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**The use of specialty training to retain doctors in Malawi: a cost-effectiveness analysis**

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Background

Few medical schools and high emigration have led to low numbers of doctors in many sub-Saharan African countries. The opportunity to undertake specialty training has been shown to be particularly important to retain doctors. Yet limited training capacity means that doctors are often sent to other countries to specialise, increasing the risk that they may not return after training. Expanding domestic training, however, may be constrained by the reluctance of doctors to accept training in their home country. We modelled different policy options in an example country, Malawi, in order to examine the cost-effectiveness of expanding specialty training to retain doctors in sub-Saharan Africa.

Methods

We designed a Markov model of the labour market for doctors in Malawi, incorporating data from tracing studies, doctors’ preferences for specialty training and local cost data. This is the first time to our knowledge such a model has been constructed for the medical workforce in sub-Saharan Africa. A government perspective was taken with a time horizon of 40 years. Expanded specialty training in Malawi or South Africa with varying mandatory service requirements were compared against baseline conditions. The outcome measures were cost per doctor year and cost per specialist year in the Malawian public sector.

Results

The most cost-effective intervention was expansion of specialty training within Malawi. Longer periods of service before training were more cost-effective, with five years’ mandatory service adding the most value in terms of doctor-years. At the end of 40 years of expanded training in Malawi, the medical workforce would be over fifty percent larger and there would be over six times the number of specialists compared to current trends. These policies, however, would cost more than current government spending. The government would need to be willing to pay at least 3.5 times more per doctor-year for a five percent minimum increase in total doctor-years over baseline and at least fifty percent more per specialist-year for a maximum six-fold increase. The most optimal option differs between subgroups of doctors, with greater increases in doctor- and specialist-years possible in those with more flexible preferences.

Conclusions

Sustained funding of specialty training could lead to improved retention of doctors in sub-Saharan Africa.