

Editorial

From Crisis to Compliance: Solving the Patient-Reported Outcome Challenge in Orthopedics

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Patient-reported outcome measures (PROMs) have become essential in orthopaedics, yet compliance remains low and threatens both research validity and future reimbursement. Reliance on electronic portals alone yields poor response rates, while multimodal strategies such as in-clinic surveys, pre-visit reminders, and simplified questionnaires achieve higher compliance. With CMS mandating ≥50% PROMs capture for arthroplasty beginning in 2025, institutions risk financial penalties unless collection improves. Embedding PROMs into routine workflows, engaging staff in real-time monitoring, and educating patients about their value can improve completion. Addressing the “epidemic” of missing PROMs data is critical to preserving patient-centered outcomes and meeting future policy requirements.

INTRODUCTION: THE GROWING PROM CRISIS

Starting in 2025, orthopedic practices nationwide will lose up to 25% of their Medicare reimbursement payments if they fail to capture at least half of their patients’ reported outcome scores (PROMs). In recent years, orthopaedic surgeons have increasingly adopted PROMs to gauge patients’ pain, function, and satisfaction after surgery. These standardized questionnaires can improve care by capturing the patient’s perspective, but only if patients actually complete them (Santana and Feeny 2014; Snyder, Aaronson, Choucair, et al. 2012). Unfortunately, completion rates have remained low, raising concern about a growing “epidemic” of missing data. Levens et al (Levens, Kim, Aksu, et al. 2023). conducted a systematic review of PROMs compliance after orthopaedic surgery and found that response rates varied widely from as low as 11.3% to 100%, with an overall mean of 68.6%. Many studies (77%) reported baseline preoperative completion under 80%, and postoperative drop-off is common for longitudinal PROMs. Low completion rates have the potential to introduce reporting bias and further exacerbate disparities in patient care (Zini and Banfi 2021). In a recent study, Printza et al (Printza 2022). demonstrated that after patient discharge, PROM completion rate decreased to 68% after 7 days, 52% after 3 months and 25% after one year. These findings underscore that PROM non-

response is pervasive. Furthermore, certain demographic groups respond even less, including older patients, non-white race, and male sex. Failure to capture PROMs continues to threaten the validity of outcomes and continued research.

FINANCIAL CONSEQUENCES AND COST OF NONCOMPLIANCE

The problem will soon have financial consequences (Squitieri, Bozic, and Pusic 2017). Currently, Medicare does not penalize low PROM collection rates in total joint arthroplasty, but that is changing. Centers for Medicare and Medicaid services (CMS) has implemented a mandatory total hip arthroplasty (THA) and total knee arthroplasty (TKA) PROM Performance Measure (PROM-PM) in value-based care, and after two voluntary reporting years, mandatory reporting for all U.S. arthroplasty programs begins in 2025 (Plate et al. 2024). All Medicare inpatient THA/TKA patients will count, and hospitals must achieve ≥50% PROM capture. Failure to meet this threshold will trigger a 25% reduction in the annual payment update by fiscal year 2028. Thus far, providers have largely deferred PROM collection for arthroplasty, but soon even a blanket 25% Medicare cut threatens. Without urgent improvement, many institutions will face penalties. In fact, one institutional report

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warned that realistic compliance rates remain far below such targets unless reimbursements are adjusted to the true cost of PROM collection (Sutton et al. 2023). Importantly, the mandate to collect PROMs is an unfunded mandate. Thus, institutions will incur the extra costs associated with collecting and organizing such data. Previous investigations into the costs associated with achieving maximal collection of PROMs demonstrated substantial costs incurred with manual PROM collection rather than cheaper automated means (Pronk et al. 2019). Due to the high level of compliance required by the impending CMS mandate, it is likely that automated means will require costly manual collection supplementation in order to achieve adequate PROM collection rates.

RISKS OF NON-RESPONSE: BIAS AND INEQUALITY IN OUTCOME DATA

Poor compliance also biases clinical data and nonresponse is often nonrandom. If only low-pain patients return surveys, outcomes look better than reality. Conversely, sicker patients may drop out. Hence, understanding which patients fail to respond is critical. Levens et al (Levens, Kim, Aksu, et al. 2023). observed the same demographic risk factors noted above and emphasized that younger or elder, non-white patients were least likely to complete PROMs. Other studies echo that electronic-only collection underrepresents patients with limited literacy or access. Horn et al (Horn et al. 2021). reported that an enterprise EHR-based PROM program achieved only 29% to 42% overall response, depending on active status for the portal to the electronic health record. This response rate is substantially below the 70–80% typically seen when dedicated PROM teams reach out by phone or mail (Horn et al. 2021; Zakaria, Mansour, Telemi, et al. 2019; Horevoorts et al. 2015). In this large, hospital-wide implementation, the two major barriers were reliance on the electronic system without robust in-clinic support and lack of real-time monitoring/feedback to clinical teams. Without targeted efforts, PROM data will remain incomplete and its value impaired.

