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Nurse Practitioners' Attitudes And Knowledge Toward Current Procedural Terminology (CPT) Coding

Executive Summary

- Education for APNs regarding reimbursement is usually focused on the microeconomic issues in health care, so APNs typically understand and appreciate the significance of financial issues.
- While nursing education serves as a model for practical education with emphasis on psychomotor skills and hands-on experience, APNs are not generally given the knowledge and the skills for CPT and ICD-9 coding.
- The financial and legal consequences of inaccurate coding can be profound; reimbursement can increase by 10% to 30% with careful use of updated codes and modifiers.
- Development of coding skills is a continuous process given the frequency of ever-changing coding conventions.
- Despite concern that salaried APNs may have less motivation to master coding skills, the study revealed that APNs (NPs) working in private practice had the highest mean knowledge score, and those who work in HMOs had the lowest mean score.

ADVANCED PRACTICE nurses (APNs) including nurse practitioners, nurse midwives, clinical nurse specialists, and nurse anesthetists report that one of the barriers to their services is the difficulty in receiving direct reimbursement (Anderson, Gilliss, & Yoder, 1996; Iris, 1999). Barriers pertaining to reimbursement from Medicaid, Medicare, and third-party payers for services rendered by APNs are related to the lack of knowledge many APNs have about Current Procedural Terminology (CPT) codes. "The lack of visibility of nursing in the payment structure and, consequently, in policy deliberation on payment is associated with the lack of knowledge most nurses have about CPT codes" (Griffith & Robinson, 1993, p. 178). Moreover, APNs are not expected to possess the financial acumen and knowledge of economic trends that go with a business mindset in regard to health policy and patient care delivery (Miller, 1987).

Graduate APN programs educate students in health care financing as part of the core curriculum; however, APNs are not typically taught the details regarding billing for services. Educational programs do not focus on proper coding techniques in the classroom; they rely on what can be learned during a clinical rotation or preceptorship. "The lack of attention to detail and accuracy in the coding and pricing of services rendered" has left clinicians inadequately prepared as they enter into practice (Murray, Dwore, Parsons, Smith, & Vorderer, 1994, p. 52). "I think it's fair to say that most of us code by a mixture of rote memorization and gut instinct. But in doing so, most of us tend to play it safe and undervalue the work we do" (Giovino, 1999, p. 32). The CPT

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guidelines for coding and documentation are a morass of rules that seem to encourage "downcoding" by making the rules vague and the penalties harsh. Consequently, many APNs code and bill for a lower level of service (for example, downcoding) to avoid fraudulent billing and insurance audit.

Often, offices or clinics delegate the management of the reimbursement process to the office staff. These responsibilities are assigned without regard to the level of coding expertise and degree of clinical knowledge. The billing staff is confronted with claims being delayed due to invalid, missing, noncovered, or mismatched CPT codes which can lead to significant loss of reimbursement, billing delays, and denials. Frequently, the billing staff will simply change the CPT code in order to get the claim to pass through the edits (Plunkett, 1993). These changes can adversely affect reimbursement if the valid CPT code is not used appropriately for the service provided.

Thompson and Barrett (1993) found there were five common reasons for lost reimbursement: (a) staff were not performing charge capture functions due to lack of training, (b) charges were lost or delayed due to inadequate or incorrect charge documentation, (c) reimbursement was denied due to coding errors, (d) CPT codes were used improperly, and (e) charges for services or procedures were too low or too high.

Researchers have found that institutional billing strategies required constant and attentive updating because of the frequent policy changes by government and third-party payers (Murray et al., 1994). Griffith and Robinson (1993) found that the majority of the clinical nurse specialists who use CPT codes work in hospitals, schools, and clinics. Ament (1997) found that out of 495 certified nurse midwives (CNMs), 77% were reimbursed by salary. In this study, only 18.3% of CNMs worked in solo private practice. According to LaBar (1990), most NPs are employees and therefore receive a salary. For this reason, learning CPT coding may be a low priority due to a lack of incentive. This skill is not directly related to personal income.

