



CSOHIMSS FALL CONFERENCE

MARCUS BOST, CHIEF INFORMATION OFFICER



Healthcare Odyssey – Beyond Meaningful Use

- 2006 The Board of Trustees endorses the Health System plan to implement a fully integrated, paperless, clinical environment, which will be available to all active members of the Adena medical staff.
- 2007 SOHCN FCC Rural Pilot Project.
- 2009 “Meaningful Use” announced
- 2010 Access initiative
- 2011 eHealth
 - Telemedicine & Portals



The IT Vision

- Improve Quality and Performance in Healthcare
 - Ensure access to information when needed
 - Objective is to improve Community Health
- Identify major technology trends (e.g. Telemedicine, etc.)
- Surface issues that require management action (e.g. quality, compliance, etc.)
- Create innovative opportunities for change

Adena Primary Areas of Focus

- Electronic Health Record
- eHealth
 - Portals
 - Telemedicine
- Communication Plan
- SOHCN



Healthcare industry *will* undergo major changes...



4 Key strategies that leading hospitals will pursue in era of reform (Moody's May 2010)

- Growth strategies to drive revenues and achieve critical mass
- Physician alignment to prepare for global reimbursement
- Investment in more information technology to further cost and quality initiatives
- Effective management and governance, driving long-term financial sustainability



Electronic Health Record

- An electronic means of keeping a complete record of patients' care, regardless of the care setting (inpatient, outpatient, physician office, urgent care, ED, etc.)
- **BENEFITS:**
 - Medication tracking and reconciliation
 - Order entry
 - Instantaneous results reporting
 - Registration
 - Accessibility
 - Flexibility



Change Management

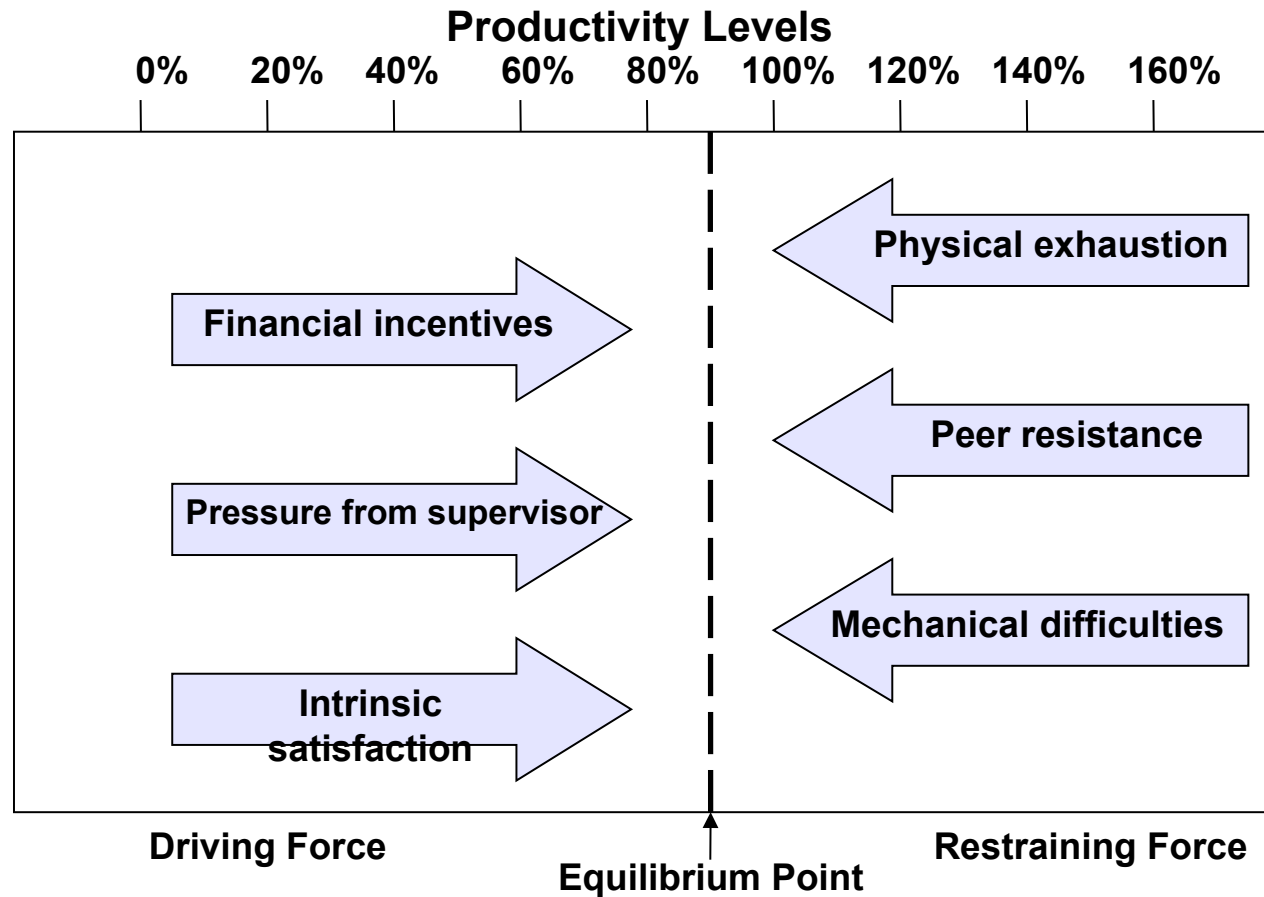
The following seven factors have been recommended as crucial to the success of a change effort:

- 1. Having a change sponsor and champion –
What's the difference between the two?**
- 2. Creating a shared need (win/win) short-term**
- 3. Creating a shared vision (motivation) long-term**
- 4. Mobilizing commitment - empowerment**
- 5. Changing systems, structures, and processes**
- 6. Monitoring progress through real time metrics and time lines**
- 7. Making change last through controls**



Kurt Lewin's Force Field Analysis

Change occurs when the forces pushing in one direction are greater than the forces pushing in the opposite direction.



Dalton's Change Model:

- **According to the Dalton Change Model, change will not occur unless there is sufficient pain and tension to motivate it.**
- **Change needs to be supported by a credible source.**
- **Dalton's model identifies four sub-processes that involve movement away from one state to movement toward an opposite state, to help ensure that the change persists:**
 1. **generalized goals —> specific objectives**
 2. **former social ties —> new relationships**
 3. **self doubt —> heightened self-esteem**
 4. **external motives for change —> internal motive for change**



Progress to Date

- PACS (complete & improved)
 - Digital Mammography (2008)
- Document Imaging (complete)
- Paperless OR (complete)
 - Patient Status Boards
- Clinical Documentation All Units
- Emergency Department – CPOE (complete)
 - Patient Status Boards
 - ED – Documentation (9/10)
- Oncology – (complete)
- Physician Practices – 8/12 completion
- \$16.8 Million in Grants for SOHCN
- Stroke Telemedicine project
- Radiology IT Upgrade – (complete)
- Transcription Upgrade (9/10)



EMR Adoption Model Structure Ensures Objectivity

- All application capabilities within each stage must be operational before that stage can be achieved.
- All lower stages must have been achieved before a higher level will be considered as achieved.
- A hospital can achieve Stages 3-6 if it has met all of the application requirements for a single patient care service (e.g. single nursing floor, cardiology service).
- Using the rules above, additional points are given for the implementation of applications in stages higher than the one fully achieved by the healthcare organization.. In this fashion, other implementation paths than those prescribed by the stages can be taken into consideration for correlation with quality and financial research.

EMR Adoption Model		
Stage	Cumulative Capabilities	% of Hospitals
Stage 7	Medical record fully electronic; CDO able to contribute to ICEHR as byproduct of SEHR	0.0%
Stage 6	Physician documentation (structured templates), full CDSS (variance & compliance), full PACS	0.1%
Stage 5	Closed loop medication administration	0.5%
Stage 4	CPOE, CDSS (clinical protocols)	3.0%
Stage 3	Clinical documentation (flow sheets), CDSS (error checking), PACS available outside Radiology	18.0%
Stage 2	CDR, CMV, CDSS inference engine, may have Document Imaging	38.8%
Stage 1	Ancillaries – Lab, Rad, Pharmacy	18.9%
Stage 0	All three Ancillaries not installed	20.7%

