

UAB HEALTH SYSTEM AMBULATORY EHR IMPLEMENTATION



UAB MEDICINE

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- About UAB Health System
- EHR Vision and Guiding Principles
- Project Scope and Approach
- Benefits and Measures
- Keys to Provider Adoption

University Hospital

- As the cornerstone of UAB Health System, University Hospital is a Teaching Medical Center and Alabama's First Nursing Magnet Hospital
- Alabama's only Level 1 Trauma Center
 - ◆ 1,157 Beds
 - ◆ 72,000 Admissions
 - ◆ 77,500 ED Visits
 - ◆ 1,141 Active Medical Staff



Ambulatory Clinics

- Over 1.1 million ambulatory visits and procedures performed each year in 135 Ambulatory Clinics
- The Kirklin Clinic houses over 33 specialties under one roof



- One Clinical Chart
- Standardize on a single system as the source of truth
 - ◆ Enter data once, use many times, avoid data duplication between systems
- Consistent, system-wide decision support and alerting
- Redesign processes and workflow to maximize information system use

- Cerner Implementation began in 2003
 - ◆ Surgery
 - ◆ UED
 - ◆ Radiology
 - ◆ Pathology

- Inpatient EHR went live in 2008
 - ◆ CPOE and Results Reporting
 - ◆ Nursing and Physician Documentation
 - ◆ Pharmacy with Pyxis Integration
 - ◆ PowerChart Maternity and Fetalink
 - ◆ BMDI with positive patient ID
 - ◆ Device integration rollout for:
 - ◆ Physiologic monitors for ICUs
 - ◆ Ventilator integration for ICUs

