

# INVESTING IN HUMAN CAPITAL: An Academic-Service Partnership *to Address the* NURSING SHORTAGE

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**T**HE WELL-DOCUMENTED SHORTAGE OF NURSES (Buerhaus, Potter, Staiger, & Auerbach, 2009; Needleman, Buerhaus, Mattke, Stewart, & Zelevinsky, 2002) and the reported impact of nurses' educational preparation on patient care outcomes (Aiken, Clarke, Cheung, Sloane, & Silber, 2003; Goode, et al., 2001) provide a compelling argument for action in nursing education. **THE SUCCESSFUL COLLABORATIVE EFFORTS OF A REGIONAL HEALTH SYSTEM AND AN AFFILIATED COLLEGE TO ADDRESS THESE ISSUES BY BUILDING THE HUMAN CAPITAL OF NURSING STAFF ARE THE FOCUS OF THIS ARTICLE.**

**Background** In the early 2000s, national strategies to improve the nursing workforce profile were largely focused on increasing the number of nurses at the bedside through the use of sign-on bonuses and travel nurses (Advisory Board Company, 2000). While these strategies tended to provide local short-term solutions, they did little to address long-term issues affecting the nursing shortage.

With nursing education programs challenged to increase student enrollment, many colleges were confronted with a limited financial infrastructure, a shortage of qualified faculty, and difficulty establishing the clinical sites needed to support additional students. Thus, they found themselves turning qualified applicants away (Southern Regional Education Board [SREB], 2002). In an effort to address these issues, nursing leaders at the Roanoke, Virginia, Carilion Health System, now known as Carilion Clinic (Carilion), and its affiliate, Jefferson College of Health Sciences (JCHS), began a dialogue based on the mutual understanding that investing in the *human capital* of currently employed nurses and staff would have a major impact on both the number of nurses at the bedside and their educational preparation.

Human capital theory (Becker, 1993), which provides a framework for the analysis and implementation of the collaboration, postulates that the people who make up an organization, along with the knowledge and skills they bring, are *human capital*. Employees cannot be separated from their knowledge, skills, health, or values in the way they can be separated from their financial and physical assets. In this context, an organization that invests in the education of its employees is investing in human capital. Benefits from that investment should be seen through increased performance, reduced turnover, and organizational capacity (Benson, Finegold, & Mohrman, 2004; Graf, 2006; Hart, 2006). Nurse leaders from Carilion and JCHS used human capital theory as a framework to develop an educational assistance plan whose specific goal was to increase the number of registered nurses in the system and their educational levels.

**The Local Scenario** In 2001, the vacancy rate for nursing positions at Carilion was about 12 percent. While this rate was lower than the state level of 18 percent (American Health Care Association, 2002), health system leaders were concerned that,

**ABSTRACT** The well-documented shortage of nurses and the impact of educational preparation of nurses on patient care outcomes provide a compelling argument for the need to increase the number of registered nurses and to advance their educational preparation. This article describes the application of human capital theory in a creative venture between a health system and a school of nursing that has demonstrated success in addressing these issues. A tuition advancement program was developed to support interested personnel in attaining the associate degree in nursing and to support current RNs in attaining the baccalaureate degree. The venture included support for graduate preparation of nurses interested in becoming faculty.

based on trends, the vacancy rate would grow unless a planned approach to increasing nursing graduates from the area colleges was developed and implemented.

At that time, only 25.9 percent of the nursing staff at the health system held baccalaureate degrees in nursing or higher, compared to 36 percent nationally (Aiken et al., 2003). Carilion was committed to increasing the percentage of BSN-prepared nurses, both through hiring BSNs and the promotion of educational progression.

To meet the need for additional nursing staff, nurse leaders at the health system and the college developed a strategic plan for growth in nursing program enrollment. Because of the health system's strong commitment to increasing the number of BSN-prepared nurses at the bedside, the plan included investment in educational progression for the RNs currently employed within the health system who wanted to advance.

