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The Business Case for Work Force Stability

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Introduction

Regardless of their size, geographic location or mission, health care organizations today are facing a major challenge in recruiting and retaining skilled health professionals. From advanced practice nursing to the medical laboratory, high vacancy rates and continuous turnover of staff are stressing the financial and cultural fabric of health care providers.

Across the country, human resources professionals and senior executives are struggling with ways to address the challenge. Many leaders are asking themselves: "How serious is this work force shortage? Is this yet another phase in the health care management challenge, or a truly long-lasting problem?" Answers to questions such as these will drive how — and how much — health care organizations invest in work force issues.

Predicting the future is an uncertain business. Different experts provide contradictory answers about the future of the work force challenge. VHA will explore these issues in more depth in upcoming issues of this series. For now, what is certain is the negative impact the work force shortage is having on the cost and quality of health care today.

The Business Case for Work Force Stability provides readers with an understanding of the impact that high turnover and vacancy rates have on an organization's financial health and the quality of care delivered. The paper also focuses on the relationship between employee satisfaction and retention, and the impact of staff satisfaction on patient satisfaction. Using data reported in the literature as well as data from various VHA work force initiatives, the paper builds a case for investing in today's work force in order to strengthen the organization's competitive position.

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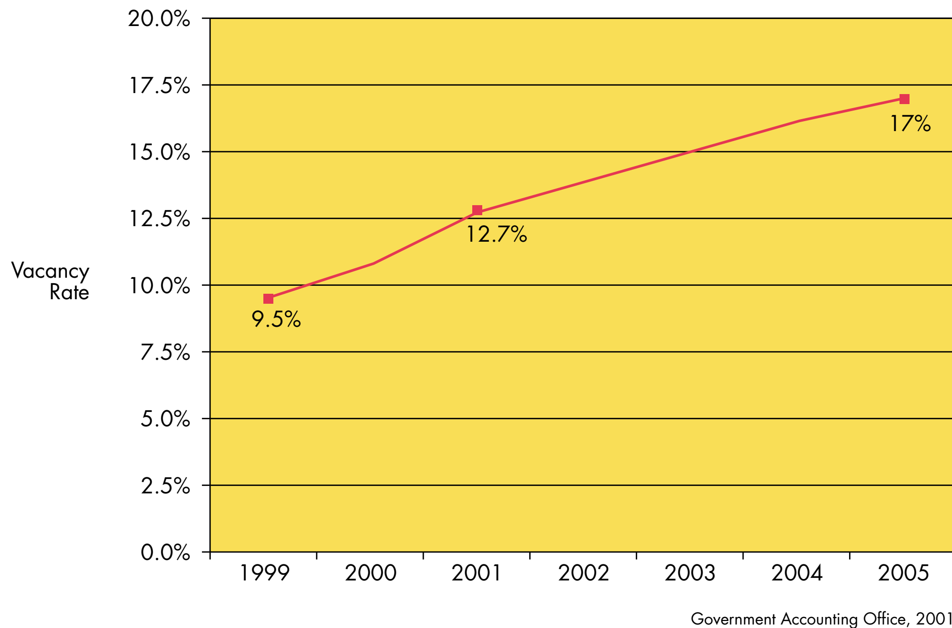
Impact on the Bottom Line

Vacancy and the Relationship to Lost Revenue

According to a study released by the American Hospital Association, approximately 168,000 hospital positions (nurses, pharmacists, medical technologists, etc.) are unfilled, and three-quarters of these are jobs for registered nurses.[1] Studies suggest that the vacancy rate for registered nurses will likely continue to grow over the next several years, with the rate rising from 12.7 percent in 2001 to 17 percent by 2005 (see Figure 1).[2]

Figure 1: Change in R.N. Vacancy Rate Projections to 2005



Government Accounting Office, 2001

According to the AHA study, at most organizations, vacancy rates in various service line areas are having a material impact on their operations. For example, vacancies in radiology are 18 percent, laboratory vacancies are 12 percent, and in pharmacies, the rate is 21 percent.

