



Creating A “Lean” Culture at Family HealthCare Network

California Improvement Network Presentation
September 29, 2010

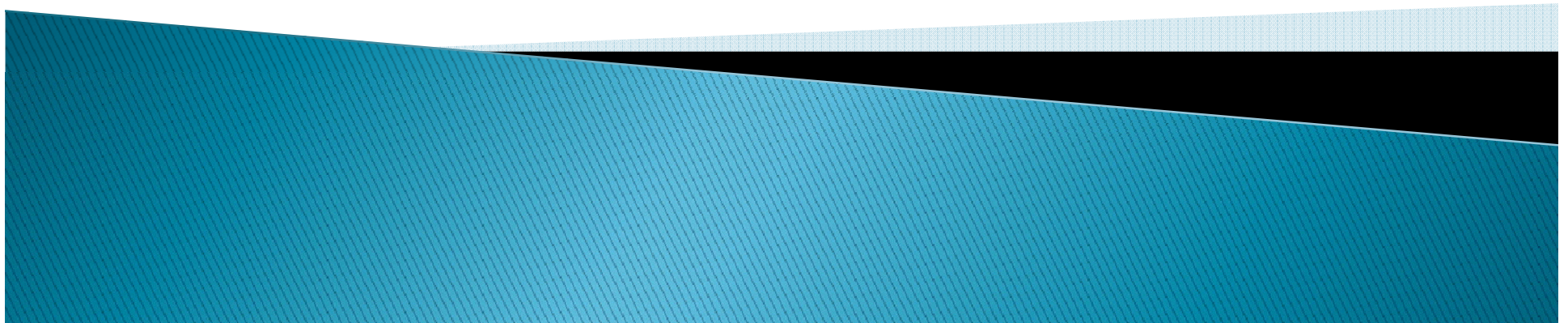
Steven Palmer, MD
Chief Medical Officer

Jay Kelley
Chief Information
Officer

Norma Verduzco
Director of Operations
Projects & Support Services

Adriana Carrillo
Enrollment Referrals
Representative

Marisol de la Vega Cardoso
Director of Quality Improvement

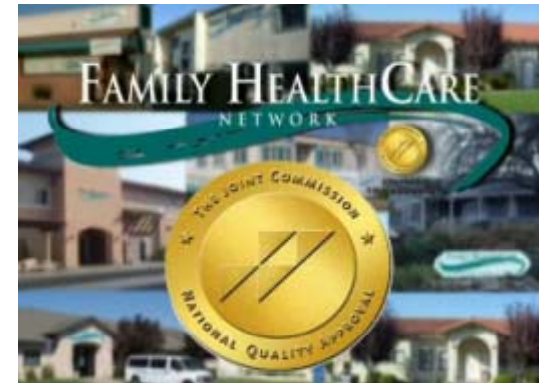


Objectives

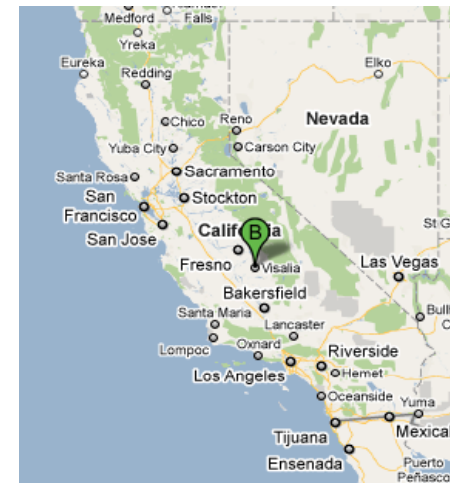
- ▶ Learn how to implement Lean approach in an ambulatory care setting.
- ▶ Learn the benefits of Lean healthcare approach.
- ▶ How FHCN used a Lean approach for its EHR implementation this year with no decrease in productivity.