Significance of the Study

Numerous changes in health care reimbursement practices and economic forces in health care delivery systems have influenced the practice of medicine and nursing. Advanced practice nurses are pressured to adopt a business ethic and business orientation in their care delivery (Miller, 1987). More importantly, APNs are practicing in increasingly competitive environments where pressures are mounting for cost-effective services. Neglecting the issues of CPT coding can threaten the survival of all APNs, especially those who work in a private or independent practice.

Reimbursement claims require the use of two coding systems: one that identifies the patient's disease or physical state (International Classification Modification, 9th Revision, or ICD-9) and another that describes the procedures, services, or supplies the clinician provides to the patient (CPT codes). The level of reimbursement is determined by the correct use of both systems. Another coding system known as "HCPCS" is the acronym for the Health Care Common Procedure Coding System. It was developed by the Health Care Financing Administration for health care providers and medical suppliers to report professional services, procedures, and supplies. HCPCS codes are required for reporting most medical services and supplies provided for Medicare and Medicaid payments. An increasing number of private insurance carriers are also encouraging or requiring the use of HCPCS codes. HCPCS codes are different than CPT codes, but the concept and applications are similar. For the purpose of this study, the researchers focused solely on CPT codes.

The CPT book, published annually by the American Medical Association, includes more than 7,000 descriptive procedures and identifies codes for reporting services (Griffith & Robinson, 1992). It is the coding system used universally for payment purposes by government and commercial insurance payers for hospital, clinic, office, nursing home, and emergency department services (Robinson & Griffith, 1997). The CPT coding guidelines are changed frequently. To maximize reimbursement, APNs should maintain current knowledge of CPT coding. For example, CPT codes include modifier codes which describe a provider's services more accurately and allow payment for any additional work one performed. Modifier codes can affect whether claims are paid or denied. These modifier codes may be deleted or others added annually. In practice, the APN can increase revenue 10% to 30% by using the updated changes in the codes. Many clinicians are "throwing money out the door by billing inaccurately" (Gerchufsky, 1996, p. 46).

Maximizing reimbursement strategies is complex yet essential to avoid potential financial problems for provider groups. Once the APN sees the patient and the patient's charge slip is generated, the reimbursement process begins. This process varies by payer type and may require extensive communication between the billing staff and the payer. Reimbursement of the expenses for patient care by third-party payers allows the hospital or clinic to acquire and maintain the resources it needs to continue operations. "It is extremely important, therefore, that providers do everything in their power to capture charges completely and correctly and to thereby avoid unnecessary 'leak' in the revenue cycle" (Thompson & Barrett, 1993, p. 27).

Health care spending in the '90s grew at a historically lower rate than in the '80s despite the complexity of health care delivery. The reform of physician payment towards a prospective managed

care payment format will have a major impact on payment to APNs who provide many of the same health care services (Griffith & Robinson, 1992, 1993).

Whether the APN is self-employed, a member in a partnership, or employed by a private practice or a hospital, one should sustain business and practice viability by having the knowledge of health care management, especially in the areas of reimbursement practices and cost containment (Wing, 1998). The APN who can combine the provision of care with maximized reimbursement will be in a more powerful position to compete in today's marketplace.

Purpose of the Study

The purpose of the study was to describe NPs' attitudes and knowledge regarding CPT coding. It was intended to increase APNs' awareness of accurate CPT coding and the significance of direct billing. Direct reimbursement cannot be accurately achieved without understanding CPT coding.

Literature Review

Third-party reimbursement for NPs is not a new concept. In 1948, the American Nurses Association made reimbursement a priority in its platform (Griffith, 1987). The nursing literature on third-party reimbursement has largely focused on the desirability of such payments and efforts to obtain them. Relatively little empirical research has been conducted on the use of third-party reimbursement by NPs, and no research studies were found regarding attitudes and knowledge of NPs toward the use of CPT codes. Most research studies examined the problems of coding accuracy and its impact on reimbursement and focused on coding by ancillary personnel or billing staff.

