

Workforce Prescriptions

Evidence-Based, Outcomes Focused



The Economics of labor in healthcare, 2009

Prepared 12/09/2009

Workforce Prescriptions

Workforce Prescriptions

Evidence-Based, Outcomes Focused



Purpose of the Report

With shrinking reimbursements, aging workforces and creeping acuity, reducing expenses is fast becoming a required leadership competency. With labor as the top expense item, it is important for the industry to have access to a broad range of data. As a result, each year since 2005, Workforce Prescriptions has compared data from thousands adult acute hospitals in order to better understand the sources of labor dependence and impacts of labor costs on overall financial performance. Hospitals studied, each report between 10 and 2000 staffed beds and include all profit and governance types. In 2009, 3449 hospitals were sampled.

This report contains comparative data based on an algorithm know as the *Pay IQ*[™]. The Pay IQ is a very specific measure of labor efficiency that takes into account variances in volume, acuity and reimbursement rates in order to allow “like” comparisons of institutions.

Data Sources

Data for this report is gathered from 4 sources:

- CMS reports filed quarterly with the Federal Government by hospitals themselves
- Online surveys distributed to distinct cohorts of the hospital workforce
- Data requests provided by hospitals to Workforce Prescriptions
- Interviews with thousands of staff, managers and senior leaders of hospitals

Workforce Prescriptions uses a “three points of correlation” approach to data analysis, seeking for validation of data from a single source in at least two others before assuming validity. All trend data is analyzed in bundled cohorts of like institutions (IE; staffed bed size, type of facility, primary patient type, profit status, type of governance) to ensure comparison of like institutions.

Where no bundling exists (in overall national data comparatives), Workforce Prescriptions uses algorithmic calculations that assign equivalency values to labor efficiency.

Definitions

***Pay IQ*[™]** - The Pay IQ calculation is based on an algorithm that adjusts hospital profiles for differences in reimbursement rates, payor mix, volumes, patient acuity, local cost of living and local cost of labor in order to assign a valid comparative labor IQ (labor intelligence) score to every facility. This is done to eliminate comparing institutions with disparate operating circumstances in a manner that unfairly characterizes any one of them.

Annual Recapture – The annual recapture value is a calculation of “labor waste which can be sustainably recovered in a given 12 month period”. It is calculated on the most recent data reported by each institution and may not always reflect changes undertaken since the last reporting period. It is based on the difference between the most efficient (top decile) institutions and all other institutions once Pay IQ[™] adjustments have been imposed. Due to the mathematics of scale, large organizations (even when very efficient) can have higher recapture values than very small institutions that are not very efficient. Onsite audits coupled with the implementation of targeted changes have validated these calculations

Labor Waste as a % of Net Operating Revenue – Is the calculation of the “proportion of operating revenue consumed by unnecessary (and reducible) labor spending”.

Labor/Net Revenue – Is the calculation of the “proportion of operating revenue consumed by the labor required to produce it”. Labor, as used in the calculation, includes: All salaries, fringe benefits and contract labor.

Workforce Prescriptions

Evidence-Based, Outcomes Focused



General Trends

There are distinct differences in the labor profiles and labor utilization patterns of hospitals by type business and type of control:

- Labor Efficiency is HIGHER in Children's hospitals than adult acute hospitals
- Labor efficiency is HIGHER in for-profit hospitals than either non-profit or government controlled hospitals

	N=	ADC	Labor/Net Rev	Pay IQ	Labor Waste % of Net Op Rev	Ave Annual Recapture
By Patient Age	3349	119.9	49.5%	101.0	2.99%	\$ 4,876,801
<i>Childrens</i>	52	166.0	48.1%	104.3	2.84%	\$ 9,309,314
<i>Adult</i>	3297	119.2	49.5%	101.0	2.99%	\$ 4,809,621
By Profit Status	3349	119.9	49.5%	101.0	2.99%	\$ 4,876,801
<i>For Profit</i>	642	93.2	43.2%	113.4	2.43%	\$ 2,467,626
<i>Non Profit</i>	2141	135.3	50.6%	98.9	3.09%	\$ 5,861,483
<i>Government</i>	566	91.8	52.4%	95.0	3.27%	\$ 3,884,724

For-profit hospitals had a variance in efficiency based upon control structure:

- Corporations had the HIGHEST labor efficiency, followed closely by Partnerships

	N=	ADC	Labor/Net Rev	Pay IQ	Labor Waste % of Net Op Rev	Ave Annual Recapture
For Profit Detail	642	93.2	43.20%	113.4	2.43%	\$ 2,467,626
<i>Partnership</i>	25	76.4	43.1%	113.3	2.45%	\$ 1,774,151
<i>Corporation</i>	571	95.4	42.8%	114.2	2.40%	\$ 2,464,956
<i>Individual</i>	2	17.2	45.4%	108.3	2.55%	\$ 1,130,035
<i>Other</i>	44	77.5	48.0%	103.7	2.84%	\$ 2,957,092

Non-profit hospitals had a variance in efficiency based upon control structure:

- Church governed hospitals had HIGHER labor efficiency than non church governed non-profit hospitals

	N=	ADC	Labor/Net Rev	Pay IQ	Labor Waste % of Net Op Rev	Ave Annual Recapture
Non Profit Detail	2141	135.3	50.6	98.9	3.09%	\$ 5,861,483
<i>Voluntary Non-Profit Other</i>	1643	133.3	50.9%	98.3	3.11%	\$ 5,931,172
<i>Voluntary Non-Profit Church</i>	498	142.1	49.6%	101.0	2.99%	\$ 5,631,568

Workforce Prescriptions

Evidence-Based, Outcomes Focused



General Trends Continued

Government hospitals had a variance in efficiency based upon control structure:

- Federal hospitals had HIGHER labor efficiency than other government controlled hospitals

	N=	ADC	Labor/Net Rev	Pay IQ	Labor Waste % of Net Op Rev	Ave Annual Recapture
Government Detail	566	91.8	52.4%	95.0	3.27%	\$ 3,884,724
Government - State	41	224	49.8%	101.4	3.03%	\$10,450,164
Government - City	39	57.8	50.6%	98.1	3.12%	\$ 2,090,981
Government - City/County	66	71.3	51.5%	96.6	3.18%	\$ 2,791,426
Government - County	235	72.7	52.9%	93.7	3.32%	\$ 3,170,396
Government Hospital District	144	75.8	53.6%	92.3	3.40%	\$ 3,164,233
Government - Federal	5	56.7	47.9%	103.5	2.81%	\$ 2,550,672
Government - Other	36	208.9	50.6%	99.8	3.09%	\$ 8,085,245

Payor mix had a high correlation to labor efficiency in 2009:

- The greater the percentage of volumes covered by private insurance, the greater the labor efficiency*
- Having a greater % of government volumes encourages more efficient care and results in lower length-of-stay

Impact of Payor mix on Labor Efficiency				
Private insurance % of volume	N	Ave Pay IQ	ALOS	Ave Labor/Net Revenue
Above 80%	51	111.5	5.13	44.42%
50-80%	1296	102.7	4.45	48.90%
30-50%	1502	100.8	4.42	49.51%
Below 30%	444	97.9	4.55	50.67%

*This is due largely to the unfortunate reality that many private payors reimburse at a higher rate than public payors and therefore provide "greater revenue per unit of labor". This is not a measure of efficiency – only of effect.

Bed Size had a high correlation to labor efficiency in 2009:

	N=	ADC	Labor/Net Rev	Pay IQ	Labor Waste % of Net Op Rev	Ave Annual Recapture
By Ave Staffed Bed						
0-25	871	16.4	51.5%	96.0	3.21%	\$ 948,893
26-50	503	37.4	49.6%	99.9	3.03%	\$ 1,748,500
51-75	342	62.9	48.7%	102.1	2.91%	\$ 2,636,215
76-100	297	87.9	48.6%	102.4	2.91%	\$ 3,441,456
101-125	238	113.7	48.6%	102.7	2.90%	\$ 4,321,935
126-150	179	138.3	47.5%	105.1	2.80%	\$ 5,218,880
151-200	281	174.5	49.1%	102.4	2.95%	\$ 6,767,955
201-300	348	241.4	48.2%	104.9	2.83%	\$ 9,232,568
301-400	131	343.7	48.1%	106.1	2.80%	\$12,996,188
401-500	79	447.3	48.8%	105.7	2.85%	\$17,853,674
501-600	32	542.1	50.8%	102.6	3.03%	\$23,672,270
601-700	22	651.2	48.1%	109.0	2.80%	\$28,018,518
701 +	26	922.5	51.5%	104.9	3.08%	\$43,782,181

