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STATUS AND NEED FOR LPNs IN KENTUCKY'S
HEALTH FACILITIES

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Abstract: Over the past four decades, the Licensed Practical Nurse has become a significant provider of health care in the United States. An answer to a chronic nursing shortage, the licensed practical nurse came into being during World War II and now provides much of the basic, hands-on care for the sick and elderly. Additionally, these nurses can expect better-than-average job prospects. An estimated 814,000 will be employed in 1995, a 37% increase over 1982 statistics. Concurrently, there is a movement to eliminate the LPN level of nursing. Whether this entry into practice issue is advisable or not was not the intent of this research. Rather, perceptions of employers were sought regarding their staffing needs. The survey of employers indicated there exists a need for licensed practical nurses now and

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in the future, that they are adequately performing on the job, and that health care costs would increase dramatically if the programs were eliminated.

The health care industry has undergone a great many changes in the past several years: changes in technology, regulations, payment procedures, type of client, and personnel needs. The thrust of this research was directed at the latter issue, personnel, and sought an answer to the specific question: **What** part will the licensed practical nurse (LPN) have in the health care industry of the future?

The practical nurse, as a licensed health care practitioner, came into being during World War II as an answer to a chronic nursing shortage. The LPN has since developed into a much utilized link in health care. During the last forty years, much of the basic, hands-on care to the sick and elderly has been provided by LPNs. The Kentucky Nurse's Association (KNA), in conjunction with the American Nurse's Association (ANA), has requested that the state enact legislation which would in effect eliminate LPNs as licensed health care providers. Whether this would be advisable or inadvisable was not the intent of this study. The intent of this study was to ascertain the perceptions held by health care providers for staffing needs of health care workers at all professional or preparation levels.

The so called entry into practice legislation would create two levels of nursing, the professional nurse trained in a four-year bachelor of science in nursing (BSN) degree program and the technical nurse trained in a two-year, associate degree in nursing (ADN) program. Currently, both bachelor degree and associate degree graduates take the **licensure**

examination for registered nurse (RN). The LPN takes a separate LPN examination. The position of the ANA is that if nurses hope to receive recognition as professionals, the RN must complete a four year educational program and the technical nurse must complete a two year program.

Entry into practice is an issue which has generated a great deal of emotion, and opinions vary greatly on its effect on the quality and cost of health care. The question becomes: What factors should determine the optimal level of nurse staffing? **Optimality** should be determined by achieving an acceptable level of care at the lowest cost. The difficulty arises when looking at what is an acceptable level of care. The simple answer is that more care is always better and there is no acceptable level of care. But with budget constraints as they currently exist, coupled with concern both for the nurse as a professional and for nursing shortages, this may not be practical.

Hinshaw, Verran, and Chance (1977) addressed the question of optimal level of nurse staffing. They concluded that each health care institution should be considered individually. For example, a university hospital was reported to require a higher proportion of RNs than LPNs per patient day since the level of acuity was higher at a referral hospital and private physicians were not provided. Thus, more responsibility was placed on the nurse.

Levine and Phillip (1975) attempted to determine what variables were related to the staffing patterns of hospitals. They found that utilization of more high technology equipment increased the need for RN hours, but the number of LPN hours was not affected positively or negatively as might be expected. They also found that **subst: tution** takes place, RNs for LPNs

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as the population of **RNs** increases (larger communities). Also, per capita income of the community increased with an increase in the number of **RNs**, but decreased with an increase in the number of **LPN** hours.

Atwood and **Hinshaw** (1977) investigated a hospital situation in which a variable staffing pattern changed to an essentially all-RN staffing pattern. They concluded that the effect on the nursing staff was to increase job satisfaction. However, the quality of care indicators were all unchanged and patient outcomes showed a decrease in patient satisfaction with the technical skills and trusting aspect of nursing care.

Weeks, Barrett, and Snead (1985), on the other hand, concluded that as the proportion of LPNs increased, job satisfaction of RNs increased. With more LPNs, the RNs were freed from performing routine and daily living studies and, therefore, had more time to devote to higher level medical needs of their patients.