Who We Are

- ▶ Sites: 11 Clinical + 3 Admin
- ▶ Annual patients: 101,967*
- ▶ Annual encounters: 492,683*
 - ▶ Clinical Support Staff: 450
 - ▶ Clinicians: 88
 - ▶ Dentists: 14
 - ▶ Ancillary Support Services:
 - 3 Nutritionists, 1 Registered Dietician, 5 Behavioral Health Providers,
 - 1 Chiropractor, 8 Radiology Technicians

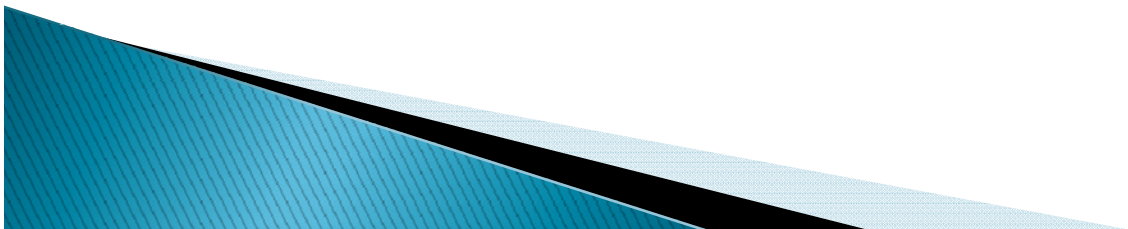


*2009 UDS Report



What is Lean to Us?

- ▶ Lean is a set of concepts, principles, and tools used to create and deliver *the most value* from the customer's perspective while consuming the *fewest resources*.
- ▶ This is about Overall Performance –Not Silos!



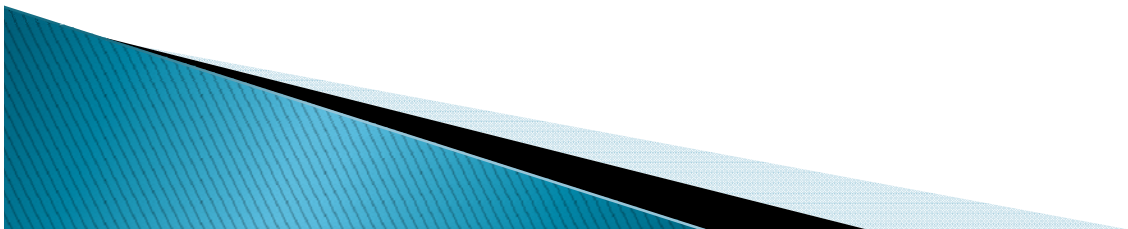
A stethoscope is positioned diagonally across the frame, with its chest piece in the lower-left and its ear pieces in the upper-right. The background is a solid blue color with a faint, light-colored grid pattern. The text is overlaid on the upper-left portion of the image.

“Your system is perfectly designed to produce
the results you are getting”

–Frederick Taylor

Why Go Lean?

- Concept introduced by the CMO
 - Opportunity to improve efficiency and to test our assumptions.
 - Reduce duplication of effort in work flows.
 - Reduce the beauracracy and hoops to jump through created by us.
 - Opportunity to do something different...we could not keep on doing the same thing.
 - There was a sense of urgency.



Our Journey

- Introduction of Lean Concepts:
 - Two books became building blocks:
 - Lean for Practitioners (Mark Eaton)
 - Sustaining Lean Healthcare Programmes: A practical survival guide (Mark Eaton & Simon Phillips)
- Required reading for Senior Leadership
 - Decision made to accept this as a quality improvement methodology

Next steps in building knowledge & buy in



- Required reading for Leadership Team (Directors and Managers)
 - Operations Team (Supervisors)
 - QI Team
 - Other departments
- Hired a consultant with a “Black Belt” in Six Sigma/Lean methodologies to support the organization to introduce lean concepts for improvements, in particular to utilize in review and development of its future workflows leading to EHR.

Establishing a Lean Team– Engaging Staff



- ▶ Staff were nominated by their Supervisors
 - Knowledgeable in their areas
 - Not afraid to speak up
 - Open to change;

 - Team was completely multi-disciplinary.

 - Consultant used a hybrid of an actual Lean Six Sigma project.
 - Used components of defining the process
 - Identified project scope
 - Performed value stream mapping
 - Activities produced several quick hit processes that could be retooled to eliminate waste and begin to streamline the process.
 - Ease of making an appointment/Phone System
 - Wait time associated with getting an appointment and waiting to be seen
 - Completion of paperwork

General Lean Six Sigma Methodology



- ▶ **D** Define the problem
 - Voice of the Business
 - Voice of the Customer
- ▶ **M** Measure the problem
 - Value Stream Mapping
- ▶ **A** Analyze for and isolate Root Cause
 - Customer Requirements
 - Analyze data using hypothesis, etc.
- ▶ **I** Set improvements targeting the root causes
 - Eliminate waste and create process to meet customer requirements
- ▶ **C** Create Control plan(s) to measure and keep process fixed

