



NCSBN

National Council of State Boards of Nursing

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2011 Knowledge Survey of Medication Aides Employed in Nursing Homes/Long-term Care, Hospitals/ Acute Care and Community/Home Health Care Settings



2011 Knowledge Survey of Medication Aides Employed in Nursing Homes/ Long-term Care, Hospitals/Acute Care and Community/Home Health Care Settings

National Council of State Boards of Nursing, Inc. (NCSBN®)

Mission Statement

The National Council of State Boards of Nursing (NCSBN®) provides education, service and research through collaborative leadership to promote evidence-based regulatory excellence for patient safety and public protection.

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EXECUTIVE SUMMARY

Background of Study

The National Council of State Boards of Nursing (NCSBN®) is responsible for assisting its members, the boards of nursing (BONs) in the U.S. and four U.S. territories, in their mission of public protection through safe nursing practice. Care provided by medication aides/assistants (MAs) impacts client safety directly and influences the quality of care provided by registered nurses (RNs). As nursing practice changes, the knowledge needed by those assisting nurses may change as well. Knowledge studies can help provide a means of identifying these changes.

The primary purpose of this study is to identify the knowledge needed by certified entry-level MAs. Results of this study can be used to help item writers and reviewers with test development activities for the Medication Aide Certification Examination (MACE®), while also providing education programs with a better understanding of the knowledge needed to provide safe and effective work of certified entry-level MAs.

Methodology

A number of steps are necessary to perform an analysis of the knowledge needed by certified entry-level MAs. The methodology used to carry out the 2011 Knowledge Survey of MAs included selecting a panel of subject matter experts (SMEs), all of whom supervised or performed the work of MAs; developing 155 statements that are currently performed by MAs; completing the sample selection and data collection procedures; adding an assurance of confidentiality response to the surveys; obtaining approval to conduct the study; obtaining and collating survey response rates; and determining the degree to which participants were representative of the population of certified, entry-level MAs.

Methodology Reviewers

Chosen for their psychometric expertise in job analysis and certification examination development, three external methodology reviewers examined the methodologies and procedures utilized in this

study. All three reviewers indicated these methodologies were psychometrically sound, legally defensible and in compliance with professional testing standards.

SMEs

A panel of nine RNs and one entry-level MA was assembled to assist with the knowledge study. Panel members supervised (or personally performed) the work of MAs, and represented all four NCSBN geographic areas, major nursing specialties and practice settings.

The panel reviewed the existing category structure for the MA activity statements and described the types of knowledge needed by certified entry-level MAs. The panel then developed a current list of knowledge statements for each activity statement within each content category based on recent data gathered by SMEs.

Survey Development

An adequate assessment of entry-level MA work requires information about the importance of the knowledge needed in relation to client safety and well-being. Data related to the importance of knowledge statements was collected from practicing MAs.

A total of 155 MA knowledge statements were incorporated into a knowledge survey. The survey also included questions about MAs' work settings, past experiences and demographics.

Survey Process

The sample for the current study was generated from the lists supplied to NCSBN by various state/territory agencies that maintain information on both certified MAs and a variety of health care settings where MAs are employed. A total of 8,258 certified MA contacts were identified; 1,374 contacts in nursing home/long-term care, hospital/acute care and community/home health care settings were also identified.

The mailings to both the MAs and the facilities where MAs work contained a cover letter and at least one survey. In the cover letter sent to facilities, instructions were given to provide the surveys to

certified, entry-level MAs. In addition to the survey, potential survey participants received the presurvey notice and two survey reminders with the goal of increasing the response rate. The survey was conducted from July 2011 through August 2011.

From those who did not return their surveys, a sample of 1,600 MAs and 200 health care settings was selected to receive the survey instrument again.

All potential participants were promised confidentiality with regard to their participation and responses. Files containing mailing information were kept separate from the data files. Preassigned codes were used to facilitate cost-effective, follow-up mailings to maintain data confidentiality. The study protocol was reviewed and approved by NCSBN's CEO for compliance with organizational guidelines for research studies involving human subjects.

Return Rates

Prior to mailing inside the continental U.S., the mailing house checked the addresses using a program that accesses the National Change of Address (NCOA) database. This program identified invalid addresses for the first and second mailings, mostly due to individuals moving without providing a change of address. Since there is no national registry of MAs, it is difficult to identify certified, entry-level MAs for the current study. To maximize the likelihood of reaching certified, entry-level MAs, surveys were sent unsolicited to the available sample.

From the 8,258 identified contacts, 264 were invalid addresses; of the 1,374 director addresses, 91 were invalid. Subsequently, more than 9,000 surveys were mailed. To increase response rates, survey instruments were later distributed to those who did not return the initial survey. The second mailing consisted of 1,600 MA surveys and 200 director surveys. Overall, valid surveys were received and scanned from 2,263 respondents for an adjusted return rate of 21.4%.

Nonresponder Study

The MAs who responded to the second mailing of surveys comprised the group of nonresponders. In order to ensure the validity of the results, NCSBN conducted a nonresponder study to see if there

were any systematic differences between those MAs who responded to the initial mailing and those who responded to the second. The results suggest that there is no systematic bias between responder and nonresponder cohorts.

Demographics

A total of 2,263 MAs responded to the survey and the majority of respondents reported being female (92.4%). Overall, the average age of respondent MAs was 45.3 years (SD 12.8 years).

The majority of respondent MAs reported their ethnicity as White/Non-Hispanic (56.9%), while 29.7% were African American, 5.2% were Hispanic and 0.7% were Asian Indian.

Of the respondent MAs, 16.0% had one year or less of total experience; 39.4% had two to five years of experience; 22.9% had six to 10 years of experience; 7.4% had 11 to 14 years of experience; and 14.3% had 15 years of experience or more. On average, respondents reported approximately 6.3 years of MA experience.

More than half (55.2%) of responding MAs indicated receiving MA training from their employer. They also frequently reported being prepared through courses offered by their community or junior college (17.7%) and training offered by technical or vocational schools (18.7%). The majority of MA respondents (90.3%) reported being required to complete specific MA training. On average, respondents reported that 46.4 hours of training were required. Approximately 70.3% of respondents indicated that being a certified nursing aide/nurse assistant (NA) was a requirement to become an MA, while 71.9% indicated that receipt of a high school diploma/GED was required.

When asked about certification earned or training completed, MAs were most likely to have completed training or earned certification for medications (87.6%), basic life support (83.9%) and as a basic NA (66.5%). MAs were least likely to have completed training as an RN (0.4%).

Approximately 10.8% of the MA respondents reported current enrollment in nursing education programs. Of these respondents, 52.5% were

enrolled in licensed practical/vocational nurse (LPN/VN) programs and 29.5% were enrolled in RN programs. Approximately 7.3% reported that they had applied to, but were not currently enrolled in, a nursing education program.

A majority (65.5%) of MA respondents reported that continuing education was a requirement. On average, respondents reported a requirement of approximately 12.5 hours of continuing education contact hours.

Work Settings

MA Employment Settings

MA respondents most frequently reported employment in assisted living facilities (43.8%), long-term care facilities (35.2%) and dementia/memory care units (19.5%). The least frequently reported work settings were labor and delivery units (0.0%), pediatric units (0.1%), postpartum or maternity units (0.1%), and recovery rooms (0.1%).

Shifts Worked

The majority of MA respondents (65.6%) reported working five to eight hours per shift.

Hours Worked

Approximately 47.0% of MAs reported working 31 to 40 hours per week as an MA; 2.0% reported working more than 60 hours per week as an MA.

Client Ages and Types

MAs were most likely to care for clients aged 65 to 85 years (53.9%), clients over the age of 85 (39.6%) and clients aged 31 to 64 years (25.9%). MAs provided the most care for clients with behavioral/emotional conditions (62.0%), clients with chronic conditions (46.0%) and clients at the "end of life" (43.5%). MAs administered medication to an average of 25.9 clients per shift.

Knowledge Statement Importance Findings

Importance of Knowledge Statements

The 2011 MA Knowledge Survey asked respondents to rank the importance of each of the 155 knowledge statements needed by certified, entry-level MAs. Importance ratings were recorded using a five-point scale: "1 Not Important" to "5 Extremely Important." Importance of performance for all knowledge statements ranged from 3.81 to 4.88 on the five-point scale. For each statement, a number of respondents indicated that the MAs did not perform it.

Subgroup Analyses

To ensure necessary knowledge was consistent across certain parameters, analyses were conducted to determine if the knowledge statements were viewed similarly by respondents regardless of years of experience, work setting and geographic location. Mean importance ratings for all statements were calculated based on 47 subgroups. These subgroups were derived from responses to three demographic questions related to years of experience, work setting and NCSBN geographic area. In summary, average importance ratings were similar according to years of experience, work setting and geographic area.

Conclusion

A nonexperimental, descriptive study was conducted to describe the knowledge needed by certified entry-level MAs in the U.S. The reliability and validity of the survey instruments was quite good. Responders found the knowledge statements listed in the survey to be representative of the knowledge needed for a certified entry-level MA to perform their work safely and effectively.

2011 Knowledge Survey of Medication Aides Employed in Nursing Homes/ Long-term Care, Hospitals/Acute Care and Community/Home Health Care Settings

National Council of State Boards of Nursing, Inc. (NCSBN®)

BACKGROUND OF STUDY

The National Council of State Boards of Nursing (NCSBN[®]) is responsible for assisting its members, the boards of nursing (BONs) in the U.S. and four U.S. territories, in their mission of public protection through safe nursing practice. The 2011 Job Analysis of Medication Aides Study (NCSBN, 2011) is the basis for establishing examination content for entry-level medication aides/assistants (MAs). The primary purpose of this study is to identify the essential knowledge needed by certified entry-level MAs. Information from MAs was used to identify relative importance of relevant knowledge statements. These knowledge statements will help test developers of the Medication Aide Certification Examination (MACE[®]) to better understand the knowledge necessary to perform MA activities safely and effectively. It will also help item writers and reviewers with test development activities related to MACE. The knowledge statements, however, will not be part of the MACE content outline.

This study of the knowledge needed by MAs in different employment settings is the first study of its kind performed by NCSBN. Results of this study can also be used to assist education programs, providing a better understanding of the knowledge requirements relevant to safe and effective work of certified entry level MAs.

Methodology

A number of steps are necessary to perform an analysis of the knowledge needed by certified entry-level MAs to perform their work safely and effectively in order to protect the public. This section provides a description of the methodology used to conduct the 2011 Knowledge Survey of MAs. Descriptions of SME panel processes, survey development, sample selection and data collection procedures are provided, as well as information about assurance of confidentiality, response rates and the degree to which participants were representative of the population of certified entry-level MAs.

Methodology Reviewers

A total of three methodology reviewers, each chosen for their expertise in practice/job analysis

and certification examination development, reviewed the methodologies and procedures utilized in this study. All three reviewers indicated this methodology was psychometrically sound, legally defensible and in compliance with industry standards for job analyses. *See Appendix A for a list of methodology reviewers.*

Subject Matter Experts (SMEs)

A panel of nine registered nurses (RNs) and one certified entry-level MA was assembled to assist with the knowledge study. Panel members worked with and/or supervised MAs who had less than 12 months of experience postcertification or were certified entry-level MAs themselves, and represented all four NCSBN geographic areas and major work settings where MAs are employed. *See Appendix B for a list of SMEs.*

The panel members worked to create a list of knowledge statements needed by MAs within each content category of the MACE test plan. Each knowledge statement was reviewed for applicability to MA practice and the safety of the client. Care was taken to create the MA knowledge statements at approximately the same level of conceptual specificity to avoid redundancy within and between categories, and to ensure that the knowledge statements were clear, understandable and observable. In addition, the panel ensured that the list of knowledge statements was comprehensive in order to guarantee that there was no artificial restriction in the range of knowledge. The SMEs also considered the number of knowledge statements so as not to create an overwhelming burden for the responding MAs. *See Appendix C for a copy of the survey form.*

Survey Development

A number of processes were used to construct, evaluate and refine the survey instrument used for the 2011 Knowledge Statement Study. The activities identified in the recently completed *2011 Job Analysis of Medication Aides Employed in Nursing Homes/Long-term Care, Hospitals/Acute Care and Community/Home Health Care Settings* study

(NCSBN, 2011) were the basis for the development of the knowledge statements by SMEs in this study. The SME panel reviewed the recently approved MA activity list to determine what knowledge was required to perform all of the activities. Each activity was reviewed and knowledge statements were generated. Redundant knowledge statements were removed, and a final list of 155 knowledge statements was identified and incorporated into the survey.

The MA survey contained five sections. The first section contained questions related to the type of work environment for the respondents. The second section contained knowledge statements that described the role of the MA. The third section contained questions describing the educational background of the MA. The fourth section asked about personal background information and the fifth section provided space for responders to write comments or suggestions about the study.

The study protocol was reviewed and approved by NCSBN's CEO for compliance with organizational guidelines for research studies involving human subjects.

Survey Process

Sample Selection

The sample for the current study was generated from lists supplied to NCSBN by various state/territory agencies that maintain information on both certified MAs and a variety of health care settings where MAs are employed. A total of 7,994 certified MA contacts with valid addresses were identified; 1,283 contacts in nursing home/long-term care, hospital/acute care and community/home health care settings were also identified. As expected, response tendencies varied across jurisdictions. The differences may be related to the currency of the addresses in the registries.

Mailing

A five-stage, first-class mailing process was used to engage potential participants in the study. One paper survey was distributed to each of the 7,994 sampled MAs and two paper surveys were distributed to each of the 1,283 sampled health care setting directors. Prior to the mailing of the

survey, an announcement postcard was mailed to the respondents telling them to expect a very important survey in a few days. This announcement was followed by the first-class mailing of the survey, which included a cover letter that described the scope and purpose of the study. Two weeks later, a reminder postcard was sent. A second reminder postcard was sent to nonresponders two weeks after the first reminder notice. A second survey was sent to any participants who requested one. The survey was conducted from July 2011 through August 2011. *See Appendix D for copies of the announcement postcard, cover letter and reminder postcards.*

A sample of those who did not return their surveys was selected for a second mailing of the survey. The survey instrument was mailed to them following the same procedure.