Workforce Prescriptions

Evidence-Based, Outcomes Focused

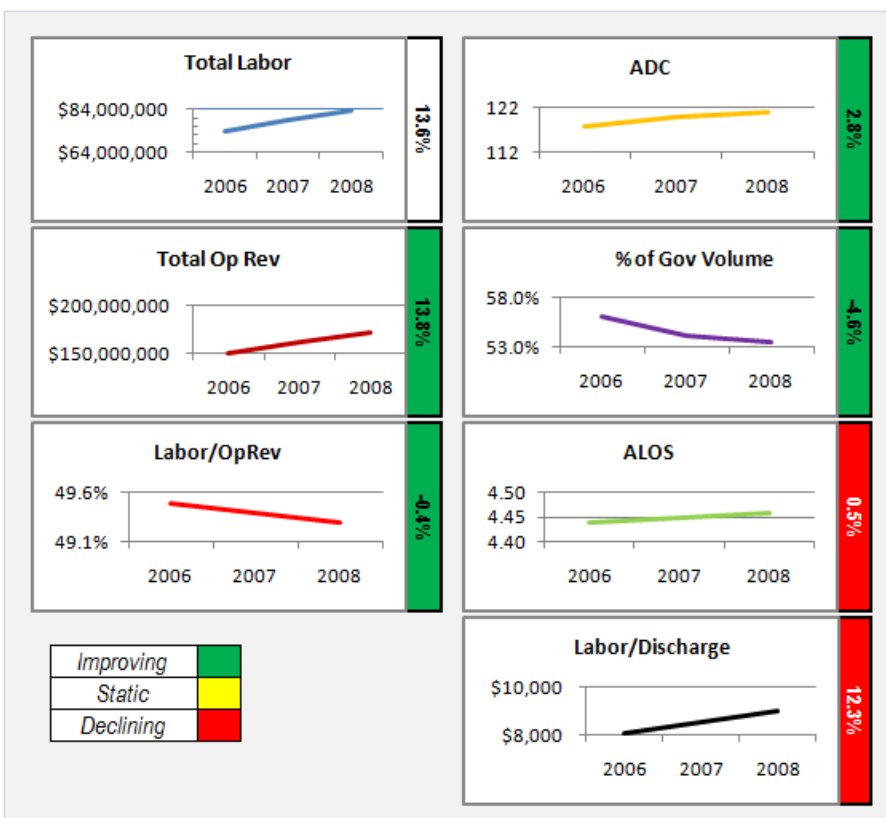


General Trends Continued

	2006	2007	2008	2009	Annual Change
Premium pay as a % of Net revenue	4.8%	5.6%	6.9%	6.4%	-6.7%
Premium pay as a % of Gross labor (with benefits)	11.8%	13.2%	13.7%	12.2%	-11.1%
Recap % of Net Rev	2.50%	2.79%	2.31%	3.00%	29.9%
Labor/Net Rev	51.2%	51.1%	51.0%	49.3%	-3.3%
Nursing Productivity (nursing hours/Adj Pat Day)	10.9	11.3	8.1	6.5	-19.8%
Labor /staffed bed	\$745,608	\$758,408	\$783,190	\$761,741	-2.7%
Revenue /staffed bed	\$1,484,780	\$1,525,546	\$1,568,260	\$1,548,788	-1.2%

Specific Findings

Revenue and labor “per staffed bed” declined for the first time in 5 years (-1.2%) and are having a measurable impact on financial results. Nationally, however, the three year trend on overall revenue was up (13.8%) but barely stayed ahead of overall increases in labor (13.6%) during the same period.



“Productivity Improvements” have hospital staff working harder than ever to meet volume and acuity needs and while not impacting retention (yet), have undermined the overall efforts to reduce the cost-per-hour of labor. Actual paid labor per discharge has risen over 3 years by 12.3% and overall labor costs as a portion of operating revenue have only improve by 0.4%.

While the intrusion of greater government volumes in some institutions incentivizes more efficient care, it can come at the cost of “revenue per volume” erosion that often (but not always) changes the healthiness of the relationship between labor and revenue. There has been a global market decrease in the volume of government payors but the change over three years is minor (-4.6%)

There is a point beyond which government payor intrusion (growth in its % of total volumes) no longer provides any enhancement in length of stay.

“Premium pay” as a component of labor finally reversed its 4 year upward trend

As organizations have become more efficient, they have become aware of ever greater opportunities. If 2008 standards were applied to 2009 results, many of the organizations who were the most efficient labor utilizers are now some of the biggest labor over-users.

This is due to the phenomenon of comparative analytics: when everyone around you gets better faster than you do – you look “in decline” by comparison even when you have made great strides.

Workforce Prescriptions

Evidence-Based, Outcomes Focused



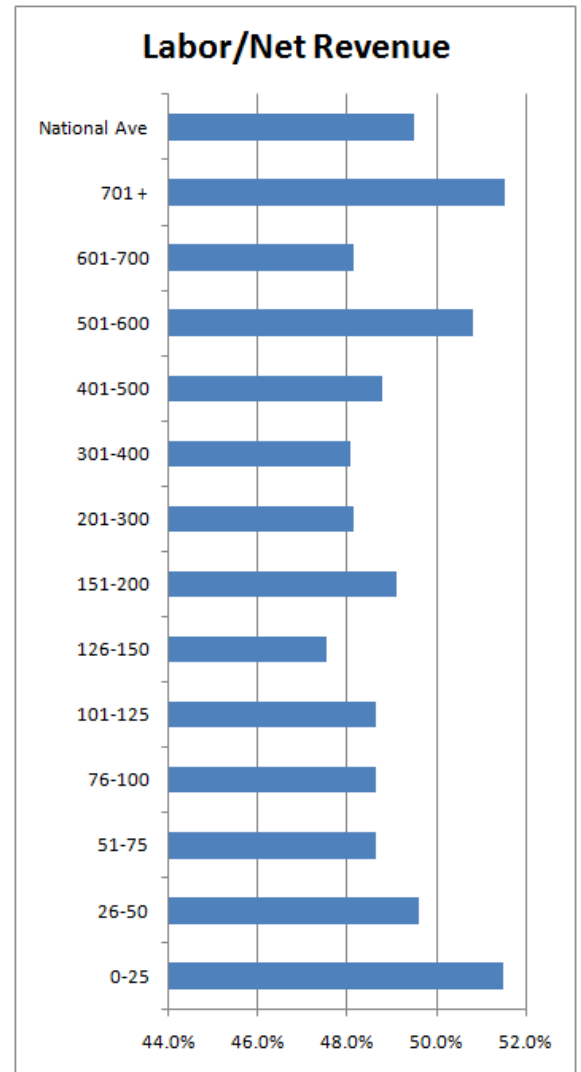
Data by facility size

Over time, we have recognized that facilities of disparate size experience unique challenges in labor. In small facilities, the % of fixed labor resources is less than in large facilities where 24 hour infrastructure requirements and deeper layers of management infrastructure create heavier relative burdens. As a result, we compare organizations of similar size in order to ensure the equity of operating conditions.

The pattern for 2009 shows an inverted bell-curve of performance. Mid-size organizations fared far better in their use of labor than did either extremely large or extremely small facilities. Data indicates that the reasons for this are:

- Mid sized organizations have moderate levels of department management infrastructure – enough to provide necessary leadership, not so much as to create harsh economic burdens when volumes fall
- Mid size organizations have moderate department sizes, allowing for large enough rosters to accommodate flexing, without having rosters too large to control
- Mid size organizations tend to have more balanced staff rosters with healthier blends of full-time and part-time staff

Bed Size	N	Labor/Net Revenue	Pay IQ	2007 Waste % of Net Revenue	2008 Waste % of Net Revenue	2009 Waste % of Net Revenue	Annual Recapture Average	Yr-over-yr Change in Recapture
601-700	22	48.1%	109.0	3.0%	3.0%	2.80%	\$28,018,518	-6.7%
301-400	131	48.1%	106.1	2.7%	2.8%	2.80%	\$12,996,188	0.2%
101-125	238	48.6%	102.7	2.8%	2.8%	2.90%	\$ 4,321,935	3.7%
51-75	342	48.7%	102.1	2.9%	2.8%	2.91%	\$ 2,636,215	3.8%
126-150	179	47.5%	105.1	2.9%	2.7%	2.80%	\$ 5,218,880	3.8%
76-100	297	48.6%	102.4	2.9%	2.8%	2.91%	\$ 3,441,456	3.9%
26-50	503	49.6%	99.9	3.0%	2.9%	3.03%	\$ 1,748,500	4.6%
201-300	348	48.2%	104.9	2.8%	2.7%	2.83%	\$ 9,232,568	4.8%
151-200	281	49.1%	102.4	2.8%	2.8%	2.95%	\$ 6,767,955	5.2%
National Ave	3349	49.5%	101.0	2.8%	2.31%	2.99%	\$ 4,876,801	5.64%
401-500	79	48.8%	105.7	2.8%	2.7%	2.85%	\$17,853,674	5.7%
0-25	871	51.5%	96.0	2.9%	2.9%	3.21%	\$ 948,893	8.9%
501-600	32	50.8%	102.6	2.7%	2.7%	3.03%	\$23,672,270	12.3%
701+	26	51.5%	104.9	2.7%	2.5%	3.08%	\$43,782,181	23.0%



2009 was a challenging year for many organizations. Falling volumes early in the year allowed many hospitals to “right size” their workforces through productivity initiatives.