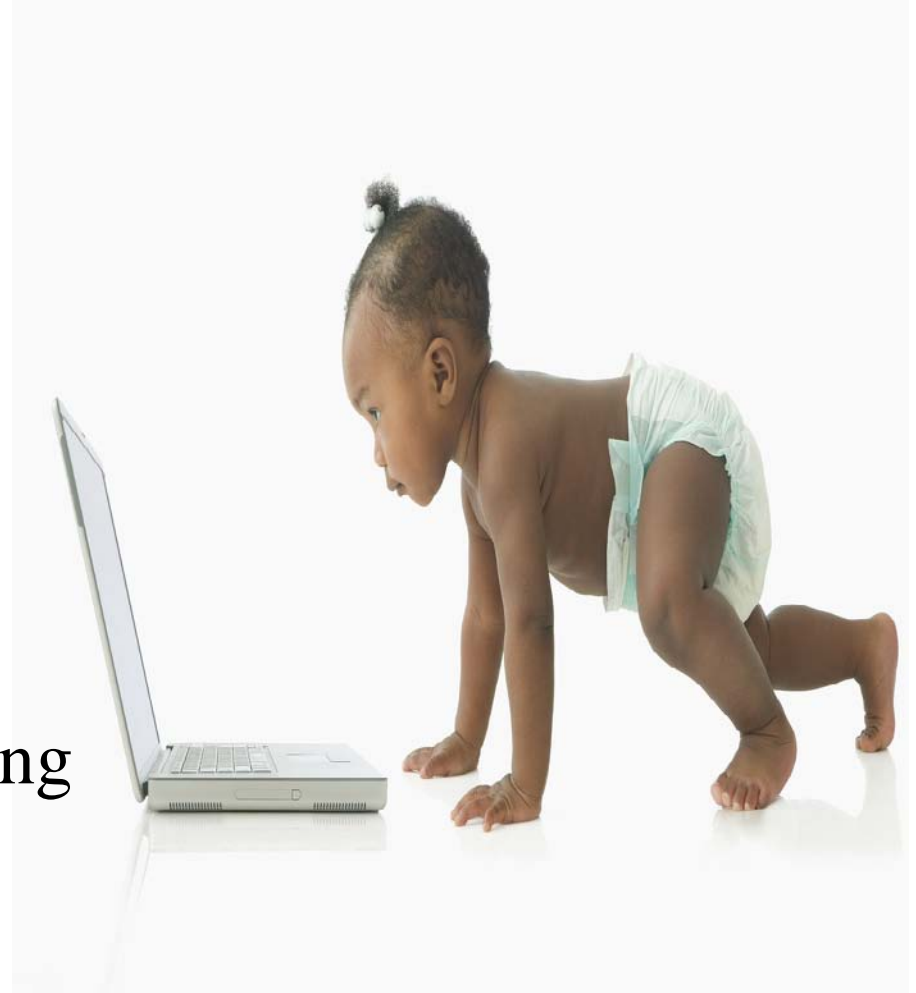


Ambulatory EHR Project Objectives

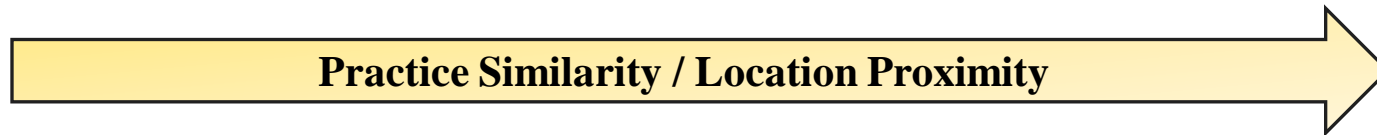
- Improve Quality and Safety
- Improve Communication
- Ensure Continuity of Care
- Facilitate Research
- Extract Data
- Improve Efficiency
- Meet Regulations



- Ambulatory EHR roll-out to multiple clinic locations to replace manual systems:
 - ◆ Schedule View
 - ◆ Orders with ABN
 - ◆ Alerts
 - ◆ Documentation
 - ◆ Message Center
 - ◆ E-Prescribe
 - ◆ MPages
 - ◆ Single Document Scanning



Implementation Approach



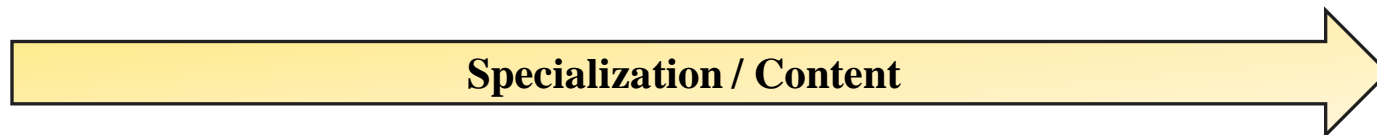
**Primary Care, OB/GYN
Ancillary Areas**

**Medical
Services**

**Cardiology
Oncology**

**Surgical
Services**

**Specialized
Clinics**



Practice Similarity

- Workflow
- Content

Location Proximity

- Reception/Pods
- Shared Staff

Specialization

- Unique focus of care

Content

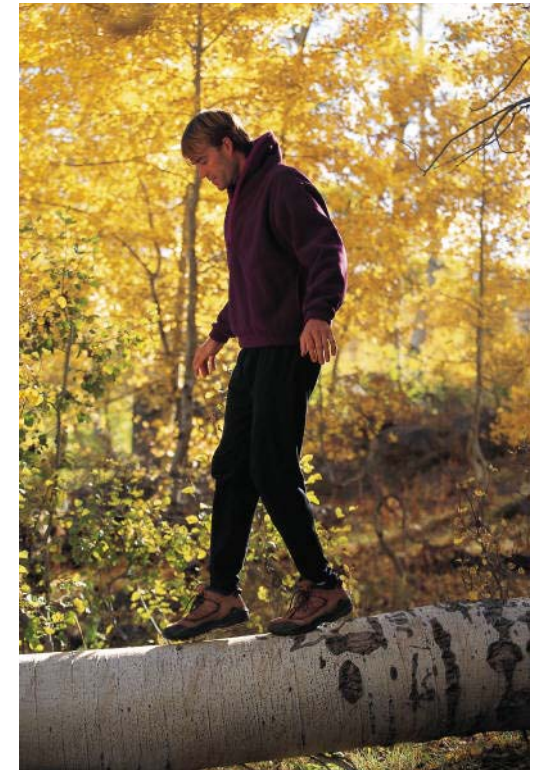
- Varying coverage per specialty

Volume

- Balanced across “Waves”

Standardization vs. Customization

- ◆ Documentation and Orders
 - ◆ Existing vs. New
 - ◆ Hospital vs. Clinic
 - ◆ Dictation, Dragon, Structured Data
- ◆ Access
 - ◆ Standard devices to support
 - ◆ Access from variety of devices and places



