



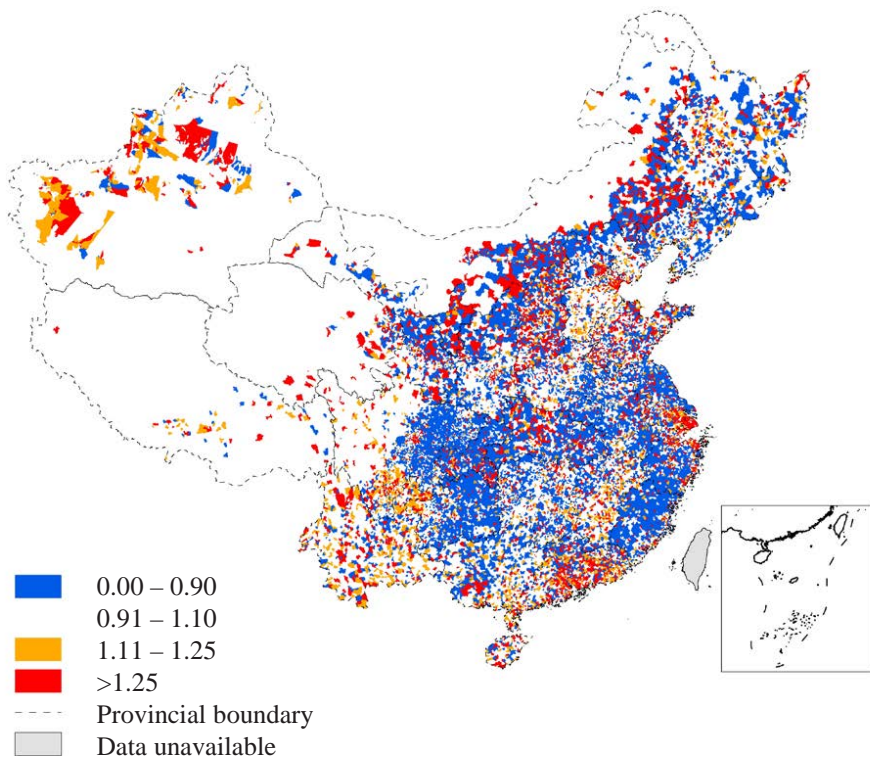
# Reducing the Urban-Rural Gap in Glaucoma Care in China

Yaxing Wang, MD

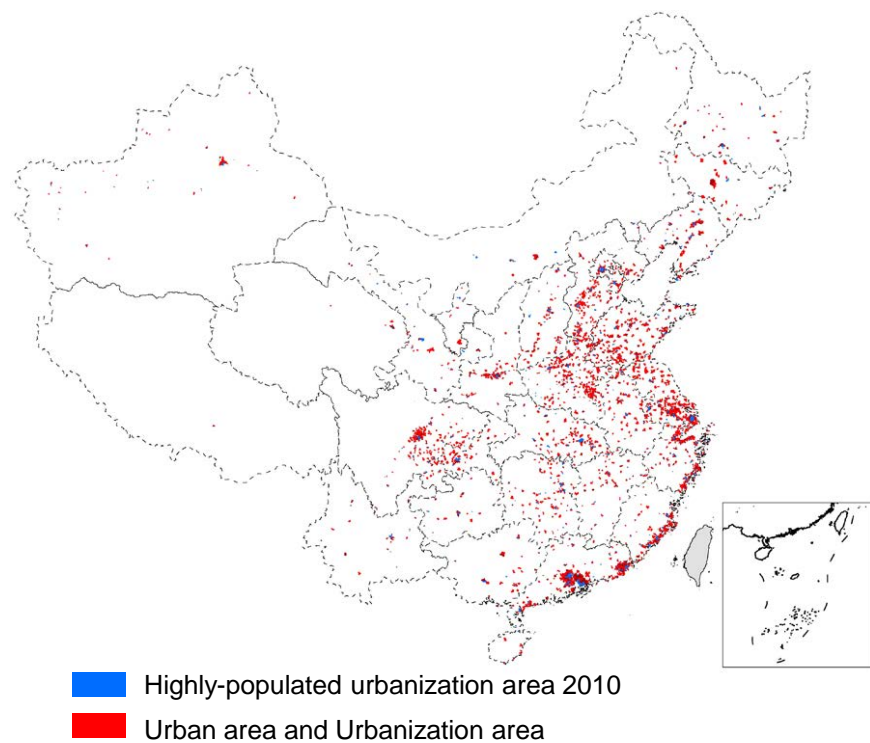
Beijing Institute of Ophthalmology  
Beijing Tongren Eye Center