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A study commissioned by The American Hospital Association looked at the impact of vacancy rates on health care organizations operations (see Figure 2).[3]

Figure 2: Vacancy Rate by Profession

Position	Mean Vacancy Rate
Imaging Technicians	15.3%
Registered Nurses	13%
LPNs	12.9%
Pharmacists	12.7%
Nursing Assistants	12%
Laboratory Technicians	9.5%
Billers/Coders	8.5%
IT Technologists	5.7%
Housekeeping/Maintenance	5.3%

AHA, 2001

Thirty-eight percent of organizations surveyed reported emergency department over-crowding, and 25 percent reported diverting ED patients to other facilities due to staff shortages. Further, 19 percent reported increased wait times to surgery and 10 percent cancelled surgeries due to insufficient staffing. Blaufuss reported similar results in an earlier study of medical/surgical units.[4] In such cases, poor service or the loss of patients to other organizations means not only lost revenue, but the potential for lost market share as those patients establish relationships with their new providers.

As turnover rates within health care organizations grow and the number of days needed to fill vacant positions increases (41.1 days in 1997 to 68 days in the first quarter 2000),[5] high vacancy rates have a substantial impact on an organization's financial status and the situation is likely to worsen.

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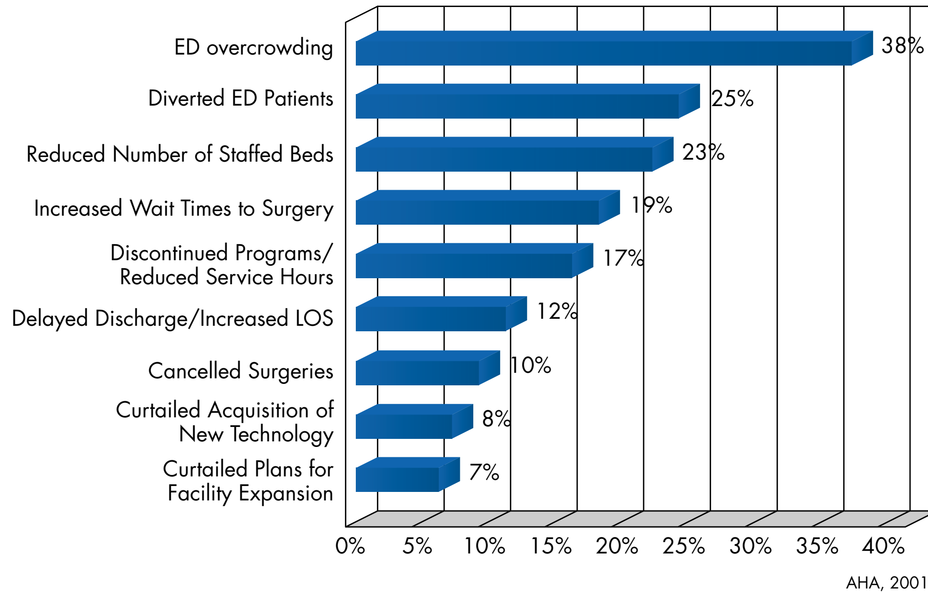
Figure 3: Service Impacts of the Work Force Shortage: Percentage of Health Care Organizations Reporting Impact



The Cost of Turnover

Data reported by the Saratoga Institute place the current rate of turnover in health care at 20.7 percent. This compares with a rate of 20.5 percent in non-health care industries.[6] Turnover is defined as the percentage of the work force that leaves a job — for any reason — during the course of the year. Numerous studies have attempted to quantify the organizational cost of turnover in terms of replacement costs, lost productivity and temporary staffing.

While each study has arrived at a slightly different economic value, all indicate that the financial impact on the organization — in terms of both time and money — is significant. Data from earlier studies place the cost between 50 percent and 150 percent of an individual's base salary, with the majority of this cost attributed to vacancy expense and lost productivity. Figure 4 illustrates the relationships among replacement cost, availability of workers and skill level.

