

# PHILIPS

## Current Market Dynamics and Future Vision of the Care Cycle

**Tim Irish**

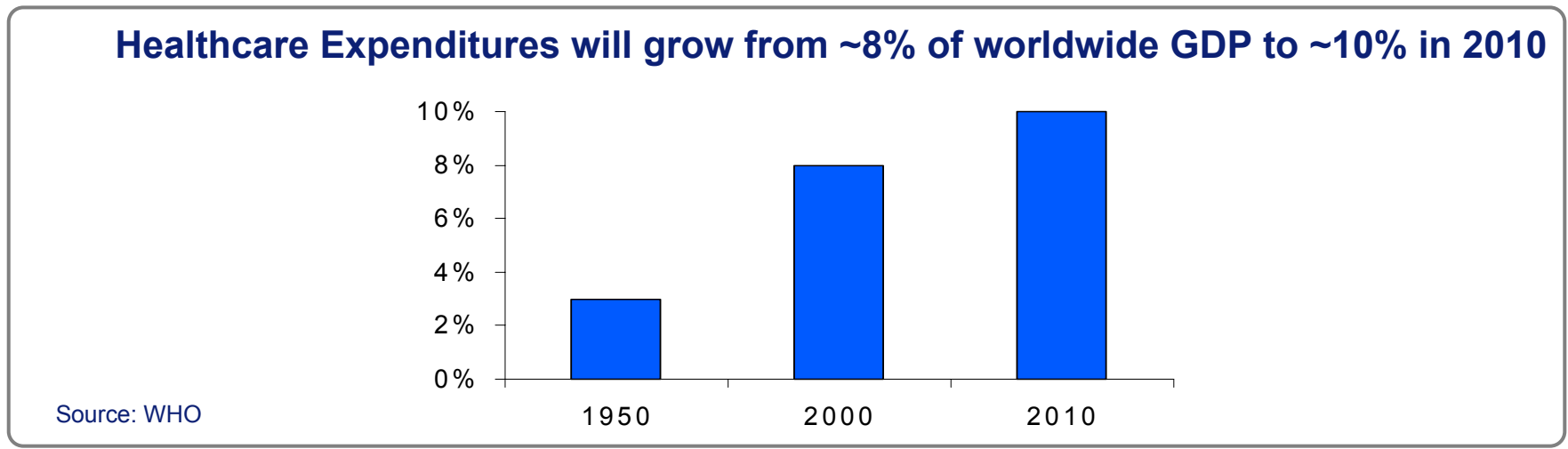
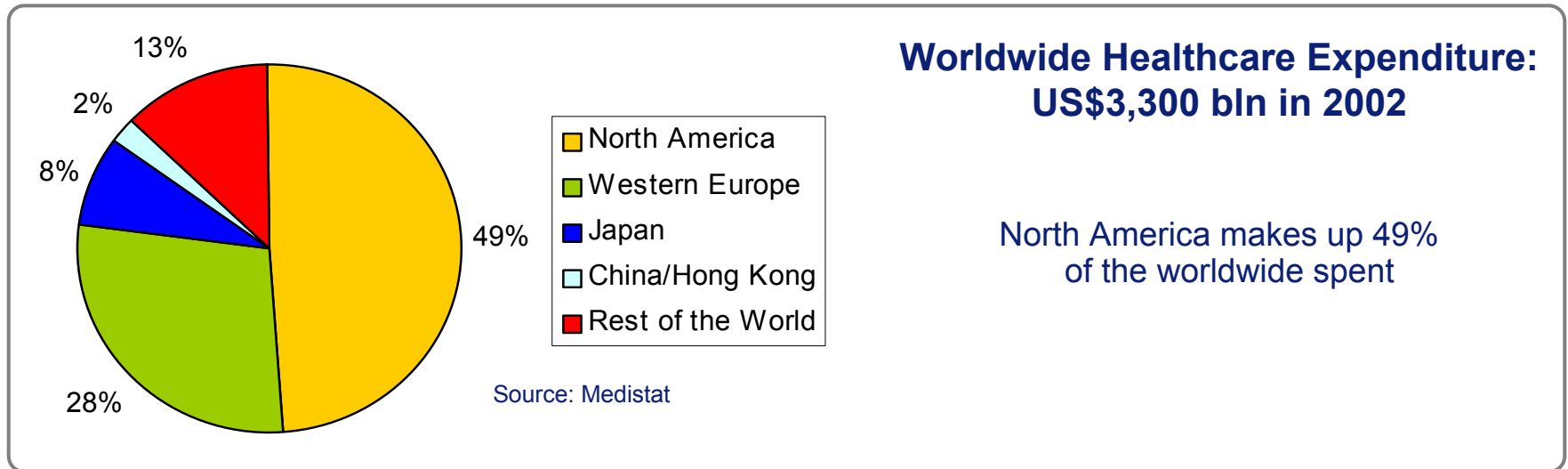
Analysts' Meeting  
June 15<sup>th</sup>, 2005

## Overview

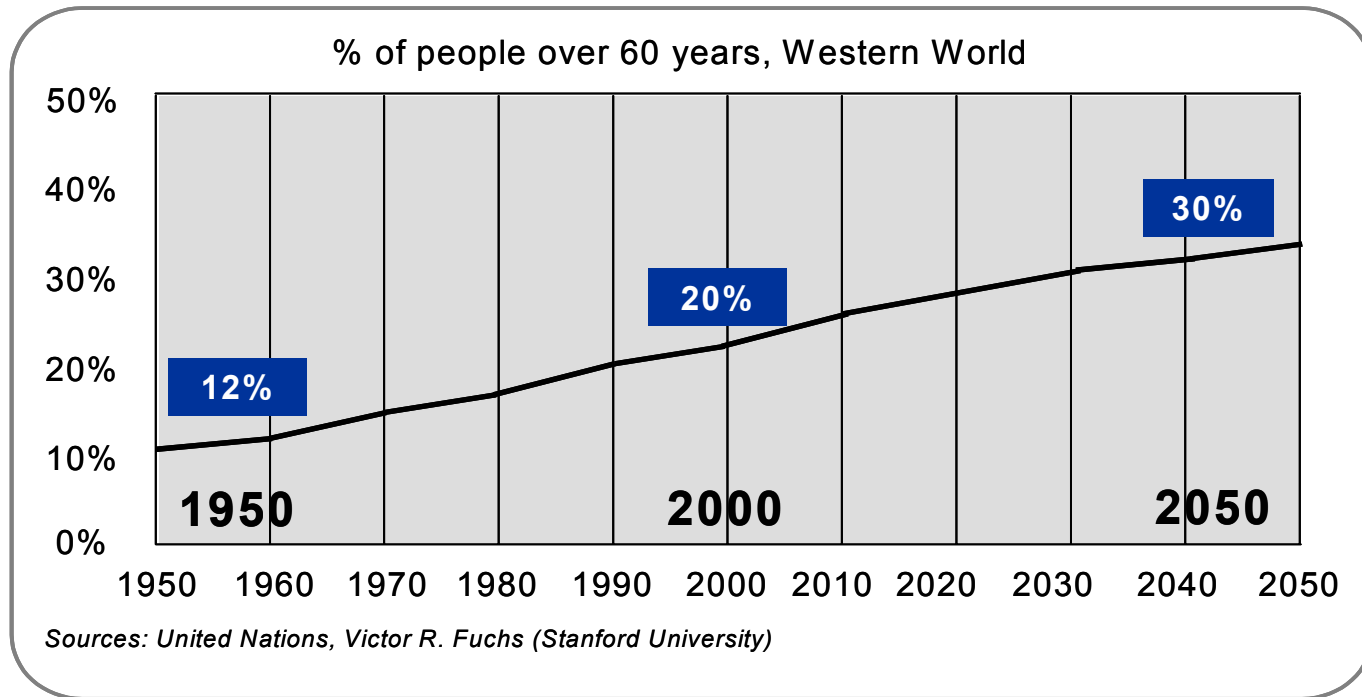
- Market and Customer trends
- The Care Cycle and Molecular Medicine



# Healthcare is the world's largest service sector

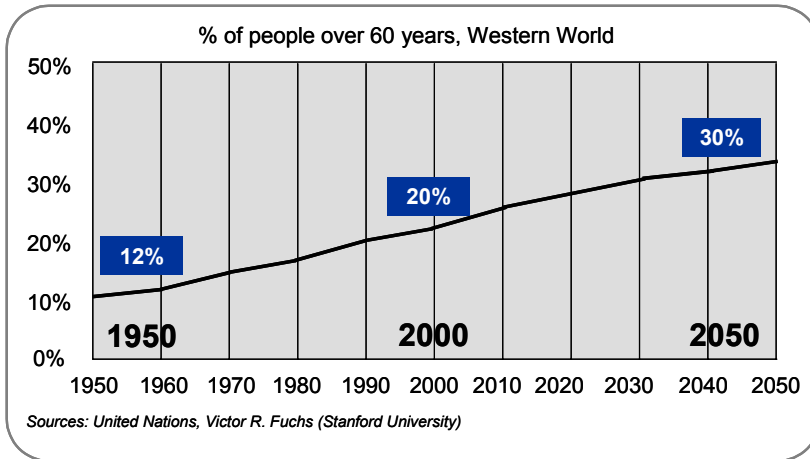


# Demographics and economic developments add to long term growth

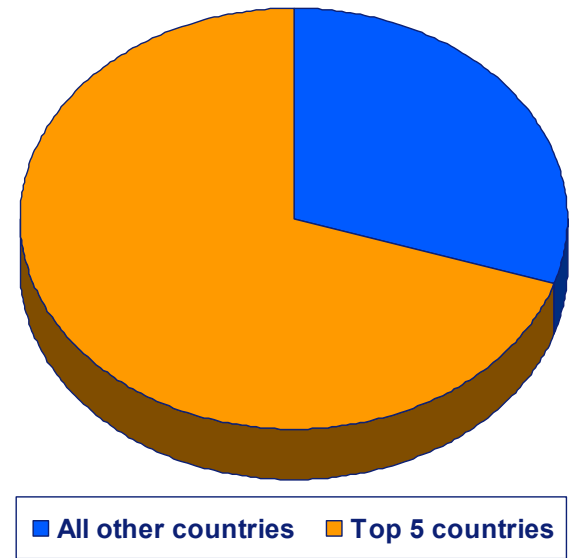


As national economies develop,  
healthcare investments follow...

