

Investment Community Meeting HIMSS Las Vegas

February 22, 2012

HIMSS Las Vegas



February 24, 2012

Agenda

Welcome and Overview	Marc Naughton	Executive Vice President and Chief Financial Officer
<u>Marketplace</u>		
United States Market	Zane Burke	Executive Vice President, Client Organization
Global Market, Lighthouse	Matthew Swindells	Managing Director & SVP, Global Consulting
<u>Imperatives and Strategies</u>		
2012 Imperatives Getting Larger Share of Growing Health Care Spend	Mike Nill	Executive Vice President and Chief Operating Officer
Millennium+, Cloud Platform, Big Data	Jeff Townsend	Executive Vice President and Chief of Staff
<u>Evolving Health Landscape, Predictive Modeling and Analytics</u>		
Evolving Health Landscape	Dick Flanigan	Senior Vice President, Research and Employer
Predictive Modeling and Data Analytics	Harlen Hays	Senior Researcher
<u>Physician Productivity and Experience</u>		
Fast, Smart, Easy	Max Reinig	Vice President, Physician Solutions
PowerChart Touch Demo	Dr. Doug Dickey	Director, Physician Solutions
Financial Overview	Marc Naughton	Executive Vice President and Chief Financial Officer
Chairman's Comments	Neal Patterson	Chairman, CEO, President & Co-Founder
Q&A	All	

Safe Harbor Statement

- **This presentation may contain forward-looking statements that involve a number of risks and uncertainties. It is important to note that the Company's performance, and actual results, financial condition or business could differ materially from those expressed in such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to:**
 - (a) the possibility of product-related liabilities; (b) potential claims for system errors and warranties; (c) the possibility of interruption at our data centers or client support facilities; (d) our proprietary technology may be subject to claims for infringement or misappropriation of intellectual property rights of others, or may be infringed or misappropriated by others; (e) risks associated with our non-U.S. operations; (f) risks associated with our ability to effectively hedge exposure to fluctuations in foreign currency exchange rates; (g) the potential for tax legislation initiatives that could adversely affect our tax position and/or challenges to our tax positions in the United States and non-U.S. countries; (h) risks associated with our recruitment and retention of key personnel; (i) risks related to our dependence on third party suppliers; (j) risks inherent with business acquisitions; (k) the potential for losses resulting from asset impairment charges; (l) risks associated with the ongoing adverse financial market environment and uncertainty in global economic conditions; (m) changing political, economic and regulatory influences; (n) government regulation; (o) significant competition and market changes; (p) variations in our quarterly operating results; (q) potential inconsistencies in our sales forecasts compared to actual sales; (r) the volatility in the trading price of our common stock; and, (s) our directors' authority to issue preferred stock and the anti-takeover provisions in our corporate governance documents.*
- **Additional discussion of these and other factors affecting the Company's business is contained in the Company's periodic filings with the Securities and Exchange Commission. The Company undertakes no obligation to update forward-looking statements to reflect changed assumptions, the occurrence of unanticipated events or changes in future operating results, financial condition or business over time.**

Cerner at a Glance

- **Founded in 1979, based in Kansas City**
- **Most experienced health care IT management**
- **Largest standalone health care IT company in world**
 - ~9,300 facilities around the world, including > 2,650 hospitals; 3,750 physician practices; 40,000 physicians; 500 ambulatory facilities; 800 home-health facilities; 40 employer sites; and 1,600 retail pharmacies.
- **R&D Commitment and Clinical Culture**
 - \$3B of cumulative R&D
 - Over 1,000 Clinicians, most in industry
 - Most comprehensive suite of health care solutions & services
 - Contemporary, scalable architecture and cloud platform
- **2011 Revenues of \$2,203M; Net Earnings of \$325M**
 - 10-year Revenue CAGR of 15% (mostly organic growth)
 - 10-year Earnings CAGR of 25%
- **~10,000 Associates Worldwide**
 - Over 4,500 in Professional / Managed Services / ITWorks
 - Over 2,000 person Intellectual Property (IP) Organization





Marketplace

Zane Burke

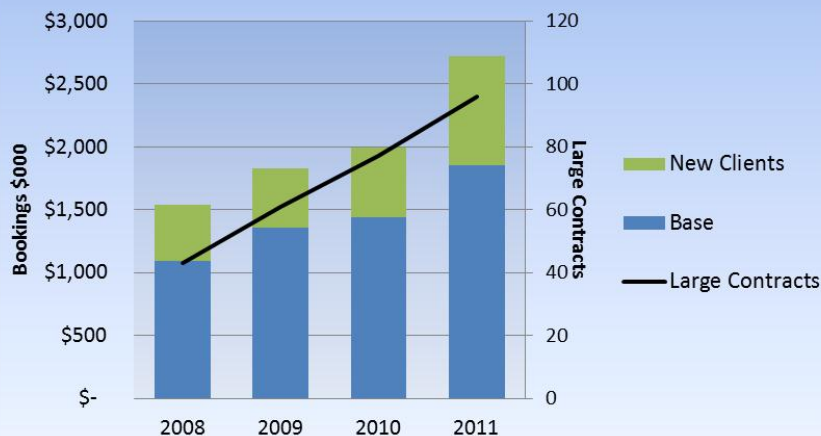
Executive Vice President, Client Organization

Matthew Swindells

Managing Director and Senior Vice President, Global Consulting

2011 Bookings Highlights

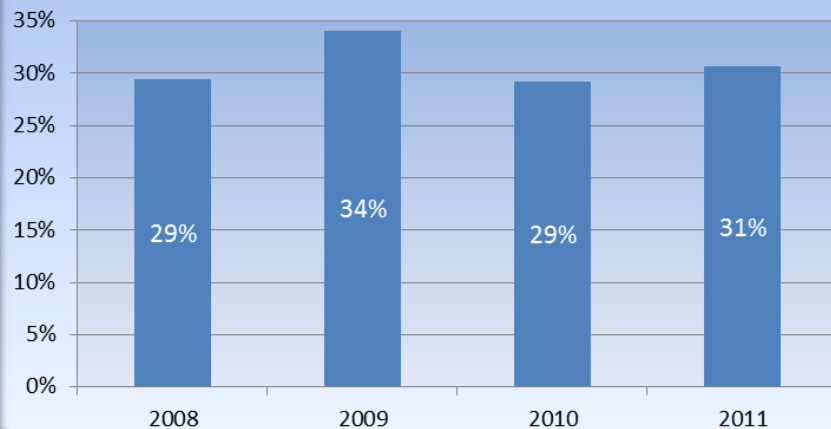
Bookings



■ Record Bookings of \$2.7B

- 37% growth over record 2010
 - *Installed base +28%*
 - *New client bookings +58%*
- Record volume of large contracts
 - 96 over \$5M
 - 55 over \$10M
- Balanced contribution
 - *20%+ growth for all business models*
 - *Consistent mix of long-term bookings*
- Strong “Works” Contribution
 - *Breakout Year for DeviceWorks*
 - *3 new ITWorks clients, 9 total*
 - *2 new RevWorks clients, 4 total*
 - *1st QualityWorks client*

Long-term bookings % of Total



DeviceWorks

■ Breakout Year

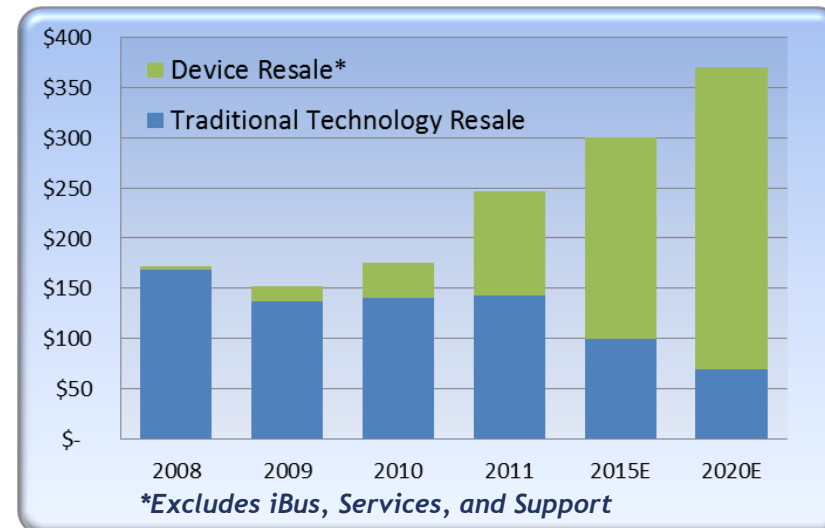
- DeviceWorks revenue \$180M, up 69%
 - \$103M Device Resale revenue
 - \$41M iBus Device Connectivity Software
 - \$36M Services and Support

■ Strategically Positioned

- Clients need connectivity for devices and value being able to get from it one company
- Device manufacturers value our deep relationships
 - Clients view us as more strategic

■ Trends and Opportunities

- SmartRoom interest accelerating
- Supply Chain Services Opportunity
 - Planning, configuration, testing and installation of technology infrastructure and device related items
 - One client signed, several prospects



Strong Performance in Physician Market

■ Record Bookings

- 60% growth over 2010

■ Strong Competitiveness

- Ability to leverage health system client base
- Displaced every major competitor
- Increasing preference for integrated platform favors Cerner
- Millennium+, PowerChart Touch

■ Growing Footprint

- Over 10,000 new providers in 2011
- Over 40,000 providers using Cerner ambulatory solutions

■ Growth Opportunities

- Decisions from 2007-2008 that went to competition coming back to Cerner for integrated offering
- Significant greenfield opportunities

Cerner Ambulatory EHR
by the numbers

More than 40,000 providers using Cerner Ambulatory solutions	20,000+ using EHR
	30,000+ using practice management
	50+ interoperable communities

Over 40 specialties and sub-specialties using Cerner

Over 30 years focused solely on health care

Over \$3 billion cumulative investment in research and development

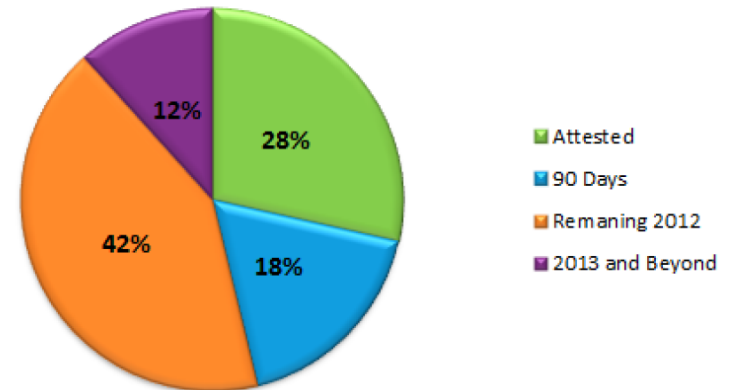
Health care is too important to stay the same.

cernerambulatory@cerner.com
twitter.com/cernerphysician
facebook.com/cernerambulatory
youtube.com/cernerambulatory

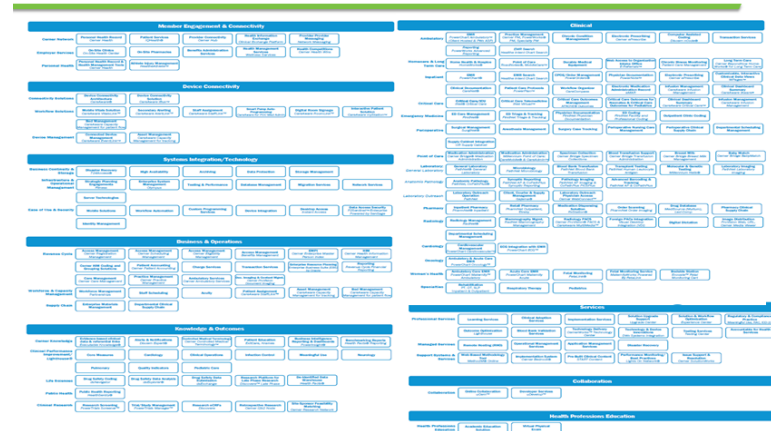
Marketplace Observations

- **Cerner Clients doing well on path to Meaningful Use**
- **Stimulus is beginning of multi-year digitization of health care**
 - Stimulus demand will play out over several years, not one wave
- **Many drivers beyond stimulus**
 - Significant Solutions and Services Whitespace
 - *Meaningful Use solutions only about a third of our total solution portfolio*
 - *New “Works” services less than 5% penetrated*
 - *Cloud solutions and services provide incremental growth*
 - Policy focused on cost and quality
 - *Quality and reporting requirements make IT necessary to be competitive*
 - *Accountable Care, Value-Based Purchasing, Quality Reporting, ICD-10*

Attestation Status of Cerner Clients



Over 200 Solutions and Services



Market Share Opportunities Increasing

■ Several competitors' installed bases actively looking to switch

- Vulnerability caused by suppliers requiring transition to a new platform and/or not being positioned to keep up with future requirements
- 2011 results reflect front end of this trend

■ Cerner has strong competitive position

- Proven scale, breadth, delivery capabilities, predictability
- Momentum in physician market has improved our competitiveness against primary competitor
 - *Changing game with Millennium+, PowerChart Touch*
- Cerner's investments in interoperability, data analytics, and cloud platform are major differentiators
 - *Differentiation increases in Stage 2 and 3 of Meaningful Use and beyond*



Global Marketplace and Lighthouse

Matthew Swindells



Unmatched Global Presence



23

Total countries

More than 9,300 facilities on 6 continents use Cerner Solutions

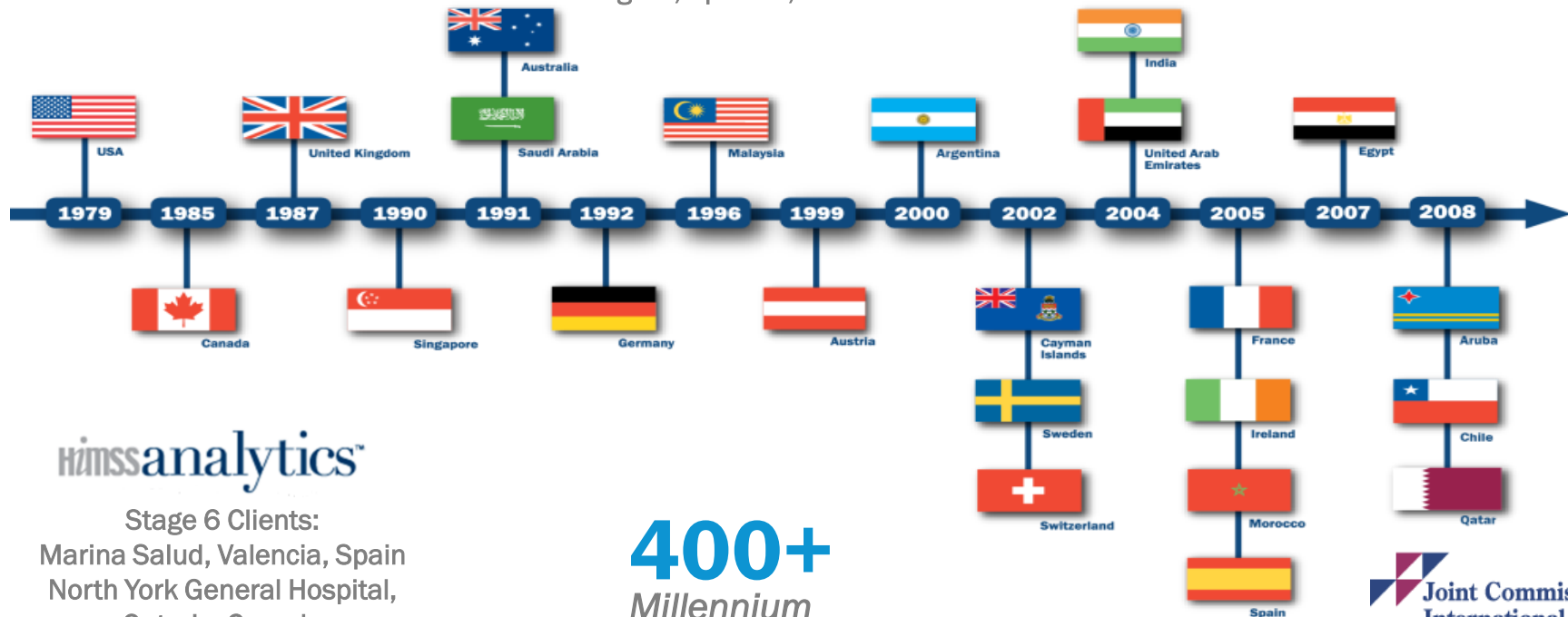
Cerner
Millennium

Cerner Millennium live and localised in 17 countries and four languages: English, Spanish, French and German

