The CREST Project: A Model of Diabetic Eye Care in Rural China

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Challenges in Managing Chronic Eye Diseases in Rural Asia

- The prevalence of diabetes has grown by ten-fold in China (1% → 10%) in 30 years

- Our Focus Group and other studies in Guangdong have shown:
  - Patients and doctors do not understand early diabetic eye disease is without symptoms
  - Do not understand need for comprehensive eye exam to diagnose

- The result is over 90% of patients with DR in rural China:
  - Un-diagnosed
  - Un-treated

- Poor compliance with life-long care
AIM: Create model of service excellence for complex eye disease (DR and glaucoma) and 10 rural centers in Guangdong coordinated by ZOC

Goals:

- Create clinical excellence through training rural doctors, providing equipment and state of the art IT systems: comprehensive exams for ALL patients
- Inform and educate patients through high-quality videos
- Improve long-term compliance with cellphone-based messaging
- High quality research and advocacy
CREST: Clinical Excellence

- **Training:**
  - Didactic training of all doctors at 10 partner hospitals in diagnosis and treatment of glaucoma/DR
  - Hands-on training at Branch Centers by teams from ZOC: glaucoma surgery, DR laser

- **Clinical care:**
  - Electronic medical record connects all centers with ZOC: are trainees delivering standard care?
  - Telemedicine network for grading of all DR and glaucoma photos by trained graders at: gold standard diagnosis of disease
CREST: Education/Advocacy

- **Patient education through high-quality videos:**
  - Promoting uptake of comprehensive eye exams
  - Explaining nature of DR and glaucoma care

- **Advocacy:**
  - Create and demonstrate a scalable model for chronic eye care in rural areas
EMR captures key clinical outcomes:

- Results of all clinical studies (Is treatment needed?)
- Outcomes of laser and surgical treatments (Is quality good)
- Compliance of patients with scheduled exams (Are they getting the care they need?)
CREST: Research

- **Program as a platform for research on improving rural care:**
  - RCT of automated cell phone messages reminding patients of appointments: How deliver life-long care?
  - Compare three methods of diagnosing DR to find most cost-effective in this setting:
    - Trained rural doctors
    - Telemedicine + trained graders
    - Automated computer diagnosis