# Demographics and economic developments add to long term growth



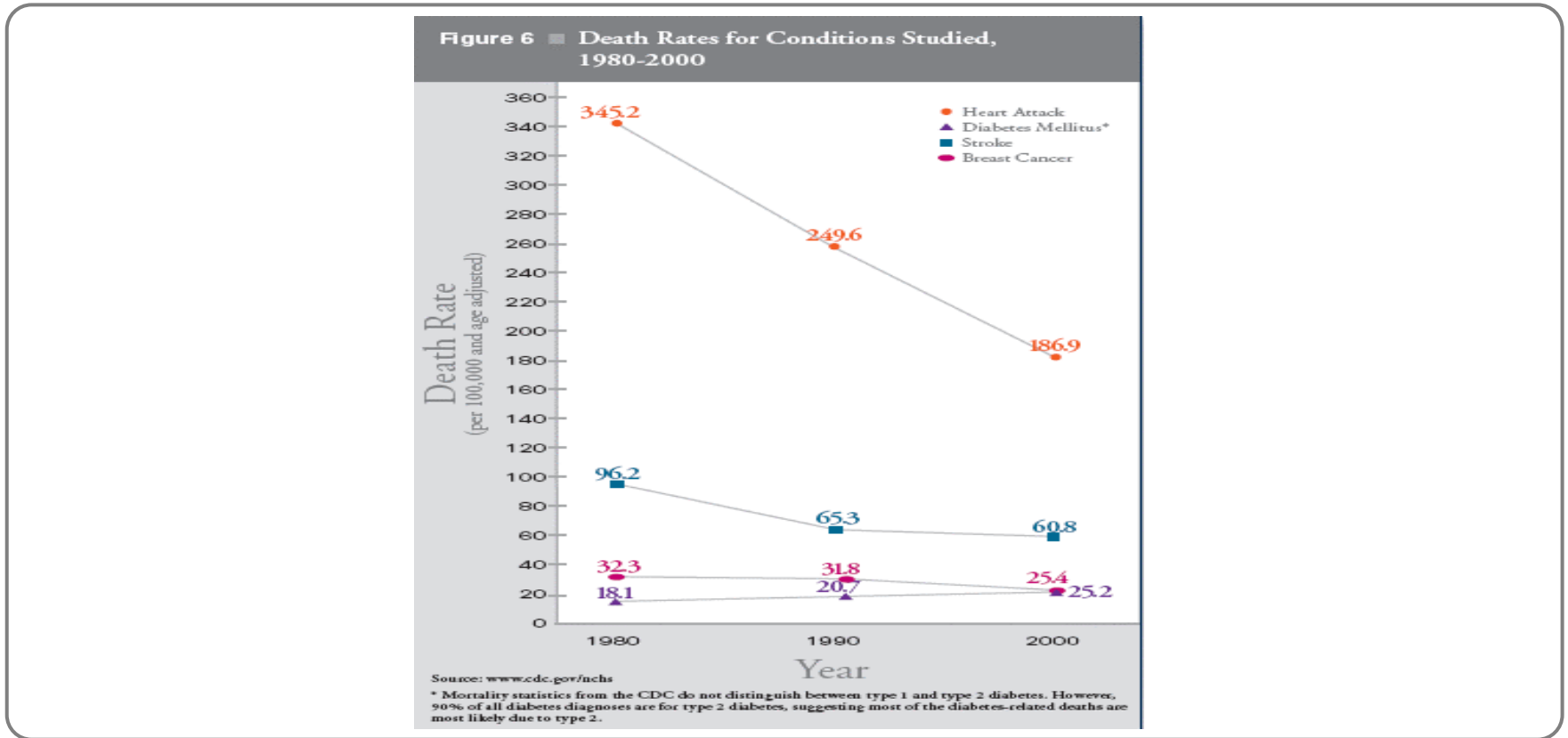
## Share of Medical Expenditure



As national economies develop, healthcare investments follow...

Source: Medistat

# \$1 of Healthcare creates \$2.5 of economic value through better outcomes



Source: Medtap report, The Value of Investment in Healthcare, 2005

## Healthcare delivers huge benefits

- Benefits from increased spendings since 1980, USA:
- From a human perspective:
  - 470,000 less deaths
  - 2,300,000 less people with disabilities
  - 206,000,000 days less spent in hospital
- From an economic perspective:
  - Delivering \$ 1600 bln of economic value



Iron lungs during Polio epidemic in the 1950's

Source: Medtap report, The Value of Investment in Healthcare, 2005

## Medical technology continues to transform Healthcare

### **Imaging**

earlier diagnosis saves lives and reduces costs



### **Minimally invasive surgery**

reducing patient trauma and costs



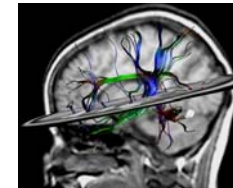
### **Healthcare IT**

Right Information at the right time  
enables better treatment and lower costs



### **Molecular Medicine**

Preventing disease from happening



Around 70% of the survival improvement in heart attack mortality is a result of changes in technology.”

Cutler & McClellan, 2001



“Imaging is key to lower Healthcare costs and improved patient outcome”

Imaging is about:

- Better diagnosis for better treatment
- Earlier detection to catch disease early
- Minimally invasive surgery to avoid trauma and shorten procedure time

McKinsey, 2004

“Continued advances in Imaging modalities will transform medicine during this decade”

SG-2, 2004



# Big cost savings by Imaging in large teaching hospital

6 year CAGR	Hospital costs	Imaging costs
cost growth	8%	8%
Increase in number of patients imaged		12%
Imaging costs/patient		- 4%

Beinfeld et al., Radiology, 2005; 17,200 patients, 1996 – 2002

**\$1 of imaging saved \$ 3 in hospital costs**

# Ever expanding range of clinical applications

X-Ray
Ultrasound
CT
MR
Nuclear Medicine

## Ever expanding range of clinical applications

X-Ray

Ultrasound

CT

MR

Nuclear Medicine

Diagnosis of blood vessels – Heart, Brain, Body; skeletal trauma (e.g., broken bones), chest & lungs, gastro-intestines (digestive tract), high-resolution mammography



## Ever expanding range of clinical applications

X-Ray

Ultrasound

CT

MR

Nuclear Medicine

Cardiology:  
Detection,  
diagnosis and  
treatment of heart  
disease, heart  
attack, acute  
stroke, vascular  
disease;  
Ob/gyn;  
General Body:  
kidneys, liver,  
thyroid, and blood  
vessels. Also  
being used for  
breast imaging



## Ever expanding range of clinical applications

X-Ray

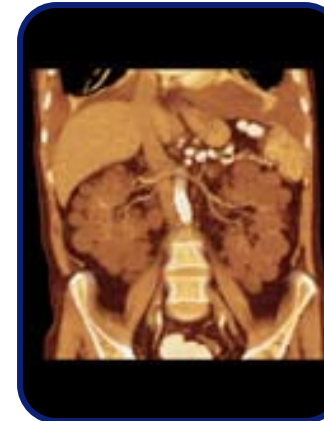
Ultrasound

CT

MR

Nuclear Medicine

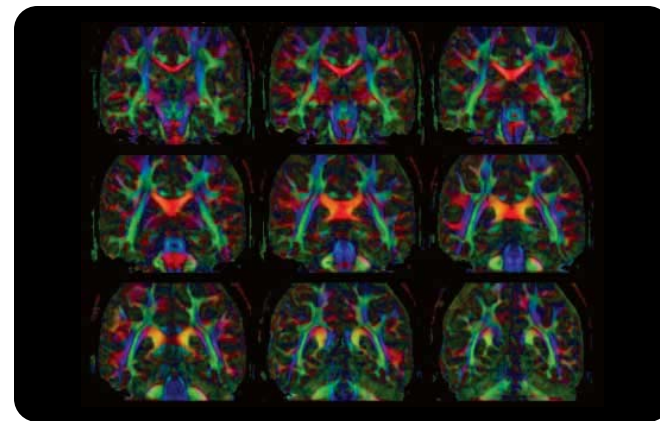
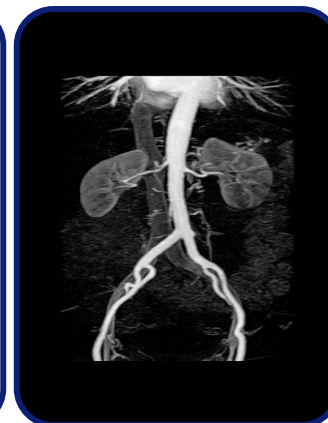
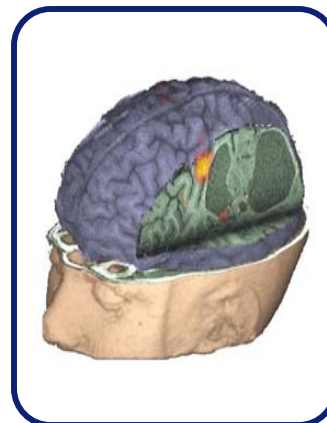
Cardiac &  
Vascular;  
Neurologic  
Diagnosis;  
Pelvic/abdominal,  
Spine, Lungs;  
Accidents/trauma  
cases  
  
