Quality Confab
Atlanta, GA, September 29, 2009

Easy Steps to Internally Benchmark
Your Lab and Unlock Major Improvements

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Agenda

- Introductions
- Housekeeping items
- Introduction to Internal Benchmarks (the concept)
- When and how to use Internal Benchmarks
- Understand what it will take to accomplish internal benchmarks
- Understand the value of Internal Benchmarks
- Next Steps

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Introduction to Internal Benchmarks

What are “internal Benchmarks”?

- One of the Best-Kept secrets
- Powerful tool to unlock major gains in productivity
- Tool to effectively reduce operating costs

How do they differ from External Benchmarks?

- Utilizes data from your own hospital and laboratory
  - Used as a guide for your team to establish “best practices”
  - Particularly effective for labs that are unique and each lab is unique

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What is “Best Practice”?

Best Practice is performing at a rate consistent with all known standards providing the best results currently available

- Can be Quantitative
- Can be Qualitative
- Can be customized to your organization’s
  - Mission Statement
  - Vision Statement
  - Yearly/Annual Objectives and Goals
  - JCAHO/CAP Inspection Results
  - Goals and objectives

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Internal Benchmarks

Metrics are developed from within the facility irrespective of what is commercially available or considered “state of the art” in the industry

- Turn-Around-Time for ED, ICU, Med Surg, Morning Rounds
- Productivity by Hour Worked, Hour Paid, Etc.
  - Segmented by MT, MLA, MLT, Supervisor, Director, Pathologist etc.
  - Segmented by all of the above and patient type, area within the Lab, or submitting area within the hospital or healthcare provider environment
  - In other words, to suit your needs
  - There is no “wrong” metric unless it is of no value to anyone in your organization!

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Difference from External Benchmarks

Commercial Benchmarks require participation by submitting data

- Cap Workload Units (the old days)
- Cap Q-Probe
- Solucient Data Base

Internal Benchmarks require you to compare data to yourself or within your organization

- Comparing yourself (data) to a subset of yourself (a piece of the data)
- Comparing one lab in a system to another lab in the system

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Why would I select Internal Comparison Versus External?

With Internal benchmarking, you know your criteria and learn from “your” experience

- You fall within the top 10th percentile of External comparison
  - Great, no reason to improve?
  Big mistake; “Continuous Improvement” is the goal
- You fall below the 10th percentile;
  You need to improve, but always wonder how the “others” were able to achieve “their” numbers!

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Why would I select Internal Comparison Versus External?

To improve operations when nothing or everything is wrong

- Specialty Labs, and Labs that are “Special” either because of the population they serve or their location
- I don’t compare well with large data bases, yet if I tried to achieve what the large data base is saying, I might jeopardize quality or patient/worker safety
  - This may be a fact or just a perception
  - How do you separate fact from perception?
    - **Let YOUR data drive YOUR decision!**

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What If Even My Own Labs Are "Different"

Well, when you've seen one lab you've seen one lab.. They are all different!

- Knowing what the differences are allows you to subjectively compare
  - Because you are supposed to be the same does not mean that you are functioning the same!
  - **Knowing** what is the same allows you to cull out those areas and items where you **are sure** you are consistent or at least comparably similar
  - Knowing where you are different allows you to ask "why?" and decide if you want/need to be different

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What Does the Data Look Like?

Data comes from many sources; the LIS/HIS is the most common

- The data should be stratified to provide a comprehensive view of what is really going on
- You can only get out what you put in
  - The data set should be something that is captured and that is meaningful to the operations of the lab
  - TAT is the most common data set reviewed.
  - The data can come from a canned report or it can be from a custom report
- Usually it is necessary to employ a report writer software program such as Crystal or a variety of others that are common

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Sample of Data – TAT Native Crystal Report