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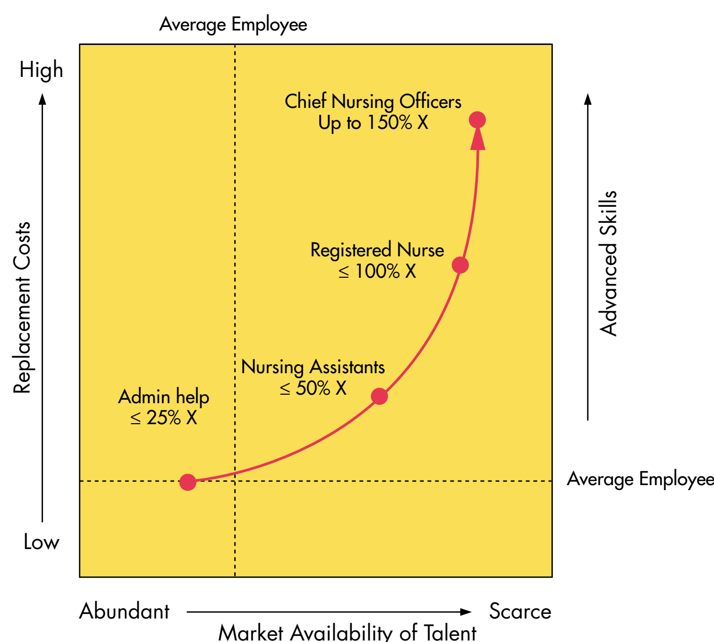
Figure 4: Human Capital Replacement Costs



Replacement Cost (X) in Annual Percent of Compensation

Direct Recruiting Costs	Indirect Recruiting Costs	Productivity and Training	Termination Costs
Advertising	Interviewing costs (time)	Cost to fill in for lost employees	Exit interviewing costs (time)
Agency fees	Employee training (to interview)	Other employees time	Severance pay
Referral fees	Travel expenses	Training/orientation costs	Productivity losses
Signing bonuses		Seminars/conferences/e-learning	
Travel expenses		Travel expenses	
Testing/profiling costs		Critical project involvement	

Success Profiles, Inc., 2002

Assuming a mean turnover cost of 100 percent of an individual's salary, recruitment dollars can add up if turnover at an organization is extensive (not to mention its indirect impact on the organization's vacancy rate). For example, using the 100 percent turnover cost factor, it costs, on average, $46,000 to replace one medical/surgical nurse and about $64,000 to replace a critical care nurse. Based on surveys of hospitals in Maryland, Catherine Crowley, R.N., an assistant vice president at the Maryland Hospital Association, estimated that it costs between $30,000 and $50,000 to fill each nursing vacancy.[5] Assuming an average cost of $46,000 to replace a nurse, an organization with an R.N. work force of 600 FTEs and a turnover rate of 20 percent would spend $5.52 million a year to support its turnover. Cutting the turnover rate to 15 percent (a 25 percent reduction) would result in a direct savings of $1.38 million per year.

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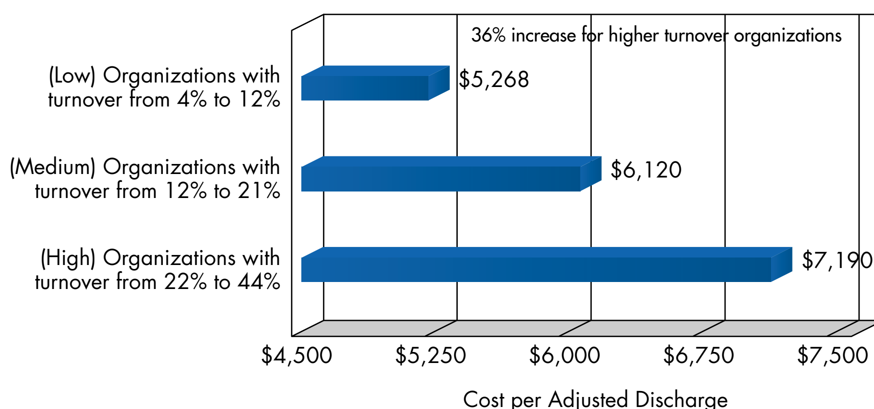
A 2001 study conducted by VHA's Consulting Services showed that organizations with higher turnover rates experienced a higher average cost per discharge.[7] Organizations with turnover rates of less than 12 percent experienced a cost per adjusted discharge of $5,286 (FY 2001 dollars), compared with an average cost per adjusted discharge of $7,190 for institutions with turnover rates that exceeded 21 percent. This represents a difference of nearly 36 percent in costs associated with turnover (see Figure 5).

