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HEALTHCARE SOLUTIONS

McCook Community hospital

How to make Time Driven ABC work

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Beyond Budgeting Conference, Houston
April 18, 2012

General Introduction

- ABC Experience?
- Healthcare?
- Implementation?

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Arkonas is a management consulting firm specializing in reducing costs, improving processes, and increasing profitability.

Through our innovative practices we help our clients achieve high performance by reducing costs and maximizing profitability.

The value of our Solutions-Based consulting services is best understood by the characteristics of our work: *Fast, Flexible, Relevant, Actionable, Simple, and Affordable*.

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Agenda

- Introduction – ABC & TDABC
- McCook ABC - Implementation
- McCook Model
  - Building and layout
  - Outcomes and Analysis
  - Process Improvement and Use
- Going Forward
- Q&A

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Activity Based Costing

- 25 years
- ABC is a methodology that measures the cost of activities, resources, and products/ services.
- Identifies the key activities performed in all stages of delivering the product or service to the customer.

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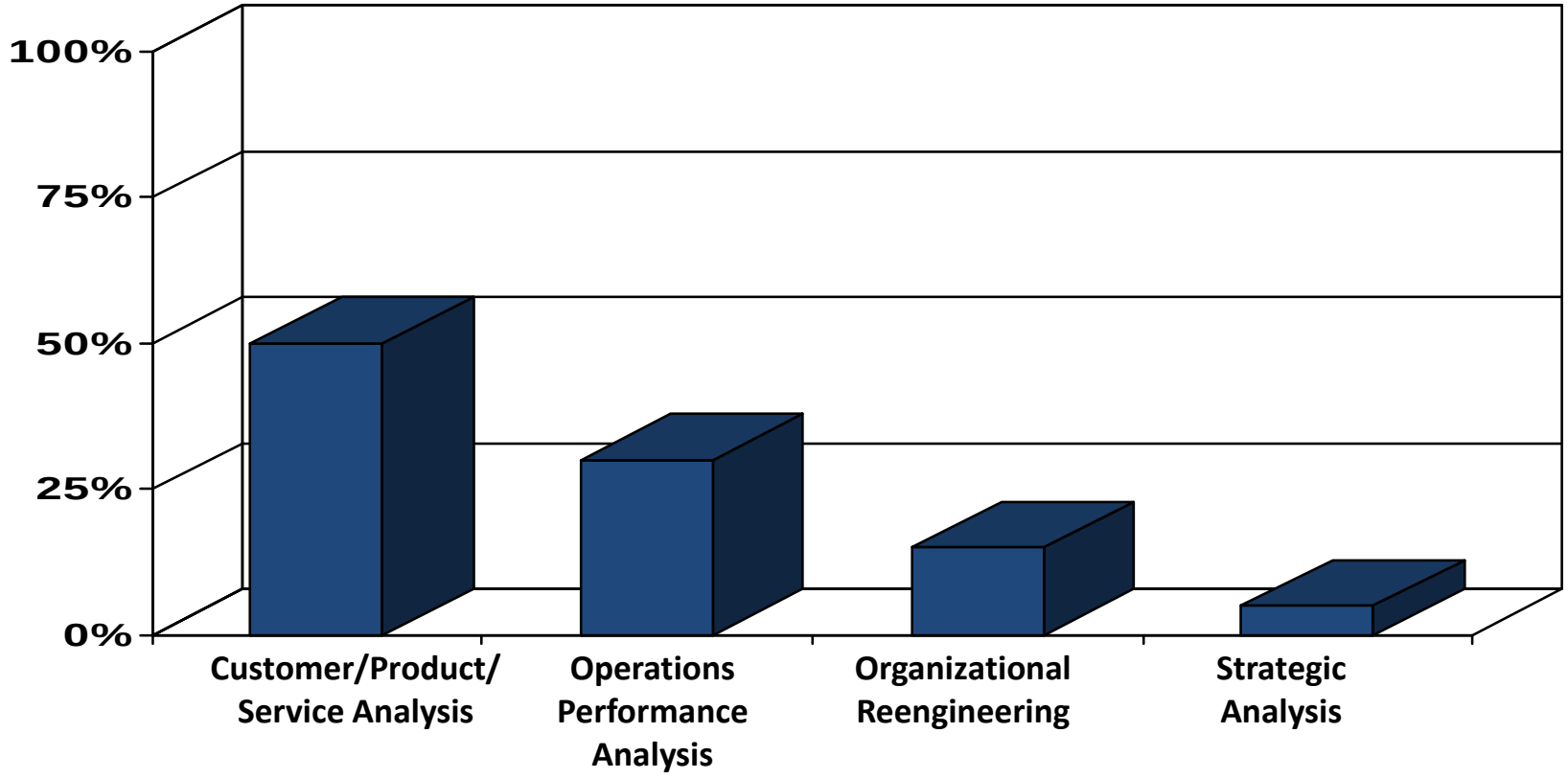
Activity Based Costing

Activity Based Costing

Primary Uses of Activity Based Costing Initiatives



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From Managing Dollars to Managing Activities

Traditional View

DIAGNOSTIC IMAGING

	Actual	%	Variance
Salaries	461	65%	0
Training	90	13%	75
Travel	75	11%	5
Depreciation	69	9%	5
Professional Fees	15	2%	4
Total	$ 713	100%	154

Operational View

DIAGNOSTIC IMAGING

	Actual	%
Perform Ultrasound Scan	356	50%
Perform CT Scan	143	20%
Examine Patient	36	5%
Monitor Condition	57	8%
Print Images	70	8%
Perform Additional Scans	51	9%
Total	**$ 713**	**100%**

