

Barriers to the Use of Patient-Reported Outcome Measures in Low- and Middle-income Countries

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Patient-reported outcome measures (PROMs)—validated questionnaires that assess patients' perspectives of their health status—have garnered increased attention in high-income countries (HICs). PROMs have been used both for clinical research and in routine clinical care to measure health-related quality of life and patient satisfaction to improve care delivery. In the field of plastic surgery, many operations are performed primarily to improve quality of life, rendering the administration of PROMs particularly relevant. Despite the importance of PROMs, their use in low- and middle-income countries (LMICs) continues to be limited. Although further research is needed to comprehensively understand this issue, we discuss potential barriers of PROM use in LMICs.

The administration of PROMs requires the availability of PROMs that are comprehensible and relevant to patients and healthcare providers. Many patients in LMICs are non-English speaking and live in areas with multiple dialects, necessitating translated versions of PROMs. However, the current availability of translations of both generic and condition-specific PROMs is limited. Furthermore, the questions asked may not be culturally relevant or appropriate if the PROM was developed in a different country or region.¹ Although multiple methods have been described for translation, language and content adaptation, and validation of PROMs,² this is a time-intensive process and may not be feasible in resource-limited settings. In addition, relative to HICs, a larger proportion of patients in LMICs have low literacy levels, requiring inclusive strategies such as adaptation to a multimedia format³ or interview-based administration of PROMs which can introduce bias. (Fig. 1)

The implementation of PROMs in routine clinical care in LMICs poses additional challenges. In HICs, PROMs have been increasingly collected electronically

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Received for publication September 11, 2023; accepted December 11, 2023.

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Strategies to overcome these obstacles include increasing the availability of translated PROMs and developing inclusive strategies to ensure the feasibility of PROM administration to patients with low literacy levels in LMICs. Supportive healthcare policies and sustainable funding are also crucial for the implementation and management of PROM use. International collaboration between mature PROMs programs in HIC users and fledgling programs in LMICs may also be useful. It is imperative to improve the use of PROMs to advance quality of care in LMICs by serving as an avenue to promote patient-centered care and improve clinical outcomes.

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DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

REFERENCES

- 1. Petkovic J, Epstein J, Buchbinder R, et al. Toward ensuring health equity: readability and cultural equivalence of OMERACT patient-reported outcome measures. *J Rheumatol.* 2015;42: 2448–2459.
- Krogsgaard MR, Brodersen J, Christensen KB, et al. How to translate and locally adapt a PROM. Assessment of cross-cultural differential item functioning. *Scand J Med Sci Sports*. 2021;31:999–1008.
- 3. Long C, Beres LK, Wu AW, et al. Developing a protocol for adapting multimedia patient-reported outcomes measures for low literacy patients. *PLoS One.* 2021;16:e0252684.
- 4. Labrique AB, Wadhwani C, Williams KA, et al. Best practices in scaling digital health in low and middle income countries. *Glob Health.* 2018;14:103.
- Owolabi EO, Mac Quene T, Louw J, et al. Telemedicine in surgical care in low- and middle-income countries: a scoping review. *World J Surg.* 2022;46:1855–1869.



HIC, high-income country; LMIC, low- and middle-income country; PROM, patient-reported outcome measure.

Fig. 1. Current limitations and potential solutions for the use of PROMs in LMICs.