Cancer Detection;  
CT Angiography  
(CTA)



# Ever expanding range of clinical applications

X-Ray
Ultrasound
CT
MR
Nuclear Medicine

Soft tissue, such as the brain and nervous system;  
 Spine, skeleton, joints: bone, cartilage, ligament, tendon, and images of inside the bone;  
 Cardiovascular/angiography: (MRA);  
 'Functional' fMRI;  
 Abdominal;  
 Pediatric



## Ever expanding range of clinical applications

X-Ray

Ultrasound

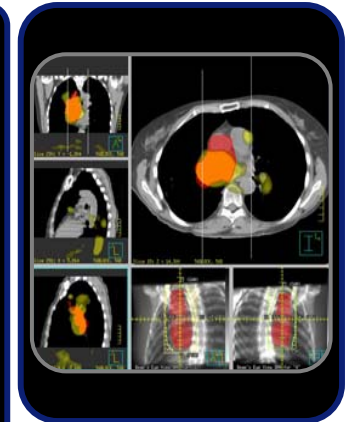
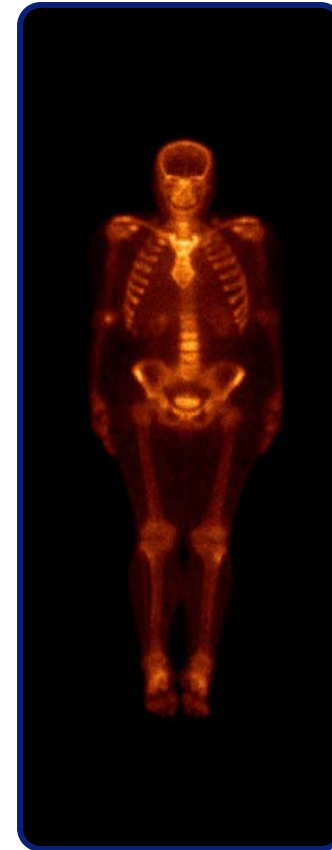
CT

MR

Nuclear Medicine

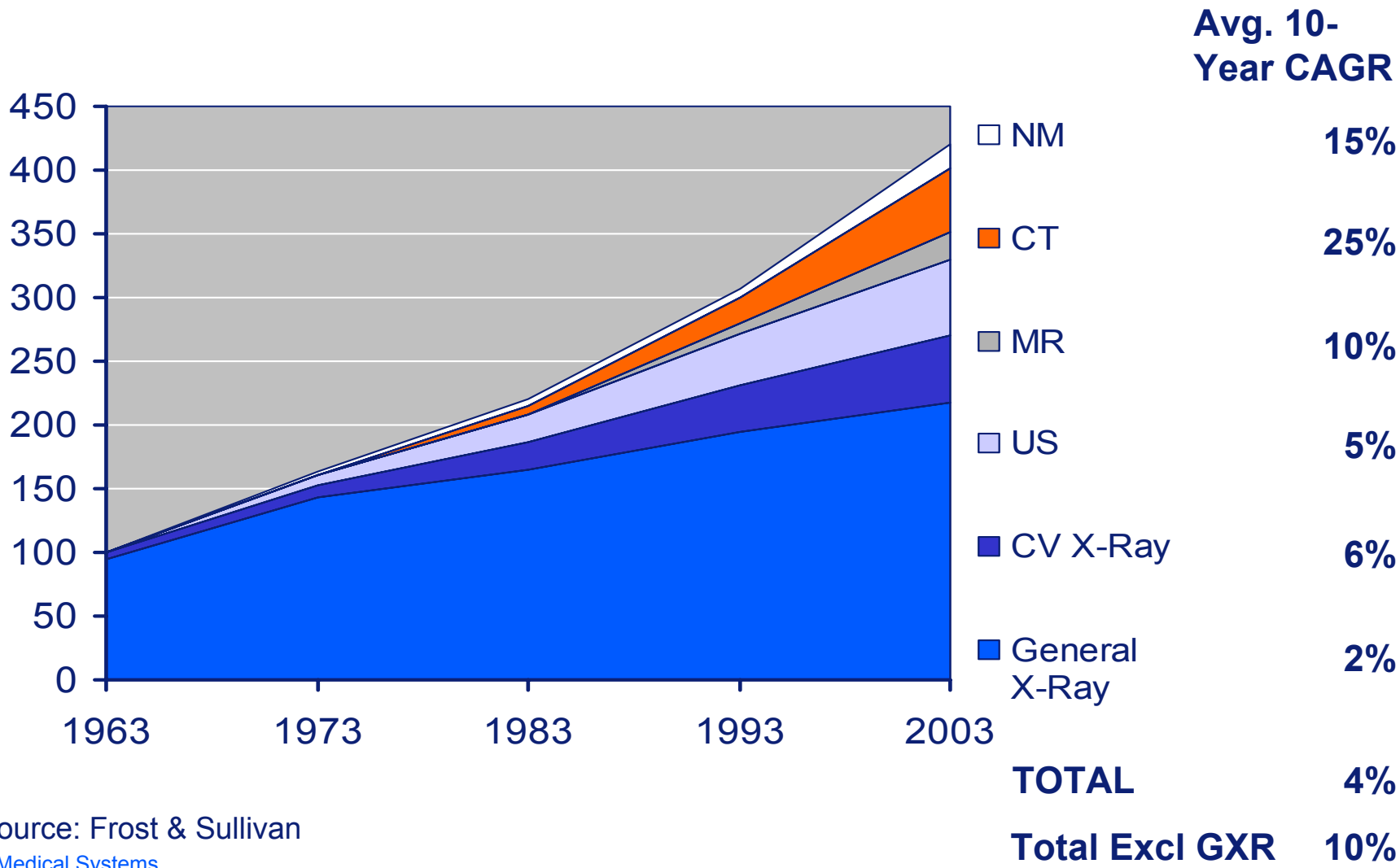
SPECT:  
Coronary artery disease;  
Bones, lungs,  
brain, blood,  
gastrointestinal  
organs

PET:  
Primary cancer  
and metastases;  
Neurology –  
stroke,  
Alzheimer's,  
Parkinson's





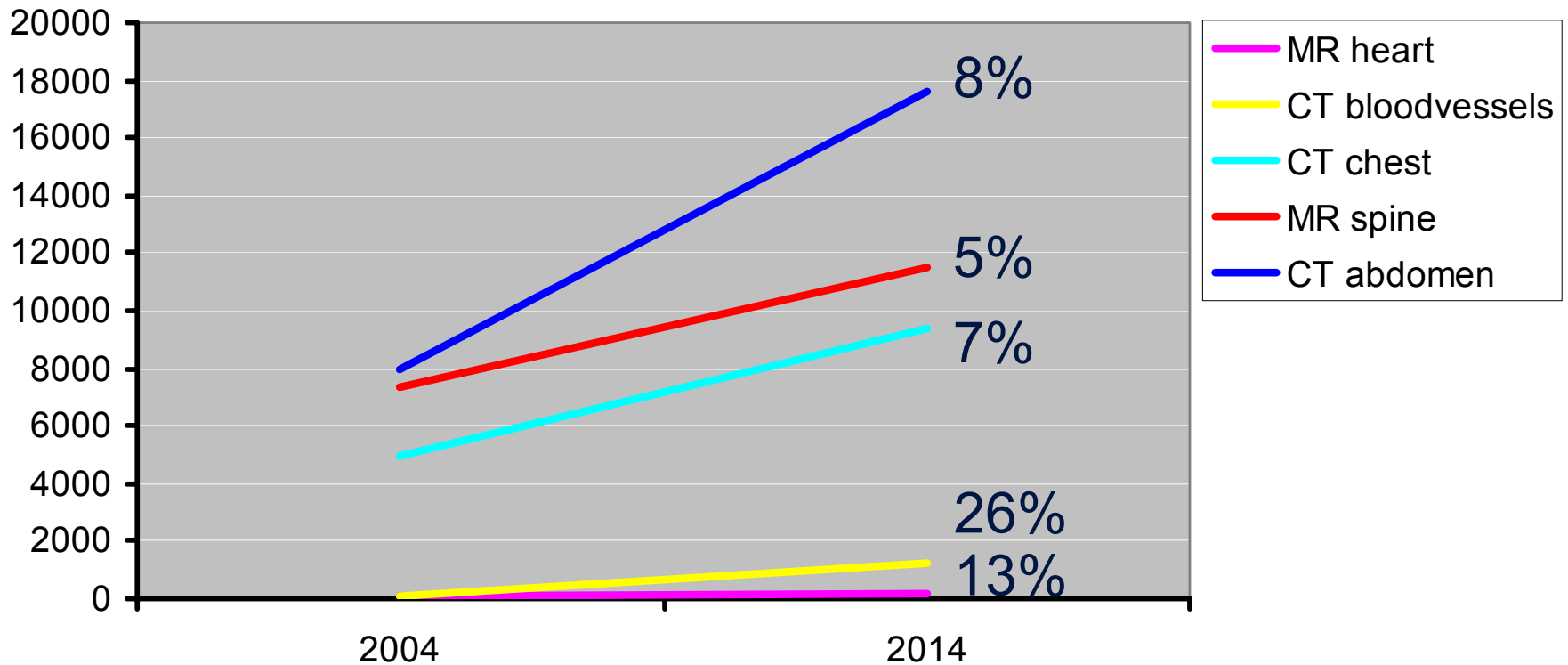
## Growth in imaging procedures driven by innovations in technology & clinical applications