Figure 5: Relationship Between Employee Turnover in Health Care and Cost per Adjusted Discharge



VHA Inc., 2001

Turnover and Profitability

A study of 235 hospitals focused on the relationship between profitability, as measured by return on assets, cash flow margin and employee turnover.[8] The study found that as turnover increased, both return on assets and cash flow margin decreased. For organizations with the lowest turnover rates (4 percent to 12 percent), return on assets averaged 23 percent. This figure dropped to 17 percent when turnover rates exceeded 22 percent (see Figure 6). Further studies of this relationship are underway.

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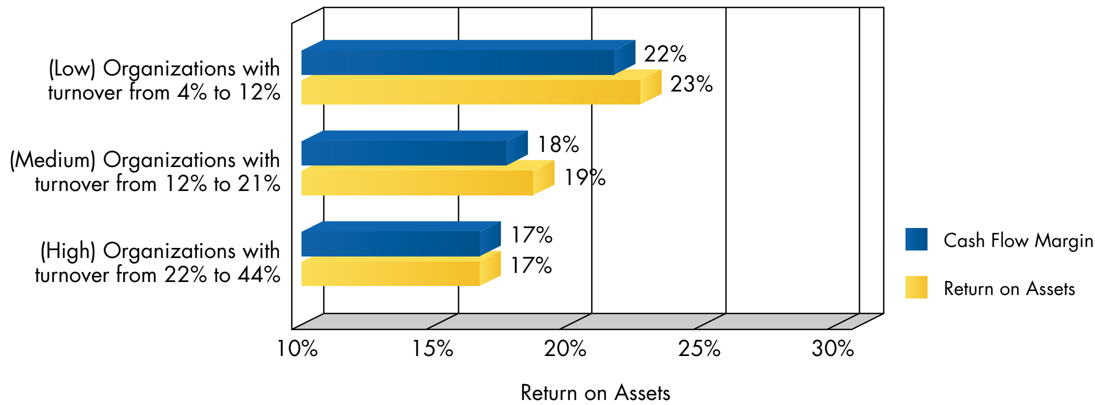
Figure 6: Relationship Between Employee Turnover and Profitability



VHA Inc., 2001

Impact on Quality

Though the effect of work force shortages on the quality of care is harder to quantify than the financial impact, it is becoming a major concern. One approach to quality assessment is to use either a risk-adjusted mortality index or a severity-adjusted average length-of-stay as a proxy for quality.

A recent study examined the relationship between these two outcomes and employee turnover rate, and found a direct relationship between the variables. Health care organizations with the lowest turnover rates (less than 12 percent) had the lowest risk-adjusted mortality scores, as well as the lowest severity-adjusted length-of-stay (see Figure 7).[9] For health care organizations with turnover rates in excess of 22 percent, the severity-adjusted average length-of-stay was 1.2 days longer than those with the lowest turnover rates. While these findings do not establish an absolute causal relationship, they do suggest that higher rates of turnover among the nursing staff probably lead to decreased efficiency and productivity, which affect patient care.

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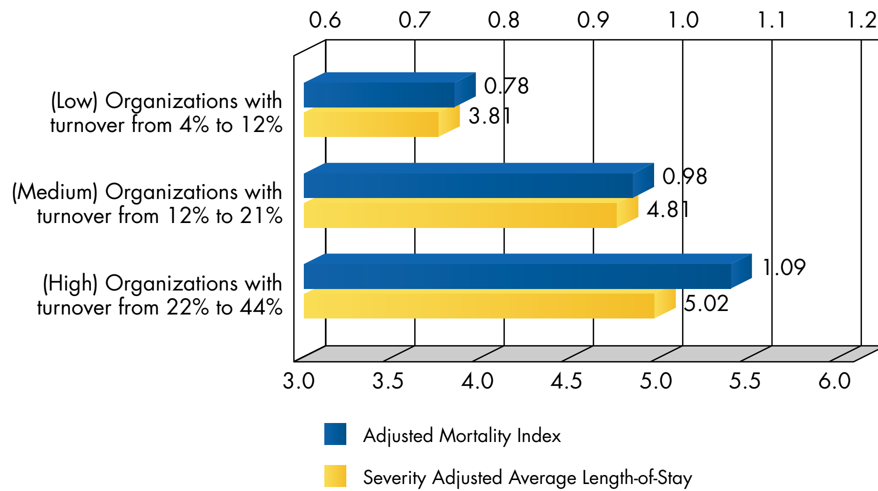
Figure 7: Relationship Between Employee Turnover and Patient Care



