ABSTRACT

Health service delivery across Africa is characterised by widespread inefficiency and low service quality. In Kenya, factors that closely influence performance and the critical quality measure items of medical male circumcision services remain unexplored. Specifically, technical efficiency, productivity and service quality and the factor structure of the service quality monitoring tool in Nyanza region remain unclear. Consequently, the current study aimed to evaluate performance in terms of technical efficiency, productivity and service quality of circumcision services and to explore the factor structure of quality monitoring tool in Nyanza region. Using a comparative process evaluation of voluntary medical male circumcision (VMMC) scale-up in Nyanza, site level data was collected among facilities providing VMMC in 2011 and 2012. Assessment of service tasks performed, availability of guidelines, supplies and equipment and, continuity of care was conducted using modified national VMMC monitoring instruments. Data envelopment analysis was performed to evaluate technical efficiency and productivity for 21 facilities using *PIM DEAsoft Version 3.2*. Using *SAS v. 13* software, paired t-test was performed to compare means of the obtained efficiency and productivity scores and exploratory factor analysis to clarify factor structure of quality assessment toolkit. The mean scale technical efficiency scores improved from 91% (SD 19.8) in 2011 to 99% (SD 4.0) in 2012 particularly among outreach compared to fixed service delivery facilities (CI -31.47959 – 4.698508; t= -2.8179; df.= 20; p= 0.005). But change in mean pure technical efficiency scores from 84% (SD 25.3) in 2011 and 89% (SD 25.1) in 2012 was not statistically significant. Benchmark facilities in 2011 were 119 and 125 but only 103 in 2012. Malmquist Productivity Index (MPI) showed service productivity declined at fixed facilities by 2.5% but gained by 4.9% at outreach ones in 2012. The indices show the improved factor productivity of 83% (p= 0.032) in 2012 was largely due to progress in technological efficiencies by 79% (p= 0.008). Principal component analysis extracted three principal factors together accounting for 29.1% of the total variance (12.9%; 9.5% and 6.7%) with final communality estimates being 13.06. Exploratory factor analysis, with item loadings ≥0.4, elicited fifteen items in factor 1, being closely related to preparedness to conduct safe procedures while factor 2 comprising five items depicts compliance with protocols in correctly performing service tasks. Using composite quality index derived from factor 1, 50% of circumcisions performed in 2011 and 58.8% in 2012 ranked as either good or excellent. The study demonstrates that facilities improved in scale but remained technically inefficient. Productivity indices showed performance was driven by technological progress from improved skills mainly among outreach facilities, but constrained by organizational and managerial factors. Facility preparedness and circumcision safety were critical service quality factors. Benchmark facilities were of fixed type. More than half of cases performed in both years ranked above average. These results provide program performance improvement objectives focussing on site level tasks, enhancing personnel technical and managerial skills, bolstering outreach services and monitoring quality using an instrument with fewer critical measure items. Further studies should explore different model estimates, effect of exogenous factors on services and routine use of composite score indices.