REVIEWS

Building the business case for a culture of certification

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Received: February 21, 2014 **Accepted:** March 28, 2014 **Online Published:** May 15, 2014
DOI: 10.5430/jnep.v4n6p105 **URL:** http://dx.doi.org/10.5430/jnep.v4n6p105

Abstract

Certification is a measure of distinctive, specialized knowledge in nursing and demonstrates competence beyond licensure to the public, the facility, and the professional. Certification not only is significant for nursing practice but is also essential for meeting the multiple standards within the American Nurses Credentialing Center Magnet Recognition Program, the international "gold standard" signifying excellence in nursing services. It is likely that organizations that promote a "culture of certification" are better positioned in a highly competitive health care job market. At Houston Methodist Hospital we created a culture of certification by developing the Clinical Career Path program providing on-site certification preparation courses, a campaign initiative, recognition programs, and financial support. Recent literature indicate mixed findings on whether such a culture positively impacts patient and staff outcomes such as job satisfaction, retention, patient falls, and hospital-acquired urinary tract infections. There are costs associated with building a culture of certification, and without a compelling business case, the necessary resources or funding may not be made available. There is a paucity of literature on building a business case to promote a culture of certification or the financial investment required. We examined this issue and found that the creation of a culture of certification resulted in improved patient and employer outcomes. Additionally, we found a benefit-to-cost ratio greater than 1, which supports that building a culture of certification is cost beneficial; every dollar spent generates more than a dollar in benefits. This article highlights that a business case exists to support building a culture of certification by linking to patient and employer outcomes.

Key words

Certification, Business Case, Cost, Benefits, Culture

1 Introduction

In *To Err is Human* and *Crossing the Quality Chasm*, the Institute of Medicine Committee on Quality of Health Care in America clearly reports the need for health care institutions to focus on patient safety and quality [1, 2]. These reports spotlight how preventable errors and quality issues result in increased hospital morbidity and mortality. Nurses have a key role in addressing patient safety and quality because they are the workforce that spends the largest amount of time directly with the patient. Recent literature supports that specialty certification of nurses inversely impacts patient outcomes including inpatient mortality, patient falls, hospital-acquired infections, and failure-to-rescue rates [3-5]. According to the American Board of Nursing Specialties (ABNS) [6], certification is defined as "the formal recognition of the specialized knowledge, skills and experience demonstrated by the achievement of standards identified by a nursing specialty to

promote optimal health outcomes." At our facility, we invested in developing a "culture of certification" as one strategy to enhance patient care and outcomes. It seems logical that such a culture would result in improved patient outcomes. However, there is a paucity of literature demonstrating the link between certification and outcomes as well some conflicting results. In addition, multiple costs are associated with creating a culture of certification, including obtaining and maintaining support of a program, which is important to establish the benefits of such a program. In the health care era of cost-consciousness and quality outcomes, nurses should take the lead to determine the economic implications of such an initiative. In this article we discuss the process of creating a culture of certification, the impact on employer and patient outcomes, and the business case for investing in such a culture.

2 Literature review

In a large study on certified nurses, Carey [4] found that 72% (19,452) of the nurses self-reported that being certified positively impacted their practice. These nurses indicated that being certified sharpened their surveillance skills, thus allowing them to reduce adverse events and intervene earlier to prevent complications. The surveillance skills were described as the ability to identify early and prevent life-threatening deterioration of a patient or failure to rescue. Adverse events, which include patient falls and hospital-acquired infections, are costly and are likely to increase length of stay and resources used. In a study by Bemis-Dougherty and Delaune [7], patient falls resulted in 60% higher total patient charges. Roudsari *et al.* [8] estimated the additional cost associated with post-fall treatment as $17,483 and reported that patient falls result in 6 or more additional hospital days. The cost incurred as a result of hospital-acquired infections is also substantial. Bloodstream infections are estimated to incur costs between $10,000 and $20,000 [9]. Kendall-Gallagher *et al.* [3] reported that a 10% increase in certified nurses with bachelor degrees subsequently decreased the odds of adjusted inpatient mortality and failure to rescue by 6%. Kendall-Gallagher and Blegen [10] conducted a multi-hospital study to assess the link between certification rates and patient safety outcomes. They found that every 1–standard deviation change in the proportion of certified nurses resulted in a decrease in the patient fall rate by 0.04 per 1000 patient days and a decrease in catheter-associated urinary tract infection (CAUTI) by 0.19 per 1000 patient/device days. In Kleinpell's [11] secondary review of data, the investigator found an inverse relationship between certification rates and patient falls. However, no significant relationship was found with other adverse events such as medication errors, skin breakdowns, central line infections, urinary tract infections, or bloodstream infections. There were mixed findings on the impact of certification rates on the number of adverse events.