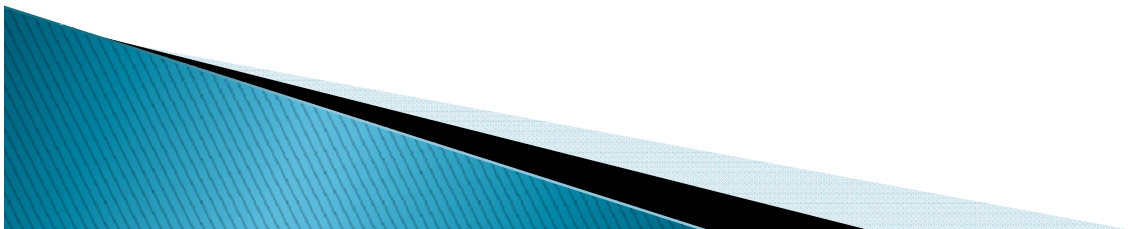
A yellow starburst graphic with a black outline is positioned on the right side of the slide. It contains the following text:

***“Lean” eliminates waste
“Six Sigma” reduces
Variation in the process***

Using the Value Stream Mapping Process:



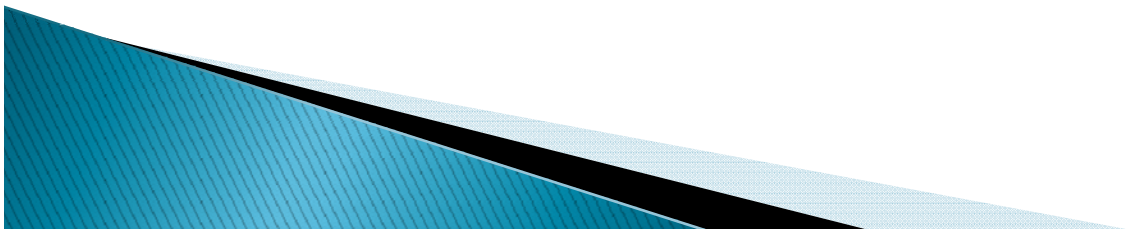
- ▶ Value added for our patients
- ▶ Non-value added and waste
- ▶ Consider Business Requirements (Essential non-value added)
- ▶ Maximize use of our systems...facilitate pull through of the patient through our clinics



Benefits of Value Stream Mapping



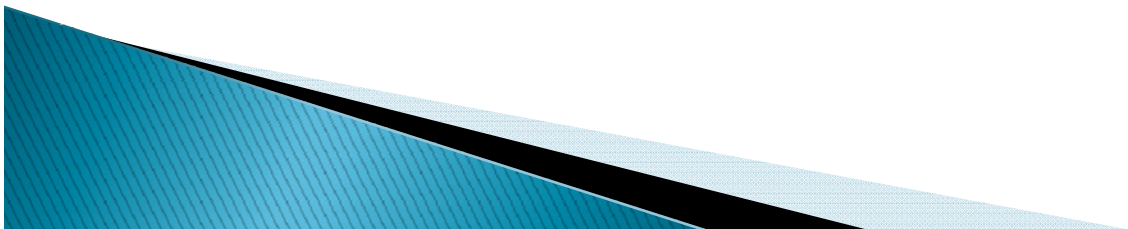
- ▶ Helps people understand how the process works now
- ▶ Helps people understand and reach agreement on how well the process is working
- ▶ Helps uncover waste and problems with flow in the value stream
- ▶ Helps people reach agreement on what changes need to be made
- ▶ Helps people reach agreement on how to ensure that those changes are made
- ▶ Helps teach people Lean thinking and tools



A Case Study



How we used Lean during the implementation
of the
Electronic Health Record



Project Plan at a Glance

| Feb, 09 | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar, 10 |
|----------|---|----------------------------|--|------------------|-----|-----|------------|---|-----------------------------------|-----|---------|---------|---------|
| Kick Off | | | | | | | | | | | | | |
| | Communication Campaign to keep Staff engaged and informed | | | | | | | | | | | | |
| | Project Plan | | | | | | | | | | | | |
| | | BUILD Training | | | | | | | | | | | |
| | | Document Current Workflows | | | | | | | | | | | |
| | | | EHR Design, Build, Verify Workflow, Build, Test, Tweak, Confirm | | | | | | | | | | |
| | | | Interface Design, Build, Testing, and Sign Off | | | | | | | | | | |
| | | | System Infrastructure, Build, Setup, Tablets, PC, Printers, Scanners | | | | | | | | | | |
| | | | | Future Workflows | | | | | | | | | |
| | | | | | | | Simulation | | | | | | |
| | | | | | | | Develop, | | Pilot & Staff Training, Refresher | | | | |
| | | | | | | | | Archive Scanning (I) & Live Scanning (II) | | | | | |
| | | | | | | | | | | | Ramp Up | | |
| | | | | | | | | | | | | Go-Live | |

