

What does it cost to provide surgical services for children with congenital/developmental cataract in Tanzania?



Determining the cost of cataract surgery in children

1. KCMC Hospital catchment area children (congenital or developmental cataract)
2. Need to include information:
 - a) Hospital costs (ward, surgery, follow up)
 - b) Patient costs (direct: transport, meals & indirect)
3. Multiple trips
 - a) Surgery
 - b) Follow up (spectacles, low vision devices, etc.)



Assessment of costs

Ward costs

- Food
- Nursing care

Surgical costs

- Ophthalmologist
- Anesthetist
- Nursing staff
- Consumables
- [Equipment/instruments]

Assessment of costs

Follow up costs

- Spectacles
- Low vision devices
- Ophthalmologist, optometrist, low vision technician

Patient &

parent/guardian costs

- Transport to hospital
- Meals (during journey)
- Lost earnings
 - During travel
 - Hospitalization
 - Follow up

Note: does not include costs at home (e.g., other child care)

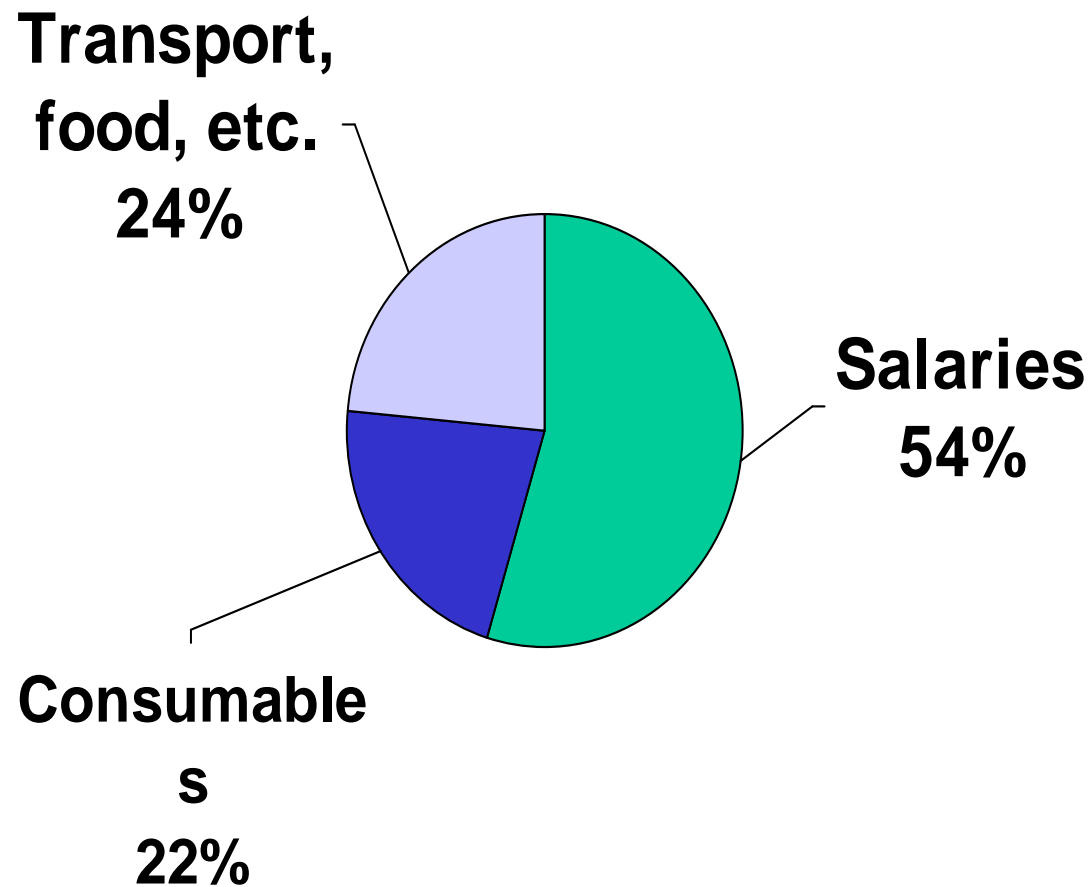
Methods

- Children receiving surgery at KCMC in 2007 and part of 2008
- N=160 (2007)
- Average per capita consumption expenditure (\$9.20/month = \$110.40/year)

Estimated costs per child

Hospital: ward expenses	\$134.20
Hospital: surgical expenses	\$300.14
Hospital: follow up expenses	\$47.00
Patient expenses: direct costs	\$58.98
Patient expenses: indirect costs	\$17.48
Total	\$557.80

Proportion to total costs by type



Interpretation

- Cost of good quality cataract surgery in children in Africa high
 - Estimates = \$560 per surgery
 - Underestimate (re-admissions for EUA & suture removal, etc)
 - Fees charged considerably lower
 - Beyond the reach of most families (even for transport)
 - Given the size of the catchment area (10 million) need to support transport
 - Requires subsidy (fees & transport)

Strategies to reducing costs

- Decentralize refractive services & some low vision care (after assessment at tertiary hospital)
- Use foldable lens manufactured at Aurolab



Strategies to reduce costs

- Bilateral surgery
- Improved surgical techniques
 - Reduce suture removal
 - Reduce risk of PCO

What do our findings suggest?

- Providing cataract surgery in children requires an investment in all aspects of service delivery (not just the surgery)
- Clear and coherent planning needed to develop CEHTF (avoid duplication of efforts)
- External support needed to ensure that services are of high quality and comprehensive (beyond capacity of parents to pay)

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Calculations: Ward expenses

<i>Item</i>	<i>Cost</i>	<i>Unit</i>	<i>Total</i>
Food (includes parent/guardian)	\$5/day	11 days	\$55
Nursing staff	\$7.20/day	11 days	\$79.20
Total			\$134.20

Calculations: Surgical expenses

<i>Item</i>	<i>Cost</i>	<i>Unit</i>	<i>Total</i>
Programme coordinator	\$44.84	1	\$44.84
IOL: Acrysoft	\$90	.80	\$72
IOL: PMMA	\$3	.20	\$0.60
Other consumables	\$22.20	1	\$22.20
Ophthalmologist	\$187.50	.60	\$112.50
Anesthetist & nursing	\$24.00	2	\$48.00
Total			\$300.14

Some amounts doubled if bilateral surgery done

Calculations: Follow up expenses

<i>Item</i>	<i>Cost</i>	<i>Unit</i>	<i>Total</i>
Post operative spectacles	\$30	0.8	\$24
Low vision devices	\$5	0.4	\$2
Optometrist & low vision technician	\$21	1	\$21
Total			\$47

Note: Children need replacement spectacles about once per year

Calculations: Patient expenses

<i>Item</i>	<i>Cost</i>	<i>Unit</i>	<i>Total</i>
Transport to/from hospital	\$16.73	3	\$50.19
Meals during transport	\$2.93	3	\$8.79
Lost earnings: Transport to hospital At hospital Follow up	\$9.20	0.95 x 2 2 days 11 days 6 days	\$17.48
Total			\$76.46