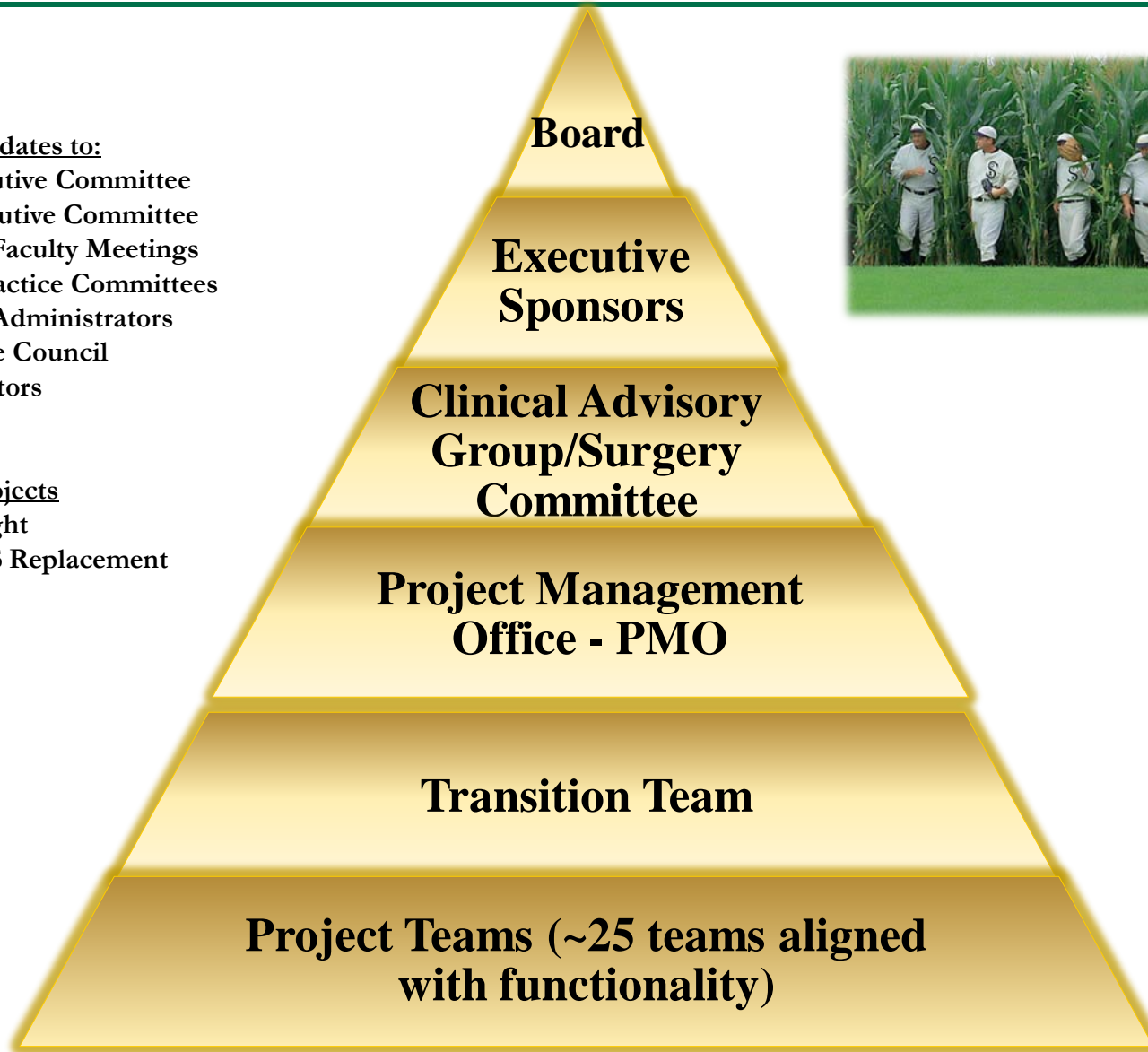
Project Structure

Regular updates to:

HSF Executive Committee
HSIS Executive Committee
Physician Faculty Meetings
Clinical Practice Committees
Executive Administrators
TKC Nurse Council
TKC Directors
MSO

Parallel Projects

PowerInsight
iSite/PACS Replacement



Physician Participation

- High level physician and staff participation throughout all project phases: *Design, Build, Testing, Training, Rollout*
- Physician Leadership support and input for:
 - ◆ Standardization in process and system design
 - ◆ Timely decisions to stay on target and on budget
- Physician Champions
 - ◆ Facilitate overall change management for the clinic

- Physician Content Leads
 - ◆ Drive development and standardization of system content with input from colleagues
 - ◆ Contribute to clinical process improvement and content development in conjunction with colleagues and administrators
 - ◆ Test and approve design and build
 - ◆ Be an advocate for change during Go-Live