2/26/09 through 3/3/10 = 370 days

IC-Chart at a Glance

Data moving into EHR

Demographics
Appointments
HPM (PM System)

Lab Results
Quest

Transcriptions
MxSecure

Rx Eligibility
HUB

Dental
Dentrix

EHR
IC-Chart

Includes:

- Visit Entry (Templates)
- Order Entry
- Prenatal
- E-Prescribe

EHR sending Data out

Charges
HPM (PM System)

Lab Orders
Quest

Immunizations
CVIIS/CAIR

E-prescribing and
E-Faxing
SureScripts

Engagement of Lean Team into Multidisciplinary EHR Project Team

▶ EHR Leadership Team

- CEO, CIO
- CMO, CDO
- Medical Directors
- IS Project Director & IS Staff
- VP of Operations and Operations Directors
- VP of Finance & Billing Director
- QI & Admin Support
- Training Team Members

▶ Engaged CORE Team – Lean Concept

- Providers
- Dental Team
- Medical Assistants
- Front Reception & Data Entry & Billing
- Referral & Radiology
- Dispensary
- Health Information
- Central Appointments & Community Rep

Role of Lean Team

- ▶ Goal: Preserving Value with Less Work in the development of EHR
- ▶ Front Line Staff selected
 - Experienced, Vocal, with initiative, global thinking
 - Exposed to Lean Concepts with early project in April
- ▶ Brought in their expertise
 - Helped evaluate current workflows
 - Key input for future EHR workflows
- ▶ Became part of the *Build* and *Design* Team for IC-Chart



Lean Team Details & Contribution

- ▶ Breakdown by position
- ▶ All areas represented
 - Some Lean Team members were experts in more than 1 area
- ▶ Provided key input on streamlining current processes in the future EHR workflow
 - E.g. Reduction of Forms from 900 to approximately 250.

| Breakdown of Lean Team Representation | Total | Lean Representative |
|---------------------------------------|------------|---------------------|
| Central Appointments | 35 | 1 |
| Community Relations Rep | 15 | 1 |
| Health Information | 50 | 1 |
| Dispensary Clerk | 16 | 1 |
| Enrollment Referral Rep | 15 | 1 |
| Radiology Staff | 20 | 2 |
| Receptionist & Data Entry | 80 | 1 |
| Billing Team | 18 | 1 |
| Dental Assistant & Reception | 35 | 1 |
| Medical Assistants | 150 | 3 |
| Dentist | 15 | 1 |
| Behavioral Health | 6 | 1 |
| Nutritionist | 3 | 1 |
| Health Educators | 18 | 1 |
| | 476 | 17 |

Lean Team: Build & Decisions

| May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb |
|----------------------------|-----|---|-----|-----|-----|-----|-----|-----|-----|
| BUILD Training | | | | | | | | | |
| Document Current Workflows | | | | | | | | | |
| | | EHR Design, Build, Verify Workflow, Build, Test, Tweak, Confirm | | | | | | | |
| | | Interface Design, Build, Testing, and Sign Off | | | | | | | |
| | | Future Workflows | | | | | | | |

- ▶ Leadership Team Commitment:
 - Tuesdays & Wednesdays committed to EHR as much as possible
- ▶ **Lean Team Participation – Wednesdays**
- ▶ Pulling in Subject Matter Experts as necessary

- ▶ **Workflow Design**
- ▶ **System Build**
- ▶ **Workflow Testing**
- ▶ **PDSA – Plan Do Study Act**
- ▶ **Communication of Changes**

