

Supplementary Table S4. Studies reporting on costing midwifery education

Reference	Study design	Workforce focus	Study focus	Time horizon	Total education costs	Study conclusion
Boukhalfa et al. 2024 Morocco	Cost-benefit analysis Population-based simulation modelling Societal perspective	Service provision; Education – Pre-service; Education – In-service	Costs and benefits of investing in national scale-up of midwifery; factoring in pre-service and in-service midwifery education.	Modelled costs and benefits to 2030 (7 years).	Initial education US\$87,951,654 In-service education US\$8,567,864 Simulation centres US\$867,611 Total midwifery education investment US\$97,387,129	Total estimated benefits US\$10,152,287,749 Cost-benefit ratio favours intervention at 15.91 (benefits outweigh costs at 1:15.91). Investing in midwifery would provide nearly 16 times greater societal benefits than costs.
Manasyan et al. 2011 Zambia	Cost-effectiveness analysis Baseline-controlled (before/after) study Perspective unclear	Education – In-service	Cost effectiveness of Essential Newborn Care training for Nurse-Midwives v. baseline cohort (before training)	1 year.	US\$20,224 total costs for education and implementation over 12 months .	Essential Newborn Care in-service education for nurse-midwives in first-level facilities is a low-cost intervention to reduce all-cause 7-day neonatal mortality.
Muula et al. 2006 Malawi	Cost description analysis Societal perspective	Education – Pre-service	Costs of health professional education (nurse-midwife) and financial losses from outwards migration considered for two midwifery education pathways - Enrolled nurse-midwife and Degree nurse-midwife.	30 years.	Total direct education costs for an Enrolled Nurse-Midwife (3 years) US\$4512.02. Total costs of investment including primary and secondary education US\$ 9,329. Total direct education costs for Degree Nurse-Midwife (5 years) US\$26,908.75. Total costs of education investment including primary and secondary education US\$ 31,726.	Estimated lost investment for outwards migration of nurse-midwives over 30 years is between US\$71,081 and US\$25.6 million. For each nurse-midwife who emigrates, Malawi society loses a significant amount of investment from all levels of education.
Zainullah et al. 2014 Afghanistan	Cost description analysis Mixed-methods evaluation Health professional education funder perspective	Education – Pre-service	Costs and resources invested in pre-service midwifery education programs.	Costs per year per graduate over 6 years (2004-2010).	US\$10,784 per graduate for complete education. US\$398,585 per batch of 25 midwifery graduates for the 24-month program.	An additional investment of US\$0.19 per capita is needed to supply the Afghan midwifery workforce to meet need for skilled birth attendants.