

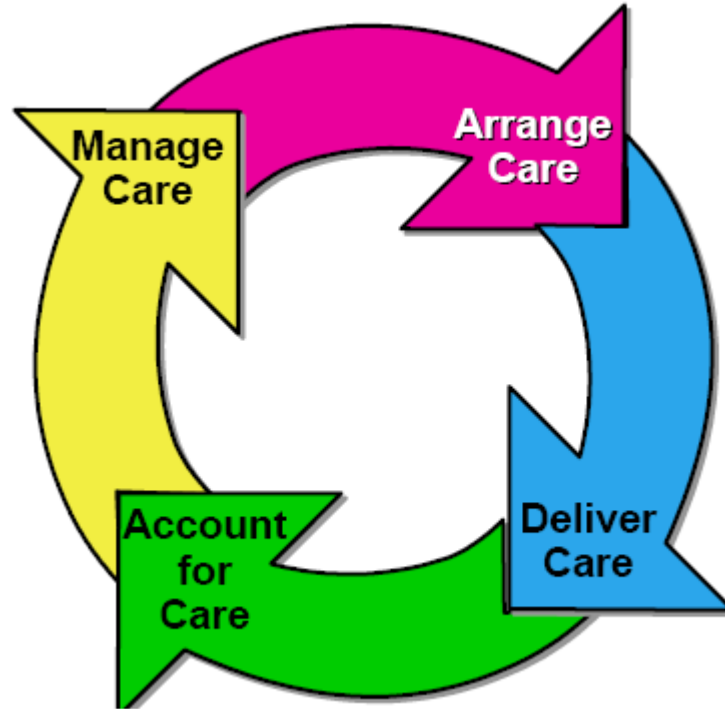
Healthcare Providers

The Hype Cycle for Healthcare Provider Technologies and Standards, 2009

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Macro Level Workflows in the CDO



Healthcare Trends

- Clinical Automation
- Business Process Management
- Business Intelligence
- Medical Home
- Medical Imaging
- Remote Access
- Mobility
- Health Information Exchange
- Increased Regulation (U.S.)

