

## A. Assessing the Direct Costs of RN Turnover

Turnover of nursing staff has important implications for hospitals and health systems beyond the impacts of lost knowledge and experience on staff performance levels, patient outcomes and other aspects of organizational performance. Not the least of these is the direct financial cost of losing and replacing a bedside nurse. With estimated national annual turnover rates for RNs ranging between 8.4% and 13.9%, this cost can be significant.<sup>1,2</sup>

A number of national studies have estimated the average cost of replacing an RN to be anywhere from about \$22,000 to over \$64,000 (Advisory Board, 1999; Jones, 2005; O'Brien-Pallas et al., 2006; Stone et al., 2003; Waldman et al., 2004).<sup>3</sup> The wide range in estimated costs results from differing methodologies, variations in labor costs across the national landscape, differing hospital cost finding capabilities and other factors.

To add value to this evaluation, Lewin worked with the WAW grantees to develop a model to estimate the average per capita direct cost of RN turnover for each hospital or health system. The model utilized consistently defined 2007 cost data collected and reviewed by grantee finance and human resources staff (See Appendix A for the model template). A number of grantees noted that the data collection and analysis process while time consuming was also rewarding, as it enabled hospital staff to better understand costs that may not previously have been fully considered in decision making.

The model calculated the financial impact of RN turnover across five major cost drivers. These included:

- **Termination costs-** Defined as costs associated with the departure of an RN, such as payment for unused vacation time and other departure related costs.
- **Costs of unfilled positions-** Costs associated with filling vacant positions through overtime payments to nursing staff or temporary hiring of agency nurses.
- **Advertising and recruiting costs-** Costs related to recruiting replacement RNs. Examples include advertising and recruiting costs and RN signing bonuses.
- **New staff hiring costs-** Costs associated with the RN hiring process, such as interviewing and background checks.
- **New staff training and orientation costs-** Costs associated with on-boarding of new RNs. Examples include unit and organization-wide orientation and training department activities.

Figure 5 below summarizes RN turnover across the 13 grantee hospitals in total and by major cost driver. The estimated direct cost of replacing a full-time equivalent (FTE) RN in 2007 averaged about \$36,567. About two-thirds of RN replacement costs were associated with temporarily filling vacant RN positions and the training and orientation of new nurses.

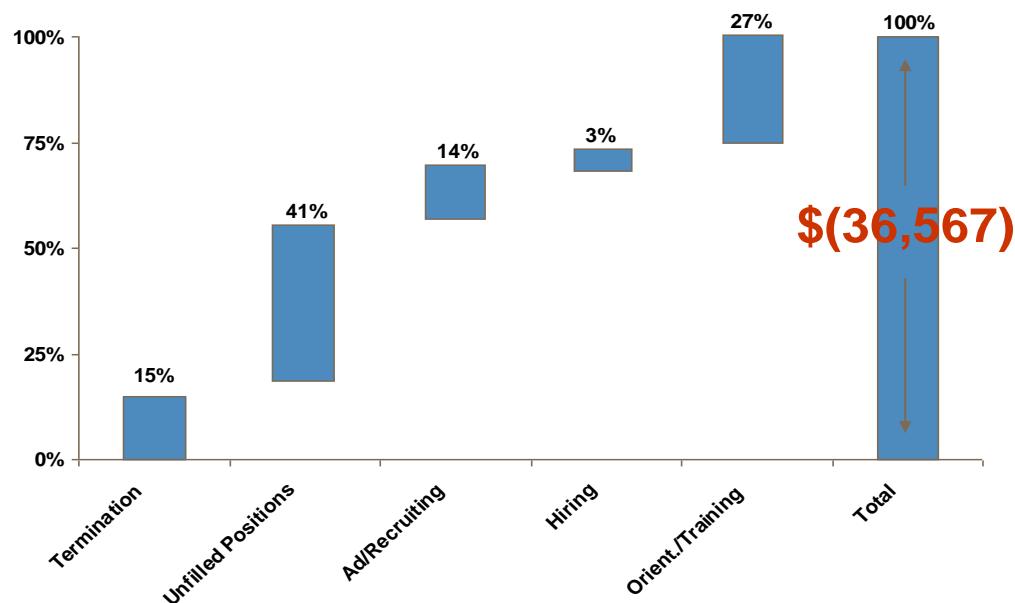
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<sup>1</sup> PricewaterhouseCoopers' Health Research Institute. *What Works: Healing the Healthcare Staffing Shortage*. July 2007

<sup>2</sup> Bernard Hodes Group. *The 2006 Aging Nursing Workforce Survey*. March 2005.

<sup>3</sup> OJIN: The Online J Issues Nurs. 2007;12(3)

**Figure 5**  
**Per FTE Average Cost of RN Turnover by Major Cost Driver**  
**2007**



RN replacement costs among the 13 Wisdom at Work Grantees were generally consistent with the national studies summarized above. They ranged from a low of about \$ 14,225 at St. Joseph's Health System in Atlanta to a high of \$60, 102 at Cedars-Sinai Health System in Los Angeles.

In reviewing these findings with grantees, we found that both individual hospital characteristics and local market factors play an important role in influencing the cost of RN turnover. To begin to better understand these issues, we analyzed the cost of turnover at grantee organizations using RN staffing levels as a proxy for hospital size. We stratified grantees into two comparison groups: 1) those with RN staffing complements of fewer than 1,000 FTEs; and 2) those with greater than 1,000 FTE RNs on staff.