Acc.# Test Colct Date Colct Tim Recv Date Recv Time Rslt Date Rslt Time Meth. Evt Acct # Loc. TestName Result
X44582 UC 10/26/2008 1:39:00PM 10/26/2008 7:00:00PM 10/27/2008 8:18:00AM MCW OP7532208 MWCEULTURE/NRGE1SULT
X44582 UC 10/26/2008 1:39:00PM 10/26/2008 7:00:00PM 10/28/2008 2:19:00PM MCW OP7532208 MWCEULTURE/MRIEXSOULT
X44582 UC 10/26/2008 1:39:00PM 10/26/2008 7:00:00PM 10/28/2008 2:19:00PM MCW OP7532208 MWREEPORT SFTNALTUS
X44582 UC 10/26/2008 1:39:00PM 10/26/2008 7:00:00PM 10/26/2008 7:09:00PM OP7532208 MWSEPECIMENURN
X44582 UC 10/26/2008 1:39:00PM 10/26/2008 7:00:00PM 10/26/2008 7:09:00PM OP7532208 MWSEPECIAL INFOONRNMATIO
M18696 UAR 10/27/2008 8:10:00PM 10/27/2008 8:17:00PM 10/27/2008 8:31:00PM IRIS ER7533940 DEBMACTERIAPL1
M18696 UAR 10/27/2008 8:10:00PM 10/27/2008 8:17:00PM 10/27/2008 8:31:00PM IRIS ER7533940 DEBMILE,URINNEEG
M18696 UAR 10/27/2008 8:10:00PM 10/27/2008 8:17:00PM 10/27/2008 8:31:00PM IRIS ER7533940 DECMLARITY: CLDY
M18696 UAR 10/27/2008 8:10:00PM 10/27/2008 8:17:00PM 10/27/2008 8:31:00PM IRIS ER7533940 DECMOLOR: YELLOW
M18696 UAR 10/27/2008 8:10:00PM 10/27/2008 8:17:00PM 10/27/2008 8:31:00PM IRIS ER7533940 DEGMLUCOSEN,UERGINE
M18696 UAR 10/27/2008 8:10:00PM 10/27/2008 8:17:00PM 10/27/2008 8:31:00PM IRIS ER7533940 DEHMYALINE CFAESWT
M18696 UAR 10/27/2008 8:10:00PM 10/27/2008 8:17:00PM 10/27/2008 8:31:00PM IRIS ER7533940 DEKMETONES,NUERGINE
M18696 UAR 10/27/2008 8:10:00PM 10/27/2008 8:17:00PM 10/27/2008 8:31:00PM IRIS ER7533940 DELMEUKOCYTMEO EDSTERA
M18696 UAR 10/27/2008 8:10:00PM 10/27/2008 8:17:00PM 10/27/2008 8:31:00PM IRIS ER7533940 DEMMUCOUS PRES
M18696 UAR 10/27/2008 8:10:00PM 10/27/2008 8:17:00PM 10/27/2008 8:31:00PM IRIS ER7533940 DENMITRITE NEG
M18696 UAR 10/27/2008 8:10:00PM 10/27/2008 8:17:00PM 10/27/2008 8:31:00PM IRIS ER7533940 DEOMCCULT BNLEOGOD,URIN
M18696 UAR 10/27/2008 8:10:00PM 10/27/2008 8:17:00PM 10/27/2008 8:31:00PM IRIS ER7533940 DEPMROTEIN,UNREIGNE
M18696 UAR 10/27/2008 8:10:00PM 10/27/2008 8:17:00PM 10/27/2008 3:44:00PM ER7533940 DESMPECIMENC:LEN
M18696 UAR 10/27/2008 8:10:00PM 10/27/2008 8:17:00PM 10/27/2008 8:31:00PM IRIS ER7533940 DESMP.GRAV.,1U.0R1IN4 E

This is ½ of a page of over 1,000 pages of data!