Keys to Physician Acceptance of the EHR

- Education
- Organization
- Assistance
- Implementation
- Optimization



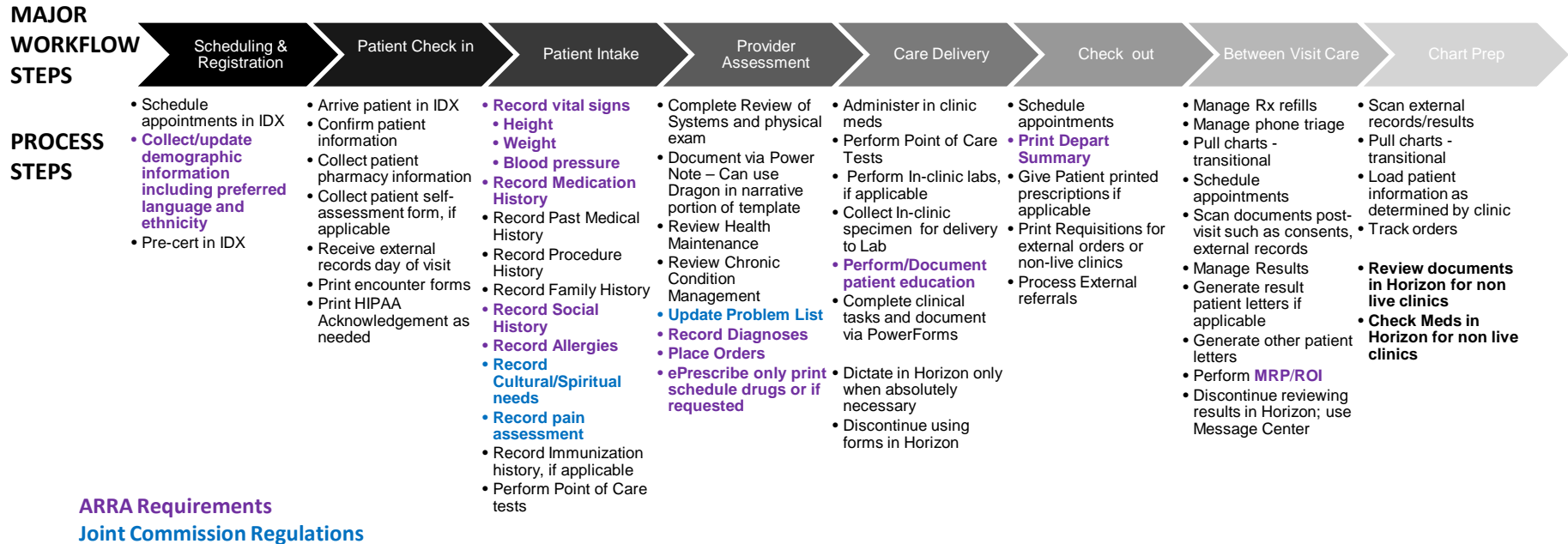
Mission:

- ◆ Lead Clinical Process Redesign
- ◆ Help Define High-Level Policies/Procedures
- ◆ Forum for feedback and peer review, liaisons to other committees
- ◆ Review and approve variances from standardized content
- ◆ Address and resolve clinical implementation issues in a timely manner
- ◆ Learn the IMPACT system's workflows and limitations

Clinical Adoption Approach

- Feet on the ground in every clinic to understand current workflows
- Introductory workshops to familiarize clinics with a generic future state
- In depth follow up sessions to prepare clinics individually for implementation
- Customize documentation to bolster adoption
- Simulation Center to review device options in a clinic setting
- Provider driven pre-load decisions
- Administrators and providers involved in transition planning
- Coordinated workflow practice sessions with individual clinics prior to go-live

Clinic Workflow with ARRA and Regulatory Requirements



ARRA METRICS

- Demographics: Must enter 1-time on more than 50% of patients. This data requirement met through IDX updates
- Vital Signs: Must enter 1-time on more than 50% of patients
- Meds and Allergies: more than 80% of patients must have 1 medication and 1 allergy or indication n/a
- Enter 1-time the smoking status of more than 50% of all patients >12 yrs old
- Problem List and Diagnosis: Must enter 1 or indicate N/A for more than 80% of patients
- CPOE: More than 30% of patients with 1 medication in Med List must have at least one medication order entered through CPOE
- ePrescribe: More than 40% of all permissible prescriptions must be transmitted electronically
- Patient Education: More than 10% of all patients are provided patient specific education resources
- Clinical Summary (Depart Summary): Provided to patients for more than 50% of all office visits within 3 business days.
- ROI - Release of Information: More than 10% of patients are provided timely electronic access to parts of their EHR upon request
- Provide an electronic copy of parts of their EHR for more than 50% of patients who make the request

Training and Practice Sessions

- Training
 - ◆ Required providers to attend two 3-hour training sessions
 - ◆ Required providers to spend 2nd half of the Provider II class building order favorites and pre-completed PowerNotes
 - ◆ Offered providers additional open house sessions for help with PowerNote templates and building favorites
 - ◆ Staff required to attend full day of training

- In-clinic workflow practice sessions conducted prior to go-live to allow providers and staff to:
 - ◆ Simulate workflow – who will do what, when
 - ◆ Place clinic-specific orders and complete documentation on test patients
 - ◆ Test equipment