Source: Frost & Sullivan

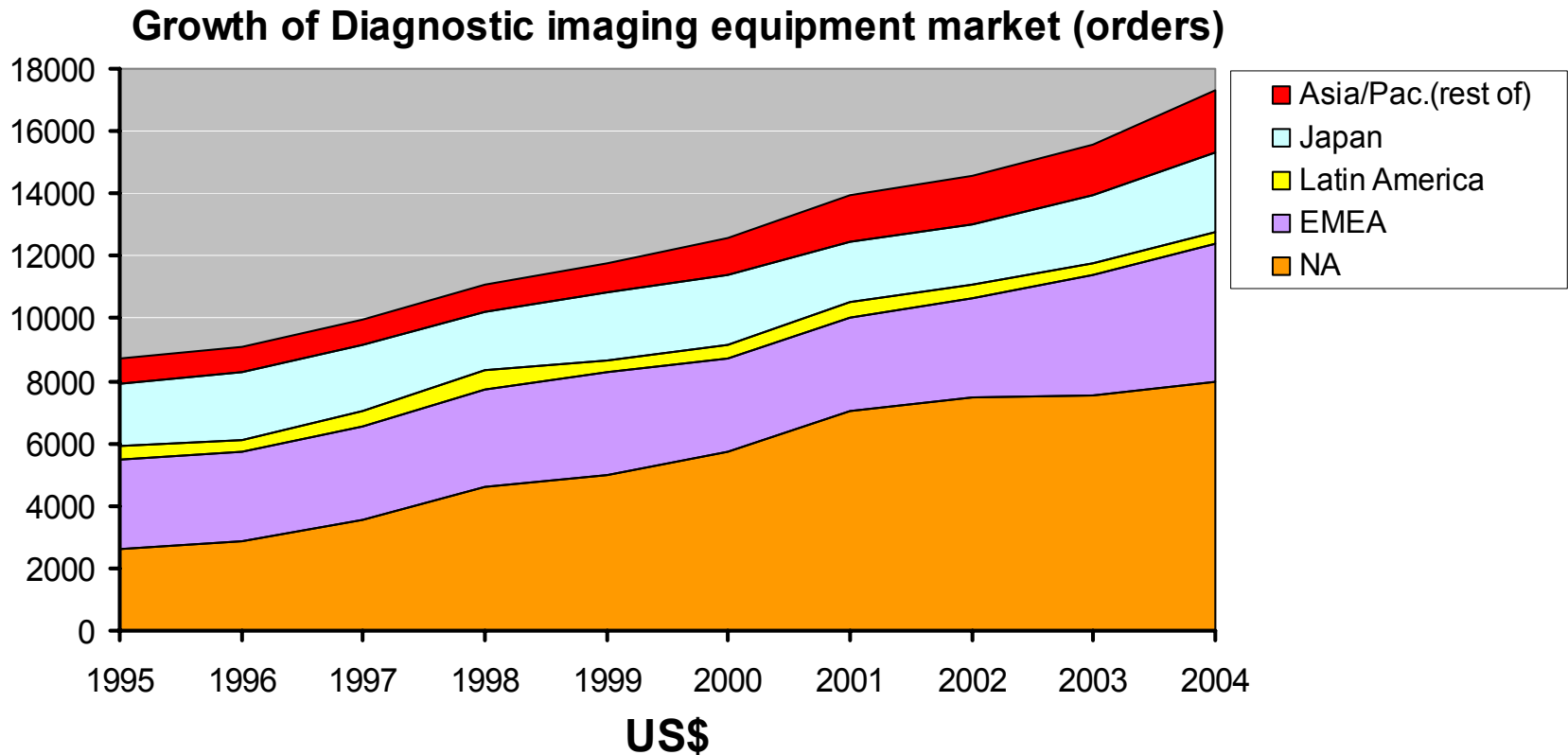
# Procedure Volume will continue to grow....

Example: USA



Source: SG2, June 2005

# Creating long term growth in Imaging Market



On average by 5% per year

Source: Nema, Cocir, JIRA, PMS analysis

# Customer Dynamics

## Continuation of established trends

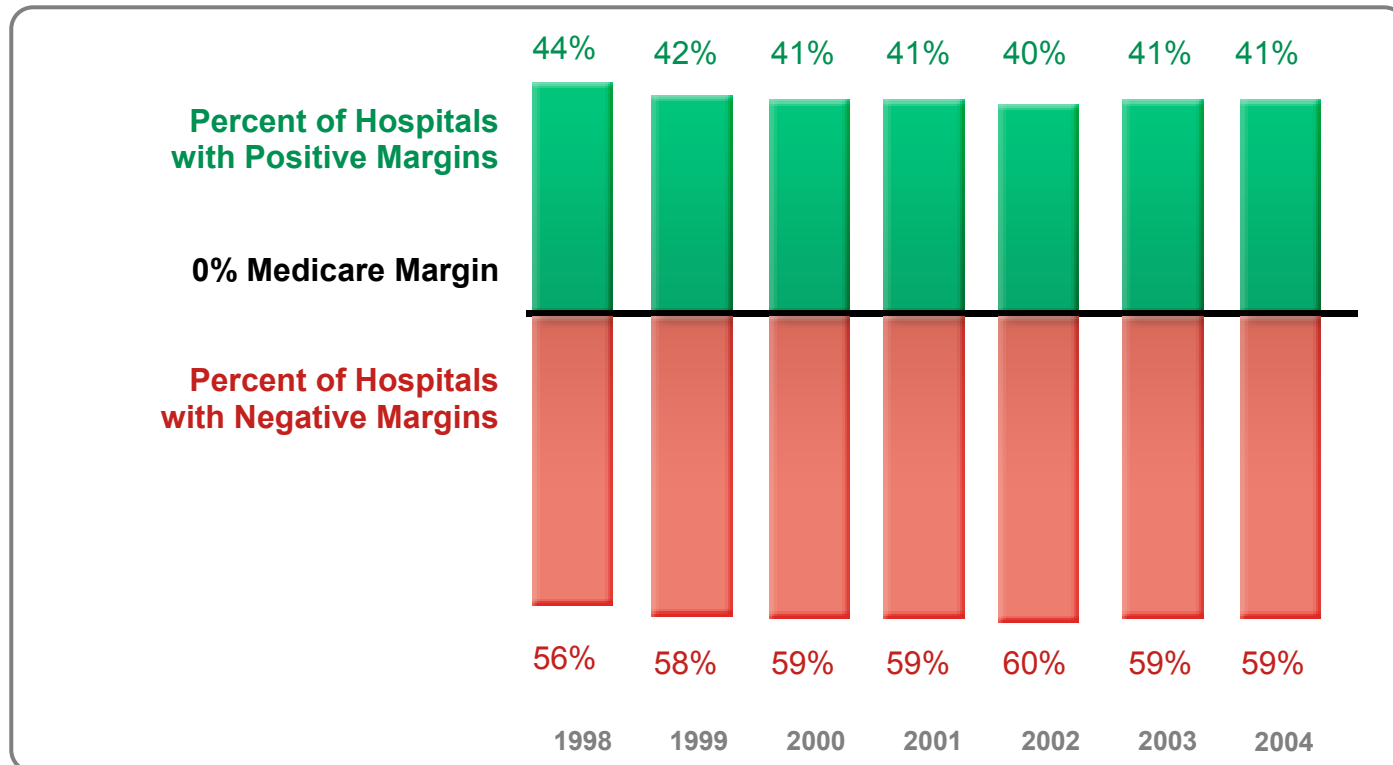
- Privatization of Healthcare
- Consumerism
- Pay-for-Performance programs
- Staffing shortages
- Productivity opportunities through new technology
- Increased New hospital construction

## New dynamics are becoming manifest:

- More large, multiyear, partnership deals with higher margins and risks
  - Strategic partnerships

