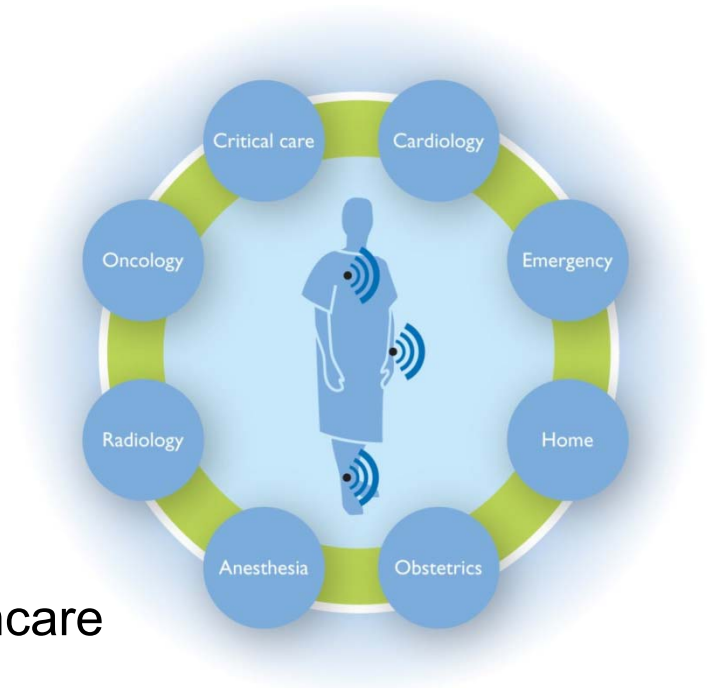


# PHILIPS

sense **and** simplicity















## Healthcare Informatics and Clinical Decision Support

Deborah DiSanzo  
CEO Healthcare Informatics, Philips Healthcare



# Leading the way

Providing breakthroughs for more than a century

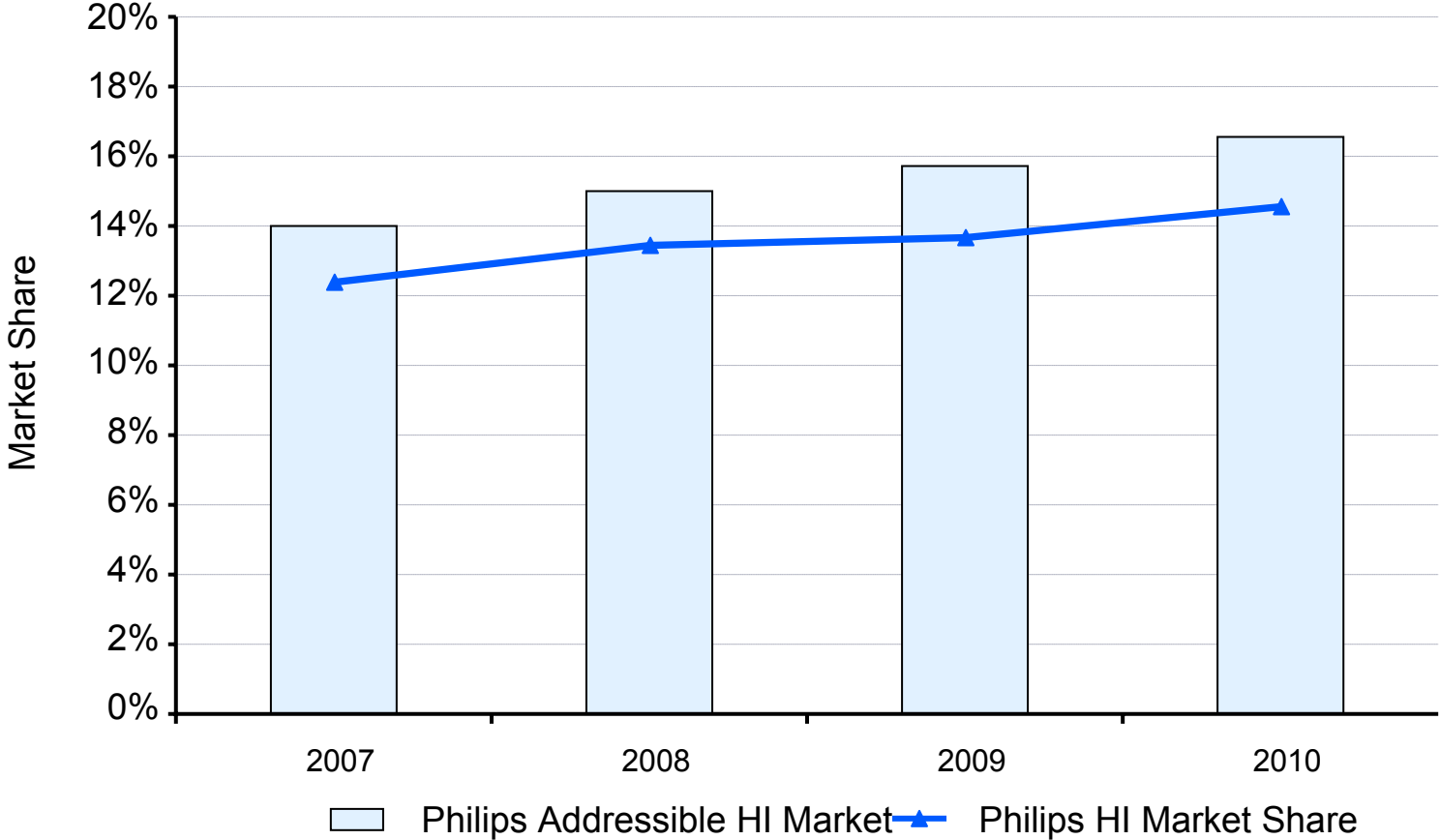
1917	1968	1969	1979	1980	1982	1989
<p>First monitoring device to measure blood pressure</p> 	<p>First commercially available, non-invasive fetal monitor</p> 	<p>First arrhythmia monitoring solution</p> 	<p>First anesthesia CompuRecord installation</p> 	<p>First critical care information system</p> 	<p>First OB information system</p> 	<p>Introduction of the CMS Platform – the most purchased family of patient monitors in the world</p> 
1996	1998	1999	2000	2002	2004	2008
<p>First high-speed cardiology PACS</p> 	<p>First Emergin* installation</p> 	<p>First iSite Enterprise installation</p> 	<p>First eICU® Program implemented</p> 	<p>Introduction of the IntelliVue patient monitoring platform</p> 	<p>Introduced clinical advisory in critical care</p> 	<p>First ubiquitous solutions IntelliVue MMS X2, MP2 and SureSigns VS3</p> 

\* 1988 Technology was named Absolutely Software, Inc (Absoft)  
Emergin name launched in 2000