Representativeness

The intention was to receive an even sample among the four NCSBN geographic areas. Because some areas did not have enough addresses to account for a quarter of the total surveys mailed, the total number of address used for the other areas increased. In other words, it was not possible to mail an equal number of surveys to each jurisdiction or area based on the available samples.

Attempts were made to evenly divide the sample of surveys mailed directly to MAs and those sent to facilities. Unfortunately, there is not a mailing list of facilities that employ MAs available in some states; in other states, there was not a mailing list of MAs available. These difficulties complicated the process of achieving equal representation across geographic areas even further.

As a result, some jurisdictions contributed fewer than the desired number of participants and others contributed more to the final sample. *See Figure 1.*

Confidentiality

All potential participants were promised confidentiality with regard to their participation and their responses. Preassigned code numbers were used to facilitate cost-effective, follow-up mailings. The files that contained mailing information were kept separate from the data files.

Return Rates

Prior to mailing inside the continental U.S., the mailing house checked the addresses using a program that accesses the National Change of Address (NCOA) database. This program identified invalid addresses for the first and second mailings, mostly due to individuals moving without providing a change of address. Since there is no national registry of MAs, it is difficult to identify certified, entry-level MAs for the current study. To maximize the likelihood of reaching certified, entry-level MAs, surveys were sent unsolicited to the available sample.

From the 8,258 identified contacts, 264 were invalid addresses; of the 1,374 director addresses, 91 were invalid. Subsequently, more than 9,000 surveys were mailed. To increase response rates, survey instruments were later distributed to those who did not return the initial survey. The second mailing consisted of 1,600 MA surveys and 200 directors surveys. Overall, valid surveys were received and scanned from 2,263 respondents for an adjusted return rate of 21.4%.

Nonresponder Study

The MAs who responded to the first mailing make up the majority of the final sample (2,126). The participants who returned their surveys after the second mailing form the rest of the sample (137); for the purpose of this study, they are labeled as “nonresponders” since they failed to respond to the first mailing of surveys. In order to ensure the validity of the results, NCSBN conducted a nonresponder study to see if there were any systematic differences between those who responded to the initial mailing and those who responded to the second mailing. Table 1 in Appendix I shows the demographics of the two groups with significant similarity. Table 2 in Appendix I displays the importance ratings of and the “Not Performed” percentages of the statements for both samples. The differences in importance ratings of the 155 statements are all below 0.5 and the differences in percentages of nonperformance are no more than 7.0%. The results suggest that there is no systematic bias between the responder and nonresponder cohorts.

Summary

The SMEs, consisting of a panel of nine RNs and one MA, reviewed the test plan category structure describing the types of activities performed by certified, entry-level MAs. Based on the structure, the SMEs worked to create a list of knowledge statements needed by a certified, entry-level MA. Each statement was reviewed for applicability to work performed by certified, entry-level MAs and the relationship to the delivery of safe MA care to members of the public. In the end, 155 knowledge statements were formulated.

A survey instrument for data collection was developed and revised based on those statements. The surveys were mailed from July 2011 through August 2011; the response rate was satisfactory. A higher rate could have been obtained if a national registry of the recently certified MAs existed to allow NCSBN to better target entry-level personnel.

DEMOGRAPHICS, EXPERIENCES AND PRACTICE ENVIRONMENTS OF PARTICIPANTS

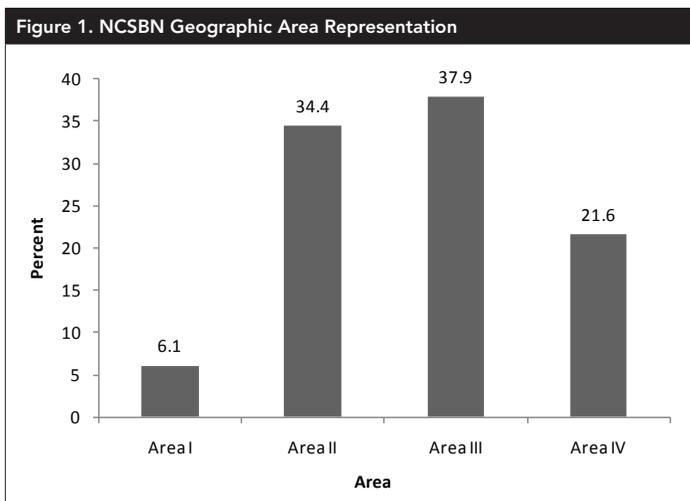
Demographic information, including racial and ethnic backgrounds, educational preparation and gender, is presented next, followed by descriptions of responders' work environments, including settings, shifts worked and client characteristics. A total of 2,263 MAs responded to the survey. This section reports on the demographic information from those respondents.

Age and Gender

The majority of respondent MAs were female (92.4%). The average age of respondent MAs was 45.3 years (SD 12.8 years).

NCSBN Geographic Area

Respondents were asked the state/territory in which they were currently practicing. Responses were grouped into the four areas of NCSBN's member boards (Figure 1). Area III had the largest representation with 37.9% of responding MAs. Area I had the lowest percentage of representation (6.1%). Geographical distribution of respondents is congruent with the distribution of the available sample. Table 1 lists the NCSBN member jurisdictions in each NCSBN geographic area where the survey was conducted.



Ethnicity

The majority of respondent MAs reported their ethnicity as White/Non-Hispanic (56.9%), while 29.7% were African American, 5.2% were Hispanic and 0.7% were Asian Indian. See Figure 2.

Years of Experience

Respondents reported an average of approximately 6.3 years of MA experience. See Figure 3. Of the respondent MAs, 16.0% had one year or less of total experience; 39.4% had two to five years of experience; 22.9% had six to 10 years of experience; 7.4% had 11 to 14 years of experience; and 14.3% had 15 years or more experience. See Table 2. 77.2% of respondents are currently working as MAs.

A higher percentage of the entry-level MAs (those with one year or less of total experience) in the sample could have been obtained if a national registry of recently certified MAs existed to allow NCSBN to focus on the target population.

MA Preparation

Training Received

More than half of the respondents (55.2%) indicated receiving training from their employer. Respondents also frequently reported being prepared through training offered by their community or junior college (17.7%) and by technical or vocational schools (18.7%). See Table 3.

Specific MA Training

The majority of MA respondents (90.3%) reported being required to complete specific MA training.

Table 1. Jurisdictions Included in NCSBN Geographic Areas

Area I	Area II	Area III	Area IV
Alaska	Illinois	Alabama	Connecticut
American Samoa	Indiana	Arkansas	Delaware
Arizona	Iowa	Florida	District of Columbia
California	Kansas	Georgia	Maine
Colorado	Michigan	Kentucky	Maryland
Guam	Minnesota	Louisiana	Massachusetts
Hawaii	Missouri	Mississippi	New Hampshire
Idaho	Nebraska	North Carolina	New Jersey
Montana	North Dakota	Oklahoma	New York
Nevada	Ohio	South Carolina	Pennsylvania
New Mexico	South Dakota	Tennessee	Rhode Island
Northern Mariana Islands	West Virginia	Texas	Vermont
Oregon	Wisconsin	Virginia	Virgin Islands
Utah			
Washington			
Wyoming			

Figure 2. Ethnicity

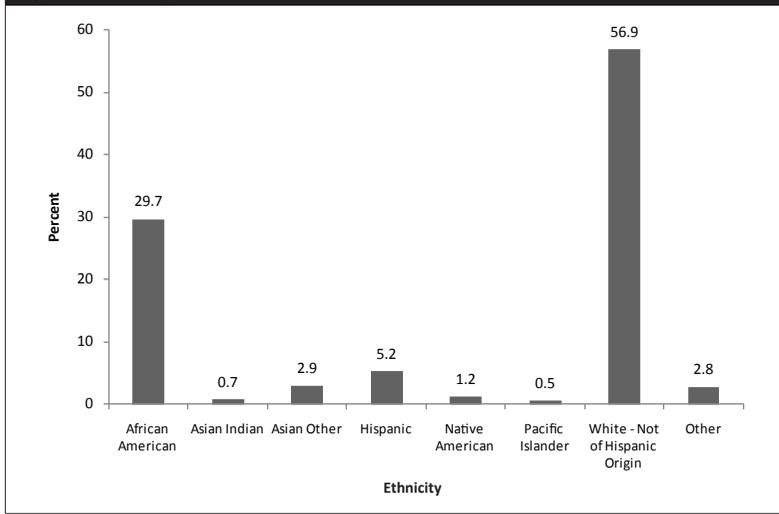


Figure 3. Years of Experience

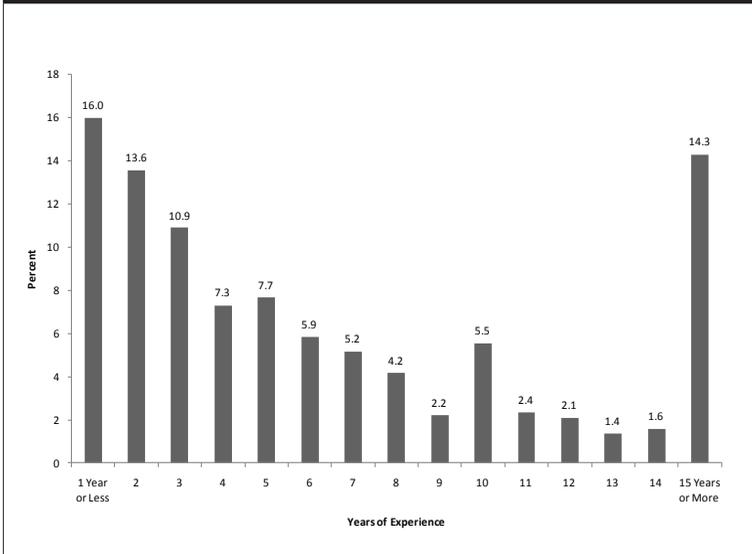


Table 2. Years of Experience

Range	Frequency	Percent (%)
1 year or less	352	16.0
2 to 5 years	869	39.4
6 to 10 years	506	22.9
11 to 14 years	163	7.4
15 years or more	315	14.3

Table 3. Training Received

Training Provider	Frequency	Percent (%)
No training was required	11	0.5
Training offered by employer	1249	55.2
Training offered by community or junior college	400	17.7
Training offered by technical or vocational school	424	18.7
Training received while in military	2	0.1
Training sponsored by state/territory agency	123	5.4
Private training program	259	11.4
Other	67	3.0

*Total percentage could exceed 100% as respondents were asked to select all that apply.

Training Hours

The majority of responding MAs reported being required to complete 40 hours or less of training. On average, respondents reported that 46.4 hours of training were required. See Figure 4.

Requirements for Becoming an MA

Approximately 70.3% of respondents indicated being a certified nurse aide/nursing assistant (NA) was a requirement to become an MA, while 71.9% indicated receipt of a high school diploma/GED was required. See Table 4.

Certification/Training Programs

MAs were most likely to have completed medication (87.6%), basic life support (83.9%) and basic NA (66.5%) certification or training programs. MAs were least likely to have completed RN programs (0.4%) and dialysis technician programs (0.9%). See Table 5.

Enrollment in Nursing Programs

Of the MA respondents, 10.8% reported current enrollment in nursing education programs. Approximately 7.3% reported that they had applied to, but were not currently enrolled in, a nursing education program, while 10.6% were working on prerequisite requirements. See Table 6.

Type of Program Enrollment

Of the respondents enrolled in a nursing education program, 52.5% were enrolled in licensed practical/vocational (LPN/VN) programs and 19.4% were enrolled in associate degree programs. In total 29.5% were enrolled in RN programs. See Table 7.

Annual Continuing Education Requirement

A majority (65.5%) of MA respondents reported that continuing education was a requirement. As shown in Figure 5, the majority of respondents reported a requirement between one and eight hours of continuing education per year. On average, respondents reported an annual requirement of 12.5 hours of continuing education hours (SD 14.1 hours).

Figure 4. Training Hours

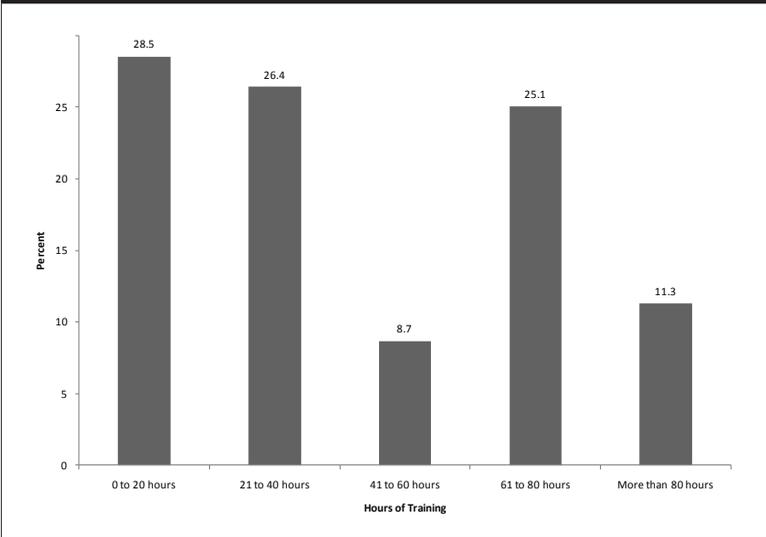


Table 4. Requirements

Requirement	Frequency	Percent (%)
High school diploma/GED	1627	71.9
Certified NA	1592	70.3
Home health aide	213	9.4
Assessment test	458	20.2
Other	187	8.3

*Total percentage could exceed 100% as respondents were asked to select all that apply.

Table 5. Training Program Completed

Program	Frequency	Percent (%)
Basic life support (CPR)	1898	83.9
Medication	1983	87.6
First aid	1436	63.5
Basic NA	1506	66.5
Advanced or Skilled NA (NA Advanced)	695	30.7
Phlebotomy	163	7.2
Home health aide	676	29.9
Geriatric care	694	30.7
Psychiatric/Mental health aide	209	9.2
Food handler's card	218	9.6
Feeding assistant	741	32.7
Hospice care	316	14.0
Dialysis technician	20	0.9
Intravenous therapy	28	1.2
Alzheimer's care	867	38.3
Restorative care	361	16.0
Pharmacy technician	86	3.8
Wound care	293	12.9
RN	10	0.4
LPN/VN	66	2.9
Other	123	5.4

*Total percentage could exceed 100% as respondents were asked to select all that apply.

