

Dialysis technicians' perception of certification

Helen F. Williams, MSN, RN, CNN • Margery Garbin, PhD, RN

Abstract

The Nephrology Nursing Certification Commission initiated this research project to study the viewpoint of dialysis technicians regarding the value of certification. A national convenience sample was obtained using both paper-and-pencil and online forms of the survey instrument. Demographic characteristics were obtained concerning age, race, ethnicity, education, and future employment planning. Technicians' primary work settings, the roles they fill, and the types of certification they hold are described. Incentives offered by employers are considered to explore how they contribute to job satisfaction. Understanding the perceptions of technicians regarding the benefits of certification and the limitations of workplace incentives should enable employers to improve their recruitment and retention programs. Information obtained may offer a baseline for future observations of the characteristics of these significant and essential contributors to the nephrology workforce.

Introduction

The Nephrology Nursing Certification Commission initiated this research project to study the viewpoint of dialysis technicians regarding certification. It provides a baseline for further observations about the characteristics of these significant and essential contributors to the nephrology workforce in the future. It was done in concert with a nephrology nurse survey of the perceived value of certification, yielding a snapshot of both groups of nephrology practitioners.

While certification has been and remains mostly a voluntary process for nurses, the requirement for technicians to be certified has changed work place expectations. Centers for Medicare & Medicaid Services mandated that, as of April 2010, dialysis technicians providing direct patient care in dialysis clinics must be certified, and new hires must be certified within 18 months of employment in that role. As a result, there are now thousands of dialysis technicians in the United States who are mandated to achieve and maintain certification. The mandate has potentially formed and affected technicians' perceptions of the value of certification and, quite possibly, the perceptions of the nurses who work alongside them. Therefore, a subset of

Background

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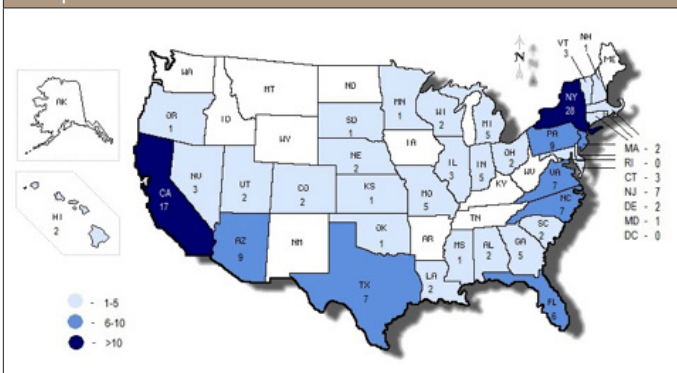
Table 1. Gender and Race/Ethnicity of Technicians

Gender	n %
Female	131 (77.5%)
Male	37 (21.9%)
Missing	1 (0.6%)
Total	169 (100%)
Race/Ethnicity	n %
Caucasian	83 (49.1%)
Black or African American	37 (21.9%)
Asian	27 (16.0%)
Hispanic/Latino	16 (9.4%)
Other	6 (3.6%)
Total	169 (100%)

Table 2. Highest Educational Credential Held by Technicians

Highest Educational Credential	n (%)
High school diploma	105 (62.1%)
Baccalaureate degree	28 (16.6%)
Associate degree	24 (14.2%)
Baccalaureate degree nursing (non US)	6 (3.6%)
Masters degree	3 (1.8%)
Doctorate	1 (0.6%)
Missing data	2 (1.1%)
Total	169 (100%)

Figure 1. Geographic Location of Technician Respondents



Ms. Williams is with Fresenius Medical Care North America in Denver, Colo. **Ms. Garbin** is with the Center for Nursing Education and Testing, in Jersey City, NJ.

this project compares responses of dialysis technicians to some of the responses of their licensed colleagues.

Methods

Instrument

The Perceived Value of Certification Tool (PVCT) was selected for this survey. The tool was originally developed, validated for nursing and copyrighted by the Competency and Credentialing Institute (CCI).^{1,2} Although the PVCT has been validated for nurses, it has not been validated for technicians. However, using the same tool to survey both groups can begin to give us insight into the feelings, beliefs, and concerns of technicians. The co-existence with nurses in the workplace, the necessary interaction of roles, and the interdependent nature of the professional collaboration between them to achieve clinical goals make it important to understand this essential population of care providers. It may also demonstrate the value of proceeding with a larger sample to validate the survey tool for dialysis technicians.

