



# **Integrating Data Sources for Clinical & Operational Improvement: Innovative Business Strategies in a Multi-Hospital System**

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# Adventist Health System

- Adventist Health System
  - Supports > 43 hospitals across the nation
  - Comprised of > 7700 licensed beds
  - Serves > 4 million patients each year
  - Employees > 55,000 individuals
  - Largest not for profit Protestant provider in nation
  - Mission...
    - *Extend the healing ministry of Christ to every patient*
  - Vision
    - *To be a global pacesetter delivering faith based healthcare*



# Florida Division/Central

- Florida Hospital
  - Established 1908
  - Supports 8 hospitals operating under 1 license
  - Comprised of >2200 licensed beds
  - Serves > 1.5 million patients each year
  - Employs > 6000 RNs



# Objective #1

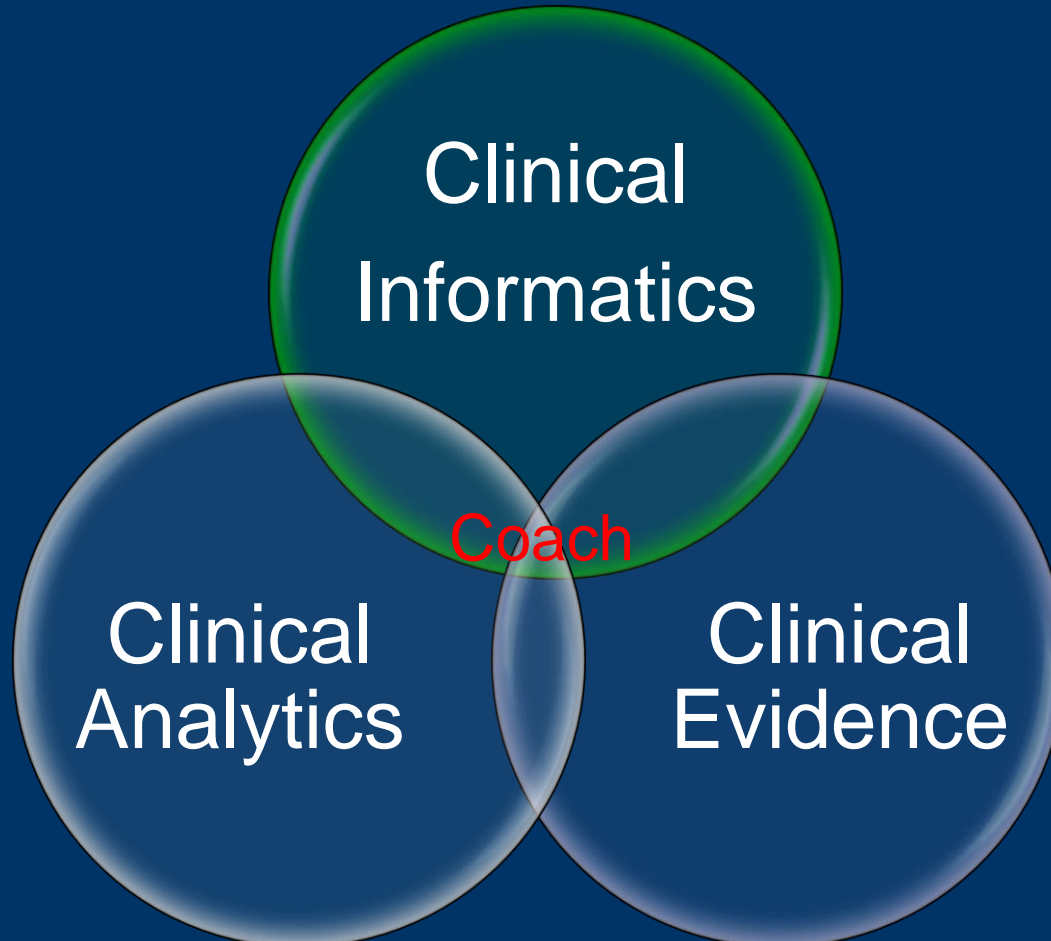
- Describe a multi-hospital system business model to integrate data sources & processes for clinical and operational improvement