Crystal Report Exported to Excel

Acc.#	Test	Colct Date	Colct Tim	Recv Date	Recv Time	Rslt Date	Rslt Time	Meth.	Evt	Acct #	Loc.	TestName	Result
X44582	UC	10/26/2008	1:39:00 PM	10/26/2008	7:00:00 PM	10/27/2008	8:18:00 AM	MCW	OP	7532208	MWE	CULTURE/ RESULT	NG1
X44582	UC	10/26/2008	1:39:00 PM	10/26/2008	7:00:00 PM	10/28/2008	2:19:00 PM	MCW	OP	7532208	MWE	CULTURE/ RESULT	MIXO
X44582	UC	10/26/2008	1:39:00 PM	10/26/2008	7:00:00 PM	10/28/2008	2:19:00 PM	MCW	OP	7532208	MWE	REPORT STATUS	FNL
X44582	UC	10/26/2008	1:39:00 PM	10/26/2008	7:00:00 PM	10/26/2008	7:09:00 PM		OP	7532208	MWE	SPECIMEN	URN
X44582	UC	10/26/2008	1:39:00 PM	10/26/2008	7:00:00 PM	10/26/2008	7:09:00 PM		OP	7532208	MWE	SPECIAL INFORMATION	NONN
M18696	UAR	10/27/2008	8:10:00 PM	10/27/2008	8:17:00 PM	10/27/2008	8:31:00 PM	IRIS	ER	7533940	DEM	BACTERIA	PL1
M18696	UAR	10/27/2008	8:10:00 PM	10/27/2008	8:17:00 PM	10/27/2008	8:31:00 PM	IRIS	ER	7533940	DEM	BILE,URINE	NEG
M18696	UAR	10/27/2008	8:10:00 PM	10/27/2008	8:17:00 PM	10/27/2008	8:31:00 PM	IRIS	ER	7533940	DEM	CLARITY:	CLDY

Excel Report Modified for Data Stratification

Overtime is selected to be studied

OVERTIME
1/1 2/1 3/1 4/1 5/1 6/1 7/1 8/1 9/1 10/1 11/1 12/1
Budget 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.0
Actual 55.0 37.0 46.0 55.0
Production Scheduling
1/1 2/1 3/1 4/1 5/1 6/1 7/1 8/1 9/1 10/1 11/1 12/`1
Target/Forecast 0.0 0.0 5.0 10.0 10.0 20.0 35.0 40.0 50.0 50.0 61.0 61.0
Actual 0.0 0.0
Logistics
1/1 2/1 3/1 4/1 5/1 6/1 7/1 8/1 9/1 10/1 11/1 12/1
Target/Forecast 0.0 0.0 0.0 10.0 10.0 20.0 20.0 50.0 100.0 200.0 250.0 250.0
Actual 0.0 0.0
Order Processing
1/1 2/1 3/1 4/1 5/1 6/1 7/1 8/1 9/1 10/1 11/1 12/1
Target/Forecast 0.0 0.0 20.0 30.0 40.0 50.0 100.0 200.0 300.0 350.0 400.0 450.0
Actual 0.0 0.0 20.0 40.0 80.0 120.0
Production Execution
1/1 2/1 3/1 4/1 5/1 6/1 7/1 8/1 9/1 10/1 11/1 12/1
Target/Forecast 0.0 0.0 20.0 50.0 100.0 200.0 300.0 500.0 1000.0 1000.0 1500.0 2000.0
Actual 0.0 0.0
Inv. Mngmt
1/1 2/1 3/1 4/1 5/1 6/1 7/1 8/1 9/1 10/1 11/1 12/1
Target/Forecast 0.0 0.0 50.0 100.0 150.0 200.0 300.0 400.0 500.0 700.0 800.0 1000.0
Actual 0.0 0.0 70.0 140.0

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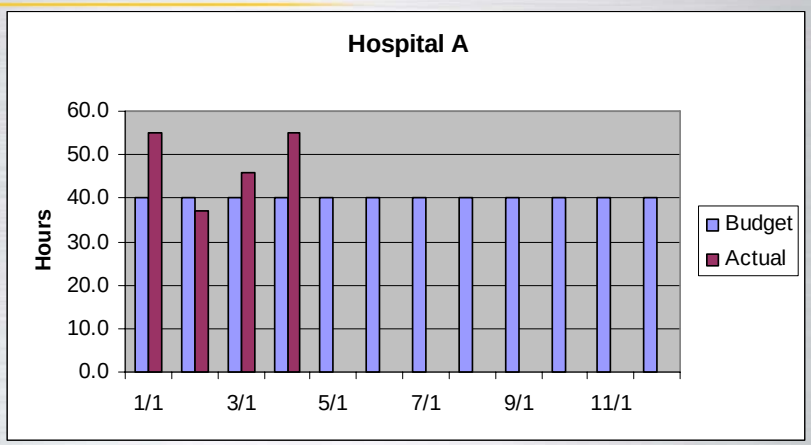
Graphical Representation of Data



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Let's Look at Some Clinical Data

Administration may be more interested in financials but problems will most likely be clinical!