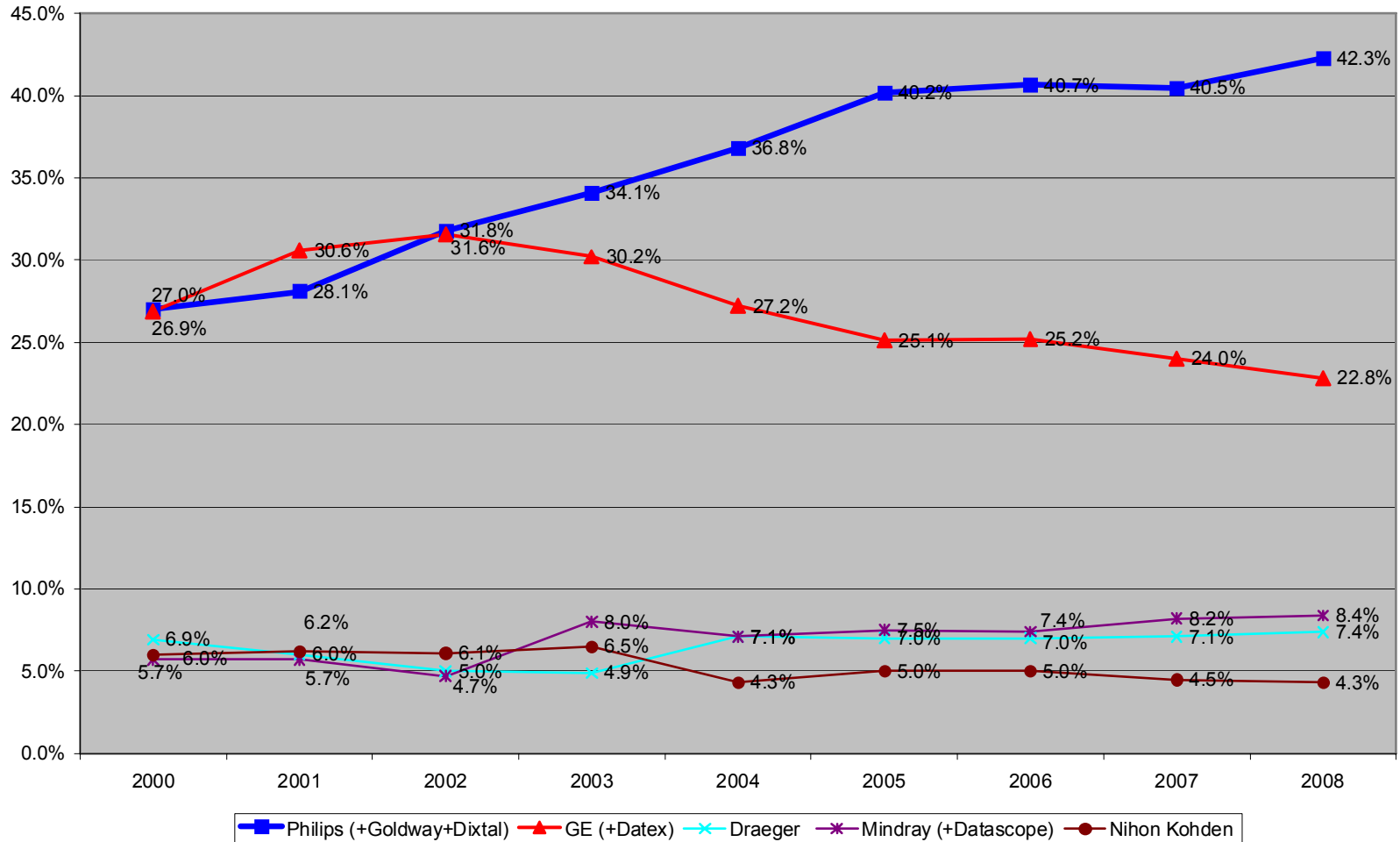
# Market size and growth

Healthcare Informatics, share grows 2 points



Market data extracted from MRG, GIA & F&S report 2009

# Philips is the world leader in patient monitoring

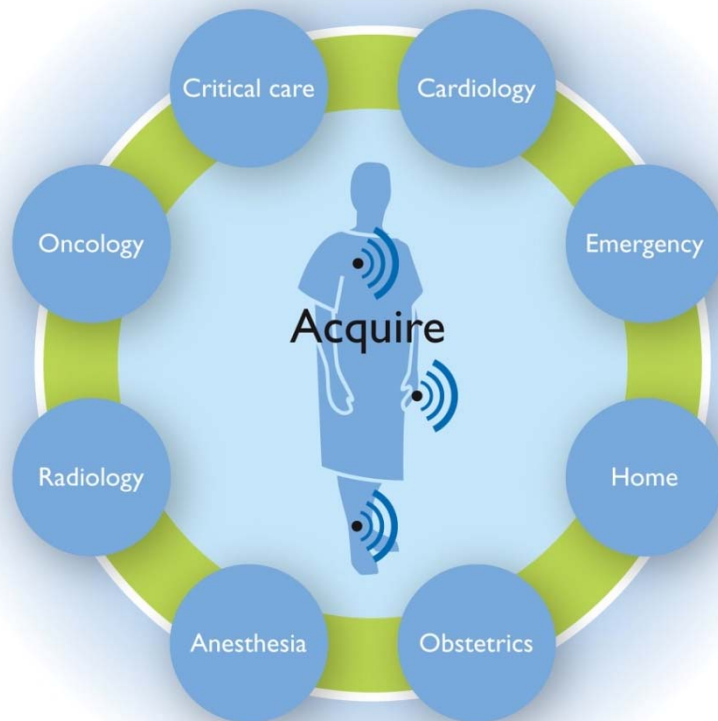


Source: F&S Market Research Report 2000 – 2008 (2008 Q4 Market Size is estimated by Philips)  
 Selected Countries = US, Canada, France, Germany, Italy, Spain, UK, Belgium, Netherlands, Russia, Brazil, Mexico, Japan, China, India, Australia, Saudi Arabia, Turkey & Malaysia = 90% Market

# Healthcare Informatics and Patient Monitoring

We start with the patient