- ▶ Weekly Calls with Vendors on Interfaces

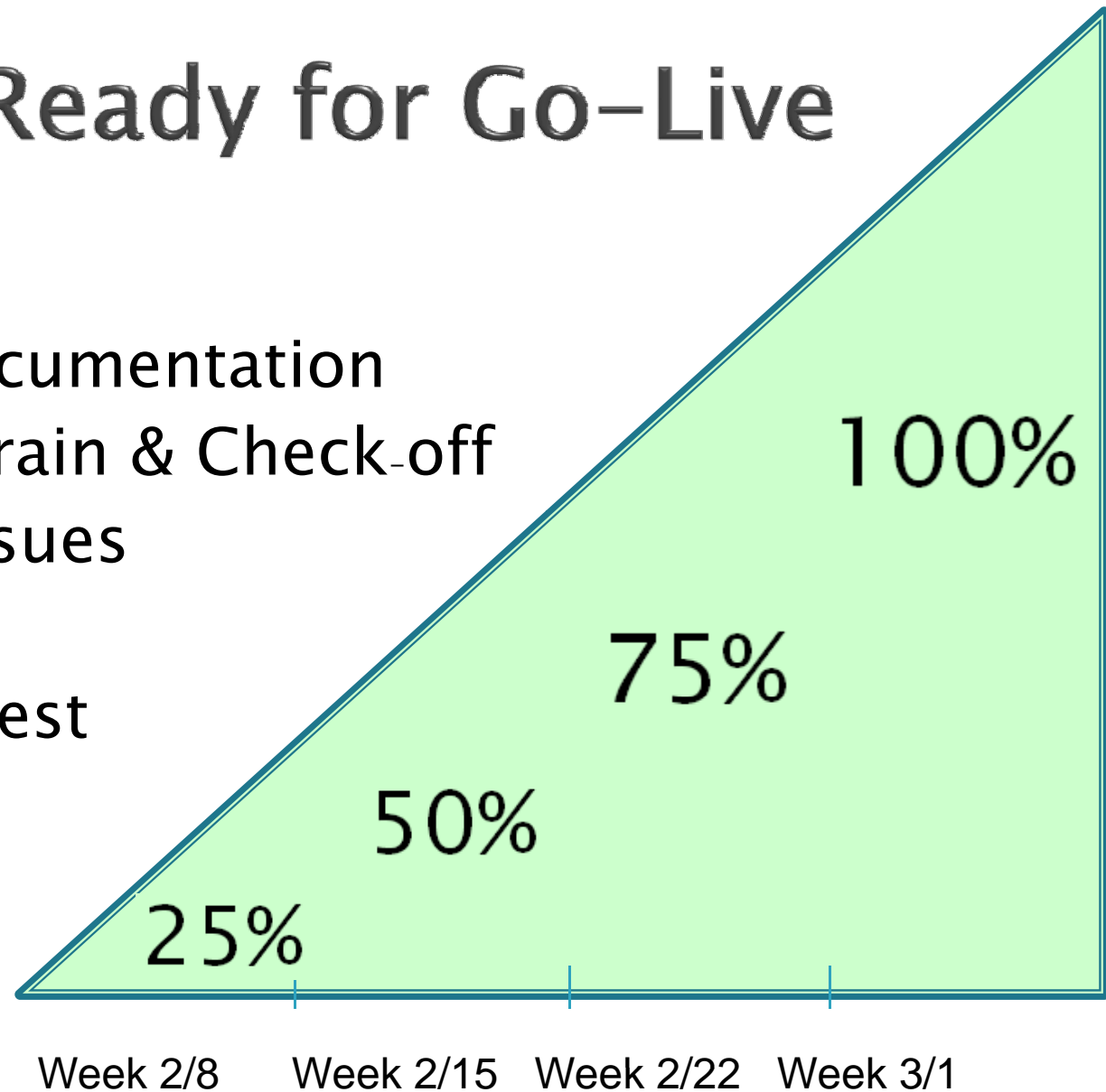
Training & Support

- ▶ Trainers Active since August
- ▶ Participating in Build & Decision sessions
- ▶ Developed Training Material
- ▶ PILOT and Final Modules
- ▶ Super Users

| Modules | Participants |
|--|---------------------------------|
| Provider Visit I | All Providers and PCA's |
| Provider Visit II | Providers and PCA's |
| Prenatal Visit | Providers and PCA's |
| Dental | Dentists, Dental Support |
| Patient Reps | Receptionists |
| Health Educator I | Health Educators |
| Health Educator II | Health Educators |
| Radiology | Radiology Techs and Rad Support |
| Data Entry & Billing | Data Entry & Billing |
| Referral | Referral Team |
| Dispensary | Dispensary Team |
| Scanning Phase I | Health Information Team |
| Scanning Phase II | Health Information Team |
| Provider Visit III | only for Providers |
| PCA | only for PCA's |
| Practice & Learning Opportunities | |
| Practice Lab Sessions - Opportunities with a Super User or Trainer | |
| Provider Refresher Sessions - provided by Medical Directors | |
| Check-Off sessions with Supervisors - Get Staff ready | |

