LEAP™ Analysis
SYSTEM ANALYZED: OB Ultrasound
Opportunity Analysis

October 23, 2003

BAC Healthcare System - OA 2
BAC Healthcare System

PRINCIPAL ANALYST: Bob Latino

Opportunity Analysis (OA)
Explanation

The following Opportunity Analysis (OA) was conducted to help us determine the most significant events in our facility that would require a thorough and credible Root Cause Analysis (RCA). This technique was modified from its traditional format to accommodate other processes and systems. The analysis was intended to look at either probabilistic and/or historical events. The analysis delineated which events were most critical to the system, or the most costly, in an effort to justify a detailed RCA.

Below is a quick overview of the OA process used to determine our facility's Significant Few events:

#	Steps	Description
1.	Define the System to Analyze	Define the scope of the analysis by describing where the process begins and ends.
2.	Define the Team Charter (Terminal Objective)	Define why this team was put together and when will they know they have been successful.
3.	Define Loss	Define what is a loss in the current business environment, for the system chosen to be analyzed.
4.	Draw a Process Flow Diagram	Describe the system chosen to analyze in the form of a block diagram showing the process sub-systems.
5.	Fill Out the Opportunity Analysis Worksheet	Obtain the necessary event data to populate the OA worksheet.
6.	Identify the Significant Few	Identify the events that represent the 80% of the losses.
7.	Issue a report	Communicate results.
8.	Conclusion Summary	Summarize conclusions drawn from the analysis.
9.	Recommendations	Delineate the preferred path forward.

Step 1 - Define the System to Analyze

Before beginning the analysis, we defined which system we wished to analyze. This was, in essence, an effort to determine the scope of the analysis; where it began and where it ended.

In this analysis our System to Analyze was identified as:

OB Ultrasound

Step 2 - Define Team Charter (Terminal Objective)

We had to state the reason that the team was formed in a one or two paragraph statement. This served as the focal point for the team to clearly state it's purpose and objective.

This team is chartered to conduct an unbiased analysis of the proposed change in the process used to identify anomalies in OB using ultrasounds. The "Significant Few " events will be identified and recommended to management for further Root Cause Analysis (RCA). All findings and recommendations will be submitted to management for review and approval.

For the purposes of how the term FREQUENCY is defined, it shall be synonymous with the term PROBABILITY or LIKELIHOOD and shall be rated against the following scale:

4 = Frequent
3 = Occasional
2 = Uncommon
1 = Remote

The categories of 1) Equipment $, 2) Training $, 3) Staffing $ and 4) Licensing $ shall all be represented in projections based on US Dollars.

Step 3 - Define Loss

What is the definition of loss in the system we have chosen to analyze? This will often vary from business to business, department to department and economic environment to economic environment. This was a necessary step to focus our efforts and develop a common understanding of what is a loss to us in this system, today.

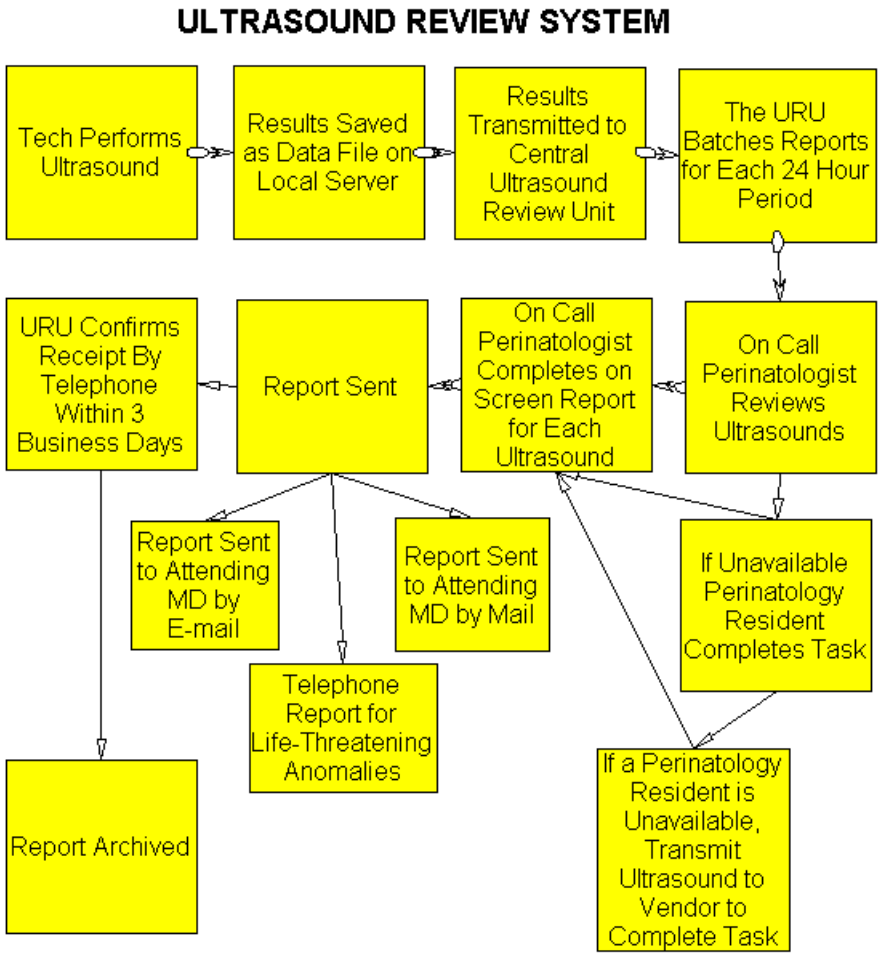
In this analysis, our Loss was defined as:

Unacceptable delay

Step 4 – Draw a Process Flow Diagram

At this point we needed to map out the sub-systems of the process we chose to analyze. We used the typical flow charting symbols to develop a simple block diagram to depict the process flow.

In this analysis, our Process Flow Diagram was represented as:



Step 5 – Fill Out the Opportunity Analysis Worksheet

We now determined where the data would come from to fill out our OA worksheet. Several sources were available such as interviews, existing databases, logs, etc. We used the most reliable data source at our disposal.

Once the data was collected and formatted into our worksheet, we did a simple calculation to generate our total loss, for each event in the analysis. The calculation was done automatically in the LEAP™ software as follows:

Frequency x Loss Per Occurrence (Impact) = Total Loss Per Year

In this analysis, our Opportunity Analysis Spreadsheet resulted in the following:

(See Next Page for Opportunity Analysis Spreadsheet)

Sub System	Event	Mode	Frequency/yr	Claim Costs	Staffing $	Training $	Equip $	Total Annual Loss
Perinatologist Interprets	Delay	Emergency	3	750000	75000	0	0	2475000
Resident Reads	Delay	Emergencies	4	500000	0	0	0	2000000
Report Archived	Delay	Server Crash	4	0	0	0	450000	1800000
Resident Reads	Misinterpretation	Clinical Comp.	3	500000	0	15000	0	1545000
Vendor Reads	Misinterpretation	Clinical Comp.	3	500000	0	0	0	1500000
Tech Performs Ultrasound	Delay	Overbooking	4	250000	75000	15000	0	1360000
Results Transmitted	Delay	System Cap.	3	250000	0	0	125000	1125000
Report Sent	Delay	System Crash	2	500000	0	0	0	1000000
Report by Telephone	Delay	Manpower	3	250000	65000	15000	0	990000
Results Saved On Server	Delay	System Cap.	2	250000	0	0	125000	750000
Report by Telephone	Delay	Attending Unavail.	3	250000	0	0	0	750000
Report Sent by E-mail	Delay	Server Problem	3	0	0	0	200000	600000
Onscreen Report Completed	Delay	System Crash	2	0	0	0	250000	500000
Vendor Reads	Delay	Qlty of Data	3	0	0	0	125000	375000

Sub System	Event	Mode	Frequency/yr	Claim Costs	Staffing $	Training $	Equip $	Total Annual Loss
Batching Results	Delay	Emergencies	2	0	75000	0	0	150000
URU Confirmation	Delay	Other Priorities	4	0	37000	0	0	148000
Vendor Reads	Delay	Trans.Line Issue	4	0	0	0	0	0
Report Sent By Mail	Delay	Post Office Issue	3	0	0	0	0	0

Step 6 - Identify the Significant Few

The concept of the Significant Few was derived from a famous Italian Economist named Vilfredo Pareto. Pareto stated that 'In any set or collection of objects, ideas, people and events, a FEW within the sets or collections are MORE SIGNIFICANT than the remaining majority'. Consider these examples:

- 80% of a banks assets are representative of 20% or less of its customers

- 80% of the care given in a hospital is received by 20% or less of its patients

- 80% of the losses in a manufacturing plant are caused by 20% or less of the events

This means that we only have to perform RCA on 20% or less of our events to reduce or eliminate 80% of our facilities losses.