The PVCT includes 18 value statements related to certification with a 5-point Likert scale for each response. The response options are “Strongly Agree,” “Agree,” “Disagree,” “Strongly Disagree,” and “No Opinion.”

Accompanying this tool, a survey asked for demographic and educational background data, as well as information about current certification status, work environment, and future career plans. Level of educational preparation, years of nephrology experience, current role, and choice of certification credential/agency are described.

Sampling technique

Data collection for this study was conducted using a two-pronged approach. The PVCT survey was posted on the website of the Nephrology Nursing Certification Commission (NNCC), the sponsor of the research project, with an invitation to all nephrology practitioners to participate.

The second arm of the study was conducted using paper-and-pencil forms that matched the web version. These were made available to attendees at major nephrology nursing meetings from May 2013 to May 2014. The meetings included the American Nephrology Nurses’ Association (ANNA) National Symposium, the National Kidney Foundation (NKF) Spring Clinical Meeting, the Annual Dialysis Conference (ADC), and

the National Association of Nephrology Technicians/Technologists (NANT) Spring Meeting.

Usable surveys were returned by 169 technicians from at least 36 states (see Figure 1) and 648 nurses from at least 47 states and Canada . The states of 10 technicians and 216 nurses were not specified since the survey distributed initially did not include state. Based on the state information available and other demographic data, both samples appear to be nationally representative samples.

Statistical analysis

The data from these convenience samples were converted into a web-based format for analysis. The items on the PVCT were assigned a numerical score to allow effective interpretation in the analytic tool. They were labeled as: 4 = Strongly agree, 3 = Agree, 2 = Disagree, 1 = Strongly disagree, and 0 = No opinion. Demographic data were similarly organized.

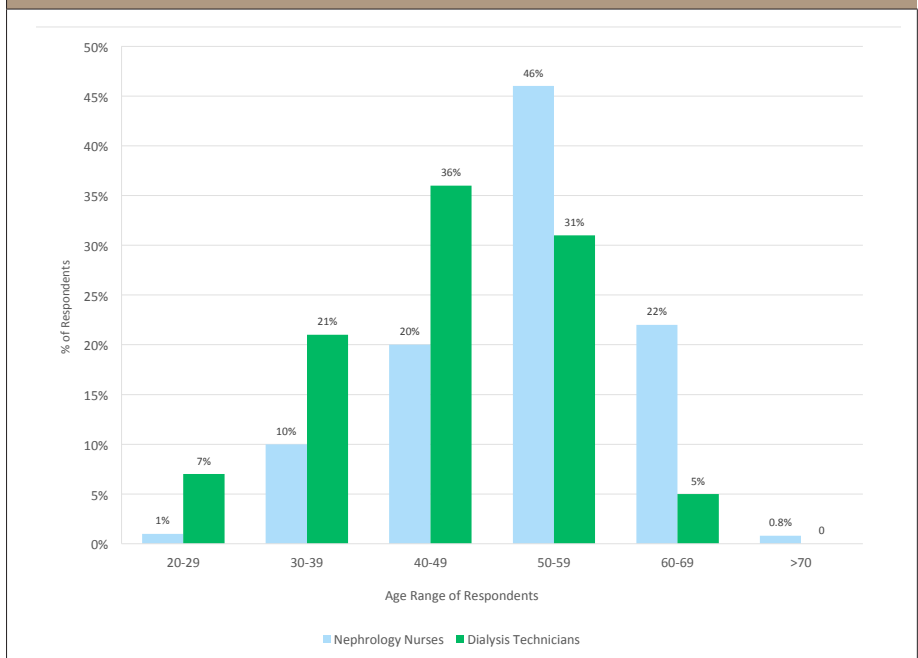
Responses were transferred from the survey tool to an Excel spreadsheet for analysis using the Statistical Package for the Social Sciences (SPSS). Mean values, frequencies, and percentages were calculated, and significant differences were determined using analysis of variance (ANOVA).

Results

Demographics

The technician respondents were predominantly female (n =131 or 77.5%). They reflect ethnic diversity. Caucasians made up the largest group (49.1%), but Black/African

Figure 2. Percent of Technicians and Nurses in Each Age Range



American (21.9%), Asian (16%) and Hispanic (9.4%) respondents were well represented also (see Table 1).