No financial disclosure

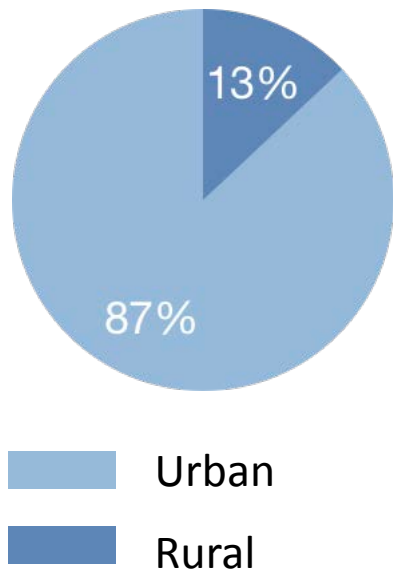


Population Density in China

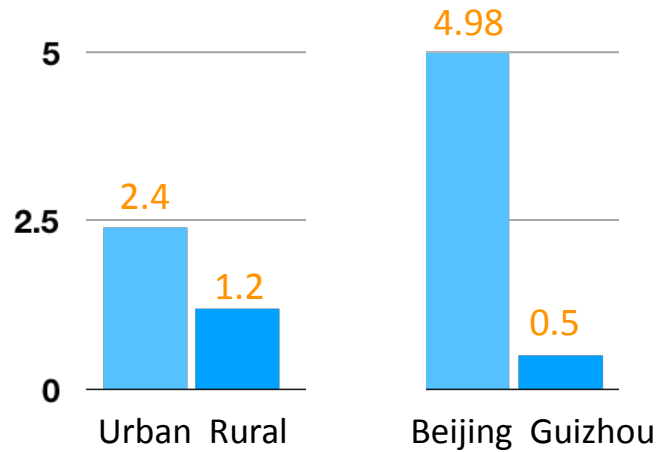


Urban and Urbanization Area of China

# Inequality in Ophthalmic Care Access



Ophthalmologists



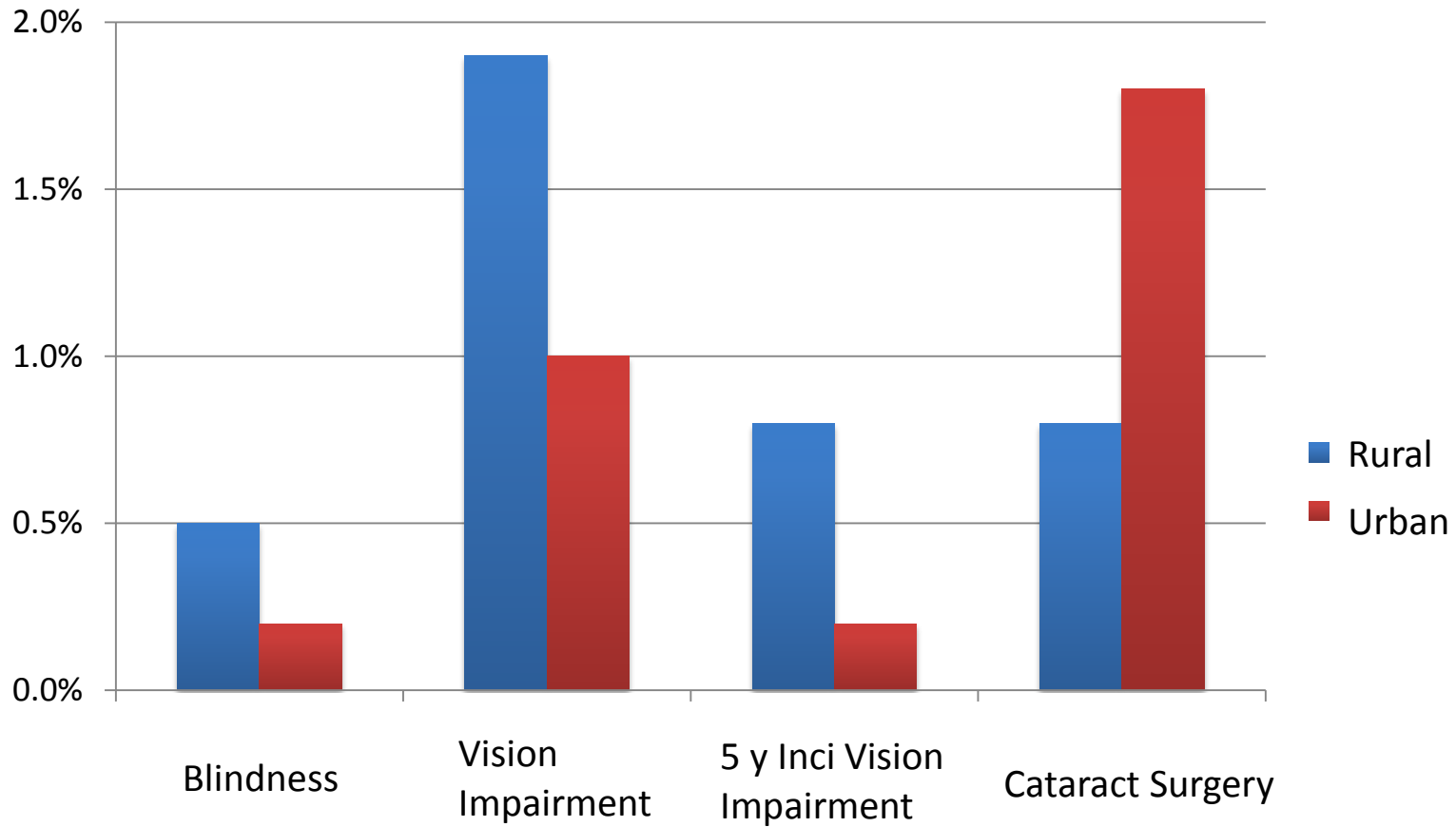
Ophthalmologists per 100,000 population

# Socio-Economic Difference

	Urban Beijing	Rural Beijing
<b>Annual Income (RMB)</b>	10395	4687
<b>Annual Medical Expenses (RMB)</b>	589	276
<b>Education</b>	Illiterate/ Half illiterate	6.4%
	Primary School	24.1%
	Middle School	62.4%
	College and Above	7.1%