December 31, 2006

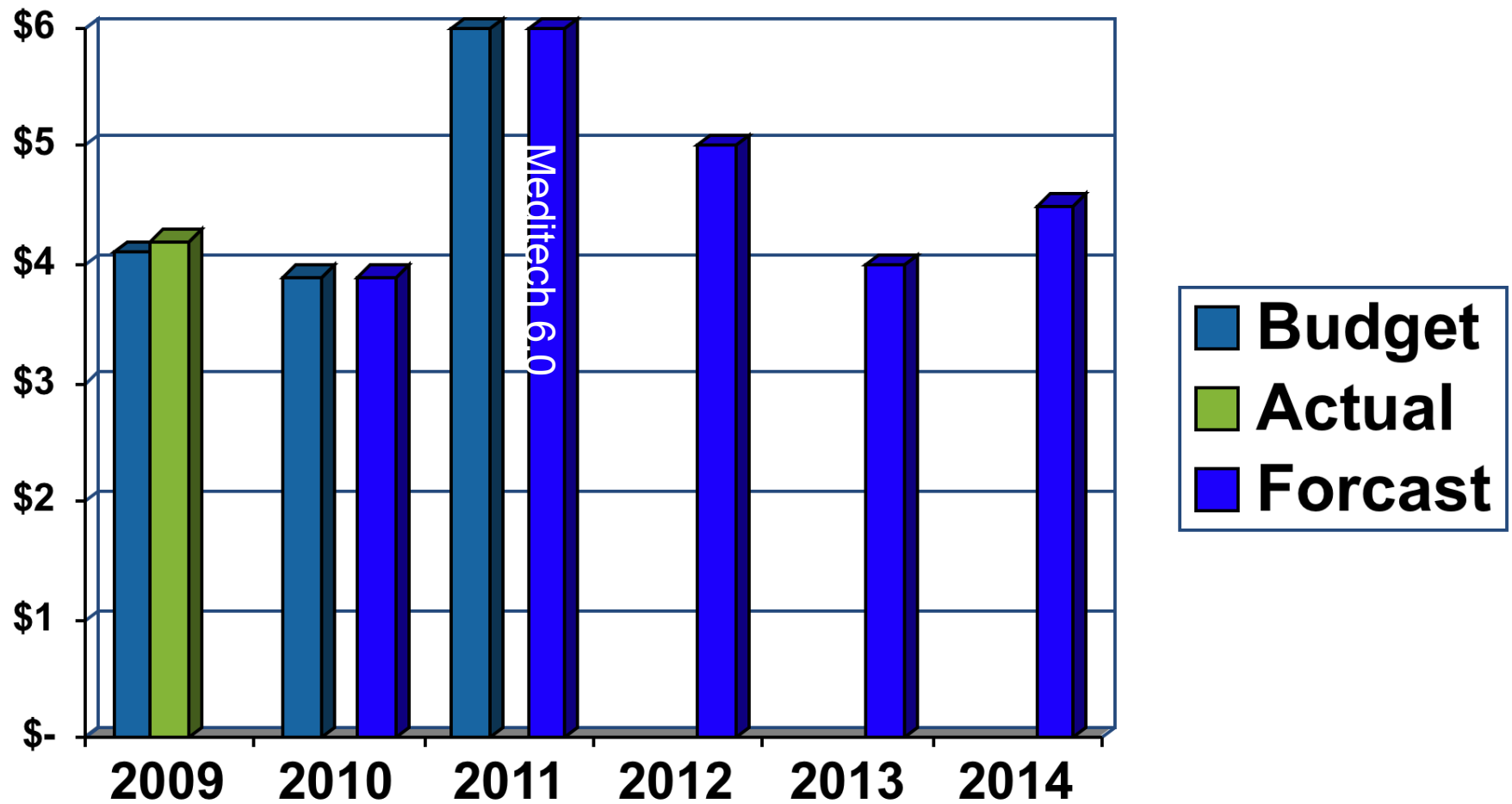
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Stage	Description
0	<ul style="list-style-type: none"> • Some clinical automation may exist. • Laboratory and/or pharmacy and/or radiology not installed.
1	<ul style="list-style-type: none"> • All three major ancillaries (laboratory, pharmacy and radiology) installed.
2	<ul style="list-style-type: none"> • Major ancillary clinical systems feed data to clinical data repository (CDR) that provides physician access for retrieving and reviewing results. • CDR contains a controlled medical vocabulary (CMV) and the clinical decision support system and rules engine for rudimentary conflict checking. • <i>Optional for extra points</i> - Information from document imaging systems may be linked to the CDR.
3	<ul style="list-style-type: none"> • Clinical documentation installed (e.g. vital signs, flow sheets, nursing notes, care plan charting, and/or the electronic medication administration record (eMAR) system) are scored with extra points and are implemented and integrated with the CDR for at least one service in the hospital. • First level of clinician decision support is implemented to conduct error checking with order entry (i.e. drug/drug, drug/food, drug/lab, conflict checking normally found in the pharmacy). • Some level of medical image access from picture archive and communication systems (PACS) is available for access by physicians via the organization's intranet or other secure networks.
4	<ul style="list-style-type: none"> • Computerized practitioner/physician order entry (CPOE) for use by any clinician added to nursing and CDR environment. • Second-level of clinical decision support related to evidence-based medicine protocols implemented. • If one patient service area has implemented CPOE and completed previous stages, this stage has been achieved.
5	<ul style="list-style-type: none"> • The closed loop medication administration environment is fully implemented in at least one patient care service area. The eMAR and bar coding or other auto-identification technology, such as radio frequency identification (RFID), are implemented and integrated with CPOE and pharmacy to maximize point-of-care patient safety processes for medication administration.
6	<ul style="list-style-type: none"> • Full physician documentation/charting (structured templates) are implemented for at least one patient care service area. • A full complement of radiology PACS systems is implemented (i.e. all images, both digital and film-based, are available to physicians via an intranet or other secure network.
7	<ul style="list-style-type: none"> • Clinical information can be readily shared via electronic transactions or exchange of electronic records with all entities within a regional health network (i.e., other hospitals, ambulatory clinics, sub-acute environments, employers, payers and patients).

