

DEFINING AND QUANTIFYING THE PEDIATRIC CARDIAC SERVICE LINE

Understanding the Service Line's
Economic and Financial Impact

February 24, 2018



Presentation Overview – 2 Parts

- Understanding the Service Line
 - Defining what it is, and what we will be modeling financially
- Building the Financial Model
 - Key principles and concepts

Background – Understanding Service Lines

- Healthcare model that groups patients by:
 - Patients with related diseases or conditions (e.g., cardiovascular, orthopedic, cancer).
 - Patients in specific life stages (e.g., senior health, women's health, pediatrics)
 - Patients receiving treatments for related conditions (e.g., transplant)
- More Commonly Evolved in Adult Institutions
 - Originally driven by economic factors – reimbursement changes
 - Outcome driven reimbursement, DRGs, APGs, etc.
 - Need to reduce care variation, manage costs, maximize reimbursement
 - DRG and APG based classifications – shifting patient management paradigms
 - Includes all clinical services being provided – IP, OP, rehab, home and long term care
- Well established model of Care Management in many Adult Hospital Systems Nationwide – Many different models

Why a Service Line Structure Makes Sense Economically*

- **What is the service line?** The service line, in its most simple explanation, is a reorientation of strategy, resource planning and allocation **on the horizontal continuum across provider entities, versus a vertically oriented approach segregating provider types into independent operating units, or silos.** It is the strategic and operational organization of services in a marketplace, wherever they occur – hospitals, OP clinic, long term care and the like.
- The theoretical value in the horizontal or service line approach is created in **aligned and not duplicative investment strategy** in program, staff, equipment and other resources required for serving patients. The service line approach is the true patient-centered approach to the delivery of healthcare services and is organized in the way that **patients experience healthcare.**

*MedAxiom Consultants – May 2012

<https://www.medaxiom.com/blog/creating-value-in-organization-structure-the-service-line-approach-part-2-of-5-clearly-defining-the-scope-of-operation/>

Pediatric Service Lines

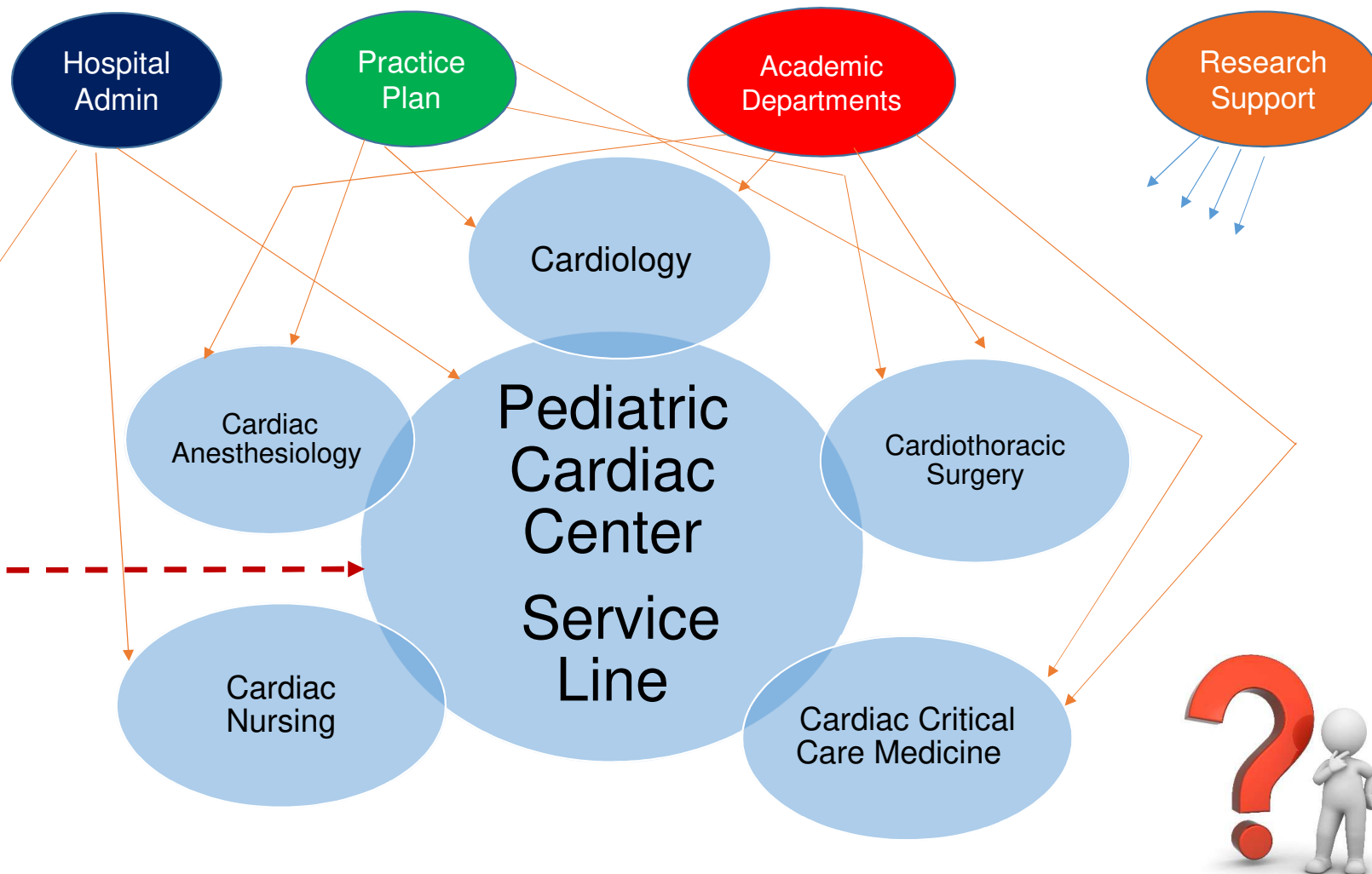
- Less defined/common in Pediatric Institutions
 - Less economic and financial pressure - no Medicare, different reimbursement models
 - More complex care models – harder to quantify for some specialties