10,000

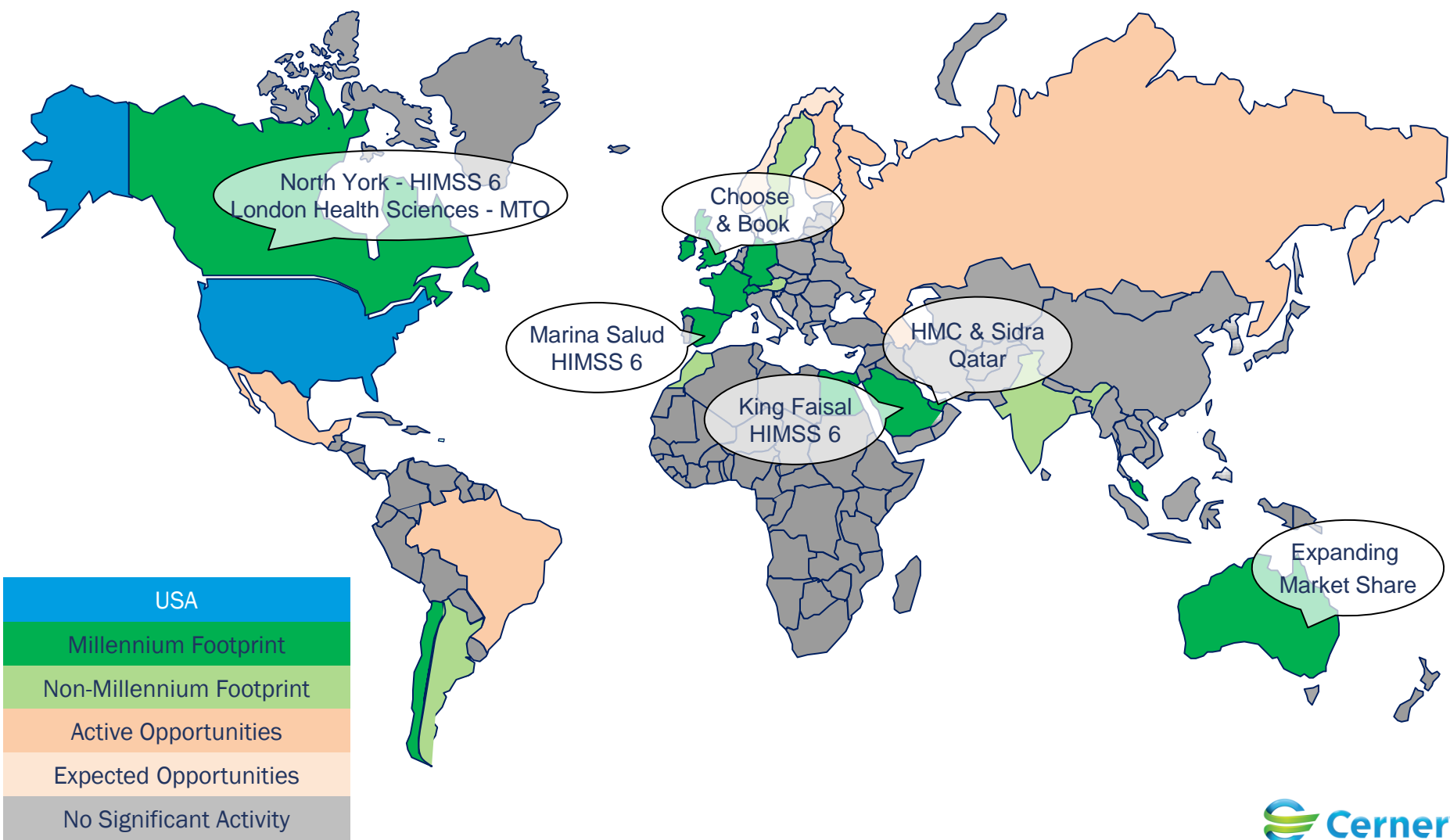
Associates

1700 associates work outside the US, 17% of the work force

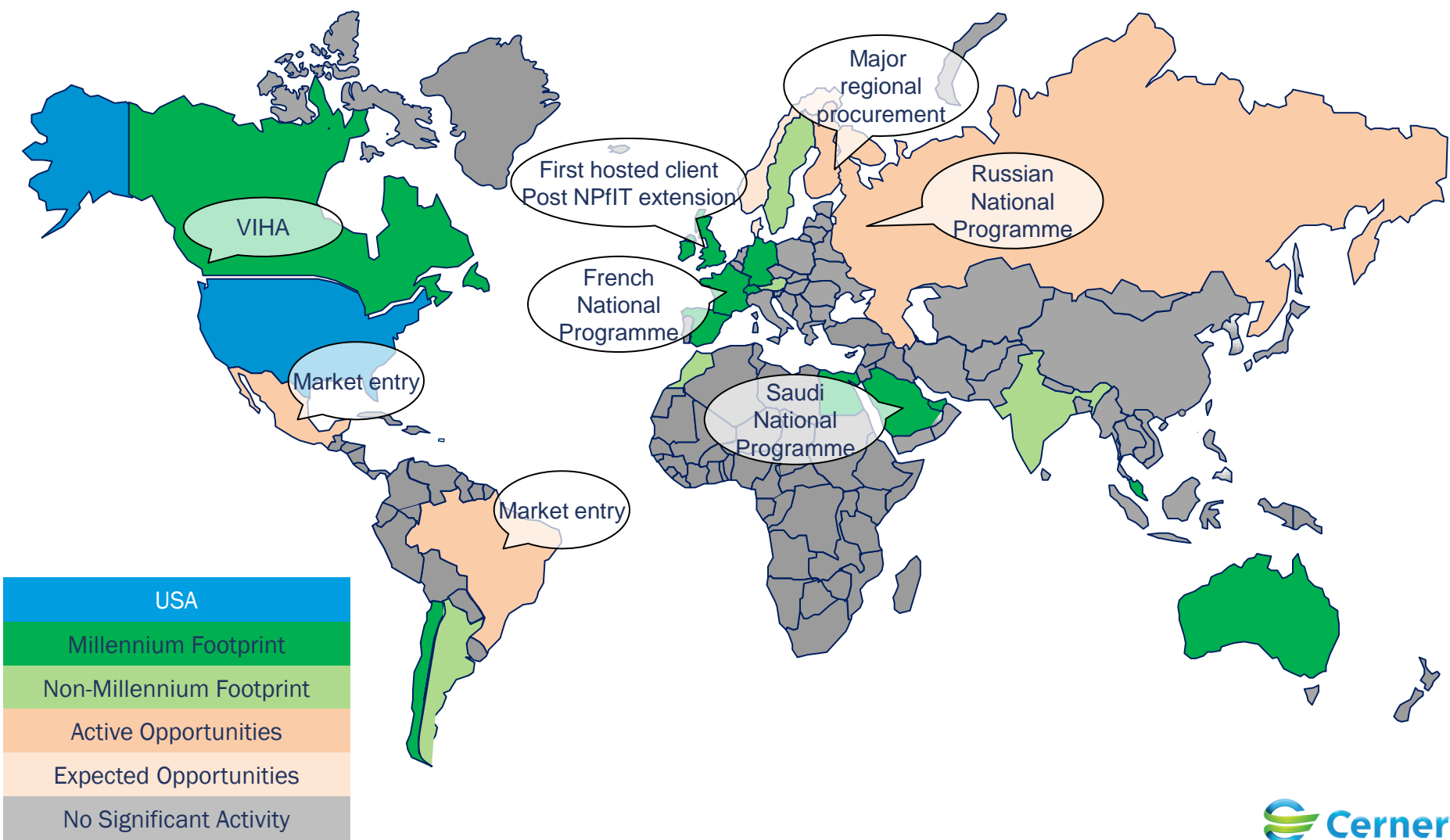


JCI-accredited clients in 4 countries on 3 continents and in 2 languages

Global Activity and Highlights



Strategic Opportunities



Global Markets

Build on market strength

Australia

- Expanding on market leadership
- >100 hospitals live
- Opportunity to build on existing base

Canada

- Good win in London Health Sciences
- Presence in 9 of 10 Provinces
- Strong and improving reputation
- Interest in our population health offerings

Develop from initial footprints

Latin America

- Potential national programme in Chile
- Aligned with Spanish business
- Opportunities in Mexico
- Promising early conversations with large hospitals and regional government in Brazil

Southeast Asia

- Singapore
- Malaysia
- China (future)

Build case for investment → better health care at lower cost

Global Markets

Build market leadership

UK

- Good reputation
- Big go lives
- Shift to sales focus
- Strong pipeline from failure of iSoft/CHC
- Baggage from NPfIT
 - Gov't delays
 - Programme price
 - Missing IP
- Tight finances

Middle East

- Strong 2011
- Dominant regional player
- Focus on delivery
- Positioning for Saudi program
- Seeking new markets post Arab Spring

Battened down for financial storm

France

- A number of strong EPR opportunities
- Finance system well regarded
- Relaunch of national programme announced
- Tight Finances

Germany

- Focus on big hospital chains
- Moving to sell iBus and other solutions
- Market saturated with finance based systems

Spain

- Some of our best clients and good reputation
- Engaging at government & regional level
- Financial challenges
- Little government money

Build case for investment → better health care at lower cost

Lighthouse / QualityWorks



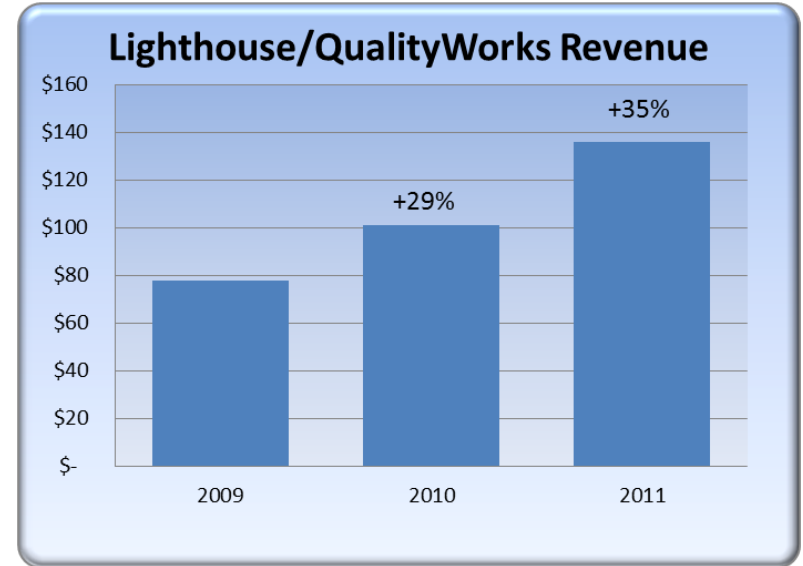
Lighthouse: Cerner's Approach to Performance Excellence

■ Strategic Partnerships with Clients

- Optimize Process
 - *Clinical, Quality, Operational*
- Define metrics to measure success
- Contractually commit to improving metrics
 - *Client & Cerner share in benefits*
- Implement reporting and on-going assessment process

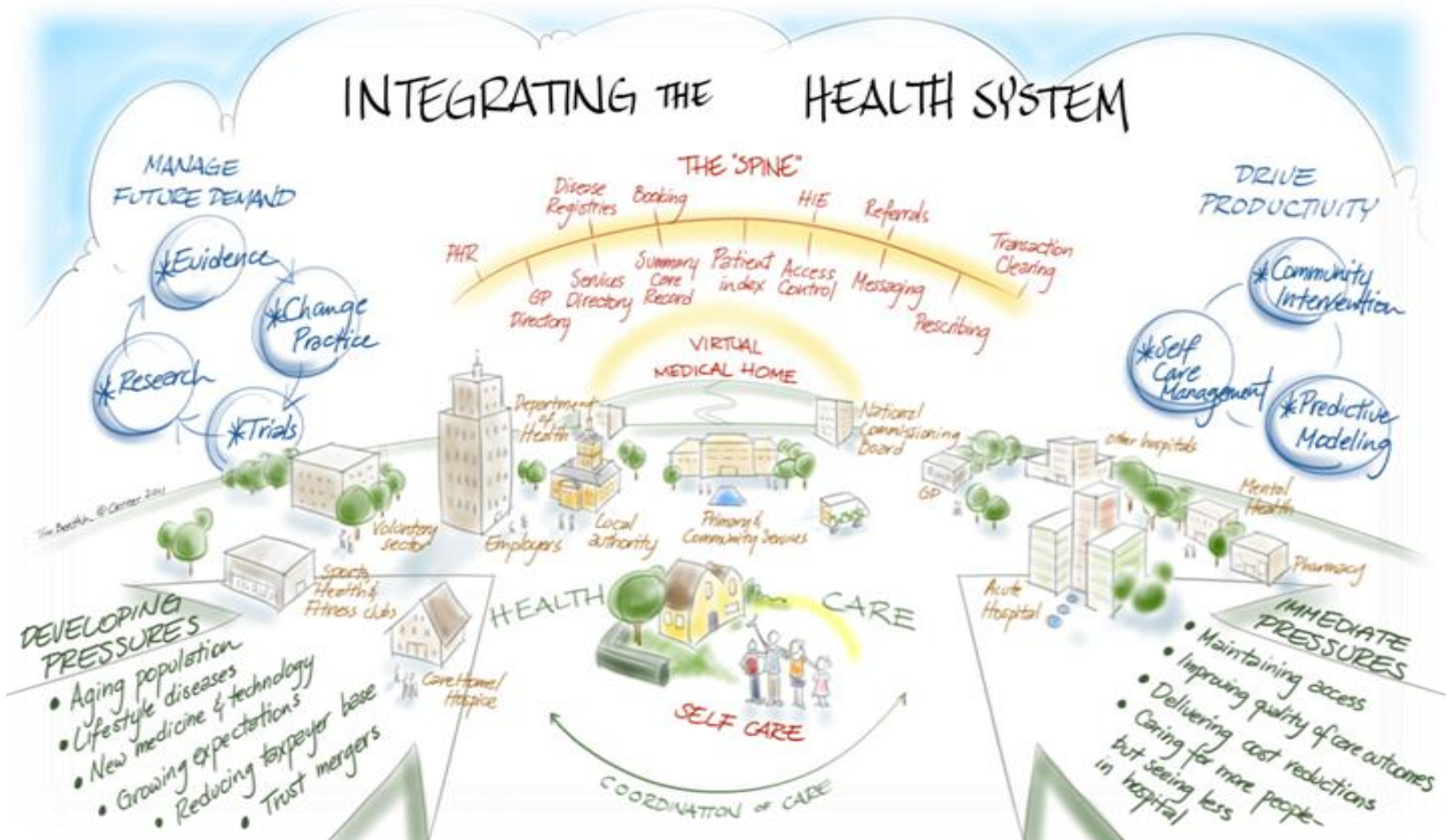
■ QualityWorks

- Extension of Lighthouse capabilities
 - *Strategic and Operational Alignment focused on Quality and Outcomes*
 - *Cerner manages and delivers the Quality and Outcomes plan for a fee*
 - ▶ CMS, Meaningful Use, Value Based Purchasing, Medicare Re-admits
 - *Cerner earns bonuses for agreed upon performance*



Driving productivity improvement

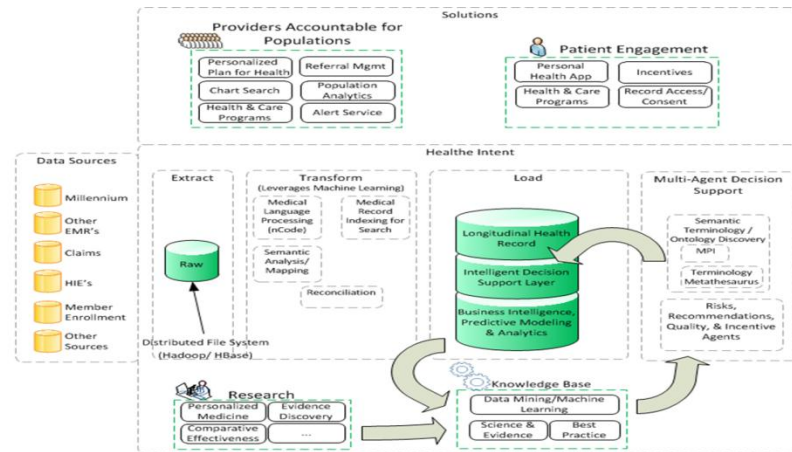
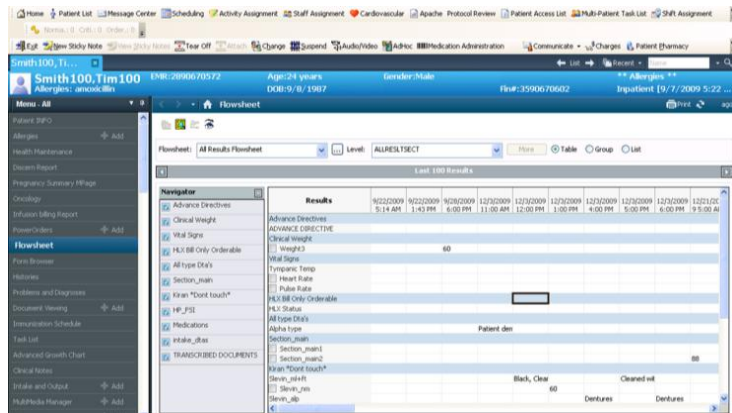
INTEGRATING THE HEALTH SYSTEM



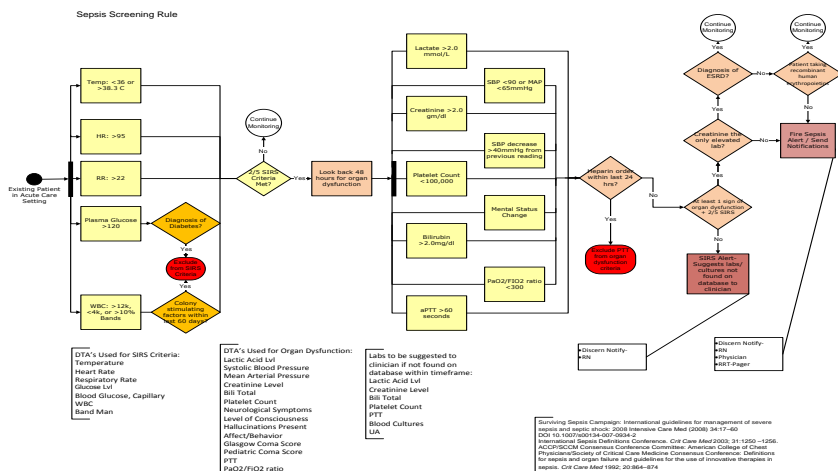
Improve care through technology

Collect data as part of the care process

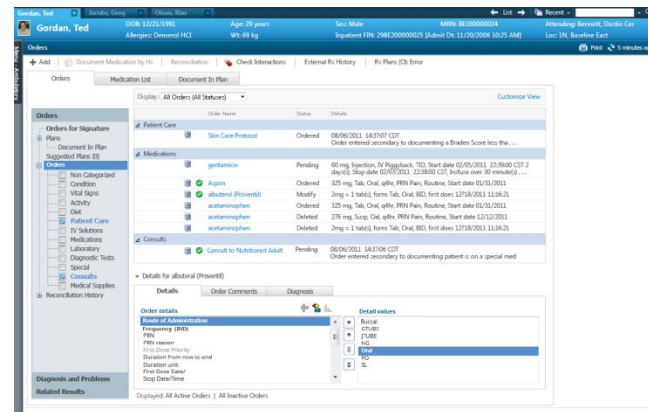
Use data to plan population & individual care



Imbed real clinical evidence



Guide clinical practice with executable knowledge





Imperatives and Strategies

Mike Nill

Executive Vice President and Chief Operating Officer

Jeff Townsend

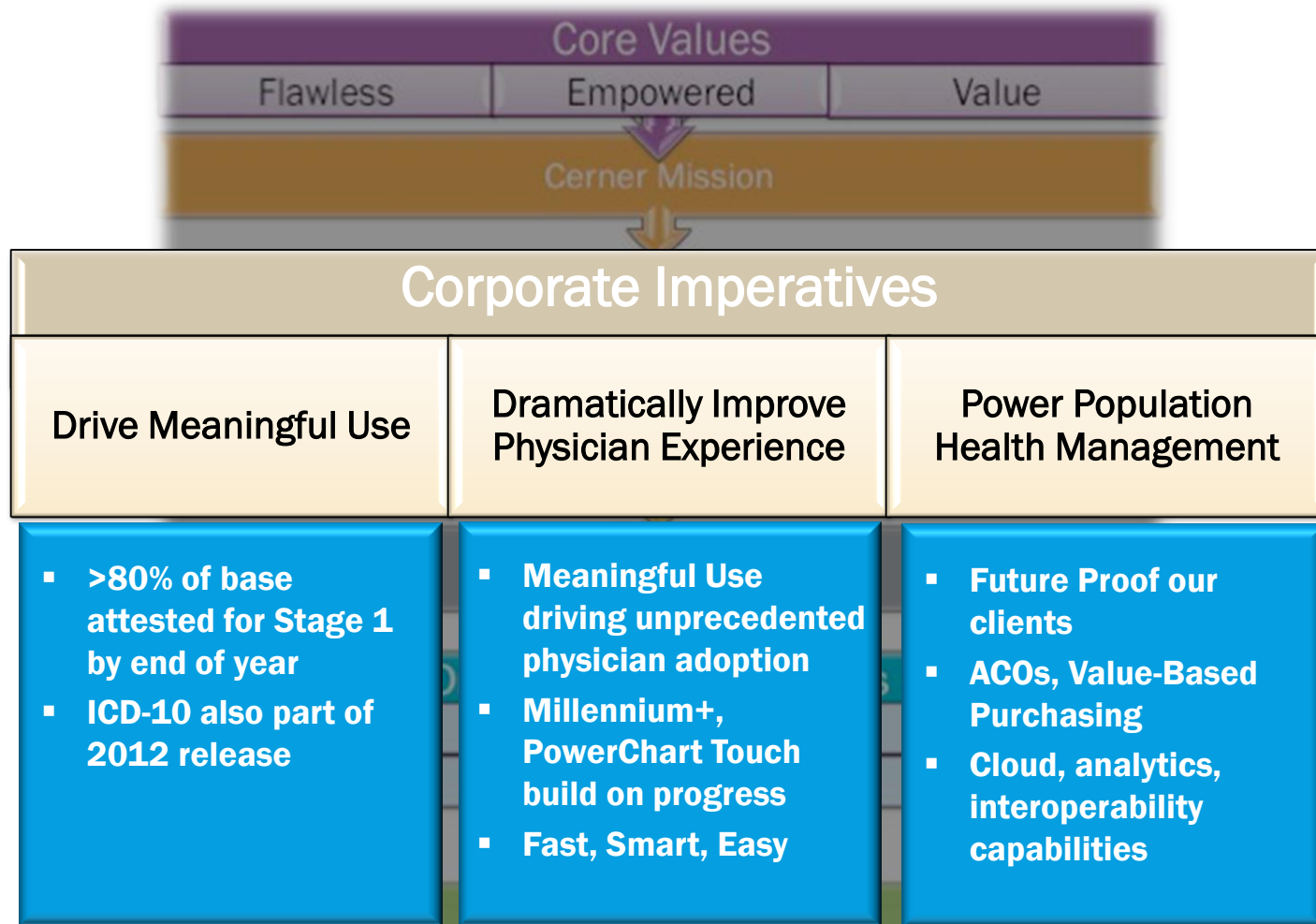
Executive Vice President and Chief of Staff

