

HITC2014

# How to implement Healthcare Enterprise Intelligence and Care Analytics

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Author and Expert on  
Knowledge Intelligence

Author of *“Knowledge Capital in the Digital Society”*

Past CEO, Medical Records Institute

Past Chair, mHealth Initiative

Past Chair, ANSI HISB (National Standards Coordination)

Cited as one of the 20 selected people “who make US healthcare better” (HealthLeaders magazine)



For Healthcare

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# A WORD ABOUT ME...

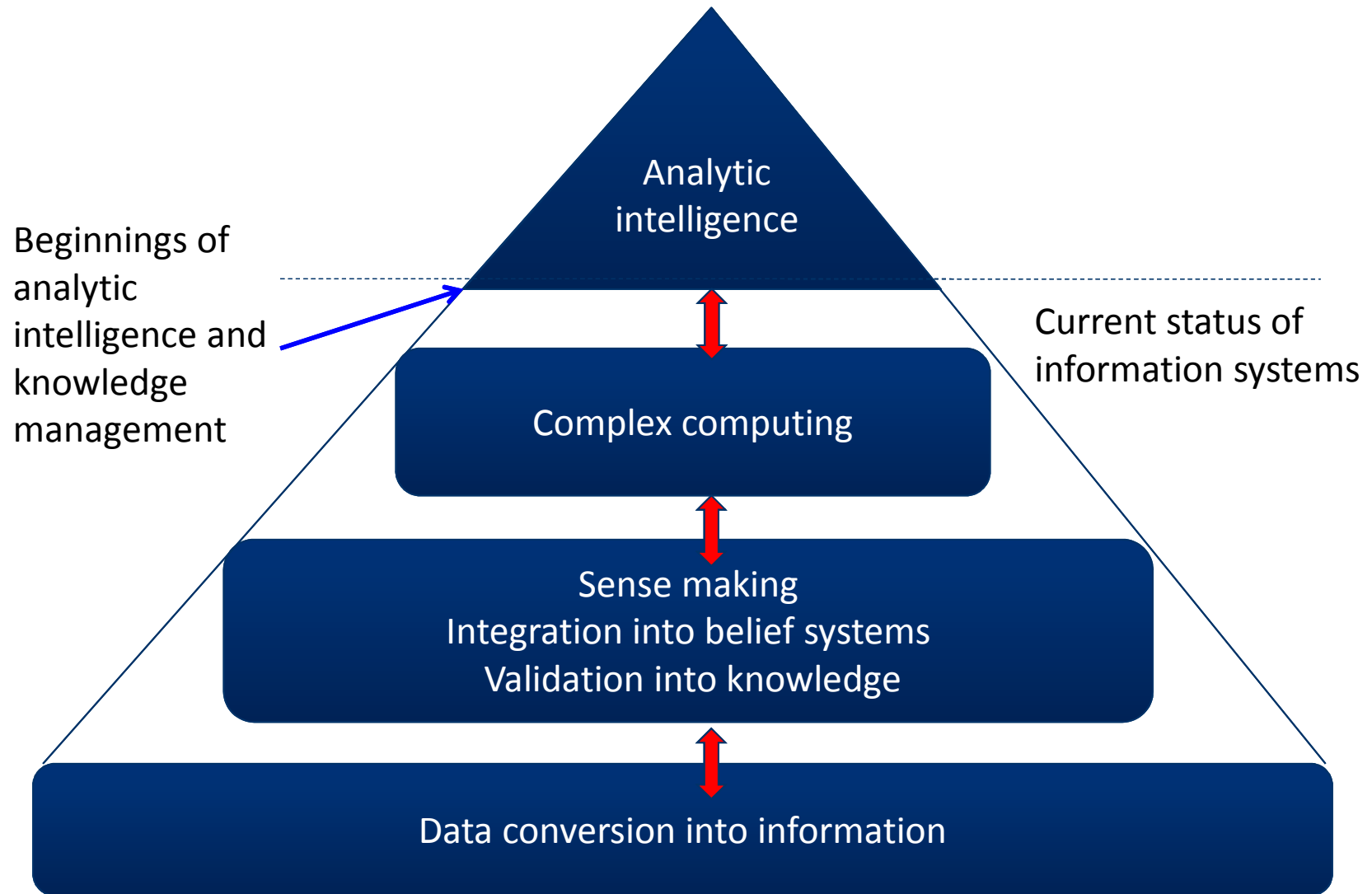
- HealthLeaders Magazine: "C. Peter Waegemann is one of 20 outstanding people who make healthcare better ... influential thought leaders"
- Former Chair of ANSI HISB for two terms
- Chaired a dozen standards organizations in healthcare
- For 25 years, CEO of Medical Records Institute and Chair of TEPR conferences
- Acknowledged international speaker and consultant
- President of mHealth Initiative
- Latest book: *Knowledge Capital in the Digital Society* (Amazon)