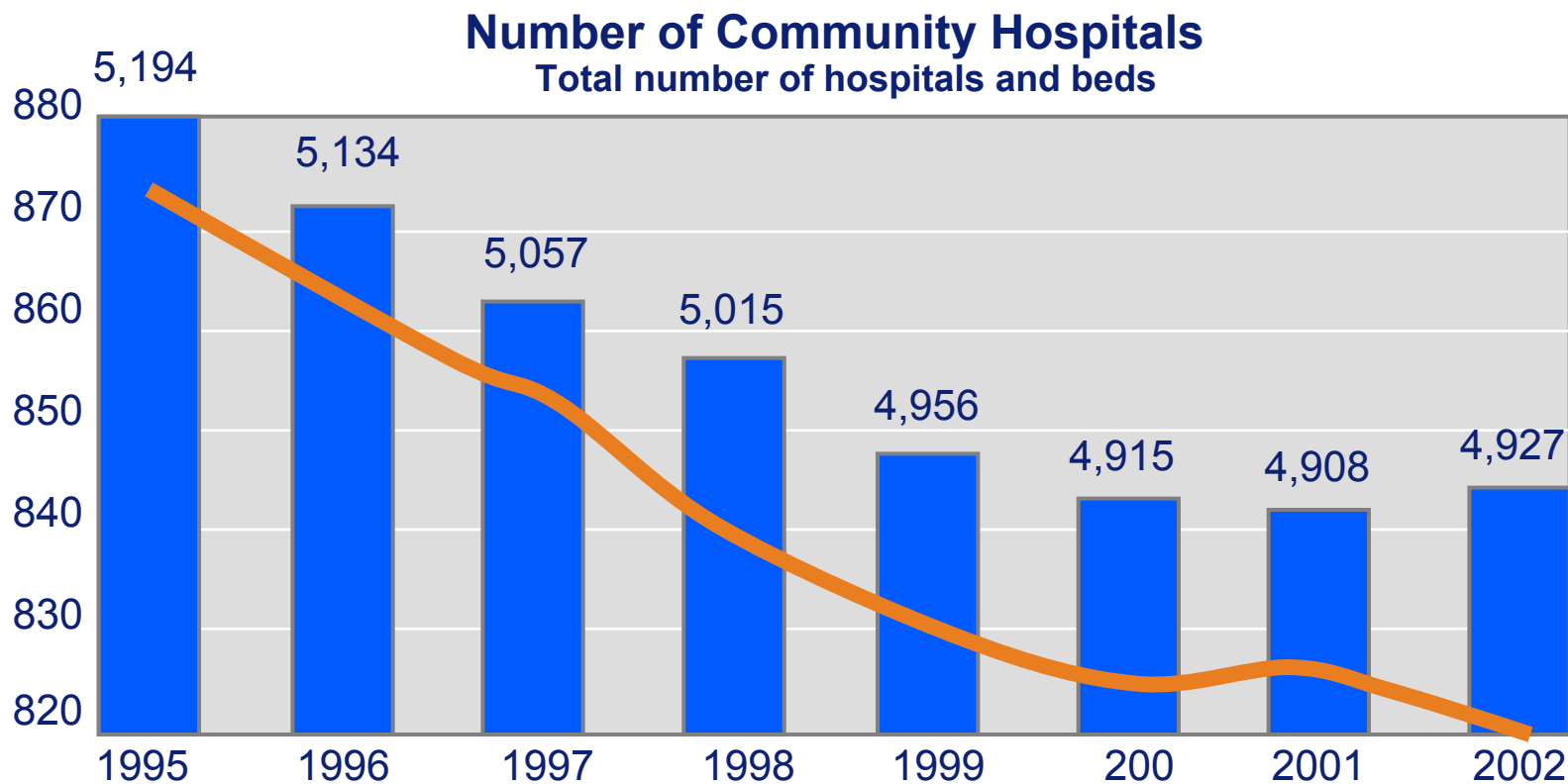


# Hospitals and Health care systems continue to be financially challenged. Example: USA



Source: Healthcare Advisory Board 2004

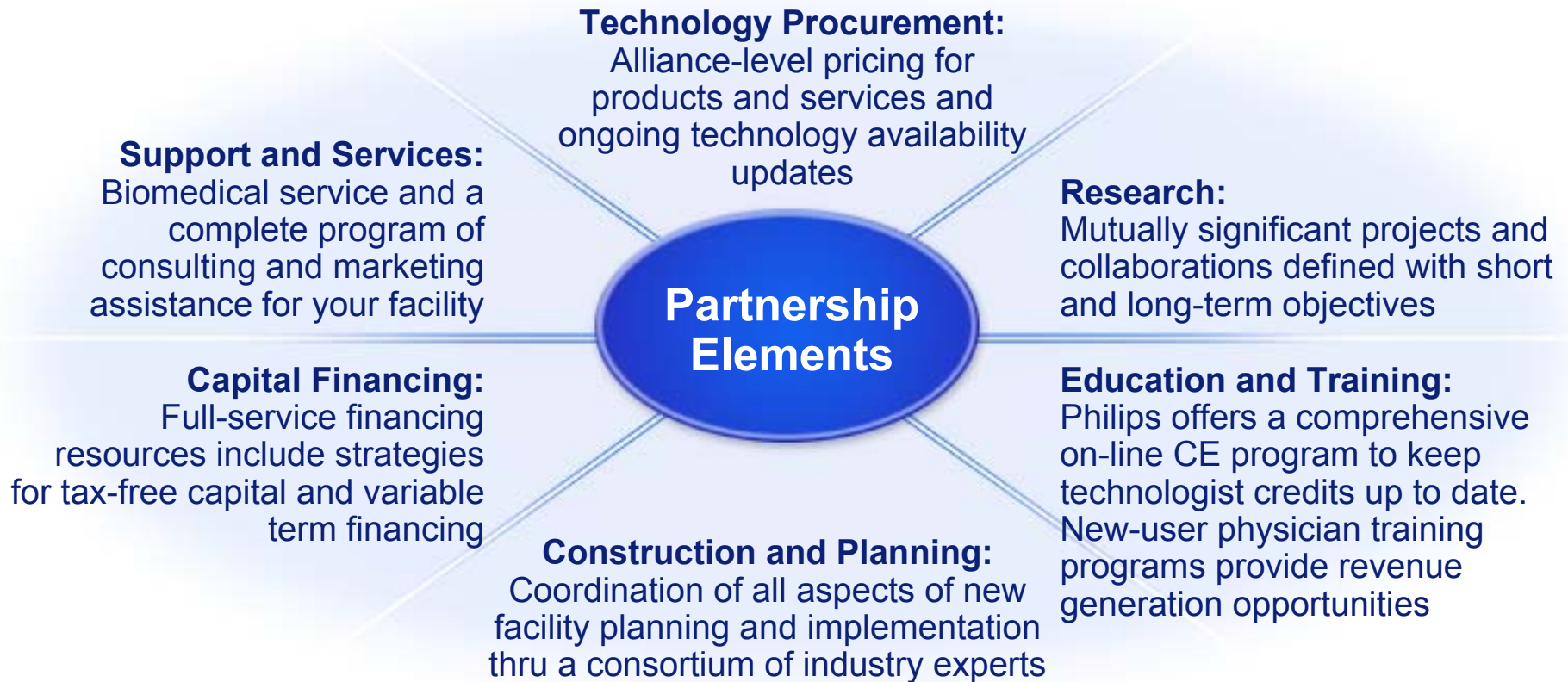
# Customers are slowly consolidating



**Community hospitals in the USA**  
Similar trends in many Western countries

Source: American Hospital Association, 312-422-3000, sha.org

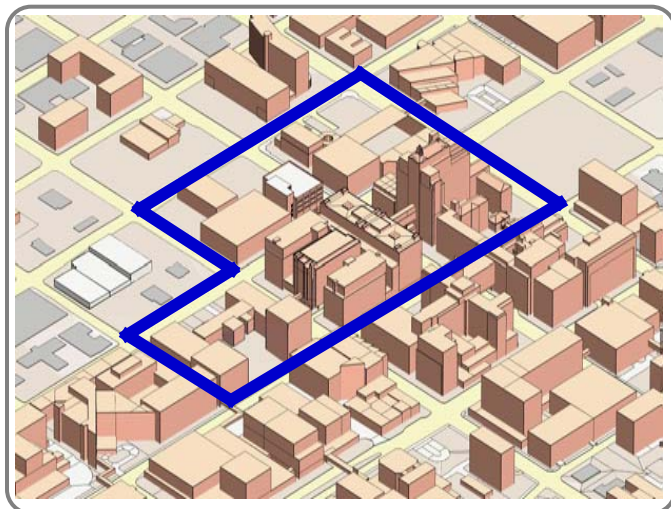
# Buying needs are changing towards longer term partnerships



# University of Alabama, Birmingham

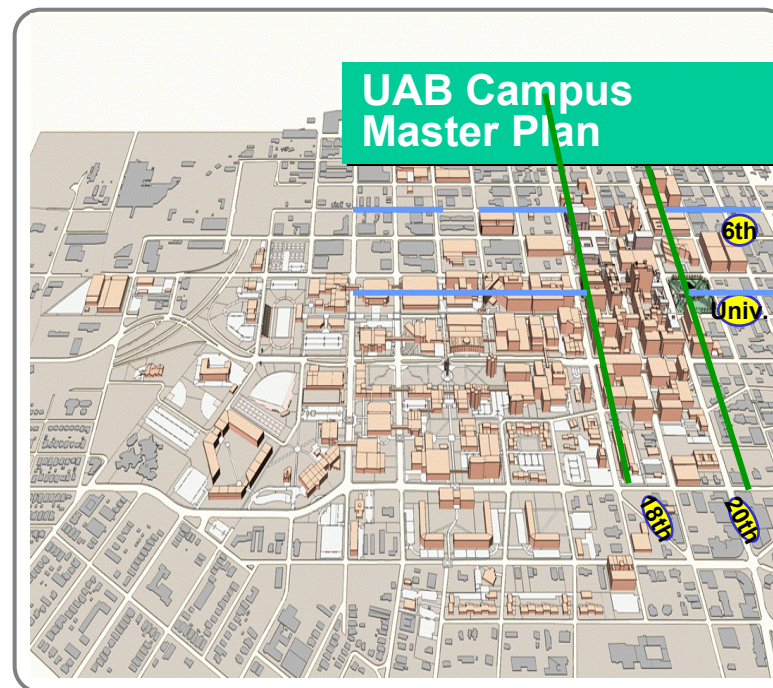
## Today

- Largest University Health System in Southeastern United States
- Complex includes 5 City Blocks
- 2.1 Million Square Feet
- 13 Major Free Standing Buildings