Table 6. Formal Nursing Education Program Enrollment

Response	Frequency	Percent (%)
Yes	232	10.8
Applied, but not enrolled	157	7.3
Working on prerequisites	227	10.6
No	1529	71.3

Table 7. Type of Program Enrollment

Program	Frequency	Percent (%)
LPN/VN	146	52.5
RN - Diploma	6	2.2
RN - Associate Degree Program	54	19.4
RN - Bachelor's Degree Program	22	7.9
Other	50	18.0

Work Settings and Shifts

MA Employment Settings

MA respondents most frequently reported employment in assisted living facilities (43.8%), long-term care facilities (35.2%) and dementia/memory care units (19.5%). The least frequently reported work settings were labor and delivery units (0.0%), pediatric units (0.1%), postpartum or maternity units (0.1%), and recovery rooms (0.1%). See Table 8.

Location in the Employment Settings

MA respondents most frequently reported that their employment setting is located in a rural area (34.3%). See Table 9.

Shift Worked in the Employment Setting

Nearly half of the MA respondents (48.4%) responded working an eight-, 10- or 12-hour shift during the evening, as shown in Table 10.

Hours Worked on Last Shift

The majority of the MA respondents (65.6%) reported working five to eight hours on the last shift they worked, as shown in Figure 6.

Hours Worked Per Week

When asked the average number of hours worked in a typical week, approximately 47.0% of MAs reported working 31 to 40 hours; 2.0% of respondents reported working 60 hours or more in a typical week as an MA. See Figure 7.

Clients

Client Ages

As seen in Figure 8, MAs were most likely to care for clients aged 65 to 85 years (53.9%), clients over the age of 85 (39.6%) and clients aged 31 to 64 years (25.9%).

Client Conditions

MAs provided the most care for clients with behavioral/emotional conditions (62.0%), clients with chronic conditions (46.0%) and clients at the “end of life” (43.5%), as shown in Figure 9.

Administering Medication

The average number of clients MAs reported administering medication to during a typical shift is approximately 25.9 clients per shift. See Figure 10.

The average number of medications administered during a typical shift is approximately 150.8 medications. See Figure 11.

Figure 5. Annual Continuing Education Requirement

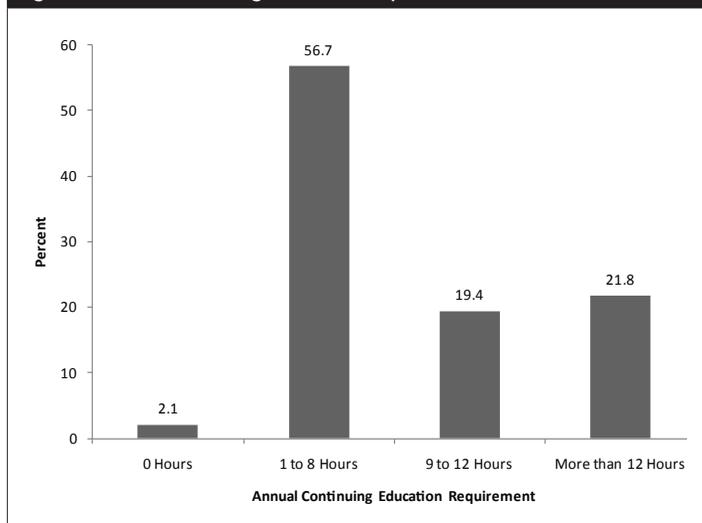


Table 8. MA Employment Setting

Category	Setting	Frequency	Percent (%)
Hospitals or acute care settings	Central supply	26	1.1
	Chemical dependency unit	11	0.5
	Emergency room	8	0.4
	Extended care facility/rehabilitation unit	370	16.3
	In-patient hospice care	57	2.5
	Intensive care unit	11	0.5
	Intermediate care/step down unit	33	1.5
	Labor and delivery unit	1	0.0
	Medical/surgical unit	19	0.8
	Nursery	9	0.4
	Operating room	5	0.2
	Pediatric unit	3	0.1
	Postpartum/maternity unit	2	0.1
	Psychiatric unit	45	2.0
	Recovery room	3	0.1
	Other	216	9.5
Nursing home/long-term care	Assisted living	991	43.8
	Dementia/memory care unit	442	19.5
	Intermediate care unit	77	3.4
	Long-term care	797	35.2
	Personal care unit	71	3.1
	Psychiatric unit	44	1.9
	Residential care	292	12.9
	Skilled care unit	359	15.9
	Sub-acute unit	29	1.3
	Other	50	2.2
Community/Home health care	Adult day care	68	3.0
	Adult foster care home	10	0.4
	Clinic/outpatient unit/ambulatory surgical care	10	0.4
	Correctional facilities	37	1.6
	Group home	224	9.9
	Home health in client's residence	169	7.5
	Independent living	118	5.2
	Hospice care in client's residence	36	1.6
	Psychiatric	22	1.0
	Schools	39	1.7
	Youth camps	6	0.3
	Other	78	3.4

*Total percentage could exceed 100% as respondents were asked to select all that apply.

Table 9. Location in the Employment Setting

Location	Frequency	Percent (%)
Urban/metropolitan area	589	28.1
Suburban area	532	25.4
Rural area	720	34.3
I do not know	256	12.2
Other	49.4	43.9

Table 10. Shift in the Employment Setting

Shift	Frequency	Percent (%)
Rotation shift	119	5.7
Days (8-, 10- or 12-hour shift)	198	9.4
Evenings (8-, 10- or 12-hour shift)	1018	48.4
Nights (8-, 10- or 12-hour shift)	508	24.1
Other	262	12.4

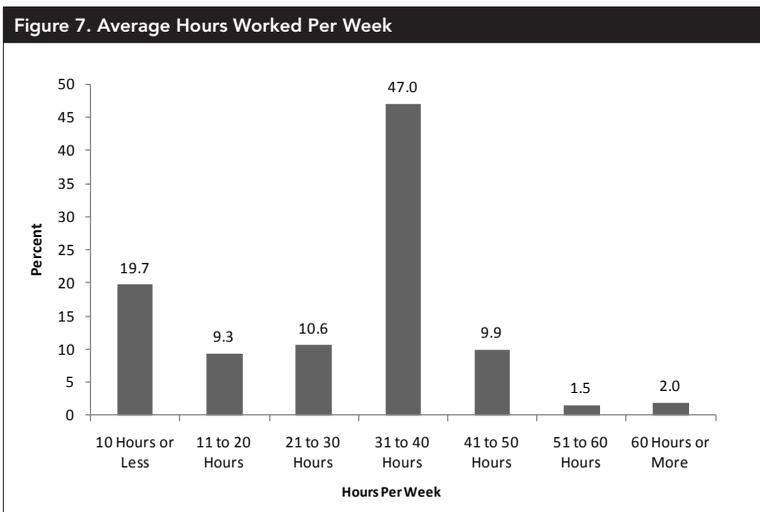
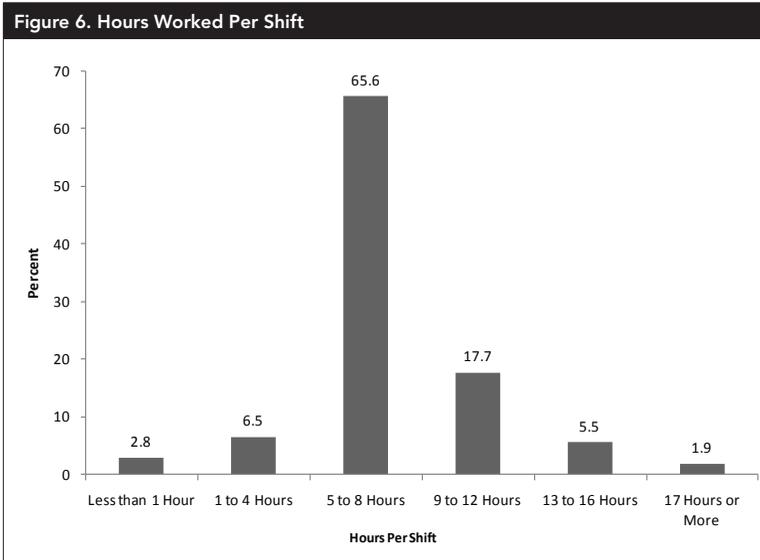


Figure 8. Client Ages

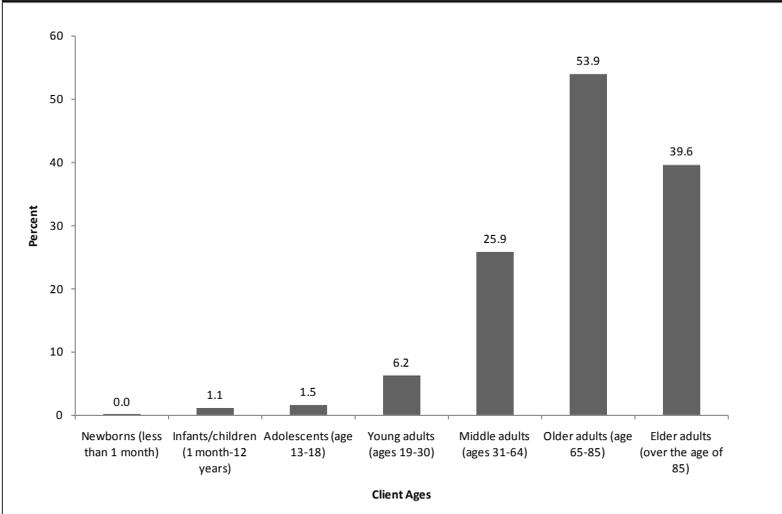


Figure 9. Client Conditions

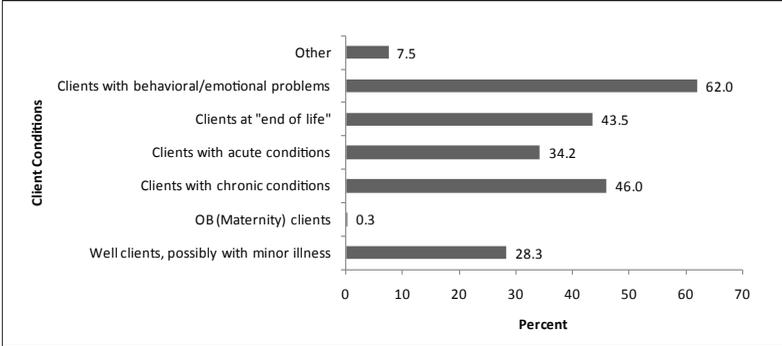


Figure 10. Clients Administered Medication Per Shift

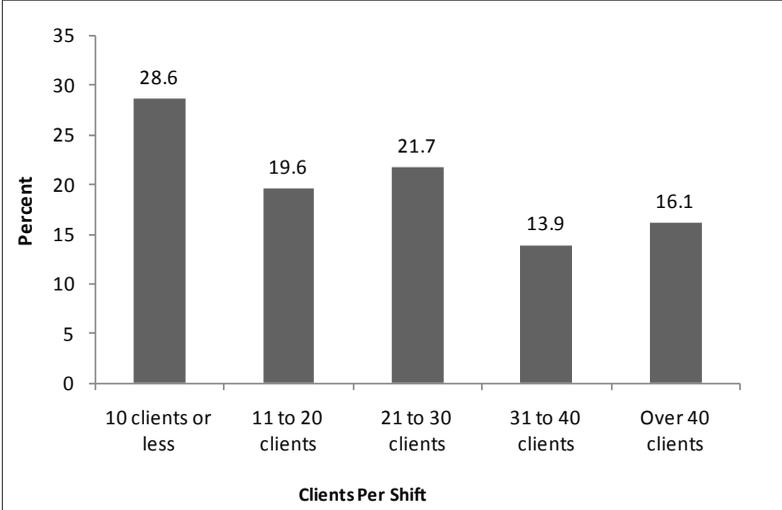
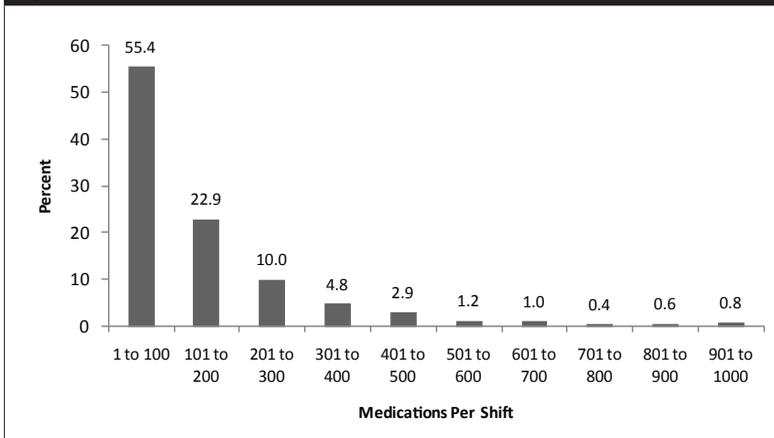


Figure 11. Medications Administered Per Shift



Summary

The majority of MAs responding to the 2011 MA Knowledge Survey were females averaging 45.3 years of age. Most of the MAs were trained for their current role by their employers, or received training from a community or junior college. They earned medication certification and completed basic life support training. Approximately 10.8% of MA respondents were enrolled in a nursing education program and an additional 7.3% applied to a nursing education program, but were not enrolled. The majority of MAs were required to complete some continuing education on an annual basis.

The majority of responding MAs were employed in assisted living facilities and long-term care facilities. They were most likely to care for older clients with behavioral/emotional conditions, clients with stable chronic conditions and clients at "end of life." Most respondents worked five- to eight- hour shifts and almost half of respondents (47.0%) reported working 31 to 40 hours per week. MAs administered medication to an average of 25.9 clients per shift.

KNOWLEDGE IMPORTANCE FINDINGS

Findings relative to the MA knowledge statements are presented in this section of the report. The methods used to collect and analyze knowledge statement findings and importance of the knowledge statements will be discussed.

