Results from a KCCO workshop on the cost of outreach services in eastern Africa

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Background

As eye service programmes organize to achieve VISION 2020 targets, it is clear that they need to go out into communities to make services available to the patients, rather than wait for patients to come to them. This is usually done through outreach services.

Eye units in Africa currently use a variety of outreach service approaches. A popular strategy is one in which a team goes out to examine large groups in the community, provides basic ocular medical services, makes definitive selection of patients who will benefit from surgery, then brings those selected back to the base hospital for surgery. This is sometimes referred to as the "Aravind model" and it has several advantages:

- It does not take the surgeon and team from their base station for too long (as compared to sending a team to do surgery outside the hospital)
- The quality of surgery provided at the base hospital is likely to be superior to that provided at a makeshift outreach clinic
- A team with skills enough to diagnose early operable cataract accurately should encourage patients to have surgery before they become blind and avoid the common testimony – "I was told to wait and come back when my vision was worse"
- A team with skills enough to diagnose and treat a number of causes of visual impairment as well as basic eye diseases brings the service into the community. This avoids needless trips to the hospital by patients who are merely "screened" by low level health workers.

One concern of any approach that transports patients to the hospital is the cost. Although there have been numerous efforts to calculate the cost of providing cataract surgery at the hospital, we are not aware of any documentation of the cost of outreach. Lack of systematic methods for data collection and costing various contributions from donors makes the process difficult.

Methods

As a first attempt at costing outreach programmes, an International Eye Foundation-sponsored workshop was held in December 2005. Six programmes from eastern Africa that all conduct outreach as described above were invited to meet at the Kilimanjaro Centre for Community Ophthalmology (KCCO) in Moshi, Tanzania. Accountants or managers from each programme filled out questionnaires ahead of time, then met for two days to discuss findings and revise estimates. In the calculation of costs we agreed to consider: the costs of pre-outreach (promotional) activities, costs on the day of outreach, and costs of community follow up. We omitted all costs incurred during the hospitalization. We considered salaries of personnel involved in outreach (prorated for % of time spent on the activity), special allowances, fuel costs, advertising costs, stationery, consumables including

medicines given for free, and meals provided for staff or patients. Programmes that used their own vehicles included some depreciation for this.

Four programmes provided services from community level to hospital in defined catchment areas. Two other programmes worked together, with one providing the community outreach and the other picking up patients from these outreaches and transporting them back for surgery. Data from these latter two were not included although, interestingly, when we added the cost per patient operated from each of these, we arrived at a number very close to the average cost of the other programmes. All programmes provided similar services including registration, examination (including IOP measurement and funduscopy as indicated), consultation, medical treatment at the site if necessary, and return transport for cataract patients. Most programmes sold presbyopic spectacles and some provided more complete refractive services. One programme had an extensive community educational programme and rehabilitation for the blind integrated in its outreach activities.

After a discussion of programme services we formed a consensus on the variables that must be factored in when costing, then calculated overall costs for each programme for 2004. Then we calculated various indicators as shown in the table.

Indicator (all costs are in $US)		
	Range	Average
Number patients examined per outreach visit	85-191	108
Cataract surgery acceptance rate	51%-93%	76%
Cost per outreach visit	$234-674	$421
Operable cataract patients detected per outreach visit	9-30	14.75
Cost per cataract patient detected	$23-46	$32
Cost per patient transported to hospital*	$33-56	$43
Cost per patient examined on outreach	$1.8-4.8	3.3
CSR for the programme catchment area	811-1508	1080

* Virtually 100% of patients brought back for cataract surgery receive it. (This is one advantage of using a team with enough skill to do funduscopy.)

Discussion:

Many assumptions go into calculating costs of programmes which make it hazardous to compare one programme to another. Nevertheless, for planning purposes it is important to have an idea of what services cost. For individual programmes it is useful to monitor costs and results regularly. We were encouraged to find that in

spite of some differences among programmes and completely different accounting systems we calculated a rather narrow range of costs per cataract patient transported. Omitting the highest (which was likely related to the fact that this was the programme with extensive community education servicesand rehabilitation of the blind), we estimate that it will cost outreach programmes in eastern Africa $35-45 per cataract patient transported. It is important to note that these figures include providing medical consultative (not just screening) and basic refractive services to the catchment populations as well.

These costs are higher than those expected in Asian regions. Greater distances and sparse population density in eastern Africa are expected to result in higher costs for getting services to people. We recommend eye care institutions track and report their outreach program cost per cataract patient brought for surgery, and the strategies they use to improve these results. Further we recommend that donor agencies become aware that the full cost of providing a cataract surgery is the community outreach plus the hospital cost.

Implications for VISION 2020 planning: When combining the cost of this basic eye care service at the community level with the cost of hospital-based cataract surgery (estimated at US$40-60 in these programmes) we can estimate a total cost of about US$100 per cataract patient operated.. Using VISION 2020 targets of 2,000 cataract operations per million population in Africa, these programmes ought to be able to provide basic services for a population of 1 million for 5 years for about 1 million $US ($100 x 2000 x 5 years). This estimate has been suggested before and may be useful in advocacy and fund raising.

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