Murray et al. (1994) explored how seven rural hospitals could maximize their reimbursement and comply with Medicare, Medicaid, and other third-party payer regulations. All seven hospitals were incorrectly coding individual procedures and selecting fees lower than third-party payer allowable fees for general laboratory and radiology procedures. Consequently, errors in the coding and billing process had resulted in lost revenue and exposure to charges of noncompliance by third-party payers. The study emphasized that training billing staff properly and reviewing hospitals' pricing policies could ensure that prices were charged accurately to reflect the true cost of services.

A widely acclaimed goal of APNs was to receive direct payment from third-party payers. Ament (1997) explored the perception of CNMs on the impact of reimbursement policies to their ability to practice. Thirty-six percent of the respondents were unable to obtain unique provider identifying numbers (UPINs) from insurance carriers. Without UPINs, CNMs were excluded from provider contracts. Eleven percent reported decreased reimbursement rates and 24% reported delays in receiving payment. Consequently, "these issues were seen to influence the number of potential clients that can be seen" and stressed the impact of reimbursement on advanced practice nursing (Ament, 1997, p. 63).

Other investigators, such as Kinney, Hawkins, and Hudmon (1997), found that the vast majority of oncology nurse practitioners (ONPs) provided services independently, without direct physician supervision. Sixty-five percent of ONPs in this study reported that they performed the same services and procedures traditionally performed by physicians and approximately 50% had prescriptive authority. Of 117 ONPs who indicated they had a mechanism for billing, only 8% billed for services under their own name; 53% billed for services under the supervising physician's name; and 62% billed through the clinic or hospital. "Without direct billing for NP service, the true impact of NPs on reducing costs will not be recognized" (Kinney et al., p. 818). The researchers concluded that reimbursement difficulties were one of the barriers facing NPs and resulted in the lack of direct billing for services. Without the UPINs, insurance companies do not recognize NPs' as primary care providers, NPs cannot receive direct reimbursement, and efforts to gather data on the cost effectiveness of NPs are stymied.

There are several nursing research studies focused on identifying CPT-coded services performed by staff nurses and advanced practice nurses. Several studies (Griffith & Robinson, 1992, 1993; Robinson & Griffith, 1997) identified the degree to which CPT-coded services were provided by school, enterostomal, critical care, oncology, rehabilitation, orthopedic, and nephrology nurses; family nurse practitioners; and nurse midwives. In these exploratory studies, a random sample of nurses from various specialty areas were surveyed to identify which "Current Procedural Terminology coded procedures they perform and how frequently they perform them" (Griffith & Robinson, 1993, p. 178). The results indicated that these nurses frequently performed selected CPT codes with little or no supervision by physicians. These are the same services for which physicians are being reimbursed. The findings are significant for policymakers as they seek to reform the provider payment system acknowledging APN contributions.

Today, health care delivery cost is paramount in the justification of many programs. It is clear that programs, which are able to reduce costs and generate revenue, will remain viable. For example, the American Association of Diabetes Educators recognized that in order to maintain their present and future services they must be knowledgeable about reimbursement for their specific services. Tobin (1993) examined the use of CPT coding to identify specific CPT codes related

to diabetes education programs. The information gained from the study was vital for improvements in reimbursement and financing for diabetes education.

In summary, the literature documented barriers to obtaining reimbursement by APNs. Studies have focused primarily on problems of coding accuracy and its impact on reimbursement. Advanced practice nurses frequently perform the same procedures and services as physicians. They use the same CPT codes for which physicians are being reimbursed. Most studies portrayed ANPs' desire for third-party reimbursement and made efforts to obtain it. There are no studies seeking baseline information on knowledge and attitudes of APNs toward CPT codes. Studies have not demonstrated the relationship among background characteristics, including educational levels and years of experience in advance practice, and CPT coding. There is reason to believe that attitudes and knowledge regarding CPT coding among APNs if strengthened will facilitate reimbursement.