## 2010

- 75 City Blocks
- 12 Million Square Feet
- 17 Free Standing Buildings



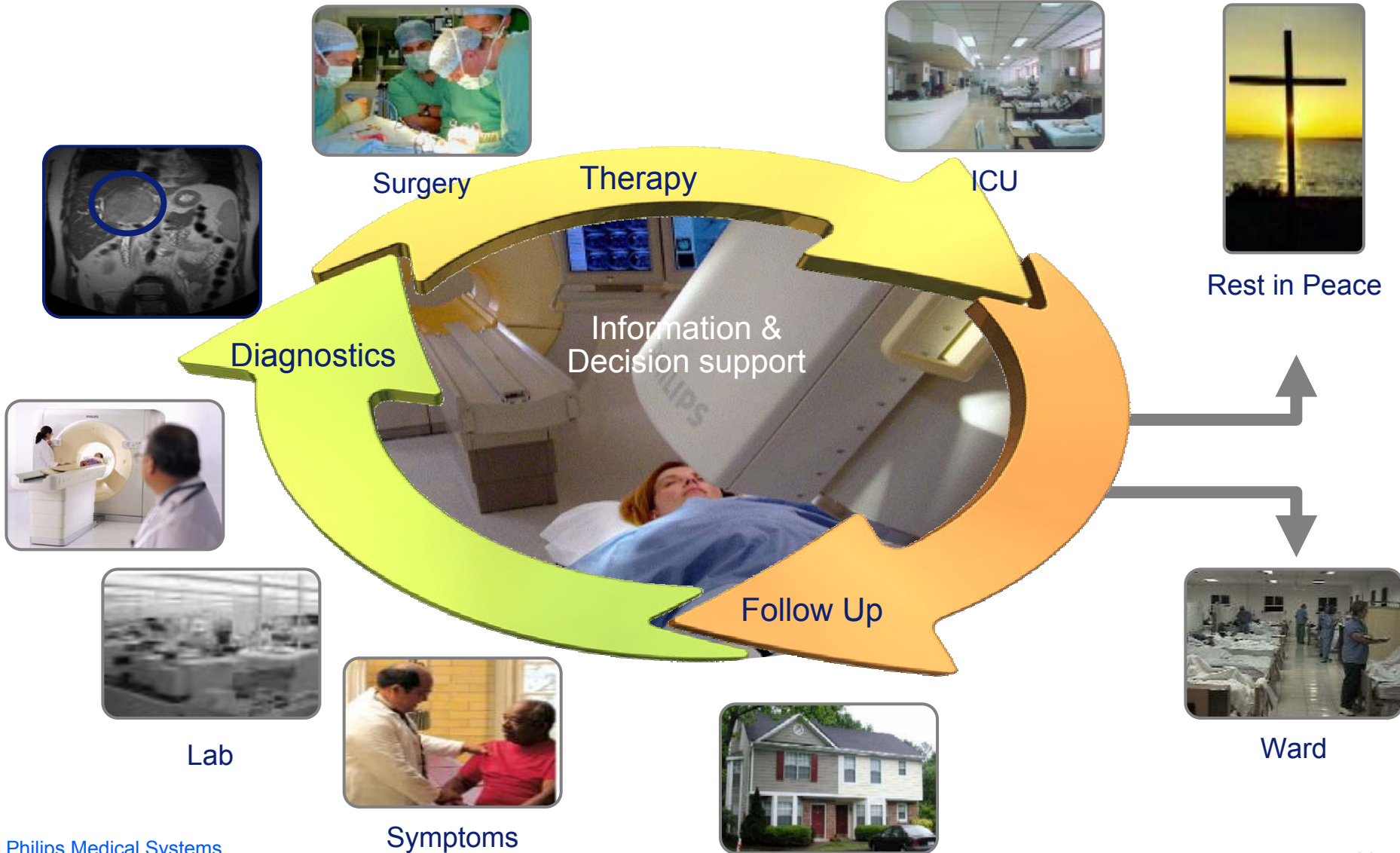


## Overview

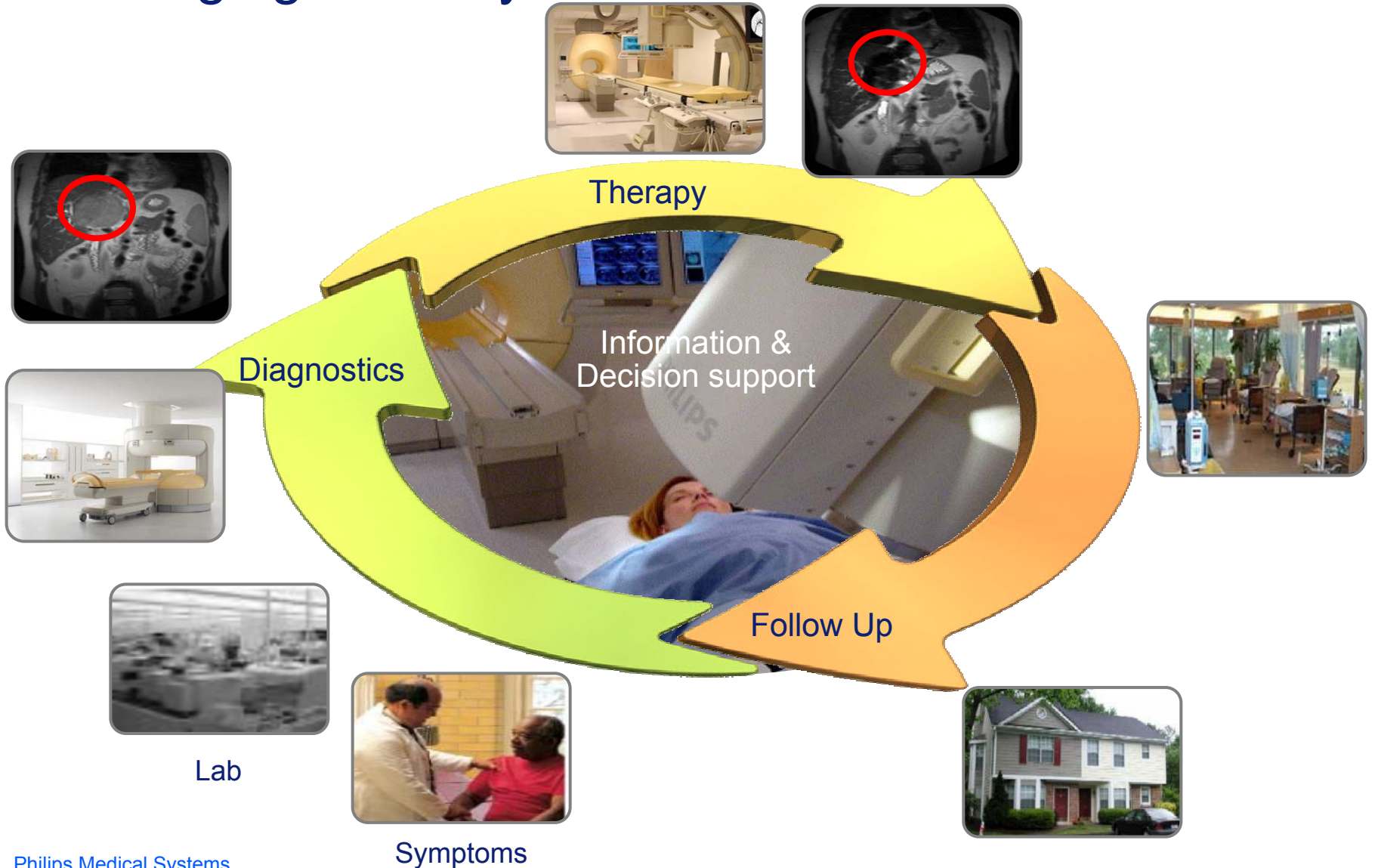
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# Changing Care Cycle: Liver Cancer