- Look at tests that important
- Troublesome
- Tests that are planned to be automated
- Tests involved in a sentinel event

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Test Data – Urine and Urine Culture

Very small slice of the entire data set – Looking at statistics and drilling down to the busiest day

Coll-Rcv	Rcv-Vrfy	Coll-Vrfy
6:05:00	1:19:00	0:39:00
0:11:00	24:00:00	6:33:00
7:04:00	24:00:00	0:29:00
8:01:00	24:00:00	127:01:00
2:01:00	24:00:00	8:05:00
0:07:00	24:00:00	3:05:00
0:16:00	0:44:00	0:33:00
0:02:00	24:01:00	2:33:00
0:06:00	24:01:00	0:40:00
0:33:00	0:28:00	2:30:00
0:59:00	24:01:00	0:21:00
11:55:00	0:18:00	2:08:00
6:23:00	145:20:00	2:36:00
0:29:00	24:01:00	0:31:00
0:14:00	0:16:00	4:24:00

	Coll-Rcv	Rcv-Vrfy	Coll-Vrfy
Mean	3:46	9:23	9:49
SD	9:04	20:46	4:34
70th	2:59	10:03	5:55
80th	5:51	11:52	7:32
90th	10:10	14:34	10:30
	323	3,265	1,623
	data points	data points	data points

Hour	Total Tubes
0	3
1	1
2	1
3	3
4	1
6	1
7	1
8	7
9	18
10	30
11	18
12	24
13	13
14	15
15	13
16	10
17	14
18	9
19	8
20	2
21	2
22	8
23	3
Total	205

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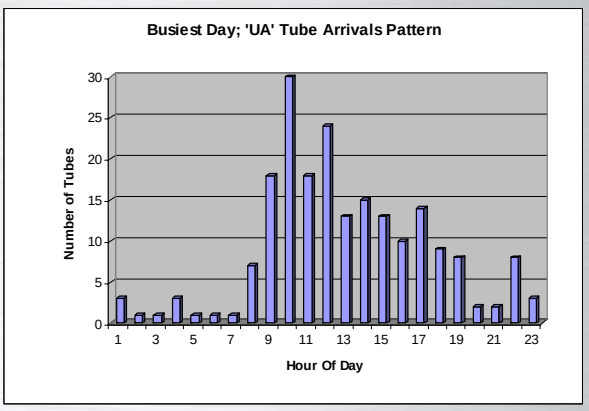
Busiest Day Statistics and Arrival Pattern

So.. On the busiest day, you still hit some pretty good times at the 70th percentile! How did you do it?

	Coll-Rcv	Rcv-Vrfy	Coll-Vrfy
Mean	1:07	10:29	9:50
SD	1:53	19:06	1:31
70th	0:48	11:01	6:35
80th	0:57	12:48	8:40
90th	4:37	17:07	10:29



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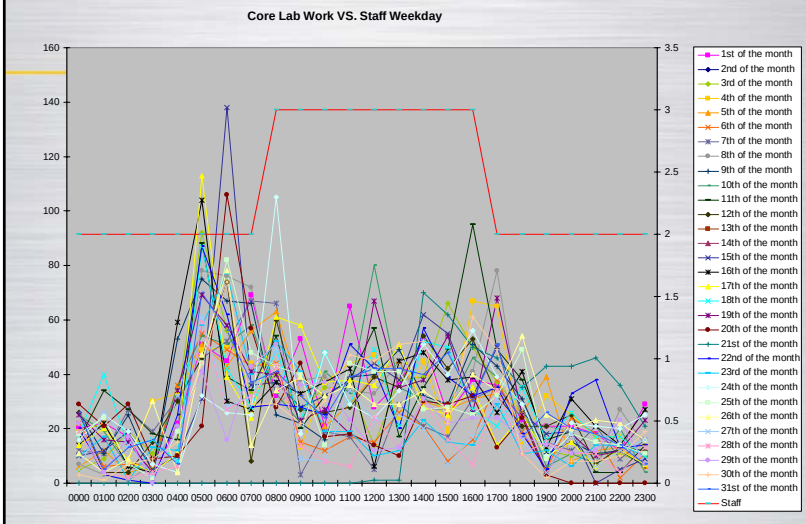
Look At Staffing by Hour vs. Work Arrival



