Transforming Data into Useful Information

or

"Now that we have all this data, what are we going to do with it?"

David Vickers
Director of Performance Improvement – IS
Virginia Hospital Center

March 16, 2012

VIRGINIA HOSPITAL CENTER

Virginia Hospital Center

- Mission: *"To Be the Best Hospital"*

- 334-bed community, not-for-profit hospital in Arlington, VA

- 1,866 employees (FTEs)

- Industry Recognized "Centers of Excellence"

- FY 2010 operating revenue: $352 million

- FY 2010 operating income: $24 million

- $150 million expansion completed in 2004

VIRGINIA HOSPITAL CENTER

VIRGINIA HOSPITAL CENTER

Statistics (2011)*

- Admissions: 21,000
- Inpatient days: 87,000
- ED Visits: 60,000
- Surgeries / GI: 15,000 / 11,200
- Births: 4,250

* Approximations for rounding purposes only

VIRGINIA HOSPITAL CENTER

Coming off HIS Transformation Project…

"The project was truly global in depth and breadth.

It changes how we do business at every level with people, processes and technology in every area."

Darlene Vrotsos, Sr. VP / Chief Nursing Officer
August 30, 2011

VIRGINIA HOSPITAL CENTER

So where's that leave us now?

- *"This organization is starving for information."*

- *"Give us tools to make real-time decisions."*

- *"I've got regulatory, quality and reimbursement anchors weighing me down…without data to manage out of it, I'll sink."*

VIRGINIA HOSPITAL CENTER

Questions we must answer to meet Accountability Standards…

<u>To make Joint Commission list of Top Hospitals</u>

- All individual core measures for heart failure, heart attack, pneumonia, and surgical care with compliance $\geq$ 95% and >30 cases

Virginia Hospital Center

Questions we must answer

Quality: Hospital Acquired Conditions (HACs)

- Overall HAC Rate per 1,000 inpatient admissions / 2011 Rate
- Drill down by unit, by patient, costs

VIRGINIA HOSPITAL CENTER

Questions we must answer

Quality & Financial: Reduce Readmissions

- Heart Failure, Pneumonia, and Myocardial Infarction
- 30 component parts
  - Record and measure % of patients with a pharmacist discussion before discharge
  - Measure % of patients with a discharge summary done on the day of discharge

VIRGINIA HOSPITAL CENTER

Questions we must answer

Financial: Supply Cost per CMI-A AA

- Achieve top 25 % of facilities (lowest cost)

- Measure: Ranking in Price Waterhouse Coopers Comparison Group for Supply Expense per CMI-Adjusted Adjusted Admission