2012 Imperatives and Getting Larger Share of Growing Health Care Spend

Mike Nill



2012 Corporate Imperatives



Getting Larger Share of Growing Health Care Spend

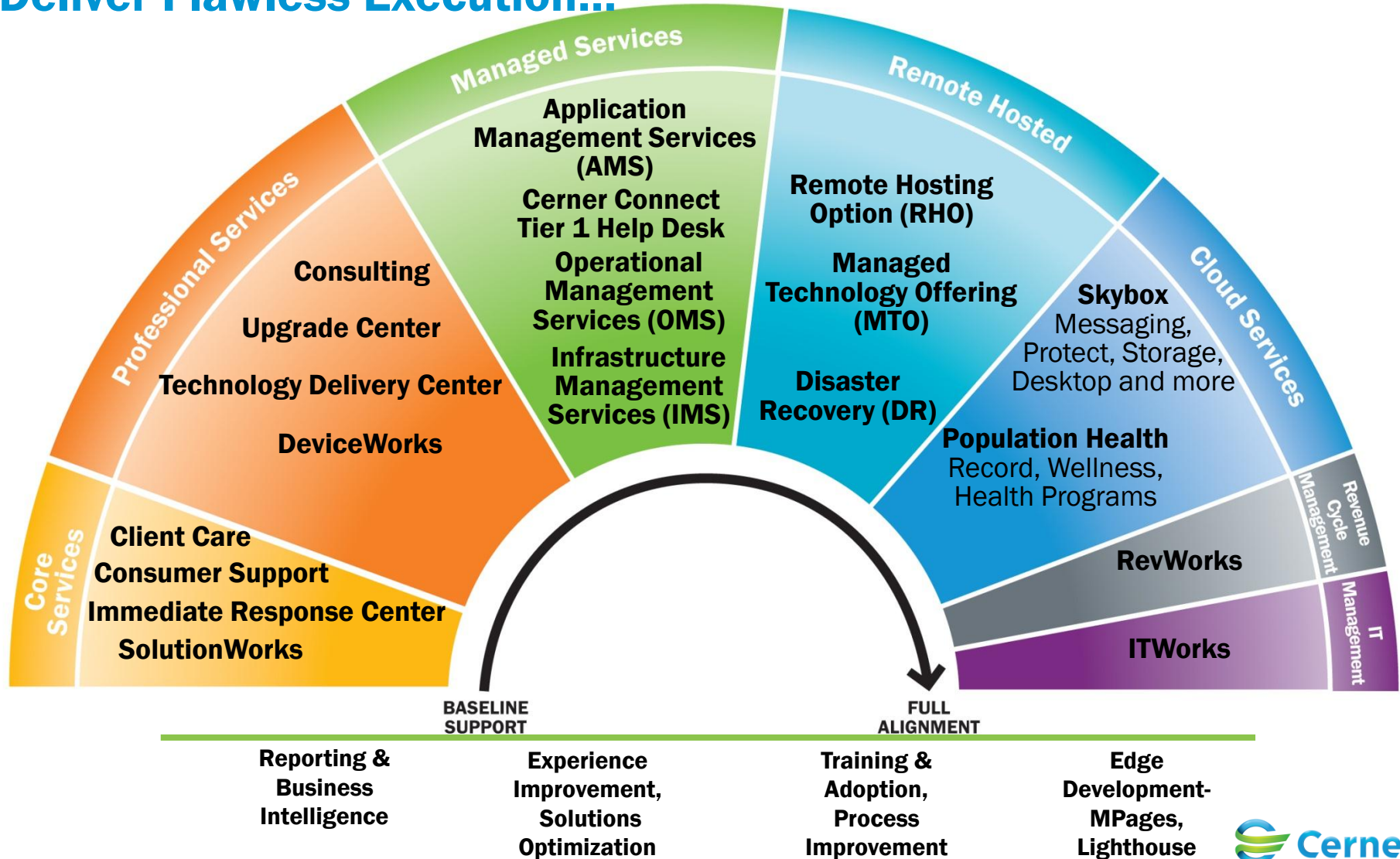
- **Expect % of total spend on IT to increase over next decade**
 - U.S. Health Care is 17% of GDP, but only 9% of total IT Spend
- **Cerner capturing larger % of this growing spend with new offerings**
- **Three tops-down scenarios reflect Cerner revenue CAGRs of 10%-18% from 2011 to 2020**

\$ in Billions		MID		LOW		HIGH		
	2011	2020E	CAGR	2020E	CAGR	2020E	CAGR	Comments / Assumptions
Health Care Operating Spending*	\$2,462	\$ 4,100	5.8%	\$4,100	5.8%	\$4,100	5.8%	Growth at projected National Health Expenditure rate
% of Spend on IT	3.5%	4.5%		4.0%		5.0%		Current all-industry average is 4.5%
Worldwide HCIT Spending*	\$ 86.2	\$ 184.5	8.8%	\$164.0	7.4%	\$205.0	10.1%	
Cerner Client Spending	\$ 12.9	\$ 27.7		\$ 24.6		\$ 30.8		Estimated 15% market share in markets we have presence
New Client Spending		\$ 4.2		\$ 2.5		\$ 7.7		Assumes client base increases of 15% (Base), 10% (Low), 25% (High)
Total Cerner Client Spending	\$ 12.9	\$ 31.8	10.5%	\$ 27.1	8.6%	\$ 38.4	12.9%	
% of Client Spending	17%	22%		20%		25%		Increased share of spend through new offerings
Cerner Revenue	\$ 2.2	\$ 7.0	13.7%	\$ 5.4	10.5%	\$ 9.6	17.8%	Low scenario supports bottoms up 2020 view; high reflects upside

*In Markets Cerner has presence
Gartner and Cerner Estimates

Cerner's Continuum of Services

Deliver Flawless Execution...

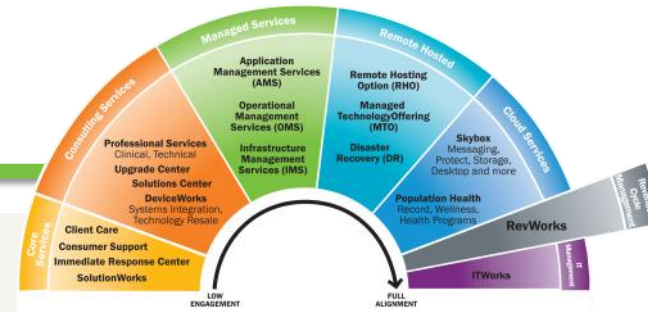


Cerner's Continuum of Services

Revenue Cycle Management

RevWorks

- Partner with client and manage revenue cycle departments, including patient accounting and billing systems, revenue cycle transaction services, business office and revenue cycle department management
- Executive leadership on-site and staff ownership, management or augmentation to manage the revenue cycle process, and client's team of revenue cycle department leaders
- Benefits include:
 - Lower total cost of ownership by reducing average cost-to-collect
 - Improve net revenue and reduce denials
 - Decrease cost through process improvement projects
 - Modernize the revenue cycle by leveraging innovative technology



Revenue Cycle Highlights

■ Strong Growth

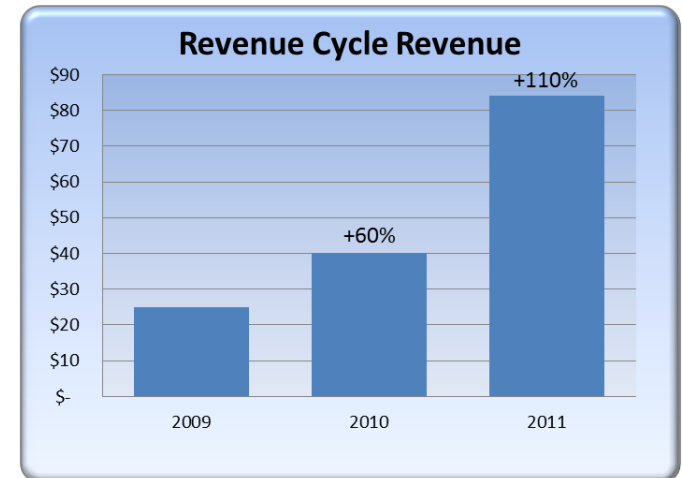
- 2 new RevWorks clients; 4 total
- Revenue up 110% to \$84M
 - *Driven by RevWorks Services, Patient Accounting, Access Management, Health Information Management*

■ Execution

- Delivering Patient Accounting
 - *Brought 31 hospitals live; now have 76*
 - *Brought 95 clinics live; now have 365*

■ Opportunity

- Client base spends ~\$15B annually on Revenue Cycle
- Alignment with clinical provider is strategically important with more reimbursement tied to clinical data



Client Benefit Examples

- **\$3.5M in new revenue**
- **10% decrease in revenue cycle spend**
- **Reduced A/R > 90, Improved net AR Days**
- **Point-of-service collections up 14%**
- **Pre-registration rates up 43%**
- **HIM chart delinquency down 30%**
- **Eliminated coding backlogs**
- **100% cash collections targets**

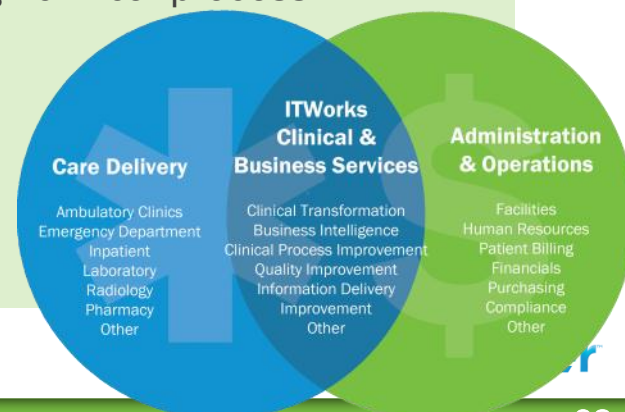
Cerner's Continuum of Services

IT Management



Cerner ITWorks

- Align with client to equip them with the tools, software and methods needed to improve efficiency, patient safety and overall healthcare delivery
- With ITWorks, Cerner handles the organization's day-to-day IT operations, so its leadership can focus on key strategic initiatives and care delivery.
- Benefits include:
 - Rapid clinical road map advancement (Meaningful Use, ICD-10 & beyond)
 - Effective technology service delivery
 - Operational efficiencies that can facilitate strategic initiatives
 - Collaborative innovation at the edge through clinical process optimization and technology



ITWorks Highlights

■ Strong Growth

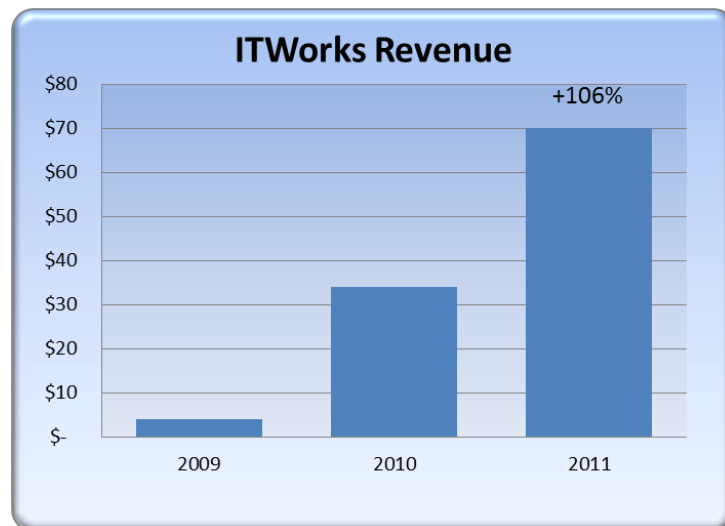
- 3 new ITWorks clients; 9 total
 - 2 of 9 have been net new clients
- Revenue up 106% to \$70M

■ Achievements

- High client satisfaction
- Accelerated Meaningful Use and HIMSS EMR Adoption Model Attainment
- Early adopters of new offerings
 - *Smart Rooms, Chart Search, HIE, mobility*

■ Opportunity

- Currently less than 5% penetration in base
- 20% penetration of existing targets would be over \$500M annual revenue
- Already expanding scope at initial clients
 - *Skybox services*
 - *Revenue cycle software and implementation*
 - *Specialty practice solutions and implementation (i.e. Women's Health and Oncology)*



Millennium+, Cloud Platform, Big Data

Jeff Townsend



Cerner Health Facts

IQHealth PHR

**Health Economy
Architecture**
*Type I Diabetes
Initiative*

Smart Rooms
LightsOn Network

Health Sentry
APACHE

Cerner Network
ePrescribing

The New Transaction
PowerWorks DeviceWorks

**Multum Drug
Database**

Remote Hosting

Choose & Book

CernerWorks
*CareAware
RxStation
Service Level
Agreements*



*Cerner
Millenn*

1995

2000

2005

Outcomes Measurement
Women's Health
Home Health
Method M
Call Center Management
Cerner Knowledge Index
Closed-Loop Meds
Millennium Hardening
Patient Administration System (UK)
Clinical Notes
Transcription
Orthopedics
Emergency Medicine
Intensive Care
Enterprise Billing
Accounts Receivable
First Multi-Facility IDN
Document Imaging
Physician Office
Patient Accounting
Cardiology
Medical Research Repository
Image Management
Oncology
Lighthouse Clinical Process Optimization
Workforce Management
Distributed Database

Health Economy
Architecture
Type I Diabetes Initiative
Smart Rooms
LightsOn Network
ePrescribing
Cerner Network
The New Transaction
PowerWorks
DeviceWorks
CareAware
RxStation
CernerWorks
Service Level Agreements
Natural Language Processing
myStation
iAware
Healthe Clinic
Cerner Store
uCern
uDevelop
Flu Pandemic Initiative
Tiger Institute
CommunityWorks
AlertLink
Health Information Exchanges
Slimdown Challenge
Physician Express
Skybox
Cerner Math
Semantic Search
Healthe Intent
Cerner Health & Cerner Care
Smart Pump
PowerChart
Touch
RevWorks
Quality Works

Cerner
Millennium₂₀₀₇

2005

2010

nt
lth
e Health
ng
scription
Patient Administration System (UK)
Orthopedics
ghthouse Clinical
ocess Optimization
Management
Distributed Database
Method M
MPages
Enterprise Sepsis Alerting
Critical Care Dashboard
Millennium Release 2007
FetaLink
MPages for Ambulatory
MPages for Inpatient
Infusion Management

millennium+

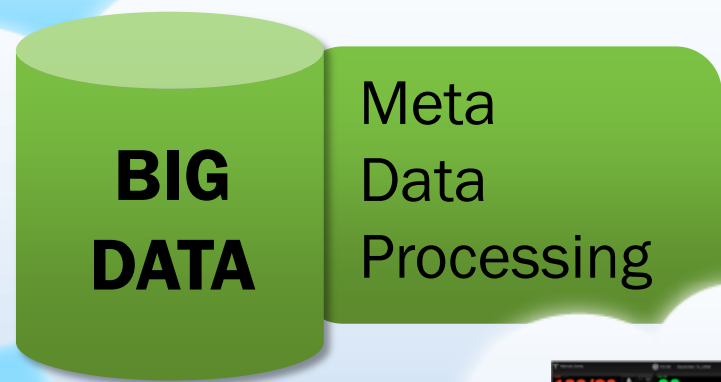
Moment of Decision



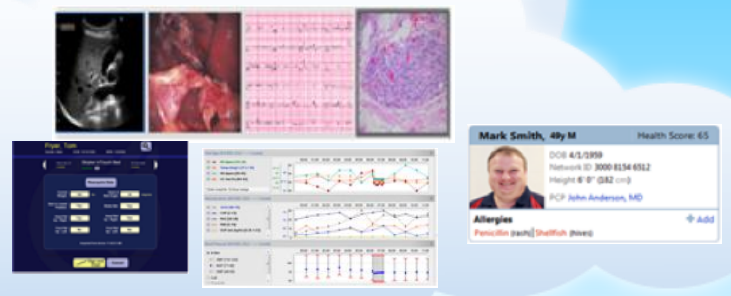
The power of millennium+

**Cerner
Cloud Services**

Research



uCern Store



millennium+



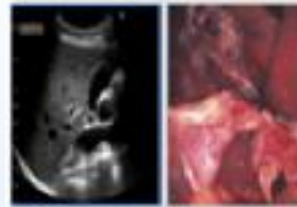
Cerner Cloud Services

Research

**BIG
DATA**

Meta Data Processing
Semantic Mapping
Nomenclatures
Ontology
Membership MPI
Provider Directory
Indexing of Sources

Cloud MPI –
Supervised Machine Learning
Person Demographics
Visit Time Series Algorithms
Individual Clinical Integrity



Enterprise → Cloud: “Find concepts related to”

blood pressure

Search

Discrete
Vitals

Intuitive
Filters
by Date,
Location,
or Author

Related
Medications

Documents –
Most Relevant
First Related
concepts

Semantic Search

http://lovmids02:8080/search-ui/?oid=&saop=&sfac=&startAt=&concepts=W3siaWRfb3loZV6lmNvbn

Looking for Results for: **blood pressure**

Results	Looking for Results for: blood pressure
27.2 days ago	Systolic Blood Pressure 126.00000 mmHg High 50.00000 - 100.00000
27.2 days ago	Standing Diastolic Blood Pressure 104
27.2 days ago	Supine Diastolic Blood Pressure 85
27.2 days ago	Standing Systolic Blood Pressure 128
27.2 days ago	Supine Systolic Blood Pressure 118
27.3 days ago	Standing Diastolic Blood Pressure 98
27.3 days ago	Standing Systolic Blood Pressure 124
1.4 months ago	Diastolic Blood Pressure 65.00 mmHg Extreme Low 80.00 - 120.00
1.4 months ago	Systolic Blood Pressure 110.00000 mmHg High 50.00000 - 100.00000
2.9 months ago	Supine Systolic Blood Pressure 132 mmHg

Sorted by relevance
Sorted by date

Filter this search:

- All authors
 - Margaret Kolm (13)
 - Kolm, Margaret (6)
 - McCallie Jr MD, David P (2)
 - Pack, Stephen (1)
 - Zhang, Rosee (1)
- All locations
 - MA MEDICAL GROUP (10)
 - Smith Hospital (5)
 - Baylor University Medical Center (4)
 - Moley Hospital (3)
 - Moore Test Hospital (3)
 - ...5 more
- All document types
 - Consultation Report (11)
 - Special ER PatED (5)
 - ED Pat Edu (3)
 - Colonoscopy Report (2)
 - Depart Summary (2)
 - ...12 more
- All drug classes
 - nutritional products (22)
 - analgesics (21)
 - vitamins (20)
 - antiplatelet agents (17)
 - platelet aggregation inhibitors (17)
 - ...many more
- All drugs
 - aspirin (17)
 - glucose (12)
 - cyanocobalamin (11)
 - amino acids topical (10)
 - bacitracin (10)
 - ...many more

