

## E-Health Problems

### E-Health Communications

Terry Percival – Managing Laboratory Director NICTA

Retired Tele-health researcher

- Specialisation is deep – very few in some areas (e.g. paediatric cardiologists)
- No point in putting in regional areas if not enough cases/week
- Patients don't get ill 9-5
- Windscreen time is the enemy

## Current tele-health

- Photographs by email
  - Dermatology
  - Radiology - Gosford
- Tele-radiology
  - X-ray, ultrasound, doppler ultrasound, angiogram, CAT, MRI
  - e.g India
- Future
  - Radiologists at home ( 7x24)
  - Radiologist workbench - in trail in Tasmania by CeNTIE



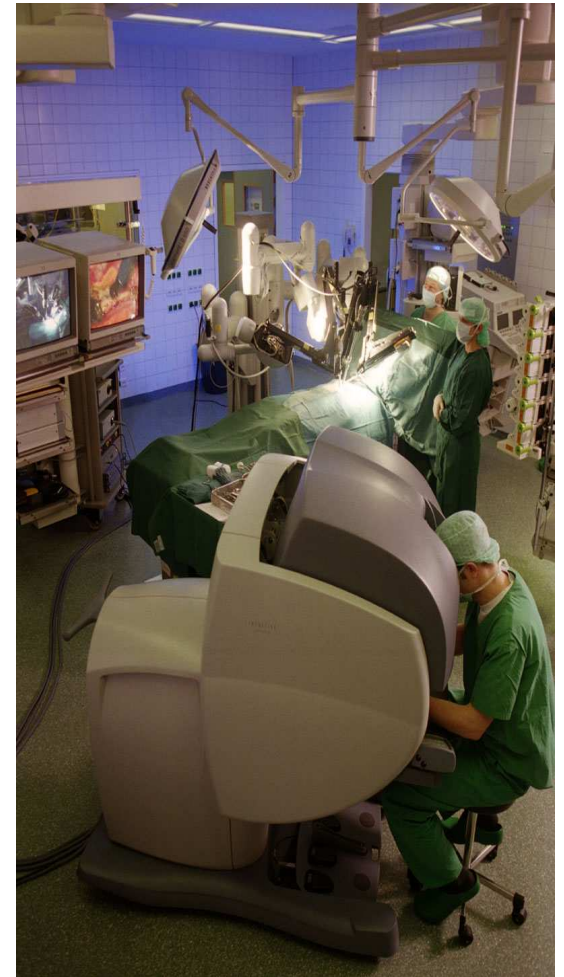
## Person to Person

- Now
  - Tele- psychiatry
  - Virtual Critical care – pilot in Katoomba moving to Lithgow
  - Training and team handover
  - Remote seminars paediatric echo-cardiology
  - Home care
- FUTURE
  - Toxicology from home
  - Tele-presence
  - Real time imaging patient to specialist
  - Robotic surgery



## Technology

- 1 X-ray ~ 32 Mbyte
- ISDN Video conferencing – workable
- 4 Mbit/s good
- 8 Mbit/s better
- 30 Mbit/s excellent
- Virtual environments for teaching
- Robotic surgery
- Robotic surgery with haptic feedback
- Telepresence for emergency rooms



## Problems

- Health – one size fits all
- High bandwidth expensive in cities
- Bandwidth prohibitively expensive in rural areas
- Lots of local “experts”
- Resistance to change