IT EHR Capital Spending 2009-2014

Millions



Patient Access Vision

To provide patients with convenient access to clinical and specialty care within the region while building referral networks and expanding geographic reach.



Patient Access Objectives

PATIENT NEEDS

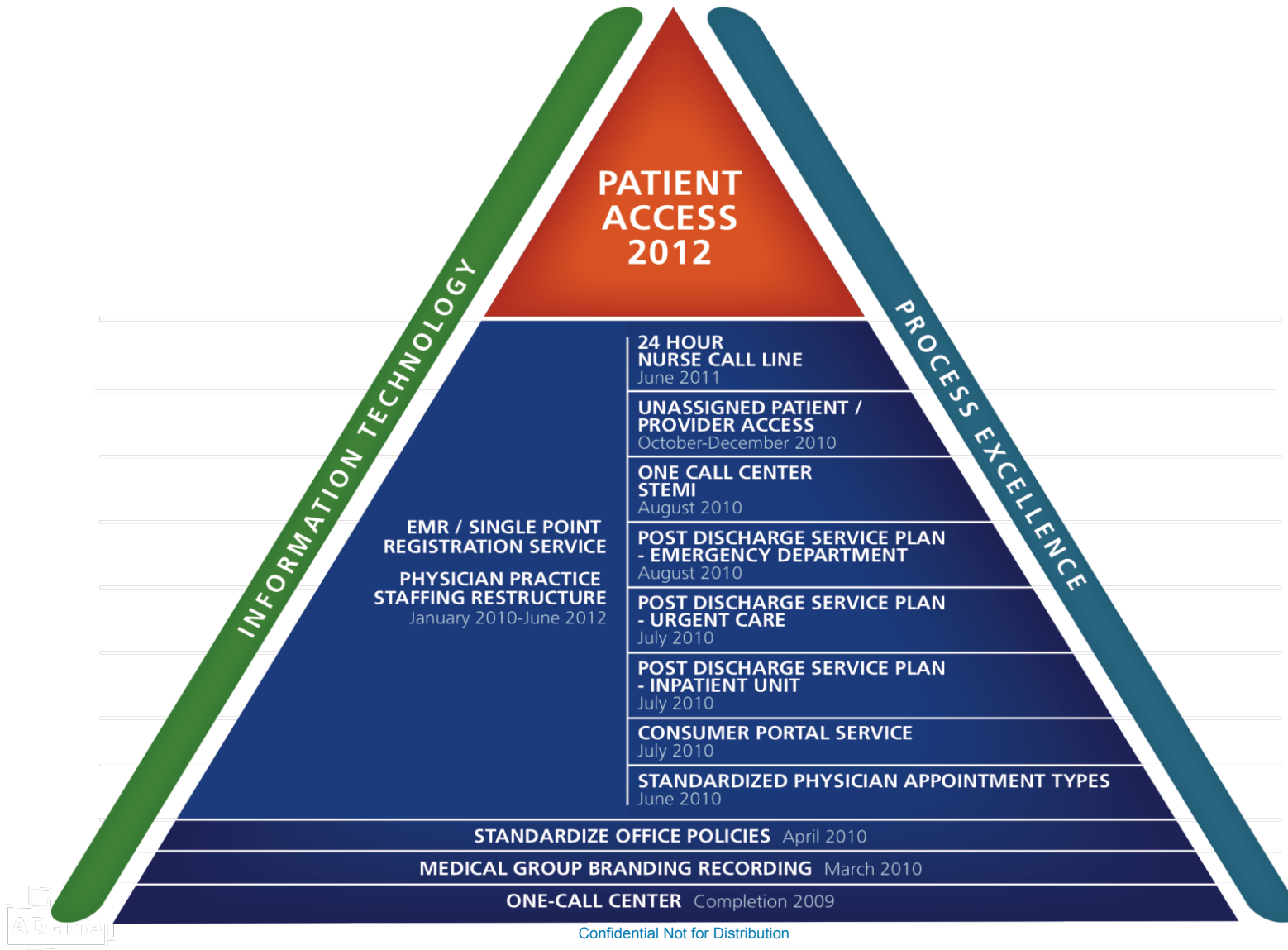
- Timely access
- Convenience
- Primary Care
- Specialty care
- Efficient operations
- Supportive environment