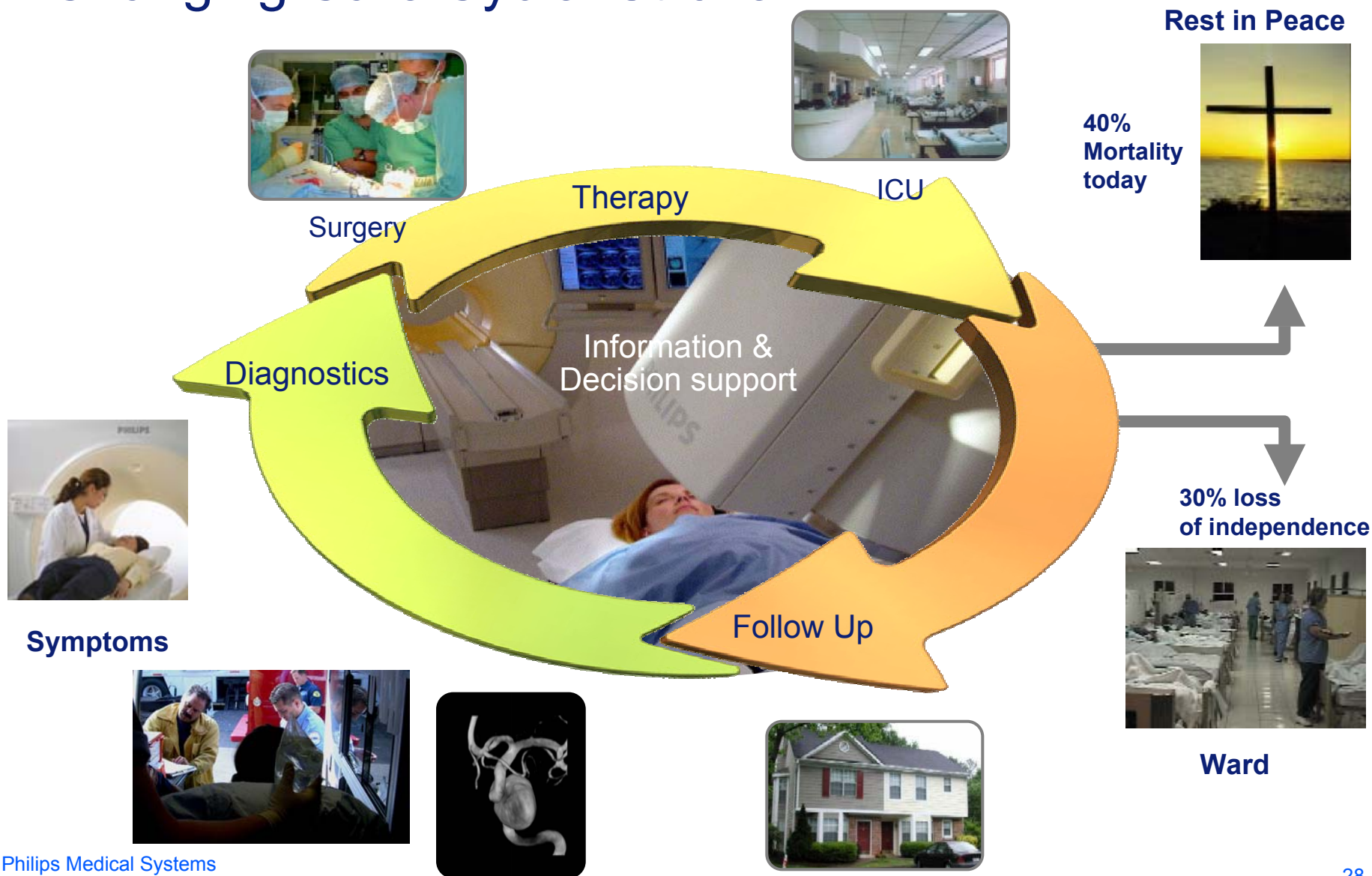


# Changing Care Cycle: Liver Cancer

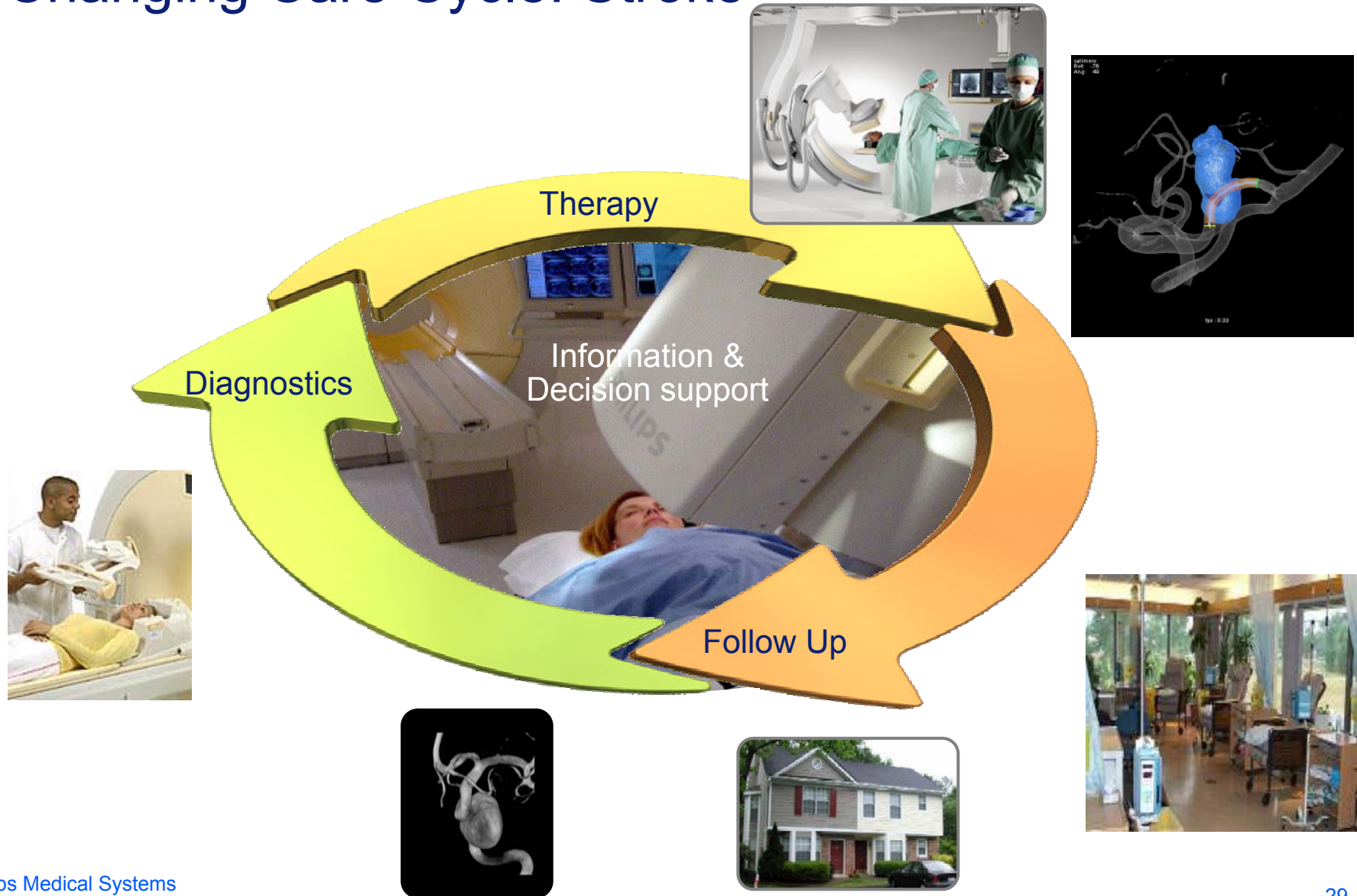




# Changing Care Cycle: Stroke



# Changing Care Cycle: Stroke

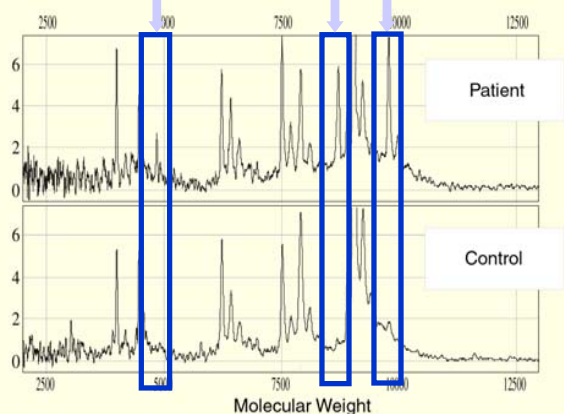


# The ingredients of Molecular Medicine

Biomarkers  
Discovery

In Vitro Diagnostics  
In Vivo Imaging

Image-guided  
therapeutic agents

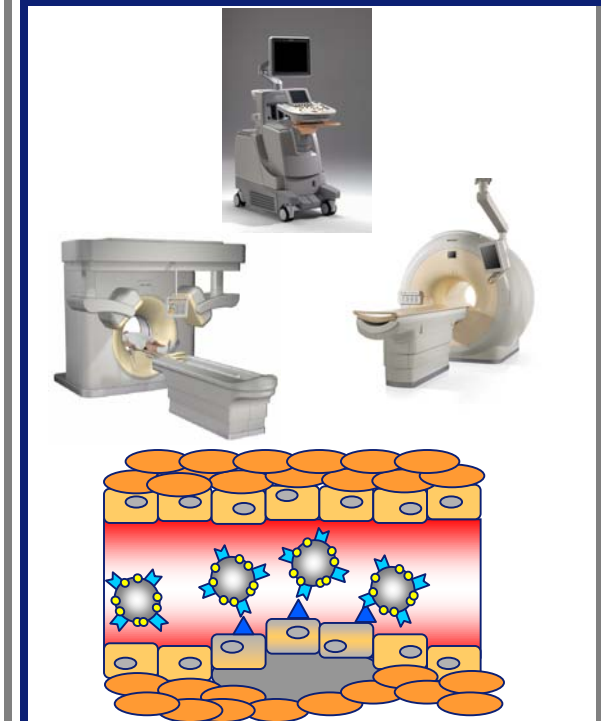


Courtesy: CIPHERgen

Linking disease  
to bio-molecules



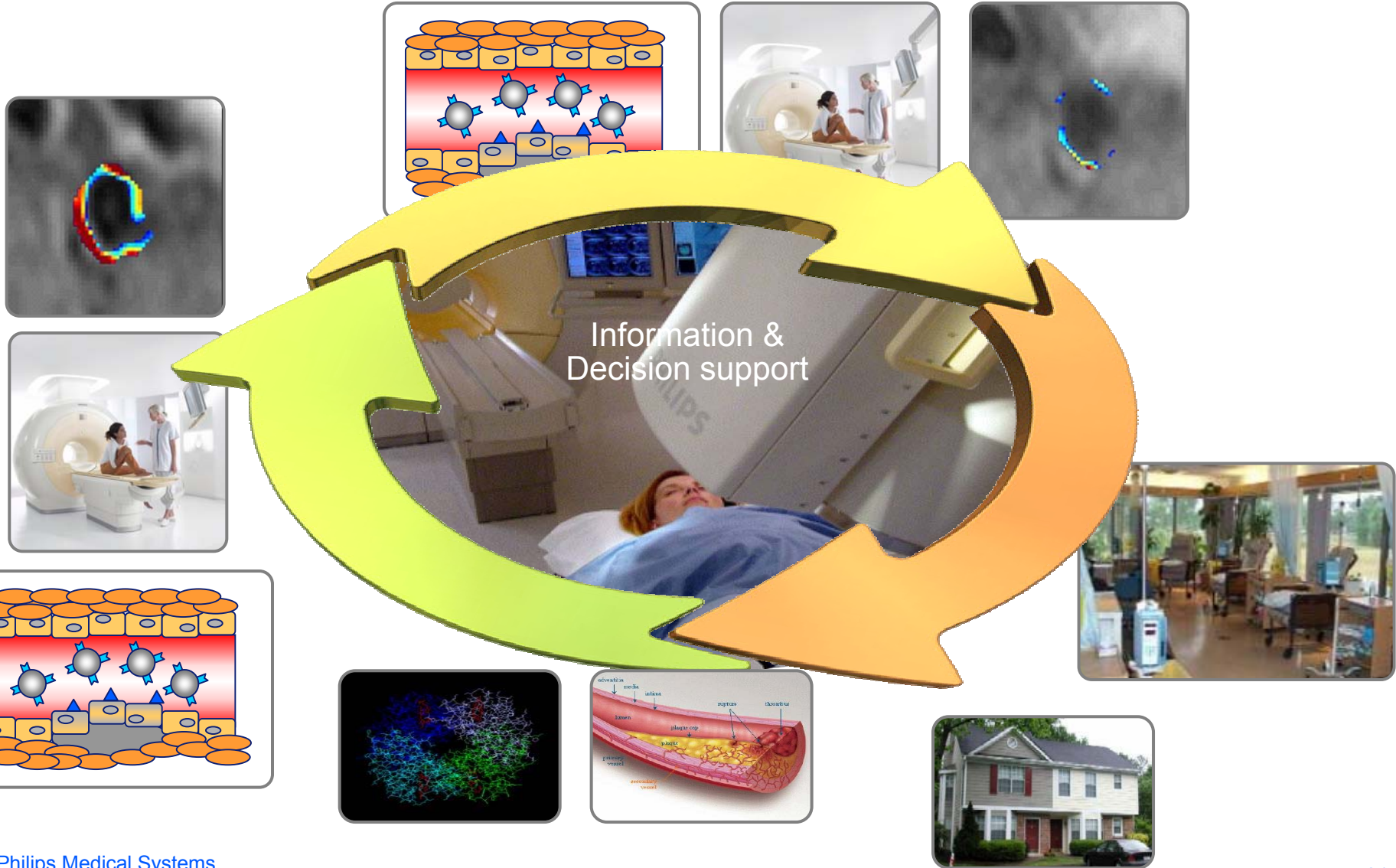
Diagnosing Disease



Targeted therapeutics



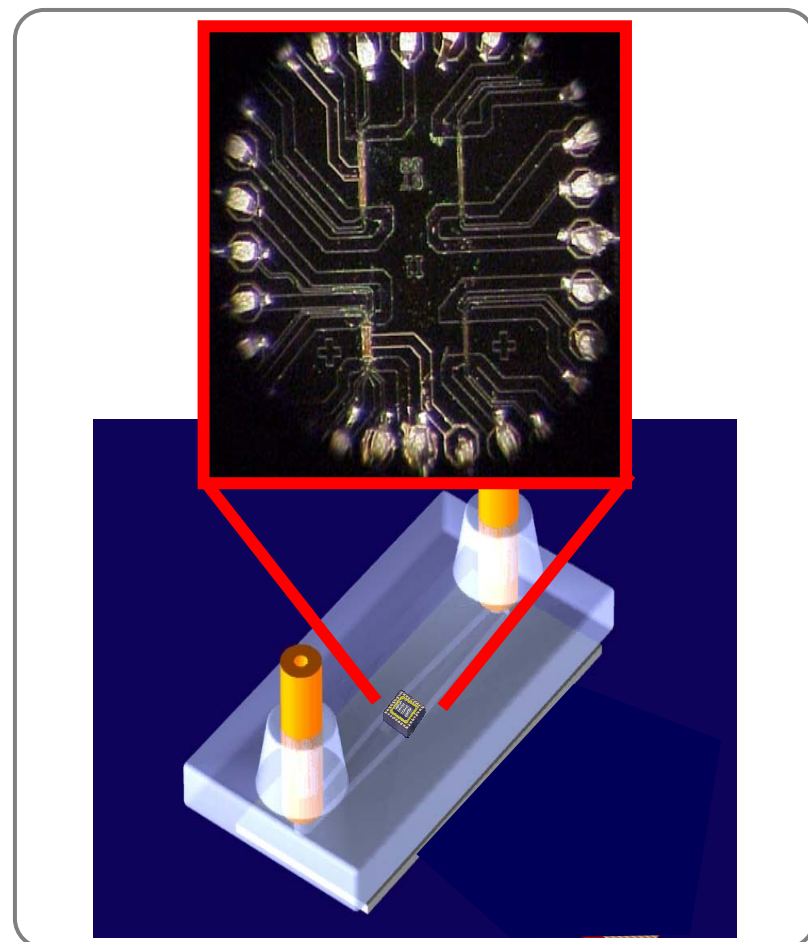
# Changing Care Cycle: Preventing heart attacks



## ...Breakthrough in Biochips for molecular biomarkers

### Building on Philips competences:

- Sensitive and compact magnetic detection techniques
- Magnetic nanoparticles as detection probes for bio-molecules
- Semiconductor technology
- Order of magnitude more sensitive than current technologies

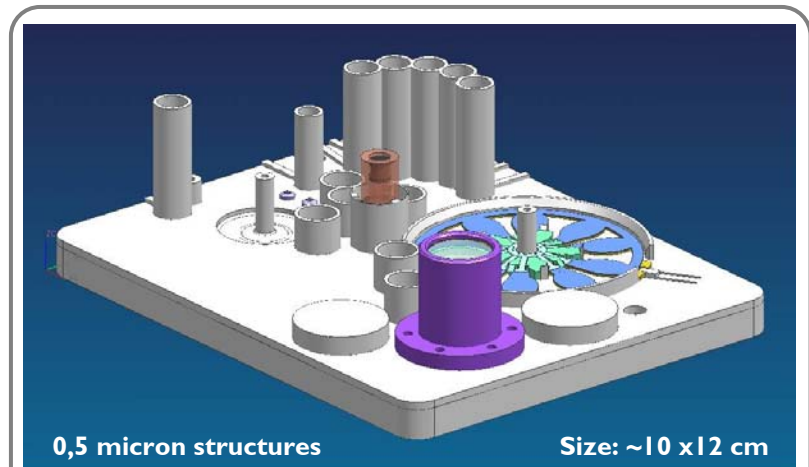




## ...Tomorrow's Modality: new Molecular Diagnostics platforms

### To fight sepsis:

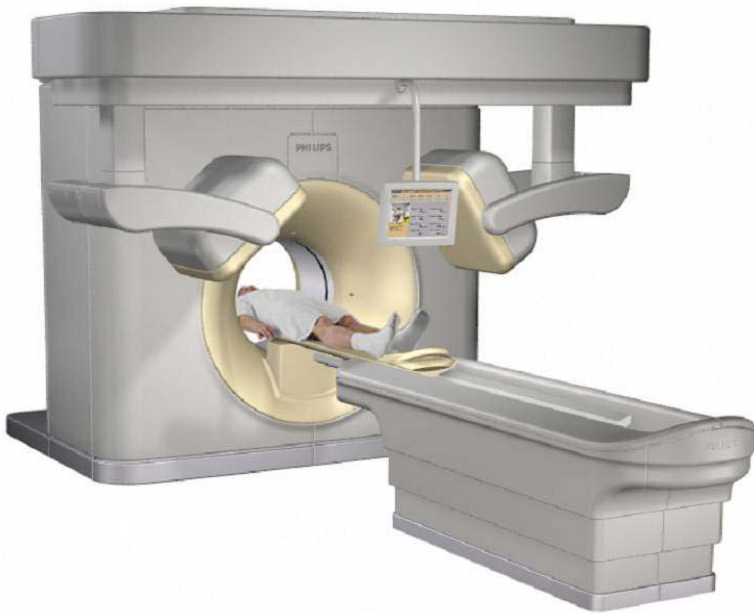
- An estimated >1.5 mio sepsis cases (US and Europe only) every year in hospitals with an increasing rate of mortality