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Time Driven Activity Based Costing

- Improved version
- Recognizes that most business processes rarely change. A time equation can be determined
- Can be installed and updated quickly
- Can handle millions of transactions
- It reflects an estimated time per activity
- It is very useful in healthcare

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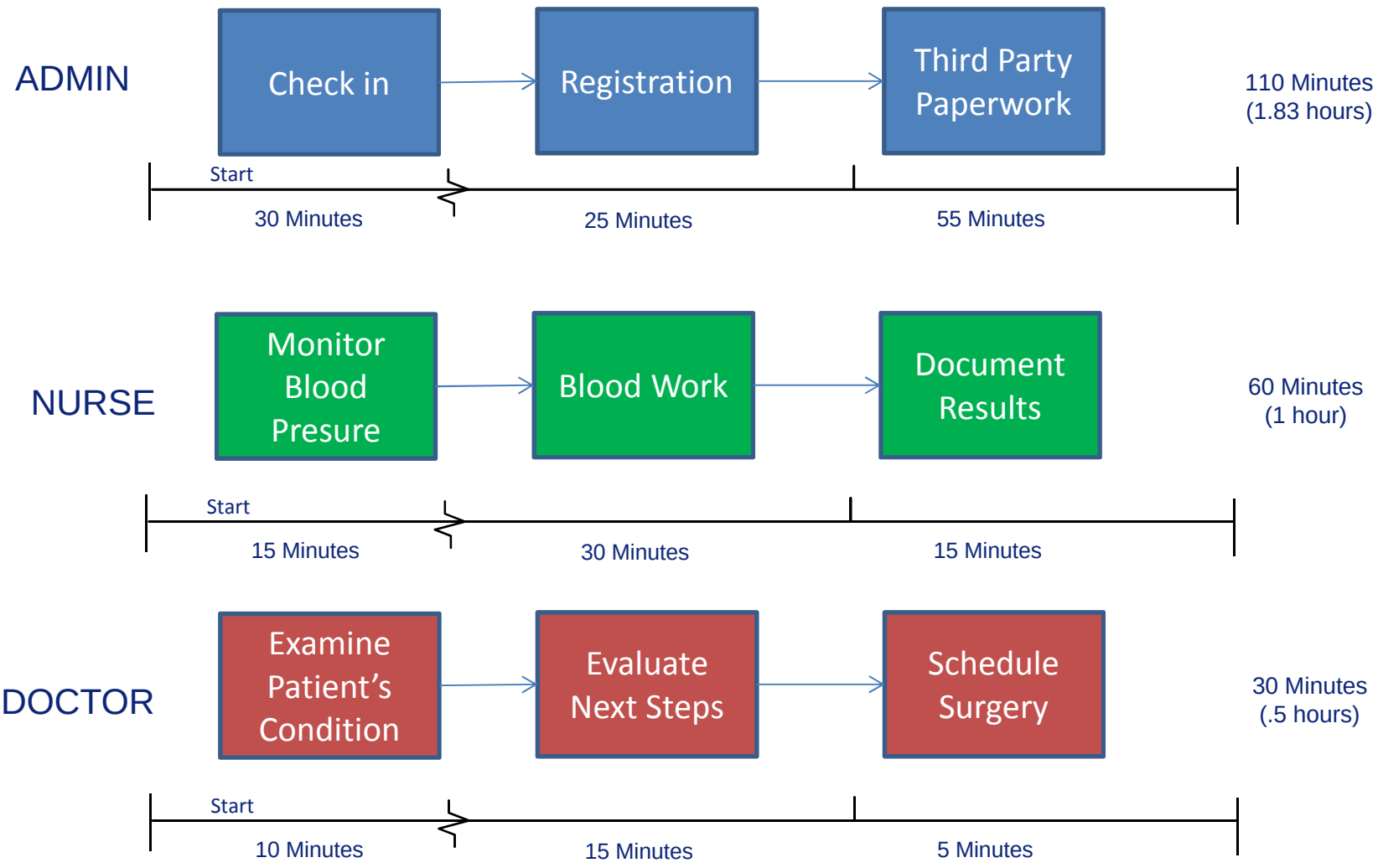
Costing a Patient Using TDABC



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Costing a Patient Using TDABC

ADMIN	$65,000
NURSE	$80,000
DOCTOR	$150,000

216 Available days per year
18 Workdays per month
6 Hours a day
108 Hours per month

	$/Hour	Hours	Cost
	$50	1.83	**$91.50**
	$62	1	**$62**
	$115	.5	**$57.5**
	TOTAL		**$211.00**