HEALTH SYSTEM NEEDS

- Grow share
- Optimize capacity
- Drive referrals
- Deliver high quality care
- Build brand
- Engage physicians



Patient Access Plan





Health System

Disease Focus.... A Shifting Environment

Passage of Health Legislation – Payment Reform

Health Systems Leaders will need to shift thinking:

- From an aggregation of clinical businesses
 - To managing aging patients through coordinated systems based on effective system-wide utilization and information technology flow across networks;
- From managing each care site in episodic manner
 - To patient care models that deliver value through physician leadership, multidisciplinary care and evidence-based practice;
- From Clinical Operations as distinct silos
 - To the Strategic Planning Management Process through which disease planning and design come to life.



CHF focus will add value

Outpatient Value:

Service shifting to lower acuity and being pushed into ambulatory environment – Home Care, OP Clinics, Skilled Nursing facilities, Group Visits

Use of patient navigators/healthcare coaches to guide patients
Information Technology

Telemedicine –Well @ Home Electronic Monitoring

Patient Portal with online messaging, appointments and provider-patient communication

Inpatient Value:

Core Measures

- Adena Metric 81% -since June 2008
- Benchmark best practice metric-94%

Readmission Rates

- Adena Metric 28%
- Benchmark best practice metric – 24%



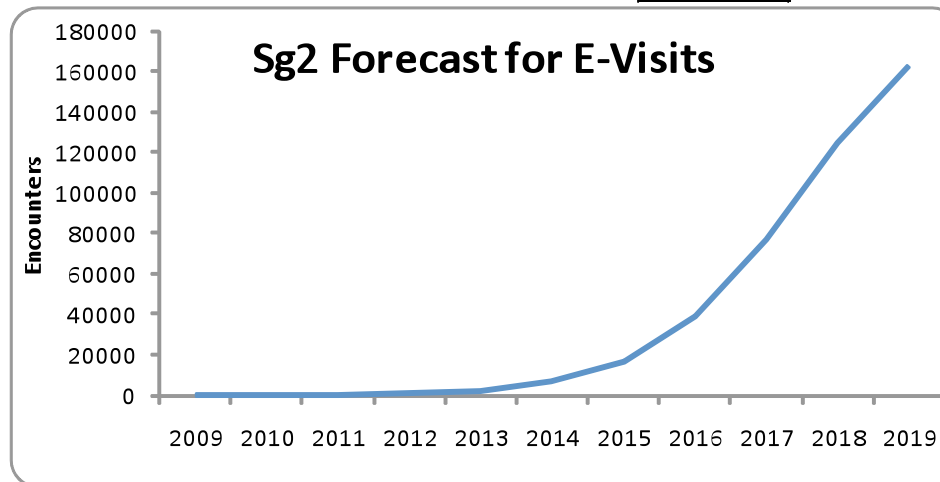
Evidenced Based admission order sets - 50% compliance



