

Cancer : Service, Research & Education

The Indian Experience

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Gauging the magnitude of problem

- National Cancer Registry Programme
 - 24 Cancer Registries
 - Metropolitan
 - Semi Urban
 - Rural
 - Types & Trends of cancer

Comprehensive Cancer Services in India

Breast cancer in India

	India		USA
	Rural	Urban	
Incidence	8 /Lac	30/Lac	180/Lac
Survival	20%	50%	70%
Mortality	10 / lac	10/lac	19/lac

Gauging the magnitude of problem

Overall Burden 120 /100,000

- Metropolitan & Mid-size Towns
 - Breast, Lung
 - Oral, Cervix
- Rural
 - Oral cavity
 - Cervix

Types of Cancers

■ Types of Cancers

- Unique Cancer
 - Oesophagus, Laryngo-pharynx
 - Naso-pharynx
 - Gall Bladder

Comprehensive Cancer Services in India

Trends in Cancer

- Rising Lung cancer (N/S)
- Reducing Cervix, Stomach
- Breast, Ovary

ASR*	1976-80	1996-2000	EACP+
Breast	14.6	19.3	1.4 (1.2 - 1.7)
Cervical	15.2	11.4	-1.5 (1.7 - 1.2)
Ovarian	4.5	4.9	0.8 (0.3 - 1.3)

*Age adjusted incidence rates (30-64 years)

+ Estimated Annual Percent Change

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Breast cancer Incidence in Mumbai (1976-2000)

	Age Group (25-49)	Age Group (50-74)
Average Annual Percentage Change	1.1* (0.8-1.8)	1.7* (1.3-1.5)