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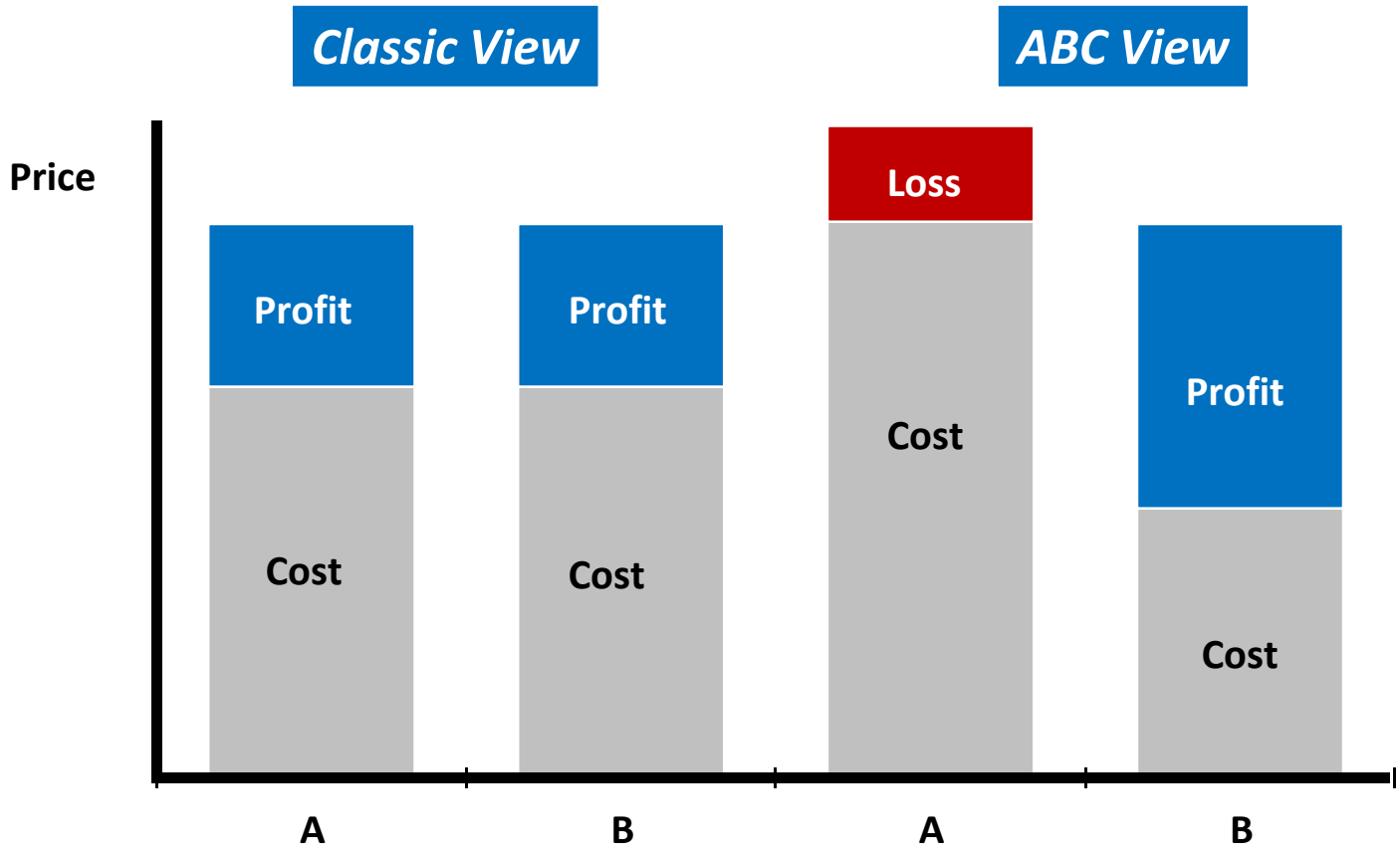
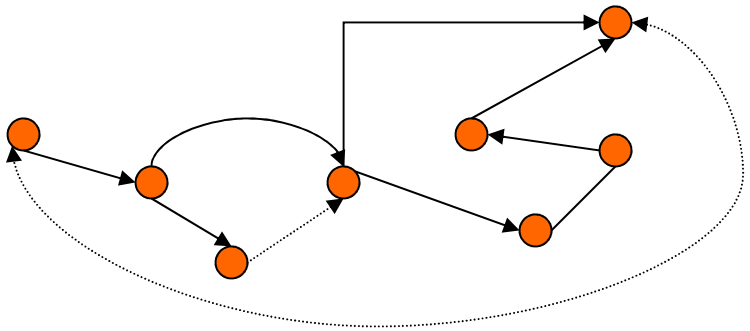
Differences in ABC vs Traditional



Products /Lines/
Customers/Regions:

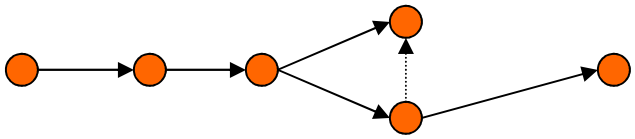
Process Improvement

INEFFICIENT PROCESS



Actual Cost $1,000,000

IMPROVED PROCESS



Optimized Cost $850,000

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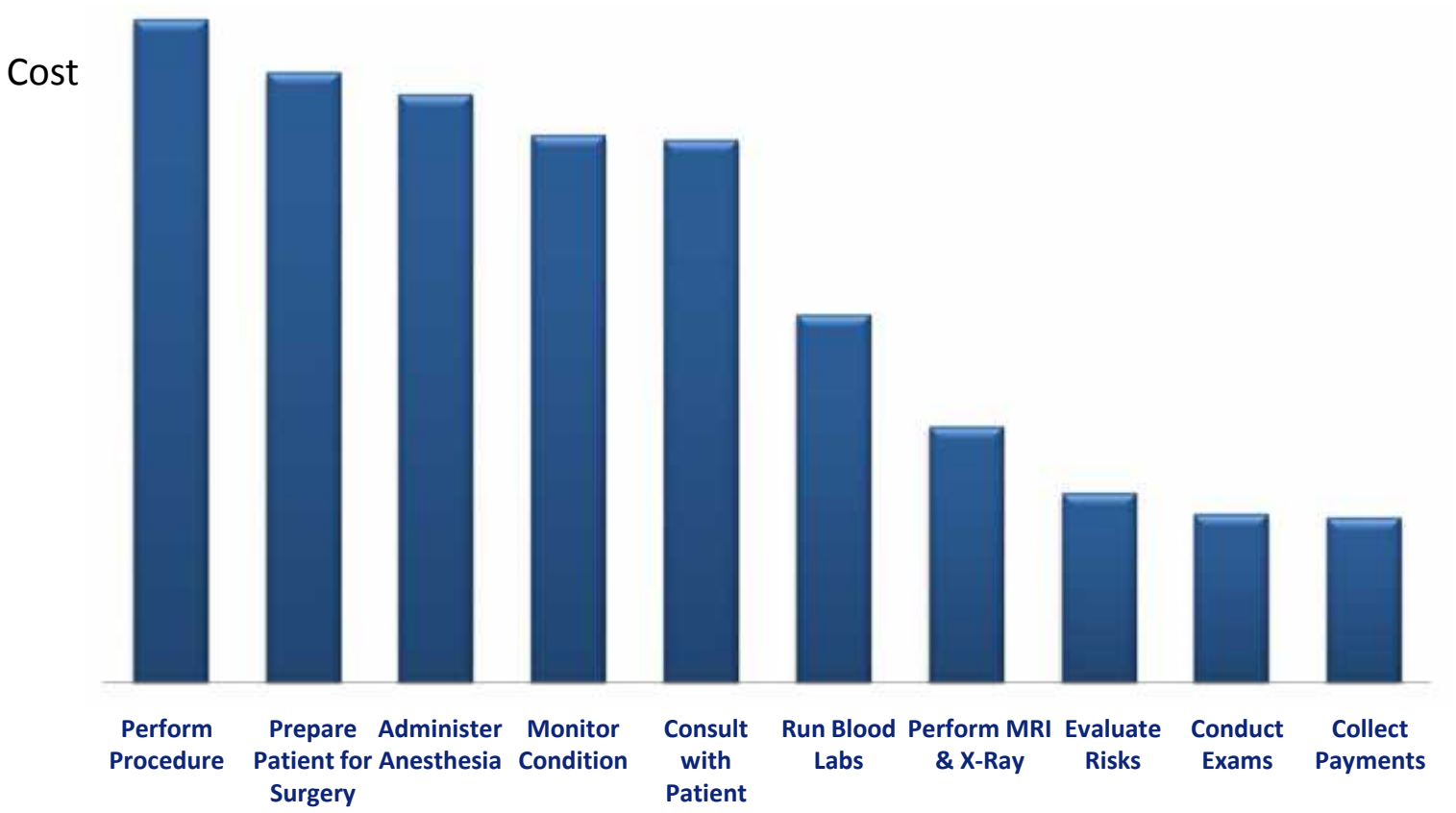
TOP 10 Activities – Knee INJURY



Value can be improved by changing efficiency and effectiveness of processes

Why ABC in Healthcare?

- Improved Value to Patients
- Outcomes and Cost
- Improved Performance and Value
- A detailed view of profitability

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Community Hospital, McCook Nebraska

- 25 Bed Critical Access, not-for-profit, Joint Commission accredited hospital with Gross Revenues of approximately $45 million.
- Located in the southwest corner of Nebraska in a community of about 8,000 residents, with a referral area of about 30,000 people.
- Provide an array of services to include ER, Surgery, Imaging, Therapeutic, OB, and a multitude of Outpatient care services with more than 30 visiting specialist physicians.

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Community Hospital, McCook Nebraska

Mission:

To excel at providing for the healthcare needs of our region through quality, efficient and patient-centered care.

Vision:

To lead the region as a Healthcare Team by exceeding patient expectations through the advancement of quality medical services.

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Community Hospital Culture

- Culture of Continuous Improvement
  - **Process Based Management Philosophy**
    - Manage Processes vs. Departments.
  - **Process Improvement Techniques including Lean and Six Sigma methodologies.**
    - Improve the Quality and Efficiency of the care we provide.
  - **Focus on the Customer's, Internal and External, to improve our Service for the Patients.**
    - Who are my Customers and how do my processes affect them?

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Reasons for ABC

- We wanted a costing system that would enhance our culture of Continuous Improvement.
  - **ABC costing model more accurately reflects actual causes of cost vs. traditional cost accounting methods.**
    - **We wanted to be able to provide financial information around the actual items generating the cost.**
  - **ABC is able to help exploit the cost contributors to assist with focusing our improvement efforts.**

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ABC at Community Hospital

- We started the process by generating a high priority Strategic Initiative.
- Initiated the Planning Process in Summer 2009.
  - **Identified the need for dedicated staff.**
  - **Analyzed different ABC software solutions.**
  - **Worked with a consultant on implementation strategies.**
- Selected Prodacapo Software Solution
  - **Affordable solution – Very important for a smaller organization.**
  - **Flexibility – Ability to model our organization in a way that made sense to us.**
  - **Process Improvement focus – Provided process mapping capabilities with Activity associated costs.**

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Critical Success Factors

- End Model had to match up with the GL.
- Easy understanding of Model and Results.
- Ability to compare like patients.
- Ability to easily review like patients and drill into costs and revenues.
- Ability to review Service Line Profitability and Activity Costs.
- Graphical interface with process mapping.