Molke and Schrieber (1982) also studied a switch in nurse staffing, a part of which included an increase in number of LPNs. They found that the LPN was needed and contributed positively to patient care.. "We found that found that each of these individuals has his/her own abilities and talents which could be used in caring for patients under the supervision of a professional staff member" (p. 34).

Hinshaw, Scofield, and Atwood (1981) described the effects of a change to an all-RN staff for an in-patient medical unit service cardiac and oncology patients. They studied the' effect on nursing staff, the effect on patient care, and cost. They evaluated the effects in three phases: Phase I was one month prior to implementing an all-RN staff, Phase II was three months after implementing, and Phase III was nine months after.

At Phase II, the nursing staff was highly satisfied with their positions, but the patients were less satisfied with their care. One reason cited was that the nurses were less inclined to perform many basic care activities previously handled by LPNs or aides. Thus, patients for whom these activities were important were not as satisfied during the transition period. By Phase III this trend had changed, as all measures of patient care were as high or higher than before the change to all-RN staffing. Cost also decreased from Phase I to Phase III. Thus, the results of this study revealed that the shift from mixed staffing to an all-RN staff did provide a better working environment for staff and equal or better patient care at a lower cost in this highly technical, specialized unit.

Halloran (1983) also illustrated a case where a predominantly RN staff operated at less cost and with greater efficiency than a similar ward with 40% RNs and 60% LPNs and aides. Halloran concluded that the RNs used their time more efficiently and that an all-RN staff can provide greater attention to patient's higher order needs at a lower cost.

Shukla (1983), on the other hand, contended that individual, nurse related factors had greater impact than the structural factors on the quality and cost of care. Shukla examined three units: (a) 100% RNs, (b) 50% RNs and 50% LPNs, and (c) 50% RNs, 25% LPNs, and 25% aides. Results indicated no significant difference in the quality of care, and the cost figures upheld the hypothesis that the team mode of staffing was least expensive.

Hancock, Flynn, De Rosa, Walter and Conway (1984) also concluded that an all-RN staff was more expensive. However, for small hospitals the cost

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was only slightly higher. These figures were highly dependent on the prevailing wage rates.

An interpretational problem exists for studies considering cost: all are based on current wage scales. If an all-RN's staffing were accomplished, the demand for RNs likely would increase as would wage rates.

Sloan and Richupan (1975) predicted an elastic RN supply and suggested that an increase in wages would result in an increase in the supply of RNs. Link and Settle (1981) found opposite results. They found the supply curve for RNs to be highly inelastic and concluded that an increase in the wage rate could actually decrease the number of nurses willing to work more hours or less desirable hours. Also, the question of whether the total number of active nurses could be increased by higher wages was uncertain. Link and Settle (1985) later looked at the labor supply curve for LPNs and found it to be highly elastic. An increase in wages of LPNs would greatly increase the supply of LPNs, and this increase could be achieved quite quickly.

An area offering increased opportunities for LPN employment is long-term care facilities. Bergman, Eckerling, Golander, Sharon, and Tomer (1984) surveyed nursing home workers and found that more LPNs were employed, had longer job tenure (6 years versus 3.7 for RNs), and had higher fulfillment of job expectations. Job possibilities appeared greater for LPNs in long-term care facilities.

Eliopoulos (1983) saw the goal of an all-RN staff not only unrealistic, but detrimental to long-term care facilities. Would there be a supply of RNs willing to work in a setting with less professional stimulation and lower pay? Research cited earlier in this article would suggest not.

From a fiscal standpoint, the cost of an all-RN staff would appear to be prohibitive to most nursing homes. Considering the degree of non-technical care provided, a substitution from LPNs to RNs would have to be nearly one for one. Eliopoulos estimated that a change to an all-RN staff would increase the cost by nine dollars per day for each patient. There being an estimated 1.3 million nursing home beds in this country, the cost would be four billion dollars per year.

Bryant (1981) suggested several areas in which LPNs needed greater training. Included were **instruction on the aging process**; a better understanding of medication and possible side effects; and a need for development of supervisory and leadership skills, in that LPNs often assume supervisory roles in nursing home settings.