Overview of Methods

Respondents were asked to provide overall importance ratings on each knowledge statement needed by entry-level MAs. They were asked to rate the overall importance on a scale of 1 to 5. The five point importance scale ranged from 1 being not important to 5 being extremely important. A zero rating was reserved for a statement not performed by entry-level MAs according to the respondents. After removing zero ratings, the average importance ratings were calculated for every statement.

Activity Statement Characteristics

This section contains the rating responses of 2,263 currently practicing MAs, ranging from less than one to more than 15 years of experience. Findings

relative to the knowledge statements are presented in this section of the report.

Reliability of the Instrument

To evaluate the instrument, the Cronbach's coefficient alpha was calculated. The stability of this statistic is affected by the number of questions and the number of respondents. Higher values (e.g., greater than 0.90) reflect lower error, with a maximum theoretical value of 1.0. For this survey, the importance ratings had a reliability estimate of 0.99, which suggested limited error (Hopkins, Stanley, & Hopkins, 1990).

Knowledge Statement Performed

Responders were asked to rate a statement as zero if they did not think MAs performed it. A percentage was calculated by summing the number of zero ratings for a statement and dividing by the total number of respondents for each statement. Table 11 shows the statements sorted in the descending order of percent performing.

Table 11. Percent Performing Knowledge Ratings

Knowledge of:	Count	% Performed
Confidentiality	2131	99.7
Safe Practice	2115	99.7
Client Allergies	2154	99.6
Medication Administration	2127	99.5
Medication Administration Safety and Hazards	2126	99.5
Effective Communication (e.g., Verbal and Nonverbal)	2123	99.5
"Rights" of Medication Administration	2155	99.5
Client Identification Methods	2129	99.4
Expiration Dates of Medications	2122	99.4
Medication Storage	2116	99.4
Client Medication Schedule	2133	99.4
Medication Administration and Documentation	2123	99.4
Procedures to Follow When Client Refuses to Take Medication	2114	99.4
Medication Warning Labels	2124	99.3
Expiration Date Location	2123	99.3
Medication Administration Rights	2123	99.3
Efficient Medication Administration Practices	2117	99.3
Procedure to Implement the "Rights" of Medication Administration	2117	99.3
Professional Ethics	2113	99.3

Knowledge of:	Count	% Performed
Reporting Information to Nurse	2113	99.3
Clean Technique	2141	99.3
Medication Brand/Generic Names	2127	99.3
Client Rights	2115	99.3
Side Effects	2110	99.3
Medication Directions	2124	99.2
Procedures to Follow When Client's Medication is Not Administered	2118	99.2
Oral Administration	2117	99.2
Policies and Procedures	2111	99.2
Documentation of Medication Administration	2132	99.2
Roles and Responsibilities of Health Care Team	2116	99.1
Procedures to Follow When Client's Medication is Not Available	2115	99.1
Medication Storage Requirements	2114	99.1
Purpose of Medication	2113	99.1
Basic Medical Terminology	2139	99.1
Effective Communication Techniques and Resources	2122	99.1
When Not to Administer Medications	2122	99.1
Medication Security	2110	99.1
Medication Purpose	2126	99.1
Medication Side Effects	2119	99.1
Side Effects of Medication	2107	99.1
Techniques to Verify Medication is Swallowed	2107	99.1
Medication Administration Equipment and Supplies	2126	99.0
Oral Medication Administration Techniques	2109	99.0
Three Medication Administration Safety Checks	2105	99.0
Change In Client Health Status/Condition	2138	99.0
Medication Error Reporting	2123	99.0
Infection Control	2118	99.0
Medication Administration Measurements	2126	98.9
Own Limitations and When to Seek Assistance	2117	98.9
Procedures to Follow When Client Receives Wrong Medication	2116	98.9
Types of Medication Errors	2122	98.9
Procedures to Follow When an Incident/Accident Occurs	2118	98.9
Normal Vital Sign Ranges	2123	98.8
Client Positioning for Medication Administration	2114	98.8
Medication Records	2125	98.8
Medications that Require Measurements Prior to Administration	2113	98.8
Resource Information for Medication (e.g., Drug Book)	2113	98.8
Adverse Reactions to Medications	2132	98.7
Medication Measurement Devices	2117	98.7
Controlled Versus Noncontrolled Medication	2111	98.7
Types of Medication Interactions	2107	98.7
Vital Signs	2104	98.7

Table 11. Percent Performing Knowledge Ratings

Knowledge of:	Count	% Performed
Communicating Information to Health Care Team	2123	98.7
Special Medication Instructions	2100	98.6
Setting Professional Boundaries	2098	98.6
Controlled Medications	2132	98.6
Reporting Procedures	2122	98.6
Medical Terminology	2119	98.6
Types of Client Neglect	2116	98.6
Expected Response to Medication	2117	98.5
Documentation Requirements	2116	98.5
Time Management Skills	2111	98.5
Approved Medical Abbreviations and Symbols	2124	98.4
Medication Error	2117	98.4
Medication Preparation Techniques	2117	98.4
Normal Medication Dosages	2111	98.4
Medication Classifications	2117	98.4
Controlled Substances and Medicines	2131	98.4
Vital Sign Equipment and Use	2118	98.3
Effects of Medication Interactions	2122	98.3
Medication Related Symptoms that Require Monitoring of Signs	2116	98.2
Authorized Duties	2137	98.2
Types of Client Abuse	2107	98.1
HIPAA	2093	98.1
Use of Medication Records and Other Forms	2103	98.1
Medication Changes on Medication Record	2124	98.1
Effectiveness of Medication	2117	98.1
Disinfection Process	2116	98.1
Special Administration Instructions	2110	98.0
Barriers to Communication	2118	98.0
Scope of Practice	2100	98.0
Medication Error Documentation	2126	97.9
Special Administration Information	2108	97.9
Receiving Report	2106	97.9
Procedures Used When Medication is Discontinued	2119	97.8
Special Documentation Instructions	2115	97.8
Requirements for Medication Labels	2111	97.7
Initiating Emergency Care Procedures for a Choking Client	2127	97.6
Team Building	2100	97.6
Reporting Requirements and Process	2099	97.5
Eye Administration	2097	97.5
Baseline Client Health Status/Condition	2124	97.5
Medication Contraindications	2113	97.5
How to Respond to Signs and Symptoms of Low Blood Sugar	2118	97.5
How to Respond to Signs and Symptoms of High Blood Sugar	2118	97.3

Table 11. Percent Performing Knowledge Ratings		
Knowledge of:	Count	% Performed
Signs and/or Symptoms of High Blood Sugar	2115	97.3
Signs and/or Symptoms of Low Blood Sugar	2110	97.3
Conditions Making Medications Dangerous to Use	2115	97.2
Controlled Substance Counts	2124	97.1
Types of Client Exploitation	2118	97.1
Dating Medications	2123	97.0
Incidents/Accidents	2113	97.0
Various Medication Forms	2105	96.9
Prioritizing Care	2093	96.9
Documentation of Response to Medication	2126	96.8
Medication Restocking	2119	96.7
Medication Orders	2122	96.6
Factors that Effect Medication Utilization In the Body	2099	96.4
Prescription/Over the Counter (OTC)	2109	96.3
Giving Report	2110	96.2
Incident/Accident Reports	2119	96.0
Cultural and Religious Sensitivity and Awareness	2118	96.0
Documenting the Effectiveness of Medication	2106	96.0
Procedures Used for Medication Refills, New Orders and Changes	2113	95.8
Topical Administration	2106	95.8
Non-routine Medication Administration	2096	95.7
Client-Specific Instructions	2119	95.6
Medication Disposal Procedures	2110	95.5
Nasal Administration	2102	95.5
Timeliness of Medication Record Review	2101	95.3
Medication Disposal Documentation	2119	95.1
Wasteful Care Practices (e.g., Overuse of Products)	2105	95.1
Organizing Medication Administration to Multiple Clients	2109	94.0
Sublingual Administration	2110	93.9
Complete Medication Orders	2128	93.6
Ear Administration	2113	93.3
Normal Versus Abnormal Values	2093	93.1
Transdermal Medication Safety Considerations	2084	92.6
Metered Dose Inhaler	2116	92.4
Normal Blood Sugar Ranges	2114	92.4
Transdermal Administration	2089	91.8
Client Teaching	2112	91.3
Client's Right to Self-Administer Medications	2125	90.5
Assisting Client with Reading and Understanding Labels	2138	88.6
Nebulized Administration	2098	87.8
Oxygen Administration Safety Considerations	2123	87.5
Abdominal Thrust Technique	2106	87.3
Oxygen Administration Equipment and Supplies	2118	87.2

Table 11. Percent Performing Knowledge Ratings

Knowledge of:	Count	% Performed
Buccal Administration	2052	87.1
Proper Techniques for Disposal of Syringes	2114	86.5
Rectal Administration	2105	85.2
Assisting Client with Self-Administration of Medication	2128	85.0
Herbal Supplements	2098	84.7
FERPA	1894	81.3
Vaginal Administration	2105	77.6

Importance of Knowledge Statement

Respondents were asked to rank the importance of knowledge statements. Average importance ratings were calculated by averaging the 1 to 5 importance ratings. Because the zero rating ("Not Performed") is not considered part of the importance continuum, it was removed before calculating average importance.

Mean importance of performance for all knowledge statements ranged from 3.81 to 4.88 on the five-point scale. Those statements with the lowest importance rating were "herbal supplements" (3.81) and

"assisting client with reading and understanding labels" (3.99). Those statements with the highest importance rating were "controlled medications" (4.88), "controlled substances and medicines" (4.88) and "controlled substance counts" (4.88). Statements sorted in the order they appeared on the 2011 MA Knowledge Survey, along with their average importance ratings and the number of respondents who rated each statement, can be found in Table 12. Knowledge statements sorted by mean importance rating can be found in Appendix E.

Table 12. Knowledge Importance Ratings

Knowledge of:	N	Avg. Import	Std. Err.
Rights of Medication Administration	2144	4.84	0.01
Abdominal Thrust Technique	1838	4.13	0.02
Adverse Reactions to Medications	2105	4.71	0.01
Approved Medical Abbreviations and Symbols	2091	4.51	0.02
Assisting Client with Reading and Understanding Labels	1894	3.99	0.03
Assisting Client with Self-Administration of Medication	1809	4.19	0.02
Authorized Duties	2098	4.47	0.02
Barriers to Communication	2075	4.34	0.02
Baseline Client Health Status/Condition	2071	4.47	0.02
Basic Medical Terminology	2120	4.43	0.02
Buccal Administration	1788	4.30	0.02
Change In Client Health Status/Condition	2116	4.71	0.01
Clean Technique	2126	4.72	0.01
Client Allergies	2146	4.82	0.01
Client Identification Methods	2117	4.74	0.01
Client Medication Schedule	2120	4.73	0.01
Client Positioning for Medication Administration	2089	4.57	0.02
Client Rights	2100	4.71	0.01
Client Teaching	1928	4.15	0.02
Client's Right to Self-Administer Medications	1923	4.27	0.02
Client-Specific Instructions	2026	4.40	0.02

Table 12. Knowledge Importance Ratings

Knowledge of:	N	Avg. Import	Std. Err.
Communicating Information to Health Care Team	2095	4.74	0.01
Complete Medication Orders	1992	4.77	0.01
Conditions Making Medications Dangerous to Use	2055	4.79	0.01
Confidentiality	2124	4.84	0.01
Controlled Medications	2102	4.88	0.01
Controlled Substances and Medicines	2096	4.88	0.01
Controlled Substance Counts	2063	4.88	0.01
Controlled Versus Non Controlled Medication	2084	4.60	0.01
Cultural and Religious Sensitivity and Awareness	2033	4.08	0.02
Dating Medications	2059	4.64	0.01
Disinfection Process	2075	4.62	0.01
Documentation of Medication Administration	2114	4.86	0.01
Documentation of Response to Medication	2057	4.71	0.01
Documentation Requirements	2085	4.68	0.01
Documenting the Effectiveness of Medication	2021	4.62	0.01
Ear Administration	1972	4.37	0.02
Effective Communication (e.g., Verbal and Non-Verbal)	2113	4.58	0.01
Effective Communication Techniques and Resources	2103	4.48	0.01
Effectiveness of Medication	2076	4.58	0.01
Effects of Medication Interactions	2086	4.69	0.01
Efficient Medication Administration Practices	2103	4.66	0.01
Expected Response to Medication	2086	4.49	0.02
Expiration Date Location	2109	4.59	0.01
Expiration Dates of Medications	2110	4.68	0.01
Eye Administration	2045	4.51	0.02
Factors that Effect Medication Utilization In the Body	2024	4.39	0.02
FERPA	1539	4.30	0.02
Giving Report	2029	4.51	0.02
Herbal Supplements	1777	3.81	0.03
HIPAA	2054	4.76	0.01
How to Respond to Signs and Symptoms of High Blood Sugar	2060	4.81	0.01
How to Respond to Signs and Symptoms of Low Blood Sugar	2064	4.81	0.01
Incident/Accident Reports	2034	4.61	0.01
Incidents/Accidents	2049	4.63	0.01
Infection Control	2096	4.78	0.01
Initiating Emergency Care Procedures for a Choking Client	2077	4.84	0.01
Medical Terminology	2089	4.40	0.02
Medication Administration	2117	4.82	0.01
Medication Administration and Documentation	2110	4.81	0.01
Medication Administration Equipment and Supplies	2105	4.62	0.01
Medication Administration Measurements	2103	4.76	0.01
Medication Administration Rights	2109	4.75	0.01
Medication Administration Safety and Hazards	2116	4.73	0.01