Separate Lines of Financial and Administrative Accountability

Cardiac Academic Service Line Matrix/Silo Structure

Information Systems
Marketing
Public Relations
Child Life
Rehabilitation
Nutrition
Case Management
Social Work
Psychology
Office of Clinical QI
Development
Pharmacy

Services with dedicated staff and accountability to the Cardiac Center but direct reporting relationships to other Hospital Departments.



Historical Development of Academic Matrix Organizational Structure –
Difficult to quantify true economic value and presents challenges with
goal alignment and resource utilization and management

Service Line Governing Board with Cross Representation (Hospital/Academic Depts./Finance, etc.)

Cardiology

CT Surgery

Combined Financial and Operational Accountability
Ancillary and Support Services
“Purchased” from Hospital and/or Practice Plan but accountable to Service Line

Cardiac Critical Care

Cardiac Anesthesiology

Cardiac Nursing

**Perhaps a better
Defined Team –
Service Line Concept?**

Paradigm Shift – Service Line Structure

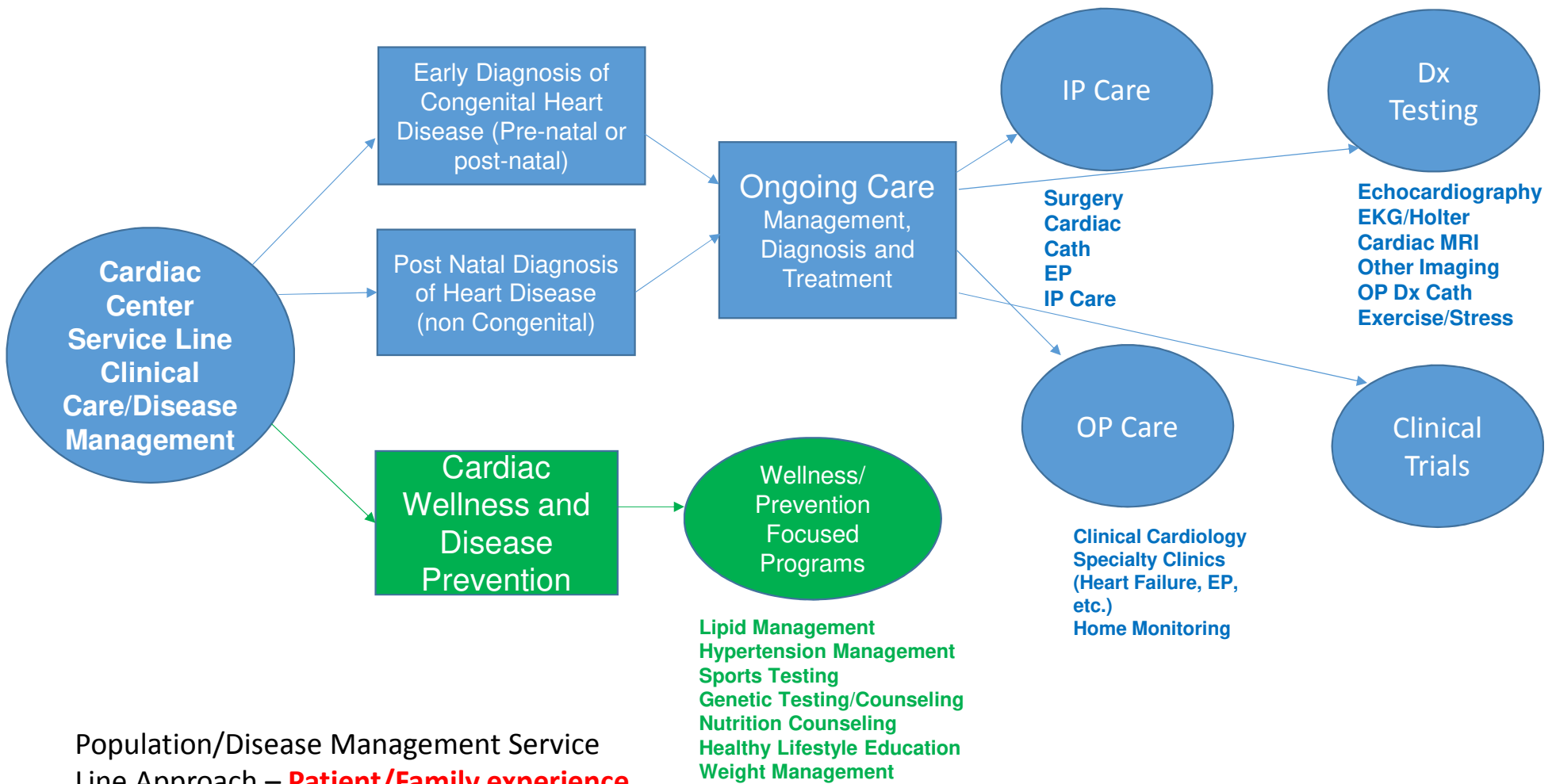
Silo Focused Organizational Structure

- Divisions more accountable to Academic Departments and Practice Plan
- Creates “Every Division for Itself” approach
- Hospital vs. Practice mentality regarding financial resources to support efforts.
- Difficult to collaborate
 - Economic Barriers
 - Duplication of resources
 - Less incentive to share resources
- **Difficult to quantify true financial performance**