The literature on nurse staffing indicated many variables that should be considered in support of staffing pattern decisions. These variables include such aspects as the type of facility or unit, the income level of the area, the size of the community, and prevailing wage rates. Also, many conflicting studies were found regarding quality of care, cost, and job satisfaction of nursing staffs under various staffing patterns. These studies did not appear to refute the value of LPNs to the health care industry.

Purpose

Kentucky's Vocational Education programs are designed to provide Kentuckians with the skills needed in today's job market at the lowest possible cost to the individual. As the needs of that market place change, so should the programs change to meet those needs. If, as some believe, the position of the LPN is becoming obsolete, the 15 public LPN training

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programs operated by the state could be discontinued and the resources reallocated for support of students in other occupational areas. If this is not the case, and a demand for LPNs does exist, how well are current programs meeting the needs of employers? The basic purpose of this research project was to provide data helpful for answering the program question, "Should the LPN programs remain the same, be changed, or be discontinued?" Through a survey of health care providers, answers were sought to the following specific questions:

1. Is there a demand for LPNs in the market place now and in the future?
2. How well are LPNs performing the duties to which they are assigned?
3. What are the expected consequences if the LPN level of nursing were eliminated?

Method

Subjects

Surveys were mailed to nursing homes (290), home health care facilities (97), and hospital administrators (120) across the Commonwealth of Kentucky. Mailing lists were obtained from the Kentucky Department for Human Resources and contained all licensed health facilities. Questionnaires were sent to all acute care facilities. Not included were mental health hospitals, birthing centers, clinics, and doctors' offices. All home health agencies and nursing homes were surveyed also.

Instrument

A locally developed survey instrument was prepared based on the purpose of the study. Additionally, other published documents reflecting supply

and demand for LPNs, graduation rates, and placement rates were utilized.

The cover of the survey instrument was slightly modified as necessary since it was being sent to three population groups. The content of the questionnaire addressed eight major areas: (a) size and mix of present nursing staff, (b) vacancies by level (RN/LPN), (c) future staffing needs by level, (d) history of filling vacancies, (e) desired or optimum staffing mix (RNs/LPNs), (f) quality of applicants, (g) job tenure of the staff, and (h) budget considerations for an all-RN staff.

Upon initial development, the questionnaires were reviewed by the Executive Directors or Administrators of the Kentucky Association of Health Care Facilities, the Kentucky Hospital Association, The Kentucky Home Health Association, and State Health Occupations personnel. After input from the above sources was considered, a revised version was field tested with 10 local agencies to establish clarity and availability of data. After field testing, the final questionnaire was developed and printed for mailing.

Results

Besides presenting findings for each type of health care facility, the data were analyzed by location: urban or rural. The criterion to determine location was whether or not the facility was located within a Standard Metropolitan Statistical Area (SMSA). The response rates were 203 of 290 (70%) for nursing homes, 73 of 97 (74%) for home health agencies and 72 of 120 (60%) for hospitals.

Demand for LPNs

To determine level of demand for LPNs, respondents were asked a series of questions dealing with their present staff mix, their desired staffing patterns, and data relative to present and future openings. Data

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associated with these questions are reported in Tables 1 to 3. As can be observed in Table 1, **there** was quite a variation in staffing patterns.

For nursing homes, the mix was about one RN for three LPNs. However, in home health the ratio was six RNs for each LPN. Hospitals hire many more

Table 1Current Staffing Patterns of Full-Time Nurses by Type and by Location:Ratios of RNs to LPNs

Location	Nursing Home	Home Health	Hospitals
Statewide	RN:LPN = 1:3	RN:LPN = 6:1	RN:LPN = 3:1
Urban	RN:LPN = 1:2.5	RN:LPN = 7.5:1	RN:LPN = 5:1
Rural	RN:LPN = 1:3	RN:LPN = 5:1	RN:LPN = 2:1

RNs than LPNs, but the rural/urban mix varies greatly, with rural hospitals employing many more LPNs. Respondents were asked also to indicate their desired or optimum staffing mix between RNs and LPNs. These data are reported in Table 2.