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Building our Model

- Defined the Model Around Departments
  - **Management is familiar with the structure.**
  - **Our GL structure is similar, providing:**
    - **A simpler approach to collecting the data out of our system.**
    - **Ability to conceptually track the model's progress.**
      - **Does this make sense for this Department?**
  - **Can carry over to the Revenue Side to help tie off with the GL.**
    - **Revenue side built around Charges by Department.**
- Began the Implementation Process in Summer of 2010.
  - **Implementation took about 4 months.**

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Implementation Process

- First Pass – Not really an ABC Model
  - **Kept development simple**
    - **Two (2) Activities and two (2) Resources across all Departments → Fixed and Variable.**
  - **Helped us become familiar with the software and develop a model structure.**
  - **Demonstrated the potential ABC would provide with out a lot of work.**
  - **Generated ideas for directing model development.**
    - **Which departments to focus on first?**
    - **How to group patients and was the information available in our system?**

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Model Development

- Defined two (2) basic types of departments:
  - **Revenue Generating – Radiology, Surgery**
  - **Non-Revenue Generating – Accounting, Human Resources**

- Identified four (4) main categories to focus our data collection efforts:
  - **General Ledger – Expense Information**
    - **Salaries, Supply expense, etc.**
  - **Resources – Staff & Positions**
    - **Radiology Department – 5 Staff members in 3 Positions.**
  - **Activities – Frequencies & Times**
    - **How long does this take and how often do we do it?**
  - **Cost Objects – Revenue/Charges & Patient Visits**
    - **This patient visit had all of these charges.**

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Moving into ABC

- Specific Activities:
  - Perform CT of the Head w/out Contrast
- Specific Times:
  - How long does this Activity take?
    - **Interviewed staff → 5 – 8 minutes**
- Actual Volumes:
  - How many of these do we do within the specified time frame?
    - **Collected actual charge volume.**
- Identify Cost Drivers:
  - How does this Activity relate to the patient?
    - Each patient visit with this charge code.

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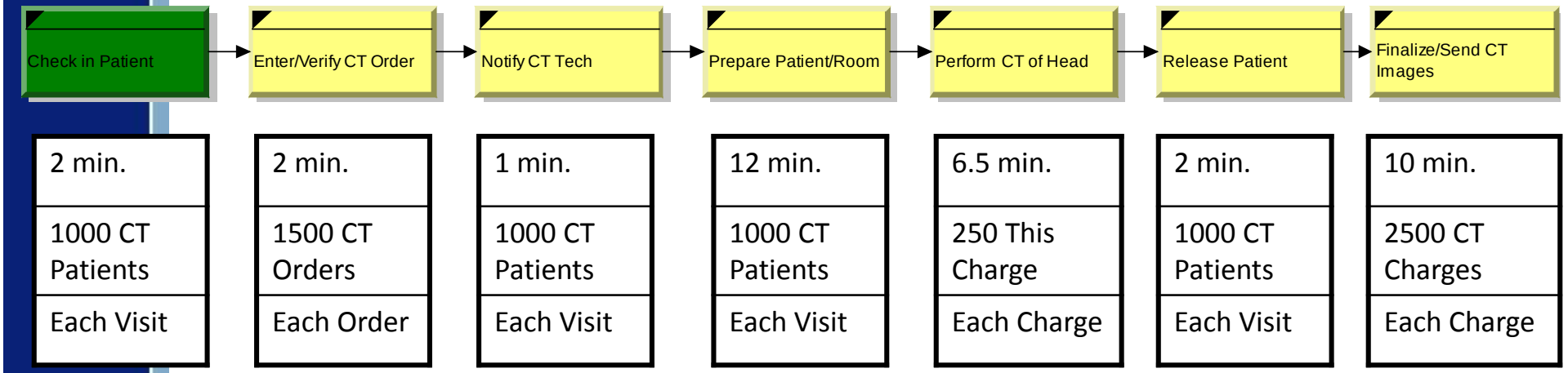
Example of ABC



- Can then assign the Labor or Resources to each Activity
  - i.e. CT Tech Position performs the last 4 Activities.
- Can apply the appropriate cost to all CT Patients based on their charges.

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First Steps to Development

- Second Pass – Initiated a Pilot Service Line that went across three (3) Departments.
  - **Selected Pulmonary Function Study**
    - **Simple service with manageable volumes.**
    - **Included Activities from Lab, Radiology, and Respiratory Therapy.**
  - **Collected Activities in Detail**
    - **Collected charge volume associated with the patients.**
    - **Interviewed Department Directors to identify specific Activities and Times for providing the service.**
    - **Identified specific Cost Drivers.**
  - **Helped us learn how to best collect ABC information.**

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On-going Development Strategy

- Focus on Service Lines of interest based on our most current model.
  - **Collect all Activities associated with every department to provide that Service.**
  - **Process Map our Service Line Activities to identify focus for improvements.**
  - **As our Activity detail and accuracy rises, increase focus on our capacity utilization.**
    - **Where do have some staff flexibility?**