**For over 25 years, Philips has been delivering solutions that acquire, analyze, and present patient data in ways that are meaningful for clinicians in the most challenging, data-rich clinical areas.**



Because we collect hundreds of thousands of ECGs per year, we can analyze heart rhythms by gender, race, and age.

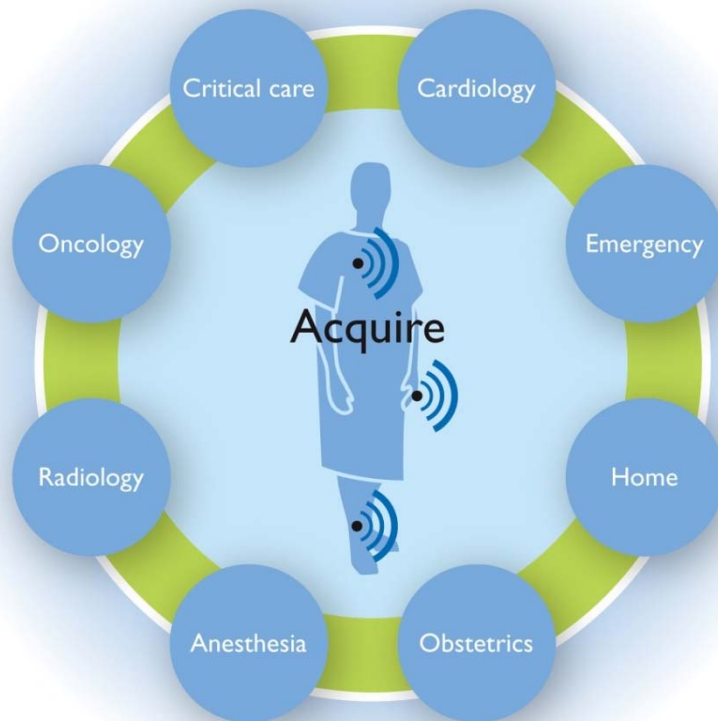
Because we create thousands of lung images per year, we can create lung models for computer-aided diagnosis.

Because we have a database of over one million ICU patients -- their monitoring and lab data -- we can create sepsis algorithms to predict and treat.