The desired staffing patterns reported in Table 2 would point to a continued need for the LPN. Surprisingly, this optimum mix was about the same as the present mix reported in Table 1. Nursing homes have and desire a mix of about one RN for every three LPNs, while hospitals are the exact reverse, having and desiring a mix of about three RNs for one LPN. However, the striking difference was between urban and rural hospitals. When asked why their desired mix was different from their actual, the most common reasons given were lack of available personnel and cost.

Table 2

Desired Optimum Staffing Mix of RNs to LPNs By Type and Location

Location	Nursing Homes	Home Health	Hospitals
Statewide	RN - 27%	RN- 91.5%	RN 75%
	LPN - 73%	LPN - 8.5%	LPN 25%
Urban	RN - 33%	RN - 90.5%	RN 85%
	LPN - 687'	LPN - 9.5%	LPN 15%
Rural	RN - 25%	RN - 92.1%	RN 74%
	LPN - 75%	LPN - 7.9%	LPN 26%

Presented in Table 3 are nursing shortages, reported as (a) present openings, (b) as expected openings over the next two years due to expansion, and (c) replacements needed due to staff turnover. Analysis of Table 3

Table 3

Available Positions by Type Facility and by Demand Source

Demand Source	Nursing Home	Home Health	Hospitals	Total
Present	RN - 48	R N - 8 0	RN - 588	RN 716
Opening	LPN - 125	LPN - 29	LPN - 42	LPN 196
Expansion	RN - .59	RN - 158	RN - 419	RN 636
Next 2 Years	LPN - 129	LPN - 46	LPN - 97	LPN 272
Turnover	RN - 199	RN - 132	RN - 981	RN 1312
	LPN - 543	LPN - 21	LPN - 94	LPN 658

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revealed that there will be considerable demand for both RNs and LPNs, with several hundred vacancies present at the time of the survey and thousands needed due to expansion and turnover during the next two years. These needs are even more staggering when considering the additional staffing needs of non-respondents plus the needs of those not surveyed. When combining the findings presented in Tables 1-3, it appeared that the LPN is in demand and will continue to be in demand in the health care industry.

Performance/Preparation

Examination of Kentucky Office of Vocational Education data revealed that, over the years, approximately 70 percent of all students who enrolled in the LPN program completed the program. Of that group, 95% passed the licensure examination on the first try, and approximately 90-95% were placed on the job. From these data it appeared that the programs were successful in preparing students.

Placement data are only one measure of program success, although if graduates were not performing, placements might not be as high. Of more importance is the opinion of the employer regarding how well employees were prepared for their jobs. These data are presented in Table 4.

According to their employers, LPNs did seem to be adequately trained to perform on the job, particularly in the hospital setting. However, the lowest percentage of yes responses was from the nursing home industry. Nursing homes also reported the greatest number of job opportunities for LPNs. These data would indicate a need for greater training geared toward that industry's needs.

Table 4

Percent Reporting That New Employees Were Adequately Trained by Location

Location	Nursing Homes		Home Health		Hospitals	
	Yes	No	Yes	No	Yes	No
Statewide	RN - 79%	21%	RN - 75%	25%	RN - 57%	43%
	LPN - 74%	26%	LPN - 84%	16%	LPN - 96%	4%
Urban	RN - 77%	23%	RN - 78%	22%	RN - 47%	53%
	LPN - 71%	29%	LPN - 91%	9%	LPN - 100%	0%
Rural	RN - 80%	20%	RN - 72%	28%	RN - 61%	39%
	LPN - 76%	24%	LPN - 78%	22%	LPN - 95%	5%

Consequences of Eliminating the LPN Level of Nursing,

The literature review revealed mixed findings, but did not support the position that quality of health care would be increased or decreased through elimination of the LPN level of nursing. Additionally, the issue of job satisfaction was not clearly settled through analysis of previous research; however, an emerging question concerns whether or not RNs would be content performing all routine duties now performed by LPNs, particularly in nursing home settings.

