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Development of an Advanced Analytics DataMart for Machine Learning, Effectiveness Research, and Population Health Trends

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Development of an Advanced Analytics DataMart for Machine Learning, Effectiveness Research, and Population Health Trends

Presented By Priscilla Rivera, MPH-Informatics

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Disclosure

I have no actual or potential conflict of interest in relation to this presentation.



Objectives

- Introduce Baptist Health South Florida & Center for Advanced Analytics
- Discuss work focus
- Method – Importance on Clinical Context in Data Extraction
- Results – High level view of extraction process from EMR to Actionable Datasets
Validation, validation, validation!
- Conclusion – The Journey Continues

Baptist Health South Florida



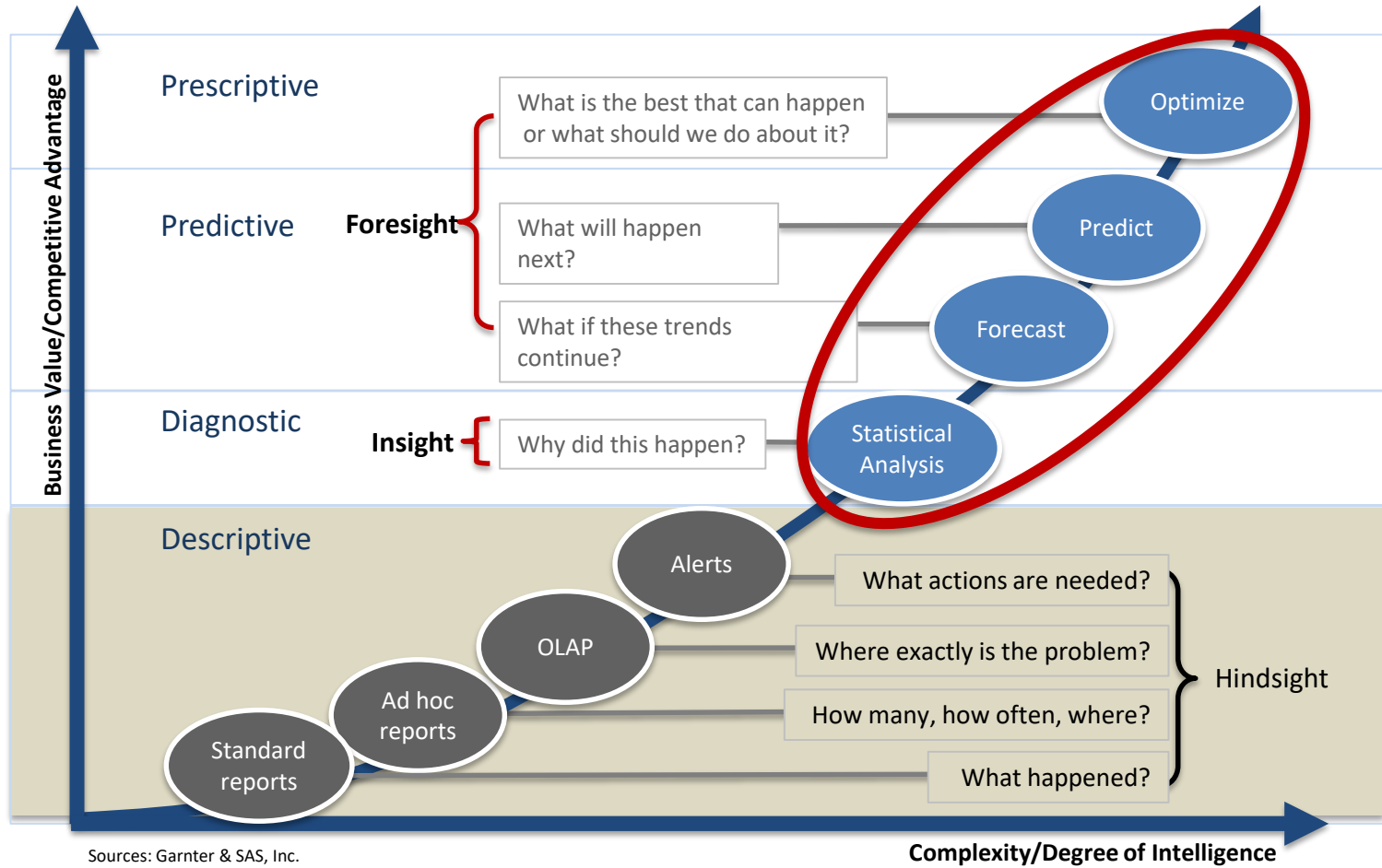
Center for Advanced Analytics

Function:

- Apply clustering and predictive analytics to extract new strategies from our data.
- Identify and predict activities that will optimize clinical, financial and operational processes and outcomes.
- Educate and socialize our findings to senior leadership stakeholders and operational leaders.