**The Strategic Plan** Consistent with human capital theory, Carilion, after review of national and local trends, focused attention on current employees. Nursing leadership worked with the Human Relations Department to support employees interested in pursuing nursing as a career and those interested in advancing their education from the diploma or associate degree to the baccalaureate degree in nursing. Analysis on the academic side indicated that, with the employment of additional faculty, there would be sufficient capacity within the nursing education program to enroll additional students.

**Increasing the Number of RNs in the System** The collaboration resulted in the development of a tuition advancement program (TAP), a benefit package to support employees interested in pursuing nursing careers and increasing their educational levels. The benefit was tied to attending the affiliate college, JCHS. In return, the college focused on adding faculty to accommodate increased enrollment in the prelicensure program, enhancing the RN to BSN program, and, ultimately, initiating a graduate program in nursing.

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was the appropriate credential for  
TEACHING IN THE  
ASSOCIATE DEGREE in  
nursing program,  
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concern as the college  
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COLLEGE led to an exciting process.**

The TAP, managed through the Human Resources Department, provides full tuition support for full-time and regular part-time employees interested in pursuing the associate degree or BSN degree at the college. This strategy was designed to provide all employees with the opportunity to become nurses, with an intention to enhance diversity within the nursing workforce. Interested and eligible employees were required to meet college admission standards. The college billed the health system directly for employee tuition, eliminating the need to reimburse the employee after course completion. This served to alleviate the upfront financial burden that often impedes enrollment.

It was anticipated that this strategy would increase both the total number and the educational levels of nurses at

the bedside within two years. An extensive communication campaign informed employees about this opportunity and the eligibility requirements. Faculty and health system staff met with hospital personnel over all shifts to discuss the benefit, describe educational programs at the college, and answer questions. Eligibility requirements were outlined as follows: a) Employees are required to meet standards on performance evaluations and have no history of disciplinary actions. b) Employees must have their manager's approval and must sign a service agreement. c) Employees must meet school admission criteria and maintain a grade point average of 2.5 each semester. d) Employees must work a minimum of 16 hours per pay period.

Prior to the initiation of this collaboration, the college admitted 40 students to the first year of the associate degree nursing program. Working with projections from the health system, the nursing department budgeted personnel and student support to increase enrollment by 20 students annually, up to 120 students annually in four years.

The TAP was well received and in the fall of 2001, 18 health system employees enrolled in the first year of the ADN program; 24 others enrolled in prerequisite courses needed for admission to the nursing program. By fall 2009, enrollment in undergraduate nursing programs had expanded to include 206 TAP recipients out of an enrollment of 302 students. This phased-in

Table 1.

**Carilion Employees Graduating From the JCHS Associate Degree Program**

2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
8	32	29	31	38	37	30	29	24

Note. Some employees were enrolled in the ADN program prior to initiation of the tuition advancement plan

Table 2.

**Carilion Employees Graduating From the JCHS RN-BSN Program**

2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
0	6	27	29	31	19	22	35	45

Note. Some employees were enrolled in the RN-BSN program prior to initiation of the tuition advancement plan

approach to increasing enrollment allowed the college to project the need for and to hire additional nursing faculty. In the nine years since the inception of the TAP program, JCHS has expanded its nursing faculty from 10 to 26 full-time faculty and added a full-time clinical resource associate and second full-time secretary.

While enrollment was a necessary component for increasing the presence of RNs at the bedside, graduation rates were of equal concern. Many students continued to work, taking a part-time program of study, a strategy that extended the timeline for completion. The average time for employees to complete the ADN was 5.4 semesters, in contrast to the standard curriculum plan of four semesters. The retention rate for TAP recipients enrolled in the ADN program was 86 percent, compared to a retention rate of 74 percent for students not receiving TAP.

As a result of the TAP, 158 health system employees became registered nurses from 2001 to 2010. (See Table 1.) These new RNs are established employees of the hospital with experience in health care.

**Increasing the Educational Level of RNs in the System**

The TAP was also offered to health system RNs whose educational preparation was the associate degree or diploma. To meet their needs, JCHS revised components of its preexisting RN-BSN program. A course schedule was developed that guaranteed students a consistent date and time for all of their nursing classes through graduation. This enabled nurse managers to facilitate scheduling on clinical units, based on a consistent, long-range academic plan.