What was addressed in this study were respondents' perceptions of what would happen to health care costs if LPN programs were eliminated: only four of the 348 respondents felt that costs would decrease. Conversely, 273 respondents reported that costs would increase. For nursing homes, 196 (97%) felt costs would increase, and the average increase reported was 48%. Nearly two thirds (47) of the hospitals also felt costs would

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increase, but the projected rate of increase was lower (21%). A lesser percentage of home health care facilities projected an increase in cost associated with an all RN staff, with 30 (41%) reporting a cost increase of approximately 25%. However, the home health industry presently has a high RN to LPN ratio (6:1), therefore, using all RNs would not be a financial burden.

Conclusions and Recommendations

Conclusions

Based on the data collected and the literature reviewed, the following conclusions were reached:

1. While it is desirable to increase level of preparation for both professional and technical nurses, there remains a need in the health care industry to retain the position of LPN. This need, however, is diminishing in some areas of nursing as the technology of health care increases, e.g., intensive care, cardiac care.

2. Existing manpower data and findings from this research support the conclusion that additional LPNs will be needed in future years.

3. LPNs trained in Kentucky's existing programs appear to be adequately performing those nursing services which they are authorized by law to perform.

4. There is a consensus of the 223 or 78% who felt that health care costs would increase if the LPN programs were eliminated. An objective of the health care industry is cost containment. Nursing homes and rural hospitals would be faced with the largest increase.

5. Rural areas might well suffer nursing shortages if the LPN nursing level were eliminated. The ratio of RNs to LPNs is lower in rural areas

and a larger portion of health care is provided by LPNs in rural areas than in urban areas (Table 1).

6. It appeared that nursing homes and extended care facilities would be affected most if the LPN level were eliminated. Survey results indicate that elimination of LPNs would cause a major crisis in the nursing home industry. Many respondents reported that they would not be able to remain open if they were forced to hire only RNs.

Recommendations

The following recommendations for nursing programs are based upon three data sources other than nursing shortage data: the literature review, survey responses and respondents' comments.

1. Intravenous therapy and nasogastric tube insertion should be included in standard LPN programs. These are skills which many nursing home operators consider essential and conduct the training themselves. Program graduates should require little if any further training by their employers.

2. Leadership and supervisory training should be considered for inclusion in the program and/or offered through continuing education. Many LPNs are expected to supervise nonprofessional staffs in nursing homes and rural hospitals. From the comments of nursing home operators, this need seems to be universal.

3. Training in geriatrics should be increased. Elderly patients have specific psychological and physiological needs, and LPNs need to be exposed more to these needs.

4. LPN programs should be designed to have more student credit hours acceptable to associate and bachelor degree programs. Each program should

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be organized so that if a graduate wishes to advance in job skills, this could be easily done.

5. Prospective LPN students need better orientation regarding job prospects after graduation. Jobs in hospitals are decreasing, but increasing in nursing homes. Pay scales and work requirements traditionally have made working in nursing homes less desirable than in hospitals. The prospective student **should** be aware of Kentucky job prospects when entering the program.

In conclusion, from the literature reviewed and results of the survey of health care providers, the scope of the LPN's practice is changing. This is not to say that the position of LPN should be eliminated; the LPN **plays** an important role in health care of the elderly as well as others. The number of elderly is growing, possibly increasing future needs for **LPNs**. Eliminating the LPN under the premise that the quality of health care would be increased would be questionable. Eliminating the LPN level of nursing could greatly limit availability of health care to the elderly and residents of rural areas. In the opinion of respondents and from indicators in the literature review, eliminating LPNs would raise the cost of health care at a time when society is attempting to contain the rise in health care costs. Additionally, would students who participate in LPN programs have the financial means to attend college? A survey of presently enrolled students indicated they would not. They tend to be older; of lower income; and home bound due to finances, dependents, and marriage.

Should or should not the position of LPN be continued as a licensed health care provider? There are many settings where LPNs are not the most effective providers of care; in these situations the health care provider has the option of hiring an RN. However, there appears to be a continuing

need for LPNs and a desire for a mix of RNs and LPNs by the majority of health care providers. It would appear that elimination of the LPN would limit the options of both health care providers and patients.

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