VHA Inc., 2001

In a recently published study, two-thirds of nurses surveyed reported that their organizations did not have enough registered nurses to provide high-quality care, and 45 percent reported a deterioration in the quality of care in the past 12 months.[10] An independent study of physicians appears to support the nurses' assessments: 64 percent reported that nursing staff levels were either fair or poor.[11] Another study of more than 27,000 nurses conducted by VHA suggests that nurses are concerned about quality and operational effectiveness. Nearly 40 percent of nurses responding said that quality of service was not consistent from department to department and from shift to shift.[7]

Nurses represent health care organizations' single largest labor expense, tempting them to reduce staff in an attempt to manage overall costs. However, research suggests that this strategy often backfires. A study by Peter J. Pronovost, M.D. et al, found that inadequate nurse staffing led to increased resource use, particularly in the form of longer lengths of stay in the intensive care unit.[12] Having more than two patients per nurse was associated with a 49 percent increase in the number of days a patient stayed in the ICU. These researchers also found that higher ICU nurse staffing ratios were associated with an increased risk of medical complications.

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A major study funded by the U.S. Department of Health and Human Services examined the relationship between patient outcomes and nurse staffing levels, finding strong evidence of an indirect correlation between the two variables for a number of the outcomes.[13] The researchers demonstrated that the rate of urinary tract infections, pneumonia and upper gastrointestinal bleeding, as well as length-of-stay, all increased as nurse staffing declined. A recent study by Aiken supports the notion that inadequate staffing levels negatively affect quality and cost. Her studies show that hospitals with higher nurse-to-patient ratios had significantly shorter overall lengths-of-stay and fewer ICU days.[14]

Root cause analysis of undesirable patient outcomes (sentinel events), conducted under the guidance of the Joint Commission on Accreditation of Healthcare Organizations, indicate that 24 percent of these serious events involve nurse staffing issues. Issues identified during the root cause analyses included staff fatigue, miscommunication, lack of adequate training and inadequate staffing.[15] These sentinel events, along with those not reported, involve the potential for sizable malpractice awards, and may compromise the quality of patient care.

Due to the seriousness of these events and the link to nurse staffing levels, JCAHO developed an enhanced set of accreditation standards that focus on nursing effectiveness and staffing levels.[16] The standards employ a combination of clinical and service measures along with a set of human resources metrics, such as turnover rate, vacancy rate and nursing hours per patient day. The intent is to link patient outcomes and effectiveness of health care providers. As these screening indicators become integrated with the accreditation standards, health care organizations will be forced to increase their attention to the metrics and their relationship to patient outcomes. More importantly, these new standards underscore the importance of having sufficient numbers of trained staff to meet patients' needs.