Technician respondents were also diverse in terms of age with 7% younger than 29, while 36% were 50 or older, with a weighted mean age of approximately 45.7 years (SD = 10.1). This differs from the age of the nursing respondents, of whom only 1% were younger than 29, while 68% were 50 or older, with a weighted mean age of approximately 52.9 years (SD = 9.6) (see Figure 2). On ANOVA, the nurse group was significantly older than the technician group ($F(1,810) = 73.12, p < 0.001$).

The majority of technician respondents (62.1%) listed a high school diploma as their highest educational credential. Higher education was reported by 16.6% who held baccalaureate degrees and 14.2% who held associate degrees (see Table 2). The technicians were primarily educated in the United States (81.6%) with the Philippines being the other country of education most often cited (see Table 3)

Employment characteristics

The greatest number of technician respondents (74%) reported working in an outpatient clinic setting, of which 58.6% were free-standing units and 15.4% were hospital-based (see Table 4). The majority of respondents report their primary role as a dialysis technician ($n = 148$ or 88%). Other roles specified included biomedical technician (4%), anemia manager (<1%), inventory technician (1%), vascular access manager (1%), educator (1%) and other (5%).

Diversity is seen again in the number of years the respondents had worked in nephrology, from a low of less than 5 years to a high of more than 41 years for both technicians and nurses. The weighted mean years of employment was approximately 13.8 years (SD = 8.4) for technicians and 20.6 years (SD = 11.2) for nurses (see Figure 3). On ANOVA, the nurse group had significantly more years of experience in nephrology than the technician group ($F(1,800) = 55.14, p < 0.001$).

The majority of technician respondents (66.3%) indicated they had no plans to make a change in their employment (see Table 5). However, 16% were looking for another employer in nephrology, 9.4% were planning to leave nephrology for another specialty, and 5.3% were expecting to retire soon.

Certification

Technicians reported holding a variety of certification credentials offered by several different certification boards (see Table 6). Certification was reported as mandatory by 88.8% of technician respondents. It was reported as voluntary for employment by 5.9% and voluntary for advancement by 2.4% of respondents (see Table 7).

In spite of the fact that the PVCT has not been validated for technicians, a review of the technician and nurse responses to the value statements on the PVCT shows striking similarities in the responses of the two groups.

Table 3. Country of Education

Country of Education	n (%)
United States	138 (81.6%)
Not United States	26 (15.4%)
Missing data	5 (3.0%)
Total	169 (100%)
Countries other than the US	Number
Philippines	11
India	3
Bangladesh	1
Bosnia	1
Ghana	1
Country not specified	9

Figure 3. Percent of Technicians and Nurses by Range of Years Worked



Both technicians and nurses show a high level of agreement with most of the value statements regarding certification, expressing recognition of the benefits derived from certification by certifiants, employers, and consumers. Both technicians and nurses agree that certification “validates specialized knowledge” and “enhances feeling of personal accomplishment,” giving these two statements their highest ratings (see Table 8). Technicians agreed highly with statements that emphasized the value of “specialized knowledge” (92.9%), “attainment of a practice standard” (91.7%) and an “enhanced feeling of personal accomplishment” (90.5%). These were also the three most highly ranked value statements in the nurses’ responses (98.7%, 96.2%, and 98.8%, respectively). In the technician group

these were followed closely by “provides personal satisfaction” (89.3%), “indicates professional growth” (87.6%), “enhances professional credibility” (86.4%), “provides professional challenge” (86.4%), and “provides evidence of professional commitment” (86.4%). However, the value statement for “increasing salary” was only given a 53.3% agreement rating by technicians and 46.4% rating by the nurses.