# **KNOWLEDGE CAPITAL**

## ***Managing Intelligence, Human Software, And The Net***

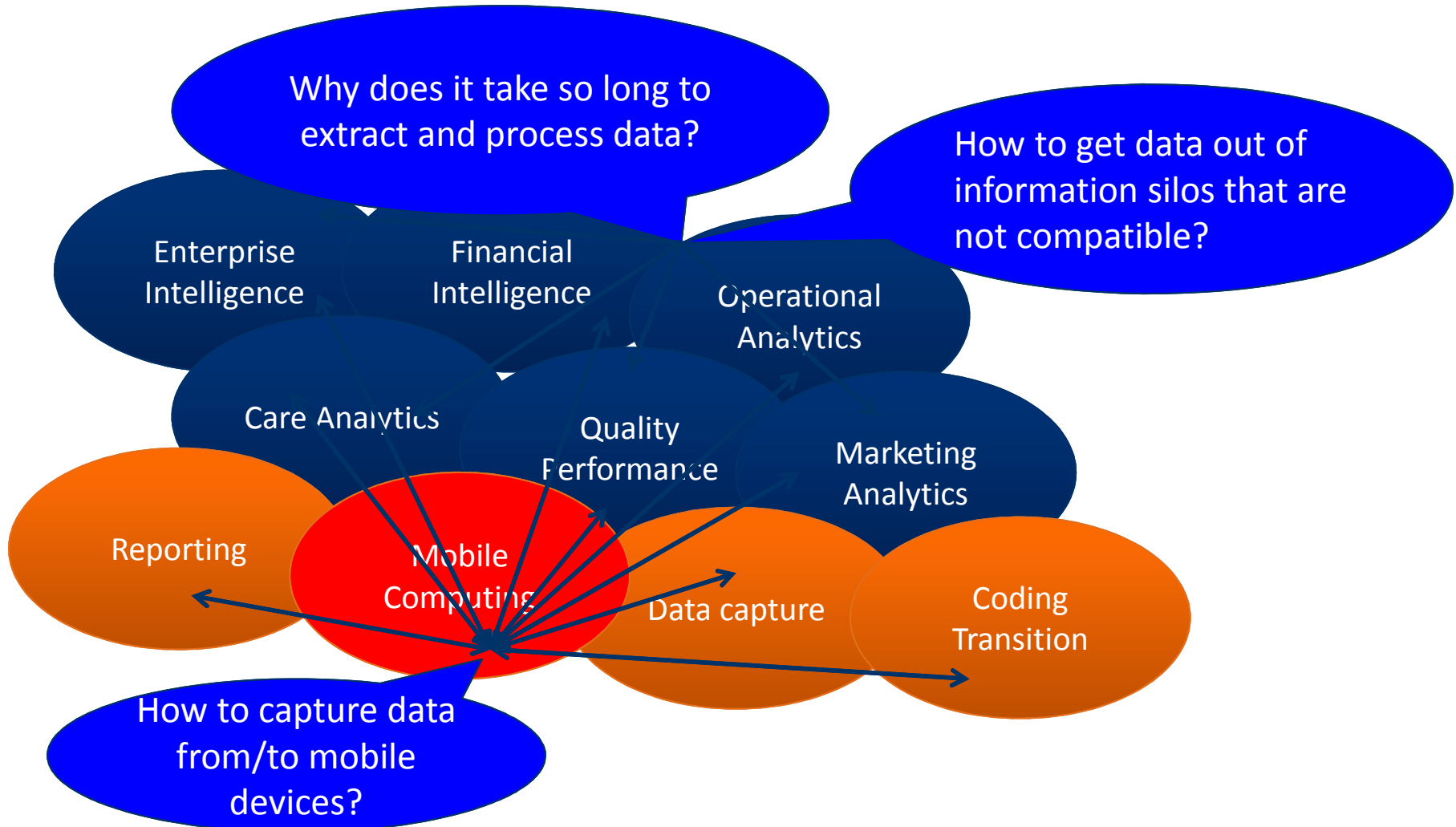
- Chapter 1: The New Frontier: Not the computer, not just the Internet but a bundle of factors enable the digital society
- Chapter 2: Three Stages of Human Information Processing and Communication
- Chapter 3: New Definition of Intelligence? *What is thinking?*
- Chapter 4: Human Software *Why the software aspect is neglected*
- Chapter 5: From Data to Knowledge and Wisdom *Why belief systems determine whether we consider information believable*
- Chapter 6: The Virtual World
- Chapter 7: Personal Impact: From Literacy to Net Navigation
- Chapter 8: Not Robots but Digital Companions Change the World
- Chapter 9: Dangers and Threats
- Chapter 10: Managing Information and Knowledge Capital
- Chapter 11: The Future