Typically this would create a bounce-back effect when volumes subsequently rose, but for many organizations, the larger economic climate in America has kept staff looking, reduced vacancy rates and stabilized employee engagement. In 2009, many staff report being, “just happy to have a job”!

For many hospitals, 2009 has been a year of expense reduction with a renewed commitment to gain efficiencies in any area possible. This showed up in overall improvements in length-of-stay, labor costs and productivity.

There is 1 group that is doing better than ave:

Hospitals with between 125 & 150 staffed beds

There are 3 groups that are suffering:

Hospitals with under 25 staffed beds

Hospitals with between 500 & 600 staffed beds

Hospitals with over 700 staffed beds

Workforce Prescriptions

Evidence-Based, Outcomes Focused



Data by State

Performance by state pointed to clear regional market trends. Knowing that the Pay IQ calculation adjusts for differences in reimbursement rates (private, Medicare and Medicaid), acuity and cost of living/cost of labor, it is interesting to note that the gap in labor performance is widening as some states improve their performance while others have slipped:

Year-over-year labor performance of states

Several States saw their Labor/Net revenue drop and Pay IQ™ rise. This occurs when enhancements to revenue outpace increases in labor costs or when declination in labor spending outpaces reductions in revenue

31 states/territories suffered from derogatory changes in their labor position while only 20 improved it.

Only 3 states experienced systemic aggressive improvements to their labor standing while 5 states experienced extraordinary declines (aggressive and extraordinary are defined as > 9% annual change)

Summary findings of changes in labor costs in 2008

Knowing “what” is occurring is only half of the battle. Understanding “why” and more importantly “what to do about it” are the other half. All organizations audited (onsite audits included detailed payroll data analysis, staff & leader interviews and custom surveys) reported the following as reasons for escalation in labor costs:

Labor costs on a per hour of care basis have risen.

“Premium Pay” is a major component of paid labor.

Current productivity measures are masking rising hourly costs (often productivity is measured as hours/FTE’s per adjusted patient day instead of as cost-per-hour-per adjusted patient day).

Workforce flexibility is diminishing as workforce age rises. As a result, staff scheduling is becoming increasingly complex.

81% of audited hospitals have reduced FTE’s to combat rising labor expense.

Productivity (output per hour of labor) is increasing yet cost per hour of that labor are rising.

All audited facilities are struggling with unusual non-season oriented changes in volume.

State	2006 Labor/Net Revenue	2007 Labor/Net Revenue	2008 Labor/Net Revenue	2009 Labor/Net Revenue	2008 Pay IQ	2009 Pay IQ	Yr-over-yr Labor/Net Rev
IN	47.7%	49.2%	55.2%	47.6%	105.5	104.5	-13.8%
UT	49.6%	50.9%	51.9%	44.9%	106.5	109.8	-13.4%
AK	No Data	54.8%	54.1%	49.0%	112.9	101.3	-9.3%
RI	61.2%	60.4%	60.9%	57.2%	120.5	85.9	-6.1%
NV	44.4%	43.4%	44.5%	42.3%	100.9	115.9	-5.0%
NJ	56.8%	57.8%	58.3%	55.4%	109.5	90.1	-5.0%
SC	48.0%	45.3%	48.4%	46.1%	98.9	108.0	-4.8%
NY	65.2%	64.0%	63.9%	61.5%	109.9	77.7	-3.7%
WI	49.3%	53.9%	51.5%	49.6%	112.4	100.2	-3.6%
MN	53.8%	58.8%	53.3%	51.4%	112.4	96.9	-3.5%
MO	48.1%	49.2%	50.1%	48.4%	103.6	103.2	-3.5%
FL	47.7%	45.8%	46.9%	45.5%	98.4	109.6	-2.9%
CA	53.4%	51.7%	52.1%	51.1%	106.1	97.9	-1.9%
CT	58.3%	57.5%	57.5%	56.6%	118.0	87.2	-1.5%
OR	55.0%	53.6%	55.0%	54.2%	122.4	91.3	-1.5%
VA	45.1%	47.3%	45.7%	45.1%	100.5	110.0	-1.4%
ID	52.1%	54.2%	47.9%	47.5%	106.0	104.7	-0.9%
MA	58.8%	59.5%	59.5%	59.1%	123.8	82.2	-0.7%
CO	43.2%	46.9%	45.2%	45.0%	102.0	109.7	-0.4%
NM	55.1%	48.2%	45.8%	45.7%	108.5	108.2	-0.1%
NC	49.3%	49.8%	50.7%	50.7%	104.7	98.7	0.1%
MD	49.9%	52.0%	51.2%	51.4%	108.0	98.0	0.4%
AZ	48.1%	49.0%	46.2%	46.4%	103.9	107.5	0.4%
MI	53.2%	52.0%	51.3%	51.6%	107.9	97.1	0.5%
NE	47.5%	47.2%	46.8%	47.1%	102.7	105.3	0.7%
PA	48.6%	50.3%	49.5%	49.8%	101.9	100.5	0.7%
OH	48.3%	48.1%	47.9%	48.3%	100.5	103.3	0.9%
AR	43.7%	45.7%	46.8%	47.3%	96.8	105.1	1.0%
HI	No Data	52.6%	54.6%	55.2%	103.5	89.4	1.2%
DC	51.3%	50.6%	52.1%	52.7%	109.3	96.0	1.2%
ND	54.2%	54.5%	54.3%	55.0%	110.8	89.5	1.3%
DE	66.1%	49.2%	51.2%	52.0%	104.7	97.0	1.5%
TN	44.0%	44.5%	44.6%	45.4%	96.9	109.1	1.7%
NH	48.1%	49.6%	48.8%	49.8%	114.1	99.8	2.1%
WV	47.6%	47.5%	47.7%	48.9%	98.4	102.0	2.4%
GA	47.8%	47.9%	47.1%	48.3%	98.0	103.3	2.5%
LA	44.9%	47.5%	47.5%	48.8%	99.5	102.1	2.7%
TX	45.8%	44.3%	44.0%	45.7%	96.4	108.7	3.8%
KY	46.2%	47.5%	47.2%	49.1%	99.0	101.6	3.9%
IL	49.3%	47.9%	46.6%	48.7%	101.4	102.5	4.6%
IA	50.3%	50.4%	49.0%	51.2%	99.9	96.9	4.6%
AL	47.1%	43.4%	45.6%	47.8%	94.9	104.1	4.8%
OK	46.5%	47.1%	45.0%	47.4%	97.3	104.9	5.3%
WA	48.9%	47.8%	47.8%	50.5%	112.4	98.8	5.7%
ME	50.6%	50.2%	50.4%	54.2%	109.5	90.9	7.6%
SD	51.5%	55.5%	47.9%	51.6%	98.6	96.1	7.8%
VT	50.3%	52.2%	50.8%	56.5%	123.4	86.3	11.2%
MS	43.7%	39.6%	40.5%	45.1%	92.8	109.3	11.4%
WY	44.3%	44.1%	45.1%	50.5%	104.6	98.2	11.9%
MT	47.9%	49.0%	48.1%	54.6%	105.6	90.2	13.5%
KS	46.1%	45.9%	46.2%	53.5%	100.6	92.3	15.9%