“vital signs and measures” Margaret Kolm
Results Review Labs and Measurements Most recent : ALLRESLTSECT 2/1/2010 5:45 PM Supine **Blood Pressure** 127 Diastolic **Blood Pressure** - Supine 98 Respiratory Rate 22 Oxygen Saturation 85 ... Respiratory rate 22. **Blood pressure**: standing (systolic 130, diastolic 105).
4.8 months ago Feb 3, 2010 5:50:00 PM CST Baylor University Medical Center

Nurse Progress Note: “Vital Signs” Kolm, Margaret
Peripheral pulse 60. Respiratory rate 22. **Blood pressure**: supine (systolic 120, diastolic 84).
3.7 months ago Mar 8, 2010 9:40:00 AM CST OUTREACH FLEX

Clinical Summary: “MCK Test” Kolm, Margaret
Physical Examination Vital signs 84. **Blood pressure**: supine (systolic 118, diastolic 85), standing (systolic 128, diastolic 104).
4.3 months ago Feb 17, 2010 12:48:00 PM CST TANNER ORG

“vital signs testing” Margaret Kolm
Respiratory rate 22. **Blood pressure**: supine (systolic 127, diastolic 98).
4.9 months ago Feb 1, 2010 5:45:00 PM CST Baylor University Medical Center

“vital signs” Margaret Kolm
Respiratory rate 20. **Blood pressure**: standing (systolic 132, diastolic 110).
4.8 months ago Feb 2, 2010 2:02:00 AM CST Baylor University Medical Center

ED History & Physical Margaret Kolm
Blood pressure: supine (systolic 118, diastolic 85), standing (systolic 128, diastolic 104).
27.2 days ago Jun 2, 2010 12:33:00 PM CDT Tanner Org

“MCK Test” McCallie Jr MD, David P
Peripheral pulse 68. **Blood pressure**: standing (systolic 134, diastolic 105).
4.0 months ago Feb 26, 2010 11:06:00 AM CST Baylor University Medical Center

Comment Demographics: “Comment Demographics”
The **blood pressure** cuff was applied over her burka, which undoubtedly led to inaccurately high measurements.
11.1 days ago Jun 18, 2010 2:56:00 PM CDT CC Clinic

Consultation Report Margaret Kolm
Peripheral pulse 64. Respiratory rate 32. **Blood pressure**: standing (systolic 124, diastolic 98).
27.3 days ago Jun 2, 2010 10:36:00 AM CDT Tanner Org

Consultation Report: “59156475 - Ordered by Pivonka, Fran (CCRN-P)” Zhang, Rosee
Pulse 68. Respirations 20. **Blood pressure** 114/54. In general he is a well developed, well nourished appearing elderly white male lying supine in bed, in no acute distress.
1.8 years ago Sep 9, 2008 10:00:00 AM CDT

1 2 3 4 5 Next

[Give Feedback](#)

Cloud → Enterprise: “Anticipate Next” without asking

Prior History
(Absence/Presence)

Risk Prediction Scores

Medication History

Patient Registries
(Other Like)

Semantic Concept Algorithms





Evolving Health Landscape, Predictive Modeling and Analytics

Dick Flanigan

Senior Vice President, Research and Employer

Harlen Hays

Senior Researcher

Two Factors are Driving the Market Opportunity

■ Digitization of Healthcare:

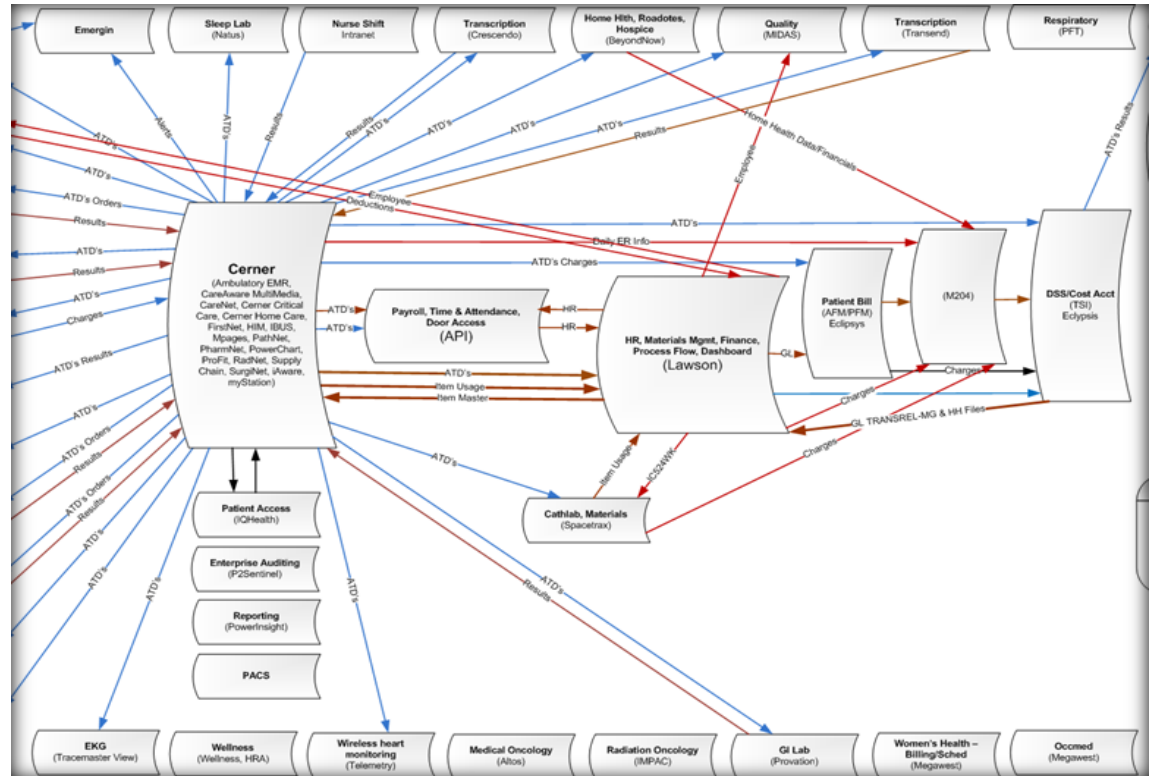
- Resulting in the proliferation of Electronic Medical Records
- Enabling the interoperability of data
- Promoting the information-based management of care and
- Encouraging health of communities

■ Emergence of the Accountability Framework

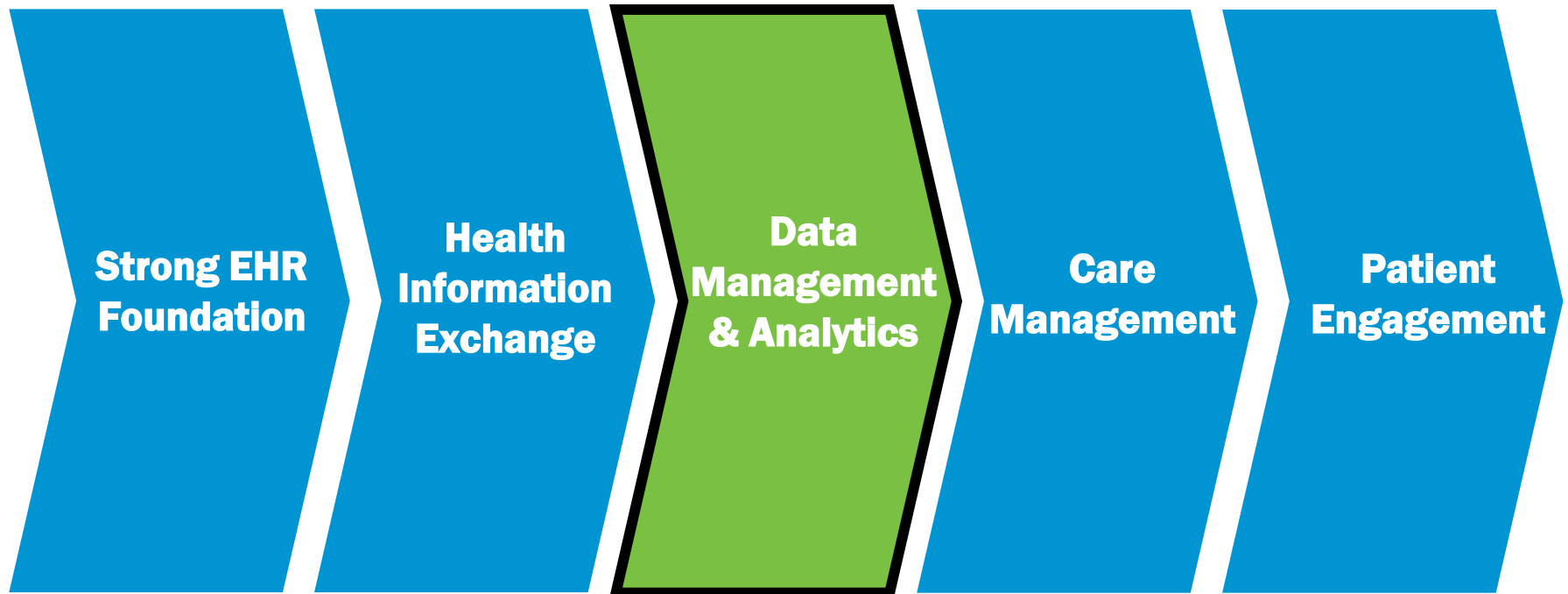
- Risk management is shifting from insurers to providers
- Accountable Care Organizations (and their variants) are here to stay
- Shift from Safety and Quality to Outcomes and Value
- Big Data and Analytics will be the next foundation system

Welcome to the Post-Enterprise Medical Record (EMR) World

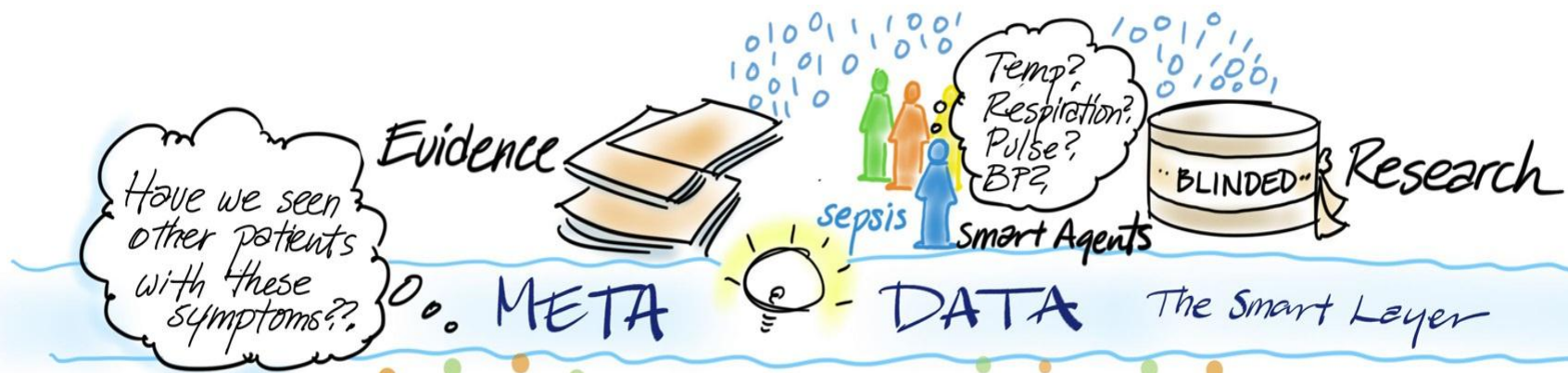
- Within 5 years, all providers will operate with a digital transaction infrastructure
- That infrastructure will not all come from one supplier
- Interoperability of data will not magically create interoperability of care or the management of health
- EMR's alone will not solve the problem



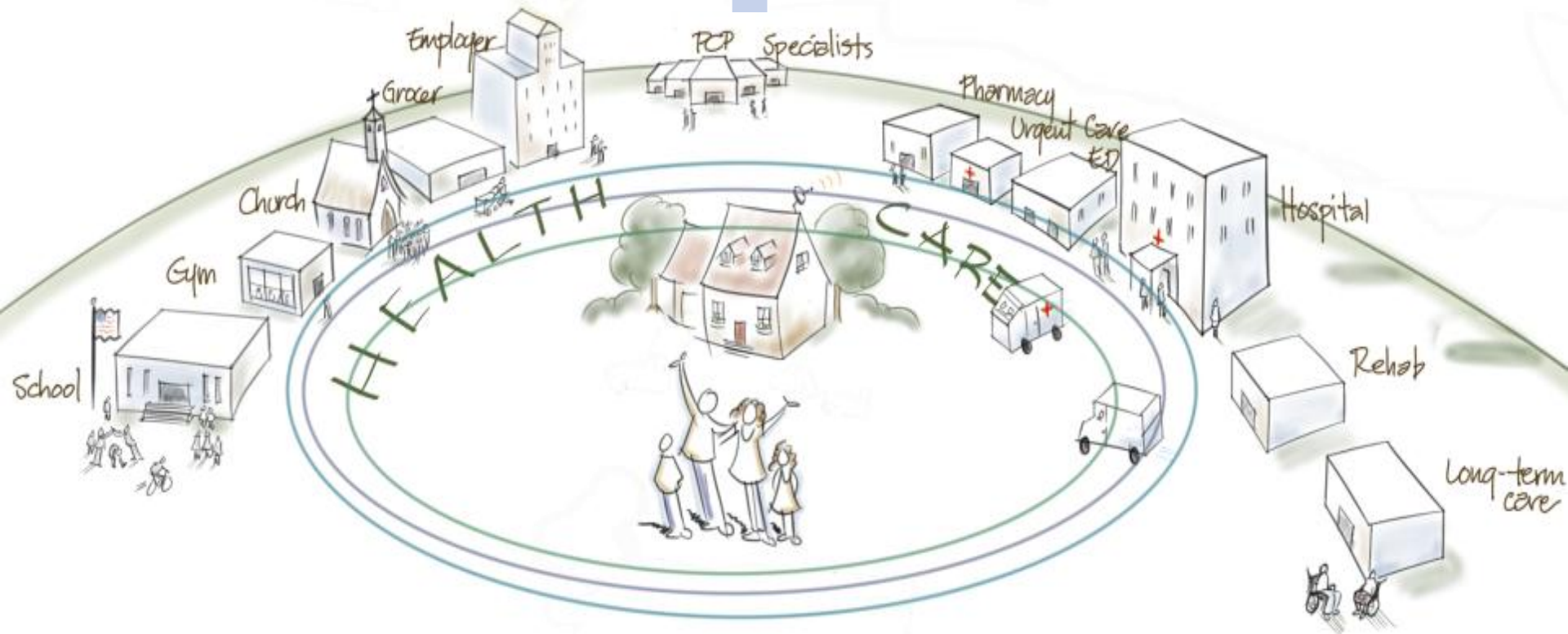
What's Required to manage in the new framework?



Aligning Persons, Payers, and Providers
Driving Accountability for Outcomes and Value



↑
millennium+



Where does all of the data come from?

≠



Claim Form

Electronic Health Record

480
data elements

26,000
data elements



Predictive Modeling and Data Analytics Examples

Chronic Disease: Diabetes

Acute Condition: Sepsis

Harlen Hays

Diabetes Potentially Avoidable Complication (PAC)

- **The DM PAC model is built using analysis of clinical data from Health Facts® observational data set**
 - Able to leverage hundreds of data inputs to derive the model
 - Population of over 200,000 diabetics identified to build and validate the algorithm
 - Output: Individualized predictive model to better manage disease
 - *Help to focus efforts on the behaviors that will have the biggest return on investment*
 - *Small steps for the patient, targeted points for the provider*
- **Once a model has been externally validated (prospectively) in clinical setting, it can be utilized to inform and guide both clinicians and consumers on potential complications**

PAC Probability Calculator

[Home](#) > [PAC Probability Calculator](#)

Result

Overview

One or more PACs: 94%
Two or more PACs: 82%
Three or more PACs: 69%
Four or more PACs: 56%
Five or more PACs: 45%

Top PACs

PAC	Probability
General Symptoms	63%
Chronic Renal Failure	46%
Cardiac Dysrhythmias	39%
Acid Base & Fluid Electrolyte Disturbances	38%
Hypoglycemia	32%

Patient: Collins, Richard Load

General Information

Race: Caucasian
Gender: Male
Age (years): 75
Medical Home: Teaching Facility
Insulin Ordered?: ☒

PAC Visits: 3
Typical Care Visits: 4
Other Visits: 2
Total Charges (\$): 12000

Diagnoses

Available

Acute Myocardial Infarction
Chronic Lung Disease
Congestive Heart Failure
Depression
Diabetes with Ketoacidosis
Diabetes with Ophthalmic Manifestations
GI Disease
General Neurology

<< >>

Current

Bacteremia
Chronic Kidney Disease
Diabetes with Neurologic Manifestations
Diabetes with Peripheral Circulatory Disorders
Heart Disease
Seizure

Labs

Submit Labs

☐ Glucose on 12-02-2011
☐ HgbA1C on 12-02-2011
☐ LDL on 12-02-2011
☐ Serum Creatinine on 12-02-2011

Add

Labs

Name	Value	Units	Date	
Glucose	110	mg/dL	12-02-2011	Remove
Glucose	15	mg/dL	2-02-2011	Remove
Glucose	105	mg/dL	5 02-2011	Remove
HgbA1C	3	%	12-02-2011	Remove
HgbA1C	3	%	2-02-2011	Remove
HgbA1C	4.2	%	8-02-2011	Remove

PAC Probability Calculator

Home >> PAC Probability Calculator

Result

Overview

One or more PACs: 94%
Two or more PACs: 82%
Three or more PACs: 69%
Four or more PACs: 56%
Five or more PACs: 45%

Top PACs

PAC	Probability
General Symptoms	63%
Chronic Renal Failure	46%
Cardiac Dysrhythmias	39%
Acid Base & Fluid Electrolyte Disturbances	38%
Hypoglycemia	32%

Better Care Coordination Needed

Patient: Collins, Richard

General Information

Race: Caucasian
Gender: Male
Age (years): 75
Medical Home: Teaching Facility
Insulin Ordered?: ☒

PAC Visits:
Typical Care Visits:
Other Visits:
Total Charges (\$):

Diagnoses

Available

Acute Myocardial Infarction
Chronic Lung Disease
Congestive Heart Failure
Depression
Diabetes with Ketoacidosis
Diabetes with Ophthalmic Manifestations
GI Disease
General Neurology

<< >>

Current

Bacteremia
Chronic Kidney Disease
Diabetes with Neurologic Manifestations
Diabetes with Peripheral Circulatory Disorders
Heart Disease
Seizure

Labs

Submit Labs

☐ Glucose on 12-02-2011
☐ HgbA1C on 12-02-2011
☐ LDL on 12-02-2011
☐ Serum Creatinine on 12-02-2011

Add

Labs

Name	Value	Units	Date	
Glucose	110	mg/dL	12-02-2011	Remove
Glucose	15	mg/dL	2-02-2011	Remove
Glucose	105	mg/dL	5 02-2011	Remove
HgbA1C	3	%	12-02-2011	Remove
HgbA1C	3	%	2-02-2011	Remove
HgbA1C	4.2	%	8-02-2011	Remove

PAC Probability Calculator

Home >> PAC Probability Calculator

Result

Overview

One or more PACs: 82%
Two or more PACs: 59%
Three or more PACs: 41%
Four or more PACs: 28%
Five or more PACs: 20%