# MANAGING KNOWLEDGE AND INTELLIGENCE

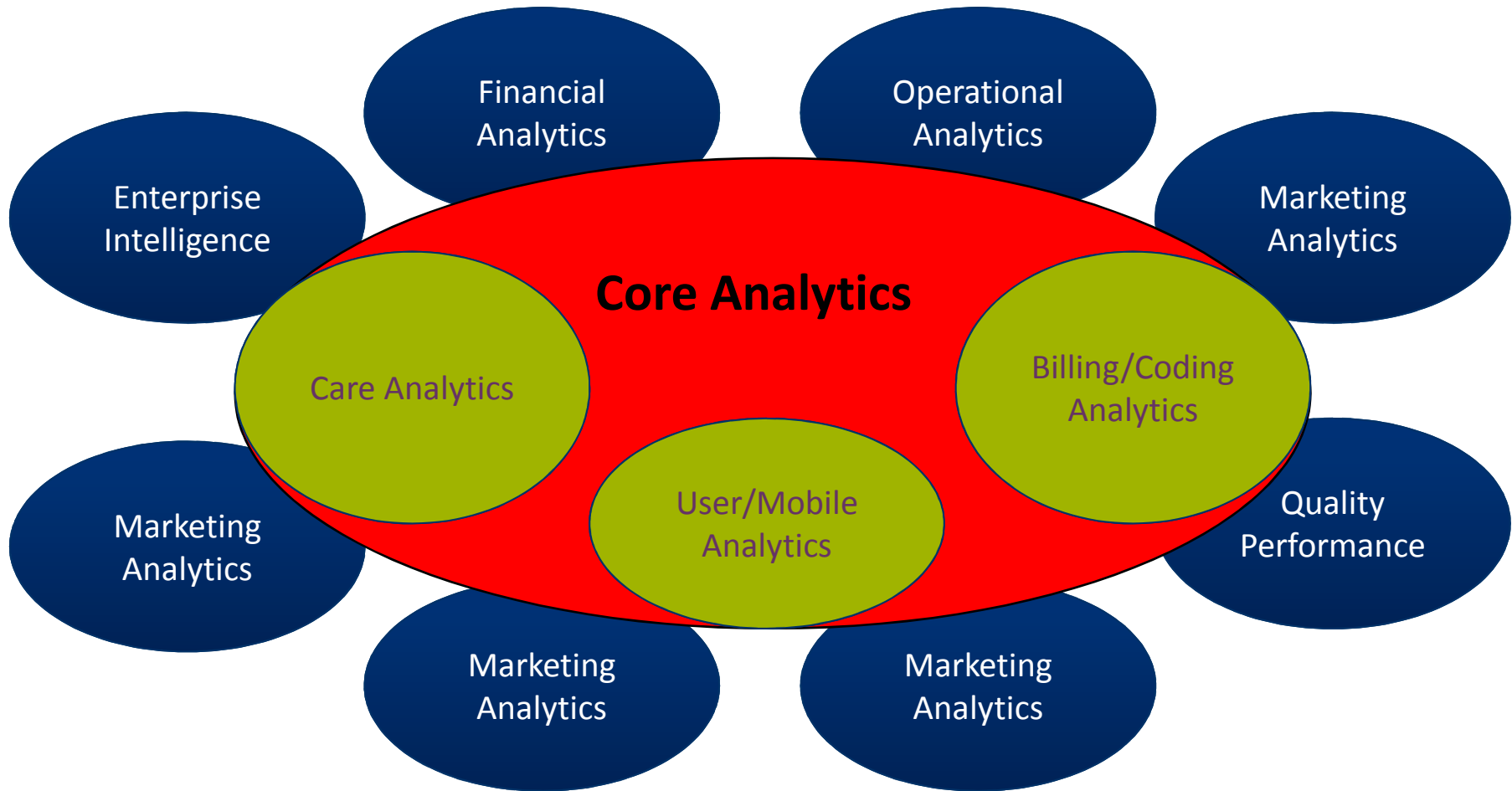


# KNOWLEDGE CAPITAL

## Healthcare Business Intelligence



# STRATEGY FOR HEALTHCARE BI



# GOALS FOR CARE ANALYTICS

- Knowing all procedures and medications for each diagnosis in the organization's care
- Knowing strengths and weaknesses
- Identifying variations
- Resource analytics
- Patient communication procedures
- Patient follow-up systems
- Analytics of internal care coordination
- Analysis of external care coordination

# USER ANALYTICS

- Identify information devices and workflow
- Create strategy for integrating mobile devices
- Manage business/care/ related information as an asset
- Ability to mine information flows, particularly from mobile devices



# BILLING/CODING ANALYTICS

- Coding to be derived from documentation
- Transition to ICD-10 will determine the future