Workforce Prescriptions

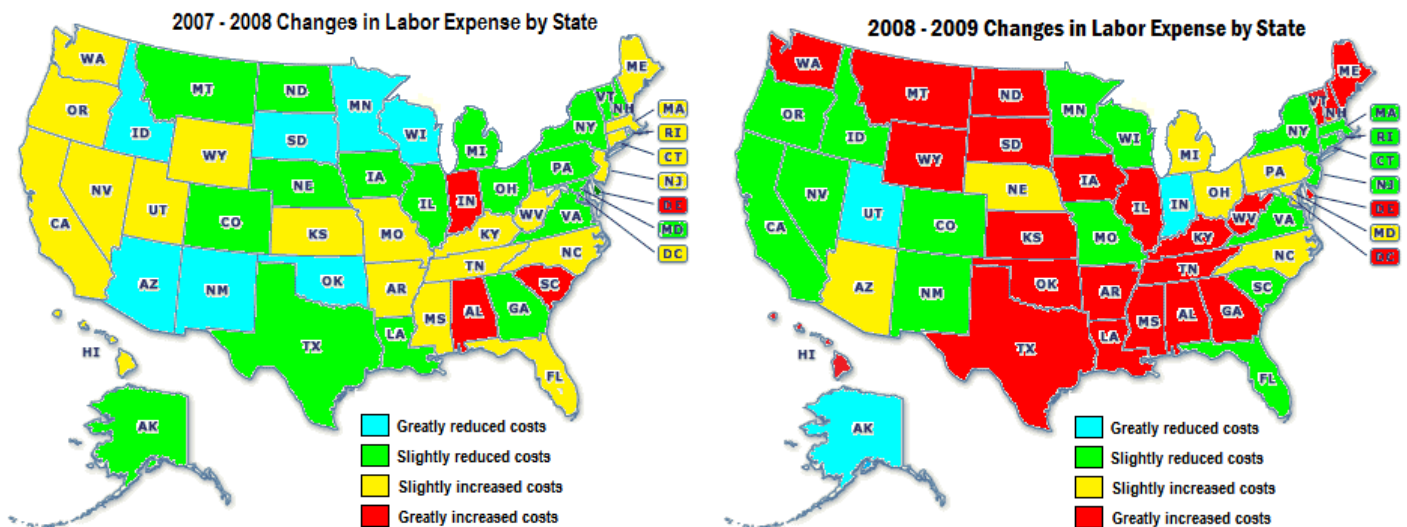
Evidence-Based, Outcomes Focused



Data by State continued

2009 saw an escalation of labor costs (as a proportion of operating revenue) across much of the country. When compared to the '07-'08 trend of improvement, it becomes more clear that the general economic conditions in the country have taken a toll on healthcare in three distinct ways:

- Reduced volumes for many institutions (delayed elective procedures and delayed chronic treatments)
- Erosion of payor-mix for many institutions (more patients were Medicare or Medicaid) as the younger/healthier populations delayed certain treatments while “waiting out” the country’s economic downturn
- Reduced voluntary turnover (older/unhappy staff – often with long tenure, put-off retirement/reductions in hours due to perceptions of a negative economic marketplace and reductions to retirement savings and safety net investments)



Big Winners & Losers

Big Winners:

Indiana, Utah and Alaska who each drove their labor costs as a % of net revenue DOWN by over 9%!

Big Losers:

Kansas, Montana, Wyoming, Mississippi and Vermont who each saw their labor costs (as a % of net revenue) INCREASE by over 4%

Workforce Prescriptions

Evidence-Based, Outcomes Focused



2009 Root Causes of Labor Waste

In 2009, nursing, like most workforce components came under increasing pressure to improve productivity. Often rather than “do things differently” in order to improve productivity, many organizations attempted to “do things the same but with fewer resources”.

Nursing does have productivity opportunities. In organizations with clean processes, 24X7 inpatient care departments are able to provide quality care with as little as 4.3 worked hours per adjusted patient day (including management, unit secretaries, etc . . .). In organizations who struggled with efficient processes for care delivery, the labor utilization number can reach as high as 20.4 worked hours per adjusted patient day.

The disparity in these numbers forced us to begin surveying nursing workforces in both high and low performing organizations to determine the cause for the gap. The data made clear that nursing productivity is most greatly impacted by just a few key process differences. A survey of 753 bedside nurses in multiple organizations illustrates the barriers to perfect productivity:

- *In less productive organizations, shopping/hunting for equipment consumes an average of 58.8 minutes per nurse per shift of productive labor.*
- *In less productive organizations, completing redundant paperwork consumes an average of 64.2 minutes per nurse per shift of productive labor.*
- *All together, these two challenges consume an average of 15.8% of ALL bedside nursing labor (some nurses work 12 hour shifts and others 8).*

Notes of Interest

The most “hunted for” pieces of equipment in 2009:

- #1 IV Therapy Infusion Pumps
- #2 IV Poles
- #3 Pillows
- #4 Vital Signs Monitors
- #5 Wheelchairs

Top Dissatisfier’s for nurses in 2009:

- #1 Illegible Physician handwriting
- #2 Trying to get a response from a page/doctor
- #3 Not being able to find needed equipment and supplies

Care Efficiency issues in 2009:

- #1 24.5% of nurses reported that patients most often experienced delays DURING the administration of care
- #2 65.3% of nurses reported that patients either DON’T KNOW what’s coming next or only “sometimes” know what is coming next

Nursing Productivity

Care Efficiency Survey

N=
753

Messiest Hand-offs:		
<i>Between one department and another</i>		62.5%
Most important change to make to improve hand-offs:		
<i>Communication/respect/teamwork(hand-offs, shift change, staff, patients)</i>		37.5%
Other people’s jobs that nursing does regularly:		
<i>Hunting for equipment that isn’t available/serviced</i>		45.9%
<i>Delivering/clearing food trays</i>		21.1%
<i>Cleaning or emptying trash</i>		19.8%
When patients most often experience delays:		
<i>During the admission process</i>		58.8%
<i>During the last 24 hours of their stay</i>		17.7%
Do patients know how long they can expect to be in the hospital?		72.6%
<i>Only Sometimes</i>		47.3%
<i>No</i>		25.4%
Do patients know “what is coming next”?		65.3%
<i>Only Sometimes</i>		52.1%
<i>No</i>		13.3%
Top dissatisfier’s for nurses:		36.4%
<i>Physician Issues - Illegible writing from attending and staff</i>		25.5%
<i>Physician Issues - Trying to get a response from a page/Dr.</i>		19.5%
<i>Supply Issues - Not being able to find equipment/supplies</i>		16.9%
Most “hunted” equipment		
<i>IV Therapy Infusion Pumps</i>		45.4%
<i>IV Poles</i>		40.2%
<i>Pillows</i>		25.1%
<i>Vital Signs Monitors</i>		16.2%
<i>Wheelchairs</i>		11.8%
Process Waste		94.58
<i>Time per shift hunting for equipment</i>		34.50
<i>Time per shift spent completing redundant paperwork</i>		60.08
<i>Time recaptured by addressing these two issues (per RN per shift)</i>		69.34

Workforce Prescriptions

Evidence-Based, Outcomes Focused



2009 Root Causes of Labor Waste

One of the easiest ways to reduce labor dependence is by reducing daily census without reducing revenue. To do this, high performing organizations have developed processes to attack the "sources" of avoidable days and delays in care.

In order to discover the root cause of these differences in performance, we surveyed hundreds of Case Management nurses in dozens of organizations about the sources and costs of avoidable days.

Notes of Interest

Top sources of controllable delays in care or discharge that can be improved through collaboration with their physician partners:

- #1 - "Physician is slow to write orders or no plan is documented"
- #2 - "Physicians performing consults are slow to provide assessment/treatment"
- #3 - "Physician has had inadequate communication with patient/family about patient's care"

Top sources of controllable delays in care or discharge that are NOT physician related but ARE within the hospital's ability to influence:

- #1 - The Process of placement to LTC/SNF is difficult or cumbersome
- #2 - Patient need could be met at another facility but patient/family will not allow referral
- #3 - Patient/Family slow to select discharge care option
- #4 - Patient/Family uncooperative/indecisive regarding procedures and tests

Top sources of controllable delays in care or discharge that are ENTIRELY within the hospital's ability to control:

- #1 - Necessary tests/procedures not completed
- #2 - The day of discharge is unclear (surprise)

Avoidable Hours and Days of Care

Source of Excess Days & Delays in Care

Misc Issues: Backlog in case management prevented timely discharge planning	3.8%
Misc Issues: Not medically stable for discharge	9.7%
Misc Issues: Lack of insurance authorization for post-acute services/facilities	3.7%
Misc Issues: Necessary tests/procedures not completed	4.5%
	21.8%
Cooperation issues: Patient need could be met at another facility but patient/family will not allow referral	4.2%
Cooperation issues: Patient/Family slow to select discharge care option	4.0%
Cooperation issues: Difficult to reach/find family at key decision points	4.1%
Cooperation issues: Patient/Family uncooperative/indecisive regarding procedures and tests	4.0%
Cooperation issues: Family unwilling/unable to take patient home on discharge date	4.0%
Cooperation issues: Physician Issues: Physician is slow to write orders, no plan documented	5.7%
	26.0%
Physician Issues: Physician has had inadequate communication with patient/family about patient's care	4.8%
Physician Issues: Physicians performing consults are slow to provide assessment/treatment	5.1%
Physician Issues: Day of discharge is unclear (surprise)	3.9%
	13.8%
LTC/SNF Issues: Local market does not have enough LTC/SNF beds available	5.1%
LTC/SNF Issues: Process of placement to LTC/SNF is difficult/cumbersome (financial/legal issues)	4.9%
LTC/SNF Issues: Local market does not have enough specialty beds available in LTC/SNF facilities	6.8%
LTC/SNF Issues: There are clinical financial issues for patient at LTC/SNF (cost of meds & equipment)	6.3%
LTC/SNF Issues: Day of discharge is on weekend and facility will not accept	3.5%
LTC/SNF Issues: Physician does not write orders early enough - facility unable to accept patient on primary date	4.0%
LTC/SNF Issues: Patient/Family chooses unavailable/un-matching facilities	3.7%
	34.3%
DME/HH Issues: Local market does not have enough DME/HH services	1.3%
DME/HH Issues: Unclear whether patient would need post acute care until very late in stay	2.8%
	4.2%