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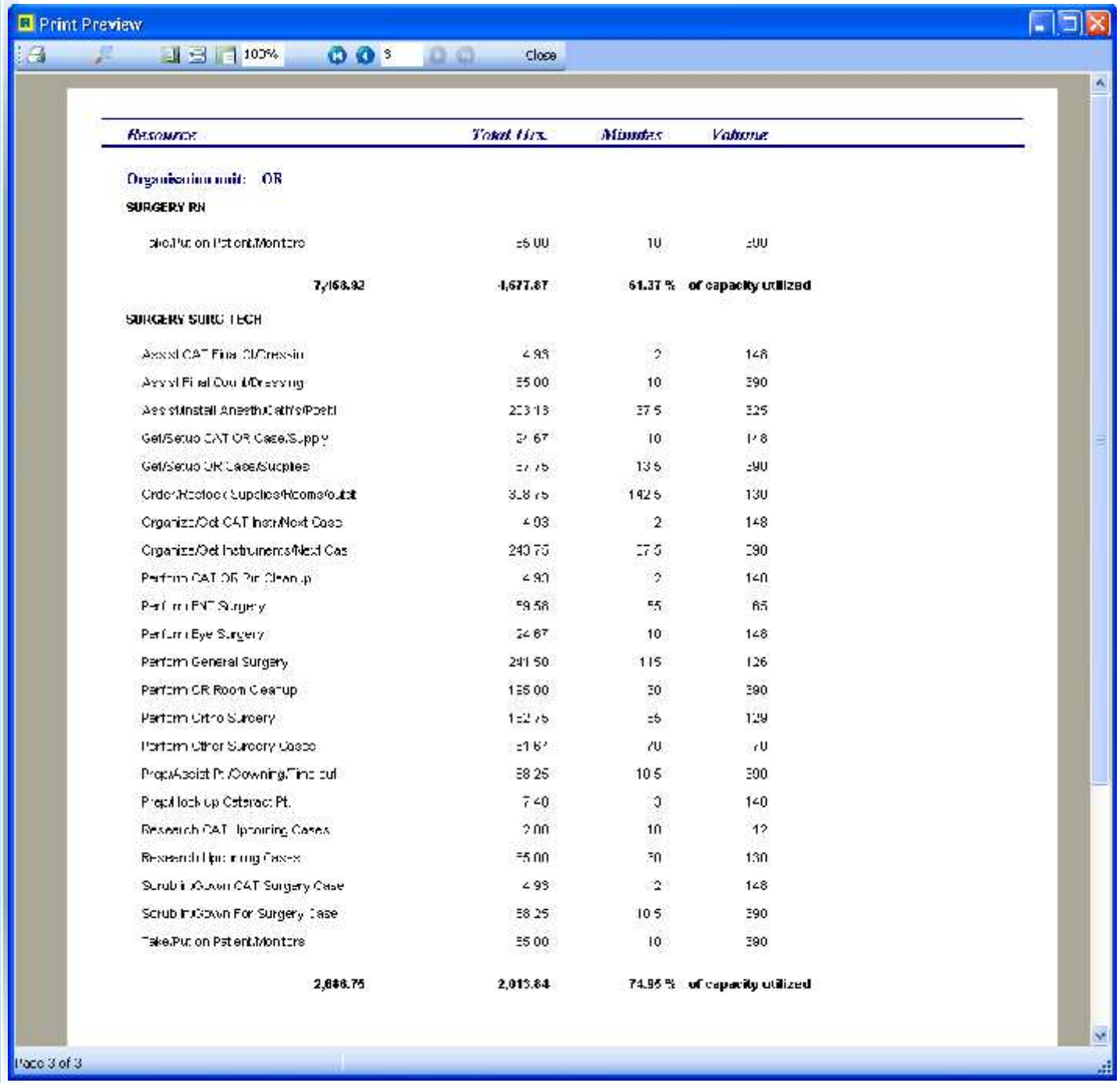

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Model Building Challenges

- Understanding how Expenses are booked in the GL
  - **Certain Costs that pertain to all departments booked to a single account, e.g. Employee Benefits = Admin & General**
- Our solution
  - **On an Excel template we export our GL to pull and categorize some elements based on our defined criteria (Employee Benefits is done this way).**

- Revenue Adjustments
  - **Contractual Adjustments associated with each Payer.**
    - **These are Adjustments per Insurance Contracts**
- Our solution
  - **On an Excel template – We collect all gross revenue by payer & by department and estimate the adjustments.**
  - **Not 100% Accurate – But gets us very close.**

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Model Building Challenges

- Establishing how Costs Relate to Departments
  - **How does Building Depreciation relate to each Department?**
- Our solution
  - **Load Cost Transfer Drivers into Prodacapo for the database to distribute the cost – i.e. Square footage for Building Depreciation.**
- Becoming Overwhelmed
  - **This seems like an impossible task!**
- Our solution
  - **A focus on planning and preparation.**
  - **Keeping it simple at the beginning.**
  - **Developing the Model in a series of passes.**
    - **Each pass gets us closer to where we want to be.**

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Model Building Challenges

- Tying it all together
  - **How do Resources relate to Activities?**
  - **How do Activities relate to the Service?**
  - **How does the Service relate to the Patient?**
- Our solution
  - **Talking with Staff – Learning about their job.**
  - **Understanding our Information System.**
    - **What do we already have that we can use?**
    - **What else do we need?**

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Understanding Cost Drivers

- Cost Drivers are defined based on how Activities are related to the Patient Visit.
  - **Some may be simple and broad**
    - **Check Patient in → Every Patient Visit**
  - **Some may be more complex and specific**
    - **Perform Cataract Operation → Every Cataract Patient**
- Cost Drivers can have specific Activities attached to them and can utilize Attributes to become even more specific.

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56 Activities per Cost Driver