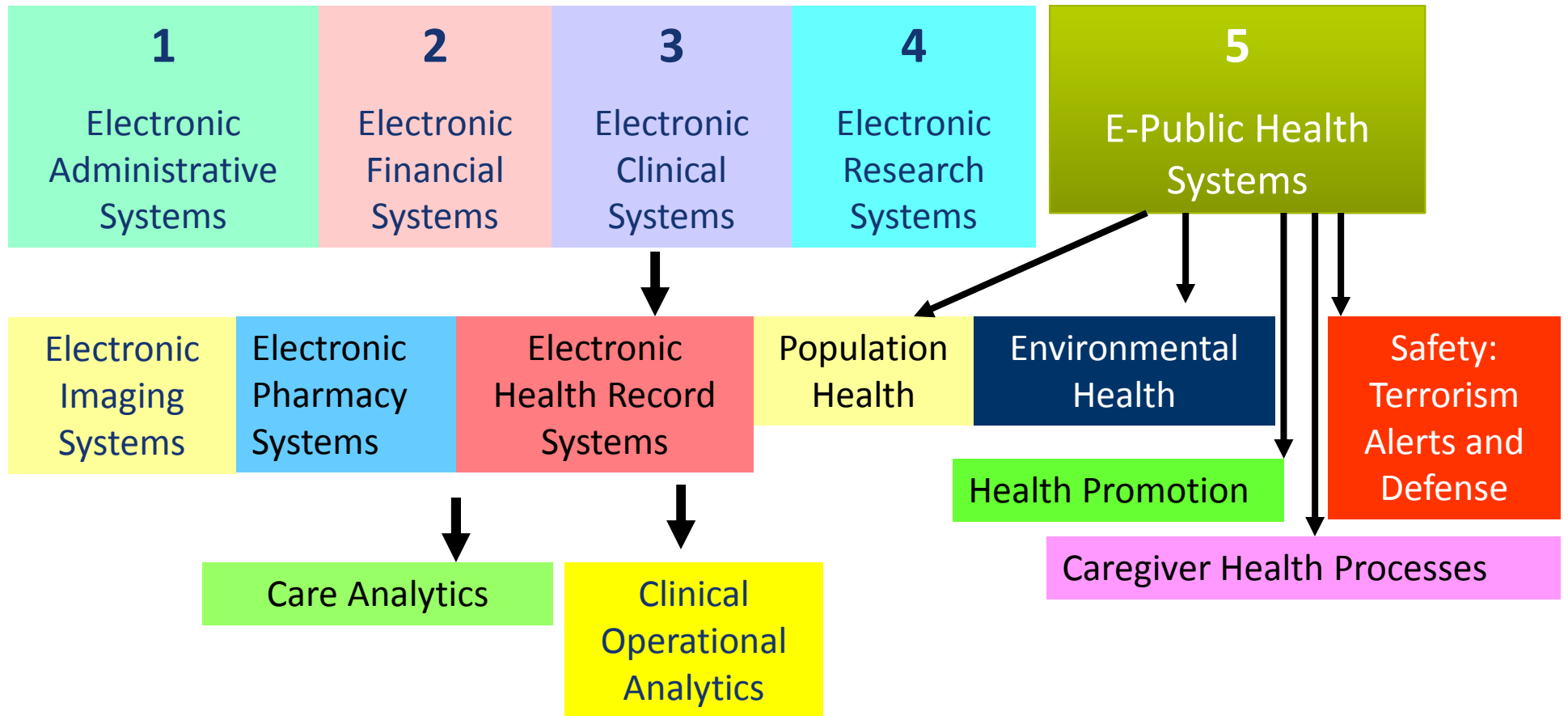
# ENTERPRISE INTELLIGENCE IN A CHANGING WORLD

- Encourage/expect the patient to be an active participant in the healthcare process
  - New communication systems (24x7: Texting, email, social media)
  - Analyze which functions can be “outsourced” to patients
- Move the examination and care process to the "care space" and the patient
  - Analyze information capital
- Bring the collective expertise of care and wellness providers to a virtual care process
  - Enable internal knowledge capital development: Establish systems that enable sharing
- Migrate from a system based on episodic or periodic evaluation to one that provides continuous assessment
  - Create systems
  - Analyze organizational benefits

# KNOWLEDGE CAPITAL MANAGEMENT FOR HEALTHCARE ORGANIZATIONS

1. Identification and management of enterprise knowledge
2. Business intelligence operations
3. Maximization of usage
  - a) Employee information management
  - b) Role of CIO
  - c) Health information department changes
  - d) Rules for information management

# BUSINESS INTELLIGENCE IN E-HEALTH



# MOBILE PHONES

- Worldwide, over 1 billion cable/satellite TV subscribers.
- 980 million registered automobiles.
- 1.3 billion people use PCs.
- 1.2 billion fixed landline phones.
- 1.3 billion access the Internet.
- 1.5 billion people carry at least one credit card.
- 4+ billion worldwide mobile subscriber base

# WHAT IS AN MDEVICE?

mDevice = Computing and Communication Device



# US MOBILE PHONE IMPLEMENTATIONS IN HEALTHCARE

- 94% Clinicians are using a smartphone
- 80% of hospitals experiment with iPad applications
- CIOs report that clinicians ask for/demand mobile devices
- Over 4,000 medical apps /7,000 health apps

# WHAT KIND OF APPS?

- Drug databases
  - Currently most used apps
- Reference programs
  - Many medical books transferred into apps
- Educational apps
  - Lots of apps for students and CE apps
- Medical tools
  - More coming out every week
- Payer tools
- Patient information accessing and documenting
  - Wide range of system apps and free-standing apps
- Decision support tools
  - More in development
- Mobile Analytics – the new trend