CHF E-Visit Forecast

Sg2 forecasts that by the year 2019, 26% of all CHF encounters will be done by an E-visit.

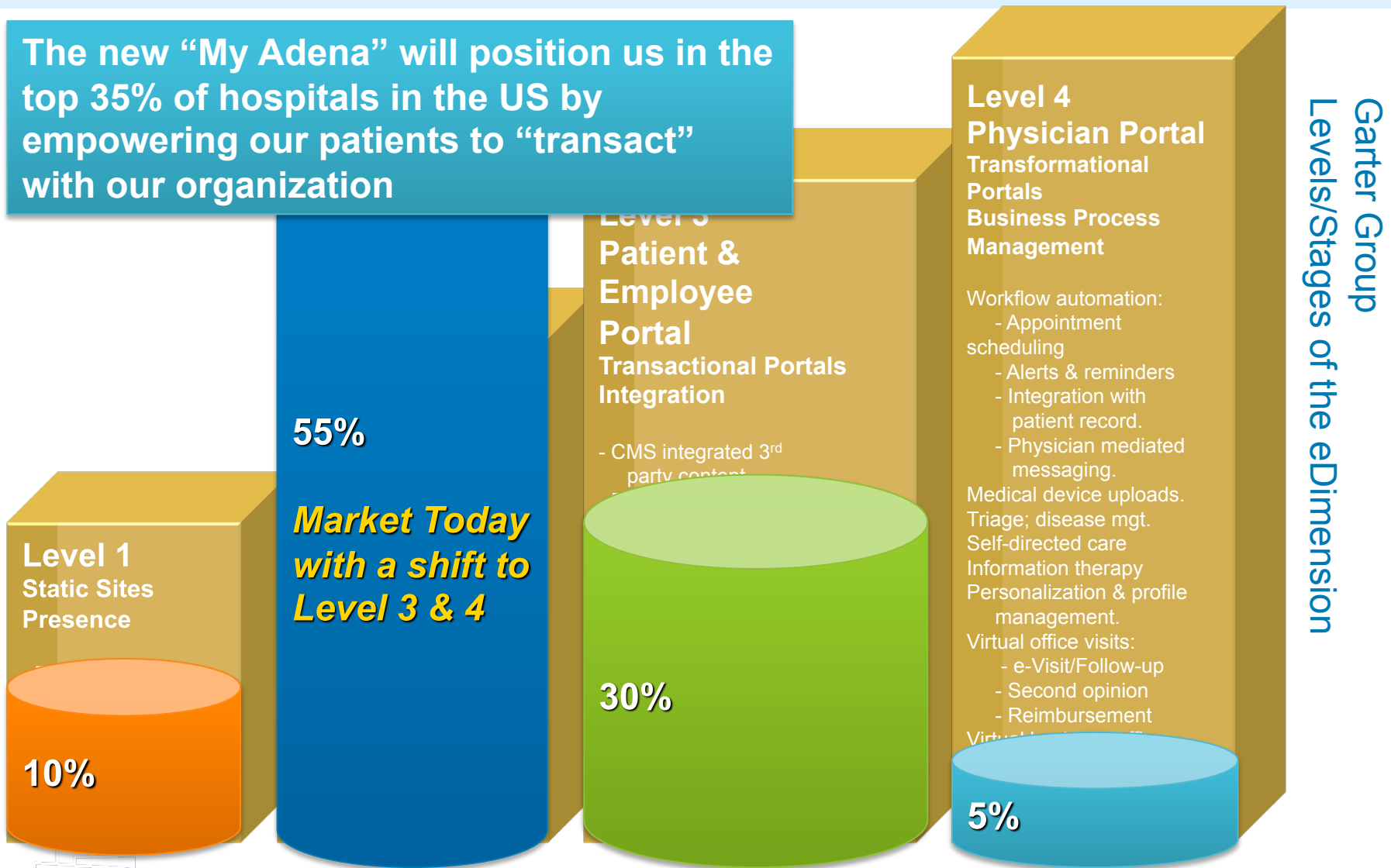
Year	Consultations	Emergency				Total Encounters	Encounter Growth	E-Visits % of Total Encounters
		Room	E-Visits	Office	Other			
2009	10,720	77,422	-	361,866	11,616	461,624		0%
2010	10,894	72,698	48	360,382	11,751	455,773	-1%	0%
2011	11,273	70,710	186	372,650	12,106	466,925	2%	0%
2012	11,936	69,152	681	394,117	12,761	488,647	5%	0%
2013	12,301	65,650	2,219	405,191	13,093	498,454	2%	0%
2014	12,661	61,550	6,512	414,716	13,417	508,856	2%	1%
2015	13,013	56,842	16,979	420,879	13,731	521,444	2%	3%
2016	13,463	51,938	38,967	425,439	14,061	543,868	4%	7%
2017	13,890	45,958	76,541	421,442	14,361	572,192	5%	13%
2018	14,287	38,750	125,041	411,066	14,627	603,771	6%	21%
2019	14,623	30,205	162,556	403,913	14,827	626,124	4%	26%