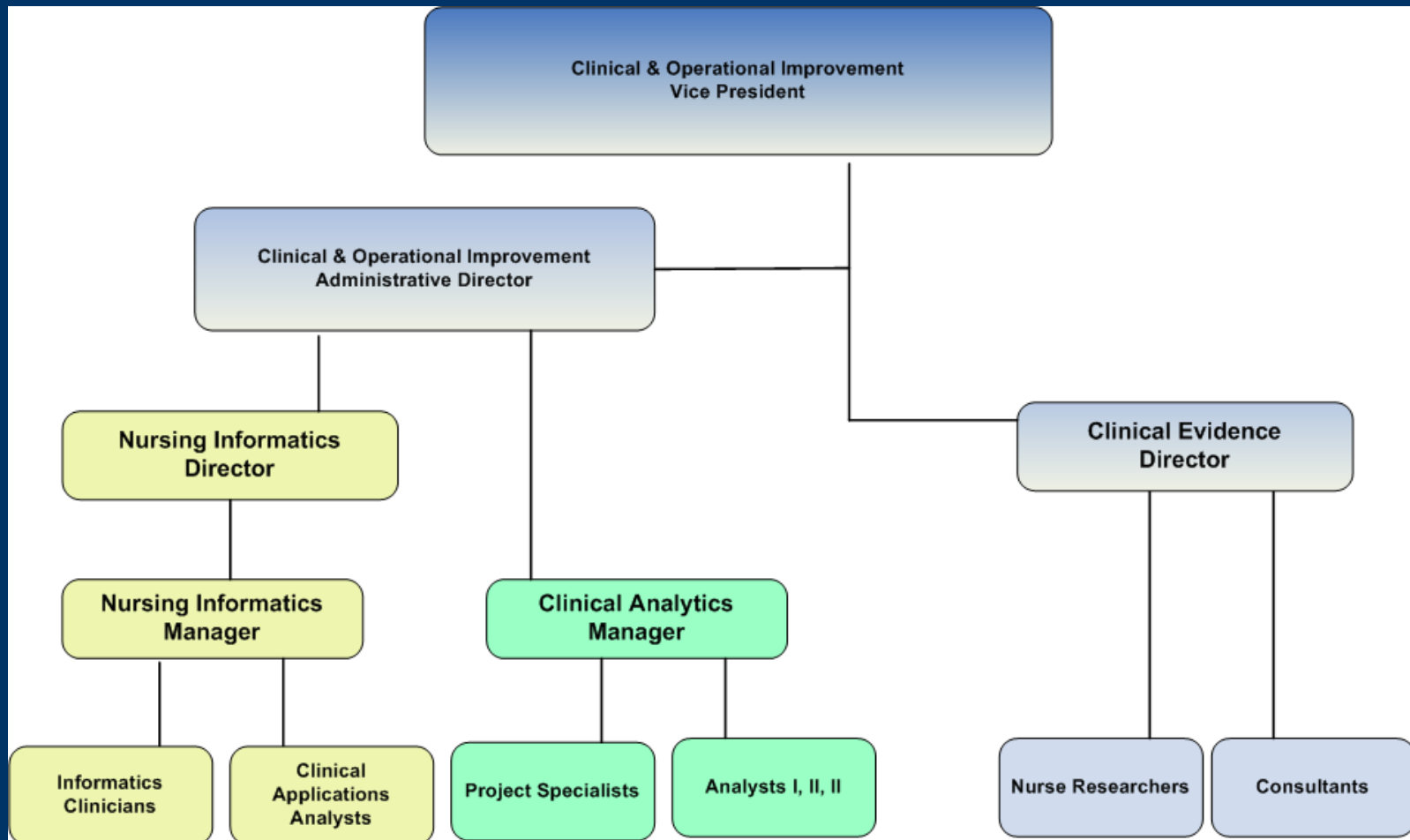
# Challenges

- **No shared source for data**
  - Clinical & operational professionals working in isolation
  - Analytic outcomes different across affiliated programs
  - Resources inefficient across disciplines, venues
- **No shared response to data**
  - Data not captured and shared across disciplines
  - Decisions made on historical experience
  - Decisions ineffective, based on perception, not evidence
- **No shared language...no shared structure**
  - New environment..fear of change...the “so what” questions
  - How do you embrace change to improve clinical outcomes?
  - How do you move a culture to evidence based operations?