Coleman *et al.* [12] found that certified nurses scored higher on knowledge attitude surveys and were more likely to follow practice guidelines for symptom management in chemotherapy patients. The ability to follow these guidelines to prevent chemotherapy-related patient discomfort and nausea and vomiting can lead to improved patient satisfaction. Craven [13] found that higher certification rates resulted in a 2.2% improvement in patient satisfaction scores and an 8.6% reduction in nurse turnover on a medical unit. It was also reported that 35% of patients reported greater satisfaction when cared for by a certified nurse. Organizations with higher patient satisfaction scores are more likely to have higher profitability and reimbursement [14]. The Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) is a survey of patients' experiences that is publically reported. Hospitals with superior ratings are eligible for additional payment, whereas those below a threshold receive a pay reduction. Even a small percentage reduction in payment can be financially devastating to an institution.

Wade [15] conducted a review of the literature on specialty nursing certification and found that higher certification rates impact collaboration and patient satisfaction scores. Of the studies that focused on empowerment, the majority reported a positive association to certification. Fitzpatrick *et al.*'s [16] findings corroborated these findings and found that certified nurses had a higher empowerment score and lower intent to leave the profession. This was supported by Carey [4], who found that 12% more of certified nurses than noncertified nurses remain in the workforce. The suggestion is that certified nurses may reduce attrition. This is significant to an organization, because the cost of replacing one nurse may be as much as $64,000 in direct costs such as recruitment, orientation, and training [17]. However, there are also indirect costs not

accounted for in the above number that include the impact on quality of care and loss of productivity. From the resource perspective, it is predicted that by 2025 we will be short 260,000 nurses, thus making it even more critical to identify strategies to retain our workforce [14].

A recent survey supports that both intrinsic factors and extrinsic rewards are key to higher certification rates. In the survey, certified nurses reported experiencing recognition by their employer for their expertise and knowledge [18]. In another survey conducted by Cary [4], certified nurses described the benefits of certification as recognition by their peers and the organization. It is reported that nursing leaders prefer hiring certified nurses and that 73% of surveyed customers prefer hospitals that hire certified nurses [18]. Leaders also indicated that certified nurses practice at a higher level and therefore the leaders preferred to assign them to the more complex patients. Another recent survey revealed that when the nurse manager supports certification, it is likely that nurses will pursue such recognition [4]. Such a supportive environment is empowering and can improve nurse satisfaction. The barriers to certification included fear of taking the exam and financial support for the exam fees. To build a culture of certification, these barriers must be addressed along with developing a supportive environment to allow nurses to use their advanced knowledge and skills. A study by Sayre *et al.* [19] supports that nurses preparing for a certification exam exhibit more competence and confidence, which results in better interprofessional collaboration. Supportive and empowering nurse practice environments are key ingredients to building a culture of certification.

Although several studies report that a relationship exists between certification and improved patient outcomes, conflicting data persist [4, 5, 10]. More studies are required to substantiate these claims. In addition, many hospitals pursue creating a culture of certification, but we found no literature on analysis of the cost benefit of such an effort.

3 Creating a culture of certification

Since its founding in 1919, Houston Methodist Hospital (HMH) in Houston, Texas, has earned worldwide recognition including the American Nurse Association Credentialing Center's Magnet Designation. HMH has been a Magnet-designated facility since July 2002 with the most recent designation coming in 2011. With 1250 licensed beds, 52 operating rooms, and over 1900 nurses, HMH offers complete care for patients from around the world and has an established culture of excellence. To establish a culture of certification, meaning a shared attitude of values, goals, and practice to achieve a higher number of certified nurses, nurse leaders embarked on a journey to remove barriers to nurses achieving certification. A multitude of strategies were utilized to create a culture of certification, including a clinical career path program, preparation courses , campaigns and competitions between specialties, recognition, and financial support. In 2013, HMH received the ABNS Award for Nursing Certification Advocacy for promoting specialty certification and having a high percentage of certified nurses, including nurse leaders, compared with national benchmarks.

3.1 Clinical career path program

The HMH's Clinical Career Path (clinical ladder) is designed to recognize clinical excellence in nursing, maintain expert nurses at the bedside, facilitate career advancement, and encourage ongoing personal and professional development. There are four levels to the clinical ladder, which is based on competencies, credentials, and contributions. A professional nursing certification is required for registered nurse (RN) levels III and IV. However, all certification-eligible nurses are encouraged to pursue certification as annual unit certification goals are set and achievement recognized.

3.2 Preparation courses

The HMH has invested in a dynamic educational system called CE Direct and is proud to offer this benefit free of charge to nurses and allied health professionals (see Figure 1). CE Direct delivers online continuing education and certification review courses that expand knowledge and enhance professional practice. Staff members preparing for a nursing certification exam have unlimited access to review content. Through CE Direct, HMH nurses enjoy instant access to more

than 800 award-winning CE courses for virtually every nursing specialty. Furthermore, nurses can conveniently access these courses from home.