- End User Go-Live Support Model
 - ◆ One expert assigned to each provider schedule
 - ◆ One front desk/back desk support person
 - ◆ Team leads to manager go-live support personnel and channel issues/updates
 - ◆ Scanning/MRP floaters

- Command Center
 - ◆ Fast track go-live support calls from normal helpdesk calls to a command center
 - ◆ Command Center comprised of phone support, analyst support in one area to quickly triage calls

Ongoing Clinic Optimization

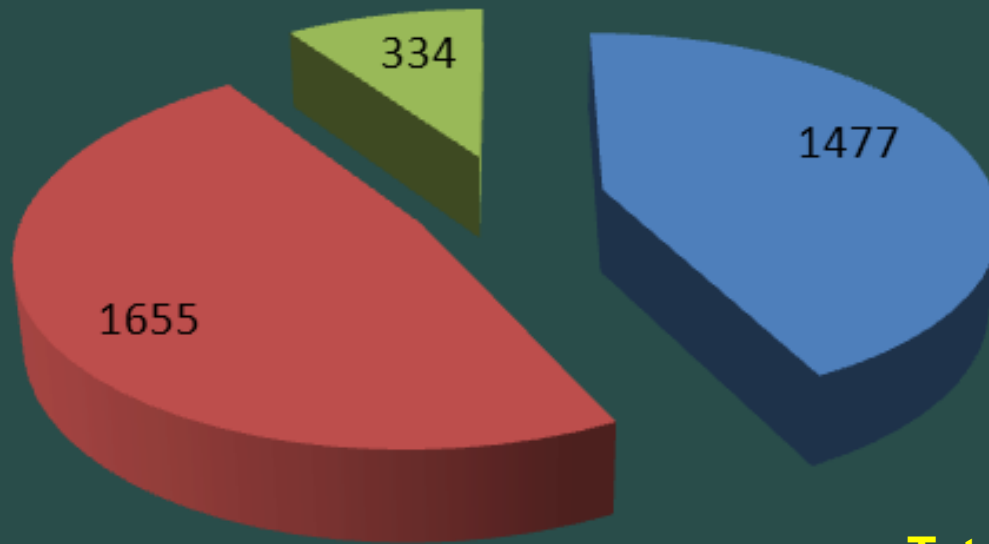
- Users Group Meetings every 2 weeks
- Physician Clinical Advisory Group monthly
- Expert Team rounding in Clinics to:
 - ◆ Identify issues with system design and track to resolution
 - ◆ Assess processes and evaluate roles & responsibilities to recommend workflow refinement
 - ◆ Identify gaps in knowledge and provide additional training
- Develop Ongoing Training Strategy

- Evaluate, understand and redesign clinic workflow
 - ◆ Identify opportunities to repurpose staff
 - ◆ Provide a Simulation Center to evaluate device needs
- Address preload plan early
 - ◆ What will be preloaded?
 - ◆ Who will do the preload prior to go-live?
 - ◆ Who will assume chart prep responsibilities long term?
- Understand the impact of a foreign scheduling system on
 - ◆ Referrals to other clinics
 - ◆ Future visits and future order tracking
- Appropriately set expectations around creating outbound charges to an external billing system
- Avoid introducing new policy at go-live