Crude Incidence rate per 100,000

Cancer Trends in Female Mumbai

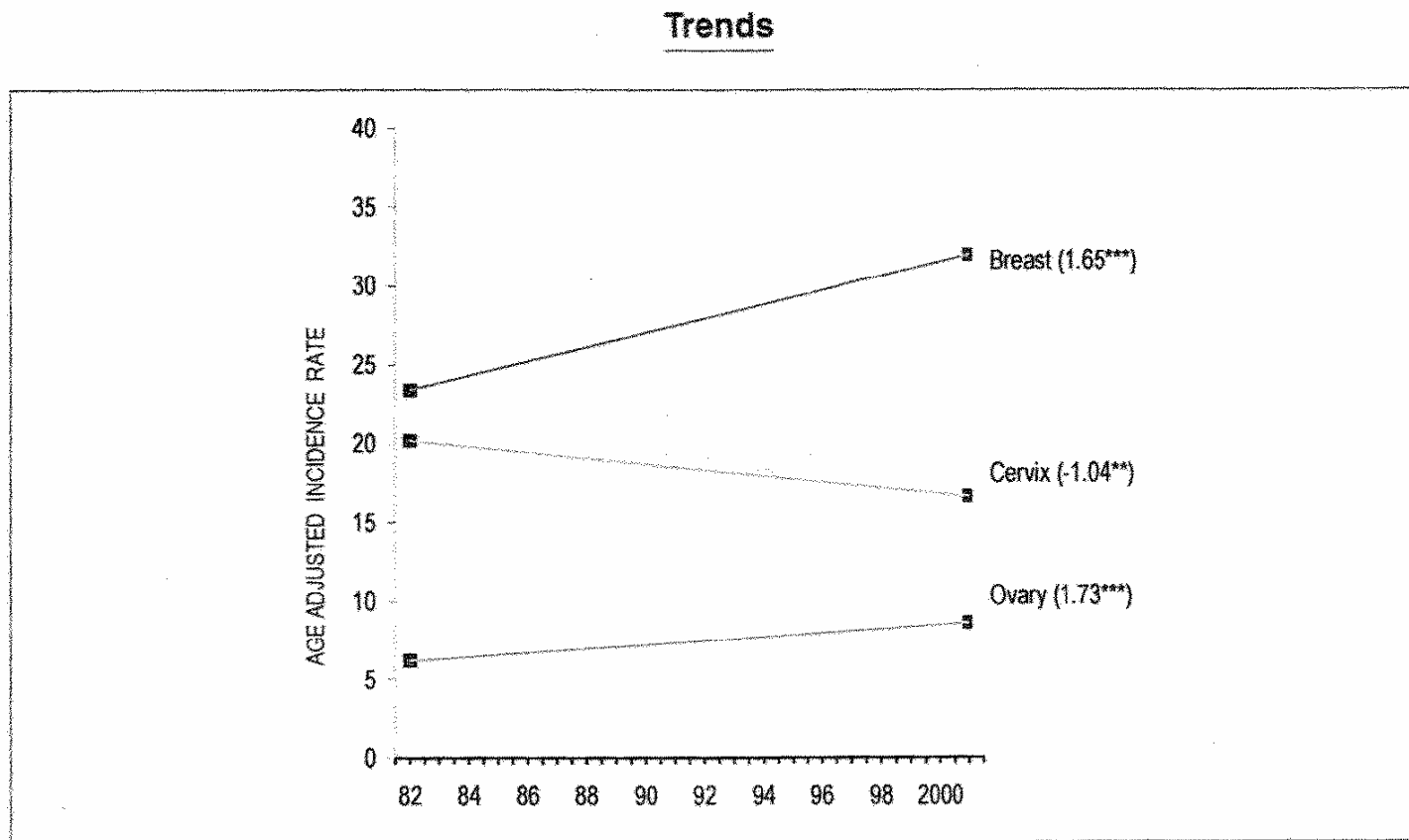
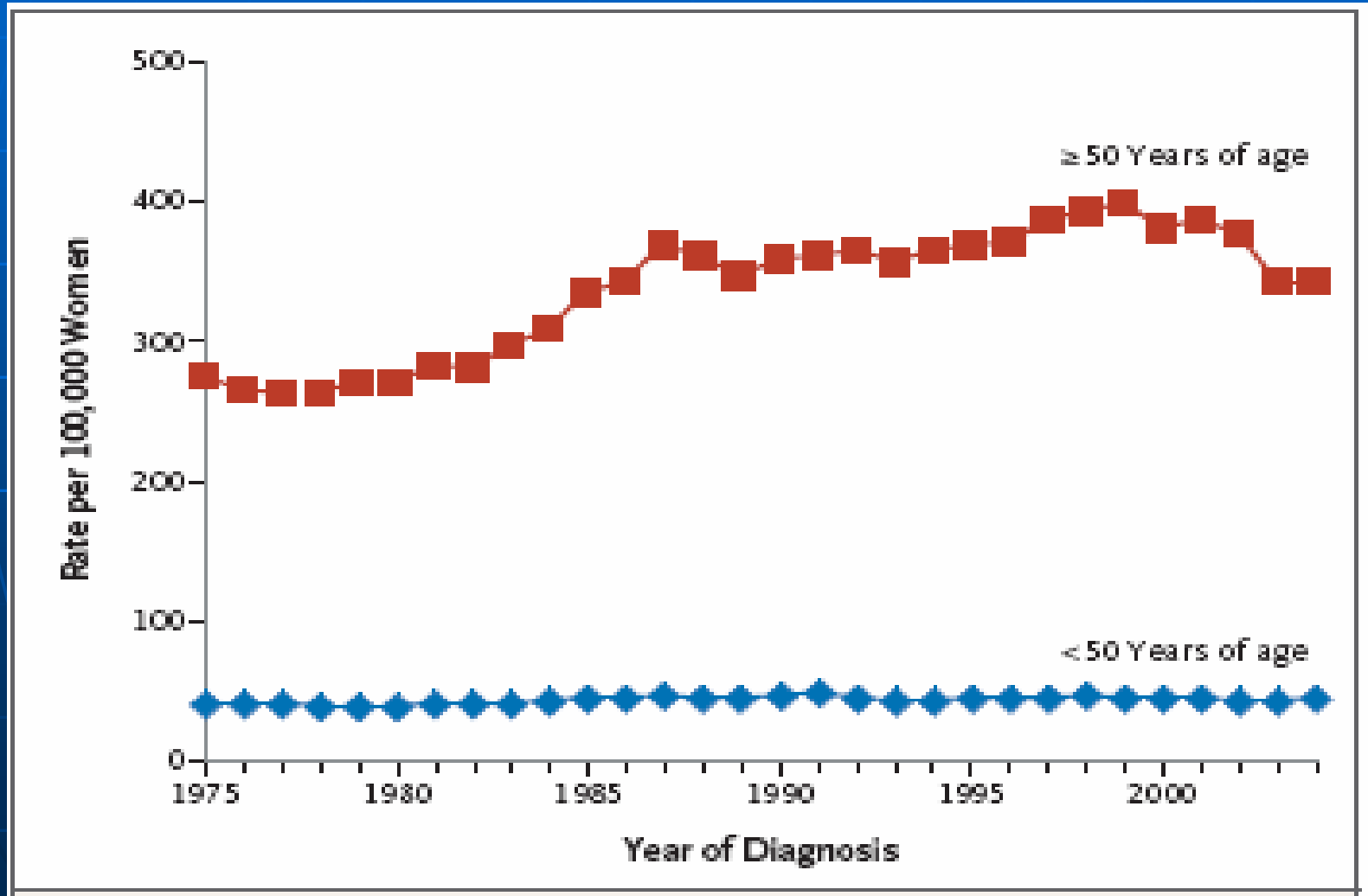