Figure 1. CE Direct Fact Sheet

The Texas Workforce Commission recently awarded a $902,000 grant to support a unique educational partnership between HMH and Houston Community College. This grant is being used to fund certification courses and other educational offerings from August 2012 to March 2014. The certification review courses supported by the Texas Workforce Grant include preparation for the emergency room, critical care, progressive care, nursing leadership, nursing informatics, orthopedics, psychiatric nursing, operating room, post-anesthesia, trauma, research, perinatal, obstetrics, and neonatal nursing. In addition, HMH belongs to a Texas Medical Center collaborative that provides certification preparation courses and also partners with the Houston Oncology Nursing Society to provide an oncology certification preparation. Lastly, nurse-driven preparation courses are offered for the following specialties: emergency nursing, critical care/progressive care, medical/surgical, and perioperative. As shown in Table 1, a total of 698 nurses attended one of the Texas Workforce Grant-funded or HMH-sponsored certification review courses from 2009 through 2012.

Table 1. HMH- and Texas Workforce Grant-Sponsored Certification Review Course Attendee Numbers

Certification Review Course Sponsor	2009	2010	2011	2012
HMH	64	90	157	108
Texas Workforce Grant				279
Total	64	90	157	387

3.3 Campaign competition

This past year, the Professional Development Council at HMH launched a healthy ongoing competition and recognition program for certified nurses and staff members seeking to obtain certification. The theme for our certification campaign was “Catch the Fever” and was based on summer heat. Large, laminated, thermometer posters called Cert-O-Meters were distributed to each unit along with arrows to measure the units’ current certification rates (see Figure 2). The campaign challenged staff to raise the bar by reaching a certification rate of 40% or higher, and many units have continued to

drastically improve their certification rates. Quarterly pizza parties were hosted for the units showing the greatest improvement as well as the highest overall percentage. A few additional highlights of this fun initiative included:

- Certification study groups,
- Establishment of a pool of certified nurse mentors as resources,
- Cert-O-Meters placed on each unit to measure the unit's progression,
- Features on the hospital's social media sites, and
- Quarterly parties to recognize high-achieving units.

Figure 2. Catch the Fever Cert-O-Meter Poster

The HMH nursing intranet also includes several features and links that provide the opportunity to learn more about nursing professional organizations and specialty certifications. This site provides everything our nurses need to know about getting involved and earning their certification. There is also a search engine on the website for staff to search for colleagues who have obtained certifications and use them as resources. The Nursing Operations Department played an instrumental role in promoting nursing certification. Staff members often make rounds with an "In the Know…On the Go" cart throughout the hospital to quiz staff members on certification data and share information on certification opportunities and other nursing-related topics.

3.4 Recognition

In March of every year, the hospital supports National Certified Nurses' Day by hosting a reception to celebrate the achievements of the certified nurses (see Figure 3). On this day, each certified nurse signs a banner that is hung in the hospital for all to see. Along with the Chief Nursing Offer, nursing leadership and staff recognize the certified nurses for their commitment to going above and beyond what is required. Nursing colleagues who obtain certification also receive personal letters from our chief nurse executive congratulating them on their achievement.

Nursing staff members who obtain specialty certification are recognized in our president's weekly email. All hospital staff and physicians receive this message. The achievements of certified staff are also listed in the accolades section of our monthly nursing magazine, which is distributed to all five hospitals within the system.

Support and recognition are conveyed to specialty certified nurses by listing their names in the annual nursing report. This report includes the total amount of financial support provided for certification reimbursements. A section of the report is also reserved for featuring our overall percentage of certified nurses. This percentage is presented in graph format and compared with the previous year's national benchmark. Other recognition strategies include the following:

- Creating a wall display to recognize certified staff members and showcase their achievements to patients and visitors;
- Listing certification credentials on the RNs' identification badges, which has served as a key factor in bringing awareness to certifications and sparking conversations with patients and families about certification; and
- Distributing lapel pins to all certified staff nurses (see Figure 3). This helps to increase awareness of specialty certification. The lapel pins are presented to nurses during an official pinning ceremony held on Certified Nurses' Day.

Figure 3. A Certification Lapel Pin

3.5 Financial support

Upon initial certification, the organization reimburses the nurse up to $250 for the cost of the exam. The hospital allows all nursing staff the opportunity to attend professional meetings and participate on hospital and professional committees. The hospital budgets for this nonproductive time so that the time away from the bedside does not have an impact on the department budget. Additionally, the organization supports various activities of the nursing personnel such as participation in community activities, interest fairs, quality conferences, and continuing education. The hospital also budgets annually to offer CE Direct to its staff. CE direct was not fully implemented until 2013 and therefore was not included in the financial investment cost.