Problems and Opportunities

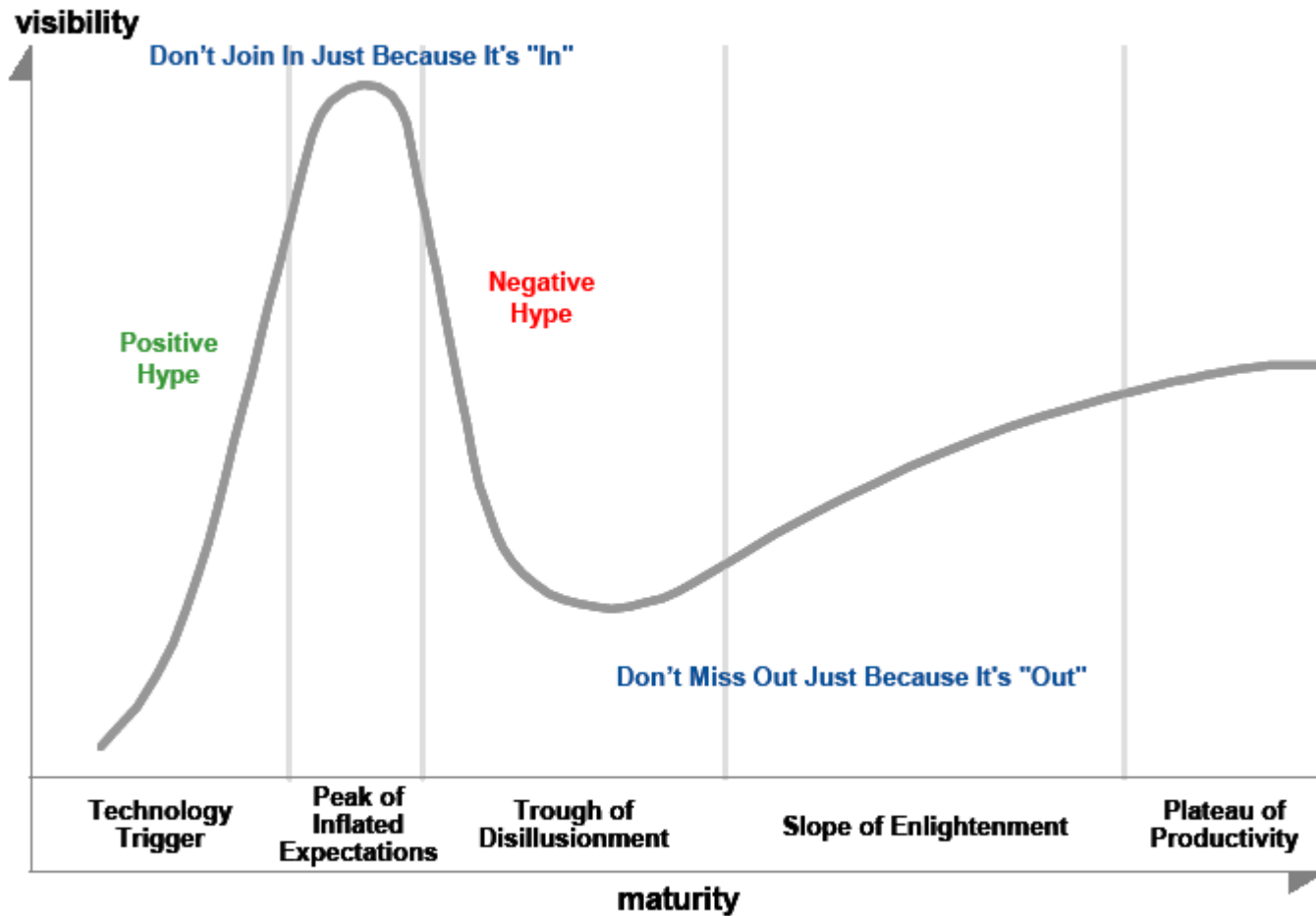
- Complexity
- Capacity
- Compliance
- Availability
- Performance
- Security
- Convenience

What is a Hype Cycle?

Gartner's Hype Cycle characterizes the typical progression of an emerging technology, from initial over enthusiasm through a period of disillusionment to an eventual understanding of the technology's relevance and role in a market or domain.

- Establishes the expectation that most technologies will inevitably progress
- Provides a snapshot of the relative maturity of technologies within a certain segment of the IT world, such as a technology area, horizontal or vertical business market
- Offer a snapshot of the relative maturity of technologies, IT methodologies and management disciplines
- Highlights over hyped areas against those that are high impact, estimates how long technologies and trends will take to reach maturity, and helps organizations decide when to adopt

The Hype Curve



The Ideal Trajectory

Visibility

You have a problem, we have a solution.
"Build it and they will come."

Selective successes.
Clarified value proposition.

A predictable product.