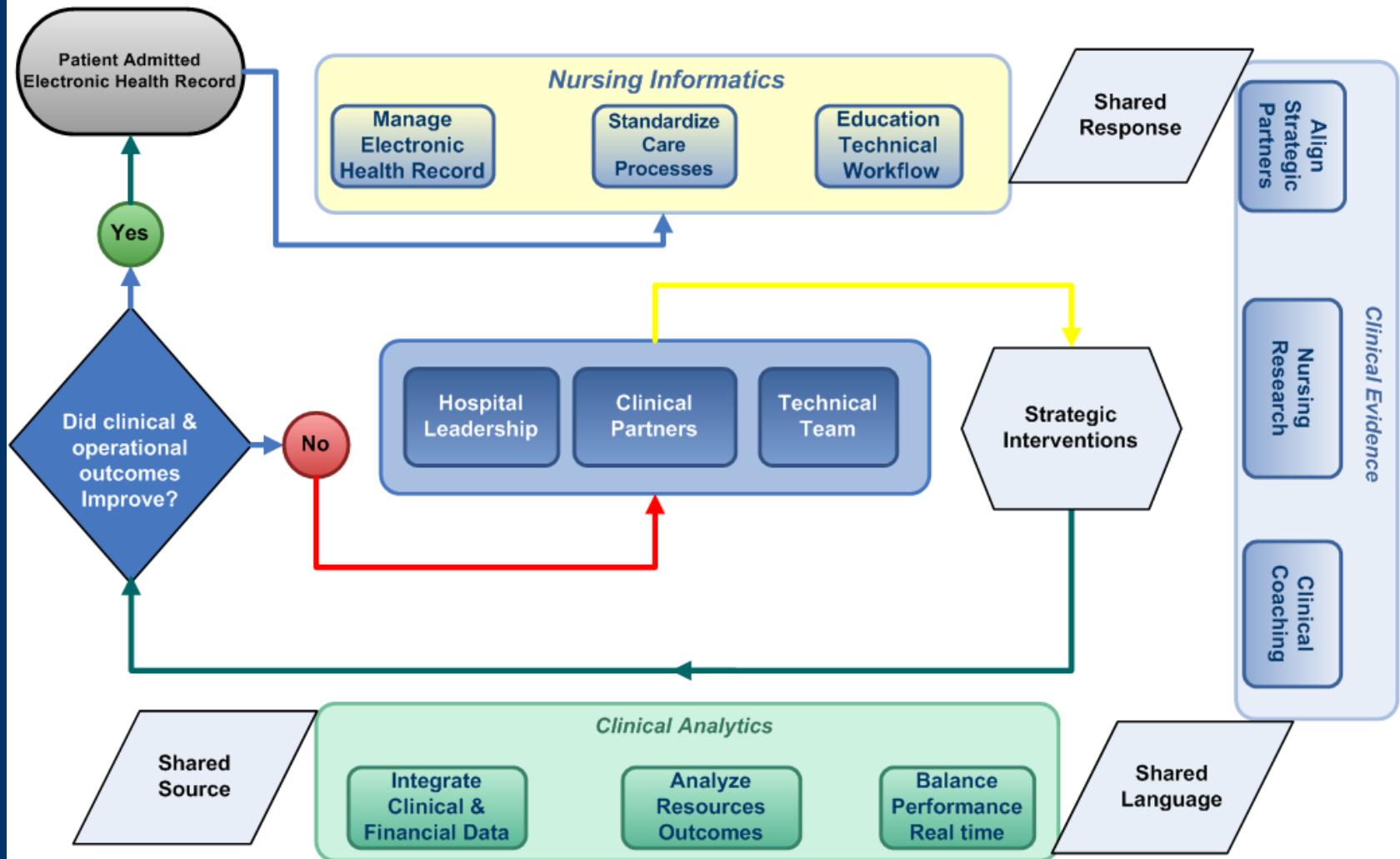
# Vision...a 3 year journey



# Organization Chart



## Process Map – Integration of Clinical and Operational Data Processes



# Nursing Informatics

## EHR managed as source of truth ...Shared Response

- Standard care processes
  - Quality, safety, regulations, efficient workflow...Transportation
- Integrates response to clinical services
  - Increased collaboration among clinical partners & services...OB
- Education at all levels of organization
  - Technical enhancement & user capabilities...I-Expect
- Aligns hospital quality measure/data sets
  - National Hospital Quality measures...AMI, Stroke, VTE
  - Nursing Sensitive Care measures...NDNQI
  - Meaningful use requirements...Prescription given

# Clinical Analytics

## Integration of clinical & operational data

### ...Shared Source

- Integrate clinical & financial data into shared benchmarks
  - Internal, external, and global benchmarks
  - NHRQ alignment to increase quality scores on all measures
- Manage resources for desired outcomes
  - Example: Demonstrate effectiveness of **RN model**
  - Total cost per hour increased; **Overall cost decreased \$55M**
- Balance performance in real time...scorecards
  - Partner with providers & stakeholders to ensure inflation flat
  - Increase engagement scores, patients, physicians, employees,
  - Trusted and shared language, optimize improvement, reduce risk

# Clinical Evidence

Scientific response to changes in healthcare

...Shared Language

- Valid & reliable data for inferences and decisions
  - Services, performance, and risk
- Standard data elements, measures, calculations
  - NQF, NHQM, CMS, JC, NDNQI, Quality Measures
- Nursing Research
  - Example...CAUTI Bundle
- Organization, academic and community partners
  - Example: Nursing research process
  - Example: 30 day readmissions project
- Coaching that is prepared and available
  - Increases value, performance that is prepared and available

## Objective #2

- **Discuss the meaningful use of NDNQI data and clinically sensitive evidence to drive clinical and operational improvement**



# Model Integration Project: *Time with Patient*

- Situation reported by RNs
  - *Time with patient* is limited by time required for documentation
  - *Time for documentation* is influenced by evolving electronic health record, technology

# Objectives & Methods

- Objectives
  - Increase time with patient
  - Decrease documentation time
  - Improve EHR documentation as “source of truth”
  - Improve quality patient outcomes
- Methodology
  - Design: descriptive, prospective, observational
  - Literature & clinical evidence review
  - Selected 3 of 8 hospitals based on bed size
  - Identified 3 nursing units based on level of care
  - Analytics are descriptive...to date