# Healthcare Informatics and Patient Monitoring

We work with clinicians

**We provide clinical informatics and patient care solutions that simplify clinician workflow, improve financial outcomes, and help improve and save lives.**



**Integrates into the universe of patient data (EHR, Computerized Physician Order Entry, labs, medication)**

These solutions complement EHR investments and easily integrate into core hospital information systems

The common platform will:

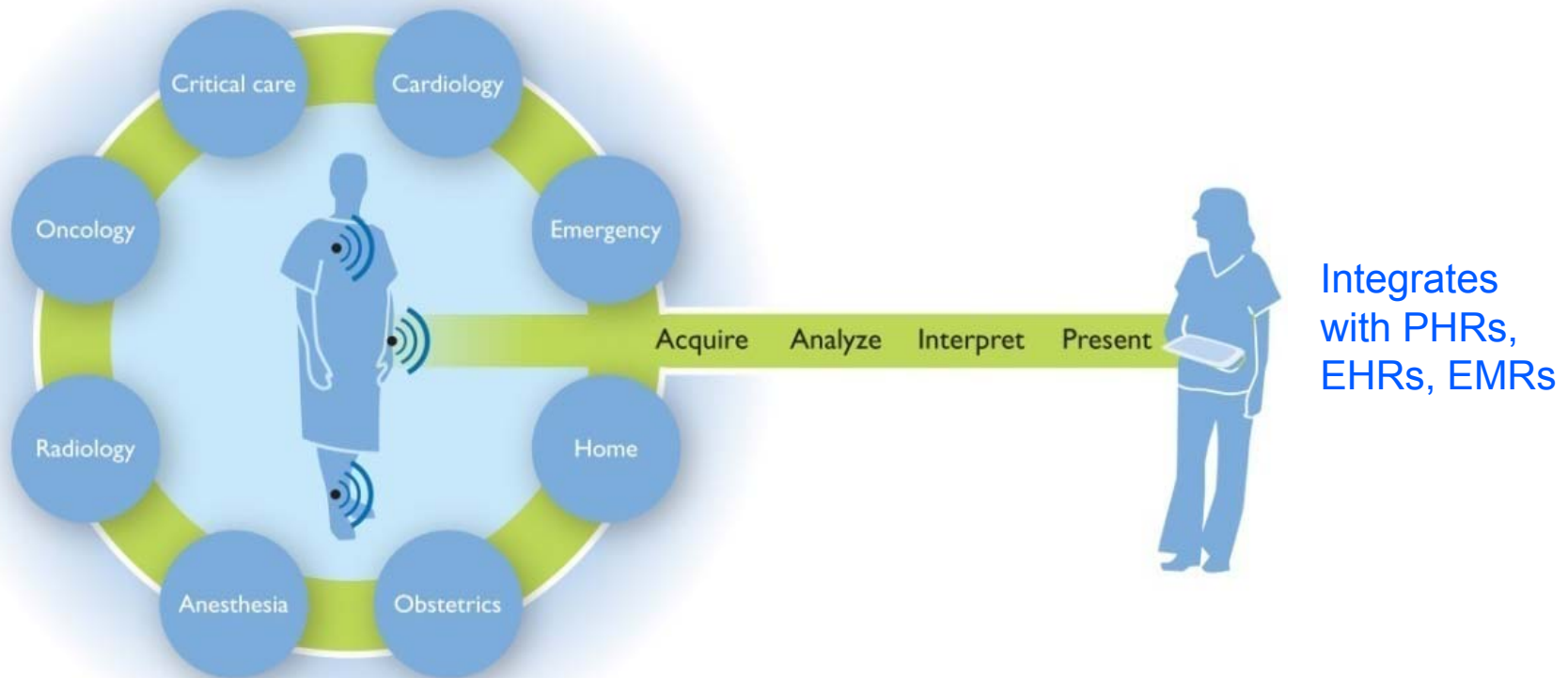
- Integrate clinical data from our own systems and non-Philips systems
- Ensure only authenticated user access and patient data privacy
- Provide remote serviceability and proactive monitoring of our systems
- Allow for instantaneous collaboration among clinicians throughout care cycles