Table 12. Knowledge Importance Ratings

Knowledge of:	N	Avg. Import	Std. Err.
Medication Brand/Generic Names	2112	4.48	0.02
Medication Changes on Medication Record	2083	4.81	0.01
Medication Classifications	2083	4.44	0.02
Medication Contraindications	2060	4.57	0.02
Medication Directions	2108	4.77	0.01
Medication Disposal Documentation	2015	4.57	0.02
Medication Disposal Procedures	2016	4.56	0.02
Medication Error	2084	4.81	0.01
Medication Error Documentation	2082	4.80	0.01
Medication Error Reporting	2101	4.81	0.01
Medication Measurement Devices	2090	4.59	0.01
Medication Orders	2050	4.71	0.01
Medication Preparation Techniques	2084	4.60	0.01
Medication Purpose	2106	4.53	0.01
Medication Records	2099	4.67	0.01
Medication Related Symptoms that Require Monitoring of Signs	2078	4.73	0.01
Medication Restocking	2050	4.41	0.02
Medication Security	2091	4.70	0.01
Medication Side Effects	2099	4.66	0.01
Medication Storage	2104	4.56	0.01
Medication Storage Requirements	2096	4.54	0.01
Medication Warning Labels	2110	4.71	0.01
Medications that Require Measurements Prior to Administration	2087	4.72	0.01
Metered Dose Inhaler	1956	4.51	0.02
Nasal Administration	2008	4.44	0.02
Nebulized Administration	1842	4.48	0.02
Non-Routine Medication Administration	2006	4.46	0.02
Normal Blood Sugar Ranges	1953	4.58	0.02
Normal Medication Dosages	2078	4.57	0.01
Normal Versus Abnormal Values	1949	4.43	0.02
Normal Vital Sign Ranges	2098	4.58	0.01
Oral Administration	2101	4.60	0.01
Oral Medication Administration Techniques	2088	4.60	0.01
Organizing Medication Administration to Multiple Clients	1982	4.71	0.01
Own Limitations and When to Seek Assistance	2094	4.70	0.01
Oxygen Administration Equipment and Supplies	1847	4.57	0.02
Oxygen Administration Safety Considerations	1857	4.55	0.02
Policies and Procedures	2094	4.56	0.01
Prescription/Over the Counter (OTC)	2030	4.42	0.02
Prioritizing Care	2028	4.49	0.02
Procedure to Implement the "Rights" of Medication Administration	2103	4.71	0.01
Procedures to Follow When an Incident/Accident Occurs	2094	4.72	0.01

Table 12. Knowledge Importance Ratings

Knowledge of:	N	Avg. Import	Std. Err.
Procedures to Follow When Client Receives Wrong Medication	2093	4.85	0.01
Procedures to Follow When Client Refuses to Take Medication	2101	4.61	0.01
Procedures to Follow When Client's Medication is Not Administered	2102	4.67	0.01
Procedures to Follow When Client's Medication is Not Available	2097	4.65	0.01
Procedures Used for Medication Refills, New Orders and Changes	2025	4.59	0.01
Procedures Used When Medication is Discontinued	2073	4.56	0.01
Professional Ethics	2099	4.61	0.01
Proper Techniques for Disposal of Syringes	1829	4.69	0.01
Purpose of Medication	2095	4.54	0.01
Receiving Report	2061	4.51	0.02
Rectal Administration	1794	4.46	0.02
Reporting Information to Nurse	2099	4.73	0.01
Reporting Procedures	2092	4.55	0.01
Reporting Requirements and Process	2047	4.49	0.02
Requirements for Medication Labels	2062	4.58	0.01
Resource Information for Medication (e.g., Drug Book)	2087	4.53	0.02
Roles and Responsibilities of Health Care Team	2098	4.55	0.01
Safe Practice	2108	4.70	0.01
Scope of Practice	2057	4.55	0.01
Setting Professional Boundaries	2069	4.51	0.02
Side Effects	2095	4.64	0.01
Side Effects of Medication	2087	4.70	0.01
Signs and/or Symptoms of High Blood Sugar	2057	4.74	0.01
Signs and/or Symptoms of Low Blood Sugar	2052	4.75	0.01
Special Administration Information	2064	4.59	0.01
Special Administration Instructions	2068	4.60	0.01
Special Documentation Instructions	2068	4.61	0.01
Special Medication Instructions	2071	4.64	0.01
Sublingual Administration	1982	4.52	0.02
Team Building	2049	4.30	0.02
Techniques to Verify Medication is Swallowed	2087	4.58	0.01
Three Medication Administration Safety Checks	2084	4.69	0.01
Time Management Skills	2080	4.43	0.02
Timeliness of Medication Record Review	2003	4.44	0.02
Topical Administration	2018	4.42	0.02
Transdermal Administration	1917	4.50	0.02
Transdermal Medication Safety Considerations	1930	4.55	0.02
Types of Client Abuse	2068	4.71	0.01
Types of Client Exploitation	2057	4.64	0.01
Types of Client Neglect	2086	4.70	0.01
Types of Medication Errors	2098	4.75	0.01
Types of Medication Interactions	2080	4.65	0.01

Table 12. Knowledge Importance Ratings

Knowledge of:	N	Avg. Import	Std. Err.
Use of Medication Records and Other Forms	2063	4.57	0.01
Vaginal Administration	1634	4.38	0.02
Various Medication Forms	2040	4.42	0.02
Vital Sign Equipment and Use	2083	4.59	0.01
Vital Signs	2077	4.68	0.01
Wasteful Care Practices (e.g., Overuse of Products)	2001	4.36	0.02
When Not to Administer Medications	2103	4.75	0.01

Subgroup Analyses

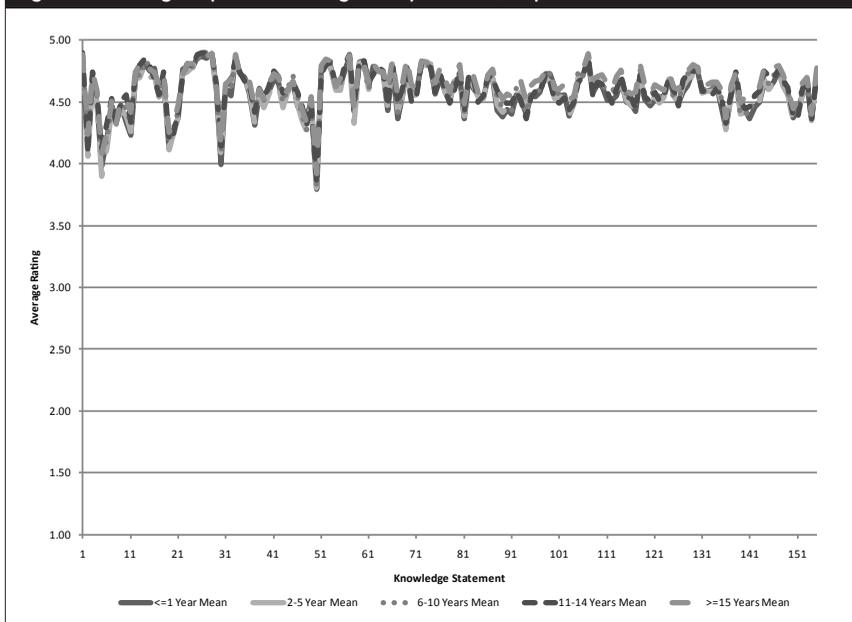
Analyses were conducted to determine if knowledge was viewed similarly by respondents regardless of years of experience, work setting and location. Importance ratings for all statements were calculated based on 47 demographic subgroups. These subgroups were derived from responses to three demographic questions. Average importance ratings were calculated according to years of experience, work settings and geographic regions.

Years of Experience Subgroup Analysis

Respondents’ importance ratings were divided into five subgroups based on responses to Section 1, Question 5, which queried respondents’ years of MA experience. Their answers to this question formed such subgroups.

Subgroup averages were calculated for all statements. Overall, ratings for the 155 knowledge statements appear to be consistent. Entry-level MAs, MAs with two to five years of experience, MAs with six to 10 years of experience, those with 11 to 14 years of experience and those with 15 years or more experience rated the statements similarly. Figure 12 shows how similar the importance ratings were across the 155 statements, with each line representing one of the five experience groups. Consequently, the findings about the core knowledge can be applied to every experience group, including the target of the study: entry-level MAs. In addition, mean importance data for subgroup analyses by years of experience can be found in Appendix F.

Figure 12. Average Importance Ratings of Experience Groups



Work Setting Subgroup Analysis

Importance ratings for all knowledge statements were calculated for the 38 work setting type response options listed for Section 1, Question 2 of the MA survey instrument. The settings that comprised the 38 subgroups can be found in Table 13. The importance ratings for most of the knowledge statements were similar for the various work settings. Mean importance data for subgroup analyses by work setting can be found in Appendix G.

Category	Setting	Abbreviation
Hospitals or acute care settings	Central Supply	HCenSup
	Chemical dependency unit	HCheDep
	Emergency room	HEmeRoo
	Extended care facility	HExtCar
	In-patient hospice care	HIInHos
	Intensive care unit	HIInCar
	Intermediate care	HIInCar
	Labor and delivery	HLabDel
	Medical/surgical unit	HMedSur
	Nursery	HNurser
	Operating room	HOpeRoo
	Pediatric unit	HPeatri
	Postpartum/maternity unit	HPosMat
	Psychiatric unit	HPsychi
	Recovery room	HRecRoo
Other	HOther	
Nursing home/long-term care	Assisted living	NAssLiv
	Dementia/memory care unit	NDmnCar
	Intermediate care unit	NIInCar
	Long-term unit	NLonTer
	Personal care unit	NPerCar
	Psychiatric unit	NPsychi
	Residential care	NResCar
	Skilled care unit	NSkiCar
	Sub-acute unit	NSubAcu
	Other	NOther

NCSBN Geographic Area Subgroup Analysis

Importance ratings for all knowledge statements were calculated for the four geographic areas of the NCSBN member board jurisdictions (see Table 1). Mean importance ratings of the knowledge statements were quite consistent based on NCSBN's four geographic areas. Mean importance data for subgroup analyses by NCSBN geographic region can be found in Appendix H.

Category	Setting	Abbreviation
Community/Home health care	Adult day care	CAduCar
	Adult foster care home	CAduFos
	Clinic/outpatient unit	CCliOut
	Correctional facilities	CCorrFac
	Group home	CGrpHom
	Home health in client's residence	CHomHea
	Independent living	CIndLiv
	Hospice care in client's residence	CHosCar
	Psychiatric	CPsychi
	Schools	CSchool
	Youth camps	CYouCmp
	Other	COther

CONCLUSIONS

A nonexperimental, descriptive study was conducted to describe the knowledge needed by certified entry-level MAs in the U.S. The reliability and validity of the survey instruments was quite good. Responders found the knowledge statements listed in the survey to be representative of the knowledge needed for a certified entry-level MAs to perform their work safely and effectively.

REFERENCES

- American Psychological Association, American Educational Research Association, & National Council on Measurement in Education. (1999). *The joint standards for educational and psychological testing*. Washington, DC: American Psychological Association.
- Council on Licensure, Enforcement and Regulation. (2004). *Development, administration, scoring and reporting of credentialing examinations: Recommendations for board members* (2nd edition). Lexington, KY: Council on Licensure, Enforcement and Regulation.
- Hopkins, K.D., Stanley, J.C., & Hopkins, B.R. (1990). *Educational and psychological measurement and evaluation* (7th edition). Upper Saddle River, NJ: Prentice Hall.
- National Council of State Boards of Nursing (NCSBN). (2011). *Report of findings from the 2011 job analysis of medication aides employed in nursing homes/long-term care, hospitals/acute care and community/home health care settings*. Chicago: NCSBN.

APPENDIX A: EXTERNAL METHODOLOGY REVIEWERS

Michael G. Niederpruem, MS, MA, CAE, is vice president of Certifications at the American Health Information Management Association (AHIMA). He previously held the position of national director of Certification at American College of Sports Medicine (ACSM). In both of these roles, he facilitated creation of new professional certification programs in such areas as health data analytics and clinical documentation improvement. In his position at ACSM, he also led a transition from paper-based to computer-based test administration. Niederpruem has served on a number of committees focused on developing criteria for evaluating certificate programs and is currently chair of the Assessment-based Certificate Committee of the Institute for Credentialing Excellence, where he facilitates evaluation of applications for accreditation of assessment-based certificate programs.

W. Ellery Samuels, PhD, is director of Assessment at the College of Staten Island, The City University of New York. He has created and evaluated education programs in a wide variety of settings, including primary and secondary schools; colleges; and after-school, government, nonprofit and community-based programs. In this capacity, Samuels oversees a variety of job analyses and survey studies. Prior to returning to academia, he served as director of Humane Education at the American Society for the Prevention of Cruelty to Animals (ASPCA).

Kara Schmitt, PhD, is a consultant who works extensively with regulatory agencies, testing companies and licensure examinations. In her current role, Schmitt is involved in conducting job analyses, setting test specifications, developing exams and facilitating standard-setting meetings. Prior to working as a consultant, Schmitt was the director of the Testing Services division for the Michigan Department of Consumer and Industry Services, a position she held for more than 20 years. In this position, Schmitt was responsible for coordinating testing operations for 35 professional boards. She has also authored numerous papers and presentations pertaining to licensure and regulation, and continues to serve on professional licensing boards and committees.

APPENDIX B: 2011 MEDICATION AIDE/ASSISTANT (MA) SUBJECT MATTER EXPERTS

Area I

Participant: Bernadette Murphy, RN, Nurse Educator

Employer: Oregon State Hospital
Salem, Ore.

Murphy is the primary instructor of MAs at the Oregon State Hospital.

Participant: Nancy Olson, RN, Director of Nursing Services

Employer: Mary's Woods
Lake Oswego, Ore.

Olson works as the program director for the MA training program at Mary's Woods. As the director, Olson oversees admissions, assists in the classroom and determines what textbook to use for the program, as well as develops unit tests and final exams.

Area II

Participant: Anne Citarella, MS, RN, Assistant Professor

Employer: Mercy College of Health Sciences
Des Moines, Iowa

Citarella provides practical exam testing for MAs at various facilities in the state.

Participant: Mary Jameson, RN, Staff Development/Infection Control Coordinator

Employer: Pine View Manor
Stanberry, Mo.

Jameson has worked with and taught the certified medication technician (CMT) course in Missouri since 1976. As the staff development/infection control coordinator, she monitors, teaches and evaluates CMTs.

Participant: Mary Stassi, RN, Health Occupations Coordinator

Employer: St. Charles Community College
St. Peters, Mo.

Stassi coordinates/teaches the CMT program at St. Charles Community College. She also teaches Level I MAs and insulin administration classes, and administers the admission and final exams.

