urethral repair
Hematologic/Oncologic	Biopsies (i.e., breast, bone marrow, etc.), radiation therapy, chemotherapy
Gynecologic/Obstetric	Hysterectomy, salpingectomy, oophorectomy, biopsy (i.e., uterine, ovary, etc.)
Pulmonary	Bronchoscopy, aspirations and biopsies, tracheostomy revision/closure
Endocrine	Thyroidectomy, parathyroidectomy
Neurologic/Spine	Spinal injections, spinal fusions
ENT	Endoscopies, cochlear implantation, tonsillectomy, sinus surgery
Eye	Cataract surgery, retinal surgery, blepharoplasty
Skin/Wound Care	Skin grafting and skin substitutes, skin lesion excisions

Next, Acumen presented data illustrating how the proposed expansion to the cohort might impact the measure relative to the outpatient hospitalization measures that currently exist in Hospital OQR and ASCQR (see Table 2 below). Key takeaways from this analysis include:

- An expanded EDAC cohort would more than double the number of HOPD and ASC encounters captured in the measure. Reportability (using a threshold of at least 25 cases per hospital/facilities) would increase, particularly in the ASC setting.
- The average number of days in acute care would increase in the HOPD setting, reflecting the higher risk of these newly included procedures. For ASCs, the decline in this metric is likely driven by the high volume of eye procedures, which Acumen subsequently recommended for exclusion from the cohort based on other analyses discussed later.
- Despite the overall expansion in cohort, Acumen made an initial proposal to omit a number of low-risk procedures. Results indicate this omission would have fairly minimal impact on provider performance. This is best illustrated by the high correlation between the 2nd and 3rd column specifications in both the HOPD and ASC settings (spearman correlation of 0.97 or higher).

Table 2: Assessment of Observable Measure Characteristics Across Cohort Categories*,**

	Hospital OQR			ASCQR		
	Current	**Current + Newly Included**	**Current + Newly Included + Excluded**	**Current**	**Current + Newly Included**	**Current + Newly Included + Excluded**
Eligible Encounters	1,105,439	2,366,485	2,730,126	637,650	1,719,390	1,743,741
Facilities with at least 1 Encounter	3,864	4,067	4,087	4,663	5,709	5,712
Facilities with at least 25 Encounters	3,018	3,404	3,423	3,191	5,083	5,100
Days in Acute Care Per 100 Encounters	12.40	13.18	12.92	6.59	5.76	5.75
Spearman Correlation						
Current		0.72	0.71		0.65	0.64
Current + Newly Included			0.97			0.99
Current + Newly Included + Excluded						

* Assumes a 14-day timeframe for capturing EDAC

** Current: included in existing outpatient measures; Newly Included: proposed additions meeting volume/risk criteria; Excluded: proposed removals due to lower risk

Next, Acumen presented potential categories to be used for public reporting, as well as risk adjustment (Acumen discussed the latter in more detail later during the meeting). Public reporting is important for outlining performance in a clear and actionable format so that facilities can make targeted improvements in their performance. Acumen proposed five categories meeting the following criteria:

- Clinical coherence — procedures groupings share similar care pathways and complication types.
- Risk adjustment accuracy — grouping procedures where the same patient factors predict outcomes improve model performance.
- Parsimony — few enough categories to be usable, enough to preserve meaningful distinctions.

Acumen's proposed grouping is presented in Table 3 below:

Table 3: Proposed Categories for Public Reporting of EDAC

Procedure Category	Procedure Types
Hematologic and Oncologic	Chemotherapy, infusions, other hematologic/oncologic
Major Invasive	Cardiac/vascular; Pulmonary; Major Abdominal/GI; Neurologic/Spine
Moderate Invasive	Musculoskeletal; Gynecologic/Obstetric; Kidney/Urinary; ENT; Endocrine
Minimally or Non-Invasive	Eye; Skin/Wound care
Endoscopy and GI Screening	Colonoscopy, upper endoscopy, and other GI endoscopic procedures

Lastly, Acumen presented several denominator exclusions for the measure. These are presented below, alongside their logic in parentheses:

- **Death on day of procedure** (No observation period to measure outcomes).
- **Prior procedure within EDAC window** (Avoids attributing a single acute care event to multiple procedures; removes ambiguity about which procedure drove the outcome).
- ED-**initiated, same-day admission** (Excludes encounters where outpatient care is part of a continuous inpatient pathway).