# Healthcare Informatics and Patient Monitoring

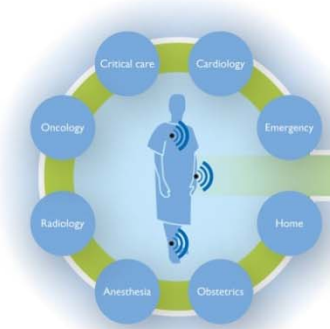
We help clinicians care for patients

**Our solutions interpret the universe of patient data, distilling into actionable care-specific information. Decision support. Anytime. Anywhere.**



**Integrates into the universe of patient data (EHR, Computerized Physician Order Entry, labs, medication)**

# Critical care



Telemetry and cableless patient enable monitoring everywhere

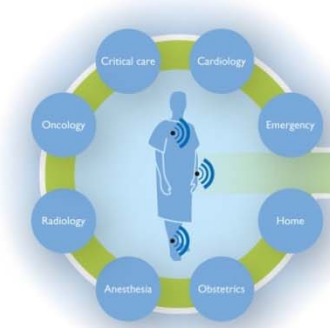
Protocol Watch clinical study showed antibiotic therapy was given to septic patients in 112 minutes using Protocol Watch vs. 182 minutes without

Visicu compares vital sign and lab data on this patient with the data in a one million ICU patient database

During the six-month study, Resurrection Healthcare reduced length of stay by 38% (saved 3 million dollars), and saved 98 lives



# IT within Cardiology care



Acquire

Analyze

Interpret

Present



Patient ECG and heart images acquired



Advanced algorithms analyze ECG by age, race, gender, and calculate calcium scoring, and heart wall thickness and motion



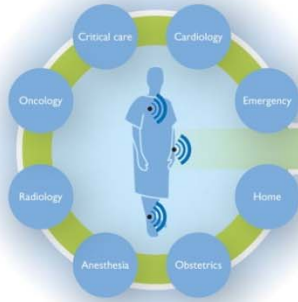
Guides for heart attack and stroke support a multi-patient, multi-clinician collaborative approach



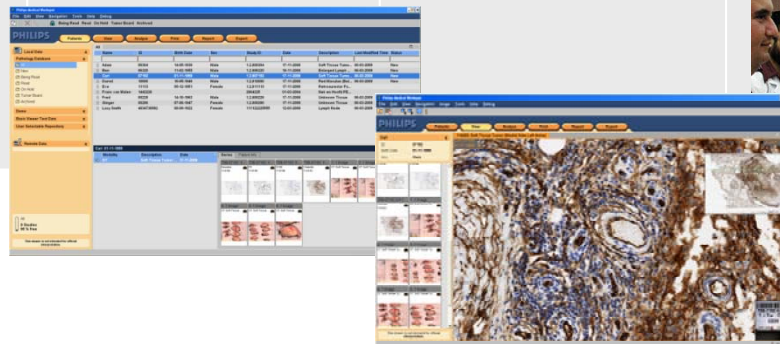
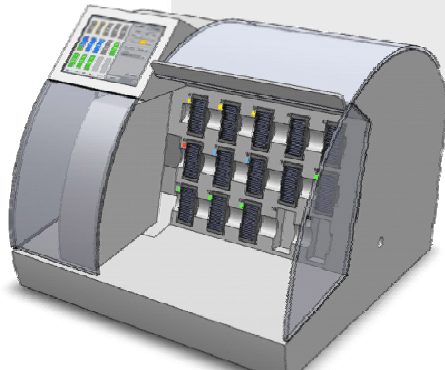
Rules engines check physicians reports for clinical integrity (like spell checker). At Univ of Chicago, we applied 2000 such rules to 90,000 echo reports and found 20% had clinical discrepancies