E Health: Portals

The new "My Adena" will position us in the top 35% of hospitals in the US by empowering our patients to "transact" with our organization

Clinical & Financial Value





E Health: Telemedicine

DEFINITION:

- Telemedicine is the use of medical information exchanged from one site to another via electronic communications to improve patients' health status.
- Closely associated with telemedicine is the term "telehealth," which is often used to encompass a broader definition of remote healthcare that does not always involve clinical services.



Reimbursement kills all Innovation in healthcare

STATE GOVERNMENT RELATIONS

- (4/9/10) Virginia became the 12th state to require health insurers to cover telemedicine services
- Medicare has Telemedicine codes
- Ohio Telemedicine Law is in Committee



Telemedicine Services

- Specialist Referral Services
- Patient Consultation
- Remote Patient Monitoring
- Medical Education
- Consumer Health and Medical Information

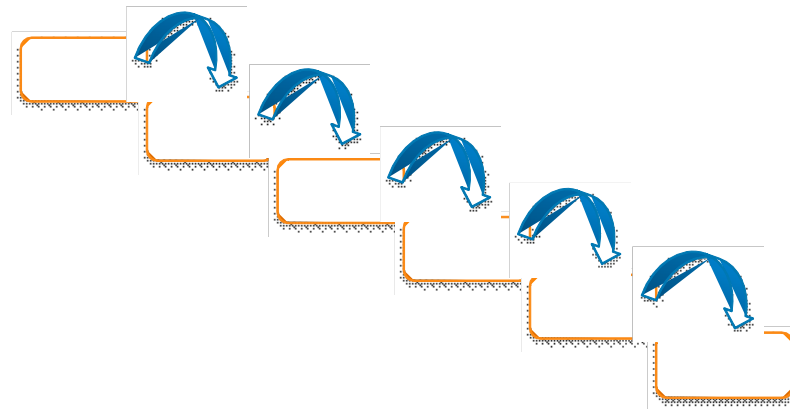
VERSION OF TELEMEDICINE

- Live Video (Synchronized)
- Store and Forward (Asynchronous)

