

From Raw Data to Actionable Information

June 16, 2010

Sahel Shwayhat

Nancy Smith

Yale New Haven Hospital

Today's Topics

- Raw Data Analysis vs. Canned Reports
- Live Demonstration of Pivot Tables
 - Radiology
 - Transport
- Excel Tips & Tools
- Dashboards
 - Bi-weekly Operating Report
 - Daily Operating Reports

Canned Reports vs. Raw Data

Canned Reports

- Can be costly
- Inflexible
- Can't be 100% sure of qualifications
- Are there assumptions?
- Outliers?
- Exclusions?

Raw Data Analysis

- Inexpensive
- Can be “sliced & diced”
- Control of data inputs & outputs
- Ability to drill down

Typical Data Requests / Questions

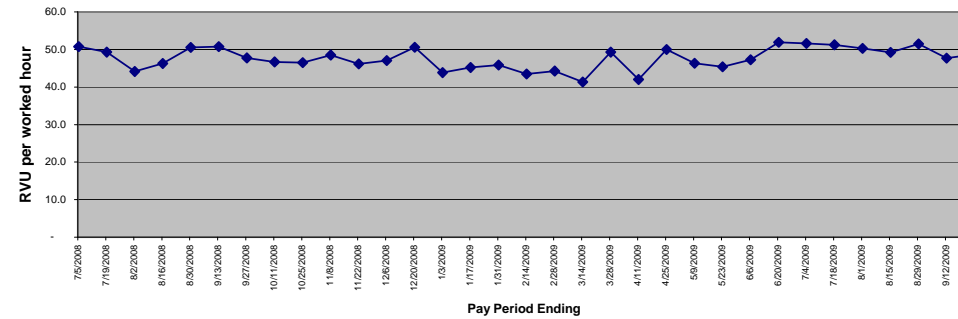
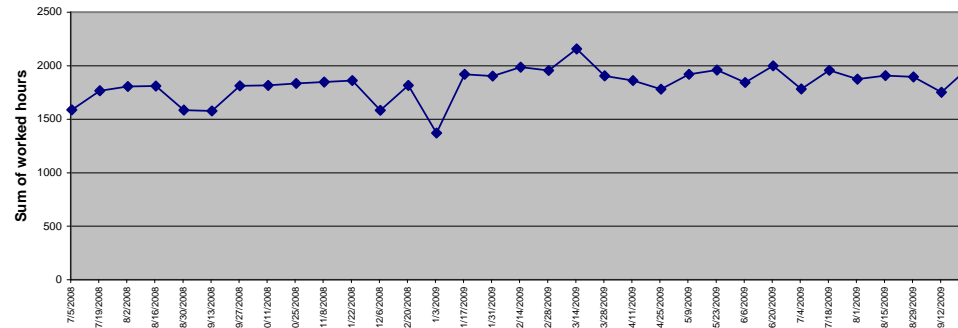
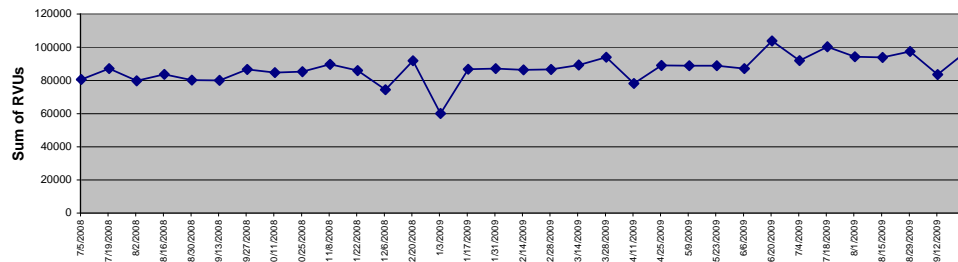
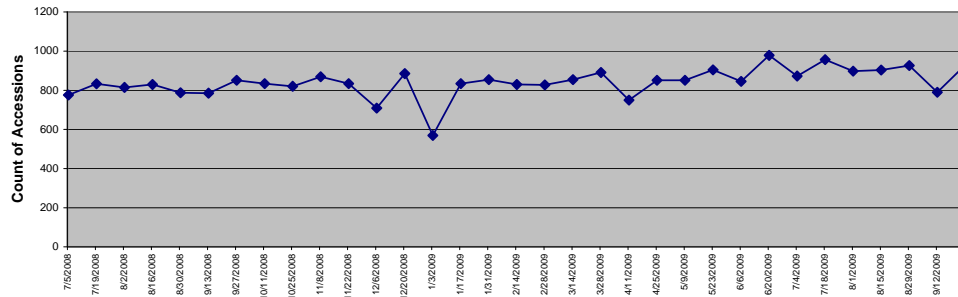
- How many CT exams were done between Nov 1 and April 30th?
- How many were done, by month?
- How many were pediatric?
- How many were ED?
- Of the pediatric population, how many were clinic patients?
- What's the breakdown of the types of patients?
- What resources (machines) are those patients being done on?
- How many exams are begun by hour of day? Graph it.
- How many exams are done by day of week? And by shift?
- What's the average time, from begin to complete, for the different exam times?
- Which physicians are our biggest referrers? How many have they referred by month?