Participant: Victor Palmer, RN, Assistant Program Manager

Employer: Hawkeye Community College
Waterloo, Iowa

Palmer has been working as an instructor for 10 years and currently coordinates the MA class at the college.

Area III

Participant: Melissa King Holder, MSML, RN, Continuing Education Instructor

Employer: Haywood Community College
Clyde, N.C

Holder has been involved in the MA program in North Carolina since its inception. As the continuing education instructor, she teaches the MA course at the community college.

Participant: Jan Middleton, RN, Director, Health Services

Employer: Caldwell Community College and Technical Institute
Hudson, N.C

Middleton manages all health related courses offered through corporate and continuing education, including the MA courses.

Participant: Lisa Van Gilder, Home Health Aide

Employer: Bayada Nurses
Boone, N.C

Van Gilder has been working as a home health aide for 10 months. She assists nurses in the delivery of medication and care to clients.

Area IV

Participant: Dorothy Kritsch, RN, Professional Service Representative

Employer: Partners Pharmacy
Cranford, N.J.

Kritsch has been teaching the MA training and competency evaluation program for 15 years. She has developed systems for the delegation to and supervision of MAs, as well as the documentation of such supervision and delegation.

APPENDIX C: 2011 MEDICATION AIDE/ASSISTANT SURVEY INSTRUMENT



National Council of State Boards of Nursing CERTIFIED ENTRY-LEVEL MEDICATION AIDE KNOWLEDGE STUDY

This questionnaire is part of a comprehensive study of the knowledge needed by certified entry-level medication aides (with less than 12 months of work experience post-certification) in the United States and its jurisdictions. The study is being conducted by the National Council of State Boards of Nursing.

INSTRUCTIONS

Please read each question carefully and respond by filling in the oval of the response that most closely represents your answer. Most questions have several alternative answers. Choose the answer that best applies to your work and fill in the appropriate oval(s). A few questions ask you to write in information. Print your answer legibly in the space provided following the question.

You will notice that many questions ask you to report what you did on your last day of work. It is important that we obtain information from certified entry-level medication aides experiencing both typical and unusual workdays, so please answer questions according to what you did on your last day of work even if that day was not typical.

For the purpose of this study, the medication aides are individuals, regardless of title, assisting with the delivery of medication to clients. The client is defined as an individual, individual plus family (or significant other[s]). Clients are the same as residents or patients. In addition, last day of work as a medication aide also refers to the last shift you worked.

Your answers will be kept confidential. Your individual responses to the questions will not be released.



Correct marks



Incorrect marks

- Use a No. 2 pencil only.
- Do not use pens.
- Make heavy dark marks that fill the oval completely.
- If you want to change an answer, erase completely.

FOR OFFICE USE ONLY



SECTION 1: WORK ENVIRONMENT

1. In which state/jurisdiction do you primarily work?

(Select only ONE answer)

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="radio"/> AK | <input type="radio"/> GA | <input type="radio"/> MD | <input type="radio"/> NH | <input type="radio"/> SC |
| <input type="radio"/> AL | <input type="radio"/> HI | <input type="radio"/> ME | <input type="radio"/> NJ | <input type="radio"/> SD |
| <input type="radio"/> AR | <input type="radio"/> IA | <input type="radio"/> MI | <input type="radio"/> NM | <input type="radio"/> TN |
| <input type="radio"/> AZ | <input type="radio"/> ID | <input type="radio"/> MN | <input type="radio"/> NV | <input type="radio"/> TX |
| <input type="radio"/> CA | <input type="radio"/> IL | <input type="radio"/> MO | <input type="radio"/> NY | <input type="radio"/> UT |
| <input type="radio"/> CT | <input type="radio"/> IN | <input type="radio"/> MS | <input type="radio"/> OH | <input type="radio"/> VA |
| <input type="radio"/> CO | <input type="radio"/> KS | <input type="radio"/> MT | <input type="radio"/> OK | <input type="radio"/> VT |
| <input type="radio"/> DC | <input type="radio"/> KY | <input type="radio"/> NC | <input type="radio"/> OR | <input type="radio"/> WA |
| <input type="radio"/> DE | <input type="radio"/> LA | <input type="radio"/> ND | <input type="radio"/> PA | <input type="radio"/> WI |
| <input type="radio"/> FL | <input type="radio"/> MA | <input type="radio"/> NE | <input type="radio"/> RI | <input type="radio"/> WY |
| <input type="radio"/> Other (Please specify) _____ | | | | |

2. Which of the following best describes your employment setting(s) on the last day you worked as a medication aide?

(Review the entire list and select ALL that apply.)

HOSPITALS or ACUTE CARE SETTINGS

- Central supply
- Chemical dependency unit
- Emergency room
- Extended care facility/rehabilitation unit
- In-patient hospice care
- Intensive care unit
- Intermediate care/step down unit
- Labor and delivery unit
- Medical/surgical unit (includes sub-specialties like orthopedics, oncology, etc.)
- Nursery
- Operating room
- Pediatric unit
- Postpartum/maternity unit
- Psychiatric unit
- Recovery room
- Other (Please specify) _____

NURSING HOME/LONG-TERM CARE

- Assisted living
- Dementia/memory care unit
- Intermediate care unit
- Long-term care
- Personal care unit
- Psychiatric unit
- Residential care
- Skilled care unit
- Sub-acute unit
- Other (Please specify) _____

COMMUNITY/HOME HEALTH CARE

- Adult day care
- Adult foster care home
- Clinic/outpatient unit/ambulatory surgical care
- Correctional facilities
- Group home
- Home health in client's residence
- Independent living
- Hospice care in client's residence
- Psychiatric
- Schools
- Youth camps
- Other (Please specify) _____

3. What shift do you usually work in the employment setting(s) you marked in Question 2? (Select only ONE answer)

- Rotating shift
- Days (8, 10, or 12 hour shift)
- Evenings (8, 10, or 12 hour shift)
- Nights (8, 10, or 12 hour shift)
- Other (Please specify) _____

4. Which of the following best describes the location of the employment setting(s) you marked in Question 2?

(Select only ONE answer)

- | | |
|---|-------------------------------------|
| <input type="radio"/> Urban/metropolitan area | <input type="radio"/> Rural area |
| <input type="radio"/> Suburban area | <input type="radio"/> I do not know |

5. What is the total length of time you have worked as a medication aide? (Select only ONE answer)

- | | | |
|--------------------------------------|--------------------------------|--|
| <input type="radio"/> 1 year or less | <input type="radio"/> 6 years | <input type="radio"/> 11 years |
| <input type="radio"/> 2 years | <input type="radio"/> 7 years | <input type="radio"/> 12 years |
| <input type="radio"/> 3 years | <input type="radio"/> 8 years | <input type="radio"/> 13 years |
| <input type="radio"/> 4 years | <input type="radio"/> 9 years | <input type="radio"/> 14 years |
| <input type="radio"/> 5 years | <input type="radio"/> 10 years | <input type="radio"/> 15 years or more |

6. Are you currently working as a medication aide?

(Select only ONE answer)

- Yes
- No

7. On average, how many hours do you work in a typical week as a medication aide?

- | | |
|-----------------------------------|--|
| <input type="radio"/> 1-5 hours | <input type="radio"/> 36-40 hours |
| <input type="radio"/> 6-10 hours | <input type="radio"/> 41-45 hours |
| <input type="radio"/> 11-15 hours | <input type="radio"/> 46-50 hours |
| <input type="radio"/> 16-20 hours | <input type="radio"/> 51-55 hours |
| <input type="radio"/> 21-25 hours | <input type="radio"/> 56-60 hours |
| <input type="radio"/> 26-30 hours | <input type="radio"/> 60 hours or more |
| <input type="radio"/> 31-35 hours | |

8. As a medication aide, how many hours did you work on the last shift you worked?

- Less than 1 hour
- 1 hour-4 hours
- 5-8 hours
- 9-12 hours
- 13-16 hours
- 17 hours or more

SECTION 1: WORK ENVIRONMENT *(continued)*

9. Which of the following **best** describes the ages of the clients to whom you administer medication? *(Select ALL that apply)*

- Newborns (less than 1 month)
- Infants/children (1 month-12 years)
- Adolescents (ages 13-18)
- Young adults (ages 19-30)
- Middle adults (ages 31-64)
- Older adults (ages 65-85)
- Elder adults (over the age of 85)

10. Which of the following **best** describes the condition of the clients to whom you administer medication? *(Select ALL that apply)*

- Well clients, possibly with minor illnesses
- OB (Maternity) clients
- Clients with chronic conditions
- Clients with acute conditions, including clients with medical, surgical or critical conditions
- Clients at end of life
- Clients with behavioral/emotional problems
- Other *(please specify)* _____

11. On average, how many clients do you administer medications to during a typical shift?

Write the number in the boxes, then fill in the corresponding oval below each box. Please use a zero in column 1 if less than 10.

0	0	
1	1	
2	2	
3	3	
4	4	
5	5	
6	6	
7	7	
8	8	
9	9	

12. On average, how many medications do you administer during a typical shift?

Write the number in the boxes, then fill in the corresponding oval below each box. Please use a zero in columns 1 and 2 if less than 10 or a zero in column 1 if less than 100.

0	0	0	
1	1	1	
2	2	2	
3	3	3	
4	4	4	
5	5	5	
6	6	6	
7	7	7	
8	8	8	
9	9	9	

SECTION 2: KNOWLEDGE NEEDED

INSTRUCTIONS: This section contains a list of knowledge statements needed by certified entry-level medication aides (with less than 12 months of work experience) to perform work. Please rate the overall importance of the possession of the knowledge by newly certified medication aides for safe and effective work, regardless of specific work setting. *(Select one importance rating per knowledge statement.)*

For each activity fill in one oval for an importance rating using the following scale:

0 = Not Performed	3 = Moderately Important
1 = Not Important	4 = Very Important
2 = Minimally Important	5 = Extremely Important

KNOWLEDGE OF:

	0 Not Performed	1 Not Important	2 Minimally Important	3 Moderately Important	4 Very Important	5 Extremely Important
1. "rights" of medication administration	0	1	2	3	4	5
2. abdominal thrust technique	0	1	2	3	4	5
3. adverse reactions to medications	0	1	2	3	4	5
4. approved medical abbreviations and symbols	0	1	2	3	4	5
5. assisting client with reading and understanding labels	0	1	2	3	4	5
6. assisting client with self-administration of medication	0	1	2	3	4	5
7. authorized duties	0	1	2	3	4	5
8. barriers to communication	0	1	2	3	4	5
9. baseline client health status/condition	0	1	2	3	4	5
10. basic medical terminology	0	1	2	3	4	5
11. buccal administration	0	1	2	3	4	5
12. change in client health status/condition	0	1	2	3	4	5
13. clean technique	0	1	2	3	4	5
14. client allergies	0	1	2	3	4	5

SECTION 2: KNOWLEDGE NEEDED *(continued)*

INSTRUCTIONS: This section contains a list of knowledge statements needed by certified entry-level medication aides (with less than 12 months of work experience) to perform work. Please rate the overall importance of the possession of the knowledge by newly certified medication aides for safe and effective work, regardless of specific work setting. *(Select one importance rating per knowledge statement.)*

For each activity fill in one oval for an importance rating using the following scale:

- | | |
|--------------------------------|---------------------------------|
| 0 = Not Performed | 3 = Moderately Important |
| 1 = Not Important | 4 = Very Important |
| 2 = Minimally Important | 5 = Extremely Important |

KNOWLEDGE OF:

	0 Not Performed	1 Not Important	2 Minimally Important	3 Moderately Important	4 Very Important	5 Extremely Important
15. client identification methods	0	1	2	3	4	5
16. client medication schedule	0	1	2	3	4	5
17. client positioning for medication administration	0	1	2	3	4	5
18. client rights	0	1	2	3	4	5
19. client teaching	0	1	2	3	4	5
20. client's right to self-administer medications	0	1	2	3	4	5
21. client-specific instructions	0	1	2	3	4	5
22. communicating information to healthcare team	0	1	2	3	4	5
23. complete medication orders	0	1	2	3	4	5
24. conditions making medications dangerous to use	0	1	2	3	4	5
25. confidentiality	0	1	2	3	4	5
26. controlled medications	0	1	2	3	4	5
27. controlled substances and medicines	0	1	2	3	4	5
28. controlled substance counts	0	1	2	3	4	5
29. controlled versus non-controlled medication	0	1	2	3	4	5
30. cultural and religious sensitivity and awareness	0	1	2	3	4	5
31. dating medications	0	1	2	3	4	5
32. disinfection process	0	1	2	3	4	5
33. documentation of medication administration	0	1	2	3	4	5
34. documentation of response to medication	0	1	2	3	4	5
35. documentation requirements	0	1	2	3	4	5
36. documenting the effectiveness of medication	0	1	2	3	4	5
37. ear administration	0	1	2	3	4	5
38. effective communication (e.g., verbal and non-verbal)	0	1	2	3	4	5
39. effective communication techniques and resources	0	1	2	3	4	5
40. effectiveness of medication	0	1	2	3	4	5
41. effects of medication interactions	0	1	2	3	4	5
42. efficient medication administration practices	0	1	2	3	4	5
43. expected response to medication	0	1	2	3	4	5
44. expiration date location	0	1	2	3	4	5
45. expiration dates of medications	0	1	2	3	4	5
46. eye administration	0	1	2	3	4	5
47. factors that effect medication utilization in the body	0	1	2	3	4	5
48. FERPA	0	1	2	3	4	5
49. giving report	0	1	2	3	4	5
50. herbal supplements	0	1	2	3	4	5
51. HIPAA	0	1	2	3	4	5
52. how to respond to signs and symptoms of high blood sugar	0	1	2	3	4	5
53. how to respond to signs and symptoms of low blood sugar	0	1	2	3	4	5
54. incident/accident reports	0	1	2	3	4	5
55. incident/accidents	0	1	2	3	4	5
56. infection control	0	1	2	3	4	5
57. initiating emergency care procedures for a choking client	0	1	2	3	4	5