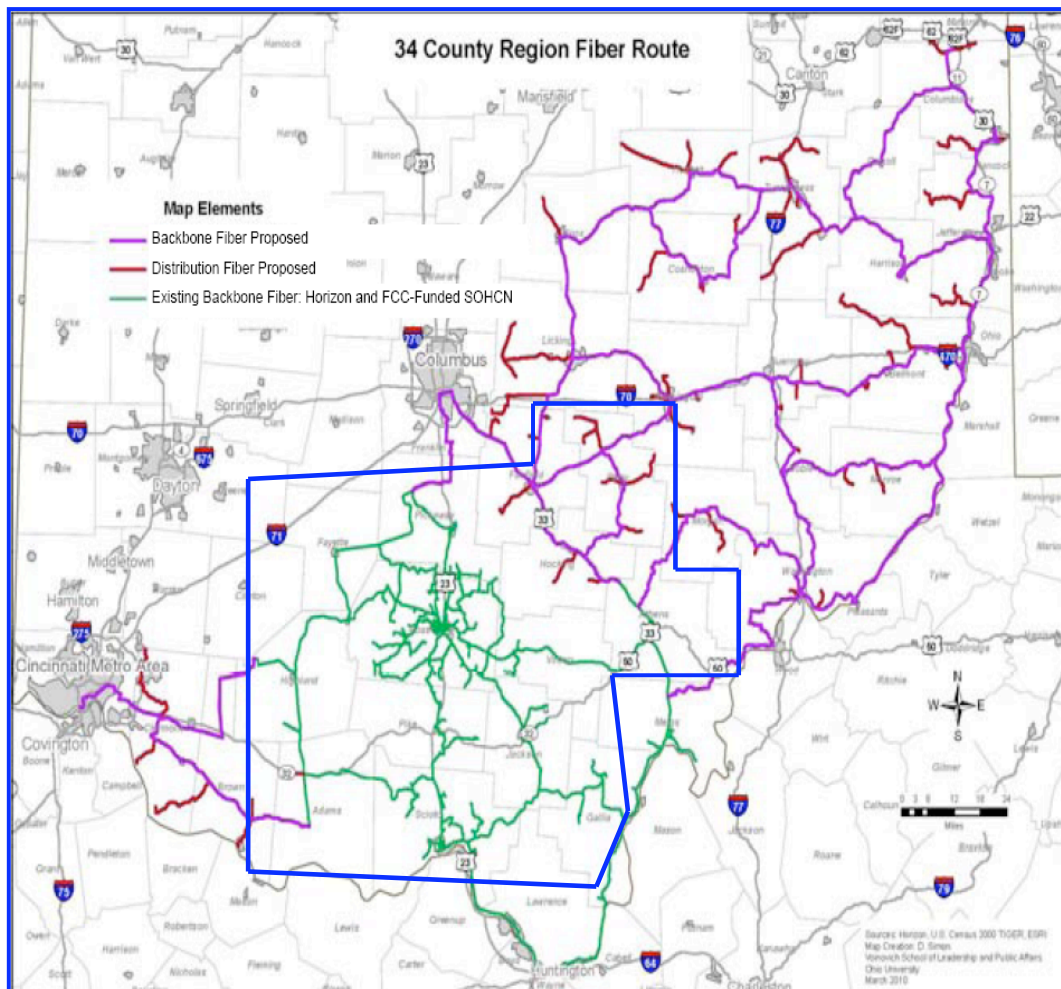


Telemedicine Strategy

- USDA Project
- Regional Strategy for Telemedicine
- Pilot Projects: Nursing Homes, EDs
- Partnerships: NCH, Stroke, OSU
- Next steps: Strategic Planning Management Process for eHealth



SOHCN



Benefits

- Regional Growth & Economic Development
- eHealth
 - Telemedicine
 - Health Portals
- Regional Health Information Exchange
 - Research and Trials

UPDATE

- Construction is 80% Complete
- FCC reviewing Horizon Contracts
 - USAC approval in 90 days
- Project complete 1Q 2011



IT Connection to the Pillars



Employee Experience

- Access to Data
- No searching for Charts
- Access to Scheduling
- Employee Development
- Employee Portal
- Physician Portal

Patient Experience

- Single Point Registration
- E-Prescribing
- Patient Portal
- Telemedicine

Growth

- Integrated EMR
- Paperless Office
- Increased Volumes & Market share
- Customer Portal

Quality Six Sigma

- IT Baseline
- Evidence based care
 - ZYNX
- Med Reconciliation
- E-Prescribing
- BMV
- CPOE
- MEWS
- PQRI
- Data Data Data

Profitability

- Increase Access
 - Volumes
 - Profits
- SOHCN - debt equity
- eHealth
 - Portals
 - Telemedicine
- Better Coding
 - Charge capture
- Decreased Cost (transcription)
- Scheduling (decentralized)