4 Building the business case

As stated earlier, it is a priority for health care institutions to focus on interventions to improve quality and patient safety. However, at the same time, pressure is mounting for U.S. hospitals to control cost due to escalating health care expenses. Without a compelling business case to show that a relationship exists between a culture of certification and patient or institutional outcomes, the necessary resources or funding may not be made available. Numerous templates are available as a framework for a business case, although most include six major components: current state, desired state, the required resources, the benefits, analysis, and recommendations [14]. It is imperative that a business case focus not only on the financial impact, because benefits will get missed with that myopic approach. Some of the challenges in calculating the return on investment in patient-care-related projects include that the return may not be realized immediately but may develop over a long period of time, reimbursement for care may occur regardless of patient outcome so that no incremental

saving is realized, less obvious benefits maybe unquantifiable, and not one but multiple variables may also impact outcomes [20]. However, despite these challenges, without a cost-effectiveness analysis it may be difficult to garner support for the certification initiative.

4.1 Current and desired state

The HMH current certification rate is above the Magnet benchmark for hospitals with >701 beds of 31.6% certified direct care nurses and 61.3% certified nurse leaders, and over the past 4 years the rates increased by 31% for leaders and 7.4% for clinical nurses (see Figure 4). The certification goals were set by the shared governance council and entered into the nursing strategic plan. The desired goal was a culture of certification and subsequently a 100% certified nurse workforce by the end of 2016.

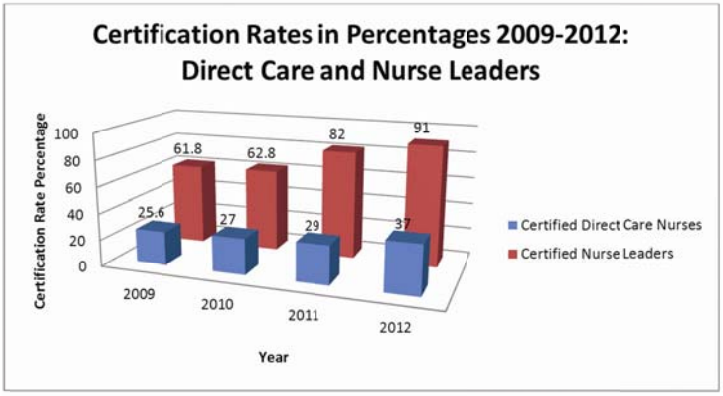

Figure 4. Percentage of Certified Direct Care Nurses and Leaders: 2009-2012. In accordance with the ANCC, nurse leaders are defined as the chief nurse executive, vice presidents, directors, managers, and nurse practitioners. The ANCC Magnet benchmark is 31.6% certified direct care nurses and 61.3% certified nurse leaders.

4.2 Required resources and cost

To determine the cost to build a culture of certification, the time period of 2009 to 2012 was used. The mean estimated annual cost for the period of 2009 to 2013 was $36,179.47 (see Table 2). Any annual projected cost should include supplies, infrastructure needs, salary dollars, certification stipend, capital, direct cost, and ramp-up cost for upcoming strategies. The largest portion of annual cost was the $250 reimbursement for the exam fee that each nurse received after successfully passing the exam. A spreadsheet was developed to track the estimated annual certification stipend payout on the basis of the escalating certification goal. The increasing number of nurses that transition each year to being eligible for certification was budgeted for. The projected annual cost was calculated by multiplying the projected number of certificants by the $250 stipend amount. The projected cost for the 2013 budget was $109,200, as we fully implemented CE Direct and moved closer to the goal of 100% certified nurses. However, the annual cost will substantially decrease at the point of goal achievement to correspond with the decreasing need for reimbursement stipends.

Table 2. Culture of certification financial investment

Cost Items	2009	2010	2011	2012
Certificants' Reimbursement Stipend	$12,845	$17,825	$21,975	$24,750
Associated Certification of Culture Cost (Supplies, Recognition, Instructor time, CE Direct)	$11,098.88	$15,400.80	$18,986.40	$21,836.80
Total Cost	$23,943.88	$33,225.80	$40,961.40	$46,586.80

4.3 Patient outcomes benefit analysis

For this article, we selected the most recent data on patient falls and CAUTIs for the benefit cost analysis. The criteria to determine the presence of health-associated infections was based on the National Nosocomial Infections Surveillance System. The National Database of Nursing Quality Indicators (NDNQI) benchmark was used as the benchmark to track the impact of fall rates and the impact of fall initiatives. Kendall-Gallagher and Blegen [10] found that higher certification

rates resulted in a decrease in patient falls by 0.04 per 1000 patient days and a reduction in CAUTI of 0.19 per patient/device days. During the period from 2009 to 2012, our organization found similar improvements with reduction in patient falls by 18% (0.60 per 1000 patient days), falls with injury by 28% (0.142 per 1000 patient days), and CAUTI by 50% (1.88 per 1000 device days). HMH outperformed the overall fall rate benchmark throughout the time period and the fall with injury rate beginning in 2011 (see Figure 5).