Technology
Trigger

Peak of
Inflated
Expectations

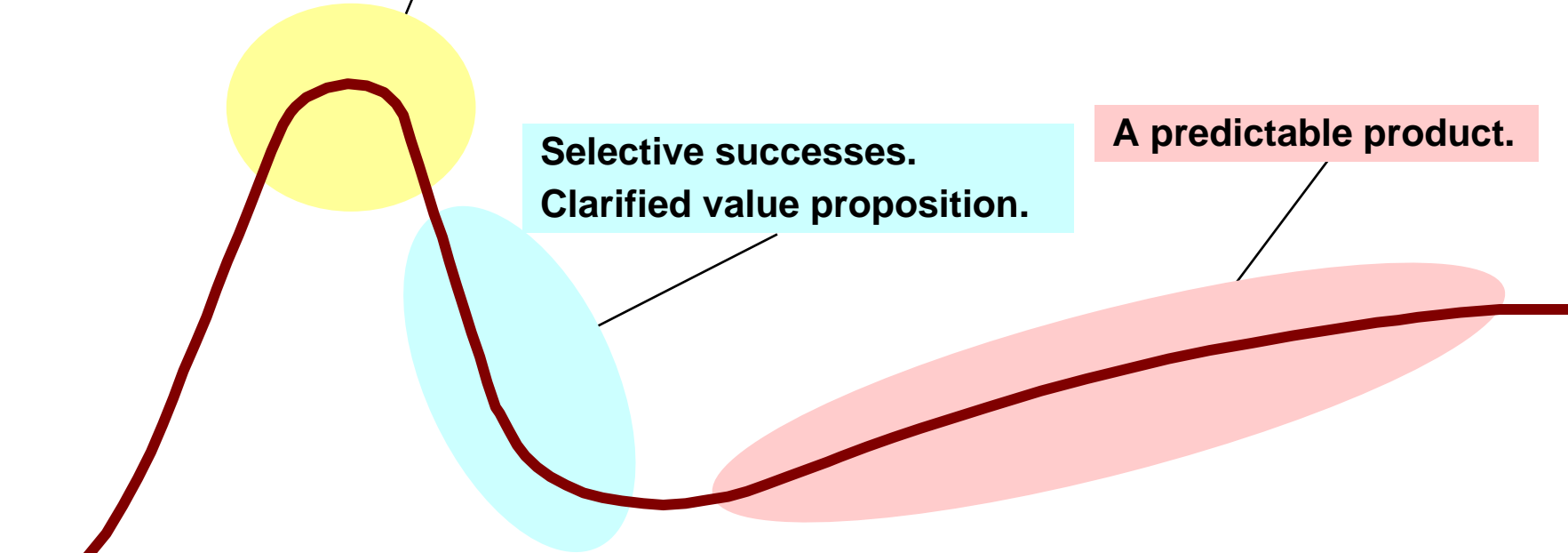
Trough of
Disillusionment

Slope of Enlightenment

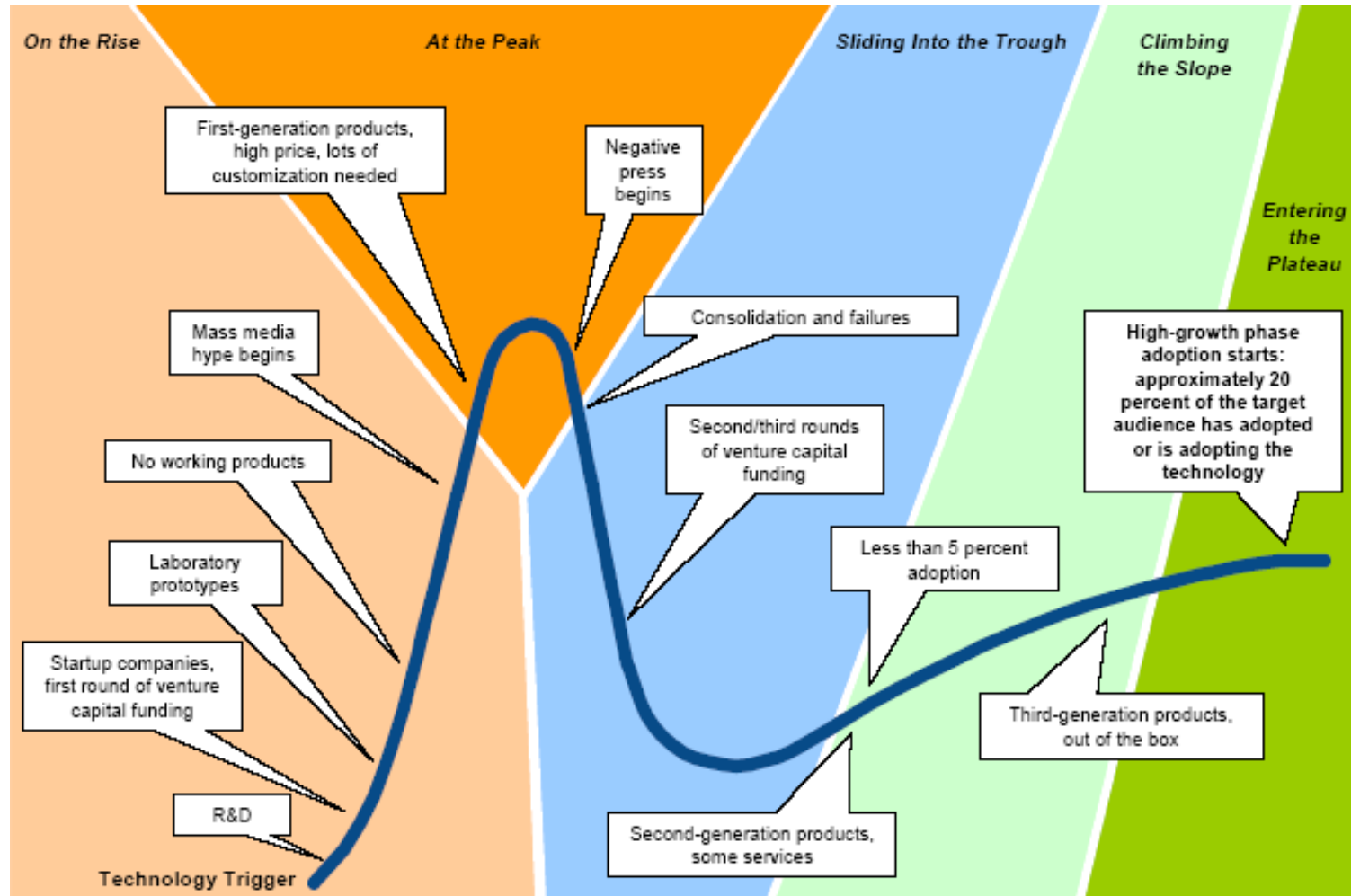
Plateau of
Productivity

Maturity
6

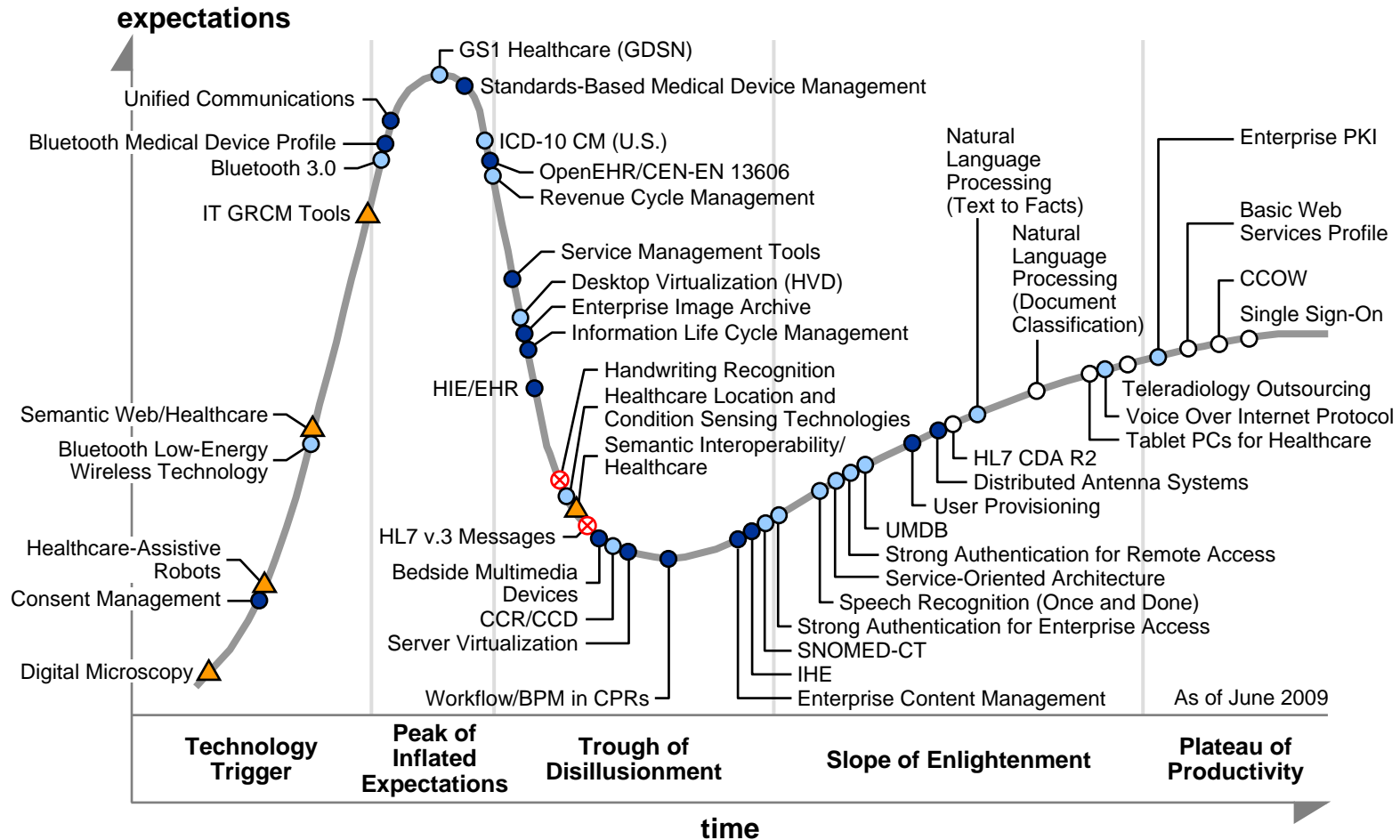
Gartner®



Hype Cycle Phases



2009 Technologies and Standards Hype Cycle



2009 Technologies and Standards Priority Matrix

benefit	years to mainstream adoption			
	less than 2 years	2 to 5 years	5 to 10 years	more than 10 years
transformational		Bluetooth Low-Energy Wireless Technology		Semantic Web/Healthcare
high		GS1 Healthcare (GDSN) Natural Language Processing (Text to Facts) Revenue Cycle Management SNOMED-CT	HIE/EHR OpenEHR/CEN-EN 13606 Workflow/BPM in CPRs	Healthcare-Assistive Robots Semantic Interoperability/Healthcare
moderate	Basic Web Services Profile CCOW HL7 CDAR2 Natural Language Processing (Document Classification) Single Sign-On Tablet PCs for Healthcare