Dashboard Data

Pay Period from	Pay Period to	Pay Period Ending	Count of Accessions	Sum of RVUs	Sum of worked hours (REG & OTP) **	RVUs per Worked Hr
6/22/2008 --- 7/5/2008	7/5/2008	776	80550	1587.25	50.7	
7/6/2008 --- 7/19/2008	7/19/2008	833	87105	1767.25	49.3	
7/20/2008 --- 8/2/2008	8/2/2008	815	79760	1806.5	44.2	
8/3/2008 --- 8/16/2008	8/16/2008	829	83730	1810.75	46.2	
8/17/2008 --- 8/30/2008	8/30/2008	788	80195	1586.5	50.5	
8/31/2008 --- 9/13/2008	9/13/2008	785	80075	1576.75	50.8	
9/14/2008 --- 9/27/2008	9/27/2008	851	86570	1812.5	47.8	
9/28/2008 --- 10/11/2008	10/11/2008	834	84760	1815.75	46.7	
10/12/2008 --- 10/25/2008	10/25/2008	821	85325	1834.25	46.5	
10/26/2008 --- 11/8/2008	11/8/2008	869	89650	1848	48.5	
11/9/2008 --- 11/22/2008	11/22/2008	834	85920	1863	46.1	
11/23/2008 --- 12/6/2008	12/6/2008	709	74440	1583.75	47.0	
12/7/2008 --- 12/20/2008	12/20/2008	885	91875	1815.5	50.6	
12/21/2008 --- 1/3/2009	1/3/2009	569	60105	1371.75	43.8	
1/4/2009 --- 1/17/2009	1/17/2009	834	86785	1919.4	45.2	
1/18/2009 --- 1/31/2009	1/31/2009	854	87185	1902.75	45.8	
2/1/2009 --- 2/14/2009	2/14/2009	830	86285	1985.75	43.5	
2/15/2009 --- 2/28/2009	2/28/2009	827	86570	1956.25	44.3	
3/1/2009 --- 3/14/2009	3/14/2009	854	89250	2157.5	41.4	
3/15/2009 --- 3/28/2009	3/28/2009	891	93975	1906	49.3	
3/29/2009 --- 4/11/2009	4/11/2009	750	78180	1861.75	42.0	
4/12/2009 --- 4/25/2009	4/25/2009	851	89030	1782	50.0	
4/26/2009 --- 5/9/2009	5/9/2009	851	88920	1921	46.3	
5/10/2009 --- 5/23/2009	5/23/2009	904	88920	1960.5	45.4	
5/24/2009 --- 6/6/2009	6/6/2009	846	87200	1844	47.3	
6/7/2009 --- 6/20/2009	6/20/2009	978	103710	1998.25	51.9	
6/21/2009 --- 7/4/2009	7/4/2009	873	91940	1782.5	51.6	
7/5/2009 --- 7/18/2009	7/18/2009	957	100300	1957.5	51.2	
7/19/2009 --- 8/1/2009	8/1/2009	898	94270	1875	50.3	
8/2/2009 --- 8/15/2009	8/15/2009	903	93910	1907	49.2	
8/16/2009 --- 8/29/2009	8/29/2009	926	97495	1894.25	51.5	
8/30/2009 --- 9/12/2009	9/12/2009	790	83535	1752.5	47.7	
9/13/2009 --- 9/26/2009	9/26/2009	930	96875	1988.75	48.7	