Top PACs

PAC	Probability
Hypoglycemia	77%
General Symptoms	30%
Acid Base & Fluid Electrolyte Disturbances	13%
UTI	13%
Abdominal Pain	12%

Patient: Miller, Christine

General Information

Race: Black or African American
Gender: Female
Age (years): 45
Medical Home: Other
Insulin Ordered?: ☐

PAC Visits:
Typical Care Visits:
Other Visits:
Total Charges (\$):

Diagnoses

Available

Acute Myocardial Infarction
Bacteremia
Chronic Kidney Disease
Chronic Lung Disease
Congestive Heart Failure
Diabetes with Ketoacidosis
Diabetes with Neurologic Manifestations
Diabetes with Ophthalmic Manifestations

<< >>

Current

Depression
Hypoglycemia
Liver Disease
Type 2 Diabetes

Labs

Submit Labs

☐ Glucose on 12-02-2011
☐ HgbA1C on 12-02-2011
☐ LDL on 12-02-2011
☐ Serum Creatinine on 12-02-2011

Add

Labs

Name	Value	Units	Date	
Glucose	125	mg/dL	12-02-2011	Remove
Glucose	20	mg/dL	2-02-2011	Remove
Glucose	95	mg/dL	5-02-2011	Remove
HgbA1C	8	%	12-02-2011	Remove
HgbA1C	6.1	%	2-02-2011	Remove
HgbA1C	7.5	%	8-02-2011	Remove

PAC Probability Calculator

Home >> PAC Probability Calculator

Result

Overview

One or more PACs: 82%
Two or more PACs: 59%
Three or more PACs: 41%
Four or more PACs: 28%
Five or more PACs: 20%

Top PACs

PAC	Probability
Hypoglycemia	77%
General Symptoms	30%
Acid Base & Fluid Electrolyte Disturbances	13%
UTI	13%
Abdominal Pain	12%

Patient: Miller, Christine

General Information

Race: Black or African American
Gender: Female
Age (years): 45
Medical Home: Other
Insulin Ordered?: ☐

Case for Prevention

Diagnoses

Available

Acute Myocardial Infarction
Bacteremia
Chronic Kidney Disease
Chronic Lung Disease
Congestive Heart Failure
Diabetes with Ketoacidosis
Diabetes with Neurologic Manifestations
Diabetes with Ophthalmic Manifestations

<< >>

Current

Depression
Hypoglycemia
Liver Disease
Type 2 Diabetes

Labs

Submit Labs

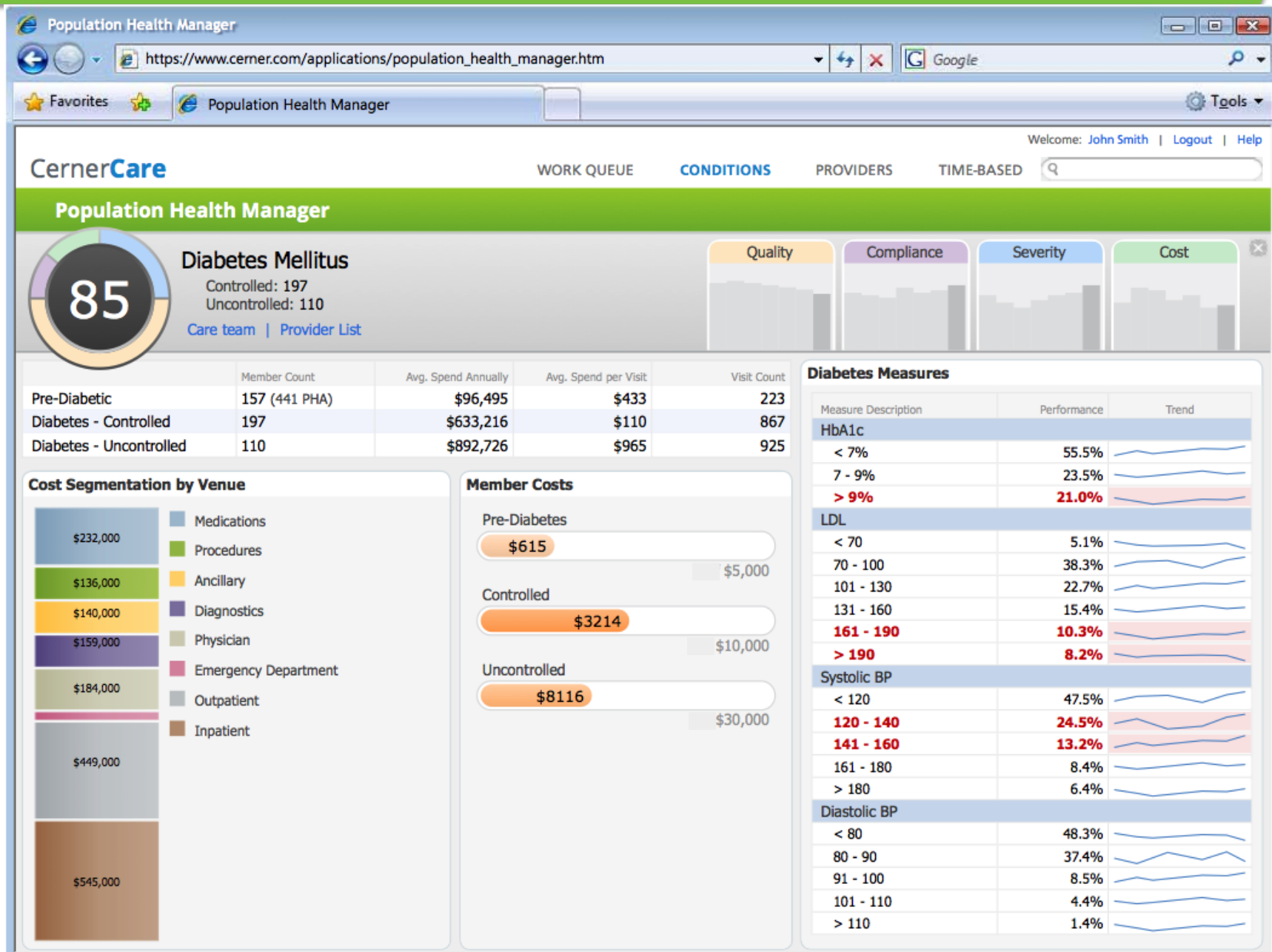
☐ Glucose on 12-02-2011
☐ HgbA1C on 12-02-2011
☐ LDL on 12-02-2011
☐ Serum Creatinine on 12-02-2011

Add

Labs

Name	Value	Units	Date	
Glucose	125	mg/dL	12-02-2011	Remove
Glucose	20	mg/dL	2-02-2011	Remove
Glucose	95	mg/dL	5-02-2011	Remove
HgbA1C	8	%	12-02-2011	Remove
HgbA1C	6.1	%	2-02-2011	Remove
HgbA1C	7.5	%	8-02-2011	Remove

Condition Prospectus – Cost and Risk Segmentation



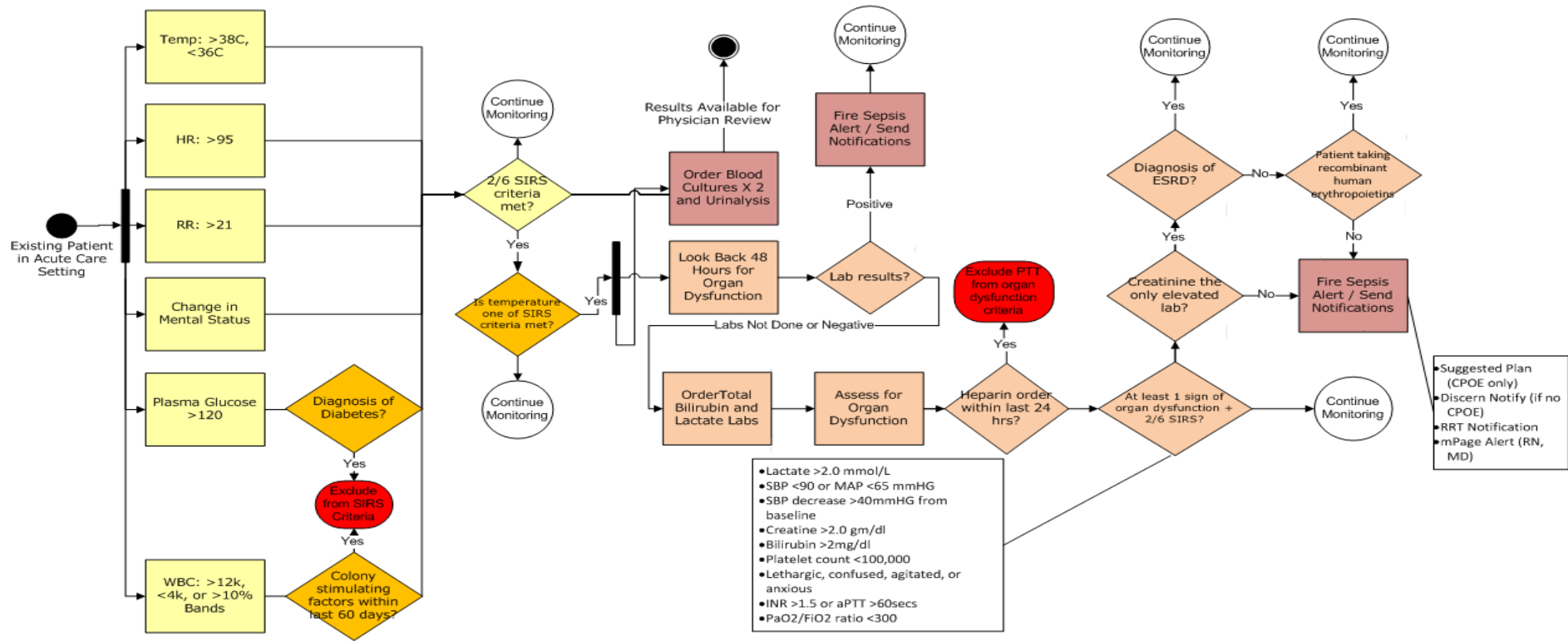
Moving Sepsis Detection and Intervention beyond the EMR

Revising and Validating current Algorithms



Sepsis Rescue Agent – Screening Algorithm

Sepsis Screening Rule



DTA's Used for SIRS Criteria:

Temperature
Heart Rate
Respiratory Rate
Neurological Symptoms
Level of Consciousness
Hallucinations Present
Affect/Behavior
Glasgow Coma Score
Pediatric Coma Score
Glucose Lvl
Blood Glucose, Capillary
WBC
Band Man

DTA's Used for Organ Dysfunction:

Lactic Acid Lvl
Systolic Blood Pressure
Mean Arterial Pressure
Creatinine Level
Bili Total
Platelet Count
Neurological Symptoms
Level of Consciousness
Hallucinations Present
Affect/Behavior
PTT
PaO2/FiO2 ratio

Surviving Sepsis Campaign: International guidelines for management of severe sepsis and septic shock: 2008 Intensive Care Med (2008) 34:17–60
DOI 10.1007/s00134-007-0934-2
International Sepsis Definitions Conference. Crit Care Med 2003; 31:1250–1256.
ACCP/SCCM Consensus Conference Committee: American College of Chest Physicians/Society of Critical Care Medicine Consensus Conference: Definitions for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis. Crit Care Med 1992; 20:864–874

Real Time Patient Surveillance for Sepsis

Baumgarner, John - BWMC 009-674 Opened by Benson RN, Rona

Task Edit View Patient Chart Links Notifications Options Current Add Help

Care Compass Patient List InBox

Baumgarner, John

Orders

+ Add Document Medication by Hx Reconcil

Orders Medication List Document In Plan

View

Orders for Signature

Plans

Document In Plan

Care Team

Interdisciplinary Care Plan

- Physician (Planned)
- Dietary (Planned)
- Nursing (Planned)
- Occupational Therapy (Planned)
- Physical Therapy (Planned)
- Respiratory Therapy (Planned)
- Social Services/CM (Planned)
- Speech (Planned)

Medical

Sepsis Management (Initiated Pen

Suggested Plans (0)

Orders

- ☒ Inpatient
- ☐ Outpatient
- ☐ Prescription
- ☐ Documented Medications by Hx
- ☐ Unspecified

Medication History

Reconciliation History

Diagnoses & Problems

Related Results

Formulary Details

Sepsis Empiric Therapy

Suspected Source of Infection (Expand one or more of the following to determine recommendation)

- ☐ Source Unclear
- ☐ Suspect Petechial Rash
- ☒ **Suspect Meningitis**

Relevant Clinical Data

Age: 46.5 Yr

Recommendation

☐ cefotaxime 1 g, Soln, IV, q4hr AND dexamethasone 0.15 mg/kg, REC Injection, IV, q6hr, for 2-4 days AND vancomycin 750 mg, REC Injection, IV, q6hr

☐ dexamethasone 0.15 mg/kg, REC Injection, IV, q6hr, for 2-4 days AND meropenem 2 g, REC Injection, IV, q8hr AND vancomycin 750 mg, REC Injection, IV, q6hr

Reset Order Choice

- ☐ Suspect Urinary Source
- ☐ Suspect Endocarditis
- ☐ Suspect Pneumonia
- ☐ Suspect Biliary Source
- ☐ Suspect Joint Infection /Sentic Arthritis

OK

C. Reassess antimicrobial regimen daily to optimize efficacy, prevent resistance, avoid toxicity, and minimize costs

Details

Dx Table Orders For Cosignature Orders For Nurse Review Save as My Favorite Orders For Signature

USPRES RN6337 August 18, 2011 1:59 PM

Initiating...

Health Facts® Simulation

- **Imagine a hospital (Lawrence Memorial Hospital) wants to see how well the alert is working**
 - Put alert into production, but suppress the actual alert
 - Accumulate enough cases to perform statistical tests
 - *To match our Health Facts® Simulation it would take over 4 years to accumulate enough cases to perform the exact same tests*

- **Health Facts® was able to identify over 68,000 patients that met our criteria for a study**
 - Full study took less than a month to conduct
 - Framework created to test different thresholds (balance Sensitivity and Specificity for optimal workflow at a given institution)
 - *This allows for the algorithm to learn based upon actual application*
 - *Currently have 5 clients submitting their data and experiences so the algorithm can be further refined*

Validating Decision Support with Health Facts

■ Sepsis alerting

■ Alert would have fired in:

- 73% of admissions with sepsis
- 23% of admissions without sepsis

■ Sepsis present:

- 14% of admissions with Alert
- 2% of admissions without Alert

Sensitivity	.73
Specificity	.77
Positive Predictive Value	.14
Negative Predictive Value	.98



Physician Productivity & Experience

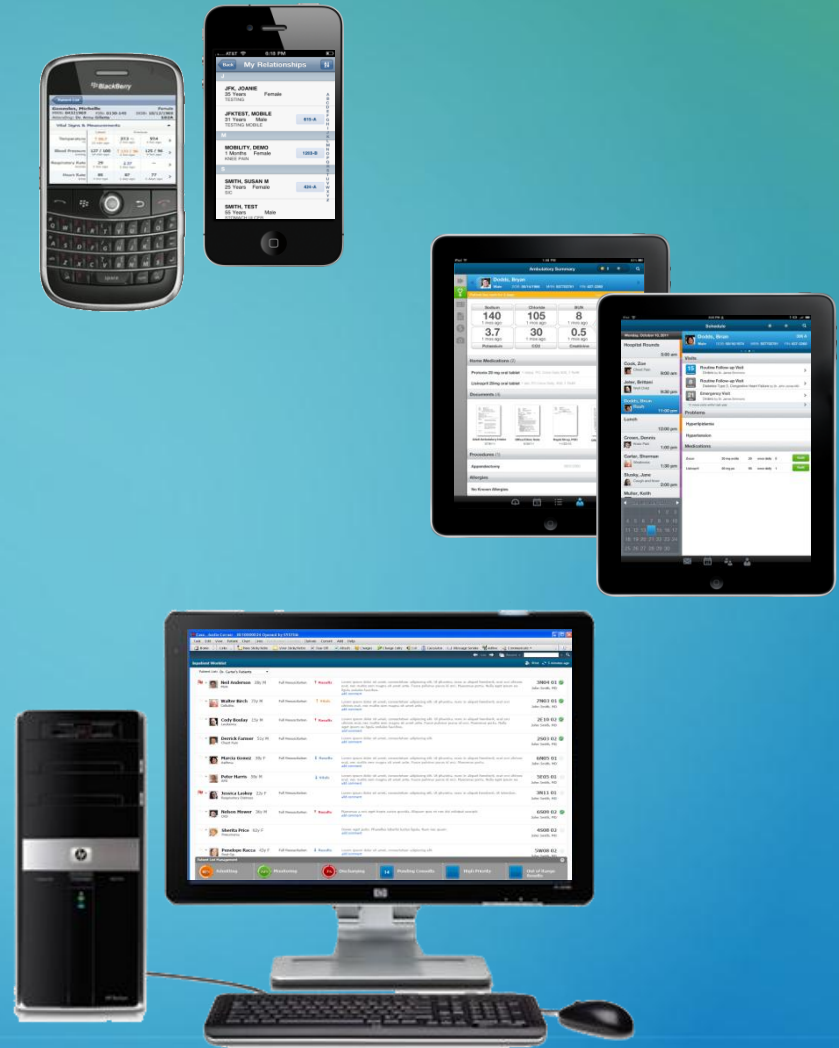
Max Reinig

Vice President, Physician Solutions

Dr. Doug Dickey

Director, Physician Solutions

Fast Smart Easy



Fast

- Instantaneous response
- Streamlined workflows
- All clicks intentional

Smart

- Knows me
- Tailored to venue, patient, condition
- Guides me through my workflow