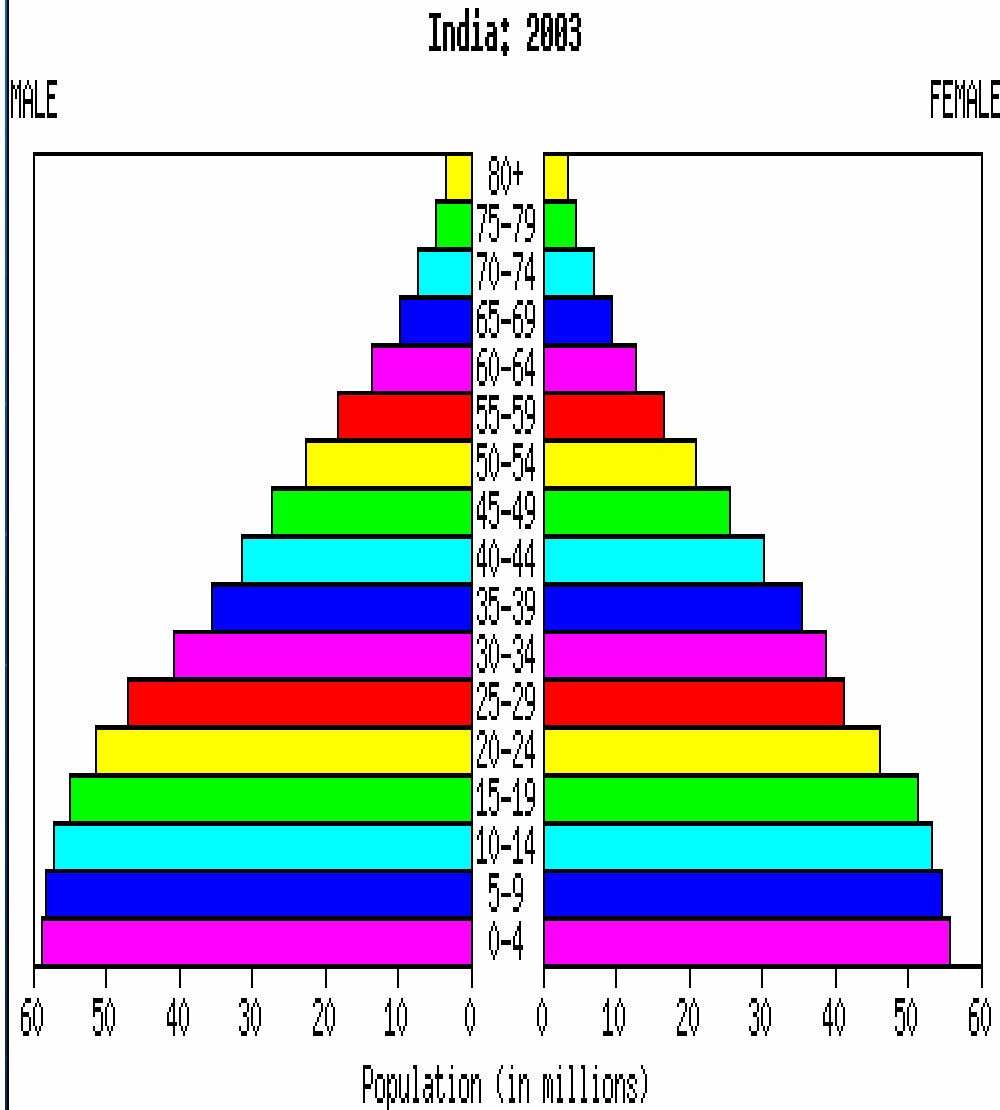
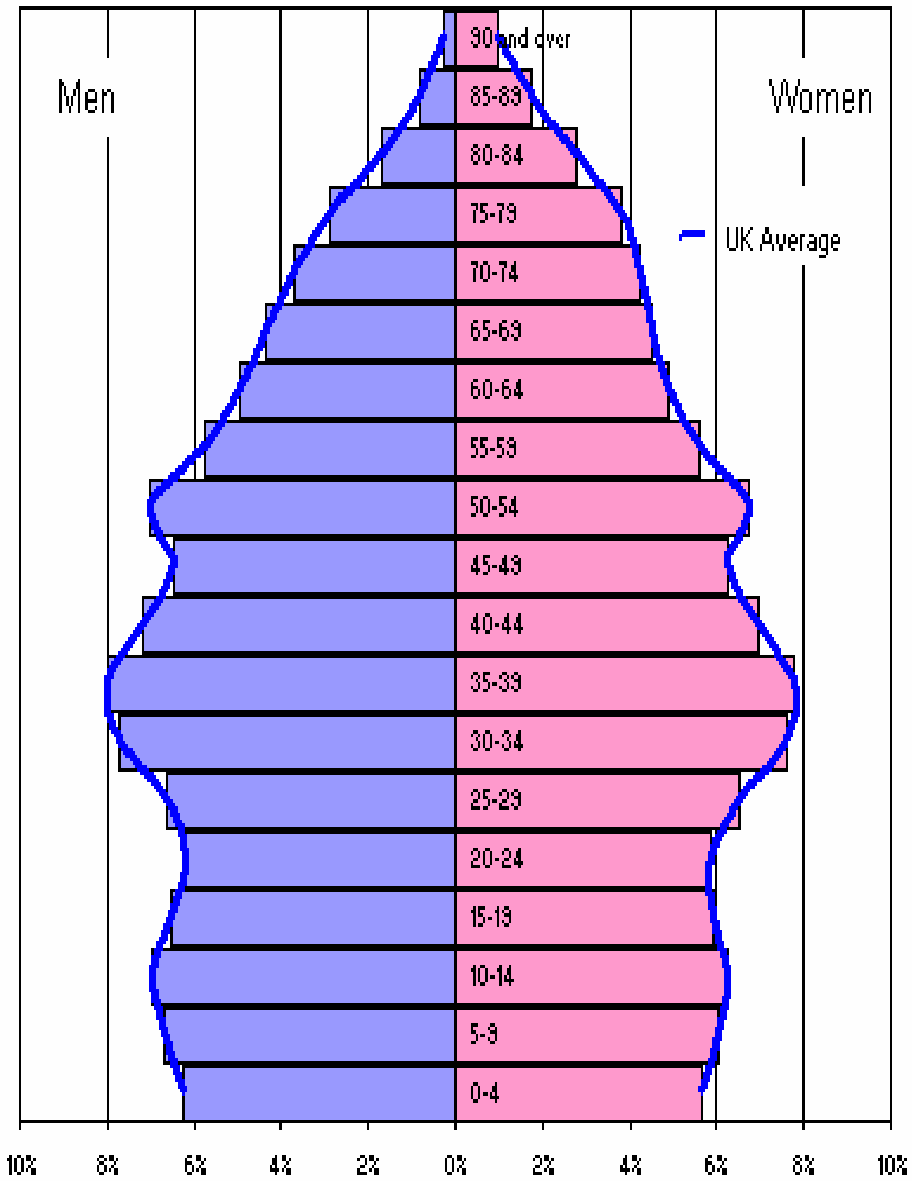