**1**  
**Patient  
Communication**

**2**  
**Access to  
Resources**

**3**  
**Point-of-Care  
Documentation**

**4**  
**Disease  
Management**

**12**  
**Body Area  
Network**

**5**  
**Education  
Programs**

**11**  
**Pharma/  
Clinical  
Trials**

**6**  
**Professional  
Communication**

**10**  
**Public  
Health**

**9**  
**Ambulance/  
EMS**

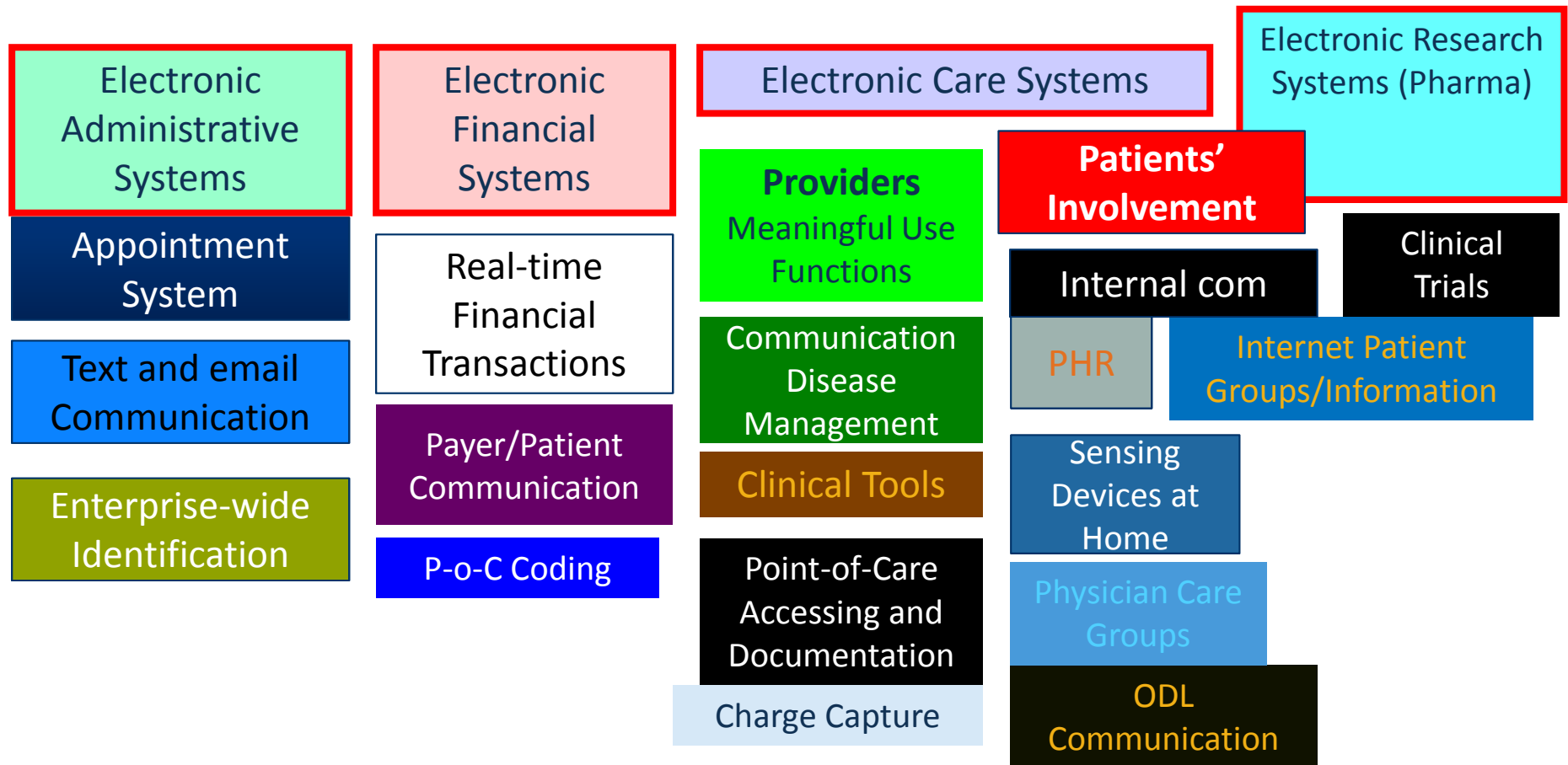
**8**  
**Financial  
Applications**

**7**  
**Administrative  
Applications**



# MHEALTH BUSINESS INTELLIGENCE

## mHealth Analytics



Healthcare Apps Combining Functions

# QUESTIONS

- What is your organization's business knowledge capital?
- How can you analyze mobile point-of-care documentation?
- How can you use patients to do more administrative work?
- How can you use mobile computing systems to your advantage?