*Beijing Eye Study 2001 Data*

*China Statistics Year Book 2001*



Glaucoma was not diagnosed in 95% patients in rural areas

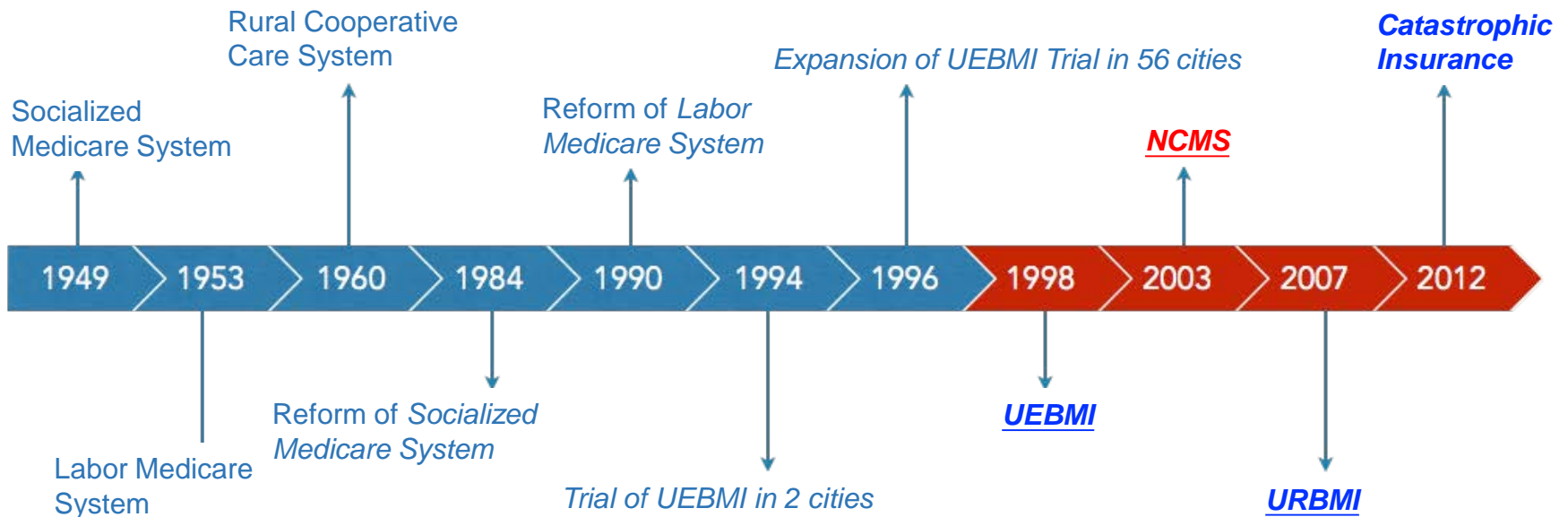
Glaucoma Induced Blindness

- Rural 9.7%
- Urban 2.1%

		Rural	Urban	Total
<b>OAG</b>	<b>Bilateral Blindness</b>	0/33 <b>0</b>	0/63 <b>0</b>	0/96
	<b>Bilateral Low Vision</b>	4/33 <b>12.1%</b>	0/63 <b>0</b>	4/96(4.2%)
	<b>Unilateral Blindness</b>	5/33 <b>15.2%</b>	2/63 <b>3.2%</b>	7/96(7.3%)