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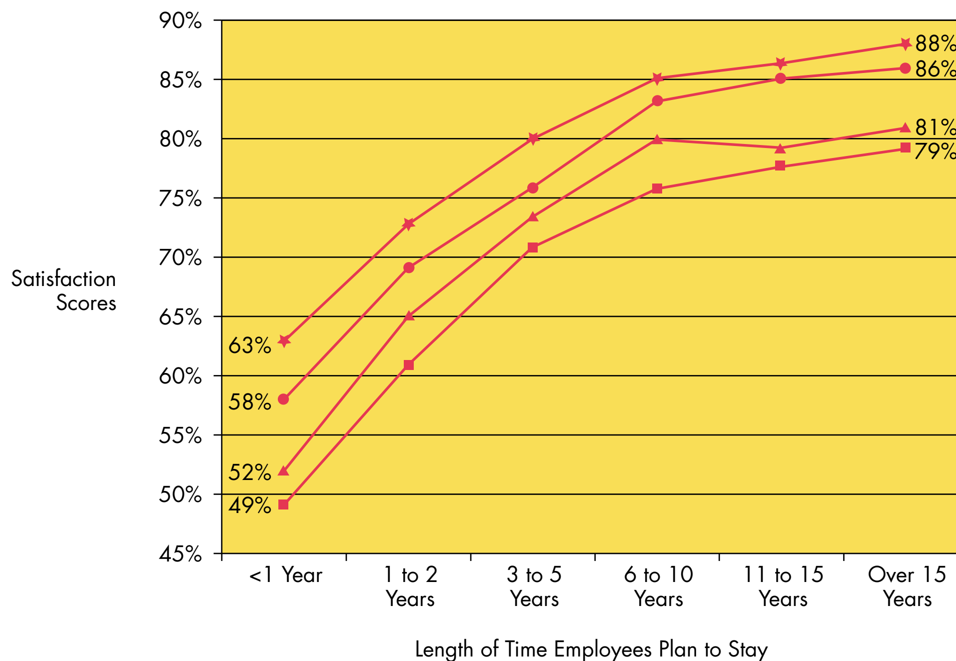
Impact on Satisfaction

Many studies have examined the impact of work force issues on internal staff satisfaction, customer satisfaction and financial position. Most studies of satisfaction in health care identify communications, engagement, decision-making and work-role issues as major drivers of satisfaction among health care professionals. A recent study of 50 VHA member health care organizations looked at the relationship between satisfaction as measured by "willingness to stay" (how long an employee planned to stay with a given organization) and five outcome indicators (commitment to organization, willingness to recommend organization as a place to work, etc.).[17] The findings, covering some 40,000 employees presented in Figure 8, show that as satisfaction scores increased, employees were more willing to stay with an organization. Other studies have shown a strong statistical correlation between employees' willingness to leave an organization and whether or not they do so.[18]

Figure 8: Willingness to Stay (Intent) Compared with Specific Outcome Indicators



Success Profiles, Inc., 2002

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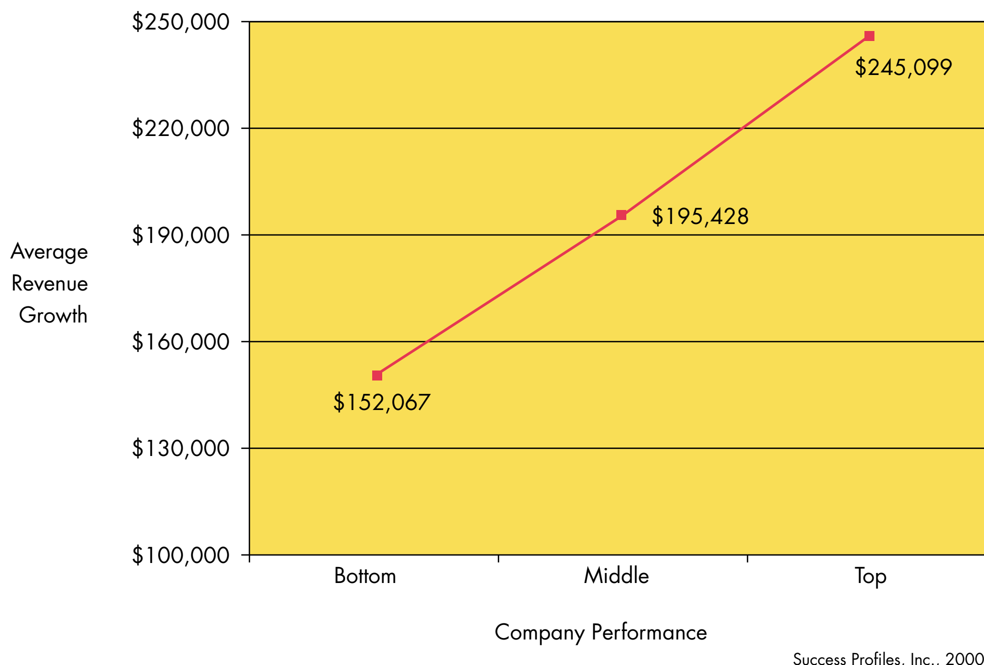
Similar drivers of employee satisfaction appear to be present in the non-health-care sector. One study looked at the relationship between employee authority to make decisions and turnover rate. This study of 134 mid-sized companies (less than 1,000 employees) found that organizations classified as "bottom performers" — those that scored lowest on their organizational assessment surveys — had turnover rates of 25 percent compared to those in the top segment where turnover rates were under 10 percent (9.6 percent).[19] This same study looked at the relationship between employee authority to make decisions and revenue. For those organizations in the top segment, average revenue per employee was $245,099, while average revenue for bottom performers fell to $152,067 per employee (see Figure 9).