Getting Ready for Go-Live

- ▶ Ramp Up
- ▶ Double Documentation
- ▶ Clarify & Train & Check-off
- ▶ Address Issues
- ▶ Stress Test
- ▶ Fail Over Test



Go-Live

Numbers for March

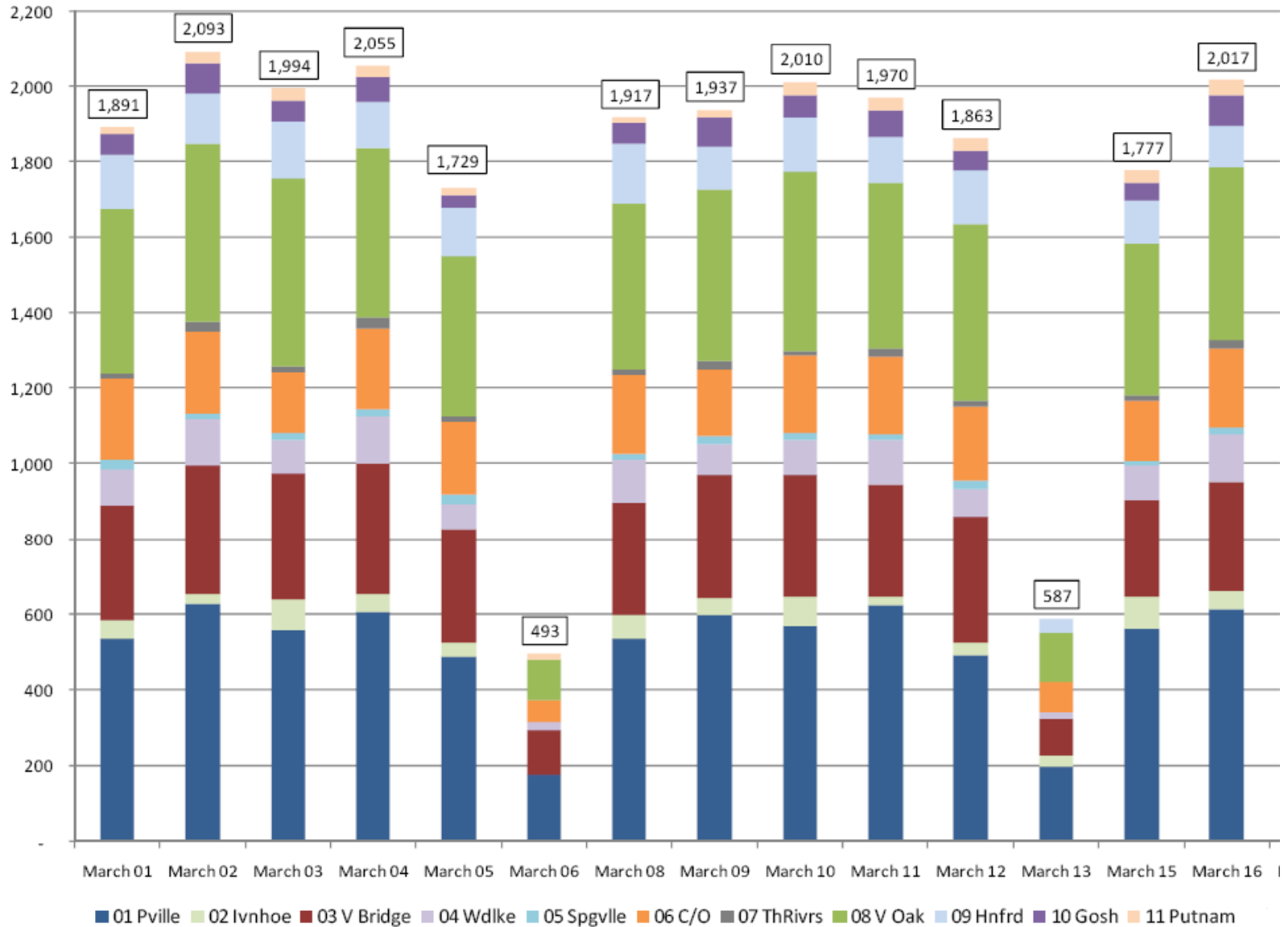
| | <u>3 / 3</u> | <u>3 / 16</u> |
|-------------------------------------|--------------|---------------|
| ▶ Visit For the Day: | 1,891 | 2,017 |
| ▶ Labs Ordered: | 297 | 378 |
| ▶ Prescriptions: | 847 | 929 |
| ▶ Referrals to Specialists Ordered: | 21 | 144 |
| ▶ In-house Radiology Ordered: | 21 | 51 |
| ▶ Telemedicine Services Ordered: | 5 | 9 |

