



## Transformation of Workflow and Patient Outcomes through Interoperability

*Focusing on clinical excellence*

Carina Edwards  
Philips Healthcare; Patient Monitoring Informatics  
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Theater A 12:15pm

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## Informatics' current reality

### The issues

**Clinicians are on data overload**  
An incredible amount of data generated for each patient throughout the hospital

**IT support is critical**  
Data moves between multiple core systems in all forms. IT also needs to support quality and patient safety initiatives.

**Demand for care is growing**  
There are simply not enough nurses and doctors to cope with our demands or manual tasks overtake patient care time.

**Technology to the rescue**  
Economic changes and resulting resource constraints place greater expectation on technology solutions

### The consequences

▶ There is too much information to process, which can slow decision-making and thus, patient care.

▶ Critical patient data can be lost, misplaced, or even misread. Delays in information management can affect decision-making.

▶ Our healthcare system is overloaded, many processes are still duplicate and/or manual and there is a global deficit of healthcare professionals.

▶ Seamless system and platform connectivity drive highlight integration and interoperability challenges.

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## HIT Aspect of the Stimulus Package

Health information technology



\$19.2 billion, including \$17.2 billion for financial incentives to physicians and hospitals through Medicare and Medicaid to promote the use of electronic health records and other health information technology and \$2 billion for affiliated grants and loans to be administered by the Office of the National Coordinator for Health Information Technology. Physicians may be eligible for grants of \$40,000 to \$65,000 over multiple years, and hospitals for up to \$11 million.

See Original Journal of Medicine, 10/09

### Impact on the Promotion of Standards:

- Legal establishment of the Office of the National Coordinator (ONC)
- Development and Planning of HIT adoption - \$2 billion
- Responsibilities include reviewing and endorsing standards, specifications and certification criteria
- Creation of nationwide HIT infrastructure to support secure exchange of health information
- Promotion of Standards & Certification
- Creation of HIT Policy Committee
- Recommendation and prioritization of standards and implementation thereof
- Creation of HIT Standards Committee using guidance from the Policy Committee
- Recommend standards, implementation specifications and certification criteria
- National eHealth Collaborative (NeHC-formerly AHIC2) MAY become either the HIT Policy or Standards Committee

<http://www.healthreform.gov/>

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### Ideal Healthcare Ecosystem



- Imagining a healthcare ecosystem where:
  - Patients are connected to providers
  - Providers are connected to providers
  - Providers are connected to payors
  - Payors are connected to patients
- Where interoperability provides the framework to:
  - Lower health care costs are actually
  - Enable the delivery of wellness and health throughout the patient, provider, and payor health ecosystem through advanced technologies
  - Deliver the right information at the right time in the right point of the patients care cycle to the right care provider
  - Support better clinical decisions through the acquisition, analysis and interpretation of electronic patient information

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### Clinical Convergence



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### Balancing EHR and Clinical Goals

*Interoperability is key*

- Interoperability & the EHR
  - What is an EHR?
  - What is the goal of an EHR?
  - What is Interoperability and why is it important?
  - What standards will drive ubiquitous adoption?
- Factors driving the need for interoperability
  - Economic Drivers
  - Consumer Demands
  - Industry Trends
  - Market Needs
    - Standards
    - Data sharing willingness
- Achieving the EHR
  - Intelligent device data coupled with clinically deep care setting applications can drive EHR advancement



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sense and simplicity

A look at the "In Hospital" experience

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### Start with the Acquisition of Patient Information

In today's challenging data rich clinical areas of the hospital we believe that to be success in HIT you need to begin with intelligent acquisition of Patient Information.



The universe of patient information is generated by so many devices and systems that we are creating data overload without interoperability:

- Modality Generated Data
- Medical Device Generated Data
- Clinical System Generated Data
- Specialty System Generated Data

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### Interoperability Core to Acquisition

Standards are core to being able to share information throughout the universe of patient information



Core "Standards"

- PCD
- HL7
- CCOW
- DICOM
- SNOMED
- XML

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## Interoperability

- The concept of interoperability allows us to **communicate** in broad terms about **how systems interact with one another**.
- Without interoperability and health information exchange, health information **will remain in proprietary silos**.



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## Interoperability

- Without some means of **interoperability**, choice leads to fragmentation of the consumer's health care experience.
- Fragmentation, in turn, results in errors, duplication, lack of coordination, and many other problems.
- Information could virtually tie together a network of providers **so that fundamental operational, clinical, and financial synergies could be realized**.

Interoperability: The Key To The Future Health Care System  
By David J. Orler

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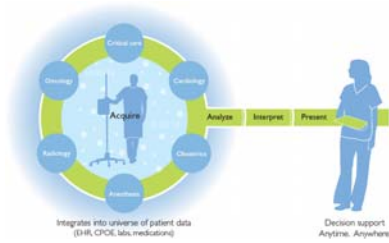
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## Once you have the data then what?

We believe to make the best use of all of this patient data you need systems capable of interpret the universe of patient data, distilling into actionable, care specific information.



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### Example of Intelligent Use of Patient Data

*Application Bundles*

1. Application – Structured & guide assessment  
 2. Advisory – Reminder & advises functionality  
 3. DAR Report – Verify compliance with bundles  
 4. Online References

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### Benefits of Interoperability

*Early Detection and Identification Saves Lives and Costs*

Identify at risk patients earlier  
**Breast & Colon Cancer**

Earlier, more accurate diagnosis  
**Sepsis, VAP, Cardiovascular, etc.**

Earlier, more targeted treatment  
**Pulmonary Embolism and Stroke**

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### Benefits of Interoperability

- If we can come together and play together – supporting standards – we will achieve the vision for Healthcare IT :
  - Simplify clinical workflow
  - Improve financial outcomes
  - Help improve and save lives

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