Teleradiology Outsourcing	CCR/CCD Desktop Virtualization (HVD) Enterprise PKI Healthcare Location and Condition Sensing Technologies ICD-10 CM (U.S.) Service-Oriented Architecture Speech Recognition (Once and Done) UMDB Voice Over Internet Protocol	Consent Management Distributed Antenna Systems Enterprise Content Management Enterprise Image Archive IHE Information Life Cycle Management Server Virtualization Service Management Tools Unified Communications User Provisioning	Digital Microscopy IT GRM Tools
low		Bluetooth 3.0 Strong Authentication for Enterprise Access Strong Authentication for Remote Access	Bedside Multimedia Devices Bluetooth Medical Device Profile Standards-Based Medical Device Management	

Hype Cycle Observations

- Hospitals are moving toward the real-time enterprise.
- Applications are evolving to provide real-time management/decision support - the computer-based patient record (CPR) systems; location and condition sensing applications; and dash-boarding used for performance monitoring.
- Requirements surrounding improving the patient experience, patient/provider communication and information sharing between enterprises will continue to surface.
- Increased accounting for things, people and processes within the enterprise, and to understand them in more depth - workflow, workforce, outcomes, revenue, costs, customers, medical devices, and so on to get the most out of them and adapt them to new purposes.
- Increased remote and secure access by patients and providers to the personal healthcare information housed by CDOs and will depend on new levels of technical sophistication and interoperability within and outside the enterprise - among customers, patients, providers, their affiliates, payers and their systems.
- Clinical vendors will enhance their remote hosting options as a way of providing more-predictable costs, help in managing complexity and shifting risk.