Integrated Organizational Structure

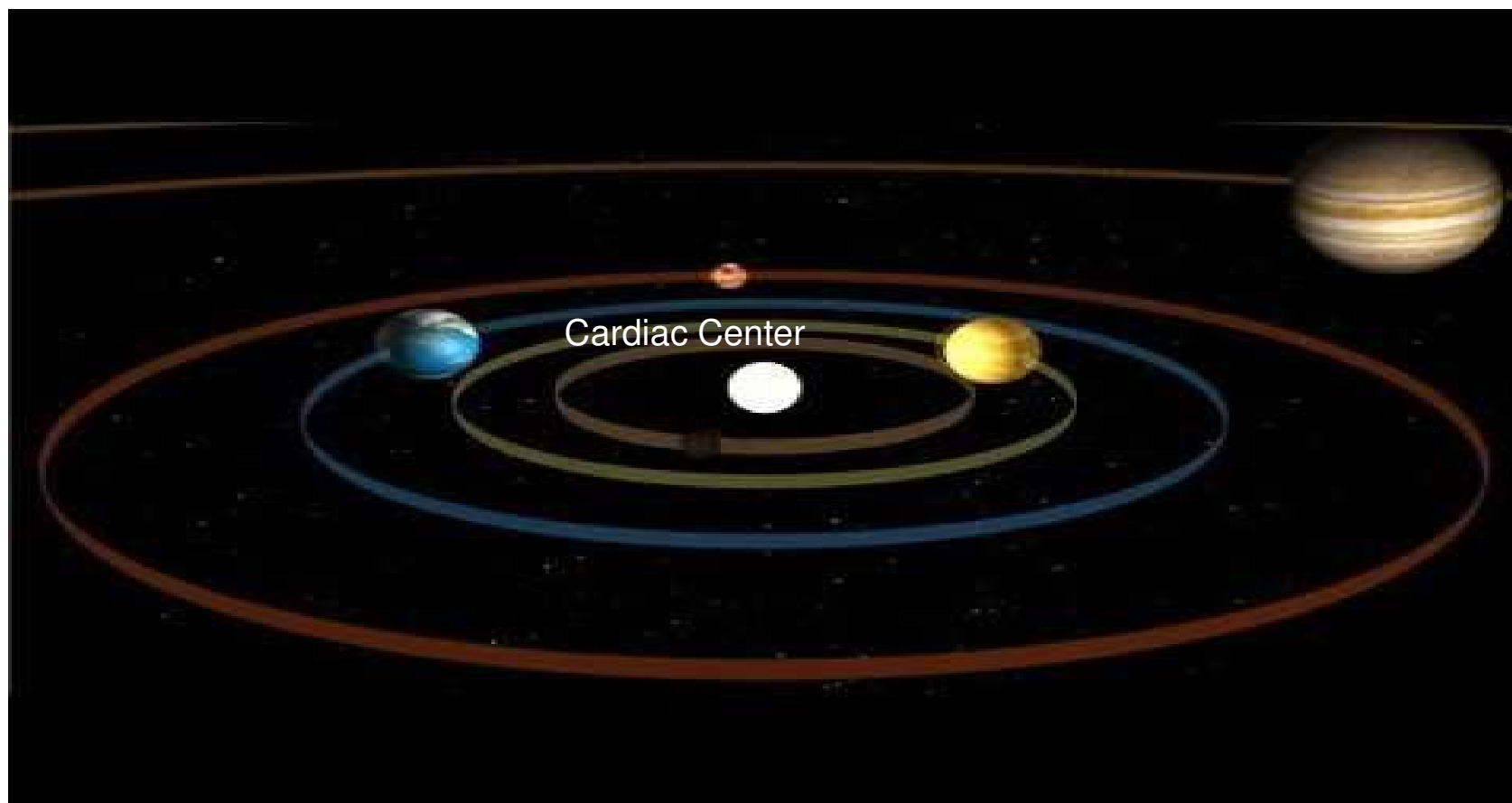
- Cross Division Accountability for Service Line Success
- Expectation of Shared Resources and Collaboration
 - Research
 - Administrative Support Services
 - Some Clinical Support Services
- Better positioned to implement comprehensive strategic plan
- Structure encourages collaboration
- Needs economic infrastructure for success
 - Ability to make resource decisions based on Service Line need
- **Easier to measure true financial performance**



Population/Disease Management Service
Line Approach – **Patient/Family experience**

SERVICE LINE FINANCIAL PERFORMANCE MEASUREMENT AND ANALYSIS

Our View of the World?



Service Line Financial Analysis

Why it's Important For Us To Understand

Service Line 1

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High ROI

Service Line 2

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Low ROI

Service Line 3

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Negative ROI


Supporting the Mission – Service Line ROI

- Hospital Economic/Financial Reality: The Service Line View
 - **High performing Service Lines helps insure continued Hospital strong return on investment**
 - **Typically Procedure Driven i.e. Cardiac, Orthopedic, etc.**
 - ROI generated from financially strong Service Lines can help support other key service lines that are an important part of the Mission but have low or negative ROI
 - Non-procedure driven Service Lines i.e. Behavioral Health, Endocrine, Primary Care, etc.
 - **Win – win** – also supports **smart business strategy** - ongoing investment in Cardiac Service Line
 - Growth Insures funds also more available for less financially successful Service Lines