Discussion

The sample size was geographically satisfactory. The meetings at which the survey was conducted were each held in one of the four regions of the country. However, the number of technician respondents (N=169) was significantly lower than the nurse respondents (N=648). This raises the question of why the technicians, the largest group of nephrology care providers who are required to be certified and, therefore, also required to participate in on-going continuing education, were not better represented at these major nephrology meetings. This may be a matter of the technicians present at the meetings not choosing to participate in the survey process’ convenience sampling. Or the content offered at the meeting/s may not have includ-

Table 4. Primary Work Setting of Technicians

Primary Work Setting	n (%)
Outpatient clinic (free-standing facility)	99 (58.6%)
Outpatient clinic (hospital-based)	26 (15.4%)
Acute care hospital	22 (13.0%)
Nephrology office/clinic	7 (4.1%)
Long-term care facility	3 (1.8%)
Pediatric chronic unit	3 (1.8%)
Other	3 (1.8%)
Home therapies (free-standing facility)	2 (1.2%)
Home therapies (hospital-based)	1 (0.6%)
Industry/Vendor	1 (0.6%)
Pediatric acute unit	-
Transplant services	-
Missing data	2 (1.2%)
Total	169 (100%)

Table 5. Future Employment Plans of Technicians

Future Employment Plans	n (%)
I have no plans to make a change	112 (66.3%)
I am currently looking for another employer in nephrology	27 (16.0%)
I am planning to leave nephrology for another specialty	16 (9.4%)
I plan to retire soon	9 (5.3%)
Missing data	5 (3%)
Total	169 (100%)

Table 6. Certifications Held by Technicians

Credential	n (%)
NNCC – CCHT	117 (69.2%)
BONENT – CHT	35 (20.7%)
NNCC – CCHT-A	5 (2.9%)
NNCO – CBNT	3 (1.8%)
NNCO – CCNT	3 (1.8%)
Not Certified	6 (3.6%)
Total	169 (100%)

Table 7. Relationship of Certification to Technician Employment

Relationship of Certification to Employment	n (%)
Certification is mandatory for my practice	150 (88.8%)
Certification is voluntary for my practice	10 (5.9%)
Certification is mandatory for advancement	2 (1.2%)
Certification is voluntary for advancement	4 (2.4%)
Missing data	3 (1.8%)
Total	169 (100%)

Table 8. Percent of Technicians and Nurses who Agree or Strongly Agree to Value of Certification Statements

Value Statement	Percent who agree or strongly agree	
	Nephrology Nurses	Dialysis Technicians
Validates specialized knowledge	98.7	92.9
Indicates level of clinical competence	91.8	85.8
Indicates attainment of a practice standard	96.2	91.7
Enhances professional credibility	96.7	86.4
Promotes recognition from peers	90.8	74.6
Promotes recognition from other health professionals	90.8	79.2
Promotes recognition from employers	80.1	72.2
Increases consumer confidence	81.9	82.8
Enhances feeling of personal accomplishment	98.8	90.5
Enhances personal confidence in clinical abilities	92.9	85.8
Provides personal satisfaction	98.3	89.3
Provides professional challenge	96.8	86.4
Enhances professional autonomy	88.5	81.1
Indicates professional growth	97.4	87.6
Provides evidence of professional commitment	95.9	86.4
Provides evidence of accountability	90.1	84.6
Increases marketability	86.9	77.5
Increases salary	46.4	53.3

ed enough topics of interest for the technician group to travel to attend. The low attendance may simply have been a matter of personal choice. Or it could be associated with a lack of funding and support from employers to allow their participation in this type of educational opportunity. This topic was not part of this survey but is an area that warrants future exploration.

Paper-and-pencil forms of the survey were used only by people in attendance at one of the surveyed meetings. All other participants completed the survey online. Paper-and-pencil forms were completed by 92 (54.4%) of the technicians, while 77 (45.5%) responded to the online survey. This is similar to the 45% of respondent nurses who used the online survey. Considering

the wide age range and the significant differences in mean age, it is surprising that both groups of respondents used both mediums almost equally.

Certification and other technician jobs

Knowing that technician certification is mandatory, one may wonder why only 88.8% of respondents listed certification as mandatory. This apparent discrepancy may reflect the variety of roles that technicians fill in dialysis clinics. Certification is not required for those who do not provide direct patient care, so technicians who fill essential roles in inventory management, ordering and supply chain management, reuse, biomedical, etc. are not governed by the certification

mandate. They may also work in technician education or as manufacturer/vendor supply representatives, etc., who are also not mandated to certify.

Many times these roles are filled with experienced staff that would possibly be more likely to attend a national or regional meeting or to choose certification for personal satisfaction. CMS requires certification for technicians in facilities that receive Medicare and Medicaid payments, only. Therefore, technicians working in acute hemodialysis or in federal agencies, such as Veterans Health Administration facilities, are exempt from certification, making certification voluntary for this group of technicians. There are several choices for advanced or more specialized technician certifications available. These may appeal to more experienced clinical technicians or to those who desire certification but whose role demands a specialized set of skills. For example, the Nephrology Nursing Certification Commission (NNCC) offers a certification examination for hemodialysis (CCHT-A), and BONENT offers one for Bio-Medical Technicians (CHBT).

