

Mapping Human Resources to Guide Ophthalmology Capacity-Building Projects in Honduras: Sub-national Analyses of Physician Distribution and Surgical Practices

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BACKGROUND:

- Cataracts are the leading cause of blindness globally¹
- Much of the developing world has inadequate access to cataract surgical services
- Access is heterogenous even within a single country
 - Cataract surgical rate (CSR, surgeries per million people per year) is one measure of access
 - CSR varies globally; targets may be best determined by age structure of the population²
- National-level data is inadequate for program development

METHODS:

- Anonymous survey of all ophthalmologists in Honduras
- Questions included
 - Location
 - Surgical volume
 - Payer mix
 - Surgical approach
 - Physician age
- Multidimensional Poverty Index – Oxford MPI³
 - Department-level MPI
- United Nations population data from 2022
 - Department-level population data
- ESRI ARC-GIS® mapping software

RESULTS:

- 61 of 102 ophthalmologists replied
- 85% (n=52) report performing cataract surgery
- National CSR = 1594
 - Range by department from 0 to 4787
 - 7 departments with CSR = 0
- Estimated 5.5 cataract surgeons per million people (global average = 14.1)
- Setting: 51% work only in private setting, 41% do some work in government or NGO setting

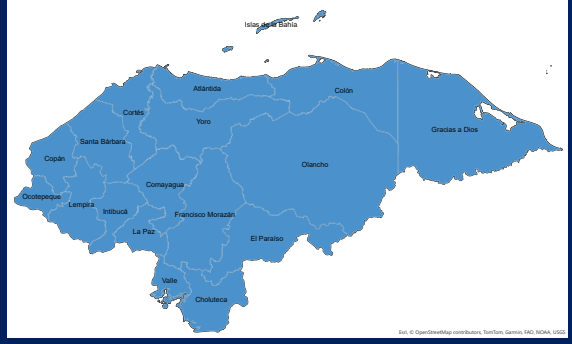
CONCLUSIONS:

- Survey, sub-national population, and poverty data can be analyzed with widely available mapping software to assess and then strategically develop surgical eyecare capacity

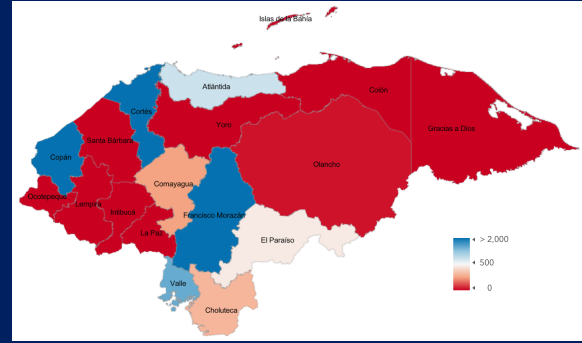
NEXT STEPS:

Use these maps, current facility locations, population data, mapping software to guide service development, future facility locations

Sub-national analysis of access to cataract surgical care in Honduras informs thoughtful program development



National Cataract surgical rate: 1594



Sub-national Cataract surgical rates: 0 - 4787

Cataract Surgical Rate
cataract surgeries per million people per year

Link to Publication



Link to ACE Global Website



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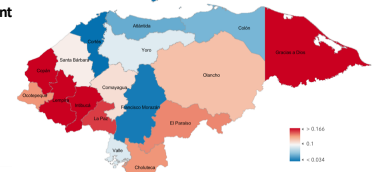
Global Health Impact:

- Access to care varies significantly within a country
- Sub-national data and easily accessible mapping software enable thoughtful program development
- Can be used to guide new facility placement, creative service provision through outreach

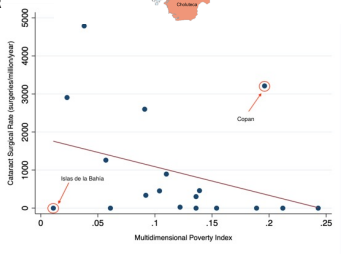
POVERTY and ACCESS TO EYE CARE

- CSR inversely correlated with poverty
- Outliers provide important insights
- National MPI = 0.093 (range: 0.011 – 0.243)
 - Based on 10 indicators of poverty (nutrition, schooling, water access)
 - Costa Rica MPI = 0.002, Guatemala MPI = 0.134
- $r = -0.65, p=0.01$ with 2 outliers removed

MPI by Department

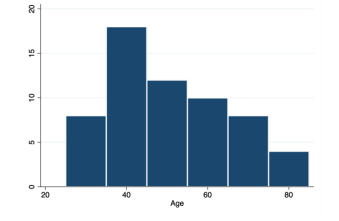


MPI vs CSR



AGE STRUCTURE of SURGICAL WORKFORCE

- Important for long-term planning
- Appears to be stable into future if young ophthalmologists remain in country



References

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