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Cost Driver	Organisation Unit	Activity	Cost	FTE
0423ACT # of CT Visits				
	C720 XRAY	ACT72304_1 LC Notify/Prep CT Tech/Room/Pt	80,000.00	1.50
	C723 CT SCAN	ACT72304 DC Notify/Prep CT Tech/Room/Pt	53,649.56	0.14
	C720 XRAY	ACT72315_1 LC Release CT Patient	9,337.50	0.15
	C723 CT SCAN	ACT72315 DC Release CT Patient	6,903.79	0.02
			158,694.22	**1.80**
0423ACT72312 Other Non-Contrast CT Procedures				
	C720 XRAY	ACT72312_1 LC Perform Other CT Non-Cont.	438.38	0.01
	C723 CT SCAN	ACT72312 DC Perform Other CT Non-Cont.	324.12	0.00
			762.50	**0.01**
0423ACT72314 Other Contrast CT Procedures				
	C720 XRAY	ACT72314_1 LC Perform Other CT Contrast	1,139.79	0.02
	C723 CT SCAN	ACT72314 DC Perform Other CT Contrast	842.72	0.00
			1,982.51	**0.02**
0423ACT72319 CT 6.5				
	C720 XRAY	ACT72319_1 LC Perform CT 6.5	2,607.27	0.04
	C723 CT SCAN	ACT72319 DC Perform CT 6.5	1,927.71	0.01
			4,534.98	**0.05**
0423ACT72320 CT 12.5				
	C720 XRAY	ACT72320_1 LC Perform CT 12.5	24,686.30	0.39
	C723 CT SCAN	ACT72320 DC Perform CT 12.5	18,252.10	0.05
			42,938.39	**0.43**
0423ACT72330 CT 7.5				
	C720 XRAY	ACT72330_1 LC Perform CT 7.5	4,537.24	0.07
	C723 CT SCAN	ACT72330 DC Perform CT 7.5	3,354.66	0.01
			7,891.90	**0.08**
0423ACT72339 CT 17.5				
	C720 XRAY	ACT72339_1 LC Perform CT 17.5	767.17	0.01
	C723 CT SCAN	ACT72339 DC Perform CT 17.5	567.21	0.00
			1,334.38	**0.01**

Defining our Cost Objects

- Defined our Delivered Products as Department Charges
  - **“This Department” had “this Revenue and Expense”.**
  - **Helped analyze and tie off with the GL.**
- Defined our Customers as our Patients
  - **Allows us to focus on Patient’s of interest.**
- Defined our Sales Items as our Patient Visits
  - **Helped initiate a way to group our Patient Visits and Services.**
  - **Per Patient Visit – All Charges are shown of the services provided.**
- Costing and Profitability Model is on Patient Level

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	Revenue	Cost	Profit	# Patients
010 Inpatient Visits				
193 SIMPLE PNEUMONIA & PLEURISY W				
193_BC SIMPLE PNEUMONIA & PLEURISY W	12,331.50	10,897.91	1,433.59	1
193_MC SIMPLE PNEUMONIA & PLEURISY W	11,754.79	12,847.75	-1,092.96	1
	24,086.29	23,745.66	340.63	2
194 SIMPLE PNEUMONIA & PLEURISY W				
194_MA SIMPLE PNEUMONIA & PLEURISY W	14,821.50	14,363.08	458.42	1
194_MC SIMPLE PNEUMONIA & PLEURISY W	154,310.57	149,509.63	4,800.94	13
	169,132.07	163,872.71	5,259.36	14
195 SIMPLE PNEUMONIA & PLEURISY W/				
195_BC SIMPLE PNEUMONIA & PLEURISY W/	15,724.75	17,643.10	-1,918.35	2
195_MC SIMPLE PNEUMONIA & PLEURISY W/	68,744.00	67,482.55	1,261.45	7
	84,468.75	85,125.65	-656.90	9

	Revenue	Cost	Profit	# Patients
194 SIMPLE PNEUMONIA & PLEURISY W				
194_MA SIMPLE PNEUMONIA & PLEURISY W				
1407795010 Inpatient Visit 1407795	14,821.50	14,363.08	458.42	1
	14,821.50	14,363.08	458.42	1
194_MC SIMPLE PNEUMONIA & PLEURISY W				
1379471010 Inpatient Visit 1379471	0.00	81.73	-81.73	1
1385851010 Inpatient Visit 1385851	5,934.54	7,449.42	-1,514.88	1
1390053010 Inpatient Visit 1390053	14,515.50	13,463.67	1,051.83	1
1390378010 Inpatient Visit 1390378	15,968.00	14,943.50	1,024.50	1
1391533010 Inpatient Visit 1391533	10,326.25	10,536.52	-210.27	1
1391647010 Inpatient Visit 1391647	20,524.25	19,077.50	1,446.75	1
1399833010 Inpatient Visit 1399833	17,718.00	16,405.74	1,312.26	1
1400746010 Inpatient Visit 1400746	8,346.50	8,810.08	-463.58	1
1405831010 Inpatient Visit 1405831	17,417.75	15,907.03	1,510.72	1
1406066010 Inpatient Visit 1406066	20,992.50	18,392.63	2,599.87	1
1409260010 Inpatient Visit 1409260	10,970.73	11,245.10	-274.37	1
1409660010 Inpatient Visit 1409660	3,677.69	4,563.34	-885.65	1
1410920010 Inpatient Visit 1410920	7,918.86	8,633.38	-714.52	1
	154,310.57	149,509.63	4,800.94	13
Total SIMPLE PNEUMONIA & PLEURISY W	169,132.07	163,872.71	5,259.36	14