Case Management reported excess days per month 124

Issue	% of patients that experience
On oxygen unnecessarily during any portion of their stay	46.4%
Waiting due to lack of coordination between physicians	45.2%
Delayed due to inadequate pain management	26.7%
Waiting for transfer to lower level of care internally	15.8%
Waiting for physician orders for care	20.9%
Waiting for pharmacy education	6.7%

Tests & consults	
Waiting for at least one physician consult	22.0%
Waiting for PT/OT evaluation or treatment	16.2%
Waiting for a radiology test	16.9%
Waiting for a nuclear medicine test	15.5%
Waiting for a cardiology test	12.9%

Necessity of Care	
Waiting for tests that seem unnecessary	19.8%
Was an unnecessary admission altogether	19.8%
Receiving treatment that seems unnecessary	19.4%
Futile care in ICU, CCU, SICU	Incomplete Data

Other issues identified	
Lack of Advancing Activity	Incomplete Data
Waiting for foley to be placed	Incomplete Data

Workforce Prescriptions

Evidence-Based, Outcomes Focused



2009 Root Causes of Labor Waste

The difficulty and complexity of roster development, shifting volumes, skill mix issues, productivity requirements, non-productive use, changes in acuity and call-outs all conspire to make managing a staff schedule abhorrent and time consuming.

The result is 18-22% labor waste for departments who fail to master this activity.

When a manager is forced to both call and cancel staff, they ultimately default to playing "let's make a deal" in order to guarantee coverage.

We surveyed 150 nursing departments in order to more fully understand why scheduling is growing as a contributor to labor waste.

- 39.6% of department report having holes in EVERY schedule in spite of their best efforts to balance and fill them.
- 34.6% of departments report not having the right mix of full and part-time staff to meet changes in volume/acuity. Detailed roster audits of these 150 departments showed that 76.6% of them actually had the wrong roster mix to accommodate volume swings.
- 36.5% of departments report that their policies actually incentivize staff to withhold labor in order to receive heightened premium pay.

Challenges in Scheduling

Coverage Challenges	# Depts	%
Departments that reported having holes in every schedule inspite of attempts to balance it	63	39.6%
Departments that reported having holes in most schedules inspite of attempts to balance it	24	15.1%
Departments that reported never or almost never having holes in schedules	72	45.3%

Roster Challenges	# Depts	%
Departments that reported having the wrong mix of FT & PT to fill schedules	55	34.6%
Departments that reported having staff who reduced their FTE status just to receive more premium pay	50	31.4%
Departments that reported staff consistently work short	147	92.5%
Departments that reported both calling and canceling staff in the same schedule	105	65.7%

Succession Planning	# Depts	%
Departments that reported less than 10% of their staff plan to retire in the next 5 years	5	3.1%
Departments that reported between 10 & 30% of their staff plan to retire in the next 5 years	9	5.7%
Departments that reported more than 30% of their staff plan to retire in the next 5 years	145	91.2%

Causes of Premium Pay Use (OT, Bonuses, Agency, etc . . .)	# Depts	%
Departments that reported that staff are using more premium pay because the organization incents its use	58	36.5%
Departments that reported staff are using more premium pay because of a difficult work enviornment (hazzard pay)	24	15.1%
Departments that reported staff are using more premium pay because compensation levels are too low	77	48.4%

The proof of false assumptions	# Depts	%
Departments that reported their staff with be MORE upset with being canceled on a scheduled shift than being called in on a day off	112	70.6%
Departments that reported the #1 cause of holes in schedules was vacancies	82	51.6%

The impact of Scheduling	# Depts	%
Departments that reported the #1 cause of holes in schedules was difficulty managing all the variables of scheduling	77	48.4%
Departments that reported they could get more labor out of their existing staff if they could offer each of them a "perfect schedule"	109	68.6%

Notes of Interest

Shift differentials have become disconnected from which shifts are actually the hardest to fill: (see graph to right)

- Friday evenings and nights are now harder to fill than weekend days

Staff turnover due to retirement will soon be a major contributor to vacancies

- 91.2% of departments reported that MORE than 30% of their staff plan to retire in the next 5 years
- 77.3% of departments do not have a healthy mix of senior and junior level staff (senior was described as "able to work independently without being surprised")

Scheduling Impact

- 48.4% of departments reported that holes in schedules were caused primarily by challenges in managing the variables of scheduling and not by vacancies
- 68.6% of departments reported that they could get more productive labor out of their existing staff if they could just give them the schedules that they wanted

	N=150		FT	#	PT	SR	#	JR	
Weekend Nights	2.78		5%	8	95%	5%	7	95%	
Weekend Evenings	3.27		15%	5	85%	15%	11	85%	
Friday Nights	3.69		25%	3	75%	25%	8	75%	
Friday Evenings	3.95		35%	5	65%	35%	7	65%	
Weekend Days	4.18		45%	1	55%	45%	4	55%	
Weekday Nights	4.90		50%	14	50%	50%	14	50%	
Weekday Evenings	5.25		55%	5	45%	55%	6	45%	
Weekdays	6.33		60%	6	40%	60%	1	40%	
			65%	3	35%	65%	9	35%	
			70%	7	30%	70%	3	30%	
			75%	14	25%	75%	6	25%	
			80%	10	20%	80%	7	20%	
			85%	8	15%	85%	10	15%	
			90%	18	10%	90%	17	10%	
			95%	10	5%	96%	20	5%	
			100%	33	0%	100%	20	0%	
Average			72.2%	150	27.8%	Average	66.7%	150	33.3%
Target			60%		40%	Target	55%		45%
Deviation			-20.3%		30.5%	Deviation	-21.2%		25.9%

N=150	
53%	of depts report that "more than 80% of staff are FT"
66%	of depts report that "more than 70% of staff are FT"
49%	of depts report that "more than 80% of staff are senior level"
54%	of depts report that more than 70% of staff are senior level
10%	of depts report that they have the right mix of FT & PT to meet volumes

Case Study: Reducing Labor Costs without reducing FTE's
St. Peters Health System's journey to labor optimization

Prepared by
Kathleen Brodbeck, RN MS NEA-BC
CNO/Vice President of Operations
St Peter's Health System

Project Overview

One of the most challenging issues facing hospitals today is the need to effectively implement a labor management program that reduces cost without compromising quality and staff satisfaction. The common processes and labor practices currently used in many hospitals have become obsolete and are actually contributing to the economic decline of many hospitals. Healthcare, as an industry, has grown in complexity over time and acute providers must discover ways to become more efficient now that revenue and labor are no longer connected through current reimbursement mechanisms.

Project Objectives:

Both St Peters and Workforce Prescriptions (our consulting partner) share the belief that a redesigned leadership approach to labor management is necessary to produce desired results in a radically different financial environment. The locus of the project was our own mid-sized health system in Albany, NY. We and the consultants selected each other due to the belief that both groups shared common missions, values and goals. The objective of the shared project was to determine the most effective mechanisms for reducing labor expense without eliminating staff positions. Collectively, our goal was to identify opportunities for expense reduction that when addressed, would allow for financial gain without undermining employee engagement. The focus of the program was to purposefully create more than \$1MM in annual labor expense reductions through changes to underlying operating conditions/processes that would be largely invisible to the workforce and would be perceived as positive by both management and staff.

St. Peter's has consistently been a top performer in labor cost optimization; therefore, additional efforts to reduce labor expense required the support of management to discover new ways of acquiring and deploying staff. Our strategies were intended to be sensitive to the impacts of any changes to pay types, pay policies, scheduling policies that could be viewed as "takeaway's" by staff. We knew that one of the key sources of our success in cost management derived from the fact that our "very engaged" employees consistently rewarded our leaders with "discretionary effort" (work beyond the scope of what their roles required).

One of the key goals of the program was to find ways to change the operating environment in ways that were largely invisible to the general workforce. When invisibility was not an option, our goal was to craft solutions that would be viewed as positive and welcomed by our staff. Moreover, both ourselves and the consultants were keenly aware that communications and change planning had to supersede efforts at cost reduction if the reductions were to become permanent and sustainable.