SECTION 2: KNOWLEDGE NEEDED *(continued)*

INSTRUCTIONS: This section contains a list of knowledge statements needed by certified entry-level medication aides (with less than 12 months of work experience) to perform work. Please rate the overall importance of the possession of the knowledge by newly certified medication aides for safe and effective work, regardless of specific work setting. *(Select one importance rating per knowledge statement.)*

For each activity fill in one oval for an importance rating using the following scale:

- | | |
|--------------------------------|---------------------------------|
| 0 = Not Performed | 3 = Moderately Important |
| 1 = Not Important | 4 = Very Important |
| 2 = Minimally Important | 5 = Extremely Important |

KNOWLEDGE OF:

	0 Not Performed	1 Not Important	2 Minimally Important	3 Moderately Important	4 Very Important	5 Extremely Important
58. medical terminology	0	1	2	3	4	5
59. medication administration	0	1	2	3	4	5
60. medication administration and documentation	0	1	2	3	4	5
61. medication administration equipment and supplies	0	1	2	3	4	5
62. medication administration measurements	0	1	2	3	4	5
63. medication administration rights	0	1	2	3	4	5
64. medication administration safety and hazards	0	1	2	3	4	5
65. medication brand/generic names	0	1	2	3	4	5
66. medication changes on medication record	0	1	2	3	4	5
67. medication classifications	0	1	2	3	4	5
68. medication contraindications	0	1	2	3	4	5
69. medication directions	0	1	2	3	4	5
70. medication disposal documentation	0	1	2	3	4	5
71. medication disposal procedures	0	1	2	3	4	5
72. medication error	0	1	2	3	4	5
73. medication error documentation	0	1	2	3	4	5
74. medication error reporting	0	1	2	3	4	5
75. medication measurement devices	0	1	2	3	4	5
76. medication orders	0	1	2	3	4	5
77. medication preparation techniques	0	1	2	3	4	5
78. medication purpose	0	1	2	3	4	5
79. medication records	0	1	2	3	4	5
80. medication related symptoms that require monitoring of signs	0	1	2	3	4	5
81. medication restocking	0	1	2	3	4	5
82. medication security	0	1	2	3	4	5
83. medication side effects	0	1	2	3	4	5
84. medication storage	0	1	2	3	4	5
85. medication storage requirements	0	1	2	3	4	5
86. medication warning labels	0	1	2	3	4	5
87. medications that require measurements prior to administration	0	1	2	3	4	5
88. metered dose inhaler	0	1	2	3	4	5
89. nasal administration	0	1	2	3	4	5
90. nebulized administration	0	1	2	3	4	5
91. non-routine medication administration	0	1	2	3	4	5
92. normal blood sugar ranges	0	1	2	3	4	5
93. normal medication dosages	0	1	2	3	4	5
94. normal versus abnormal values	0	1	2	3	4	5
95. normal vital sign ranges	0	1	2	3	4	5
96. oral administration	0	1	2	3	4	5
97. oral medication administration techniques	0	1	2	3	4	5
98. organizing medication administration to multiple clients	0	1	2	3	4	5
99. own limitations and when to seek assistance	0	1	2	3	4	5
100. oxygen administration equipment and supplies	0	1	2	3	4	5

SECTION 2: KNOWLEDGE NEEDED *(continued)*

INSTRUCTIONS: This section contains a list of knowledge statements needed by certified entry-level medication aides (with less than 12 months of work experience) to perform work. Please rate the overall importance of the possession of the knowledge by newly certified medication aides for safe and effective work, regardless of specific work setting. *(Select one importance rating per knowledge statement.)*

For each activity fill in one oval for an importance rating using the following scale:

- | | |
|--------------------------------|---------------------------------|
| 0 = Not Performed | 3 = Moderately Important |
| 1 = Not Important | 4 = Very Important |
| 2 = Minimally Important | 5 = Extremely Important |

	0 Not Performed	1 Not Important	2 Minimally Important	3 Moderately Important	4 Very Important	5 Extremely Important
101. oxygen administration safety considerations	0	1	2	3	4	5
102. policies and procedures	0	1	2	3	4	5
103. prescription/Over the Counter (OTC)	0	1	2	3	4	5
104. prioritizing care	0	1	2	3	4	5
105. procedure to implement the “Rights” of medication administration	0	1	2	3	4	5
106. procedures to follow when an incident/accident occurs	0	1	2	3	4	5
107. procedures to follow when client receives wrong medication	0	1	2	3	4	5
108. procedures to follow when client refuses to take medication	0	1	2	3	4	5
109. procedures to follow when client’s medication is not administered	0	1	2	3	4	5
110. procedures to follow when client’s medication in not available	0	1	2	3	4	5
111. procedures used for medication refills, new orders and changes	0	1	2	3	4	5
112. procedures used when medication is discontinued	0	1	2	3	4	5
113. professional ethics	0	1	2	3	4	5
114. proper techniques for disposal of syringes	0	1	2	3	4	5
115. purpose of medication	0	1	2	3	4	5
116. receiving report	0	1	2	3	4	5
117. rectal administration	0	1	2	3	4	5
118. reporting information to nurse	0	1	2	3	4	5
119. reporting procedures	0	1	2	3	4	5
120. reporting requirements and process	0	1	2	3	4	5
121. requirements for medication labels	0	1	2	3	4	5
122. resource information for medication (e.g., drug book)	0	1	2	3	4	5
123. roles and responsibilities of healthcare team	0	1	2	3	4	5
124. safe practice	0	1	2	3	4	5
125. scope of practice	0	1	2	3	4	5
126. setting professional boundaries	0	1	2	3	4	5
127. side effects	0	1	2	3	4	5
128. side effects of medication	0	1	2	3	4	5
129. signs and/or symptoms of high blood sugar	0	1	2	3	4	5
130. signs and/or symptoms of low blood sugar	0	1	2	3	4	5
131. special administration information	0	1	2	3	4	5
132. special administration instructions	0	1	2	3	4	5
133. special documentation instructions	0	1	2	3	4	5
134. special medication instructions	0	1	2	3	4	5
135. sublingual administration	0	1	2	3	4	5
136. team building	0	1	2	3	4	5
137. techniques to verify medication is swallowed	0	1	2	3	4	5
138. three medication administration safety checks	0	1	2	3	4	5
139. time management skills	0	1	2	3	4	5
140. timeliness of medication record review	0	1	2	3	4	5
141. topical administration	0	1	2	3	4	5
142. transdermal administration	0	1	2	3	4	5
143. transdermal medication safety considerations	0	1	2	3	4	5
144. types of client abuse	0	1	2	3	4	5
145. types of client exploitation	0	1	2	3	4	5

SECTION 2: KNOWLEDGE NEEDED *(continued)*

INSTRUCTIONS: This section contains a list of knowledge statements needed by certified entry-level medication aides (with less than 12 months of work experience) to perform work. Please rate the overall importance of the possession of the knowledge by newly certified medication aides for safe and effective work, regardless of specific work setting. *(Select one importance rating per knowledge statement.)*

For each activity fill in one oval for an importance rating using the following scale:

- | | |
|-------------------------|--------------------------|
| 0 = Not Performed | 3 = Moderately Important |
| 1 = Not Important | 4 = Very Important |
| 2 = Minimally Important | 5 = Extremely Important |

KNOWLEDGE OF:

	0 Not Performed	1 Not Important	2 Minimally Important	3 Moderately Important	4 Very Important	5 Extremely Important
146. types of client neglect	0	1	2	3	4	5
147. types of medication errors	0	1	2	3	4	5
148. types of medication interactions	0	1	2	3	4	5
149. use of medication records and other forms	0	1	2	3	4	5
150. vaginal administration	0	1	2	3	4	5
151. various medication forms	0	1	2	3	4	5
152. vital sign equipment and use	0	1	2	3	4	5
153. vital signs	0	1	2	3	4	5
154. wasteful care practices (e.g., overuse of products)	0	1	2	3	4	5
155. when not to administer medications	0	1	2	3	4	5

SECTION 3: EDUCATIONAL BACKGROUND

1. Which of the following certifications/training have you completed? *(Select ALL that apply)*

- | | |
|---|--|
| <input type="checkbox"/> Basic life support (CPR) | <input type="checkbox"/> Feeding assistant |
| <input type="checkbox"/> Medications | <input type="checkbox"/> Hospice care |
| <input type="checkbox"/> First aid | <input type="checkbox"/> Dialysis technician |
| <input type="checkbox"/> Basic nurse aide/assistant (NA) | <input type="checkbox"/> Intravenous therapy |
| <input type="checkbox"/> Advanced or skilled nurse aide/assistant (NA Advanced) | <input type="checkbox"/> Alzheimer's care |
| <input type="checkbox"/> Phlebotomy | <input type="checkbox"/> Restorative care |
| <input type="checkbox"/> Home health aide | <input type="checkbox"/> Pharmacy technician |
| <input type="checkbox"/> Geriatric care | <input type="checkbox"/> Wound care |
| <input type="checkbox"/> Psychiatric/mental health aide | <input type="checkbox"/> RN |
| <input type="checkbox"/> Food Handler's Card | <input type="checkbox"/> LPN/VN |
| <input type="checkbox"/> Other <i>(Please specify)</i> _____ | |

2. Were you required to complete medication aide training?

- No
- Yes → **please indicate the number of total hours for classroom and/or clinical training.**

Write the number in the boxes, then fill in the corresponding oval below each box. Please use a zero in column 1 if less than 10.

		hours
0	0	
1	1	
2	2	
3	3	
4	4	
5	5	
6	6	
7	7	
8	8	
9	9	

3. Which of the following was a requirement for becoming a medication aide? *(Select ALL that apply)*

- High school diploma/GED
- Certified Nursing Aide/Assistant (NA)
- Home Health Aide
- Assessment test (e.g., math, reading, writing)
- Other *(Please specify)* _____

4. Where did you obtain your medication aide training? *(Select ALL that apply)*

- No training was required
- Training offered by employer
- Training offered by community or junior college
- Training offered by technical or vocational school/college
- Training received while in military
- Training sponsored by State agency
- Private training program
- Other *(Please specify)* _____

SECTION 3: EDUCATIONAL BACKGROUND *(continued)*

5. On average, how many hours per year of medication aide continuing education are you required to have?

Continuing education is not required

If required, how many hours? →

Write the number in the boxes, then fill in the corresponding oval below each box. Please use a zero in column 1 if less than 10.

		hours
0	0	
1	1	
2	2	
3	3	
4	4	
5	5	
6	6	
7	7	
8	8	
9	9	

6. Have you been accepted into a formal nursing education program? (Select ALL that apply)

Yes → In which of the following programs are you accepted? (Select only ONE answer)

- Practical/Vocational Nursing – LPN or LVN
- Registered Nurse – Diploma
- Registered Nurse – Associate Degree Program
- Registered Nurse – Bachelor’s Degree Program
- Other (Please specify) _____

- No, I have applied but am not currently enrolled.
- No, I am working on pre-requisites requirements.
- No

SECTION 4: PERSONAL BACKGROUND

Answers to the following questions will be used to described the individuals completing this questionnaire. No individual answers will be reported.

1. What is your gender?

- Male
- Female

2. Select below the answer most descriptive of your racial/ethnic background. (Select only ONE answer)

- African American
- Asian Indian
- Asian Other
- Hispanic
- Native American
- Pacific Islander
- White - Not of Hispanic Origin
- Other, please specify: _____

3. Is English the first language you learned to speak?

- Yes
- No

4. What is your age in years?

		years
0	0	
1	1	
2	2	
3	3	
4	4	
5	5	
6	6	
7	7	
8	8	
9	9	

SECTION 5: COMMENTS

If we need more information to clarify the results of this study, we may call some persons. If you are willing to be contacted, please **provide your phone number below**:

Daytime or Early Evening
Phone Number with Area Code:

()	-			-				
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

You may write any comments or suggestions that you have in the space below.

After you complete this form, please return it in the enclosed postage-paid envelope.

Thank you for your assistance with this important study!

APPENDIX D: MAILING CORRESPONDENCES

(5" x 7")



July 2011

Dear Nurse Administrator:

Your facility has been randomly selected to participate in a very important study and will be contacted in the next few weeks. The National Council of State Boards of Nursing (NCSBN®) is conducting a survey to determine the knowledge needed by certified entry-level medication aides with less than 12 months of work experience post-certification. The results of the study will assist in evaluating the content for the Medication Aide Certification Examination (MACE®), the examination used for certification of entry-level medication aides in many states/jurisdictions. In order to properly evaluate the content of the examination, **information must be collected from certified entry-level medication aides. If you do not employ entry-level medication aides, we welcome information from more experienced medication aides employed in your facility.**

The surveys will be sent to professionals who work in selected health care settings. As a representative of your work setting, your participation is crucial in ensuring the survey results accurately describe the knowledge needed by certified entry-level medication aides across a variety of work settings. It is vital that NCSBN receives surveys from entry-level medication aides. In about a week, you will receive a **packet containing surveys to be given to two separate medication aides employed in your facility. The surveys for entry-level medication aides can also be distributed to medication aides with any level of experience in the event that your facility does not employ entry-level medication aides.** The surveys will take your employees about twenty minutes to complete.

We appreciate your help in giving these surveys to your staff members. The information provided will be kept confidential. Only combined survey results will be reported. The information provided will help to facilitate safe client care through successful medication aide certification.

If you have any questions, please contact the Examinations Department at nnaap_maceinfo@ncsbn.org. Thank you in advance for your participation!

Sincerely,

NNAAP® & MACE®, Examinations Department
National Council of State Boards of Nursing
Chicago, Illinois

National Council of State Boards of Nursing
790 5th Street Northwest
New Brighton, MN 55112



July 2011

Dear Nurse Administrator:

You and your facility have an opportunity to participate in a unique study. The National Council of State Boards of Nursing (NCSBN®) is conducting a survey to determine the knowledge needed by certified entry-level medication aides with less than 12 months of work experience post-certification. The results of the study will assist in evaluating the content for the Medication Aide Certification Examination (MACE®), the examination used for certification of entry-level medication aides. In order to properly evaluate the content of the examination, **information must be collected from entry-level medication aides. If you do not employ entry-level medication aides, we welcome information from more experienced medication aides employed in your facility.** For the purposes of this study, medication aides are individuals, regardless of title, who assist with the delivery of medication to clients.