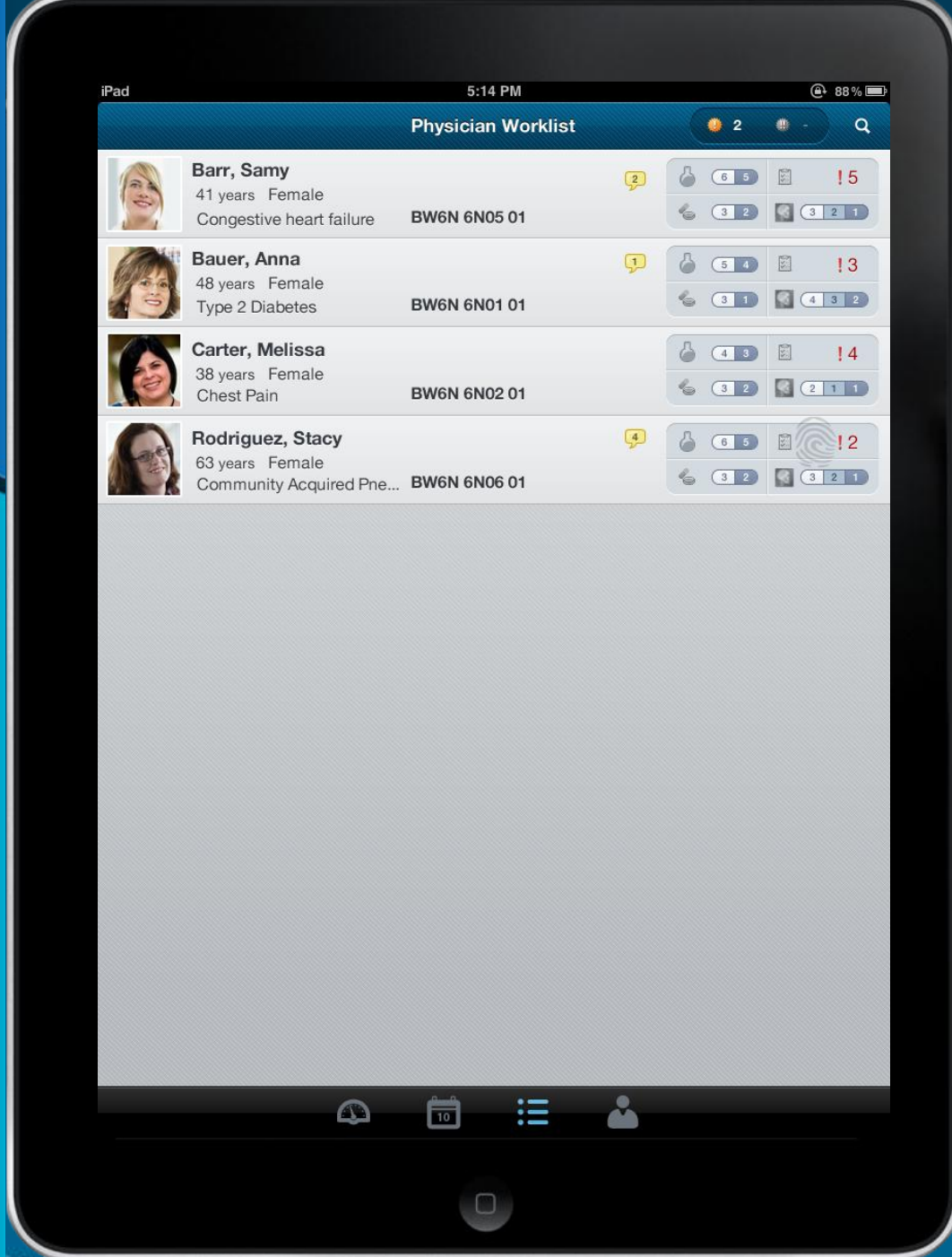
Easy

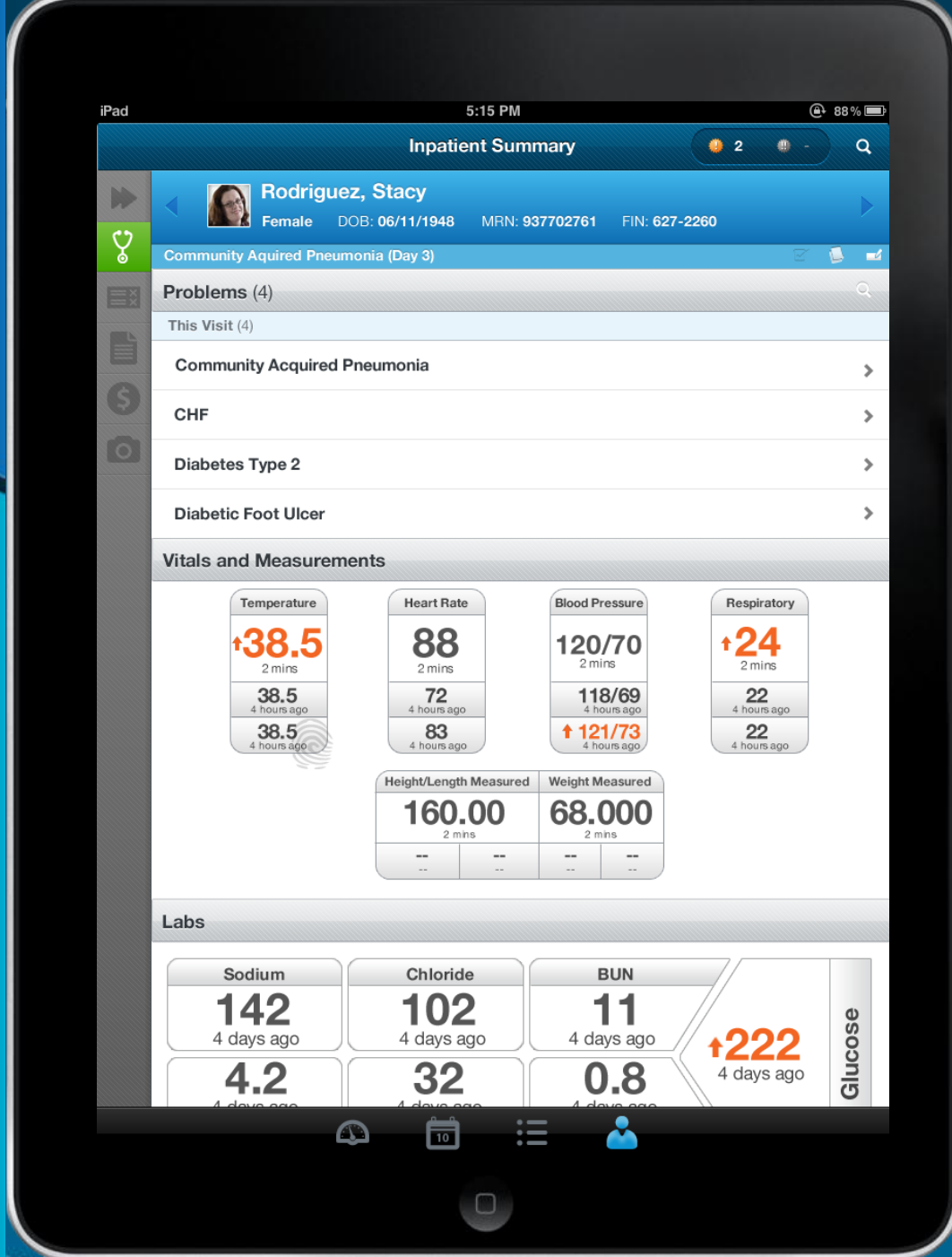
- Works out of the box, no configuration
- Intuitive
- No training

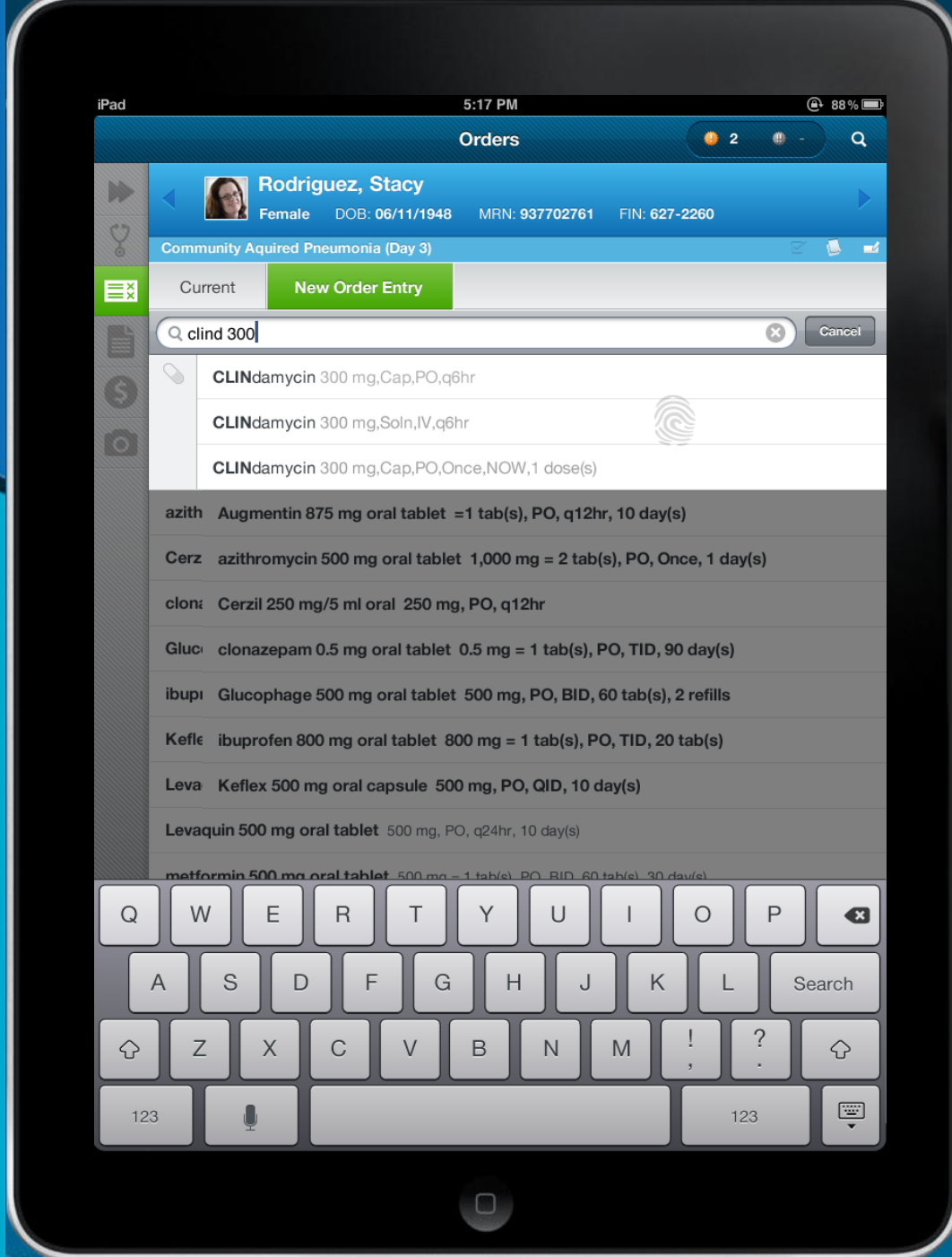


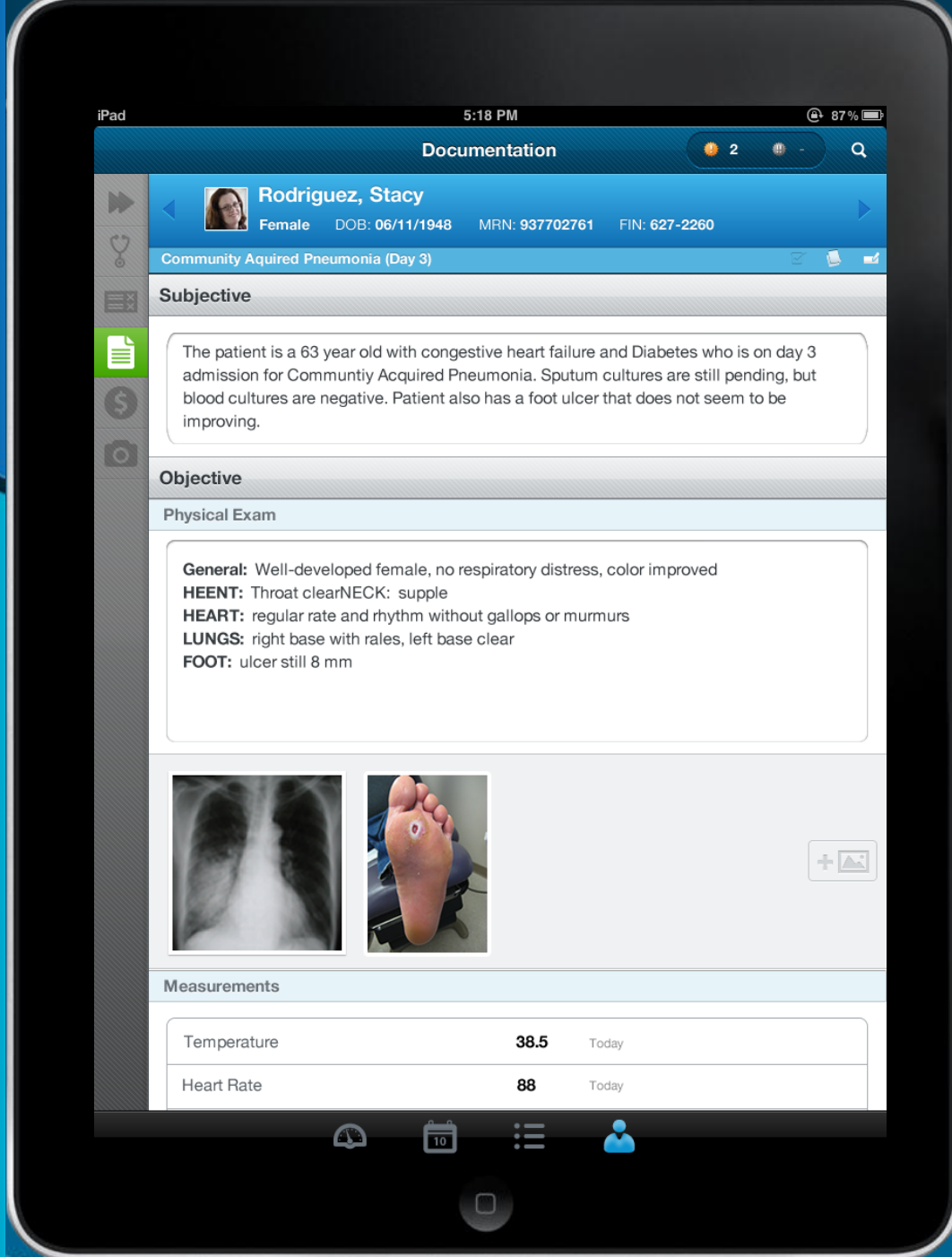
PowerChart touch











Documentation



Rodriguez, Stacy

Female

DOB: 06/11/1948

MRN: 937702761

FIN: 627-2260

Community Acquired Pneumonia (Day 3)

Subjective

The patient is a 63-year old with congestive heart failure and Diabetes who is on day 3 admission for Community Acquired Pneumonia. Sputum cultures are still pending, but blood cultures are negative. Patient also has a foot ulcer that does not seem to be improving.

Objective

T 38.5C HR 88 RR 24 BP 120/70 HT 160 cm WT 60kg

General: Well-developed female, no respiratory distress, color improved

HEENT: Throat clear

NECK: supplied

HEART: regular rate and rhythm without gallops or murmurs

LUNGS: right base with rales, left base clear

FOOT: ulcer still 8 mm

Labs:

Input/Output: Total 10/9: -200 ml



Assessment and Plan

Diagnosis #1: Community-Acquired Pneumonia

Comments: Continue Levothyroxine and Ceftriaxone

Diagnosis #2: Congestive Heart Failure

Comments: Continue Lisinopril

Diagnosis #3: Diabetes Type 2

Diagnosis #4: Diabetic Foot Ulcer

Orders: Clindamycin 300mg IV q 6 hours

Comments: Patient is improving with pneumonia, however the ulcer is not improving. Will add Clindamycin to cover anaerobes and MRSA

Sign

Hospitalist Desktop Workflow



PowerChart Organizer

Opened by Troemel MD, Phyllis

TaskEditViewPatientChartLinksNotifications (Loading)OptionsCurrentAddHelp






































HomeLinksNew Sticky NoteView Sticky NotesTear OffAttachChargesCharge EntryExitCalculatorMessage SenderAdHocCommunicate

←List→Recent

Print5 minutes ago

Inpatient Worklist

Patient List: Dr. John Smith

 + 	Henry McCoy 72y M Chest Pain	Full Resuscitation	 Vitals	Admitted to Dr. Patel's service with r/o MI, observation status. add comment	3N04 01  John Smith, MD
 + 	Walter Birch 23y M Cellulitis	Full Resuscitation	 Vitals	CT Scan Negative, Ortho to consult rib fractures. Social work for domestic issues. add comment	7N03 01  John Smith, MD
 + 	Cody Boulay 15y M Leukemia	Full Resuscitation	 Results	ANC > 500, okay for Chemo to start cycle 2. Patient needs Ondansetron with course. add comment	2E10 02  John Smith, MD
 + 	Derrick Farmer 51y M Chest Pain	Full Resuscitation		First two set of enzymes negative. Will DC after third negative add comment	2S03 02  John Smith, MD
 + 	Marcia Gomez 38y F Asthma	Full Resuscitation	 Results	Needs home going Asthma medication and action plan. add comment	6N05 01  John Smith, MD
 + 	Peter Harris 58y M AMI		 Vitals	Cath this AM with 4 vessel disease, CT surgery to consult for CABG. add comment	5E05 01  John Smith, MD
 + 	Jessica Laskey 22y F Respiratory Distress	Full Resuscitation		COPD exacerbation, needs steroids, continued O2 need, will wean. Needs home going O2 therapy. add comment	3N11 01  John Smith, MD
 + 	Nelson Mower 36y M CKD	Full Resuscitation	 Results	Agreed to dialysis, first today. Need to arrange ongoing dialysis. add comment	6S09 02  John Smith, MD
 + 	Sherita Price 82y F Pneumonia			No fever; WBC decreased. Start DC process back to SNF with continued IV antibiotics. add comment	4S08 02  John Smith, MD
 + 	Penelope Racca 43y F Post-Op	Full Resuscitation	 Results	Passing flatus, needs to take food and have BM to discharge. Labs normal this AM. add comment	5W08 02  John Smith, MD

Patient List Management

46% Admitting

73% Monitoring

7% Discharging

2 Pending Consults

2 High Priority

2 Out of Range Results

McCoy, Henry



McCoy, Henry

Age: 72 years

Sex: Male

Location: BW25S; 25S02; 01

Allergies: Penicillin

Results: Not Subscribed

Isolation: MRSA

Code Status: Full Resuscitation

← List →

Recent ▾



Menu - Inpatient

Inpatient Summary

Print 5 minutes ago

Admit Checklist

- ☒ Vital Signs + ▾
- ☒ Medication History + ▾
- ☒ Medication Reconciliation + ▾
- ☒ Allergies + ▾
- ☐ Problem Management + ▾
- ☐ Histories + ▾
- ☐ Reconcile Orders + ▾
- ☐ Admit Orders + ▾
- ☐ Document H&P + ▾
- ☐ History of Present Illness + ▾
- ☐ Review of Systems + ▾
- ☐ Physical Exam + ▾
- ☐ Impression & Plan + ▾
- Quality Measures** x
- Quick Orders** x
- Documents** x
- ☐ Quality Measures + ▾
- Summary** x

Vital Signs + ▾

All Visits

	Latest		Previous
Temp	↑ 38 01/15/12 16:06	37.0 06/08/10 16:28	↑ 38.2 03/18/10 23:16
HR	75 01/15/12 16:06	88 06/08/10 16:31	80 03/18/10 23:16

Home Medications (4) +

All Visits

Rx: atorvastatin 20 mg oral tablet 20 mg1 tab(s), PO, Once Daily 30 tab(s) 0 refills
 Rx: Digitek 0.25 mg oral tablet 0.25 mg1 tab(s), PO, Once Daily 30 tab(s) 0 refills
 Rx: metformin 500 mg oral tablet 500 mg1 tab(s), PO, BID 60 tab(s) 0 refills
 Rx: metoprolol 50 mg oral tablet 50 mg1 tab(s), PO, BID 60 tab(s) 0 refills

☒ Renew ☐ Cancel/DC ☒ Complete

Routing: None Defined

Sign

Medication Reconciliation (4) +

Problems

All Visits

Classification: All

Add new as: This Visit

This Visit (0)

4 Active (4)


Benign essential hypertension
 CAD - Coronary artery disease
 Diabetes mellitus type II
 Hypercholesterolemia

Historical (7)

New Order Entry +

Selected visit

McCoy, Henry ← List → Recent ▾ ▾ 🔍

 **McCoy, Henry** Age: 72 years Sex: Male Location: BW25S; 25S02; 01 Allergies: Penicillin
Results: Not Subscribed Isolation: MRSA Code Status: Full Resuscitation

