

# The Economic Benefits of Community-based Stand-alone Hemodialysis Units (SAUs) in Kerala



**To the Editor:** Bradshaw *et al.*<sup>1</sup> explored household financial hardship in the context of medical subsidy among patients with chronic kidney disease on hemodialysis in Kerala. The study results showed that 9 of 10 households with a family member on maintenance hemodialysis spend 40% to 80% of their nonfood expenditure to support their therapy, and that even after receiving some form of subsidy, they were more likely to engage in distress financing.<sup>1</sup> However, this study explored the economics of only hospital-based hemodialysis units, which, in our view, is the major limitation of the study. Community stand-alone dialysis centers have already become an important alternative to hospital dialysis units (HDUs) in meeting the growing demand for renal replacement therapy, especially in the northern part of Kerala. In a recent research work, we explored hemodialysis delivery in community-based stand-alone units (SAUs) associated with 2 tertiary care hospitals in Calicut district, Kerala, with respect to expanding coverage, feasibility, safety, and economic benefits.<sup>2</sup> We found that, during 2017, of the total 16,182 hemodialysis sessions provided in HDUs and SAUs combined, 75.3% were provided at SAUs.<sup>2</sup> Importantly, dialysis at SAUs resulted in a significant reduction in the mean patient cost of treatment per session, from \$12.86 to 27.15 down to \$7.43, compared to sessions at HDUs.<sup>2</sup> Costs are further subsidized in SAUs through community-generated resources and the involvement of philanthropists. In addition, with SAUs usually being near patients' residences, indirect out-of-pocket costs related to hemodialysis such as travel and relatives' wage loss are likely reduced.<sup>2</sup> Most of the SAUs are organized and operated by nongovernmental organizations providing dialysis on a no-profit, no-loss basis. Laboratory services and relatively expensive medications such as erythropoietin are made available at a lower cost, in addition to transport facilities.<sup>2</sup> Local self-government programs are also made available for all patients, through which \$42.86 is provided as a dialysis subsidy every month.<sup>2</sup> Our study has shown that SAUs cater to a large number of patients, improving access to renal replacement therapy in North Kerala. Moreover, we have found that delivery of

hemodialysis with structured patient safety measures is feasible in SAUs at significantly lower direct patient costs.<sup>2</sup> By limiting data collection only to patients in HDUs, Bradshaw *et al.* may have missed out on a sizeable population of patients on maintenance hemodialysis in North Kerala, which could have significantly influenced the study results.

1. Bradshaw C, Gracious N, Narayanan R, et al. Paying for hemodialysis in Kerala, India: a description of household financial hardship in the context of medical subsidy. *Kidney Int Rep*. 2019;42:390–398.
2. Hafeeq B, Gopinathan JC, Aziz F, et al. The expanding role of 'stand alone' hemodialysis units in chronic renal replacement therapy: a descriptive study from Northern Kerala. *Indian J Public Health*, in press.

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**The Authors Reply:** We thank Hafeeq *et al.*<sup>1</sup> for closely evaluating our work.<sup>2</sup> Hafeeq *et al.*<sup>1</sup> point out that stand-alone units (SAUs) provide dialysis to a substantial number of patients in North Kerala and may be associated with lower patient-level costs due to lower session and travel costs.



Although not stated in the text, much of our data from North Kerala were collected from SAUs affiliated with a tertiary care hospital in Kozhikode and Malabar Institute of Medical Sciences Charitable Trust (N = 332, 61% and 40% of Northern and overall data, respectively). Of this group, 63% reported receiving financial assistance from the government and/or a charity, with a

median monthly assistance amount of US \$72.50 (25th, 75th percentile \$43.50–\$87.00). The median dialysis procedure cost per session was \$5.08 (25th, 75th percentile \$1.21–\$14.50), compared with \$9.67 (25th, 75th percentile \$0.12–\$16.92) for hospital dialysis units (HDUs) ( $P = 0.12$ ). The median transport cost per session associated with SAUs was \$2.42 (25th, 75th percentile \$1.81–\$4.35), lower than the median transport cost for HDUs at \$4.83 (25th, 75th percentile \$1.81–\$6.04) ( $P < 0.05$ ). Despite the reduced transport costs, the prevalence of catastrophic health expenditure and distress financing among patients attending SAUs in North Kerala remained high at 92% and 85%, respectively.<sup>2</sup>

We acknowledge the efforts of the nephrology community in Kerala to provide quality care to patients on dialysis, and we look forward to reading the findings of Hafeeq *et al.*<sup>1</sup>

1. Hafeeq B, Gopinathan J, Aziz F, et al. The economic benefits of community-based stand-alone hemodialysis units (SAUs) in Kerala. *Kidney Int. Rep.* 2019;4:898.
2. Bradshaw C, Gracious N, Narayanan R, et al. Paying for hemodialysis in Kerala, India: a description of household financial hardship in the context of medical subsidy. *Kidney Int Rep.* 2019;4:390–398.

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