Project Stakeholders:

System stakeholders involved in study:

- System executives: CNO/VP Operations; VP of Human Resources; CEO
- Key Directors and Managers: Medical/Surgical; Critical Care; Case Management; HR Specialists;

External consultants:

Workforce Prescriptions is unusual by any consulting standard. Founded as a "retirement" company, its focus is on partnering with deserving organizations to provide expert advice, guidance, measurement and analytics that allow for new perspectives and a vision for change that exceeds the scope of mere "consulting". . .

A fundamental difference in the approach with Workforce Prescriptions was the commitment to an integrated partnership. Unlike most consulting relationships, this project evolved from a shared commitment to improve the vitality of the organization. Having both entities fully vested in the process and implementation was a key driver of success. This premise challenged traditional management thinking and required our leaders to be opportunity seekers, open to new possibilities.

Setting the Stage for Success:

Most leaders faced with the presence of a potential threatening consultant brought on to reduce labor costs will react in a way to protect and defend current use and allocation of labor. This engagement was not launched until the goals of the project were clearly shared and entrusted by all parties. Following the establishment of the goals, the “on-boarding” process continued with the requisite leadership behaviors defined.

Required leadership attributes:

- Creativity
- Accountability
- Champion of Change
- Humor
- Sensitivity
- Collaboration
- Team Recognition

Unacceptable leadership behaviors:

- Maintaining status quo
- Lobbying for additional resources
- Victim management
- Triangulation

Project Process:

The program implemented by the consultants consisted of 9 distinct phases, the first 8 of which occurred over an 8 week period of time:

1. Quantitative Information Gathering
2. Qualitative Information Gathering
3. Supportive/Contradictive information Gathering (surveying)
4. Data comparison for validity & reconciliation
5. Analysis
6. Presentation of findings/Conclusions reached
7. Subjective Validation
8. Implementation planning
9. Implementation

The process included a promise by the consultants that if a finding wasn't validated by at least 3 segregate sources (IE; Quantitative data, qualitative data and surveys) that the minimum threshold would not be reached and the conclusion/cause/waste would be deemed, “invalid”. The goal was to identify “root causes” of labor waste rather than merely “correlating factors” so that any change proposed would be lasting and not require invasive ongoing support.

Initial Information Gathering:

Operational areas/functions were selected that each were “known” contributors to labor expense/waste. The operations/functions/outputs evaluated included:

- Length of stay (specifically focused on internal coordination of care and discharge management)
 - Seeking root causes of “avoidable yet uncompensated” days of care
- Payroll processes and measurement/reporting
- Policy & the governance of policies directly related to how staff were paid and at what rate, for what reasons
- Cost center/unit budgeting process
- Cost center/unit staff scheduling process/effectiveness
- Staffing levels & practices
 - Recruiting & Hiring (with a special emphasis on “high demand/low supply” position types)
 - Key work processes known to drive labor waste (IE; things that pull nurses away from the bedside, etc . . .)

Quantitative Information Gathered:

Initial data was aggregated for each area including but not limited to:

- 5 year financial performance history (P&L & Labor expense including contract labor & benefits)
- 3 year productivity history
- 3 year volume & acuity history
- Previous 12 months unbundled payroll data for all “non-exempt” staff
- Key HR metrics from previous 12 months (PTO & Vacation accruals –including bank size/limits, hires, terms, benefit costs, etc . . .)
- Pay code cross-walk (defining and categorizing each pay code)
- Mathematical calculations of “premium components” of each pay code

Qualitative Information Gathered:

The consultants and senior leadership conducted interviews with dozens of department managers in order to explore things that interfered with building filling & managing schedules, things that drove OT, Registry, Agency and other cost plus staffing use, how productivity was designed, measured, understood and the impacts productivity initiatives were having on performance (both good & bad), the impacts of budgets on staffing levels and access to labor, the source and scope of “avoidable days of care” and critical challenges created by the workforce structure & management (IE; the impact of cluster strategies – or lack of clusters, etc . . .).

Staff interviewed came from many operational areas and were combined into groups. There were a minimum of two groups created for each of the 3 topic areas discussed to ensure that comments from one group were validated by a second (or sometimes 3rd group).

Groups ranged in size from 5 to 20 participants and each group was only asked questions about 1 of 4 key issues:

1. Length-of-stay/avoidable days and their causes/issues that contributed to them
2. What “drove managers nuts” (added difficulty to) about staff scheduling, time off management and the payroll process
3. How staff were paid, for what, when and why
4. The impacts of current productivity measures on local labor performance

Participants included staff from:

- Nursing (at all levels)
- Case Management/Social Work
- Human Resources
- Employed Physicians
- Finance

Supportive/Contradictive information Gathered (surveying)

To further validate and tie together the qualitative and quantitative information gathered, surveys were deployed to different target groups designed to elicit more detailed feedback from larger pools of the workforce. 4 surveys were deployed:

- **Care Efficiency Survey** – completed by the nursing workforce, focused on collecting responses about perceived operational challenges to, and opportunities for, “delivering efficient care in a timely manner”.
- **Case Management Survey** – completed by case managers in order to establish cause and prevalence of “avoidable days”.
- **Scheduling Survey** – completed by dept managers/schedulers focused on scheduling practices and challenges associated with matching staffing to operational/volume needs.
- **SR Leadership HR survey** – Completed by organizational VP’s/C’s as a “subjective assessment “of HR performance and capacity to drive/support anticipated project change requirements.

Data Comparison for validity & reconciliation:

The consultants aggregated over 1500 quantitative data points, 800 qualitative data points and the responses to over 80 survey items with response amplitudes ranging from 20 to 300 participants. The first step in their “evidence based” approach was to identify issues with the highest amplitude of agreement between the survey and interview data. The decision to begin with this more “qualitative” data was based on the premise that, “whether true or not, if something is widely perceived as true . . . it will be acted upon as if it is”. The underlying belief being that the decisions driving labor waste were rooted in perceptions whether those perceptions were valid or not. This produced two lists of issues:

- Issues that had strong correlation between data sets
- Issues that had no/little correlation between data sets

The second step in data comparison was to rank high correlating issues and then look for validation of impact from within the quantitative data. This methodology allowed the consultants to rapidly compose lists of two types of issues identified:

- Issues that had a provable correlation to labor expense
- Issues that had no provable correlation to labor expense

The 813 qualitative data points (issues that could possibly be contributing to or causing labor waste) were reduced by 588 through the first pass comparison. The remaining 225 issues were further reduced by 203 when validated against quantitative data (proof of impact). This left the consultants with only 22 issues that met the conditions of “3 points of correlation” and were “validated as causing a measurable/calculable financial impact”.

General Findings:

- Labor expense was the result of thousands of independent decisions made at the department level. Decisions which may not have always been in the best interest of the larger organization.
- Those decisions were based on the individual perceptions and understandings of managers as well as the availability of certain information as well as access to executive decision making.
- Labor expense had less to do with staffing levels, productivity measures or FTE's but rather with how people are PAID and for what work.

General Root Causes of avoidable labor expense:

The consultants concluded that there were 6 major contributors to labor expense:

- **Excess/Avoidable Days** - When length of stay rose (or didn't fall in proportion to lowering of census or acuity), not just patient throughput was impacted. Staff that might have been able to float became “stuck” and staff that might have been sent home or never scheduled ended up working.
- **Scheduling Complexities** – We discovered that modeling, balancing and managing a staff schedule requires the mathematical ability to balance up to 10 variables (Ki square analysis) a mathematical skill not prevalent among the organization's managers.
Ten variables: The number of FTE's on the roster, The number of work hours in addition to that each will work, the skill level of each staff member & the position of each staff member, the complexity and acuity of case types & patients (in direct patient care departments), vacation and time off needs, changes in local & facility volumes, the number of anticipated bed turns on a given shift, true non productive load needed to be covered and staff shift and day preferences.
- **Workforce Behaviors** - #1 *Ease of Use* – We discovered that it was FAR easier for a given manager to reach for additional money (play, “let's make a deal) than it was to pursue less expensive options. #2 *Perceptions of Staffing Shortages* – We uncovered that when managers “feel” that staff are working harder due to short staffing they are far more willing to offer extra money to their staff (an unofficial incentive). #3 *Challenges in Governance and Policy* – There were variances in understanding of the rules and practices that provide the best stewardship of organizational resources at the manager level. Such struggles lead to variances in adoption of policies and created significant labor waste. #4 *“Fixes” Becoming Entitlements* – short term pay programs had become (in some cases) long term components of core compensation.
- **Productivity Confusion** – We discovered that our heavy reliance upon external benchmarks of “productive hours per volume” as a productivity measure was distracting our staff from focusing on the cost of those hours of labor.
- **Workforce inflexibility** – We discovered that our workforce wasn't flexible and portable enough to shift when accommodating local department volume spikes/drops. This created “partial people math” whereby nurses in several areas had a patient or two short of full ratio utilization yet neither patients nor staff could be consolidated to reduce the waste associated with this phenomenon.
- **Clinical Availability** – We discovered that nurses were spending an average of 100 minutes per nurse/per shift in just two activities: hunting for needed equipment and completing the redundant portions of forms & paperwork.