<b>ACG</b>	<b>Bilateral Blindness</b>	1/17 <b>5.9%</b>	0/22 <b>0</b>	1/39(2.6%)
	<b>Bilateral Low Vision</b>	0/17 <b>0</b>	2/22 <b>9.1%</b>	2/39(5.2%)
	<b>Unilateral Blindness</b>	4/17 <b>23.5%</b>	4/22 <b>18.2%</b>	8/39(20.5%)

1. Medicare System
2. Improving Eye Care Quality
3. Screening Model





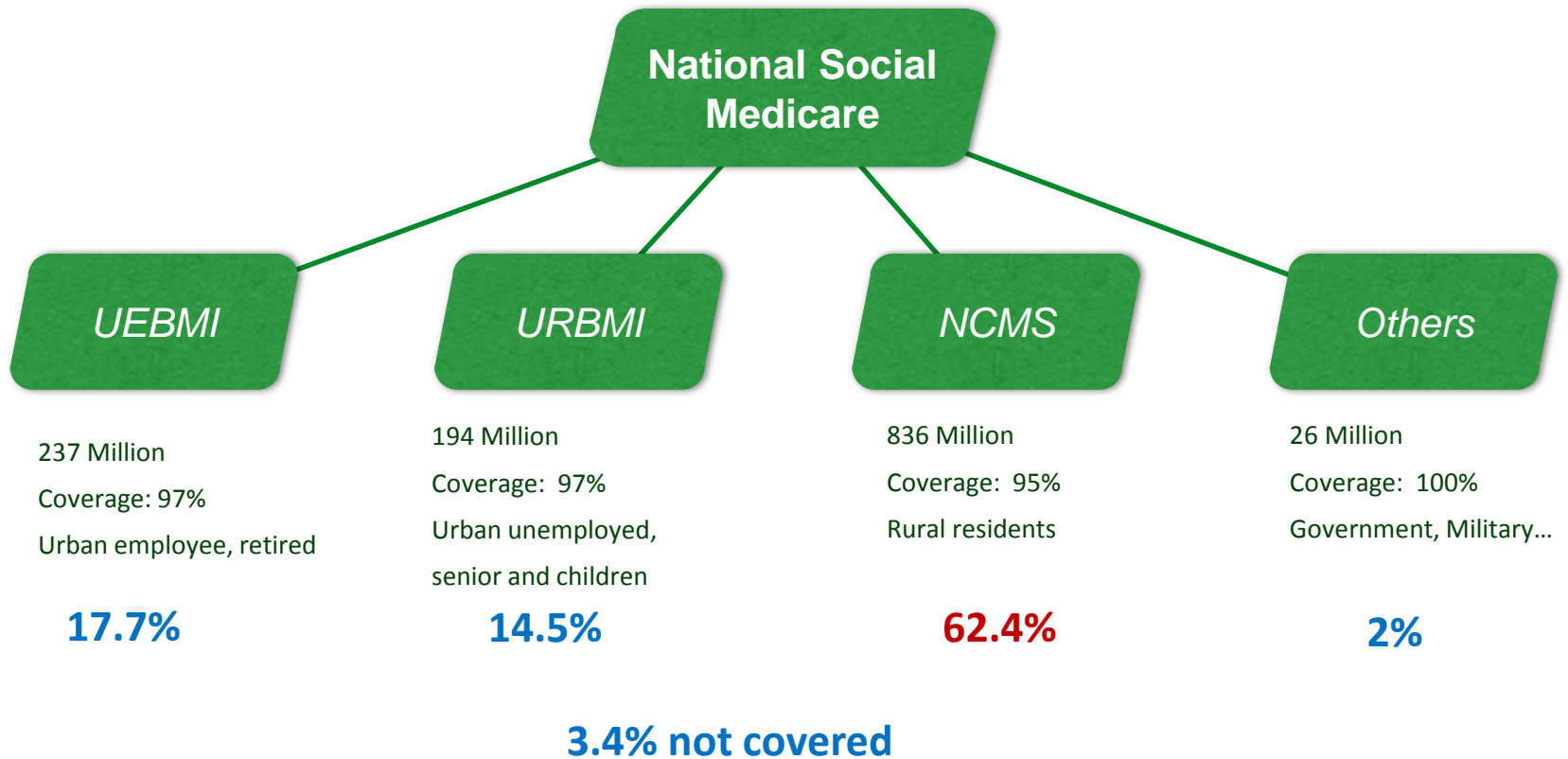
**UEBMI:** Urban Employee Basic Medical Insurance, for urban employees