Figure 9: Relationship Between an Organizations Willingness to Grant Employees Authority to Make Decisions with Average Revenue Growth



Success Profiles, Inc., 2000

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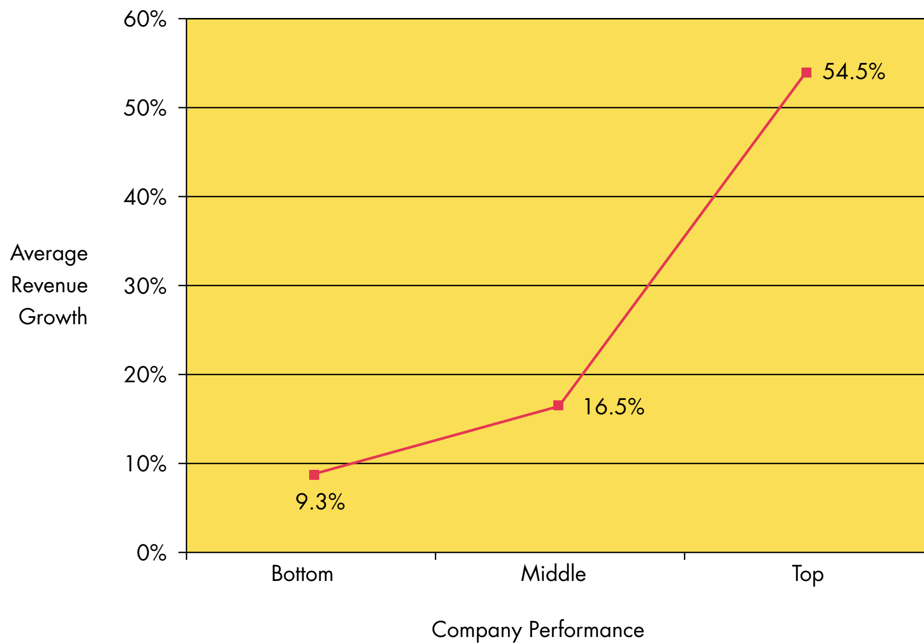
Also examined in this study was the relationship between employee engagement and annual growth in revenue. The study showed that as feedback and employee engagement increased, so did revenue growth (see Figure 10). Even though these examples were taken from non-health-care-related industries, these findings suggest that giving employees opportunities for input and engagement not only translates into more satisfied employees, but is good for the bottom line.

Figure 10: Relationship Between an Organization's Feedback and Engagement Scores with Average Revenue Growth



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Conclusion

Work force instability, as demonstrated by high rates of staff turnover and lingering vacancy rates, continues to be a major challenge facing health care organizations. The impact is manifest in workflow inefficiencies, delays in delivering patient care, and dissatisfaction among patients and staff, all of which can have significant negative effects on quality of care and patient safety. In addition, the staggering administrative costs created by a transient work force threaten health care organizations financial viability.

Solutions to the problem require new ways of thinking and investment of substantial resources. Additional funding is needed to address some of the shortcomings in the present system's structure and functional capabilities. However, not all successful interventions need to be expensive. Where money is spent is just as important, if not more so, than how much. Given the drivers of employee satisfaction — culture, communication, job design, etc. — the true currency of a strong work force is leadership, vision, commitment and energy. Organizations need to evolve new cultures that place internal staff satisfaction at the core of their long-term strategies. By doing so, health care organizations can expect to gain a competitive advantage in their market and achieve a solid return on investment.

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