Figure 12: Sites Showing Increasing Trends in Age-adjusted Incidence Rates with Corresponding APCs, Greater Mumbai, 1982-2001, Female

Annual Incidence of Female Breast Cancer In US (1975 – 2004)



Population Pyramids



Source: U.S. Census Bureau, International Data Base.

Infrastructure to tame the problem

- **Regional Cancer Centres (RCC)**
New Oncology Institutes of excellence
- **District Cancer Control programme (DCCP)**
Medical Colleges
District General Hospital (DGH)
- **Primary Health Centre**
 - Awareness
 - Screening : Oral, Breast, Cervix Cancer
 - Palliative Care
- **Telemedicine (National Knowledge Network)**

Human Resource to Offer Solution

- **Human Resource**

 - National : A unified approach

 - Local : A reductionist approach

- **Education** : MCh, DM, Fellowships

- **Research** : Clinical PhD

 - Clinical Research – Clinician

 - Nurses

 - Associates

What is the Solution?

Evidence Based Management movement (2002)

- Collated evidence being discussed for robustness and applicability
- Guidelines or new trials
- Applicability and Appropriateness

Comprehensive Cancer Services in India

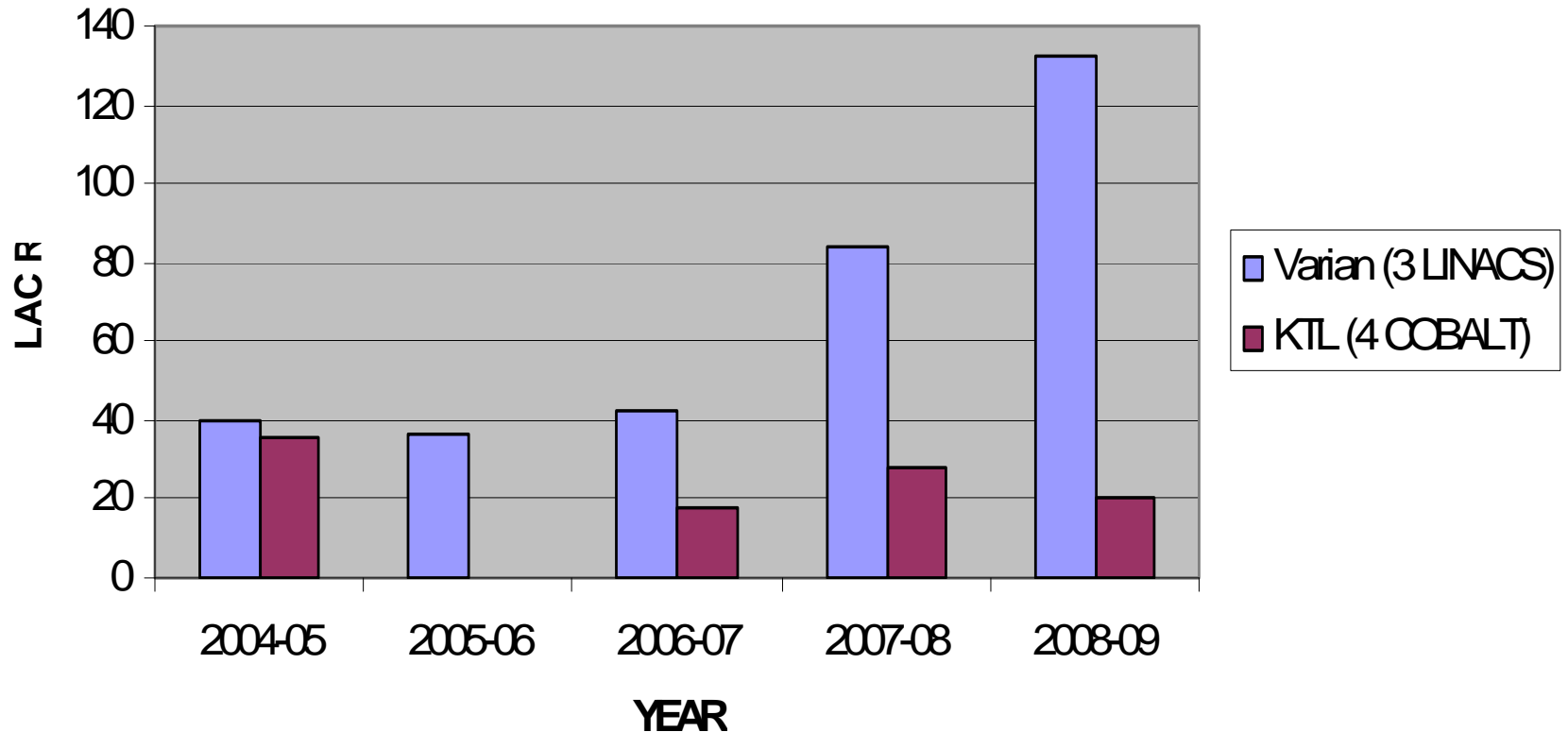
What is the Solution?