Red flags for staff turnover

Employers are well aware of the issues of staff turnover and the impact it can have on their financial bottom line and on the maintenance of quality. Careful consideration of the value statement responses can provide some guidance by which employment can be viewed and influenced. When only 66.3% of nephrology technician respondents report they “have no plans to make a change in their employment,” it should alert employers to a major problem. There were 16% of respondents who reported they are currently “looking for another employer in nephrology.”

Additionally, a potential loss of 9.4% of technicians due to “planning to leave nephrology for another spe-

cialty” is of concern. The cost of hiring and training replacements in both instances are significant. The movement of personnel from one facility to another, even within the same corporation, is costly and disruptive to the workflow in both institutions. Addressing turnover and retention of staff is essential to the financial well being of any business.

Leveraging your certification

Staff satisfaction plays a singularly important role in addressing staff retention (see Table 9). When queried about incentives related to certification offered by their employers, technicians reported that 37.3% of employers offered “no incentives.” There were 21.3% who experienced “an increase in salary (including annual bonus)” and 4.1% who experienced a “one-time bonus, other than salary.” This would seem to explain the low level of agreement to the “increases salary” statement on the PVCT.

Even though certification is a requirement for their job, only 31.4% receive “reimbursement for exam fees.” Only 4.7% get “paid time off for taking the examination.” Only 12.4% “receive paid time off for attending continuing education classes.” Only 11.8% get “reimbursement for continuing education.” Employers would be wise to re-evaluate the ways they encourage their technicians to continue to upgrade their knowledge and skills. It is possible to create an environment that acknowledges the accomplishments of the technician staff, recognizes the importance of the role the technicians play in the work place, and stabilizes their retention rate while doing so.

Conclusions

Certification of dialysis technicians providing direct patient care is mandated by CMS. This study has shown the nephrology clinicians clearly per-

Table 9. Percent of Technicians and Nurses Who Agree or Strongly Agree to Incentives and Initiatives Statements

Incentive or Initiative	Percent who agree or strongly agree	
	Nephrology Nurses	Dialysis Technicians
An increase in salary (including annual bolus)	14.7	21.3
A one-time bonus, other than salary	8.8	4.1
Advancement on the nursing clinical/ career ladder	15.7	4.7
Retention in the position I held at the time	6.9	17.8
Promotion to a higher level position	3.9	4.7
Reimbursement for exam fees	28.7	31.4
Reimbursement for continuing education	18.7	11.8
Pay for attendance at regional or national educational meetings	16.4	14.8
Reimbursement for recertification fees	18.8	21.9
Paid time off for taking examination	5.6	4.7
Paid time off for attending continuing education classes	14.4	12.4
Recognition as an expert in my field by my colleagues	16.4	5.3
Annual recognition event, i.e., breakfast, luncheon	8.6	4.7
Publication of names in institutional newsletter or other relevant literature	6.0	5.9
Plaque displaying list of certified nurses	8.2	14.2
Listing of certification credential(s) on a name tag and/or business card	23.5	14.2
No incentives	31.8	37.3

ceive the benefits of certification. They also clearly define the lack of recognition, even barriers erected, making certification more difficult by many employers in terms of achievements and accomplishments of the dialysis technicians.

The data gathered in this survey can help guide employers and nurse managers to support all levels of nephrology certification. Understanding the demographics of this dominant part of the nephrology workforce should enable employers to improve their recruitment and retention programs. Incentives and initiatives related to certification/recertification offered to employees can contribute to job sat-

isfaction. Recognition of the nature of the workforce can be utilized to positively impact longevity of employment in this essential group of patient care providers. NN&I

References

1. Gaberson, KB, Schroeter, K., Killen, A.R., & Valentine, W.A. The perceived value of certification by certified perioperative nurses. *Nursing Outlook*, 51:272 – 276, 2003.
2. Sechrist, K.R. & Berlin, L.E. Psychometric analysis of the perceived value of the perceived value of certification tool. *Journal of Professional Nursing*, 22:248 – 252, 2006.