Over 135 HSF Clinics LIVE on IMPACT Ambulatory

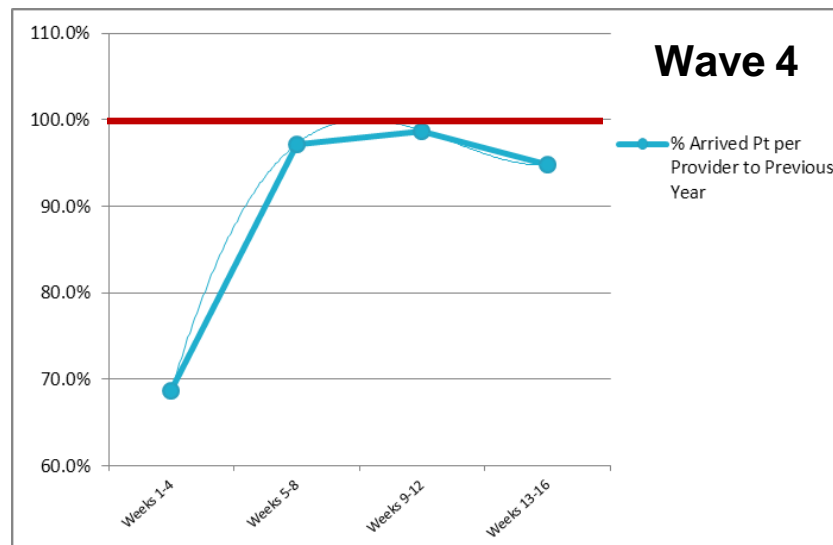
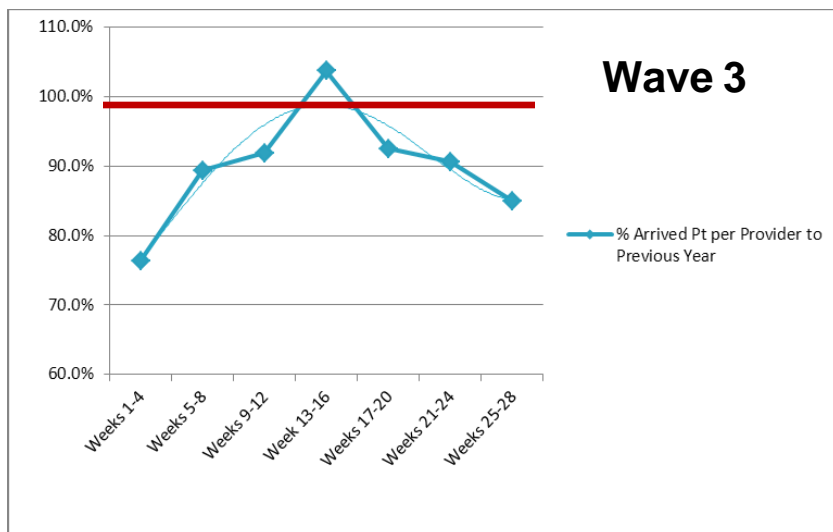
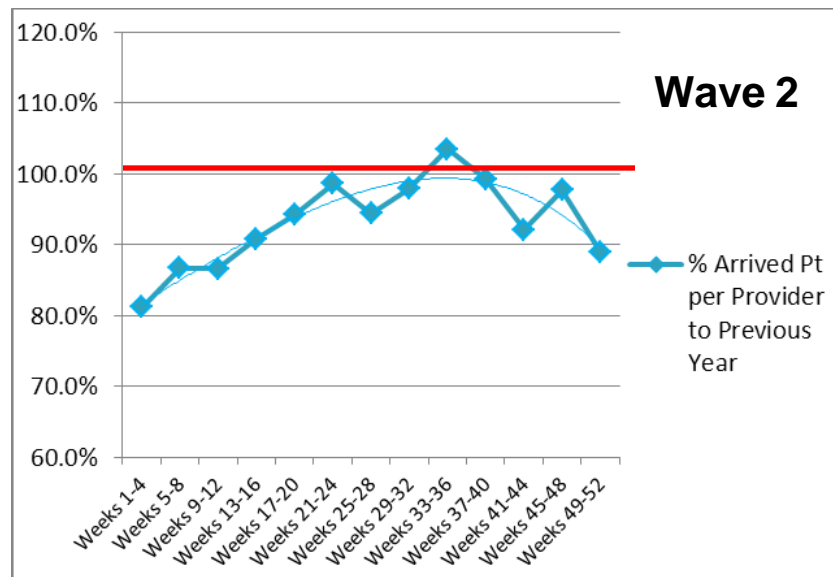
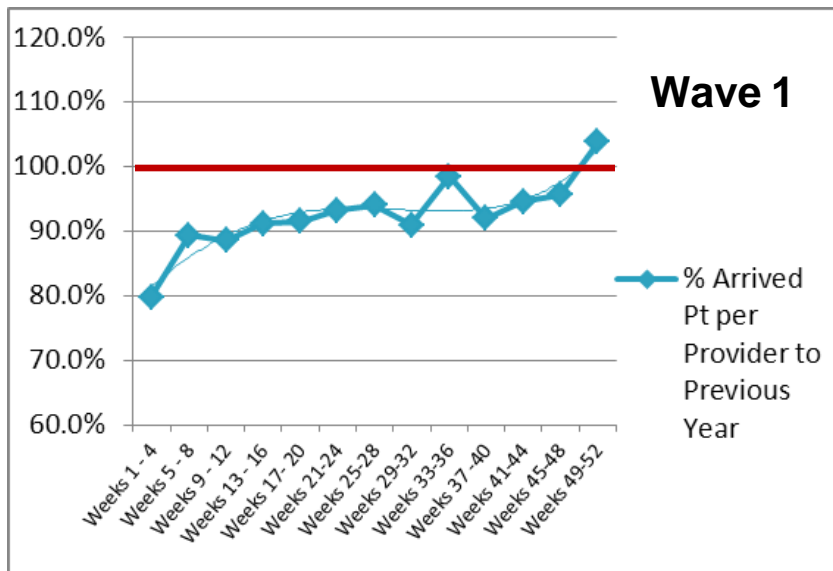
IMPACT Ambulatory Users