EBM movement



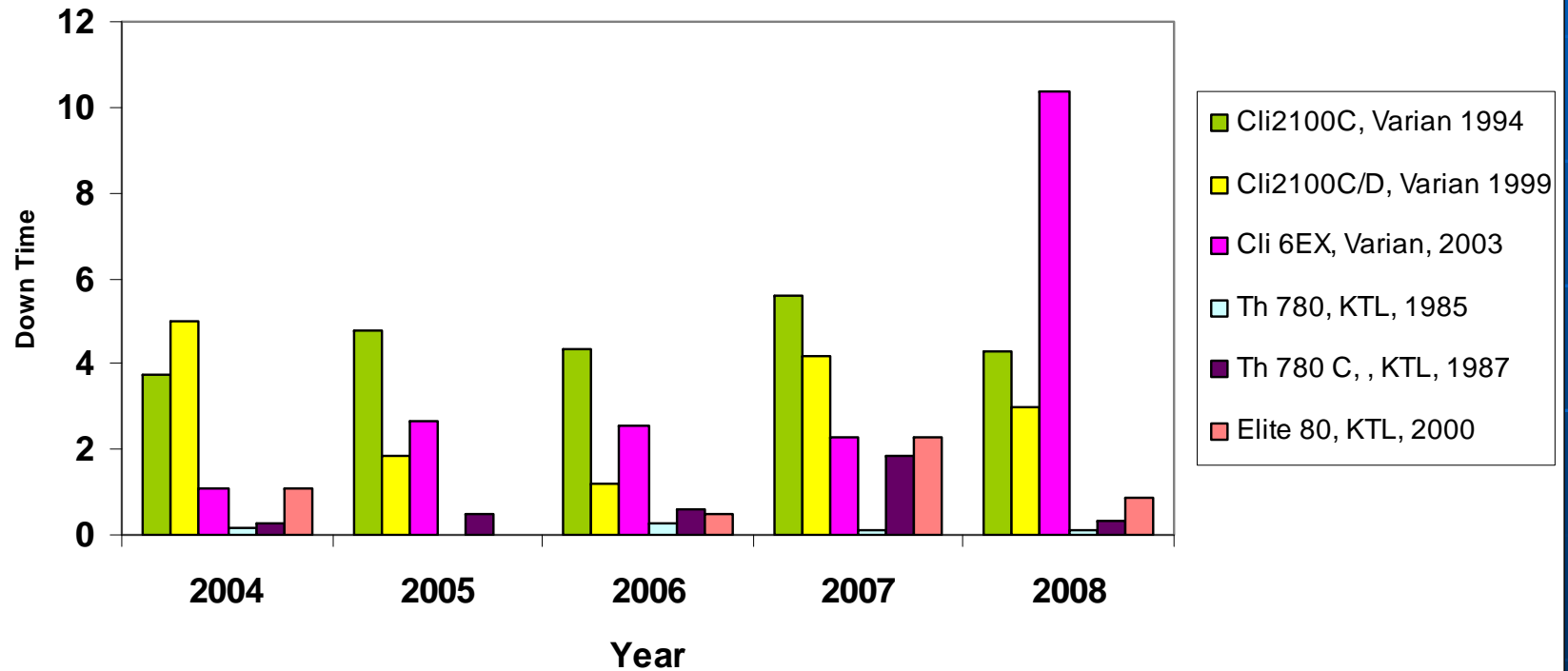
Appropriate Technology

MAINTANENCE OF RT EQUIPMENTS – AMC AND SPARES (TMC)



Appropriate Technology

DOWN TIME FOR RT MACHINES - TMC



Comprehensive Cancer Services in India

Appropriate Technology

- 16% reduction in intensity (6 vs 5 days)
has 10% reduction in DFS
- Monthly electricity bills \$ 2000 for Linac vs
\$ 20 for Cobalt
- Cobalt can run on UPS during electricity
failure
- MLC for Cobalt being developed by Dec
2009

Comprehensive Cancer Services in India (Research) Looking for Cost-effective Magic Bullets

■ Novelty

- Indigenous medicine (Curcumin)
- New Indications for existing drugs
 - Vit D3, metformin, anandamide, progesterone, Estrogen priming
- New drugs: Harnessing relationship with Industry

■ Testing Technology

■ Challenging dogmas

Comprehensive Cancer Services in India (Research)

Looking for Cost-effective Magic Bullets

■ Testing Technology

- Sentinel Node Biopsy vs Sampling
- VIA for Cx Cancer vs Awareness

■ Challenging dogmas

- IM radiotherapy : New technique
- PE vs Awareness in Breast Cancer
- Act of Observation in Breast cancer



THANK YOU