# CHALLENGES FOR HEALTHCARE BUSINESS ENTERPRISE MANAGEMENT

- Identify information silos and consolidate
- Analyze information assets
- Develop an operational strategy for the near future
- Use predictive analytics: Data mining, statistical analysis, forecasting, predictive modeling for each department
- Report outcomes
- Maximize use

# ORGANIZATIONAL BUSINESS MANAGEMENT

- Management of the organizational image (in press and public view)
- Creation of transparency for the organization but protecting asset knowledge
- Identification and management of organizational asset knowledge
- Ongoing evaluation of asset knowledge and identification of knowledge needs
- Enabling and promoting new information that can support the organizational goals.

# EXAMPLES

- Payer Organization
  - Analyze and identify fraudulent claims
  - Claims Intelligence
    - Opportunity with ICD-10 Change
  - Outcome Analysis
  - Patient Population and Marketing Analysis

# PROVIDERS

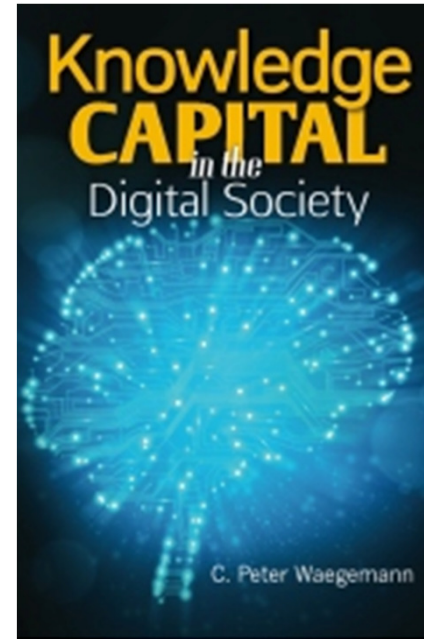
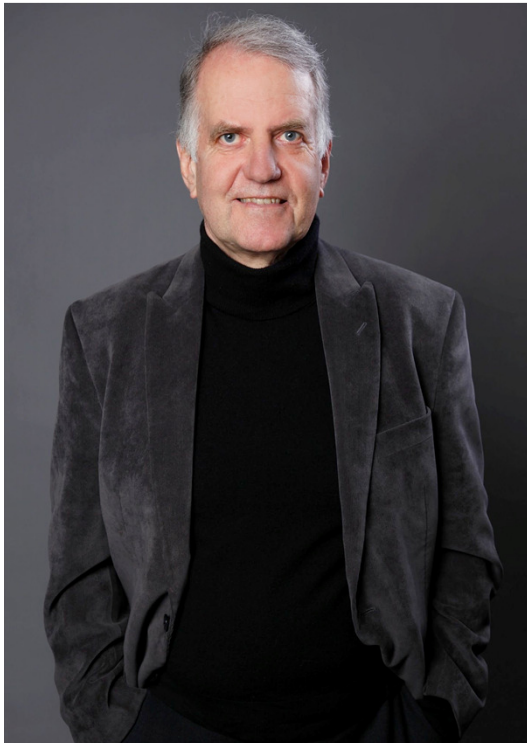
- Maximize Claims – use analytics
  - Derive Billing codes from Documentation
- Marketing Analytics
- Outcome Analytics
- Skill and Knowledge Asset Management
- Efficiency Analytics

# THANK YOU FOR LISTENING

For more information

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Try my book – you will get lots of new ideas from it. Available from Amazon as eBook or paperback.

C. Peter Waegemann