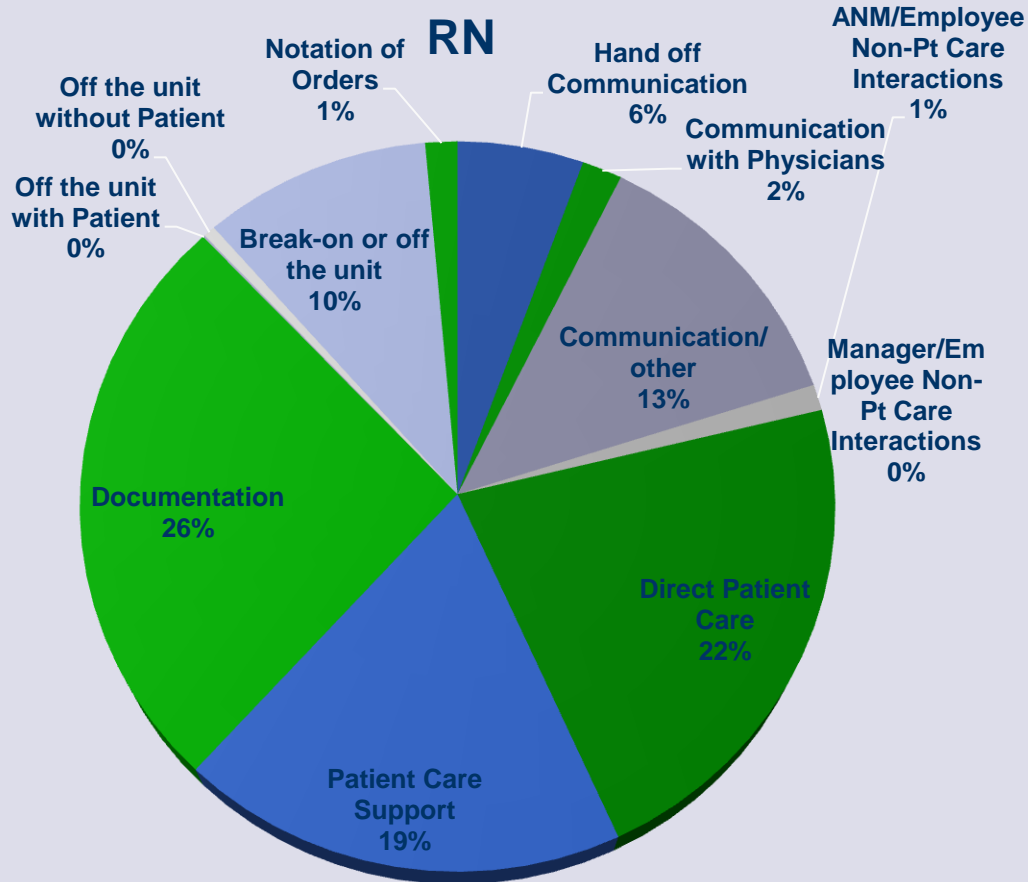
# Evidence: NDNQI Work Context

- Had enough time with patient (% yes)
  - National median = 70%
  - Florida Hospital median range 63-68%
  - Nursing units median range 17-100%
- Didn't have enough time to document
  - National median 73%
  - Florida Hospital median range 68-72%
  - Nursing units median range 36-100%

# Evidence: Time With Patient

- Evidence demonstrates 1-5% increase in time with patient has return value
  - Length of stay, infection rates, adverse events, economic resources, and satisfaction
- Integrated devices, IV pumps & vital sign instrumentation increase time with patient
  - Successful utilization reported by vendors at multiple hospital systems across country

# Surgical Unit



## Benchmark\*

**763 nurses**

**19.3% time direct care**

**35.3% time documentation**

## Population

**Units: ICU, PCU, Surgical**

**Sample =294 RNs**

**Total observations=8451**

## Example: Surgical Unit

**Observations = 2107**

**22.0% time direct care**

**26.0% time documentation**

**19.0% time indirect support**

\*See reference slide

# Project Implications

- Clinical evidence
  - Validate subjective reports, standardized measures
  - Establish benchmarks based on scientific evidence
- Clinical Informatics
  - Identify technology to *increase time with patient*
  - Collaborate across providers, partners, vendors
- Clinical Analytics
  - Integrate analytic data sources and processes to escalate & fund changes in health care systems
- Based on work of new team and business model
  - Integrated IV pumps, VS instrumentation in place 2011

# Lessons Learned

- Clinical evidence
  - Align partnerships & standardize hospital data sets
  - Shared language
- Clinical Analytics
  - Balance performance in real time
  - Shared source
- Nursing Informatics
  - Informatically integrate continuum of care
  - Shared response...to patient and quality care outcomes

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# Thank you for your interest!

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