# Medical Image Informatics: Challenges

**Phaneendra K. Yalavarthy**
Supercomputer Education and Research Centre
Indian Institute of Science (IISc)
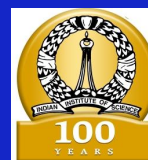Bangalore – 560 012
E-mail: phani@serc.iisc.ernet.in
Web: http://www.serc.iisc.ernet.in/~phani/

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# Medical Imaging - India

- Number of Radiologists in developed countries/India:
  - USA: ~ 27,000 for 300 million
  - India: ~ 5,500 for 1080 million
- Radiologist compensation is linked with number of patients handled (consultants)
- PACS is not common in India (only 2 hospitals in Bangalore)
- EHR – Non-existing!!! (1 hospital in Bangalore)

Levy, Frank and Kyoung-Hee Yu, "Offshoring Radiology Services to India," MIT IPC Working Paper 06-005, 2009

# Medical Imaging - India

- Indian Radiologist patient load is atleast 15 times more compared to their counterparts in USA

- Radiologists consult at multiple sites given a day

- Most daily follow-ups happen on Mobile phone

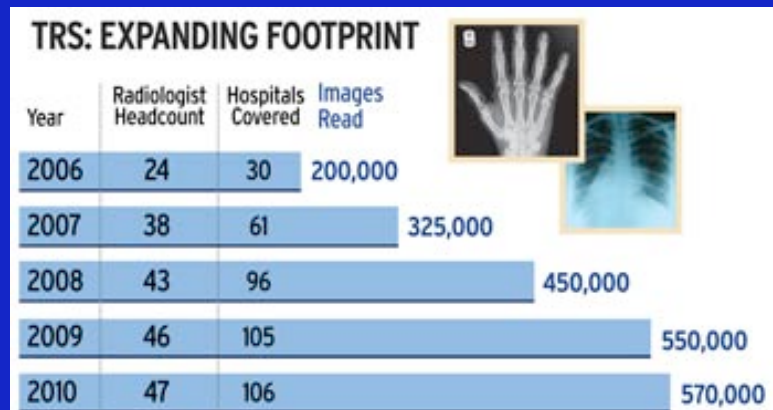- Mobile applications – image view/ diagnosis ????

# Medical Imaging - India

- Computer aided diagnosis – need of the hour in the Indian context

- Western models may not be a perfect fit for India.

- Imaging center in India: 1/2 Petabyte data per day

- Focus: more efficient, high throughput, and less resource hungry solutions.

# Medical Imaging – India Teleradiology Solutions

http://www.telradsol.com/index.html

## TRS: EXPANDING FOOTPRINT

| Year | Radiologist Headcount | Hospitals Covered | Images Read |
|------|------|------|------|
| 2006 | 24 | 30 | 200,000 |
| 2007 | 38 | 61 | 325,000 |
| 2008 | 43 | 96 | 450,000 |
| 2009 | 46 | 105 | 550,000 |
| 2010 | 47 | 106 | 570,000 |

# Medical Image Informatics

- The Key Challenge is to design solutions
  - Improved outcomes and yield
  - Non-invasive and non-ionizing solutions
  - Less procedure time, faster recovery
  - Higher throughput and less cost (m-Health)

**Tools:** Reliable and Safe