Fill out values in BLUE box

MRI



Pay Period Ending



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5 Day	Date	MR 1	MR 2	MR 5	SIGNA3	SIGNA4	Smilow1	Smilow2	Smilow3	Smilow4	Grand Total	AvailableSlots	PercentUtil	Historical Avg	BudgetedAcns
230	Thursday 13-May-10	11	13	10			8	10	11	13	76	127	60%	66	70
231	Friday 14-May-10	16	14	12			10	12	10	12	86	127	68%	67	73
232	Saturday 15-May-10						2	7	10	8	27	36	75%	41	45
233	Sunday 16-May-10		1				0	4	13	8	26	36	72%	31	34
234	Monday 17-May-10	16	10	11			9	12	12	13	83	127	65%	66	71
235	Tuesday 18-May-10	12	9	13			9	13	8	14	78	127	61%	68	74
236	Wednesday 19-May-10	14	9	10			9	14	11	18	85	127	67%	69	74
237	Thursday 20-May-10	13	12	11			7	10	10	13	76	127	60%	66	70
238	Friday 21-May-10	18	11	11			9	12	16	16	93	127	73%	67	73
239	Saturday 22-May-10	1	1				2	4	7	14	29	36	81%	41	45
240	Sunday 23-May-10							8	8	8	24	36	67%	31	34
241	Monday 24-May-10	12	12	10			7	12	19	17	89	127	70%	66	71
242	Tuesday 25-May-10	14	14	14			11	15	14	19	101	127	80%	68	74
243	Wednesday 26-May-10	14	12	12			9	10	17	13	87	127	69%	69	74
244	Thursday 27-May-10	13	8	11			4	13	11	15	75	127	59%	66	70
245	Friday 28-May-10	14	12	13			11	15	12	15	92	127	72%	67	73
246	Saturday 29-May-10		1					10	8	13	32	36	89%	41	45
247	Sunday 30-May-10		1					8	11	7	27	36	75%	31	34
248	Monday 31-May-10							4	9	10	23	127	18%	66	71
249	Tuesday 01-Jun-10	12	9	11			6	18	19	11	86	127	68%	68	74
250	Wednesday 02-Jun-10	13	11	10			7	16	17	13	87	127	69%	69	74
251	Thursday 03-Jun-10	11	11	12			6	15	15	14	84	127	66%	66	70
252	Friday 04-Jun-10	12	14	12			7	9	9	14	77	127	61%	67	73
253	Saturday 05-Jun-10	2					5	11	2	7	27	36	75%	41	45
254	Sunday 06-Jun-10	1						11	6	8	26	36			
255	Monday 07-Jun-10	18	10	10			10	12	14	14	88	127			
256	Tuesday 08-Jun-10	8	8	12			10	14	12	16	80	127			
257	Wednesday 09-Jun-10	13	10	10			12	10	12	13	80	127			
258	Thursday 10-Jun-10	9	11	7			4	15	7	7	60	127			
259	Friday 11-Jun-10	10	13	11			6	11	9	12	72	127	57%	67	73
260	Saturday 12-Jun-10						3	7	6	12	28	36	78%	41	45
261	Sunday 13-Jun-10	1						9	7	6	23	36	64%	31	34
262	Monday 14-Jun-10	11	10	12	0	0	8	12	12	15	80	127	63%	66	71
263	Tuesday 15-Jun-10										0	127	-	68	74
264	Wednesday 16-Jun-10										0	127	-	69	74
265	Thursday 17-Jun-10										0	127	-	66	70
266	Friday 18-Jun-10										0	127	-	67	73
267	Saturday 19-Jun-10										0	36	-	41	45
268	Sunday 20-Jun-10										0	36	-	31	34
269	Monday 21-Jun-10										0	127	-	66	71
270	Tuesday 22-Jun-10										0	127	-	68	74
271	Wednesday 23-Jun-10										0	127	-	69	74