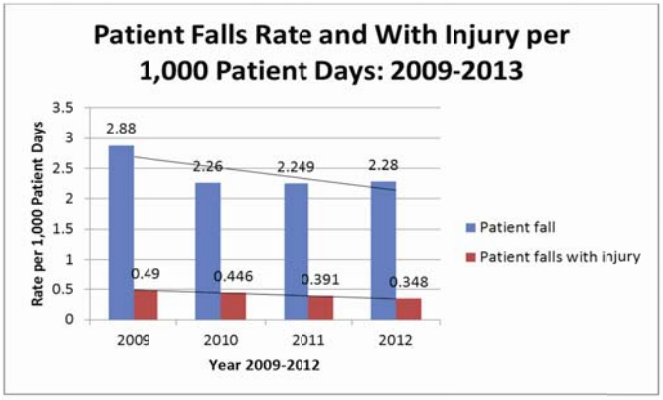

Figure 5. Patient Fall Rate With and Without Injury, 2009-2012. Measurement: Falls with injury rate is the number of patient falls resulting in injury divided by patient days ×1000. Falls rate is the number of patient falls divided by patient days x 1000. The NDNQI benchmark for patient falls is 2.94 per 1000 patient days; that for patient falls with injury is 0.44 per 1000 patient days.

The Published National Healthcare Safety Network 50th percentile was the CAUTI benchmark for this organization and comparison was made with teaching hospitals with 501 to 1000 beds. The CAUTI rate exceeded the benchmark until 2012, the time period that coincided with the highest RN certification rate (see Figure 6). The estimated cost avoidance for each patient outcome was based on the number of avoided events multiplied by the cost associated to treat the event (patient falls $17,483, and CAUTI, $2836). To avoid overestimation, the authors used attributable costs as a percentage of the total cost already reimbursed by the payor. There are additional savings not accounted for in this analysis, including lower liability and reputation as a top-tier, quality organization.

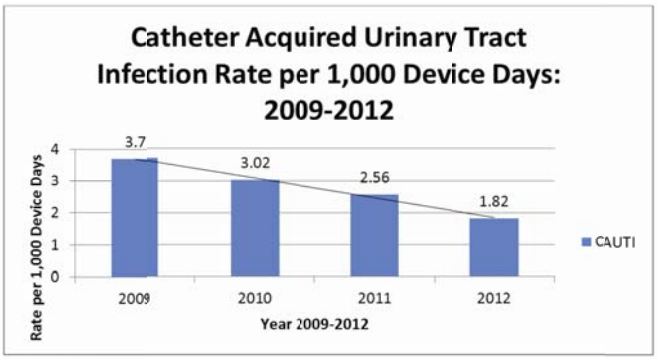

Figure 6. Catheter-Associated Urinary Tract Infection (CAUTI) Rates and Trendline, 2009-2012. Measurement: catheter-associated urinary tract infections divided by Foley device days × 1000. The NDNQI benchmark is 2.35 per 1000 Foley device days.

4.4 Employer outcomes benefit analysis

Between 2009 and 2012, HMH realized a 22.5% reduction in nurse turnover (see Figure 7), a 2.8% increase in Press Ganey patient satisfaction (see Figure 8), and a 0.26% increase in HCAHPS scores (see Figure 9). HMH outperformed the benchmark for RN turnover and Press Ganey patient satisfaction scores the majority of the time. In 2012 there was a slight turnover rate increase of 0.27% that was attributed to a higher vacancy rate related to RN relocation.

To estimate the RN turnover savings, we used the average cost ($64,000) to fill a position multiplied by the increased number of retained nurses. These findings are similar to Craven's [13], who demonstrated that higher certification rates result in improvement of patient satisfaction scores and reduction in nurse turnover. The retention of nurses with advanced knowledge and skills is crucial, especially in the midst of the nursing shortage.

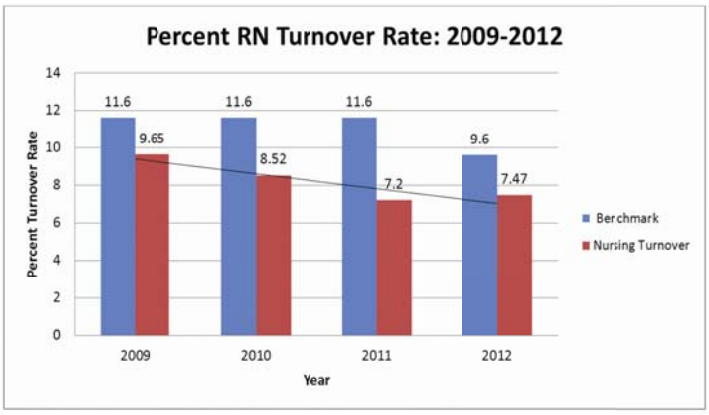

Figure 7. Percent RN Turnover Rate, 2009-2012. Measurement: total RN full-time equivalents (FTEs) terminated during the time period divided by total RN FTEs employed during the time period multiplied by 100