Inpatient Summary Print 5 minutes ago

- Admit Checklist** ▾
- ☒ Vital Signs + ▾
 - ☒ Medication History + ▾
 - ☒ Medication Reconciliation + ▾
 - ☒ Allergies + ▾
 - ☐ Problem Management + ▾
 - ☐ Histories + ▾
 - ☐ Reconcile Orders + ▾
 - ☐ Admit Orders + ▾
 - ☐ Document H&P + ▾
 - ☐ History of Present Illness + ▾
 - ☐ Review of Systems + ▾
 - ☐ Physical Exam + ▾
 - ☐ Impression & Plan + ▾
- Quality Measures** ▾
- Quick Orders** ▾
- Documents** ▾
- ☐ Quality Measures + ▾
- Summary** ▾

Medication Reconciliation (4) + ▾

Problems ▾ ⌵

All Visits

Classification: All

Add new as: This Visit

This Visit (1)

- *Chest pain on exertion (786.50)

4 Active (4)

- Benign essential hypertension
- CAD - Coronary artery disease
- Diabetes mellitus type II
- Hypercholesterolemia

Historical (7)

New Order Entry + ▾ ⌵

Selected visit

Meds **Labs** **Imaging** **Billing** **Other**

- ceftriaxone 1 g.IV,Once Daily
- clindamycin 450 mg, PO, q6hr
- levalbuterol 0.63 mg/3 ml inhalation solution 0.63 mg, INH, TID
- levofloxacin 500 mg, IV, q24hr
- metronidazole 500 mg intravenous injection 500 mg, IV, q6hr

Orders for Signature

No Orders for Signature

Dx Table Modify Sign

Links ⌵

- [Chart Search](#)
- [Community View](#)
- [Condition Management](#)
- [Discharge Summary](#)

Documents (22) + ▾ ⌵

- All Visits

Menu - Inpatient

McCoy, Henry - BWMC 008-259 Opened by Troemel MD, Phyllis

TaskEditViewPatientChartLinksNotifications (Loading)OptionsCurrentAddHelp

HomeLinksNew Sticky NoteView Sticky NotesTear OffAttachChargesCharge EntryExitCalculatorMessage SenderAdHocCommunicate

McCoy, Henry

McCoy, Henry

Age: 72 years

Results: Not Subscribed

Sex: Male

Isolation: MRSA

Location: BW25S; 25S02; 01

Code Status: Full Resuscitation

Allergies: Penicillin

List

Recent

Chart Search

Print5 minutes ago

Admit Checklist

Vital Signs

Medication History

Medication Reconciliation

Allergies

Problem Management

Histories

Reconcile Orders

Admit Orders

Document H&P

History of Present Illness

Review of Systems

Physical Exam

Impression & Plan

Quality Measures

Quick Orders

Documents

Quality Measures

Summary

Everything

Documents

Results

Newest documents

Newest results

Any time

Past 24 hours

Past week

Past month

Past year

Older than 1 year

Specific date range

Most relevant first

Newest first

Oldest first

Diabetes

diabetes : * diabetes mellitus and related concepts (prototype)

diabetes insipidus

diabetes insipidus - pituitary: neurohypophyseal diabetes insipidus

diabetes insipidus secondary to vasopressin deficiency: neurohypophyseal diabetes insipidus

diabetes management plan given

diabetes mellitus

diabetes mellitus - adult onset: diabetes mellitus type 2

diabetes mellitus arising in pregnancy: gestational diabetes mellitus

diabetes mellitus insulin-glucose infusion in acute myocardial infarction

diabetes mellitus screening

diabetes mellitus type 1

diabetes mellitus type 2

diabetes mellitus type I: diabetes mellitus type 1

diabetes mellitus type II: diabetes mellitus type 2

diabetes mellitus with ketoacidosis: diabetic ketoacidosis

diabetes mellitus with neuropathy: diabetic neuropathy

diabetes mellitus, adult onset, with hyperosmolar coma

diabetes mellitus, brittle

diabetes mellitus, disorder associated with: diabetic complications

diabetes mellitus, disorder associated with type 2

Search for items containing "Diabetes"

Search for items NOT containing "Diabetes"

Menu - Inpatient

Help

Search

McCoy, Henry - BWMC 008-259 Opened by Troemel MD, Phyllis

Task Edit View Patient Chart Links Notifications (Loading) Options Current Add Help

Home Links New Sticky Note View Sticky Notes Tear Off Attach Charges Charge Entry Exit Calculator Message Sender AdHoc Communicate

McCoy, Henry

Age: 72 years
Results: Not Subscribed

Sex: Male
Isolation: MRSA

Location: BW25S; 25S02; 01
Code Status: Full Resuscitation

Allergies: Penicillin

Chart Search

Print 5 minutes ago

Menu - Inpatient

Admit Checklist

Vital Signs

Medication History

Medication Reconciliation

Allergies

Problem Management

Histories

Reconcile Orders

Admit Orders

Document H&P

History of Present Illness

Review of Systems

Physical Exam

Impression & Plan

Quality Measures

Quick Orders

Documents

Quality Measures

Summary

Everything

Documents

Results

Newest documents

Newest results

Any time

Past 24 hours

Past week

Past month

Past year

Older than 1 year

Specific date range

Most relevant first

Newest first

Oldest first

Filter this search:

diabetes

Cerner's Chart Search provides a delayed index to a subset of the patient's medical record. [Learn more.](#)
Matches 1 - 10 of 17

18.0 days ago	Glucose, Random	90 mg/dL	Normal	65 - 110	
9.6 months ago	Estimated Average Glucose	140 mg/dL	High	65 - 109	
9.6 months ago	Hgb A1c	6.5 %	High	4.0 - 6.0	Interpretation ...
1.7 years ago	Glucose, Random	88 mg/dL	Normal	65 - 110	
3.2 years ago	Estimated Average Glucose	128 mg/dL	High	65 - 109	
3.2 years ago	Hgb A1c	6.1 %	High	4.0 - 6.0	Interpretation ...
3.2 years ago	Glucose, Random	110 mg/dL	Normal	65 - 110	
4.2 years ago	Glucose, Random	123 mg/dL	High	65 - 110	
4.2 years ago	Estimated Average Glucose	131 mg/dL	High	65 - 109	
4.2 years ago	Hgb A1c	6.2 %	High	4.0 - 6.0	Interpretation ...

[16 more](#)

Progress Note-Physician: "Hypertension *, Diabetes, Type 2 *" Patel MD, Jigar
Controlled Diabetes Blood Glucose on 11/11/08. ... Controlled Diabetes Blood Glucose on 11/15/07. Recorded by Patel MD, Jigar Controlled Diabetes Blood Glucose on 11/15/07. ... Uncontrolled Diabetes Blood Glucose on 11/11/08. Recorded by Patel MD, Jigar Uncontrolled Diabetes Blood Glucose on 11/11/08.
1.4 years ago Sep 10, 2010 3:10 PM CDT BWMP Weymouth Clinic - Baseline West Medical Pavillion

Cardiology Consultation Patel MD, Jigar
metformin (metformin 500 mg oral tablet), 500 mg, 1 tab(s), PO, BID, 60.00 tab(s) ... Diabetes mellitus type II / SNOMED CT 73465010 / Confirmed ... Diabetes mellitus type II (73465010): Onset in 1989 at 50 years. ...
Diabetes mellitus type 2 Mother (Jean McCoy, Deceased)
9.7 years ago May 14, 2002 11:02 AM CDT Baseline West Medical Center

ED Note-Physician: "Shortness of breath" Patel MD, Edward
Risk factors consist of coronary artery disease, diabetes mellitus and hypertension. ... Diabetes mellitus type II (73465010): Onset in 1989 at 50 years.
1.9 years ago Mar 18, 2010 10:53 PM CDT Baseline West Medical Center

Assessment Forms-Text: "ED Basic Triage & Assessment Adult" Patel RN, Randy
metformin : metformin ; Status: Documented ; Ordered As Mnemonic: metformin ; Simple Display Line: 500 mg, PO, BID, 60 tab(s) ; Catalog Code: metformin ; Order Dt/Tm: 2/1/2010 8:50:58 PM
1.9 years ago Mar 18, 2010 10:47 PM CDT Baseline West Medical Center

Admission Note-Physician: "Anesthesia Pre-Op Note *" Patel MD, Jigar
No qualifying data available Problem List: . Active Problems (4) Benign essential hypertension (3135013) CAD - Coronary artery disease (2536394018) Diabetes mellitus type II (73465010) Hypercholesterolemia (23283015) ...
Diabetes mellitus type II (73465010): Onset in 1989 at 50 years.
7.4 months ago Jun 22, 2011 11:41 PM CDT BWMP Weymouth Clinic - Baseline West Medical Pavillion

Emergency Discharge Documentation: "Clinical Summary - ED"

McCoy, Henry - BWMC 008-259 Opened by Troemel MD, Phyllis

Task Edit View Patient Chart Links Notifications (Loading) Options Current Add Help

Home Links New Sticky Note View Sticky Notes Tear Off Attach Charges Charge Entry Exit Calculator Message Sender AdHoc Communicate

McCoy, Henry

Age: 72 years
Results: Not Subscribed

Sex: Male
Isolation: MRSA

Location: BW25S; 25S02; 01
Code Status: Full Resuscitation

Allergies: Penicillin

List Recent

Print 5 minutes ago

Inpatient Summary

Admit Checklist

Vital Signs

Medication History

Medication Reconciliation

Allergies

Problem Management

Histories

Reconcile Orders

Admit Orders

Document H&P

History of Present Illness

Review of Systems

Physical Exam

Impression & Plan

Quality Measures

Quick Orders

Documents

Quality Measures

Summary

Vital Signs

All Visits

	Latest		Previous
Temp	38	37.0	38.2
	01/15/12 16:06	06/08/10 16:28	03/18/10 23:16
HR	75	88	80
	01/15/12 16:06	06/08/10 16:31	03/18/10 23:16

Home Medications (4)

All Visits

Rx: atorvastatin 20 mg oral tablet 20 mg1 tab(s), PO, Once Daily 30 tab(s) 0 refills

Rx: Digitek 0.25 mg oral tablet 0.25 mg1 tab(s), PO, Once Daily 30 tab(s) 0 refills

Rx: metformin 500 mg oral tablet 500 mg1 tab(s), PO, BID 60 tab(s) 0 refills

Rx: metoprolol 50 mg oral tablet 50 mg1 tab(s), PO, BID 60 tab(s) 0 refills

Renew

Cancel/DC

Complete

Routing: None Defined

Sign

Medication Reconciliation (4)

Problems

All Visits

Classification: All

Add new as: This Visit

This Visit (0)

4 Active (4)

Benign essential hypertension

CAD - Coronary artery disease

Diabetes mellitus type II

Hypercholesterolemia

Historical (7)

New Order Entry

Selected visit

McCoy, Henry - BWMC 008-259 Opened by Troemel MD, Phyllis

TaskEditViewPatientChartLinksNotifications (Loading)OptionsCurrentAddHelp

HomeLinksNew Sticky NoteView Sticky NotesTear OffAttachChargesCharge EntryExitCalculatorMessage SenderAdHocCommunicate

McCoy, Henry

McCoy, Henry

Age: 72 years

Results: Not Subscribed

Sex: Male

Isolation: MRSA

Location: BW25S; 25S02; 01

Code Status: Full Resuscitation

Allergies: Penicillin

ListRecent

Inpatient Summary

Print5 minutes ago

Admit Checklist

Vital Signs

Medication History

Medication Reconciliation

Allergies

Problem Management

Histories

Reconcile Orders

Admit Orders

Document H&P

History of Present Illness

Review of Systems

Physical Exam

Impression & Plan

Quality Measures

Quick Orders

Documents

Quality Measures

Summary

Vital Signs

All Visits

	Latest		Previous
Temp	↑ 38 01/15/12 16:06	37.0 06/08/10 16:28	↑ 38.2 03/18/10 23:16
HR	75 01/15/12 16:06	88 06/08/10 16:31	80 03/18/10 23:16

Home Medications (4)

All Visits

Rx: atorvastatin 20 mg oral tablet 20 mg1 tab(s), PO, Once Daily 30 tab(s) 0 refills

Rx: Digitek 0.25 mg oral tablet 0.25 mg1 tab(s), PO, Once Daily 30 tab(s) 0 refills

Rx: metformin 500 mg oral tablet 500 mg1 tab(s), PO, BID 60 tab(s) 0 refills

Rx: metoprolol 50 mg oral tablet 50 mg1 tab(s), PO, BID 60 tab(s) 0 refills

Renew

Cancel/DC

Complete

Routing: None Defined

Sign

Medication Reconciliation (4)

Problems

All Visits

Classification: All

Add new as: This Visit

ch pa ex

Perpetrator of child abuse by ex-partner (E967.3)

Chest pain on exertion (786.50)

Chest pain, exertional (786.50)

Exertional chest pain (786.50)

Acute exacerbation of chronic paranoid schizophrenia (295.34)

Schizophrenia, paranoid, chronic with acute exacerbation (295.34)

Paranoid schizophrenia, chronic condition with acute exacerbation (295.34)

Paranoid type schizophrenia, chronic state with acute exacerbation (295.34)

Deep necrosis of underlying tissues due to burn (deep third degree) of chest wall, excluding breast and nipple, with loss of a body part (942.52)

Deep necrosis of underlying tissues due to burn (deep third degree) of chest wall, excluding breast and nipple, without mention of loss of a body part (942.42)

Selected visit

Menu - Inpatient


McCoy, Henry - BWMC 008-259

Opened by Troemel MD, Phyllis

TaskEditViewPatientChartLinksNotifications (Loading)OptionsCurrentAddHelp

HomeLinksNew Sticky NoteView Sticky NotesTear OffAttachChargesCharge EntryExitCalculatorMessage SenderAdHocCommunicate

McCoy, Henry



McCoy, Henry

Age: 72 years
Results: Not Subscribed

Sex: Male
Isolation: MRSA

Location: BW25S; 25S02; 01
Code Status: Full Resuscitation

Allergies: Penicillin

ListRecent

Inpatient Summary

Print5 minutes ago

Admit Checklist

Vital Signs

Medication History

Medication Reconciliation

Allergies

Problem Management

Histories

Reconcile Orders

Admit Orders

Document H&P

History of Present Illness

Review of Systems

Physical Exam

Impression & Plan

Quality Measures

Quick Orders

Documents

Quality Measures

Summary

Vital Signs

All Visits

	Latest		Previous
Temp	↑ 38 01/15/12 16:06	37.0 06/08/10 16:28	↑ 38.2 03/18/10 23:16
HR	75 01/15/12 16:06	88 06/08/10 16:31	80 03/18/10 23:16

Home Medications (4)

All Visits

Rx: atorvastatin 20 mg oral tablet 20 mg1 tab(s), PO, Once Daily 30 tab(s) 0 refills

Rx: Digitek 0.25 mg oral tablet 0.25 mg1 tab(s), PO, Once Daily 30 tab(s) 0 refills

Rx: metformin 500 mg oral tablet 500 mg1 tab(s), PO, BID 60 tab(s) 0 refills

Rx: metoprolol 50 mg oral tablet 50 mg1 tab(s), PO, BID 60 tab(s) 0 refills

Renew

Cancel/DC

Complete

Routing: None Defined

Sign

Medication Reconciliation (4)

Problems

All Visits

Classification: All

Add new as: This Visit

This Visit (1)

*Chest pain on exertion (786.50)

Active (4)

Benign essential hypertension

CAD - Coronary artery disease

Diabetes mellitus type II

Hypercholesterolemia


Historical (7)

New Order Entry


Selected visit






Plus...a New Look and Feel



 **Gordan, Ted** DOB: 12/21/1991 Age: 29 years Sex: Male MRN: BE100000024 Attending: Bennett, Dustin Cer
Allergies: Demerol HCl Wt: 69 kg Inpatient FIN: 29BE200000025 [Admit Dt: 11/20/2006 10:25 AM] Loc: 1N, Baseline East

- Menu - Ambulatory
- Overview
- Review Chart
- Results Review
- Diagnoses and Problems
- Documentation
- Form Browser
- Notes + Add
- Histories
- Flowsheet + Add**
- MAR
- MAR Summary
- Allergies + Add
- Medication List + Add
- Health Maintenance
- Immunization Schedule
- Growth Chart
- Demographics
- Activities and Interventions
- Patient Care Summary
- Reference
- Medication Profile
- Procedures and Diagnoses
- Generic View

Flowsheet  Print 5 minutes ago

Flowsheet: All Results Flowsheet ... Level: ALLRESLTSC ☒ Table ☒ Group ☒ List

Last 400 Results						
Results	8/30/2011 9:11:42 PM	8/30/2011 9:11:42 PM	8/30/2011 9:11:42 PM	8/30/2011 9:11:42 PM	8/30/2011 9:11:42 PM	8/30/2011 9:11:42 PM
Valuable/Belongings						
Contact lenses	0		2	4		
Safe envelope number		1			8	
Vital Signs						
Height		4	4	5		
Weight						
Braden Skin Assessment						
Sensory Perception						
Moisture		2	5		9	12
Activity						
Mobility	4	0	0	0		
Nutrition						
Friction and Shear			6			
General Chemistry						
Chloride		7	18	4	45	
Sodium						
CT						
CT Abdomen w/Contrast	3			3		
Mammography						
MA Mammogram Bilateral						
MA Mammogram Screening		0	1	1	0	
Test						
Weight for Med			9			
Transcribed Documents						

- Navigator**
- ☐ Admission on Arrival
 - ☐ Admission General Info
 - ☒ Advance Directives
 - ☒ Valuable/Belongings
 - ☒ Vital Signs
 - ☒ Braden Skin Assessment
 - ☒ General Chemistry
 - ☒ CT
 - ☒ Mammography
 - ☒ Other Results
 - ☒ Test
 - ☒ Transcribed Document

Case, Justin Cerner - BE10000024 Opened by SYSTEM

TaskEditViewPatientChartLinksNotifications (Loading)OptionsCurrentAddHelp

HomeLinksNew Sticky NoteView Sticky NotesTear OffAttachChargesCharge EntryExitCalculatorMessage SenderAdHocCommunicate

Justin, CaseStevens, EmilyBrown, Mike

Case, Justin

DOB: 12/21/1991Age: 29 yearsSex: MaleMRN: BE100000024Attending: Bennett, Dustin Cer

Allergies: Demerol HClWt: 69 kgInpatient FIN: 29BE200000025 [Admit Dt: 11/20/2006 10:25 AM]Loc: 1N, Baseline East

Orders

Print5 minutes ago

+ AddDocument Medication by HxReconciliationCheck InteractionsExternal Rx HistoryRx Plans (0): Error

OrdersMedication ListDocument In Plan

Display : All Orders (All Statuses)Customize View

Orders

Orders for Signature

Plans

Document In Plan

Suggested Plans (0)

Orders

☐ Non Categorized

☐ Condition

☐ Vital Signs

☐ Activity

☐ Diet

☒ Patient Care

☐ IV Solutions

☒ Medications

☐ Laboratory

☐ Diagnostic Tests

☐ Special

☒ Consults

☐ Medical Supplies

Reconciliation History

Diagnoses and Problems

Related Results

Order NameStatusDetails

▲ Patient Care

📄

Skin Care Protocol

Ordered

08/06/2011 14:37:07 CDT
Order entered secondary to documenting a Braden Score less tha ...

▲ Medications

📄

gentamicin

Pending

60 mg, Injection, IV Piggyback, TID, Start date 02/05/2011 22:39:00 CST 2 days(s), Stop date 02/07/2011 22:38:00 CST, Infuse over 30 minute(s) ...

