Valuing cost in cost utility analysis of screening programme

The authors of the paper “Cost-effectiveness of a community-based screening programme for chronic atrial fibrillation in Japan” aimed to perform a cost-utility analysis of an annual community screening programme and to compare three strategies: annual screening with ECG, annual screening with pulse palpation for arrhythmia followed by ECG when arrhythmia was detected, and no screening. The authors attempted to estimate costs for the screening programmes retrospectively, using literature reviews from different countries, National Authority reports on salaries and budgetary line items. This is not appropriate for economic evaluation because not all costs are taken into account and the method can lead to misinterpretation of the real cost of intervention.

Both tangible and intangible items must be taken into account in calculating the costs, regardless of whether they are used by and accrue to health services, society or the individual. The authors have missed the opportunity to estimate costs separately for each screening and then calculate the costs for each patient. Costs should include all follow-up visits (administration, clinical examination, consumables), ECGs (consumables, staff, annual equivalent costs for equipment, processing and reporting costs), and palpation (processing and reporting costs, staff). Costs for some resources, for example rent, may vary because of market forces, so it is best to present the method as outcome data. The economic definition of costs should be used in cost valuation rather than the financial definition. This concept implies that all resources consumed by an intervention should be costed, not just those constituting a budgetary line item.

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References

Author response
We appreciate the comments by Dr Vanagas. He emphasizes three points:

1. Some costs related to the screening programmes and follow-up visits are missed.
2. The monetary aspect of the benefits generated by screening programme is not included.
3. The best design for cost-utility analysis is a follow-up study to gather both outcome data and costs.

In response to Dr Vanagas’ first point: among the costs that he lists, only the costs of the depreciation of ECG recorders, consumables and processing and reporting (by mail) were not included in our model. An estimated total of these costs is less than US$1 per person examined due to the large number of examinees. It is in fact much smaller than the time cost to patients (US$15.22), which was included in cost analysis. Therefore, even if these missed costs were counted in the model, our conclusion that annual screening programmes are cost-effective remains the same.

We disagree with Dr Vanagas’ second point. In our model, we calculated health benefits measured in utility derived from early diagnosis of atrial fibrillation. Health status as measured in utility usually includes an individual’s productivity (e.g. the amount or type of work they do). Adding the monetary value of benefits to cost counting in our model would therefore be double counting.

We do, however, agree with the third point. A cost-utility analysis of screening programmes based on follow-up studies is not easy to conduct because of long follow-up period and high cost, although it is considered feasible. In Japan, a follow-up study comparing annual ECG screening programme and no screening programme is impossible because annual screening programmes have already been implemented for years by local governments under municipal law nationwide.

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