Specific Findings:

Avoidable Days & Collaboration in care:

Cause of “avoidable days” – Surveys and data requests identified 27 unique contributors to “avoidable days” of uncompensated care. The issues boiled down to two major categories:

- Challenges the organization was having in placing patients at the point of discharge
 - Difficulties the organization was experiencing in organizing how care was managed and prioritized to ensure that patients weren't waiting for results of tests, procedures, treatments or signed orders.
1. The placement challenges created two major impacts on organizational labor expense:
 - Patients who stayed longer required care and supplies even though payment would not be expanded (creating a major disconnection between revenue and labor expense, making labor a higher % of revenue)
 - Kept needed beds full, reducing the ability of the ED to place patients or floors to move patients through descending levels of acuity, potentially reducing revenue and artificially lowering the nurse-to-patient ratio (consequently raising nursing care hours per patient)
 2. The issues with organizing and prioritizing care created three major impacts on organizational labor expense
 - Patients nearing the end of their anticipated LOS were being “hung up” by missing/incomplete organizational actions increasing the level and duration of “uncompensated care” for even ensured patients for whom reimbursements were made on a DRG or Case rate basis
 - Ancillary departments were not always sure in what order to complete their work to ensure efficient support of patient care/discharge causing case management staff, attending physicians, hospitalists and bedside nursing to compete for resources by escalating to “stat” care needs for “their” specific patients. This was delaying discharges and creating duplicative work/tracking while fostering inconsistencies in care delivery.
 - The level of collaboration in care was stunted and was occurring in one-on-one and daisy-chain conversations rather than in real-time with all necessary parties involved. This was lowering the satisfaction of attending physicians, forcing hospitalists to “bat clean-up” and creating tension between bedside nursing and case management who each had (at times) differing views of patient priority.

Staff Scheduling:

Surveys, interviews and data requests all validated that modeling, managing, balancing and administering staff schedules had become the single largest administrative time consumer of department managers. The process of reconciling budgets with schedules, directing swiping errors, and maintaining balanced, full schedules in the facing of changing volumes, expected & unexpected time off and productivity needs had become extremely difficult and was creating frequent cases of over and under scheduling that were being overcome through the use of expensive registry staff, agency staff, overtime and other types of “premium pay”.

We discovered that scheduling challenges were contributing nearly 11.8% to overall labor expense and were caused by a combination of “over & under scheduling” based on faulty modeling of historical volumes and by a miss-alignment of the number of PT staff to volume variability. These issues created three major impacts on the organization:

- The shift by shift cost variance between scheduling the right number of staff vs. using calling & canceling, OT and registry represented as much as a 40% cost variance per hour of labor
- Over and under scheduling contributed greatly to perceptions of “staffing shortages
- Scheduling difficulties masked the miss-alignment of rosters to volumes creating perceptions of FTE shortages where in reality, roster changes were needed instead (many departments had too many full-time staff and more PT staff were needed to efficiently “flex” to volume variability)

Workforce behavior:

A well validated expense reduction opportunity was discovered to be waste associated with the behavior of department managers and staff that contributed to waste. Through the auspices of such behaviors as:

- Swiping in/out before parking/eating and staff not swiping in at all contributed as much as 800 hours per department per quarter in incremental overtime and labor that was compensated but not provided (actual waste varied based on department size and number of shifts covered per week)
- Managers finding it easier to play “let's make a deal” in order to get staff to cover additional shifts rather than doing the harder work of calling through an entire roster, switching days staff worked or requesting staff from other departments in order to fill unexpected vacancies created by call-out's or volume spikes. While all these activities were pursued by some managers at some times, none of them was consistently performed by all managers at all times.
- We discovered that pay programs originally intended to incent specific behavior to combat unique circumstances (such as unexpected short term staffing shortages) had been sporadically adopted as ongoing and expected components of core compensation. Over time, this phenomenon had created an atmosphere where many of our highest compensated employees were part-timers who had reduced their FTE status (but who were still working full time) just to have a greater capacity to work shifts at “premium pay” rates.

Productivity/Variability:

We discovered that our organization's focus on the "hours of labor" tied to census (rather than the "cost per hour of labor" tied to local work volumes) was having some dramatic impacts on labor expense (and in places actually producing the opposite result of what was intended):

- Departments with a large proportion of exempt staff felt forced to choose between sending home people who were then, "paid PTO to not work", or miss their productivity goals. This raised the average cost-per-hour of labor in largely exempt departments (as well as reducing their access to labor).
- Departments with high volume variability were flexing down so often that some staff risked depleting their PTO banks which reduced access to discretionary effort, workforce flexibility and risked heightened turnover (and the replacement costs associated with it)
- Support departments whose volumes were not readily attributable to house census felt forced to send staff home even when their workload was static or increasing which increased perceptions of both staff shortages and work-burden
- Contract staff were not always counted in productive labor so some parts of the organization were accelerating their use of contract labor to maintain productivity targets (which increased overall labor spending in those departments)
- The mix of core staff, part time and full time FTEs was not balanced appropriate to the unit needs.

Premium Pay Practice Abuses:

Years of accumulated and outdated methods of using premium pay along with poor governance of pay practice policies contributed to excessive hourly rates of pay:

- Unclear criteria for use of special pay programs
- Lack of approval mechanisms for manager use of special pay programs
- No audit of payroll
- No targeted objectives for reduction in rates of pay

Human Resource Recruitment:

The lack of strategic alignment with HR was evident in the staff rosters of the various units. Years of coping with perceived staffing shortages resulted in numerous deficits in the make-up of the staff:

- Excessive orientation hours
- Lack of per diem staff
- Imbalance of full and part time FTEs
- Lack of internal recruitment (advancing within the organization)
- Lack of forecasting expected turnover/ anticipating vacancies
- Lack of focus on a patient care directed volunteer pool

Workforce Flexibility:

Our workforce flexibility challenges were rooted in 2 issues that while once thought to be an asset, were now creating barriers to efficiency:

- Overspecialization of 24/7 care areas/staff
- Small independent units

The combination of these two beliefs had created not just silos, but contributed to labor management waste caused by inefficient patient flow and poor census targeting. If one telemetry floor was full, the second telemetry floor could/would and did refuse patients for not being the "right type" to receive care in their department. These silos created two distinct barriers to workforce flexibility:

- Difficulties in moving staff between departments (a lack of formal "cluster" strategies)
- Difficulties in moving patients between departments (too narrow of definition of "right type of patient" for departments of similar acuity)

The difficulties in moving staff & patients between departments created two major impacts on organizational labor expense:

- It forced greater frequency of "partial people math". Partial people math is the phenomenon where nurses in multiple departments with fixed nurse-to-patient ratio have 1 or 2 less patients than allowed by their ratio (this does not include times where acuity or sitters require variances to staffing ratios). This waste could account for as much as 79 RN hours per day (14.5 FTE's per year).
- If forced patients to wait for beds, reducing throughput, backing up the ED and lengthening stays for affected patients (driving even more uncompensated labor needs)

These challenges also had a measurable effect on some patients (not a part of the project, but noticed and documented)

- Patients occasionally "sat" in departments where an inappropriate level of care was provided (not bad care, just not perfectly aligned care) such as the ER, or in a critical care area when they were clearly ready to move to a medical floor

Clinical Availability:

Surveys and interviews validated that nurses were spending an inordinate amount of time away from the bedside in processes that were identified as “readily remediable”. Key waste appeared in two areas:

- Hunting for needed/hidden equipment
- Completing the redundant portions of paperwork or redundant forms

These two issues alone contributed nearly 100 minutes per nurse per shift to labor waste of which 74 minutes was determined to be “reducible”. This created two measureable impacts on organizational labor expense:

- Heightened the perceptions of staffing shortage and work burden, triggering costly behaviors from both staff and managers
- Reduced the number of clinical hours at the bedside by nearly 60 nursing FTE’s per year

Analysis:

Calculating the cost of waste:

The 22 identified “opportunities” were readily sorted into 6 major buckets:

- Opportunities created by “avoidable days” & “collaboration in care”
- Opportunities available through optimization of “staff scheduling practices”
- Opportunities derived by making changes to workforce behavior:
 - Productivity:
 - Workforce Flexibility:
 - Clinical Availability:

The financial impact of each opportunity was assessed through the mechanical comparison of its prevalence and the cost per incident on payroll. Impacts were discovered in 3 key labor areas:

1. The heightened use of labor - labor that would not have been necessary had the issue not occurred
2. The heightened cost of labor - the difference between core rate pay and enhanced rate pay that would not have been necessary had the issue not occurred
3. The heightened use of contract labor – the difference between core labor expense and contract labor expense that would not have been necessary had the issue not occurred

The final “unnecessary expense” figures were calculated by multiplying the prevalence by the cost per incident for each issue in each key labor area.