Part-time course work was encouraged to help the RNs balance the demands of school, work, and home. In addition, a hybrid educational format was developed where distance learning was incorporated into all classes and fewer in-class meet-

ings were required. Typically, students worked full-time while taking six to nine credit hours per semester. On average, it took three years to complete the RN-BSN program of study.

This initiative had a major impact on the educational level of nurses at the bedside, adding 214 BSN-prepared RNs to the nursing staff over a nine-year period (Table 2). The percentage of BSN-prepared nurses at the bedside increased from 25.9 percent in 2001 to 39 percent in 2010. The impact on college enrollment has been extensive. From 2007 to 2010, 39 percent of ADN, 87 percent of BSN, and 83 percent of MSN graduates received tuition advancement, clearly a win-win for both partners.

**Cost of the Initiative** Even without accounting for the expenses associated with new employee orientation, the cost of recruiting a new RN to the health system was estimated in 2005 to be \$11,000. The cost of providing the TAP was estimated to be \$10,768 per graduate (M. Harvey, personal communication, May 2005). These figures indicate that the TAP is a cost-effective strategy for achieving the goals of increasing the number of RNs at the bedside and for increasing the educational level of RNs.

**Meeting the Need for Faculty** It quickly became apparent that increasing the enrollment of students in the nursing program would be challenging for the college. The lack of master's-prepared qualified nurse faculty presented the greatest obstacle to expansion, consistent with national trends (Joynt & Kimball, 2008; SREB, 2002). To meet this challenge, the college developed a master's of science in nursing program with tracks in education and administration. Full tuition support, through the TAP, was extended to health system employees seeking a master's degree from the college. By spring 2010, 59 students successfully completed the MSN program; and 81 percent of these students were supported by TAP. The success of this program is

reflected in the retention rate of the MSN graduates, with 86 percent continuing employment with Carilion at least six months after their graduation.

While the MSN was the appropriate credential for teaching in the ADN program, the shortage of doctorally prepared faculty was a concern as the college built the baccalaureate and graduate programs. Again, strategic collaboration between the health system and the college led to an exciting process. To provide opportunities for employed nurses to obtain doctoral degrees, the college and the health system partnered with the Case Western Reserve University Francis Payne Bolton School of Nursing to bring the doctor of nursing practice program to the local area. Eighteen college faculty and health system nurses enrolled in the first cohort of this program in fall 2005; of this cohort, 16 have graduated. The health system provided full tuition support for employees pursuing this degree. Of these DNP's, seven are employed as faculty at the college.

**Other Outcomes of Collaboration** During this period of collaboration and the enhancement of faculty preparation, the college and the health system determined that it would be advantageous to nursing practice to develop a traditional BSN program and phase out the associate degree nursing program. Even though there were concerns expressed about the ongoing shortage of nurses, JCHS and Carilion nursing leaders recognized that the only way to increase the absolute number and percentage of BSN-prepared RNs was to change the basic academic preparation of those seeking employment. The work of planning and implementing the new traditional BSN program

has begun, with the first class admitted to upper-division courses in fall 2006 and graduated in 2009. The associate degree program graduated its last class in spring 2009.

**Conclusion** The health system leadership's decision to invest in the human capital of its nursing staff provided an opportunity for collaboration with an affiliated college. The growth needs of the college and the staffing needs of the health system were shared, leading to a plan in which the health system provided educational benefits to staff who were already committed to nursing and to the organization.

Both partners benefit from this collaboration. The college has been able to plan for growth, adding faculty and support services in a deliberate manner. The health system has increased both the number of nurses at the bedside and their educational preparation. Future plans include ongoing collaboration to enhance patient care outcomes through an aggressive approach to improving the educational preparation of nurses.<sup>[NEN]</sup>

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**Key Words** Human Capital – Nursing Shortage – Education-Practice Collaboration – Tuition Advancement – Nursing Education

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