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Use This Data to Set a Target

Establish a your internal benchmark from what looks like a possible target to hit within your facility

- If you can do it on a busy day why not everyday?
- Why not every specimen?
- What else do I need to look at?
  - Outliers on that busy day
  - Root cause of those outliers
  - Is the process capable of performing to this level?
  - If not, why not?
- Best Practice can be your Best Day!
  - Establishes a “we can do it attitude” because they see that they did!

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What Did We Do Right?

Let’s look at what we did right, but first let’s look at the factors that we will call “Special Cause”

- Who was working?
- Who was supervising?
- Did they have extra staff?
- Was anyone missing? (Yes, sometimes things go better when staff is lower or if someone who is usually there is not!)

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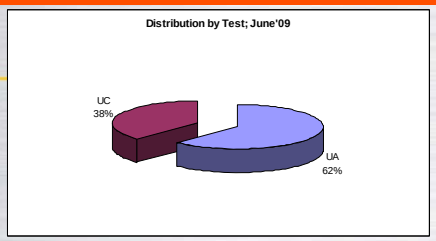
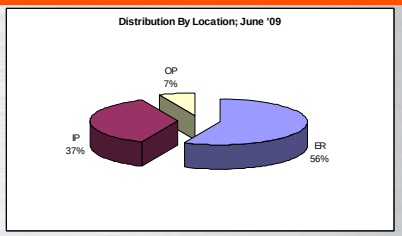
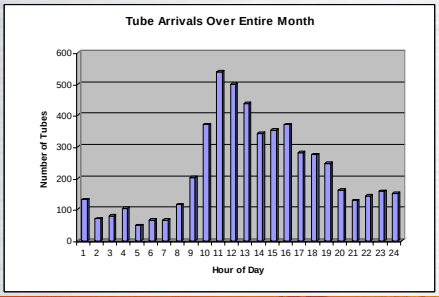
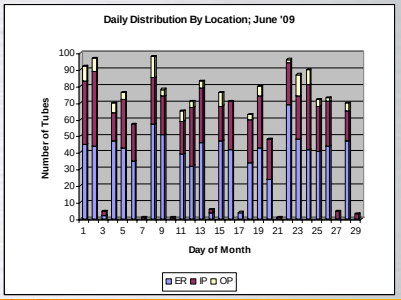
Other Interesting Data to Consider









So What Do You Do with All of This Data?

The most important thing is to do something!

- Look for outliers first
  - Outliers that are not pure random cause are probably what will be causing you and your customers the most concern
  - Post the finding so that everyone can see them – Don't hide them away!
  - Ask for help from your staff!
    - You'll be shocked at how your staff will respond when you ask them for help
- Set targets for the "TEAM" (there is no "I" in TEAM)

Graphical Representation is Best!

Your staff will respond to something they can look at and understand in less than a minute as opposed to something that must be studied and contemplated

- Wall Charts of well labeled graphs
- Change them often; every day is not too often!
- Make the graphs additive if at all possible
  - Add a new day or week to the old graph
  - Compare last month or last year to the current period

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Continue the Success

Once you have achieved what appears to be sustainable success get the group together and move on

- Move on to a new topic at least every quarter
  - Don't let it get stale
  - Don't beat a dead horse!
  - As soon as success is achieved or no more progress is possible move to a new benchmark
  - Don't forget to update them and celebrate continued success
  - Periodically post old benchmarks to show they are continuing the success
- If it slips, get it back on the front burner!
  - Slippage has to be dealt with quickly, before the customer notices

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What is this Worth to You?

How comfortable are you in being able to acquire and prepare data?

- Is this something you would rather have a consultant do for you?
- Is this something you would like a consultant to teach you or your staff to do?
- Would you like to be compared with others who are internally benchmarking (against them and their numbers and/or their progress against their own goal)?
- Do you think this would allow your administrators to be more comfortable with your achievements?
- Do you think this would help you reach your facilities goals?

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Next Steps?

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