■ Providers ■ Staff ■ ViewOnly



Total Users 3466

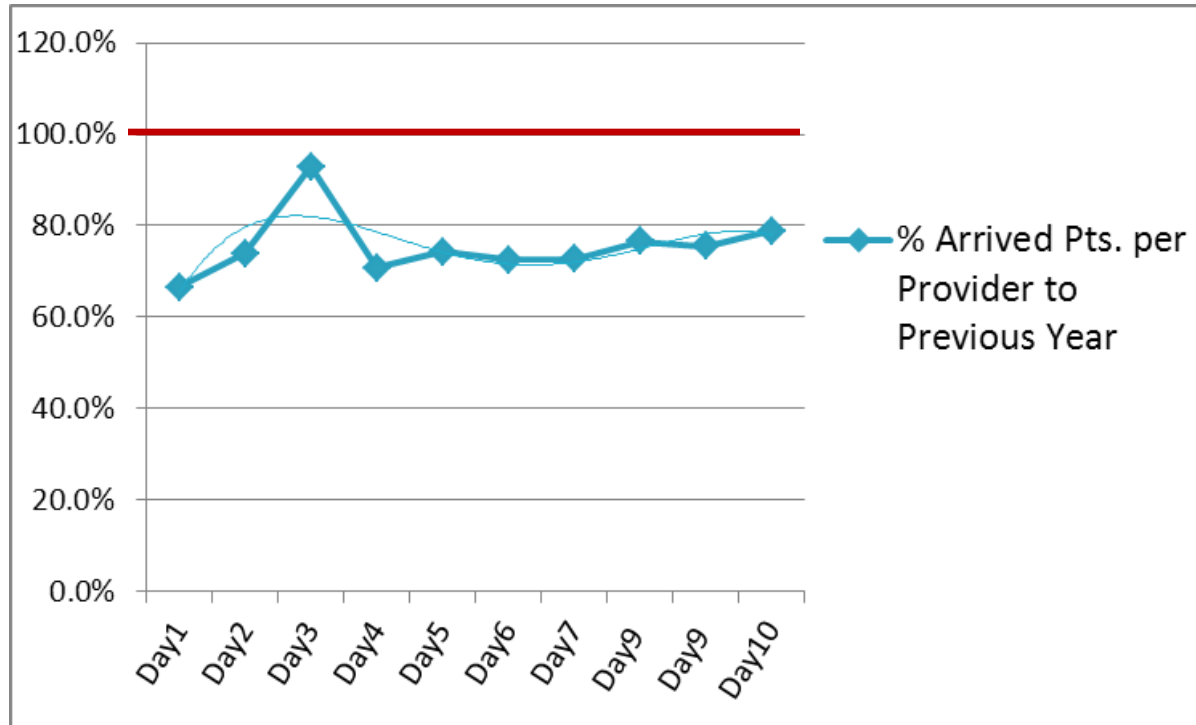
Physician to Patient Visit Ratios for Waves 1-4





Wave 5 Provider to Visits Ratio thru 10 days

	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day9	Day9	Day10
Providers 2012	93	117	101	113	81	102	107	100	118	77
Providers 2011	65	75	80	81	57	67	76	80	79	59
Patients Arrived 2012	577	728	753	701	453	767	688	686	827	470
Baseline Arrived 2011	606	631	642	710	429	695	673	716	733	457
Arrived Pts. per Provider	6.2	6.2	7.5	6.2	5.6	7.5	6.4	6.9	7.0	6.1
Baseline Arrived Pts per Provider	9.3	8.4	8.0	8.8	7.5	10.4	8.9	9.0	9.3	7.7
% Provider Days in Clinic - Current to Prior Year	143.1%	156.0%	126.3%	139.5%	142.1%	152.2%	140.8%	125.0%	149.4%	130.5%
% Pts. Arrived Current to Prior Year	95.2%	115.4%	117.3%	98.7%	105.6%	110.4%	102.2%	95.8%	112.8%	102.8%
% Arrived Pts. per Provider to Previous Year	66.5%	74.0%	92.9%	70.8%	74.3%	72.5%	72.6%	76.6%	75.5%	78.8%



Total arrived patients to provider ratio is 21% below previous year after 10 days

We chose quantitative measures for key objectives

Improve
quality and
safety of care

Health maintenance screening

Drug interaction and allergy checking

Comply with
regulations

% delinquent charts

% signed orders

Improve
overall
efficiency

Transcription costs (see projections in next slide)