Conceptual Framework

The concept of self-efficacy developed by Bandura served as the theoretical framework for this study. According to self-efficacy theory, people take action if two conditions are met: (a) outcome expectancy and (b) self-efficacy expectancy. Outcome expectancy is the belief that people's behavioral changes occur if they see that certain behavior will lead to desirable results. Self-efficacy expectancy is the personal conviction that one can successfully perform those behaviors to produce the desired outcome (Bandura, 1977). It is essential to recognize that people may believe that a behavior will assist in producing a desired outcome, but still have little confidence in their own ability to execute that same behavior. For example, if APNs believe that coding accurately will maximize reimbursement but they are not confident in their ability to perform the task due to time constraints in their practice, then it is unlikely that they will attempt to code properly. To code successfully, APNs must believe that their action will have a positive effect on revenues.

Methodology

Research design. The research design was an exploratory, descriptive nonexperimental study. Data were obtained using a mailed survey.

Setting and sample. The target population for this study was the NPs in California who were members of a state NP organization. Participants received a cover letter explaining the purpose of the study including implied consent, a demographic data form, the questionnaire, and a stamped, return envelope. Approval by the University's Committee for Protection of Human Subjects was secured. Confidentiality was maintained by no coding and by destroying the NP names and addresses after the mailing. All the participants were informed that if results of the study were published, only group data would be reported.

Instrument. The instrument used in this study was a self-administrated questionnaire developed by the researchers. Its psychometric properties related to validity and reliability were not assessed. It comprised three parts including: (a) Part 1 consisting of questions pertaining to the background characteristics of the sample (for example, years of NP experience, years of CPT coding experience, NP educational preparation, age, gender, ethnicity, area of specialty, and practice setting); (b) Part 2 including ten statements regarding the respondents' attitudes toward CPT coding with a 5-point Likert-type scale (strongly agree to strongly disagree); and (c) Part 3 consisting of ten questions based on the respondents' knowledge about CPT codes.

Data analysis. All items in the attitudinal survey were placed on a continuum with positive and negative responses. The researchers tallied each questionnaire. The results were verified by another member of the research team to enhance reliability. Each participant had a knowledge score, based on the number of correct responses. Each question, when answered correctly, was assigned a score of 1. Incorrectly answered questions received a score of zero. The highest possible score was 10. The analyses employed descriptive statistics including frequencies, percentages, and means for the background characteristics, and for attitude and knowledge scores related to CPT coding.

Findings

Data were collected from a sample of NPs throughout California. Of the 207 questionnaires mailed, 81 subjects completed the demographic data (39%) and 69 (33%) subjects completed the section on attitude; 75 (36%) completed the knowledge section about CPT coding.

Sample characteristics. Table 1 depicts the NP participant's background data. The sample consisted of 76 females (93.8%) and 5 males (6.2%), with the majority of the respondents (77.8%) 41 years old and above. Almost two-thirds of the respondents were master's prepared (71.6%). Nearly all of the respondents were White/non-Hispanic (85.2%).

The participants were experienced NPs: 48.3% working between 6 to more than 20 years. The primary employment site was in family settings, 55.6%, followed by 12.4% practicing in women's health. Other settings included pediatrics, geriatrics, school-based clinics, oncology, occupational health, psychiatry, Veteran's Administration, homeless shelters, skilled nursing facilities, emergency departments, public health, and research settings.