- Drill down by unit, by patient, by payer, top 10, bottom 10

VIRGINIA HOSPITAL CENTER

Questions we must answer

HCAHPS & Patient Satisfaction

- Likelihood to Recommend = 90th Percentile per Press Ganey

- Composite Accountability Score for 8 HCAHPS Domains

- Drill down by unit, by patient

VIRGINIA HOSPITAL CENTER

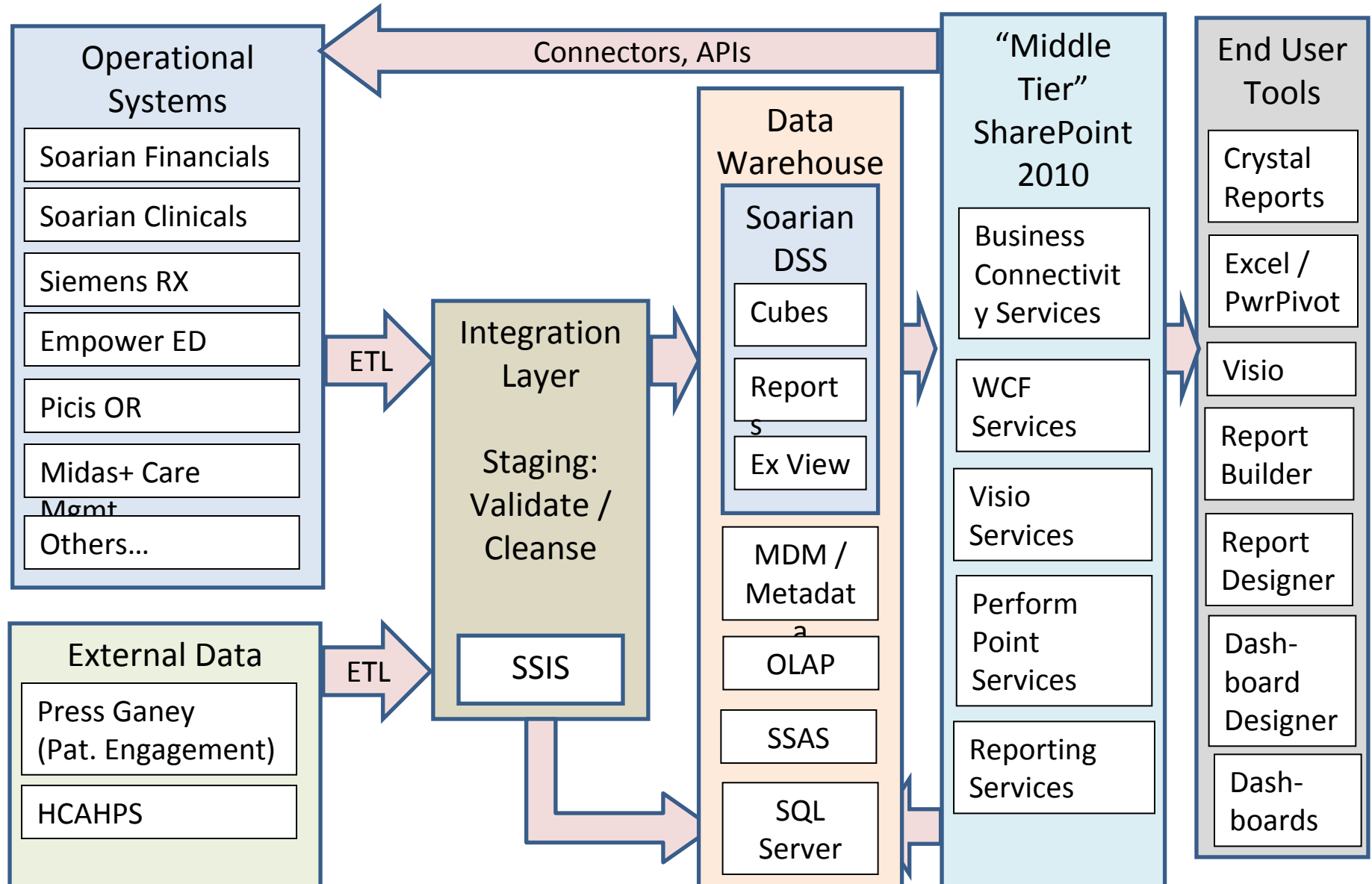# The plan: Deploy BI / EDW solutions

- Governance established

- Foundational system layers in place

- Project team under construction

- Support team established

- Education ongoing

- Pilot projects

VIRGINIA HOSPITAL CENTER

Evolving our BI strategy

- Develop a comprehensive EDW
- <u>Usable</u> Dashboards and end user tools
- Import data from other systems
- Deliver solutions along the way
- Respond to customer needs
- Ongoing prioritization
- Consider Siemens BI strategy / Know industry
- Network / share with other Soarian customers

VIRGINIA HOSPITAL CENTER

VHC EDW Conceptual Model (Draft)

Operational Systems
- Soarian Financials
- Soarian Clinicals
- Siemens RX
- Empower ED
- Picis OR
- Midas+ Care Mgmt
- Others…

External Data
- Press Ganey (Pat. Engagement)
- HCAHPS

ETL → **Integration Layer**

Staging: Validate / Cleanse

SSIS

Data Warehouse

Soarian DSS
- Cubes
- Reports
- Ex View

- MDM / Metadata
- OLAP
- SSAS
- SQL Server

Connectors, APIs

"Middle Tier" SharePoint 2010
- Business Connectivity Services
- WCF Services
- Visio Services
- Perform Point Services
- Reporting Services

End User Tools
- Crystal Reports
- Excel / PwrPivot
- Visio
- Report Builder
- Report Designer
- Dash-board Designer
- Dash-boards

Mitigating our risks

- Don't overload warehouse

- What time is the "right" time?

- Build metadata from ground up: "source of truth",

- Balance delivery time vs. absolute accuracy

VIRGINIA HOSPITAL CENTER

How to reach me…

David Vickers

Director of Performance Improvement

Virginia Hospital Center

703-558-6198

dvickers@virginiahospitalcenter.com

VIRGINIA HOSPITAL CENTER