Center for Advanced Analytics - Levels of Analytics



Method

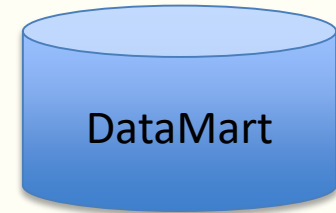


Subject Matter Experts

- Centers of Excellence-
MOSMI
- Physicians /Nurses
- Engineers
- Scientists



- Structured
- Unstructured



- Clinical
- Financial
- Administrative
- Laboratory
- Pharmacy
- Radiology
- Registry

Results

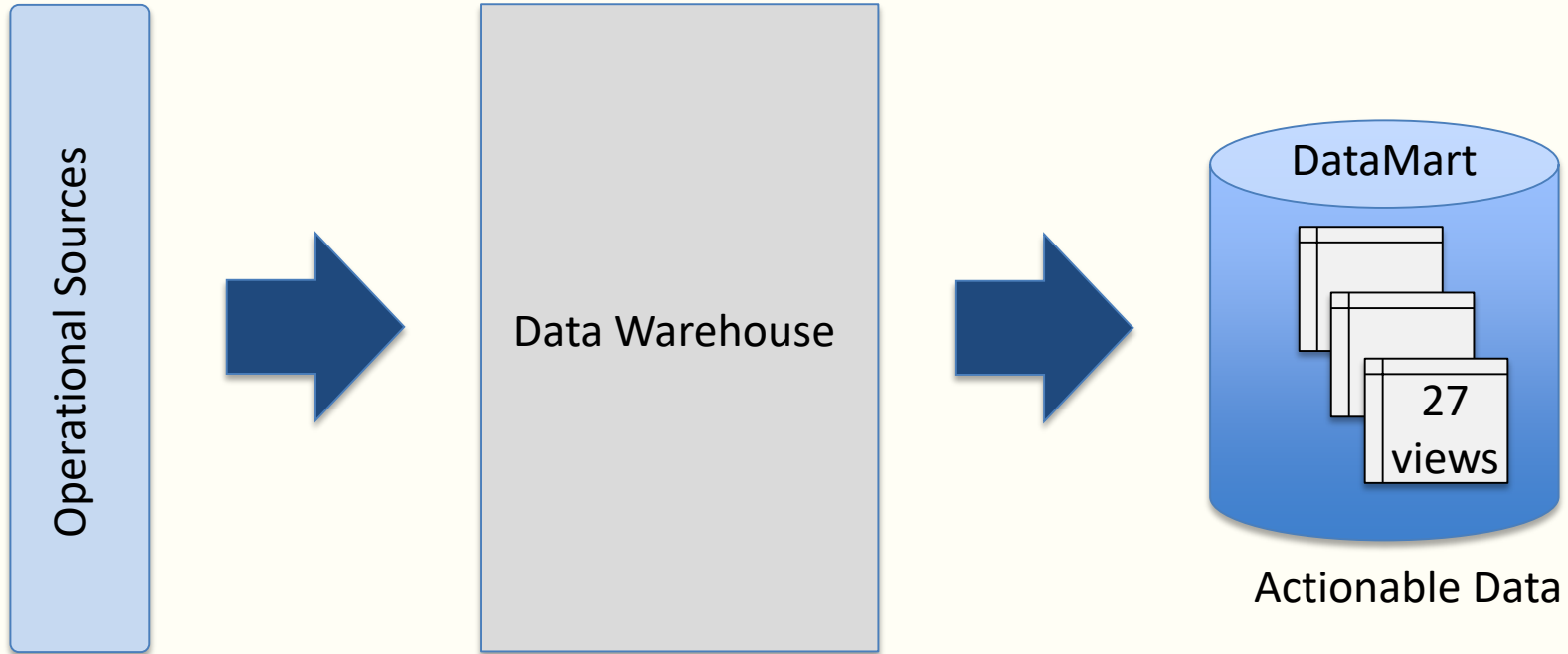


Figure 2. DataMart Source Schema

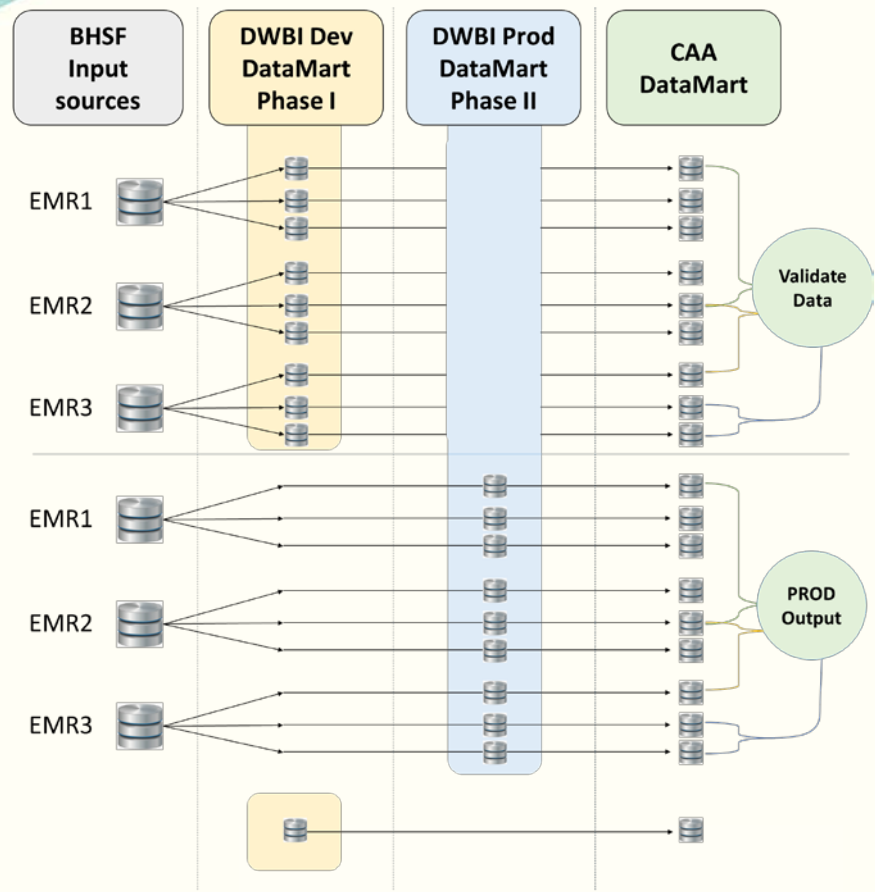
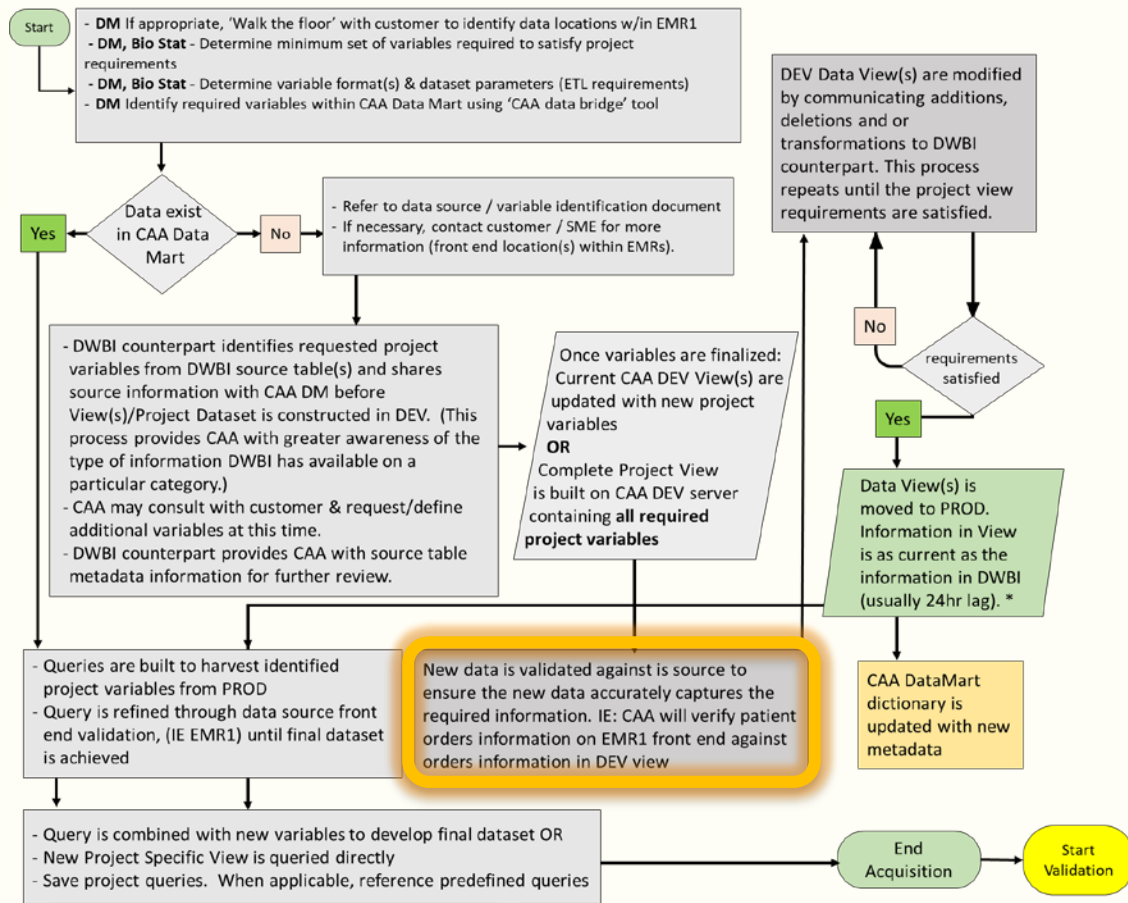


Figure 1. DataMart Creation Flow Diagram

CAA
PM/ DM
Teams

DWBI



*Additions to PROD Views are possible, but require a change order and generally take 1 to 2 weeks to process

Conclusion

- The methods for creating a data mart could be applied to other healthcare systems.
- Our DataMart has already enabled practitioners to systematically mine and analyze data to develop patient risk profiles, predict hospital readmissions, and perform comparative effectiveness studies.
- We believe harnessing big data will serve as a catalyst to achieve first-in-class, innovative, advanced analytics at Baptist Health South Florida.



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