📄

Aspirin

Ordered

325 mg, Tab, Oral, q4hr, PRN Pain, Routine, Start date 01/31/2011

📄

albuterol (Proventil)

Modify

2mg = 1 tab(s), form: Tab, Oral, BID, first does 12/18/2011 11:16:21

📄

acetaminophen

Ordered

325 mg, Tab, Oral, q4hr, PRN Pain, Routine, Start date 01/31/2011

📄

acetaminophen

Deleted

276 mg, Susp, Oal, q4hr, PRN Pain, Routine, Start date 12/12/2011

📄

acetaminophen

Deleted

2mg = 1 tab(s), form: Tab, Oral, BID, first does 12/18/2011 11:16:21

▲ Consults

📄

Consult to Nutritionist Adult

Pending

08/06/2011 14:37:06 CDT
Order entered secondary to documenting patient is on a special med

Details for albuterol (Proventil)

DetailsOrder CommentsDiagnosis

Order details

Route of Administration

Frequency (BID)

PRN

PRN reason

First Dose Priority

Duration from now to end

Duration unit

First Dose Date/

Stop Date/Time

+

📄

📊

Detail values

Buccal

GTUBE

JTUBE

NG

Oral

PO

SL

Dx Table

Orders For Signature

Displayed: All Active Orders | All Inactive Orders

PowerChart Touch Demonstration

Dr. Doug Dickey





Financial Overview

Marc Naughton

Executive Vice President and Chief Financial Officer

2011 Financial Highlights

■ Income statement

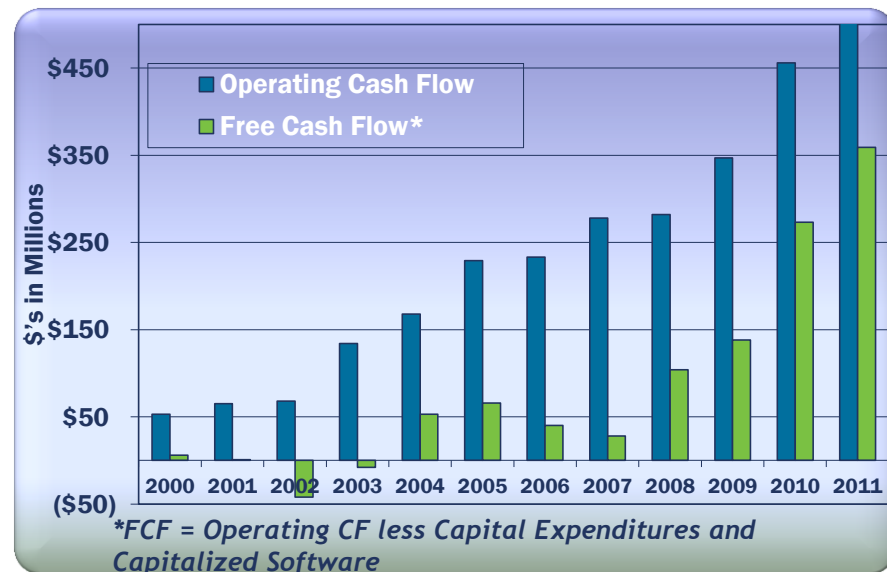
- Bookings
 - Up 37% to \$2.7B
- Revenue
 - Up 19% to \$2.2B
- Operating Margin
 - Up 140 basis points to 22.2%
- EPS
 - Up 26% to \$1.87
 - Met or exceeded guidance 48 / 49 quarters

■ Balance Sheet

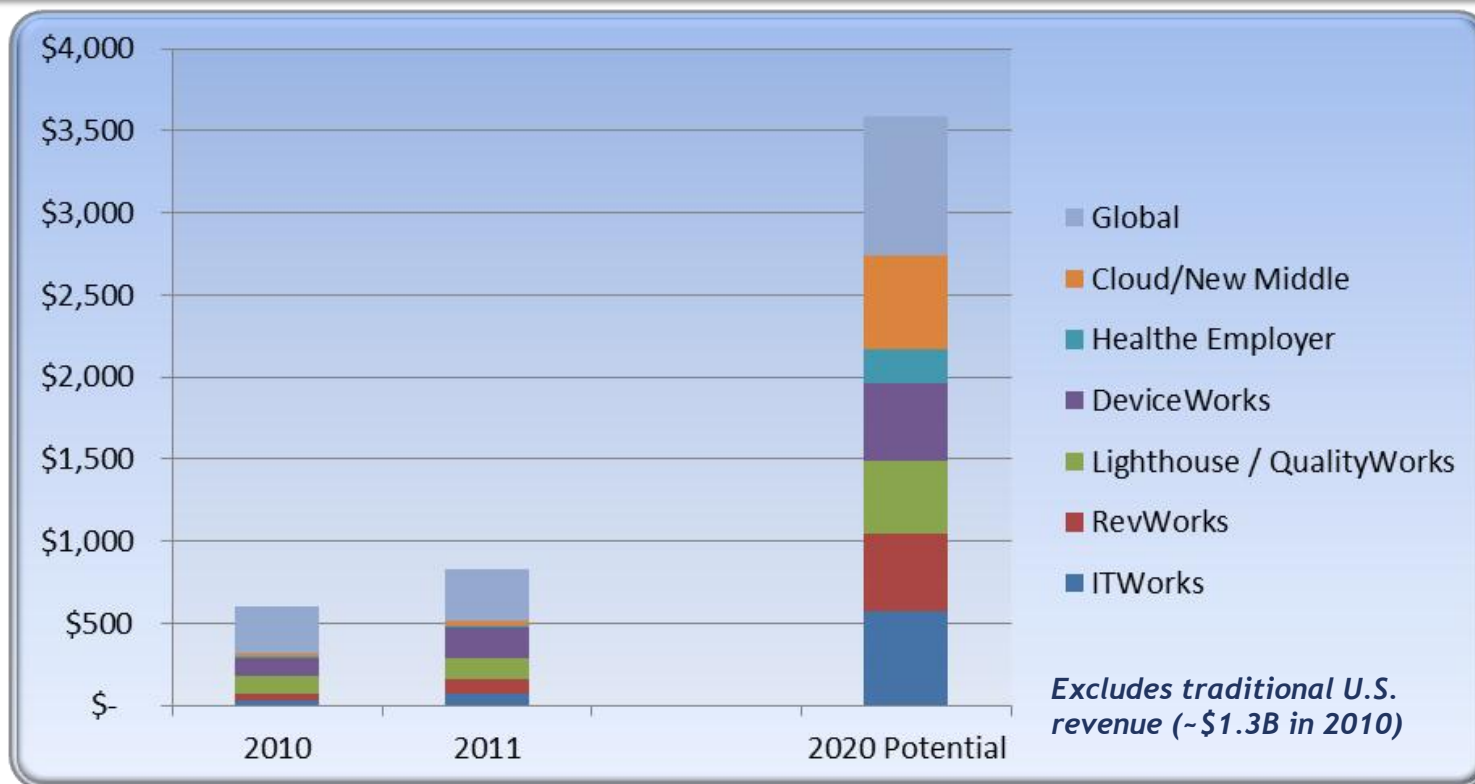
- \$1.1B cash and investments
- \$127M debt

■ Cash Flow

- Free cash flow up 31% to \$359M

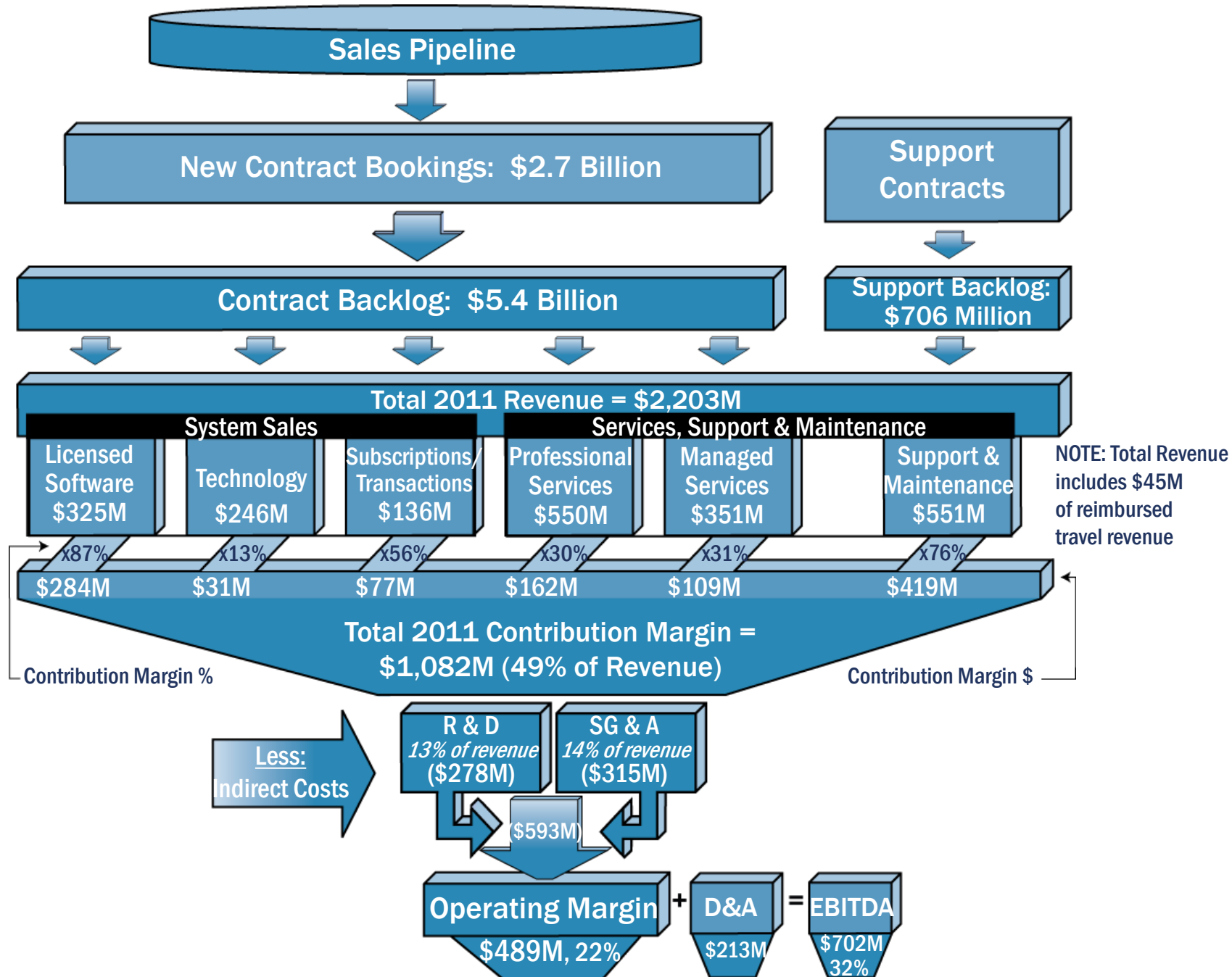


New Initiative Potential Revenue



- Reaching potential in these areas would support double-digit revenue CAGR for Cerner through 2020 even if traditional U.S. revenue were flat.
- A large portion of growth is services, but each area has a high margin software or content component that supports ongoing margin expansion.

Cerner Business Model



2011 Compared to 2010

- Revenue up 21%
- Contribution Margin % flat

- Revenue up 28%
- Contribution Margin up to 56% from 52%
- Higher mix of subscriptions and op exp leverage

- Revenue up 20%
- Contribution margin up to 31% from 29% on fixed cost leverage

Support Contracts

Support Backlog: \$706 Million

Licensed Software
\$325M

System Sales
Technology
\$246M

Subscriptions/ Transactions
\$136M

Professional Services
\$550M

Managed Services
\$351M

Support & Maintenance
\$551M

NOTE: Total Revenue includes \$45M of reimbursed travel revenue

x87%
\$284M

x13%
\$31M

x56%
\$77M

x30%
\$162M

x31%
\$109M

x76%
\$419M

Total 2011 Contribution Margin = \$1,082M (41% of Revenue)

Contribution Margin

Contribution Margin \$

- Revenue up 39%
- Growth in device resale offset flat Hardware and Sublicensed software
- Contribution margin up to 13% from 11% on op exp leverage

- Revenue up 21%
- Contribution Margin % flat
- Absorbed initial training cost of new hires
- Expect margins to increase in 2012

- Revenue up 6%
- Contribution Margin % consistent with last year

D&A
\$213M

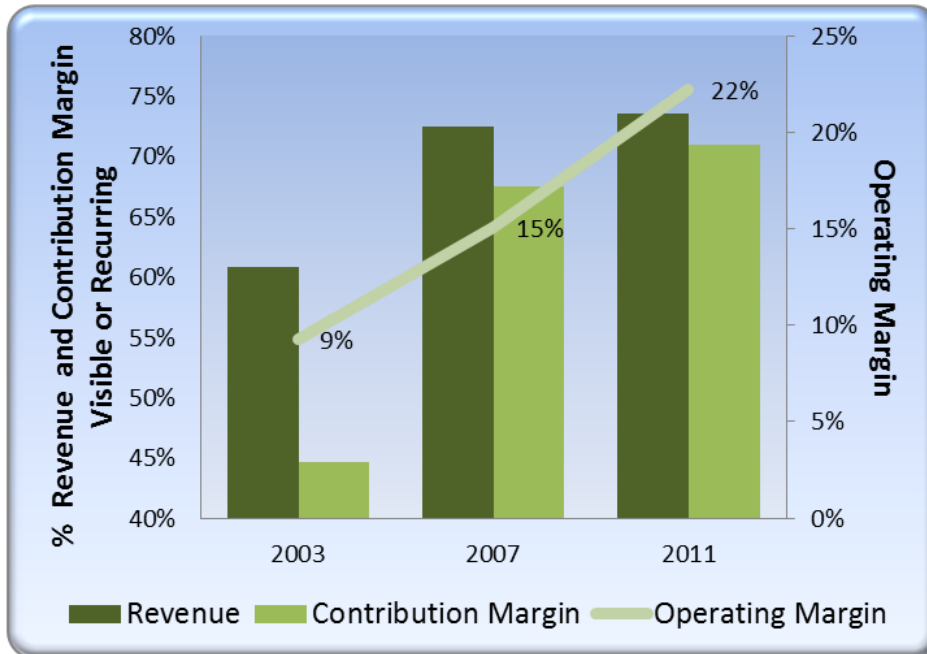
Increasing Visibility and Profitability

■ Recurring and Visible Revenue and Margin

- 74% of Revenue, up from 61% in 2003
- 71% of Contribution Margin, up from 45%

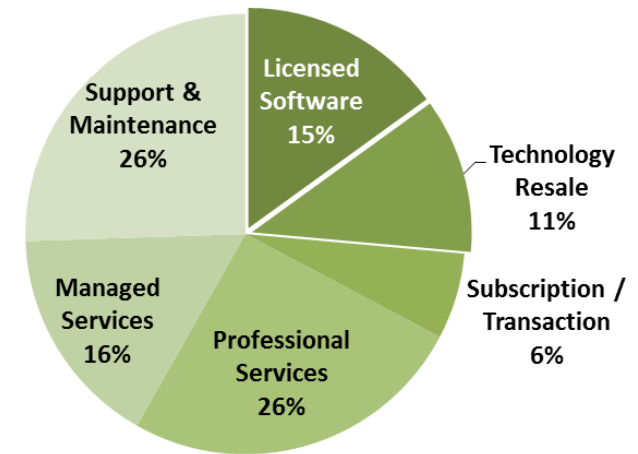
■ Strong Operating Margin Expansion

- Up from 9% to 22% since 2003
 - *Growth of Services Revenue and Margins*
 - *R&D and SG&A Leverage*
- Expect 100-200 basis points annual margin expansion



2011 Revenue Mix

(before reimbursed travel revenue)



2011 Revenue Mix Summary

Recurring (48%): Managed Services, Support & Maintenance, Subscriptions

Visible (26%): Professional Services

Non-Recurring (26%): Licensed Software, Technology Resale

Guidance as of February 7, 2012

■ First quarter 2012

- Revenue between \$565 million and \$585 million
- Adjusted diluted earnings per share before share-based compensation expense between \$0.48 and \$0.50
- New business bookings between \$560 million and \$600 million

■ 2012

- Revenue between \$2.425 billion and \$2.5 billion
- Adjusted diluted earnings per share before share-based compensation expense between \$2.20 and \$2.30

■ **Share-based compensation expense to reduce diluted earnings per share by \$0.03 in the first quarter of 2012 and \$0.12 to \$0.14 for the year.**

Reg FD Disclaimer – This slide reflects guidance provided in the most recent earnings press release and does not imply a reiteration or update of guidance.



Chairman's Comments

Neal Patterson

Chairman, Chief Executive Officer, President and Co-Founder



Questions

Appendix - Non-GAAP Financial Measures

The presentation of Adjusted Net Earnings and Free Cash Flow, non-GAAP financial measures, are not meant to be considered in isolation, as a substitute for, or superior to, Generally Accepted Accounting Principles (GAAP) results and investors should be aware that non-GAAP measures have inherent limitations and should be read only in conjunction with the Company's consolidated financial statements prepared in accordance with GAAP. Adjusted Net Earnings and Free Cash Flow may also be different from similar non-GAAP financial measures used by other companies and may not be comparable to similarly titled captions of other companies due to potential inconsistencies in the method of calculations. The Company believes that Adjusted Net Earnings and Free Cash Flow are important to enable investors to better understand and evaluate its ongoing operating results and allows for greater transparency in the review of its overall financial, operational and economic performance. The Company provides earnings with and without stock options expense because earnings excluding this expense is used by management along with GAAP results to analyze its business, make strategic decisions and for management compensation purposes. The Company provides cash flow with and without capital purchases and software development cost because operating cash flows excluding these expenditures takes into account the capital expenditures necessary to operate our business.

Reconciliation of 2011 GAAP Results to Non-GAAP Results*		
(\$ in millions except Earnings Per Share)	Operating Earnings	Operating Margin %
GAAP Operating Earnings	\$ 460	20.9%
Share-based compensation expense	\$ 29	
Adjusted Operating Earnings	\$ 489	22.2%
	Net Earnings	Diluted Earnings Per Share
GAAP Net Earnings	\$ 307	\$ 1.76
Share-based compensation expense	\$ 29	0.17
Income tax benefit of share-based compensation	\$ (11)	(0.06)
Adjusted Net Earnings (non-GAAP)	\$ 325	\$ 1.87
Reconciliation of GAAP Operating Cash Flow to Non-GAAP Free Cash Flow		Cash Flow
Cash flows from operating activities		\$ 546
Capital purchases		\$ (105)
Capitalized software development costs		\$ (83)
Free cash flow (FCF)		\$ 359
*More detail on these adjustments and management's use of Non-GAAP results is in our 2011 Form 10-K and 8-Ks.		

Appendix: Historical Contribution and Operating Margin

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Contribution Margin									
Licensed Software	89%	88%	85%	84%	89%	88%	88%	87%	87%
Technology Resale	17%	20%	13%	11%	12%	12%	11%	11%	13%
Subscription / Transaction	10%	12%	37%	43%	49%	50%	52%	52%	56%
Professional Services	15%	23%	27%	27%	29%	29%	28%	30%	30%
Managed Services	18%	20%	25%	25%	25%	26%	28%	29%	31%
Support & Maintenance	53%	57%	62%	65%	69%	72%	74%	76%	76%
Total Contribution Margin	41%	45%	46%	46%	47%	48%	50%	50%	49%
Indirect Costs % of Revenue									
R&D	19%	19%	18%	18%	17%	16%	16%	14%	13%
SG&A	13%	14%	15%	15%	15%	15%	16%	15%	14%
Total	31%	33%	33%	32%	32%	31%	32%	29%	27%
Operating Margin	9.3%	12.4%	12.6%	13.4%	15.1%	16.6%	18.5%	20.8%	22.2%