Lastly, 42% declared that they had absolutely no experience with CPT coding. Most of the respondents who did not have CPT coding experience stated that they did not know what CPT codes were or they

Table 1.
Nurse Practitioners' Background Characteristics (N=81)

	N	%
Age		
≤ 29	0	0.0
30-35	5	6.2
36-40	13	16.1
41+	63	77.8
Gender		
Male	5	6.2
Female	76	93.8
Ethnicity		
African American	1	1.2
Asian/Pacific Islander	5	6.2
Hispanic/Latino	4	4.9
Native American	1	1.2
White/Non-Hispanic	69	85.2
NP Educational Preparation *		
Certificate	18	22.2
Master's	58	71.6
Post Master's certificate	3	3.7
Specialty *		
Adult	9	11.1
Family	45	55.6
Pediatrics	9	11.1
Geriatrics	4	4.9
Women's health	10	12.4
Other	10	12.3
Years of NP Experience		
1-5	42	51.9
6-10	10	12.5
11-15	14	17.3
16-20	7	8.6
>20	8	9.9
Years of CPT Coding Experience *		
0	34	42.0
1-5	22	27.2
6-10	9	11.1
11-15	7	8.6
>15	1	1.2
Practice Setting *		
Hospital	6	7.4
Clinic	32	39.5
HMO	7	8.6
Private practice	23	28.4
Other	20	24.7

Note: * Due to missing data and reported multiple specialties and settings not all categories total 100%.

did not use CPT codes.

Findings related to attitudes and knowledge of CPT coding. Part 2 was designed to measure the respondent's attitudes towards CPT coding. As indicated in Tables 2 and 3, 52.2% of the respondents acknowledged that they did not enjoy CPT coding; 66.6 % agreed that it motivates them to code correctly because it increases reimbursement; 73.9% agreed that CPT coding was an added stressor if they have to look up the codes. Furthermore, respondents found it difficult to code accurately due to time constraints (44.9%). Similarly, they did not find accurate CPT coding to be a very rewarding aspect of their job (60.9%). More than half of the NPs in this study stated that regardless how they code, it did not affect their salary (68.1%). On the other hand, 65.2% of the respondents agreed that it was the responsibility of the NP to code accurately. Almost half (49.3%) disagreed that coding accurately is not a priority because they have a billing staff to perform this task. Overall, only 26% of the NPs are confident with their CPT coding skills.

In Part 3, knowledge scores ranged from 0 to 8 (out of 10). Table 4 portrays the numbers and percentages of the correct responses to each question. The mean knowledge score for the entire sample was 2.27. It was not surprising to find that the NPs who had 11 to 15 years of CPT coding experience had the highest knowledge score of 5.43. Additionally, NPs practicing in private settings and had 11 to 15 years of NP experience had a mean score of 2.82. The lowest mean score was found among NPs practicing in health maintenance organizations (see Table 4).

Discussion

This research project was intended to measure the attitudes and knowledge regarding CPT coding. An ancillary outcome focused on increasing NPs' awareness of accurate CPT coding and its significance of direct billing and reim-

Table 2.
Nurse Practitioners' Attitudes Toward CPT Coding: Responses to Positive Questions (N=69)

Question	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree	
	N	%	N	%	N	%	N	%	N	%
1. Enjoys CPT coding.	16	23.2	20	29.0	22	31.9	10	14.5	1	1.4
2. Motivated to code correctly because it increases reimbursement.	1	1.4	5	7.2	17	24.6	23	33.3	23	33.3
3. Finds accurate CPT coding to be a very rewarding aspect of my job.	20	29.0	22	31.9	22	31.9	1	1.4	4	5.8
4. Confident with my skills in CPT coding.	16	23.2	21	30.4	14	20.3	15	21.7	3	4.3
5. Positive overall feeling about CPT coding.	8	11.6	15	21.7	24	34.8	19	27.5	3	4.3

Table 3.
Nurse Practitioners' Attitudes Toward CPT Coding: Responses to Negative Questions (N=69)