EVIDENCE-BASED STRATEGIES TO IMPROVE COMPLETION

Fortunately, evidence-based strategies can raise completion rates (Anhang Price, Quigley, Hargraves, et al. 2022). Patient education is crucial. Many patients simply do not understand the purpose of PROMs and may feel surveys are optional or irrelevant. However, if patients are shown their pre-operative PROM scores and explained how they may predict their post-operative outcome, it may establish their relevance to the patient. Unni et al (Unni et al. 2024). noted that lack of patient awareness about the importance of PROMs is a major reason for non-completion, and they call for more patient-centered educational outreach. In practice, this can include explaining how PROMs inform one's own care and improve care for future patients. Another effective approach is multimodal contact. Instead of relying

solely on mail or patient-portal messages, practices should employ calls, texts, and in-clinic surveys. For instance, Levens et al (Levens, Kim, Aksu, et al. 2023). found that direct telephone outreach yielded an average 71.5% completion rate, significantly higher than 53.2% by email alone. Similarly, a randomized trial by Yedulla et al (Yedulla et al. 2023). showed that sending a pre-visit reminder via portal or email resulted in significantly greater survey completion (49%) before an outpatient visit vs 30% in controls. Additionally, shortening and simplifying questionnaires improves survey completion. Tailoring the survey design, such as using plain language, limiting the number of questions, and enabling skip logic reduces respondent fatigue. Van Engen et al (van Engen et al. 2024). found that even with 13 different engagement strategies, overall completion in a large hospital reached only 56% in 2023; this underlines the need for clear, user-friendly surveys, timely feedback to patients, and accommodations for diverse populations.

THE PATH FORWARD: EMBEDDING PROMS INTO EVERYDAY ORTHOPEDICS

Finally, integrating PROM collection into the routine workflow is vital. Every arthroplasty patient should have PROMs taken to eliminate the need for staff to have to determine who requires PROMs and who does not. Embedding surveys at clinic check-in or during hospital stays ensures capture, rather than sending forms after the fact. To accomplish this, clinics might be well-served to implement dedicated PROM coordinators, similar to infection prevention staff, to ensure sustained compliance. Several studies have demonstrated that using a strategy that utilizes in-clinic PROM completion increases completion rate and that involving the care team and using multiple reminders could bridge the gap (Snyder, Aaronson, Choucair, et al. 2012; Sisodia, Dankers, Orav, et al. 2020). In other words, PROM collection should be as natural as taking vital signs: staff should cue patients, check completion on the spot, and gently prompt unresponsive patients. Continuous monitoring creates accountability. Resources are needed to support these systems, ranging from information technology infrastructure to dedicated coordinators, but they pay off by generating high-quality data.

Poor PROM completion is a widespread and growing problem in orthopaedics, jeopardizing both patient-centered care and upcoming CMS mandates. Although not yet tied to Medicare payments for arthroplasty, the landscape is shifting quickly with future penalties on the horizon. The good news is that emerging evidence offers solutions: educating patients on why PROMs matter, simplifying and personalizing surveys, leveraging multiple communication channels, and embedding collection into clinical workflows can all improve participation. Rather than using PROMs to “grade” surgeon’s performance, their true utility lies in serving as part of a robust prediction tool that allows identification and accountability for operating on patients with poor predicted outcomes (Shapiro et al. 2024). If PROMs are collected for all patients regardless of extraneous factors, then universal access to the resulting prediction tool

Table 1. Summary of Strategies to Increase PROM Completion Rate

Strategy	Supporting Evidence	Expected PROM Completion Improvement
Use multimodal outreach instead of relying on electronic portals alone (phone, text, e-mail, in-clinic prompts)	Levens et al (Levens, Kim, Aksu, et al. 2023). reported significantly higher completion rates with direct telephone outreach (71.5%) compared with email alone (53.2%). Reliance on electronic EHR-portal messaging alone has been shown to yield only 29–42% response rates in large health systems (Horn et al [Horn et al. 2021]).	Increase from ~30–50% to ~60–75%, especially when combined with real-time staff follow-up.
Send pre-visit digital reminders to complete PROMs	Yedulla et al (Yedulla et al. 2023). demonstrated that patients receiving reminders were more likely to complete PROMs before visits (49% vs 30%).	~15–20 percentage point improvement in pre-visit completion. Reduces burden on clinic staff during visit.
Embed PROM completion into clinic workflow (e.g., at check-in or while rooming)	Multiple studies show that in-clinic completion improves compliance by ensuring surveys are completed at point-of-care. Sisodia et al (Sisodia, Dankers, Orav, et al. 2020). demonstrated increased institutional collection rates when PROMs were integrated into standardized workflows.	Pushes completion to ≥80% in many orthopedic clinic settings, especially when made routine like “vital signs.”
Provide brief patient education on the value of PROMs, ideally showing baseline scores	Lack of patient awareness is a major barrier to completion (Unni et al [Unni et al. 2024]). Clarifying that PROM results directly inform care improves engagement.	Small but meaningful improvement (~5–10%) but also increases long-term completion and reduces drop-off over time.
Simplify PROM instruments (shorter questionnaires, plain language, mobile-friendly format)	Van Engen et al (van Engen et al. 2024). noted that despite multiple engagement strategies, complexity and burden remain major barriers. Streamlined surveys reduce respondent fatigue.	Improvement varies but consistently increases likelihood of completion at later timepoints (3 months, 1 year). Helps reduce longitudinal attrition.
Assign dedicated PROM coordinator / staff accountability	PROM collection is an unfunded mandate. Studies indicate that high compliance requires manual supplementation to automated systems (Pronk et al. [Pronk et al. 2019]; Sutton et al [Sutton et al. 2023]). Programs that hire PROM coordinators achieve higher completion consistency.	Most reliable method to maintain ≥50–70% compliance over time across populations, especially high-risk or low-engagement groups.
Use EHR-linked automation for initial distribution, with staff monitoring non-responders	Horn et al (Horn et al. 2021). found that EHR automation increases efficiency but does not achieve adequate completion unless paired with manual follow-up and monitoring.	Baseline automation yields ~30–50%; monitored hybrid workflows push rates toward 60–80%.

Legend: PROM, patient reported outcome measures; EHR, electronic health record.

would “even” the playing field for surgeons’ decision-making and in turn provide more informed care for patients. Orthopaedic practices must treat PROM capture as a priority, an investment not only to avoid financial penalties but to ensure that the “voice of the patient” is truly heard in outcomes assessment.

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