Supporting data indicated most of these would have minimal impact on measure performance, with only the prior procedure exclusion removing more than one percentage point of the potential denominator (~10% in both outpatient settings).

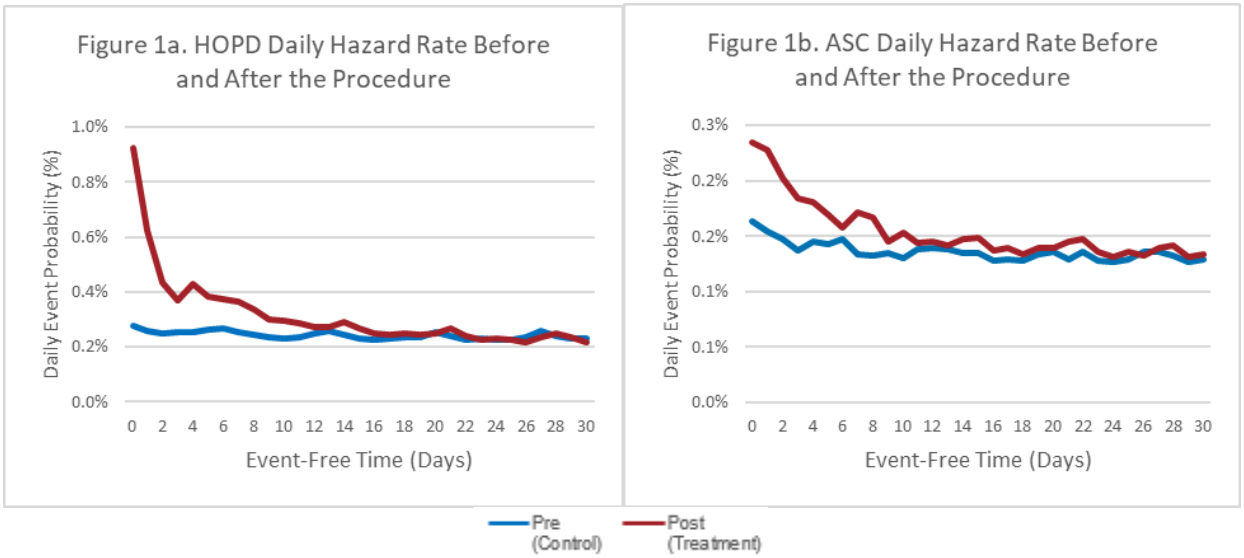
<u>Key Takeaways from Discussion and/or Polls for Defining the Cohort and Defining Subcategories for Public Reporting</u>:

- In general, the TEP voiced **<u>support for the proposed broad cohort</u>**, with several members indicating support for including more procedures. Results from the post-TEP poll confirmed this finding, with 14 out of 15 (93%) members indicating agreement with the statement "Applying [the EDAC] concept to a broader cohort (with public reporting by more specific procedure subcategories) can help patients assess provider quality and provide facilities with a useful indicator to track their own performance."
- The TEP discussion **<u>acknowledged the benefit of grouping procedures together for public reporting (13 of 15 responses [87%] expressed support in the follow-up poll) but noted concerns with the current categories</u>**. Several TEP members suggested focusing on specialties to further break out procedures into a few more additional categories, particularly amongst the Major Invasive and Moderate Invasive groups, though they did acknowledge that procedures such as endoscopies may cross across specialties. Another member took issue with the names for the categories based on invasiveness of the procedure, noting they were constructed largely based on body groupings within which these is a range of procedure invasiveness.
    - At least one member acknowledged that further breaking out procedure categories could impose tradeoffs, such as impacting measure reliability.
- The TEP generally **<u>agreed with Acumen's list of proposed denominator exclusions</u>**. One member raised a question regarding how transfers from ASCs to another facility during the middle of a procedure would be captured. Acumen noted it could conduct further investigations to refine the algorithm and assess if such instances could be cleanly separated from others.