Available slots not finalized. For demo purposes only



YNHH MRI (1510) Daily Operating Report

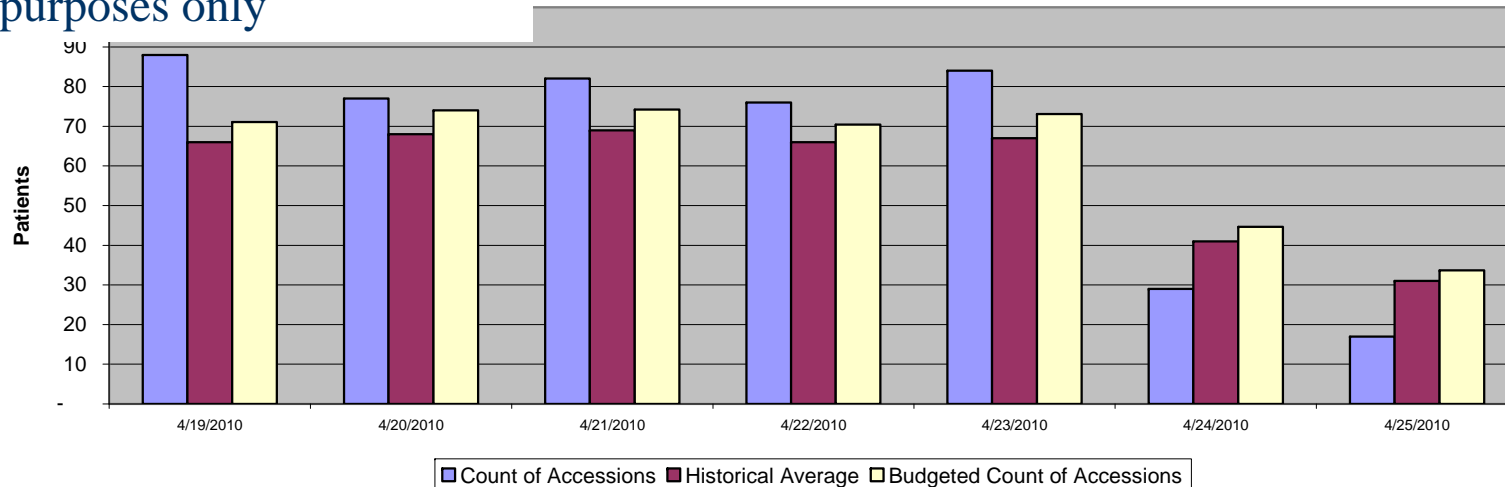


Select week ending date
from drop down

Week Ending: 25-Apr-10

	Monday 19-Apr-10	Tuesday 20-Apr-10	Wednesday 21-Apr-10	Thursday 22-Apr-10	Friday 23-Apr-10	Saturday 24-Apr-10	Sunday 25-Apr-10	Week to Date	Month to Date	Entire Month	Year to Date
Count of Accessions	88	77	82	76	84	29	17	453	4	4	2010
Historical Average	66	68	69	66	67	41	31	408	1,503	1,897	12,604
Diff. from Hist. Average	22	9	13	10	17	(12)	(14)	45	74	132	567
Budgeted Count of Accessions	71	74	74	70	73	45	34	441	1,545	1,908	13,014
Diff. from Budgeted Count	17	3	8	6	11	(16)	(17)	12	(42)	(11)	(410)
Available Slots	127	127	127	127	127	36	36	707	2,447	3,082	20,141
% Slot Utilization	69%	61%	65%	60%	66%	81%	47%	64%	61%	62%	63%

Available slots not finalized. For
demo purposes only



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ARIAL 10

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Accession	BeginDTM	CompletedDTM	Rsc	PatStat	DOB	Age	BeginHour	CompleteHour	DayNumber	DayofWeek	WeekdayWeekend	Shift	BeginToComplete	
2	011063	2/4/2009 10:22	2/4/2009 11:06	270	0	1/18/2002	7	10	11	4	Wednesday	Weekday	First Shift	44	
3	023592	2/16/2009 9:08	2/16/2009 9:27	268	0	8/1/2007	2	9	9	2	Monday	Weekday	First Shift	19	
4	029462	2/16/2009 14:33	2/16/2009 14:51	US1	0	10/18/1956	53	14	14	2	Monday	Weekday	First Shift	18	
5	43813	2/17/2009 9:54	2/17/2009 10:10	270	0	11/6/2007	2	9	10	3	Tuesday	Weekday	First Shift	16	
6	058127	2/17/2009 8:51	2/17/2009 9:25	268	0	8/20/2002	7	8	9	3	Tuesday	Weekday	First Shift	34	