Super Users at All Sites providing Support
 Communication Sessions 2 times per day during Go-Live week

Compare 03/3/09, Visits for the Day: **1,936**

Productivity

Daily Total Visits* by Location
March 2010

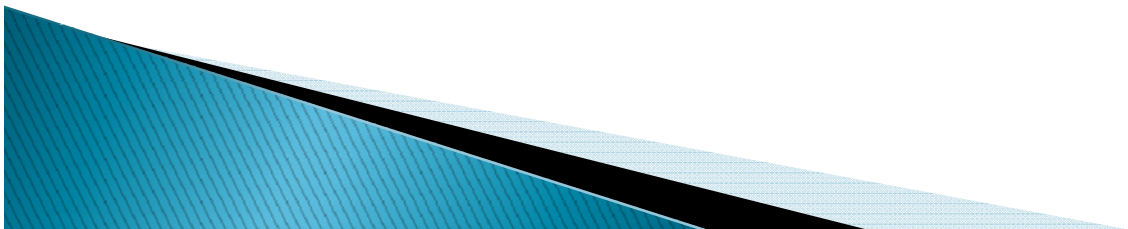


(* Total Visits include Non-Billable Visits (Departments 710 Health Promotion and 320 Nutrition)

Today

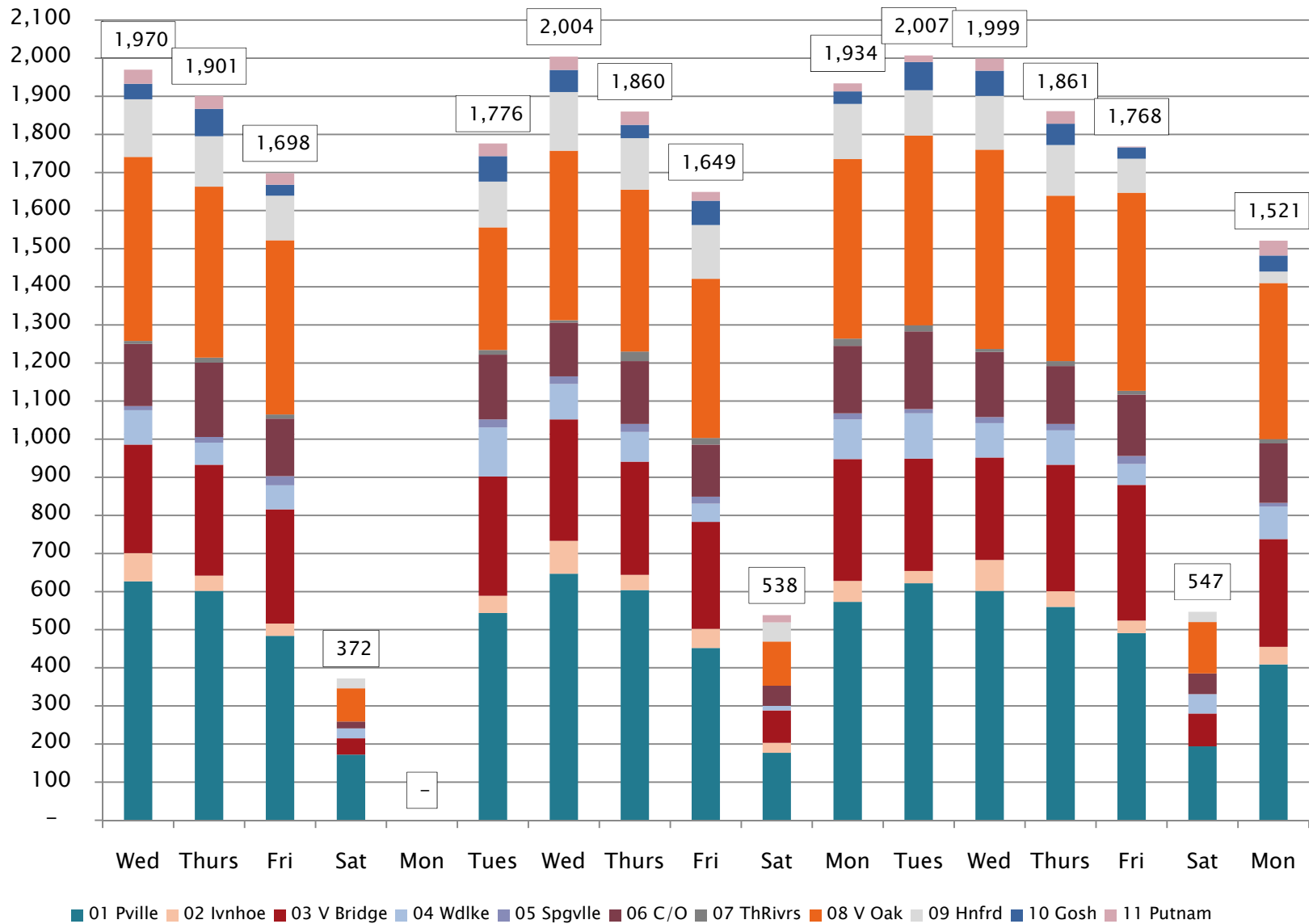
Numbers for Sept.