In order to determine the 'Significant Few', we performed a few simple steps (with the help of the LEAP™ software):

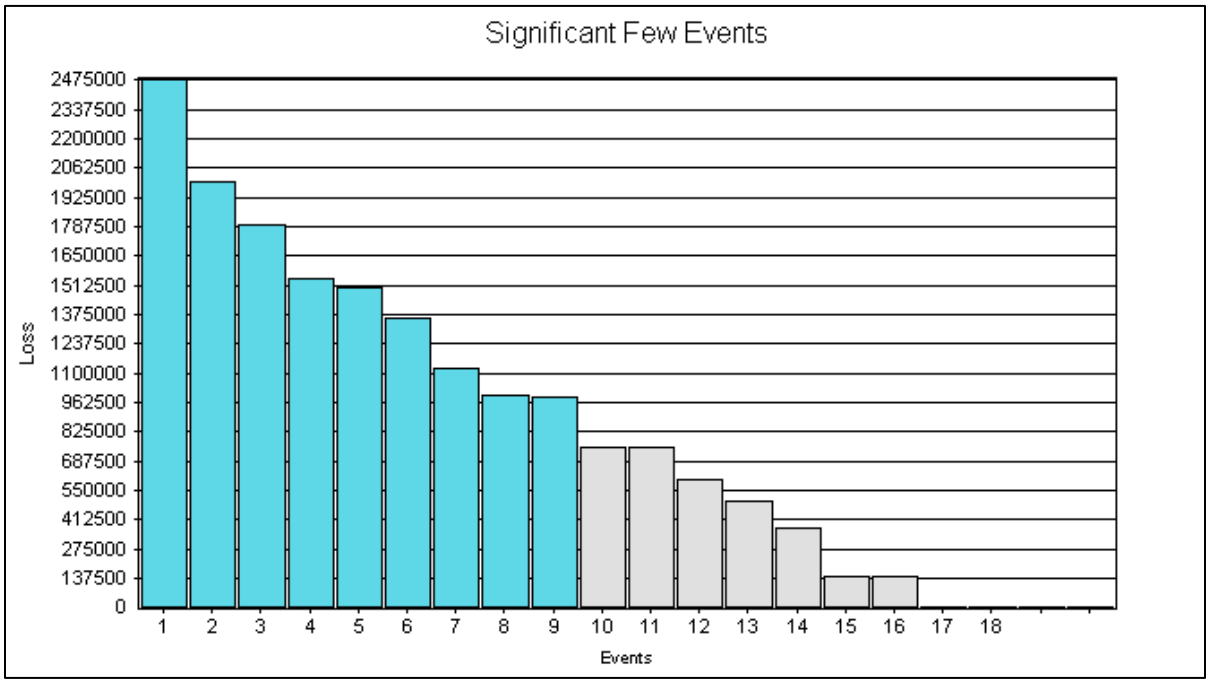
- Totaled all of the events in the analysis to create a global total loss.

- Sorted the total loss column in descending order (i.e. highest to lowest)

- Multiplied the global total loss column by 80% or .80. This gave us the 'Significant Few' loss figure that we will need to determine what the 'Significant Few' events are in our facility.

- We went to the top of the total loss column and begin adding the top events from top to bottom. When the sum of these losses is equal to or greater than the 'Significant Few' loss figure then those events are your 'Significant Few' events.

In this analysis, our Significant Few events were identified as:



ID	Event	Mode	Frequency	Total Annual Loss
1	Delay	Emergency	3	2475000
2	Delay	Emergencies	4	2000000
3	Delay	Server Crash	4	1800000
4	Misinterpretation	Clinical Comp.	3	1545000
5	Misinterpretation	Clinical Comp.	3	1500000
6	Delay	Overbooking	4	1360000
7	Delay	System Cap.	3	1125000
8	Delay	System Crash	2	1000000
9	Delay	Manpower	3	990000

Step 7 – Issue a Report

As with any analysis, it was important to communicate our findings to all interested parties. Our report includes the following items:

- An explanation of the analysis technique.

- The event definition that was utilized.

- The process flow diagram that was utilized.

- The results displayed graphically as well as the supporting spreadsheet lists.

- Recommendations of which events are candidates for Root Cause Analysis.

In summary, OA is a fantastic tool for limiting our analysis work to only those things that are of significant importance to the facility. We cannot perform Root Cause Analysis on everything. However, we can use this tool to help narrow our focus to what is 'most' important.

Step 8 – Conclusion Summary

As a result of this perspective Opportunity Analysis a number of quality and risk issues were identified in the proposal put forward by Dr. Welper for process re-design in the interpretation of perinatal ultrasounds. Significant costs were pin pointed with the proposed changes.

Step 9 – Recommendations

It is recommended that the team focus on the high cost and high risk issues identified in this perspective Opportunity Analysis. The proposed process should be made more efficient, less costly and better focused on quality outcomes for patients.

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