Determining recapture timing:

Once expense figures were created, they were discounted for two issues:

- Discounted for replacement cost – for all needed labor, the consultants calculated the rate + benefits cost that would have needed to be paid and subtracted that amount from the waste total
- Discounted for sustainability – for all needed labor, the consultants calculated the level of flexibility required to meet operational needs and discounted recapture by that percentage in order to ensure operational flexibility was maintained

Of the recapture opportunity remaining, the consultants then calculated an estimated time for adoption of change and created a recapture timeline that spread over 8 calendar quarters with a budgetary reset after 12 quarters (budgetary reset assumes that after a certain period of time, a labor expense reduction can no longer be considered “recapture” and will instead be considered the new budgetary floor). The timeline concluded that:

- The organization could achieve 7.5% of the total possible quarterly recapture during Q1 of implementation
- The organization could achieve 20.8% of the total possible quarterly recapture during Q2 of implementation
- The organization could achieve 47.3% of the total possible quarterly recapture during Q3 of implementation
- The organization could achieve 84.3% of the total possible quarterly recapture during Q4 of implementation
- The organization could achieve 92.4% of the total possible quarterly recapture during Q5 of implementation
- The organization could achieve 95.2% of the total possible quarterly recapture during Q6 of implementation
- The organization could achieve 100% of the total possible quarterly recapture during Q7 of implementation

Recapture by source:

The recapture amounts also were determined to vary greatly by source of the opportunity:

- Opportunities created by “avoidable days” & “collaboration in care” represented 57.5% of the total identified waste
- Opportunities available through optimization of “staff scheduling practices” represented 6.7% of the total identified waste
- Opportunities derived by making changes to workforce behavior represented 22.2% of the total identified waste
- Productivity represented 5.6% of the total identified waste
- Workforce Flexibility represented 2.9% of the total identified waste
- Clinical Availability represented 5.1% of the total identified waste

The total reducible labor waste identified and targeted was \$6,465,474 per year. As labor represents a “paid expense”, recapturing this amount would create a bottom line improvement of 2.4% of net revenue.

What was implemented:

Avoidable Days & Collaboration in care:

Significant gains have been made in overall medical/surgical length of stay primarily from the result of aggressive outlier management and focused management of the hospitalist program and emergency department throughput.

Case Management changes include:

- Realignment of nurse case managers and social workers to focus on discrete populations
- Automation of discharge planning with facility required transfers
- Increased collaboration with referral/payer/ and regulatory agencies

Hospitalist changes:

- Realignment from hospital based assignments to unit based to improve continuity of care
- Institution of multidisciplinary rounds
- Incorporation of targeted discharge planning/working DRG into multidisciplinary rounds

Emergency Department Patient Throughput

- Realignment of teams including physicians
- Institution of multidisciplinary rounds in ED
- Reorganization of treat and release care process in development

Hospital priority: patient flow

- CMO and CNO weekly facilitated meetings with emphasis on length of stay, patient flow
- Aggressive evaluation of Emergency department throughput/access to beds
- Establishment of patient flow coordinator
- Increased alignment with other physician providers including intensivists and cardiologists

Scheduling

All medical surgical units have implemented census forecasting and staffing roster tools to improve demand matching between staffing and patient census:

- Managers have implemented census forecasting tool that have enabled them to schedule more effectively
- Staffing rosters are being refined to match core staffing needs
- Managers are working with Human Resources to match recruitment for specific hours/shifts as determined by the vacancies in the staffing rosters
- Managers are in the process of determining their expected nonproductive work load (orientation, sitters, education) and developing required staffing based on nonproductive hours patient care required hours

Workforce Flexibility:

In development is the process of moving from unit based staffing to cluster staffing in three areas: med/surg cluster; cardiology cluster; and critical care cluster. The clusters will allow staff with similar competences to move where the patient demand is. This will reduce the number of excess hours related to unnecessary staffing as well as reduce the number of unnecessary patient transfers. Progress to date:

- All new staff are hired into clusters versus the unit
- Cross training across clusters has been initiated
- Sharing of staff and patients has been initiated
- Staff rotation plan in development (to ensure competencies remain sharp)

Recruitment/Education/Promotion

All medical/surgical and critical care units have agreed to promote vertical promotion to eliminate the current practice of hiring graduate nurses into critical care areas. In cooperation with Human Resources current plans are in development to:

- Create Service level agreements about vertical hiring of staff
- Identify vertical competency gaps and provide necessary training
- Establish curriculum for all GN's that anticipates needs of the vertical acuity transfer strategy

Project Overview – Implementation continued

Workforce behavior/policy & governance:

In collaboration with human resources, several changes were instituted to ensure consistency and clarity of expected manager performance:

- Implementation of a labor management policy
- Organizational monitoring of compliance with the policy
- Reward and recognition for management exceeding performance targets

Clinical Availability/ Volunteer Pool Development::

Coincidental to this project launch, a major implementation of a clinical information system was being planned. Findings from this survey were used to reinforce the objectives of clinical automation. The system has recently gone live and staff while still adapting to this clinical transformation effort, report the following benefits:

- Less redundancy
- Improved information sharing
- Increased time at patient bedside

In collaboration with the director of volunteers, a recruitment strategy has been initiated to secure volunteers to clean, find, and transport necessary patient equipment and supplies. Accomplishments to date include:

- Unit based volunteers available daily
- Pursuing options to secure off shift volunteer resources

Project Results

Progress & results to-date:

Results

While the work effort is still in development, the preliminary results have demonstrated effective labor management cost reduction strategies:

- Reduced use of overtime
- Reduced agency usage
- Reduced use of special pay programs
- Improved staff satisfaction with consistency of management practices

Additional and Unexpected Findings (Counter intuitive results):

- Flexing down is more cost effective than flexing up
- Over hiring improved productivity and reduced premium pay usage
- More core staff, less reliance on per diem staff reduced overall labor cost/ hour

The following table is the current status of the achieved reductions. It is important to note that these cost reductions were achieved without reducing staff nor were overall hours of care per patient day reduced. This achievement was consistent with our goal to engage staff and redirect clinical time to clinical care.

	Annualized \$ Reduction	
	% Change	
Annualized Overtime and Premium Pay Reduction	25%	\$ 488,000
Annualized Agency Reduction	90%	\$ 1,632,106
Hours reduction saved from LOS reduction*	2%	\$ 697,630
Total		\$ 2,817,736

* Medical/Surgical LOS Reduction = .6 days (all numbers are increasing as implementation proceeds)

Project Results – Next Steps

Next steps:

Work on the project will continue until we have achieved and sustained the predetermined goals. Immediate next steps include:

- Completion of 90 day action plans within each unit to achieve goals
- Continued work with Human Resources to fill vacancies at the desired entry level and increase vertical movement of RNS
- Restructure Emergency Department patient flow processes
- Expand hospitalist floor-based coverage model
- Expand volunteer pool

About the participants

About St Peters Health System:

St. Peter's Health Care Services (SPHCS), acting in the Catholic tradition of the Religious Sisters of Mercy, is a community of persons committed to being a transforming, healing presence within the communities we serve.

We treat all persons with dignity, hospitality and compassion, calling forth their best human potential.

We provide comprehensive services that support healthy communities, including quality care with holistic approaches to healing body, mind and spirit.

To achieve this mission, SPHCS not only provides care at St. Peter's Hospital – its 442-bed acute-care facility – but also throughout the community at ambulatory care sites, long-term care and addiction recovery facilities, and in numerous residential homes via St. Peter's ALS Center, The Community Hospice and St. Peter's Home Care. SPHCS is a regional health corporation of Catholic Health East (CHE), sponsored by the Religious Sisters of Mercy, Northeast Regional Community.

About Workforce Prescriptions:

Workforce Prescriptions is an "evidence based" consulting firm headquartered in Hudson, FL that provides assistance to hospitals desiring to: enhance their revenue opportunities, reduce their cost of labor & length of stay or to improve their human capital practices.

Workforce Prescriptions focuses primarily in the not-for-profit sector of healthcare in order to "assist those organizations whose own mission requires them to take extraordinary risks in order to ensure access to quality healthcare for the neediest of American's."

Workforce Prescriptions can be contacted at (888) 343-8403 or online at <http://www.workforcex.org>