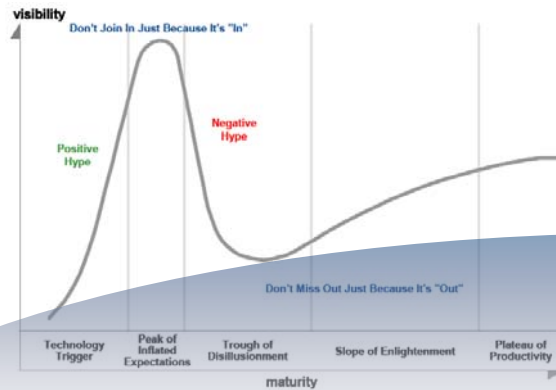
Observations continued...

- CDOs are routinely beset by complexity, capacity, performance, availability and security issues that accompany innovation, increased IT demand and expanding regulation
- They must adopt technologies and standards that have the potential to improve critical clinical, operational and financial outcomes.
- Need to identify the technologies that will enable them to simplify, standardize and automate as much of their IT infrastructures as possible.
- Need to investigate and adopt technologies that will simplify desktop management, control storage growth and spending, better manage unstructured content, and improve compliance.
- Need to identify tools and technologies to continuously monitor and manage applications, systems, and infrastructure to ensure high levels of service, operational efficiency and a quality end-user experience.
- Need to identify technologies that can best enable and support an increasingly mobile and remote workforce across new care venues.
- Need to deploy the technologies necessary to ensure high availability and realistic disaster recovery.
- Need to apply technologies that address the privacy and security issues posed by increased access to protected health information by providers and patients.
- Need to establish a responsive and sustainable IT service delivery model – one that is aligned with their near-term and long-term visions.

2009 and Beyond

- Increased automation will drive interest in IT service level management
- The precipitous increase in storage will cause CDOs to look more seriously at information lifecycle management – tiered storage, data classification, retention periods, e-discovery, and on-demand storage
- Budget cuts will cause CDOs to investigate commercial and open source alternatives to Office
- Increased remote access will drive strong authentication deployments
- Medical identity fraud will drive interest in data loss prevention and technologies such as log management and content filtering
- CDOs will look more closely at how IT organizations are organized and staffed
- More remote hosting and managed services will occur in the areas of clinical systems, security, storage, and disaster recovery
- Document and content management will be used to streamline business and clinical workflows, institute enterprise search and satisfy regulatory requirements
- Disaster recovery will remain a problem with more interest in storage-facilitated approaches that can leverage existing assets
- Wireless and mobility will remain a juggernaut
- Patient portals will be an important differentiators for the CDO and will take on more Web 2.0 characteristics

A Simple and Clear Message



Source: Gartner (June 2005)

Companies should not invest in a technology (idea, concept, application, system, standard, etc.) just because it is being hyped, nor should they ignore a technology just because it is not living up to early expectations.

benefit	years to mainstream adoption			
	less than 2 years	2 to 5 years	5 to 10 years	more than 10 years
transformational	Business Process Management Suite			Semantic Web/Healthcare
high		Healthcare Workflow/EMR Natural Language Processing Tools for Practice Standard CMAs	Continua HIE/HR	Semantic Interoperability
moderate	Clinical Content Object Workflow Medical Device Integration Tablet PCs for Healthcare	Continuity of Care Record Distributed Antenna Systems Handwriting Recognition HL7 CDA R2 Natural Language Processing (Semantic Classification) Server Virtualization Service-Oriented Architecture Single Sign-On Voice Over Internet Protocol	Basic Web Services Profile CDISC Operational Data Model Digital Monotherapy Healthcare Product Data Utility HIPAA Content Attachments HL7 V3 Messages ICD-10 CM (U.S.) Information Life Cycle Management Business for Planning SDA for Application Integration in Healthcare Speech Recognition (Office and Call) User Provisioning	
low	Direct EDI	Biometric Black PC Enterprise PKI National Provider Identifier	Bluetooth GIS Computing Mobile Device Management Standardization	

As of July 2007
Source: Gartner (July 2007)