Raw Data Dump

Calculated Fields

The formula in K2 is:

`=VLOOKUP(J2,day,2,FALSE)`

In English, what this says is: "compare the value in cell J2 to the range named day, and when you find a match, go to the second column and fetch that value.

The formula in L2 is:

`=VLOOKUP(J2,day,3,FALSE)`

In English, what this says is: "compare the value in cell J2 to the range named day, and when you find a match, go to the third column and fetch that value.

Formulas in row 2

- Age =YEAR(C2)-YEAR(F2)
- BeginHour =HOUR(B2)
- CompleteHour =HOUR(C2)
- DayNumber =WEEKDAY(C2)
- DayofWeek =VLOOKUP(J2,day,2,FALSE)
- WeekdayWeekend =VLOOKUP(J2,day,3,FALSE)
- Shift =VLOOKUP(I2,shift,2,FALSE)
- BeginToComplete =(C2-B2)*24*60

Xs

Y



Named ranges Data Instructions

Draw AutoShapes

Ready Calculate NUM



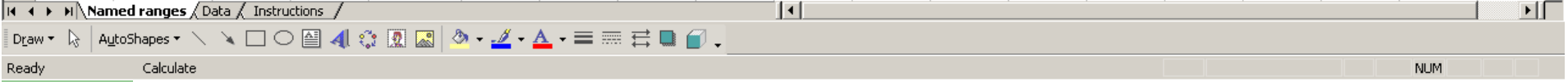
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	0	Third Shift		1	Sunday	Weekend													
2	1	Third Shift		2	Monday	Weekday													
3	2	Third Shift		3	Tuesday	Weekday													
4	3	Third Shift		4	Wednesday	Weekday													
5	4	Third Shift		5	Thursday	Weekday													
6	5	Third Shift		6	Friday	Weekday													
7	6	Third Shift		7	Saturday	Weekend													
8	7	First Shift																	
9	8	First Shift																	
10	9	First Shift																	
11	10	First Shift																	
12	11	First Shift																	
13	12	First Shift																	
14	13	First Shift																	
15	14	First Shift																	
16	15	Second Shift																	
17	16	Second Shift																	
18	17	Second Shift																	
19	18	Second Shift																	
20	19	Second Shift																	
21	20	Second Shift																	
22	21	Second Shift																	
23	22	Second Shift																	
24	23	Third Shift																	
25																			
26																			
27																			
28																			
29																			
30																			
31																			
32																			

The data in this sheet is used to "de-code" data in the data sheet

Range named "day"

Range named "shift"

Note that the column that is being compared to in the vlookup formula on the other sheet MUST be the first column in the named range. For example, the complete hour in the data sheet is being compared to the column A to get the shift



Transport Data

- How many transports were done?
- What's the overall average pending to complete time?
- What's the average pending to complete time by day of week?
- What are the average pending to complete times by delay code?
- Which originating area had the most Nursing delay code?
- What's the pattern of calls, by hour, over a 24 hr period? Graph It!
- What's the volume of transport calls by shift? Graph it!
- How many transports had double transporters?

Tips on raw data:

- One row per record.
- Data should be stacked. Every column is a field, with the same type of data repeating.
- Dates and times should be in one cell, whenever possible. For example, instead of having the date in cell F2 and the time in G2, it is easier to have both date and time in cell F2.
- Make column heading descriptive. Instead of TurnAroundTime, it should state, OrderToComplete, to remove ambiguity.
- Fully understand all time stamps. What does “Scheduled Time” mean? Is it time that the exam was scheduled ON, or time exam was scheduled FOR.
- Beware of averages; they are heavily influenced by outliers.
- Clean the data as much as you can before you start a pivot table.



Questions?