HMH uses the University Health System Consortium (UHC) peer group performance as the benchmark to set threshold and superior goals for the Press Ganey patient satisfaction results. The UHC database includes approximately 180 of the nation's leading academic medical centers. The survey questions are rated on a scale from "never" to "always"; however, only the "always" responses are counted. HCAHPS, a national and standardized patient experience survey is now mandated and publicly reported. HMH focus on both these patient satisfaction tools. The HCAHPS results are now linked to reimbursement amount or the value-based purchasing system from the Centers for Medicare and Medicaid Services (CMS). Through the value-based purchasing process, institutions are eligible for additional payment for superior patient satisfaction results. It is imperative that health care institutions focus on service excellence, not only for this incentive, but because it is the right thing to do. We were unable to quantify the benefits of the increased HCAHPS scores. HMH outperformed the Press Ganey benchmark between 2010 and 2012. However, the institution did not achieve the HCAHPS benchmark, although there was an upward trend and a composite score increase of 5.5. Over the last 4 years. In 2012, the HMH HCAHPS composite score was 78.6 compared with a benchmark of 78.9, only a 0.3-point difference. In 2012, HMH received the Press Ganey Patient Voice Award for achieving superior patient experience performance.

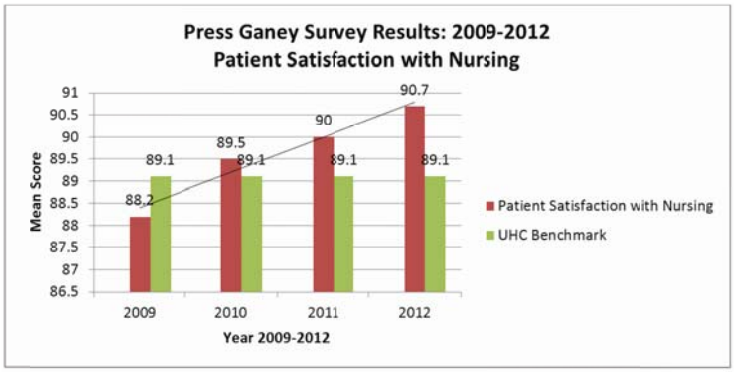

Figure 8. 2009-2012 Press Ganey Patient Satisfaction with Nursing Survey Results. Abbreviation: UHC, University Health System Consortium

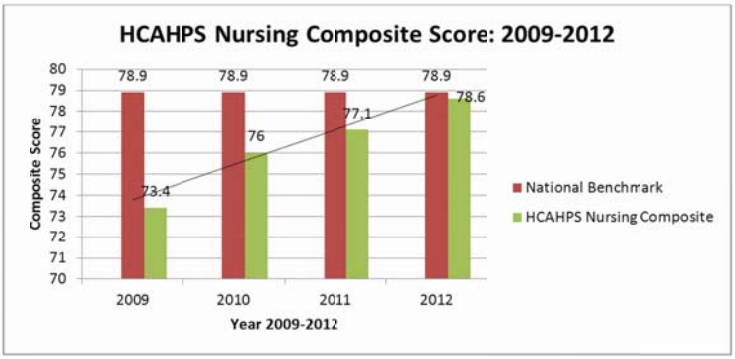

Figure 9. 2009-2012 HCAHPS Patient Satisfaction with Nursing Composite Scores. Abbreviation: HCAHPS, Hospital Consumer Assessment of Healthcare Providers and Systems

4.5 Benefit cost analysis

The benefit cost analysis technique was used to determine if the financial investment yielded high returns. Benefit cost analysis is an effective process to evaluate the success of a change and to guide decision making [20]. The costs associated with building a culture of certification were tabulated for each year during 2009-2012. For the same time period, we calculated the financial benefits of the improved nurse retention, patient falls, and CAUTI rates. The total cost and benefits were subtracted to determine the net value of the initiative. This calculation determined a net value of $4,037,398.12 (see Table 3).