Forms costs

Medical necessity write-offs

Qualify for
ARRA
incentives

Meet MU Stage 1 requirements

Improve
patient and
provider
satisfaction

Patient satisfaction with care experience

Provider satisfaction

We chose qualitative measures for the rest

Improve communication across the organization

Satisfaction with Message Center

Ensure continuity of care across settings

Common clinical data repository

Provide data extraction and reporting

PowerInsight

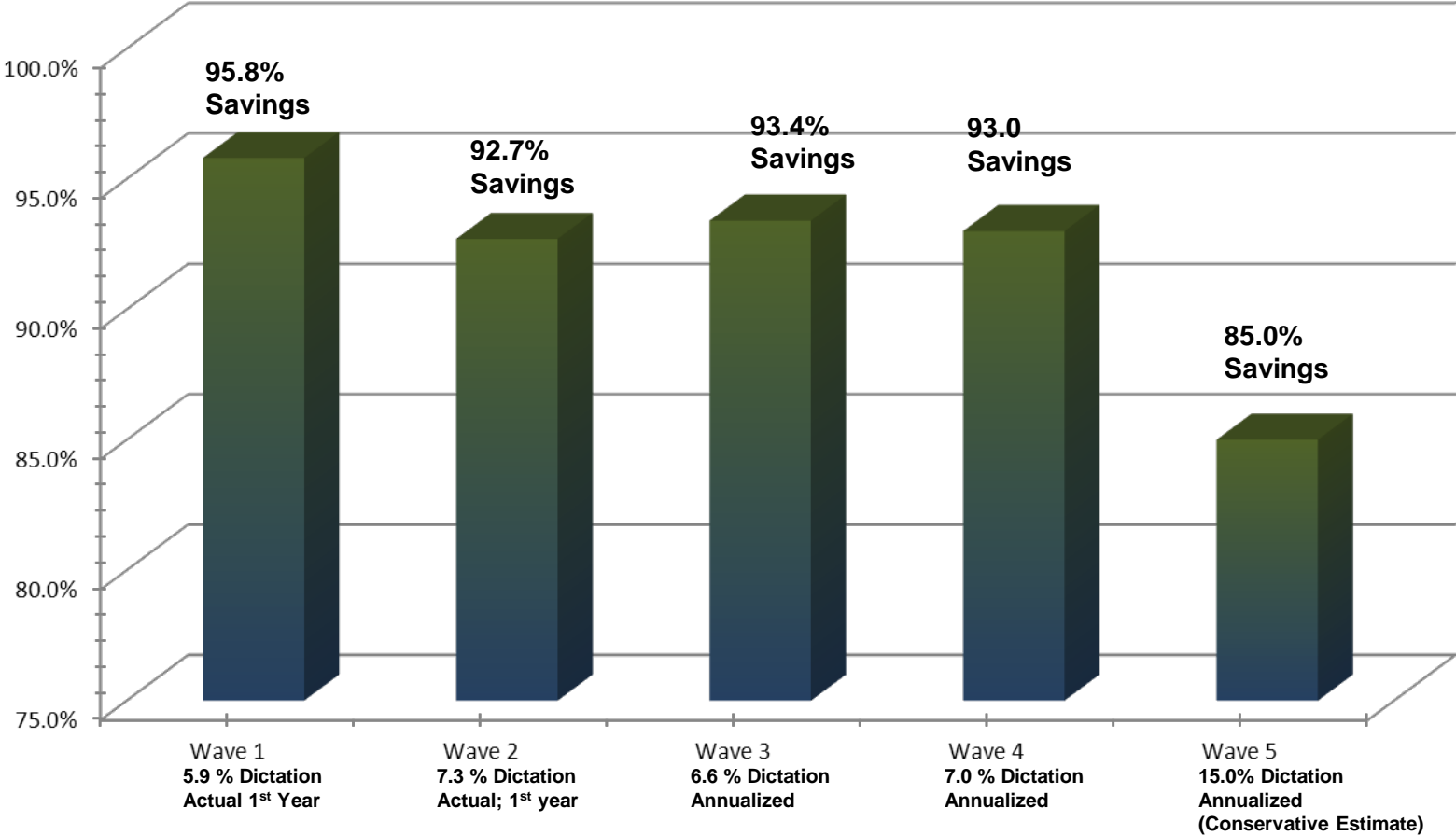
Facilitate research

More data

More reliable data

Codified data

Electronic Documentation vs. Transcription



Average 92% Projected Annual Savings

Road to Productivity



1 Week



6 Weeks



3 Months



6 Months



1 Year