**URBMI:** Urban Resident Basic Medical Insurance, for urban unemployed, senior and children

**NCMS:** New Cooperative Medicare System, for rural residents

## Roadmap of National Medical Insurance System

# Frame of Medical Social Medicare System



*\*2010 data*

# Reimbursement Policy

	Outpatient	Inpatient
UEBMA	70-90%	85-97%
URBMA	50%	70%
NCMS	20-60%	30-90%

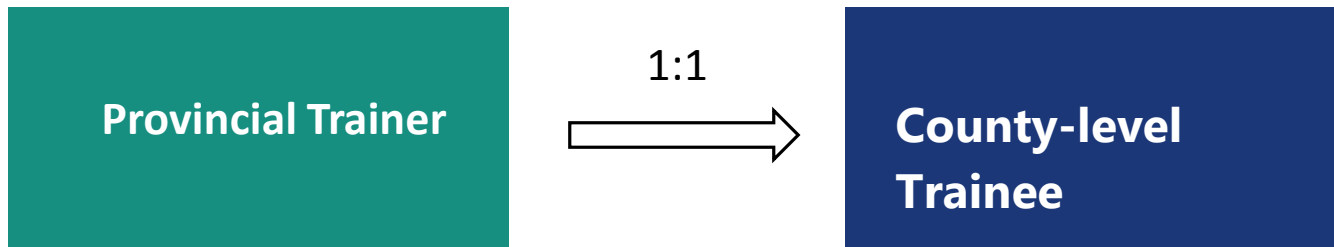
# Glaucoma Medication Reimbursement

<b>A: Total</b>	Carteolol, Timolol, Clonidine, Pilocarpine, Brimonidine, Acetazolamide, Latanoprost
<b>B: Partial</b>	Brinzolamide, Bimatoprost, Travoprost, Latanoprost/Timolol
<b>Not in the list</b>	Bimatoprost/ Timolol

1. Medicare System
2. Improving Eye Care Quality
3. Screening Model

# Improving the Eye Care Quality

- Standardized Training to Elevate Eye-care in Rural China (China STEER)
  - Bureau of Medical Administration
  - Training the county-level doctors to improve eye care services and cataract surgery



1. Medicare System
2. Improving Eye Care Quality
3. **Active Screening Model**



11月15日凌晨六点 北京同仁医院





*Prof. Liang Xu*

# Beijing Eye Public Health Care Project

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*Liang Xu, MD, Jost B. Jonas, MD, Tong Tong Cui, MD, Qi Sheng You, MD, Ya Xing Wang, MD, Hua Yang, Jian Jun Li, MD, Wen Bin Wei, MD, Qing Feng Liang, MD, Shuang Wang, MD, Xiao Hui Yang, MD, Li Zhang, MD*

# Background

- Primary eye care infrastructure and quality control system not been installed yet
- Rural residents had difficulties in accessing high quality eye care
- Cataract was the target of blindness prevention, however glaucoma and other diseases were ignored

- To build a cost-effective screening system for detecting visually impaired subjects
- To develop and test an infrastructure for mass screening and treatment of elderly subjects



11 counties of Greater Beijing

### 1st Level --Village

- 2500 high school graduates trained as technicians (1/village)
  - 55 yo +
  - Visual acuity
  - Questionnaire
- VA <0.3 in either eye