Question	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree	
	N	%	N	%	N	%	N	%	N	%
1. CPT coding is an added stressor if I have to look the codes up.	4	5.8	4	5.8	10	14.5	40	58.0	11	15.9
2. Coding accurately is not a priority because I have a billing staff to perform this task.	16	23.2	18	26.1	9	13	14	20.3	12	17.4
3. Finds it difficult to code accurately due to time constraints.	2	2.9	17	24.6	19	27.5	24	34.8	7	10.1
4. Regardless of how I code, it does not affect my salary.	8	11.6	4	5.8	10	14.5	22	31.9	25	36.2
5. It is not the responsibility of the nurse practitioner to code accurately.	17	24.6	28	40.6	6	8.7	11	15.9	7	10.1

bursement. The vast majority of the NPs were female and over 41 years old. They were primarily master's-prepared NPs. Most of the NPs did not have any experience with CPT coding. Nurse practitioners believed that CPT coding was an added stressor if they have to look up the codes. Likewise, they found it difficult to code accurately due to the time constraints. In addition, the respondents acknowledged that regardless of how they coded, it did not affect their salaries. The findings suggest that even though NPs did not achieve high scores on the knowledge test, they generally see the significance of accurate CPT coding.

The conceptual framework for this study was self-efficacy theory as applied in NP practice. It is based on the premise that individuals who perceive high self-efficacy will have a high internal locus of control. Consequently, people are more motivated and responsible for

their own behavior and take a more active role in controlling situations. This study may contribute new information in support of this theory. It is hoped that as NPs believe in the significance of CPT coding, they will trust that their actions will have a positive effect on revenues and reimbursement for APNs (outcome expectancy), and they will have confidence in performing the task (self-efficacy expectancy).

This exploratory study sought to describe the attitudes and knowledge of NPs toward CPT coding. Several findings related to knowledge were noteworthy. Although the overall mean knowledge score was low (2.27 out of a possible 10), NPs who had the highest mean score of 5.43 on the knowledge section were experienced CPT coders, NPs practiced more frequently in private settings, and the lowest mean knowledge score was found among NPs practicing in a HMO. Perhaps NPs who have spent more years in practice may have had more exposure to CPT coding. Moreover, it was noted that the NPs who worked in private practice may acknowledge the incentive to code accurately because it increases reimbursement.

Table 4.
Nurse Practioners' Mean Knowledge Scores

	N	%
All Participants	75	2.27
Years of NP Experience		
1-5	40	2.33
6-10	10	2.10
11-15	11	2.82
16-20	6	1.50
>20	8	2.25
Years of CPT Coding Experience		
0	27	0.67
1-5	25	2.92
6-10	9	2.44
11-15	7	5.43
>16	1	0.00
Practice Setting		
Hospital	7	2.57
Clinic	32	2.37
HMO	6	1.17
Private practice	22	2.82
Other	19	1.63

Scope and Limitations

The study focused on NPs' attitudes and knowledge toward CPT coding. Although there are many factors that contribute toward NPs' attitudes and knowledge toward CPT coding, potential confounding factors were not explored.

Study limitations included a small sample, which may not be representative of the target population of NPs and APNs throughout the United States. Other study limitations include no evaluation of formal education in CPT coding and no assessment of the instrument's psychometric properties. A pilot test could have identified potential problem areas in question construction and eliciting the desired information. Lastly, the knowledge questions were developed based on guidelines found in the CPT book established by the American Medical Association. Participants in this study may have used other coding systems such as HCPCS codes instead of CPT codes.

Recommendations

All APNs should have CPT coding education. It is essential that APNs know the CPT coding system regarding billing for services. This content can be presented in graduate educational programs and be offered during concurrent sessions at APN conferences. We live in a society that rewards credentials, and as more APNs obtain higher educational degrees and certification, the power to demand higher salaries will follow. With direct billing for APN services, the true impact of nurse clinicians on reducing costs will further be recognized. Nursing research has demonstrated the quality and cost effectiveness of APN services (Iris, 1999). These factors will help to increase service demand. Advanced practice nurses will be able to control more of the health care dollar in our burgeoning health care businesses. The independence of APNs can be used to minimize physician-controlled reimbursement, and can increase APNs bargaining power with third-party payers within their respective health care settings.$

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