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110% 2 Close

Visit - Patient	Service	Charge	Total Cost	Profit
194_MC SIMPLE PNEUMONIA & PLEURISY W				
Inpatient Visit 1390053 - Patient: 60				
	0073A-30214 IV SECONDARY PUMP SET	25.50	10.70	6.72
	0403-00493 BASIC METABOLIC PANEL	470.00	447.10	25.02
	0103 10001 URINALYSIS W/MICRO	61.00	66.20	6.20
	0403-38803 BNP (CONGESTIVE HEART FAILURE)	405.50	396.29	19.21
	0103 60301 CBC WITH DIFF	204.00	270.30	14.31
	0403-66103 PROTHROMBIN TIME	63.75	69.36	5.91
	0415-67325 PARTIAL THROMBOPLASTIN TIME (PTT)	78.00	79.48	1.94
	0405-70401 BLOOD CULTURE	343.00	325.91	17.09
	0405-70617 SPUTUM CULTURE	0.00	10.72	-10.72
	0405-72050 GRAM STAIN	0.00	10.72	-10.72
	0400-93429 COLLECTION OF SPECIMEN, VENIPUNCTURE	40.50	51.33	-4.03
	0403-90490 SPUTUM CULTURE	0.00	10.72	-10.72
	0400-98805 PT/PTT	0.00	11.44	-11.44
	0421-10200 CHEST 2 VIEWS, PA AND LATERAL	454.50	324.27	100.20
	0130 06051 LACTOBACILLUS ACIDOPHILOUS CAP	14.00	10.31	6.07
	0130 07151 DIPHENHYDRAMINE TAB 25 MG	3.50	8.00	4.60
	0130 26210 HEPARIN SOLN 100 UNIT/ML	51.00	60.19	9.19
	0430-32053 FUROSEMIDE TAB 20 MG	3.50	8.00	4.50
	0430-32403 FUROSEMIDE SOLN 10 MG/ML	146.00	157.82	11.82
	0430-33817 DIPHENOXYLATE/ATROPINE TAB 2.5/0.025 MG	3.50	8.00	4.50
	04[illegible] ENOXAPARIN SYRG 40 MG/0.4 ML	553.75	544.11	60.25
	0430-36677 POTASSIUM CHLORIDE ER CPSR 10MEQ	8.00	12.73	4.73
	0430-36685 POTASSIUM CHLORIDE ER TBTQ 20 MEQ	58.75	66.09	7.34
	0430-44754 PROMETHAZINE/CODEINE SYRP 0.25-10 MG/ML	29.75	35.00	5.80
	0400-50097 ROCEPHIN IV 2 GM	410.75	444.59	-25.04
	0430-55347 BENZONATATE CAP 100 MG	21.25	20.00	5.41
	0400-59059 ACETAMINOPHEN TAB 325 MG	21.00	26.40	5.40
	0130 62751 AZITHROMYCIN SOLR 500 MG	192.50	106.20	13.70
	0130 66613 DONEPEZIL TAB 5 MG	187.00	200.03	13.03
	0130 66652 GABAPENTIN CAP 300 MG	31.50	37.11	6.07
	0430-65680 PNEUMOCOCCAL VAC POLY 25 MCG/0.5ML INJ	176.50	189.89	13.39
	0430-65723 ESCITALOPRAM OXALATE TAB 10 MG	93.00	102.10	9.10
	04[illegible] Duoneb 1.5X3 ml	67.50	75.24	7.74
	0435-42331 SMALL VOLUME NEB INITIAL TREATMENT	146.00	172.46	26.46
	0435-42414 SMALL VOLUME NEB SUBSEQUENT TREATMENTS	1,950.00	2,087.39	137.39
	0435-48354 INCENTIVE SPIROMETER SET-UP	146.00	172.42	-26.42
	0430-48338 INCENTIVE SPIROMETER TREATMENT	540.00	590.53	-50.53
	0430-00002 OXIMETRY SINGLE CHECK	67.50	89.12	-21.02
	0430-00010 OXIMETRY MULTIPLE CHECK	1,013.75	1,093.20	-79.51
	0400-40002 OXYGEN SET-UP	70.25	12.57	57.68
	0133 40003 OXYGEN PER DAY	1,200.00	244.74	956.26
Visit Total:		14,516.50	13,397.34	1,118.16

Page 2

Developing Our Groupings

- An initial goal of the implementation was to have the ability to compare like Patients.
  - **Defined Attributes to group our patient visits on:**
    - **Inpatient & Outpatient**
    - **DRG (Inpatient) & Service Code w/APC (Outpatient)**
    - **Payer Class**
    - **Charges by Department**
    - **Services by Department**
- This has proven to be a crucial development to make utilizing the information easy and accurate for focusing discussions.

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Analysis & Outcomes

- Through Reporting & Analysis Capabilities within the Database:
  - **Results are easily accessible and organized for quick review.**
  - **Focus can easily be placed on Services of Interest.**
  - **Discussions are easily started among Management.**
  - **Process Improvement Initiatives are easily identified.**

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Providing Focus

- Through Analysis, certain Service Lines and even certain Activities within the Service Line become obvious as a place to focus.
  - **Pareto Analysis becomes important to utilize.**

- With Service Lines of interest identified:
  - **Activity detail can be expanded, sometimes to the Task Level.**
  - **Service Lines can be Mapped out – Process Map.**
  - **Business Cases for Process Improvement Initiatives are easily developed.**

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Visualize Financial Impacts

- By mapping the Activities of a Service Line, it becomes easy for management to visualize Process Flow and the Financial Impacts of each Activity.
  - **With the ability to enter in projected savings for improving an Activity, the business case becomes easily obtained.**
  - **Provides management with an instant view of how we can improve the costs of a Service.**

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Demonstration
McCook Costing & Profitability Model
Powered by Prodacapo Software

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Continual Focus

- Now that our model structure is complete, the ability to manage the database is minimal.
  - **Perform Model updates on 6 month intervals**
    - **Full Fiscal Year and Half way through Fiscal Year.**
  - **Perform monthly revisions refining Activities and Cost Drivers.**
    - **About 15 hours a month – Includes collecting Activity details and loading into the model.**
  - **Continual model improvement focused on:**
    - **Increasing Model Accuracy**
    - **Enhancing Grouping Capabilities**
    - **Increasing our Ability to Manage Activities**

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Community Hospital
Advanced care. Always there.

Summary & Conclusion

- Developing an ABC Model can become complex and challenging. Importance must be placed on planning and simplicity. We have found that accuracy comes with an appropriate model structure and an understanding of the data. The benefits and discussion the information provides proves to be more valuable each day.

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