Building the Model

Creating a Service Line Financial Analysis

Defining the Revenue



Defining the elements of
service line financial
performance

- **Clinical revenue from IP and OP services (includes Hospital and Practice Plan)**
- **Fixed point in time (1 year)**
- **All encounters included (based on charges, net revenue, costs, etc. generated during that time period)**
- **Direct Costs associated with those encounters (labor, supplies, etc.)**
- **Indirect Costs (overhead – administrative, etc.)**

Finding the Data - Truven Pediatric Definitions

IMPORTANT – Original Classifications Provided Do Not Capture the Full Service Line Data Set

- Truven – Only Cardiovascular ICD-10 “I” codes (cardiac disease – non-congenital (angina, valve disorders, circulatory disorders, etc.)
- **More Accurate Analysis**
 - Include all Cardiac Related ICD-10
 - “I” codes - cardiovascular
- **Include all Neonatal diagnoses which are primary congenital cardiac anomalies (many are included in Truven Neonatal Service Line Definition)**
 - Q 200-Q 265
- Still imperfect:
 - Primary Dx for encounter may be non-cardiac-but a congenital patient i.e. HLHS post Fontan presenting with Plastic Bronchitis, PLE as primary Dx.

Data Definition Expanded

- Starting Data Definition: Primary ICD-10 Dx (ICD-9 for previous years)

- Primary Cardiac Disease Dx
- Neonatal-primary cardiac congenital dx

- Heart Transplant (heart/lung?)
- Maternal/fetal with primary fetal CHD dx
- Research/Non-clinical Revenue (currently not included)

Service Line	IP/OP Charges (Hosp. and Prof).	Deductions/Con tractual Allowances	Expected Payments	Direct Costs	Contribution Margin	CM %	Indirect Costs	Net Income/ Loss	NI %
Cardiac	40,000,000	24,000,000	15,600,000	8,480,000	7,120,000	45.64%	3,008,000	4,112,000	26.36%
Orthopedic	25,800,000	15,738,000	10,062,000	5,745,600	4,316,400	42.90%	2,298,240	2,018,160	20.06%
Cancer	31,800,000	19,398,000	12,402,000	6,863,200	5,538,800	44.66%	2,793,280	2,745,520	22.14%
Behavioral	4,000,000	3,000,000	1,000,000	1,400,000	-400,000	-40.00%	490,000	-890,000	-89.00%
Primary Care	2,000,000	1,400,000	600,000	900,000	-300,000	-50.00%	315,000	-615,000	-102.50%
Digestive/GI	22,000,000	13,640,000	8,360,000	4,950,000	3,410,000	40.79%	1,824,000	1,586,000	18.97%
Neurologic	21,200,000	13,144,000	8,056,000	4,994,720	3,061,280	38.00%	1,748,152	1,313,128	16.30%
Neonatal	31,300,000	19,406,000	11,894,000	6,500,000	5,394,000	45.35%	2,250,000	3,144,000	26.43%
Endocrine	8,000,000	4,960,000	3,040,000	2,300,000	740,000	24.34%	637,000	103,000	3.39%
Transplant	12,000,000	7,440,000	4,560,000	2,736,000	1,824,000	40.00%	1,094,400	729,600	16.00%
TOTAL	198,100,000	122,526,000	75,574,000	44,869,520	30,704,480	40.63%	16,458,072	14,246,408	18.85%

Other Analysis

- Breakout of Surgical/Medical Data
- OP/IP Data
- Calculate SL contribution to total Hospital Margin

Cardiac SL Margin = Overall contribution % to Hospital Margin
Hospital Margin

Cardiac Contribution Margin	<u>7,120,000</u>	
Hospital Contribution Margin	30,704,480	23.19%

Hospital Income

Cardiac Income Contribution	<u>4,112,000</u>	
Hospital Income	14,246,408	28.86%

Summary – Path Toward a More Practical Service Line Approach and Financial Understanding of Service Line Impact

- Defining Service Lines – Consider Options that may work for your organization – requires organizational and departmental commitment
- Clarify Data definitions to determine financial modeling
- Develop Financial P and L based on SL definitions
- Use as a tool to understand actual financial impact of Service Line – and Return on Investment