Table 3. Quantified Benefit Outcome, Cost, Net Value, and Benefit-to-Cost Ratio

Estimated Benefit Outcomes and Cost	Total Years 2009-2012	2009	2010	2011	2012
Present Value of Benefits- Reduction in Falls with Injury	$664,354		$122,381	$367,143	$174,830
Present Value of Benefits- Reduction in Falls	$247,242		$201,405	$58,338	-$12,501
Present Value of Benefits- Hospital-Acquired Urinary Tract Infection	$198,520		$62,392	$70,900	$65,228
Present Value of Benefits- Reduction in RN Turnover	$3,072,000		$2,752,000	$448,000	-$128,000
Total Present Value of Benefit Outcomes	$4,182,116		$3,138,178	$944,381	$99,557
Total Present Value of Culture of Certification Costs	$144,717.88	$23,943.88	$33,225.80	$40,961.40	$46,586.80
Benefit-to-Cost Ratio	>1.00= 27	<1.00	>1.00=93	>1.00=22	>1.00=1.14
Net Present Value	$4,037,398.12	-$23,943.88	$3,104,952.20	$903,419.60	$52,970.20

To build a business case, we next calculated the benefit-to-cost ratio by dividing the net benefits value by the total cost and determined that a positive return existed. A ratio of less than 1.0 indicates a negative return, whereas a ratio of greater than 1.0 indicates a positive return [21]. We found a benefit-to-cost ratio of 27, which supports that a positive return exists. For every dollar spent, an economic gain of $27 was realized (see Table 3). In addition, Figure 10 displays the culture of certification net benefits exceeded cost from 2010-2012.

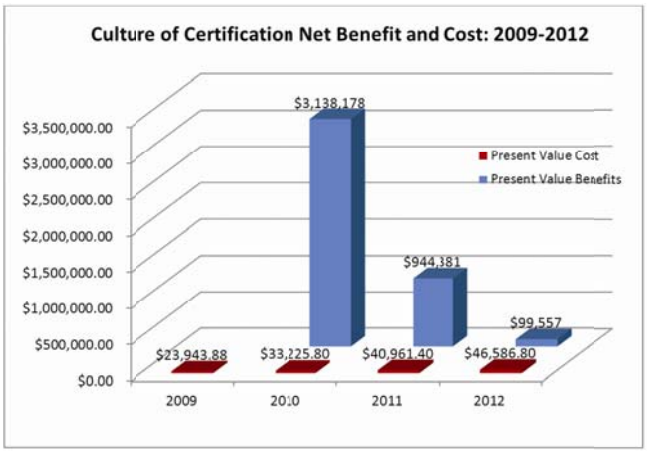

Figure 10. Quantified Benefits and Cost During 2009-2012

5 Conclusion and recommendations

In this article, we have provided ideas to support a culture of certification. The impact and the business case for the certification were quantified. To establish a culture of certification, meaning shared attitudes, values, goals, and practices

to achieve a higher number of certified nurses, the nursing service embarked on a journey to remove barriers to nurses achieving certification. The culture aligns with the core values that include excellence and, as a result, the division of nursing received the ABNS Certification Advocacy Award. The certification rates outperformed the magnet benchmark of 47.11% for hospitals with 701 or more beds. However, there are costs associated with supporting a certification program. While we estimated the total program cost as $144,717.88, the quantifiable benefits were approximately $4,182,116 (avoidable adverse events and reduced turnover).

We found consistent improvement in the patient and employer outcomes during 2009-2012. Most of the time, HMH outperformed the external benchmark, with the exception of the HCAHPS composite scores, although a steady improvement for these was noted. We noted that the largest improvement in the RN turnover and patient outcomes coincided with the timing of the 20% increase in certification rates. However, a larger increase in patient satisfaction scores occurred the following year. These trends further support a link between the culture of certification and patient and employer outcomes.

Today more than ever, it is important for nurses to be mindful that any initiative requires a focus on the economic implications, cost, and benefits. These benefits are not always financial in nature and may be intangible but still beneficial to the institution. We found that the benefits far exceeded the upstart and sustainability costs. The benefit-to-cost ratio over the time period was between 1.14 and 93, which is an indication that the benefits outweighed or covered the cost of the project. In addition, there were other benefits that could not be quantified but that would further improve the benefit-to-cost ratio, including improved productivity, patient satisfaction, nurse satisfaction, reputation, and decreased liability risk. The creation of a culture of certification resulted in a decrease in adverse events and improved patient and employer outcomes. Bolton and Aronow [22] postulated about a point of diminishing returns as outcomes are optimized in a transformative culture. In such a situation, the cost to sustain a culture of certification may begin to exceed the financial investment. The authors recommend long-term monitoring of the impact of a culture of certification to determine effective sustainability practices, benefit-to-cost ratio, and other quantifiable or intangible outcomes.

References

[1] Committee on Quality of Health Care in America, Institute of Medicine. To Err is Human: Building a Safer Health System. Washington (DC): National Academy Press; 1999. Available from: http://www.nap.edu/books/0309068371/html/.

[2] Committee on Quality of Health Care in America, Institute of Medicine. Crossing the Quality Chasm: A New Health System for the 21st Century. Washington (DC): National Academy Press; 2001. http://www.iom.edu/Reports/2001/Crossing-the-Quality-Chasm-A-New-Health-System-for-the-21st-Century.aspx.