# IT within Oncology care

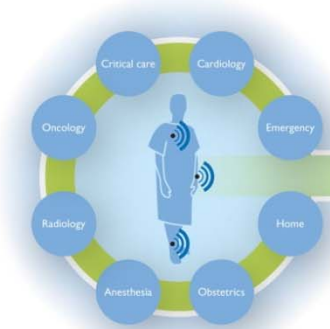
## Digital pathology workflow



Acquire	Analyze	Interpret	Present
At the time of tissue sample, the sample is bar coded, registered in the database, and tracked through the workflow	Patient centric iSite organizes workflow and enables collaboration among clinicians. The computer-aided detection determines the cell's biological structure	With the overlay of multiple images of same sample, the CDS tools correlate tissue data, clinical chemistry, and molecular data	Residents present to heads of pathology and to tumor board, a multi modality report for treatment advice



# Acute care



Vital sign monitors and small, wireless sensors acquire patient information

Trending and predictive algorithms trend respiration, heart rate, blood pressure

eHospital provides support for general floors, critical access, field hospitals, and disaster management

Smart alarms improve surveillance, reduce complications, and reduce hospital length of stay

## Clinical decision support

Philips has over 70 CDS solutions in clinical settings

### Time Critical Procedure Guidance



- eICU (Visicu)
- eHospital (Visicu)
- Smart alarms (Emergin)
- Early warning scoring
- Sepsis algorithms (Visicu)
- Weaning protocols
- Clinical advisor ventilators

### Diagnosis and Treatment Selection

- Complete CVIS (Tomcat)
- Digital pathology (iSite)
- Closed-loop imaging (iSite)
- Breast workstation
- Cancer care companion
- Lung computer-aided detection (CAD)



### Clinical Decision Support



- ICIP Critical Care
- Alarm tracking (Emergin)
- Radiology workflow (XIMIS)
- Closed-loop imaging (iSite)
- Digital pathology (iSite)

### Operations and Quality Management

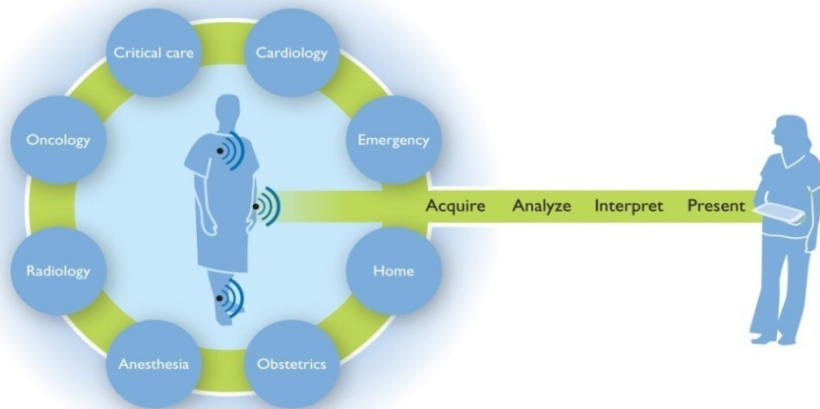
- Patient connections and engagement
- Patient assessment, education, and compliance tools (Respironics)
- Early heart failure algorithm



### Patient – driven Solutions

# Patient Monitoring + Emergin + Visicu

Showing the clinical and financial benefits of clinical decision support



- Emergin and Visicu integration largely complete
- Emergin comparable sales 09/08 = +83%
- Visicu comparable sales 09/08 = +15%
- More Visicu add-on beds than anticipated
- CDS benefits seen in the Patient Monitoring-Emergin-Visicu combination

## UMass Memorial Medical Center

- The examination of 6,422 patient records reveals that the eICU led to measurable improvements in the delivery of care.
- Hospital length of stay reduced four days
- Cost savings averaged \$5,000 per patient
- 309 lives were saved in 2007 alone
- More patients were discharged to home rather than to a post-acute facility



# Philips strategy supports ARRA efforts

## Healthcare Informatics portfolio complements EHRs

“If EHRs are to catalyze quality improvement and cost-control, physicians and hospitals will have to use them effectively. That means taking advantage of embedded clinical decision supports that help physicians take better care of their patients.”

David Blumenthal, M.D., M.P.P.