- Utilizing Philips in-house competencies in Miniaturization and Integration, to reduce diagnosis from days to hours



**Philips unique  
'Lab-on-a-chip' solution**

## ...Tomorrow's Modality Today: Unique Molecular Imaging platform...

First high end SPECT-CT



Unique information

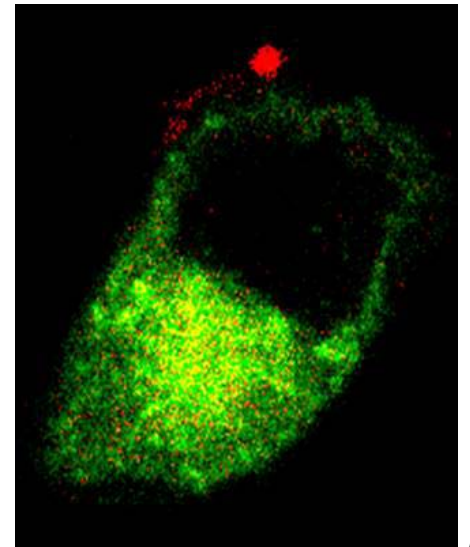
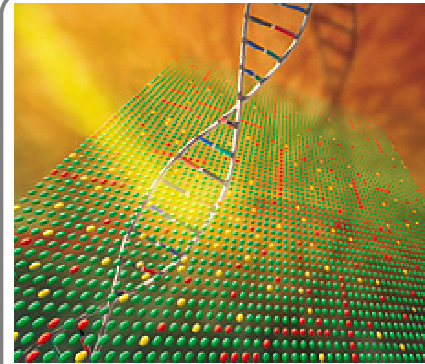


## To build the new Medical Paradigm: Molecular Medicine

### The Future

Your own biochemistry becomes  
the basis for diagnosis and  
treatment

Molecular imaging will screen  
people with genetically inherited  
& life-style risks



## Conclusions

- Healthcare and medical technology add both human and economic value
- Very predictable growth outlook based on established growth drivers (demographics, chronic illness, technology, privatization and consumerism)
- Technology innovation to accelerate – ever faster, ever more accurate and much earlier (more screening)
- The future lies in linking new technology applications to the Care Cycle
- Massive opportunities to increase both clinical outcomes and health economics through Care Cycle improvements