2.4 Considerations for Attribution Timeframe

Acumen discussed conceptual and methodological considerations for the attribution timeframe (i.e., the period after the index outpatient procedure during which acute care events would be flagged and counted in the numerator, hereafter referred to as the EDAC window). Specifically, there is a sensitivity/specificity tradeoff that needs to be weighed in terms of the benefit of capturing additional acute care that could be legitimately related to the outpatient procedure (i.e., true positives or signal) but at the cost of capturing additional encounters that would have occurred regardless (i.e., false positives or noise). Importantly, the appropriate EDAC window may vary both by outpatient setting (i.e., HOPD vs ASC) as well as by procedure category (e.g., major invasive vs. endoscopy and GI screening).

To gain an understanding of current patterns, Acumen presented investigation results using a self-control comparator framework, where compares the daily rate of subsequent acute care for patients with an index outpatient procedure against the same population using a randomly chosen prior window of time that did begin with an outpatient procedure. Results are portrayed in Figures 1a and 1b below:



The day at which the acute care trajectory crosses with the baseline trajectory (roughly 3 weeks in HOPDs and 2 weeks in ASCs) may be an appropriate timeframe to select for the EDAC window. This is the point at which the elevated risk of acute care following an outpatient procedure appears to return to the general level of risk.

Next, Acumen presented the results from the same analysis framework but stratified by public reporting procedure category (see Table 4 below). Acumen noted that based on these findings it may be appropriate to tailor the EDAC window based on the specific outpatient procedure, since there may be varying levels of risk with different procedures amongst the measure's cohort.

Table 4. Hazard Rate Window Convergence Stratified by Procedure Category

Procedure Category	HOPD	ASC
All	17 Days	11 Days
Major Invasive	16 Days	11 Days
Moderate Invasive	20 Days	16 Days
Minimally or Non-Invasive	1 Days	0 Days
Hematologic and Oncologic	11 Days	0 Days
Endoscopy and GI Screening	2 Days	3 Days

Next, Acumen drilled down to a subset of procedures with especially brief EDAC windows, since this raised an issue as to whether they should be included within the measure cohort more generally. Specifically, eye and skin procedures (which could fall into the Minimally or Non-Invasive procedure category) as well as endoscopies have hazard windows that converge within a couple of days based on the analysis framework presented above. Acumen discussed several additional sub analyses where they explored these procedures further, which led to a suggestion to drop the Minimally or Non-Invasive public reporting category from the cohort, but retain the endoscopies.

Key Takeaways from Discussion and/or Polls for Addressing the Attribution Timeframe:

- In general, TEP members indicated **agreement with Acumen's suggestion to vary the EDAC window by procedure type** based on the analysis results presented. In follow-up polling, members strongly re-iterated this sentiment, with 14 of the 15 (93%) members expressing support for varying the window across procedure categories. Some members expressed interest in drilling down even further within the procedure categories.
    - In assessing feasibility of varying outcome timeframes, one member voiced concern that it could lead to unfair comparisons across hospitals or facilities based on their procedure mix (to which Acumen noted this would be accounted for in the next section of the presentation). Another voiced support for using the same standard seven-day timeframe currently implemented for the existing outpatient hospitalization measures in Hospital OQR and ASCQR, as acute care risk beyond this timepoint could be unduly influenced by factors outside the hospital or facility's control (i.e., social determinants of health). Additionally, five of the 15 (33%) members expressed reservations with varying the window across HOPD and ASC settings in the follow-up poll.
- In line with several comments noted during the cohort discussion, TEP members indicated **support for retaining endoscopies** within the measure cohort. The post-TEP survey confirmed this sentiment, with 10 of 15 members (67%) agreeing with the decision to include endoscopies in the expanded cohort. Three votes were neutral, two were against.
- Initially many members expressed skepticism for removing eye procedures from the measure's cohort, in part because many beneficiaries undergoing these procedures have an intrinsic substantial risk for subsequent acute care (regardless of the risk associated with the procedure). However, TEP members reviewed additional data demonstrating very little additional risk of acute care after the eye procedure. At that point in the discussion, there was a **greater mixture in the decision to omit eye procedures** with eight of 15 (53%) indicating support for removal in follow-up polling, but four of 15 (27%) indicating support for continued retention.
- Several TEP members suggested **retaining a subset of skin/wound procedures with a higher risk of subsequent acute care**, such as skin debridements, with a one-week follow-up window. TEP members confirmed this in the follow-up survey (13 of 15 responses [87%]). Acumen indicated they would explore this further as part of measure testing.

2.5 Risk Adjustment Approach and Subsequent Measure Calculation

Next, Acumen discussed the importance of risk adjustment, particularly in the context of a complex measure with a broad cohort where a hospital or facilities procedure mix might drive differences in performance, rather than quality. To address this issue, Acumen had determined that separate models by procedure category (rather than a single model with accompanying interaction terms) would be the optimal approach, as it would allow greater accuracy/flexibility in covariate estimation to account for

variation in risk profile based on the index outpatient procedure. Acumen presented supporting data showing reasonable model performance using this approach.

Acumen then discussed methodological considerations for aggregating results across these separate models for a final EDAC score. Specifically, it proposed using z-score normalization within procedure category, and then taking a volume-weighted average across the public reporting categories prior to retransforming overall results into EDAC per 100 encounters. This would allow the measure to make fairer comparisons across hospitals or facilities where there might be great differences in procedure mix and complexity not fully accounted for through risk adjustment, while also presenting information in a manner that would be interpretable and meaningful to providers and other stakeholders.

Key Takeaways from Discussion and/or Polls for Providing Actionable Information to Hospitals:

- TEP members suggested additional covariates for risk adjustment, including frailty, social determinants of health, complexity of the procedure (e.g., major surgery indicator, Operative Stress Score).
    - One member expressed concern about using relative value units (RVUs) in the risk adjustment model as this indicator can contain post-hoc information that might bias the risk adjustment (and instead urged the developer to use a control that would better account for risk at the time of the procedure).
- One TEP member expressed concern about using a provider random-effect in the risk adjustment model. Acumen indicated they would explore this in its next round of testing.
- TEP members broadly supported the public reporting strategy (i.e., to include information by procedure categories as well as overall score, alongside context relative to the national rate), so as to support the measure's actionability.
    - In follow-up polling, one member emphasized the potential benefit of a phased implementation strategy through confidential reporting, to allow the developer and CMS to explore additional methodological (i.e., equity impact, review cycles for maintenance) and strategic considerations (i.e., clarifying EDAC's role among the outpatient measure set). Another member urged additional consideration to the public reporting strategy, such as transparent and public dissemination of code to encourage additional stakeholder review and input on the measure methodology.
- For z-score aggregation, one TEP member supported Acumen's proposal to include underlying data (i.e., observed and/or risk-adjusted EDAC scores) some form of public reporting to provide additional context to what might drive performance. The member also suggested weighing by reliability during aggregation, rather than purely based on procedure volume.

3. Next Steps

In the last session, Acumen provided a wrap up of the discussion and an overview of the next steps. After the meeting, Acumen distributed the Outpatient EDAC Measure Development TEP Poll to gather formal input from members (results are noted throughout this summary document). Acumen will operationalize input from the meeting and the post-TEP poll for further testing of measure specification refinements and will follow up with TEP members with an update on changes to the measure's specifications as they prepare to submit the measure to the MUC list in early May.