[3] Kendall-Gallagher D, Aiken L, Sloane D, Cimiotti J. Nurse specialty certification, inpatient mortality, and failure to rescue. J Nurs Scholarsh. 2011; 43(2): 188-94. PMid:21605323 http://dx.doi.org/10.1111/j.1547-5069.2011.01391.x

[4] Cary A. Certified registered nurses: results of the study of the certified workforce. Am J Nurs 2001; 101(1):44-52. PMid:11211688 http://dx.doi.org/10.1097/00000446-200101000-00048

[5] Estabrooks C, Midodzi W, Cummings G, Ricker K, Giovannetti P. The impact of hospital nursing characteristics on 30-day mortality. Nurs Res. 2005; 54(2): 74-84. PMid:15778649 http://dx.doi.org/10.1097/00006199-200503000-00002

[6] American Board of Nursing Specialties: A Position Statement on the Value of Specialty Nursing Certification [Internet]. Published November 2004. Available from: http://www.nursingcertification.org.

[7] Bemis-Dougherty A, Delaune M. Reducing patient falls in inpatient settings. PT Magazine. 2008 May; 36-41.

[8] Roudsari B, Ebel B, Corso P, Koepsell T. The acute medical care costs of fall-related injuries among the U.S older adults. Injury. 2005; 36(11): 1316-22. PMid:16214476 http://dx.doi.org/10.1016/j.injury.2005.05.024

[9] Kilgore M, Brossette S. Cost of bloodstream infections. Am J Infect Control. 2008; 36(10): S172. PMid:19084149 http://dx.doi.org/10.1016/j.ajic.2008.10.004

[10] Kendall-Gallagher D, Blegen M. Competence and certification of registered nurses and safety of patients in intensive care units. Am J Crit Care. 2009; 18(2): 106-16. PMid:19255100 http://dx.doi.org/10.4037/ajcc2009487

[11] Kleinpell R. Evidence-Based Review and Discussion Points. Am J Crit Care. 2009; 18(2): 115-6. PMid:19350695 http://dx.doi.org/10.4037/ajcc2009271

[12] Coleman E, Coon S, Lockhart K, Kennedy R, Montgomery R, Copeland N, McNatt P, Savell S, Stewrt C. Effects of certification in oncology nursing on nursing-sensitive outcomes. Clin J Oncol Nurs. 2009; 13(2): 165-72. PMid:19349263 http://dx.doi.org/10.1188/09.CJON.165-172

[13] Craven H. Recognizing excellence: unit-based activities to support specialty nursing certification. Medsurg Nurs. 2007; 16: 367-71. PMid:18390256

[14] Charmel P, Frampton S. Building the business case for patient-centered care. Healthcare Financial Management. 2008 March; 80-5. PMid:19097611

[15] Wade C. Perceived effects of specialty nurse certification: a review of the literature. AORN J. 2009; 89(1): 183-92. PMid:19121422 http://dx.doi.org/10.1016/j.aorn.2008.06.015

[16] Fitzpatrick J, Campo T, Graham G, Lavandero R. Certification, empowerment, and intent to leave current position and the profession among critical care nurses. Am J Crit Care. 2010; 19(3): 218-26. PMid:20176913 http://dx.doi.org/10.4037/ajcc2010442

[17] Jones C, Gates M. (2007) The costs and benefits of nurse turnover: a business case for nurse retention. Online J Issues Nurs. 2007; 12(3): manuscript 4. Available from: http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Volume122007/No3Sept07/NurseRetention.html.

[18] Stromborg M, Niebuhr B, Prevost S, Fabrey L, Muenzen P, Spence C, Towers J, Valentine W. More than a title. Nurs Manage. 2005; 36(5): 36-46. PMid:15879996 http://dx.doi.org/10.1097/00006247-200505000-00012

[19] Sayre C, Wyant S, Karvonen C. Effect of a medical-surgical practice and certification review course on clinical nursing practice. J Nurses Staff Dev. 2010; 26(1): 11-6. PMid:20098168 http://dx.doi.org/10.1097/NND.0b013e3181cc2d50

[20] Lurie N, Somers S, Fremont A, Angeles J, Murphy E, Hamblin A. Challenges to using a business case for addressing health disparities. Health Affairs. 2008; 27(2): 334-8. PMid:18332487 http://dx.doi.org/10.1377/hlthaff.27.2.334

[21] Schaar G, Swenty C, Phillips L. Nursing sabbatical in the acute care hospital setting a cost-benefit analysis. J Nurs Adm. 2012; 42(6): 340-4. PMid:22617700 http://dx.doi.org/10.1097/NNA.0b013e318257390f

[22] Bolton L, Aronow H. The Business Case for TCAB. Am J Nurs. 2009; 109(11): 77-80. PMid:19826347 http://dx.doi.org/10.1097/01.NAJ.0000362031.46612.bf