As Figure 6 shows, the average 2007 RN turnover cost for hospitals with fewer than 1,000 FTE RNs was \$24,861, while hospitals with RN FTE staffing levels greater than 1,000 reported average turnover costs of \$43,667, about 75% higher.

Froedtert Memorial Hospital in Milwaukee, Wisconsin was calculated separately, as their initiative, described in the case study chapter below, was focused solely on hospital intensive care units. The costs associated with recruiting and training highly specialized ICU RNs is typically higher than the hospital-wide mix of all inpatient services reported by the other grantees.

**Figure 6**  
**Summary of Estimated Direct Cost of Turnover per RN by Hospital Staffing Level**

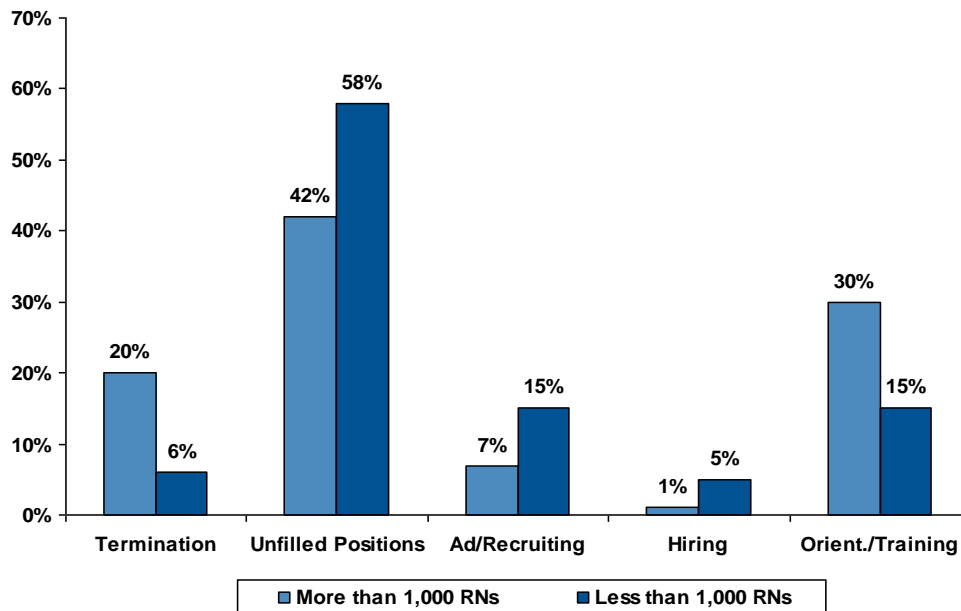
<b>Hospitals with less than 1,000 RNs</b> <i>Average Cost= \$24,861</i>	HOSPITAL	2007 RN STAFFING	ESTIMATED COST OF TURNOVER
	Centra Health	829	\$33,171
	Poudre Valley Health System	710	\$18,594
	St. Joseph's Health System	689	\$14,225
	Rush-Copley Medical System	410	\$23,860
	Mary Imogene Bassett Hospital	92	\$25,091
	Greenville Hospital	81	\$34,225
<b>Hospitals with greater than 1,000 RNs</b> <i>Average Cost= \$43,667</i>	HOSPITAL	2007 RN STAFFING	ESTIMATED COST OF TURNOVER
	Univ. of Rochester Medical Center	1,926	\$45,843
	Florida Health Sciences Center	1,795	\$32,175
	Pitt County Memorial Hospital	1,678	\$52,037
	Cedars-Sinai Health System	1,229	\$60,102
	Vanderbilt Medical Center	1,198	\$45,036
	Edward Hospital	1,052	\$26,810
<b>Evaluated on the unit level</b>	HOSPITAL	2007 RN STAFFING	ESTIMATED COST OF TURNOVER
	Froedtert Memorial Hospital	149	\$64,204

Further analysis was conducted to help inform why average per FTE nurse turnover costs was significantly higher among hospitals with higher levels of nurse staffing. Comparing individual cost drivers among hospitals with higher RN staffing levels (>1,000 FTEs) to those with smaller RN staffing complements offered some perspective (Figure 7). Hospitals with higher RN staffing levels reported spending considerably more on average for termination and new hire orientation and training compared to their smaller counterparts. Contributing explanatory factors may include:

- Grantee organizations with larger RN staffs appear more likely to have departments, units or individuals whose primary functions include staff orientation and training. As a result, their true costs may be more easily identified and captured by hospital cost accounting systems than is the case among their smaller counterparts.
- The service mix in hospitals with larger RN staffs tends to be more heavily weighed towards more complex tertiary care services, such as ICUs, than is the case at their smaller counterparts. Replacing highly skilled RNs in these services is typically

associated with high costs due to the time required to recruit replacement RNs with requisite skills and experience and specialized training costs.

**Figure 7**  
**Allocation of RN Turnover Costs by Major Cost Driver**  
 >1,000 RN Staffing Levels v. <1,000 RN Staffing Levels  
 2007



External market factors may also contribute to variations in RN turnover costs. Examples include variations in local labor costs between urban and rural areas, the extent of competition for nurses among local hospitals and other healthcare related organizations and the available supply of nurses.

This analytic approach supported by "real world" financial data offers grantee hospitals and other interested organizations a practical and useful tool to help estimate the economic impact of nurse turnover and to support the business case for retention programs and other initiatives that improve RN satisfaction with their work place and willingness to remain at the bed side. These are issues that will become increasingly relevant as the RN shortage continues.

Although based on a small sample of hospitals and health systems, these findings also suggest that much more can be learned about factors influencing the cost of RN turnover by partnering with hospitals to conduct practical research based on "real world" data and other information.