| | <u>9/1</u> | <u>9/15</u> |
|-------------------------------------|------------|-------------|
| ▶ Visit For the Day: | 1,944 | 1,977 |
| ▶ Labs Ordered: | 391 | 443 |
| ▶ Prescriptions: | 963 | 1,026 |
| ▶ Referrals to Specialists Ordered: | 146 | 140 |
| ▶ In-house Radiology Ordered: | 75 | 65 |
| ▶ Telemedicine Services Ordered: | 6 | 5 |



Productivity

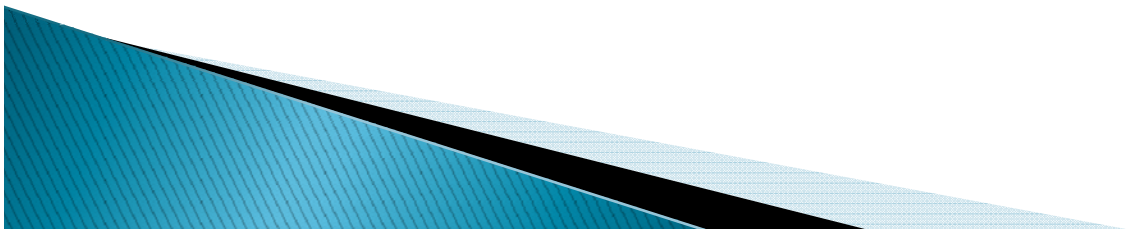
Daily Total Visits* by Location
September 2010



(*) Total Visits include Non-Billable Visits (Departments 710 Health Promotion and 320 Nutrition)

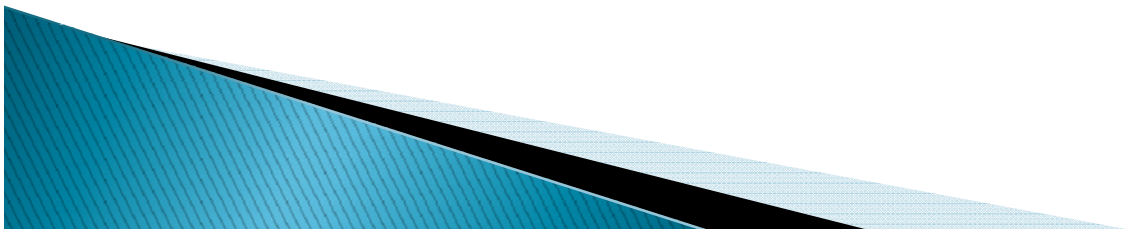
Challenges Ahead

- ▶ Identified Staff Educational Gaps
 - Comprehension of a need to change
 - QI Terms and Concepts
 - Change management techniques
 - Project management skills
 - Lean terms are confusing



Our Ongoing Journey

- ▶ Identify and skill up staff embedded at each of the locations
- ▶ Align organizational behaviors
- ▶ Introduce additional system integration workshops



Thank you!

Jay Kelley, CIO

jkelly@fhcn.org

Steven Palmer, MD, CMO

spalmer@fhcn.org

Norma Verduzco, Director of Operations Projects and Support Services

nverduzco@fhcn.org

Marisol de la Vega Cardoso, Director of QI

mdelavega@fhcn.org