### 3rd Level –Reading Center

- Beijing Institute of Ophthalmology
- 4 senior and 9 junior doctors

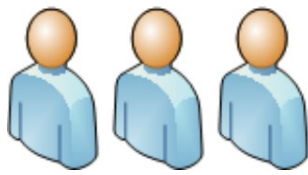
### 2nd Level—Town health care facility

- Either eye with VA <0.3
- 44 trained technicians
- Fundus+ AS photos

### 4th Level –County Hospital

- Cataract in need of surgery was offered free surgery covered by government
- Glaucoma, diabetic retinopathy, et al. referred to local capable hospital

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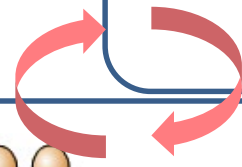


*Surgery*

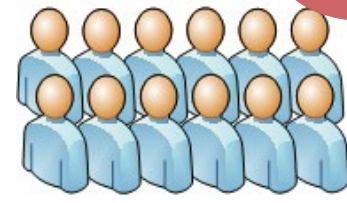
County  
Hospital



*Reading  
Center*



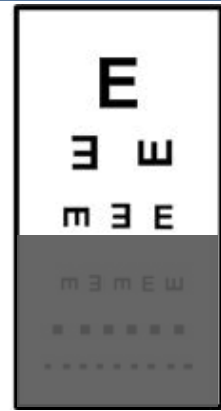
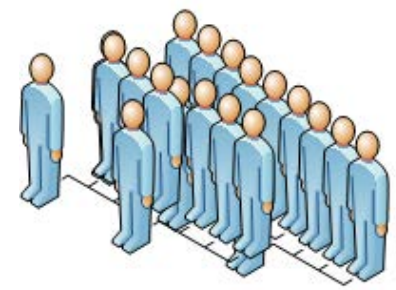
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Town Health  
Facility

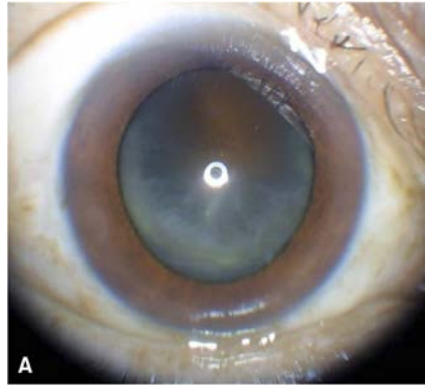


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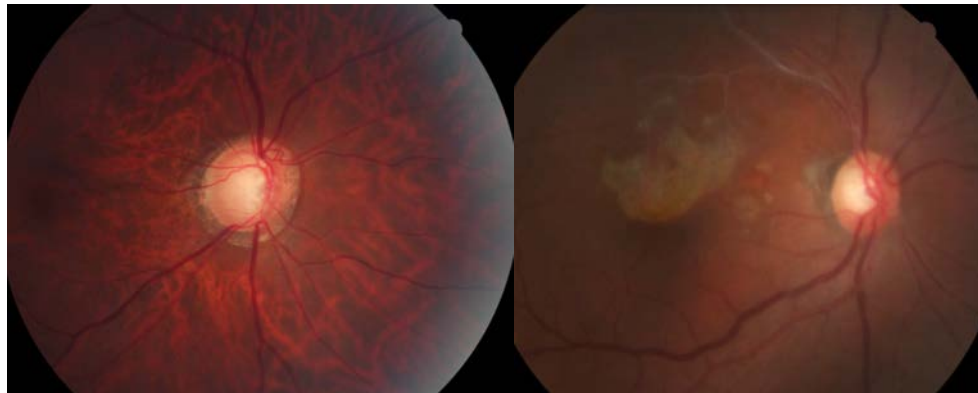


← 0.3

Village



A combination of fundus + AS images able to detect cataract, some corneal disease, pterygium...



1724

2249

- Very good attempt of a multi-eye diseases screening mode
- Not only focused in cataract, also other vision-threatening disease
- Telemedicine-based screening system
- Cost effective
  - 1 million covering 500,000 residents (0.3 USD/ psn)
- Might be more cost-effective in the lower health care regions
  
- Glaucoma not advanced or not combined with cataract couldn't be found
- ACG







- AI aided auto-diagnosis system has been used in basic health facilities.
- Glaucoma screening more achievable and more economic
- Bridge from rural area to quality eye care service





**Thank you!**