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# Retaining Health Workers in Rural Areas of Timor Leste: What Can Health Worker Preferences Tell Us?

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This briefing note presents the key findings and policy implications of a 2014 discrete choice experiment (DCE) conducted with 441 health workers, in all 13 districts of Timor-Leste.

The key findings are:

- The "probability of specialisation" was the most important factor for medical doctors followed by visits from specialists, the availability of equipment, good housing, working in higher-level facilities and an urban location
- Newly graduated doctors were totally neutral toward wages
- For nurses and midwives, in-service training was valued most highly, followed by transportation, equipment, a remote location and housing

The following recommendations are based on the findings from this experiment:

- Enhance in-house training and specialist visits for health workers based in rural areas
- Increase non-financial benefits (training, supervision, housing etc.) to make rural jobs more attractive
- Carry out further analysis of the DCE data to include modelling cost-effectiveness of various models

## Background

Retaining health workers in rural areas is one of the critical challenges for health systems in most countries. In Timor-Leste a large number of health workers (particularly doctors) were deployed to rural health facilities in the recent past. In order to retain and keep these health workers motivated to serve the rural population it is important to understand what motivates them. It is also important to understand what policy options and modalities are available to encourage health workers to opt for and stay in rural areas.

In 2014, a survey was conducted in Timor-Leste to better understand facility functionality, labour market dynamics, the preferences of health workers, and the competence of doctors. This briefing note presents the findings of the discrete choice experiment (DCE) component, which investigated health worker preferences and choices.

## Methods

DCE is a study method, which uses econometric modelling based on Lancaster's theory of values (Lancaster, 1966). In DCE, various job attributes are investigated to generate different choice sets, which are administered to the respondents. The answers are then analysed to identify priorities and trade-offs that respondents are willing to make.

In February and March 2014, prior to the main survey, qualitative research (involving key informant interviews and focus group discussions) was conducted in Timor-Leste to identify the job attributes health workers consider when deciding on rural postings.

The attributes that were explored during the qualitative research included:

- Location (urban/ rural)
- Living close to family members
- Facility types
- Health facility equipment
- Wages
- Housing
- Motorbikes
- Training
- Supervision
- Workload

Based on the findings from the qualitative study, 16 choice sets were prepared and included in the general health worker survey questionnaire.

In total, 441 health workers were surveyed (173 doctors, 150 nurses and 118 midwives) from all 13 districts of Timor-Leste. The sampling was conducted using systematic random sampling with probability proportional to size. Three field teams collected the survey data during July and August 2014.

During the analysis, following the random utility theory, a model was created to analyse the respondents' choices (McFadden, 1976). The relative importance of each coefficient then generated the Marginal Rate of Substitution (MRS) between the different attributes.

## Key Findings

### Top attributing factors

The top attributing factors for the doctors, nurses and midwives are listed in order of importance below.

**Doctors**

- Wage was not significant (for young doctors)
- Probability of specialisation
- VIsits from specialists
- Availibility of equipment
- Good housing
- Working in higher level facilities
- Urban location

**Nurses and midwives**

- Wage was significant
- In-service training
- Transportation
- Availibility of equipment
- Remote location
- Housing

### Doctors' overall preferences

While young doctors were completely neutral toward wage, elder doctors did consider wage as a significant factor. However, since the large majority of the sampled doctors were young, wage was not a significant factor on the whole.

The largest and most positive coefficient for doctors is on the higher probability of specialisation, which means that training is the attribute with the largest range between its best level and its lowest level. Beside specialisation, visits from specialists to the doctor's facility are a type of training that is valued.

Good and medium-level equipment are also important to doctors, and they prefer to work in a community health centre (CHC) rather than in a health post **(**HP**)**. An urban location is preferred to remote and extremely remote locations, although it seems that extremely remote locations do not carry a different

value from remote locations in the eyes of the interviewed doctors.

As for personal benefits, good housing comes first, while wages and having a motorbike do not seem to be important at all: for them, the coefficients are negative, but not significantly different from zero.

**Nurses and midwives' overall preferences**

In contrast with doctors' preferences, wages had a positive coefficient of 0.0012 per dollar, i.e. almost the same as a remote location or good equipment. For these groups, a remote area is preferred to both urban and extremely remote locations, but an urban location is significantly preferred over an extremely remote one. CHCs, good housing (over poor housing) and motorbike (over no motorbike) also have positive coefficients that are significantly different from zero.

## Policy Implications of the Main Findings

**Implications for doctors**

One of the most interesting findings of the study is the relative lack of importance doctors placed on wages. This is in line with a number of recent DCEs in other countries (Kruk, 2010; Blaauw et al., 2010). In the Timor-Leste context, doctors may see themselves as already better-off (with a salary of US$ 610 per month) compared to other civil servants. In that case, their preference for professional development opportunities rather than increased wages may be reasonable. Moreover, most of the doctors in Timor-Leste are in the early stages of their career – a stage when they may value career development more than financial incentives.

The DCE results suggest that improving facilities, availability of drugs and medical equipment would be largely enough to compensate for an urban location with low-level equipment for doctors. As for training, visits from specialists or a higher probability of specialisation would also incentivise doctors to work in non-urban settings. Working in a rural CHC would also result in a 51% increase in satisfaction; compared to doctors in urban HPs. Good housing would increase satisfaction by 86%.

Training is a powerful job attribute that appears to determine job choice, including location. The fact that urban health workers enjoy more training adds to the attraction of urban jobs. Access to training should be determined by both training needs and the incentive it may provide in recruiting health workers to desired locations. Younger doctors, female doctors and those in CHCs and HPs tend to value training more. Keeping routes to specialisation open may well be highly effective in retaining doctors in rural areas.

There are various ways that policy-makers could seek to revise current policies based on these findings.

**Implications for nurses and midwives**

Urban locations seem to be less desirable than remote locations for nurses and midwives. However, urban locations are more appreciated than extremely remote locations. The policy question arises as to how to attract nurses and midwives to extremely remote places.

The DCE analysis revealed several options to encourage nurses and midwives to move from urban areas to extremely remote areas. If the nurses and midwives were given housing and a motorbike in extremely remote locations, they would prefer to work there instead of urban areas (in cases where the urban job does not have housing or a motorbike).

However, it would be difficult to incentivise health workers to move from a remote location to an extremely remote location, as the marginal disbenefit they get from moving from a remote area to an extremely remote area is very high.

## References


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