*New England Journal of Medicine*, 9 April 2009

American Recovery and Reinvestment Act	<ul style="list-style-type: none"><li>• \$17 billion toward physician and hospital incentives to invest in the adoption and use of health IT</li><li>• \$2 billion to the Office of the National Coordinator for Health IT (ONCHIT) in part to support regional and local health information exchanges</li></ul>
Philips Solutions	As definitions of “certified EHRs” take shape, Philips will ensure current or refined solutions support certification, adoption, and “meaningful use” of EHRs. Philips provides the embedded clinical decision support.

## Emerging markets patient monitoring solutions

### Goldway (China)

- Acquisition closed in June 2008
- Integration activities fully underway
- Goldway is the 2nd largest Chinese patient monitoring firm
- Focus on emerging markets: small and medium hospitals, and general care areas
- Products are low cost, highly featured, and appropriate for global price-sensitive customers
- Sales growing +30% (2009/2008 comparable)



### Dixtal (Brazil)

- Acquisition closed in June 2008
- Integration activities progressing
- Dixtal is the market leader in Brazil
- Focus on growth in Brazil and Latin America
- Gains immediate cost advantages over global competitors by having local manufacturing
- Sales growing +6% (2009/2008 comparable)



**We will continue to seek emerging market solutions to broaden the HI-PM portfolio**

# KLAS report substantiates our strategy

Cause and Effect:  
Vendor Behavior in M & A

Acquiring Vendor	Reason for Acquisition	Acquired Sr. Mgmt.	Acquired Business Unit Status	Acquired Product/Service Status	Product/Service Strategy	Market Share	Results Thru Provider Eyes
Accenture	🌐	☹️	☹️	💰	📁	⬇️	↔️
ACS	🌐🔑	😐	😐	😊	📁	⬇️	↔️
Agfa	🔑	☹️	😐☹️	💰☹️	📁	↔️	⬇️
Allscripts	🌐🔑❌	😊☹️	☹️	😊	📁	⬆️	↔️
Cerner	🔑	😐	😐	😊	📁	↔️	↔️
CSC	🌐🔑	😊☹️	☹️	😊	📁	⬇️	↔️
Eclipsys	★🔑	😊😐	😐	😊☹️	📁	⬇️	↔️
GE	★🔑	😐	☹️	☹️	📁📁	⬇️	⬇️
IBM	★🌐🔑	😐	☹️	☹️	📁	⬇️	⬇️
McKesson	★🔑	😊😐	😐	😊	📁	↔️	⬆️
Nuance	★🌐🔑❌	😊	😐	😊	📁	⬆️	⬆️
Philips	★🔑	😊	😐	😊	📁	⬆️	⬆️
QuadraMed	🔑	😐	☹️	💰	📁	↔️	↔️
Key:	★ Buy Leading Product/Service Line	😊 Stay Put	😊 Left Alone	😊 Competitive Development	📁 Integrated		
	🌐 Gain Market Share	😐 Leave Over Time	😐 Semi Autonomous	💰 Maintained for Cash	📁 Packaged		
	🔑 Enter New Market	☹️ Leave Right Away	☹️ Lost Identity	☹️ Neglected	📁 Stand - Alone		
	❌ Eliminate Competitor						



# PHILIPS

We provide clinical informatics and patient care solutions that

**simplify clinical workflow,**

Carolina's Medical Center tracked a 25% improvement in radiology cases and went from reviewing 300,000 cases per year to 1.2 million.

**improve financial outcomes,**

Resurrection Healthcare reduced ICU length of stay by 38% and saved \$3 million.

**help save and improve lives.**

University of Massachusetts Medical Center saved 309 lives in 2007;  
Resurrection Healthcare saved 98 lives during their six month study;  
Provena Health saved 55 more patients using the eICU to increase compliance to the Surviving Sepsis Campaign Sepsis bundle during their trial.

**PHILIPS**