The surveys were sent to professionals who work in selected health care settings. As a representative of your work setting, your participation is crucial in ensuring the survey results accurately describe the knowledge needed by certified entry-level medication aides across a variety of work settings. In order to accurately identify current knowledge needed, it is vital that NCSBN receives surveys from certified medication aides. Each survey gives us valuable information about the important work performed by medication aides who care for clients in different settings.

Please select **two entry-level medication aides to participate in the survey. The surveys for entry-level medication aides can also be distributed to medication aides with any level of experience in the event that your facility does not employ entry-level medication aides.** The survey will take your employees about 20 minutes to complete. Please distribute the surveys, allow time for completing the survey at the time of receipt, and ask the participants to return it in the enclosed postage-paid envelope and mail promptly. The envelopes are not sealed, and you are welcome to look through the contents. The information provided will be kept confidential and will help facilitate safe client care through medication aide certification. Thank you, in advance, for your participation!

Sincerely,

NNAAP® and MACE® Examinations Department
National Council of State Boards of Nursing
Chicago, Illinois



111 E. Wacker Drive, Suite 2900
Chicago, IL 60601-4277
312.525.3600 NCSBN
866.293.9600 Toll-free
312.279.1036 Examinations Department Fax

August 2011

Dear Nurse Administrator:

Last week the National Council of State Boards of Nursing (NCSBN[®]) sent you surveys which were to be distributed to two certified entry-level medication aides in your facility. If you do not employ entry-level medication aides, we welcome information from more experienced medication aides employed in your facility. **If you have already completed the surveys**, please accept our sincere thanks.

If you did not receive the survey or have misplaced the packet, please e-mail us at nnaap_maceinfo@ncsbn.org, and you will be sent a replacement.

Sincerely,

NNAAP[®] & MACE[®], Examinations Department
National Council of State Boards of Nursing
Chicago, Illinois

National Council of State Boards of Nursing
790 5th Street Northwest
New Brighton, MN 55112



111 E. Wacker Drive, Suite 2900
Chicago, IL 60601-4277
312.525.3600 NCSBN
866.293.9600 Toll-free
312.279.1036 Examinations Department Fax

August 2011

Dear Nurse Administrator:

Several weeks ago the National Council of State Boards of Nursing (NCSBN®) sent you surveys which were to be distributed to two certified entry-level medication aides in your facility. If you do not employ entry-level medication aides, we welcome information from more experienced medication aides employed in your facility. **If you have already completed the surveys**, please accept our sincere thanks.

If you did not receive the survey or have misplaced the packet, please e-mail us at nnaap_maceinfo@ncsbn.org, and you will be sent a replacement.

Sincerely,

NNAAP® & MACE®, Examinations Department
National Council of State Boards of Nursing
Chicago, Illinois

National Council of State Boards of Nursing
790 5th Street Northwest
New Brighton, MN 55112

APPENDIX E: KNOWLEDGE STATEMENTS SORTED BY MEAN IMPORTANCE

Knowledge Statements Sorted by Mean Importance	
Knowledge of	Importance
Controlled Medications	4.88
Controlled Substance Counts	4.88
Controlled Substances and Medicines	4.88
Documentation of Medication Administration	4.86
Procedures to Follow When Client Receives Wrong Medication	4.85
Initiating Emergency Care Procedures for a Choking Client	4.84
Confidentiality	4.84
"Rights" of Medication Administration	4.84
Client Allergies	4.82
Medication Administration	4.82
Medication Error	4.81
Medication Administration and Documentation	4.81
Medication Changes On Medication Record	4.81
How to Respond to Signs and Symptoms of High Blood Sugar	4.81
Medication Error Reporting	4.81
How to Respond to Signs and Symptoms of Low Blood Sugar	4.81
Medication Error Documentation	4.80
Conditions Making Medications Dangerous to Use	4.79
Infection Control	4.78
Complete Medication Orders	4.77
Medication Directions	4.77
HIPAA	4.76
Medication Administration Measurements	4.76
Types of Medication Errors	4.75
Medication Administration Rights	4.75
When Not to Administer Medications	4.75
Signs and/or Symptoms of Low Blood Sugar	4.75
Client Identification Methods	4.74
Signs and/or Symptoms of High Blood Sugar	4.74
Communicating Information to Health Care Team	4.74
Medication Administration Safety and Hazards	4.73
Reporting Information to Nurse	4.73
Client Medication Schedule	4.73
Medication Related Symptoms that Require Monitoring of Signs	4.73
Clean Technique	4.72
Procedures to Follow When an Incident/Accident Occurs	4.72
Medications that Require Measurements Prior to Administration	4.72
Organizing Medication Administration to Multiple Clients	4.71
Documentation of Response to Medication	4.71
Medication Orders	4.71
Client Rights	4.71

Knowledge Statements Sorted by Mean Importance	
Knowledge of	Importance
Change In Client Health Status/Condition	4.71
Procedure to Implement the "Rights" of Medication Administration	4.71
Adverse Reactions to Medications	4.71
Medication Warning Labels	4.71
Types of Client Abuse	4.71
Medication Security	4.70
Own Limitations and When to Seek Assistance	4.70
Types of Client Neglect	4.70
Safe Practice	4.70
Side Effects of Medication	4.70
Effects of Medication Interactions	4.69
Three Medication Administration Safety Checks	4.69
Proper Techniques for Disposal of Syringes	4.69
Documentation Requirements	4.68
Expiration Dates of Medications	4.68
Vital Signs	4.68
Procedures to Follow When Client's Medication is Not Administered	4.67
Medication Records	4.67
Efficient Medication Administration Practices	4.66
Medication Side Effects	4.66
Types of Medication Interactions	4.65
Procedures to Follow When Client's Medication is Not Available	4.65
Side Effects	4.64
Special Medication Instructions	4.64
Types of Client Exploitation	4.64
Dating Medications	4.64
Incidents/Accidents	4.63
Disinfection Process	4.62
Medication Administration Equipment and Supplies	4.62
Documenting the Effectiveness of Medication	4.62
Incident/Accident Reports	4.61
Professional Ethics	4.61
Procedures to Follow When Client Refuses to Take Medication	4.61
Special Documentation Instructions	4.61
Special Administration Instructions	4.60
Controlled Versus Noncontrolled Medication	4.60
Oral Medication Administration Techniques	4.60
Medication Preparation Techniques	4.60
Oral Administration	4.60
Vital Sign Equipment and Use	4.59
Medication Measurement Devices	4.59
Expiration Date Location	4.59
Special Administration Information	4.59

Knowledge Statements Sorted by Mean Importance	
Knowledge of	Importance
Procedures Used for Medication Refills, New Orders and Changes	4.59
Effectiveness of Medication	4.58
Techniques to Verify Medication is Swallowed	4.58
Requirements for Medication Labels	4.58
Normal Vital Sign Ranges	4.58
Normal Blood Sugar Ranges	4.58
Effective Communication (e.g., Verbal and Nonverbal)	4.58
Use of Medication Records and Other Forms	4.57
Normal Medication Dosages	4.57
Client Positioning for Medication Administration	4.57
Oxygen Administration Equipment and Supplies	4.57
Medication Disposal Documentation	4.57
Medication Contraindications	4.57
Procedures Used When Medication is Discontinued	4.56
Medication Disposal Procedures	4.56
Policies and Procedures	4.56
Medication Storage	4.56
Scope of Practice	4.55
Oxygen Administration Safety Considerations	4.55
Reporting Procedures	4.55
Roles and Responsibilities of Health Care Team	4.55
Transdermal Medication Safety Considerations	4.55
Medication Storage Requirements	4.54
Purpose of Medication	4.54
Medication Purpose	4.53
Resource Information for Medication (e.g., Drug Book)	4.53
Sublingual Administration	4.52
Eye Administration	4.51
Approved Medical Abbreviations and Symbols	4.51
Metered Dose Inhaler	4.51
Receiving Report	4.51
Setting Professional Boundaries	4.51
Giving Report	4.51
Transdermal Administration	4.50
Prioritizing Care	4.49
Reporting Requirements and Process	4.49
Expected Response to Medication	4.49
Medication Brand/Generic Names	4.48
Effective Communication Techniques and Resources	4.48
Nebulized Administration	4.48
Baseline Client Health Status/Condition	4.47
Authorized Duties	4.47
Nonroutine Medication Administration	4.46

Knowledge Statements Sorted by Mean Importance	
Knowledge of	Importance
Rectal Administration	4.46
Timeliness of Medication Record Review	4.44
Nasal Administration	4.44
Medication Classifications	4.44
Normal Versus Abnormal Values	4.43
Time Management Skills	4.43
Basic Medical Terminology	4.43
Topical Administration	4.42
Various Medication Forms	4.42
Prescription/Over the Counter (OTC)	4.42
Medication Restocking	4.41
Medical Terminology	4.40
Client-Specific Instructions	4.40
Factors that Effect Medication Utilization In the Body	4.39
Vaginal Administration	4.38
Ear Administration	4.37
Wasteful Care Practices (e.g., Overuse of Products)	4.36
Barriers to Communication	4.34
Team Building	4.30
FERPA	4.30
Buccal Administration	4.30
Client's Right to Self-Administer Medications	4.27
Assisting Client with Self-Administration of Medication	4.19
Client Teaching	4.15
Abdominal Thrust Technique	4.13
Cultural and Religious Sensitivity and Awareness	4.08
Assisting Client with Reading and Understanding Labels	3.99
Herbal Supplements	3.81

APPENDIX F: SUBGROUP ANALYSIS: MEAN IMPORTANCE BY YEARS OF EXPERIENCE

Subgroup Analysis: Mean Importance by Years of Experience					
Knowledge of:	<=1 year	2-5 years	6-10 years	11-14 years	>=15 years
"Rights" of Medication Administration	4.77	4.82	4.87	4.90	4.88
Abdominal Thrust Technique	4.19	4.06	4.15	4.09	4.24
Adverse Reactions to Medications	4.66	4.68	4.75	4.74	4.74
Approved Medical Abbreviations and Symbols	4.48	4.47	4.54	4.55	4.59
Assisting Client with Reading and Understanding Labels	3.98	3.90	4.05	4.12	4.08
Assisting Client with Self-Administration of Medication	4.21	4.14	4.20	4.33	4.25
Authorized Duties	4.47	4.43	4.49	4.53	4.51
Barriers to Communication	4.38	4.34	4.32	4.31	4.32
Baseline Client Health Status/Condition	4.48	4.44	4.48	4.50	4.53
Basic Medical Terminology	4.34	4.38	4.46	4.55	4.52
Buccal Administration	4.23	4.26	4.32	4.34	4.42
Change In Client Health Status/Condition	4.68	4.68	4.75	4.73	4.74
Clean Technique	4.72	4.69	4.71	4.80	4.80
Client Allergies	4.81	4.81	4.83	4.85	4.84
Client Identification Methods	4.75	4.70	4.79	4.79	4.77
Client Medication Schedule	4.77	4.71	4.75	4.68	4.74
Client Positioning for Medication Administration	4.55	4.54	4.60	4.56	4.64
Client Rights	4.68	4.72	4.68	4.74	4.73
Client Teaching	4.12	4.11	4.17	4.19	4.26
Client's Right to Self-Administer Medications	4.27	4.25	4.29	4.24	4.33
Client-Specific Instructions	4.37	4.37	4.42	4.42	4.47
Communicating Information to Health Care Team	4.77	4.73	4.74	4.71	4.72
Complete Medication Orders	4.79	4.75	4.78	4.81	4.81
Conditions Making Medications Dangerous to Use	4.78	4.79	4.78	4.79	4.81
Confidentiality	4.86	4.84	4.83	4.88	4.84
Controlled Medications	4.87	4.87	4.90	4.90	4.89
Controlled Substances and Medicines	4.85	4.87	4.90	4.90	4.87
Controlled Substance Counts	4.89	4.86	4.89	4.89	4.89
Controlled Versus Noncontrolled Medication	4.60	4.59	4.61	4.64	4.61
Cultural and Religious Sensitivity and Awareness	3.99	4.06	4.09	4.14	4.15
Dating Medications	4.61	4.64	4.65	4.63	4.65
Disinfection Process	4.55	4.63	4.60	4.69	4.68
Documentation of Medication Administration	4.86	4.86	4.86	4.85	4.88
Documentation of Response to Medication	4.73	4.69	4.72	4.73	4.71
Documentation Requirements	4.70	4.65	4.70	4.67	4.72
Documenting the Effectiveness of Medication	4.57	4.60	4.62	4.65	4.68
Ear Administration	4.31	4.33	4.42	4.42	4.46
Effective Communication (e.g., Verbal and Nonverbal)	4.57	4.55	4.59	4.61	4.60
Effective Communication Techniques and Resources	4.46	4.45	4.51	4.53	4.52
Effectiveness of Medication	4.58	4.55	4.60	4.62	4.64

Subgroup Analysis: Mean Importance by Years of Experience					
Knowledge of:	<=1 year	2-5 years	6-10 years	11-14 years	>=15 years
Effects of Medication Interactions	4.68	4.66	4.72	4.75	4.72
Efficient Medication Administration Practices	4.66	4.64	4.67	4.71	4.71
Expected Response to Medication	4.47	4.45	4.50	4.57	4.55
Expiration Date Location	4.59	4.57	4.61	4.60	4.59
Expiration Dates of Medications	4.66	4.67	4.71	4.65	4.67
Eye Administration	4.47	4.48	4.55	4.58	4.56
Factors that Effect Medication Utilization In the Body	4.42	4.35	4.39	4.47	4.44
FERPA	4.38	4.26	4.28	4.32	4.33
Giving Report	4.51	4.50	4.50	4.48	4.54
Herbal Supplements	3.79	3.76	3.82	3.84	3.92
HIPAA	4.76	4.76	4.78	4.72	4.79
How to Respond to Signs and Symptoms of High Blood Sugar	4.79	4.79	4.82	4.80	4.85
How to Respond to Signs and Symptoms of Low Blood Sugar	4.80	4.78	4.83	4.81	4.83
Incident/Accident Reports	4.61	4.60	4.62	4.64	4.63
Incidents/Accidents	4.63	4.60	4.64	4.65	4.69
Infection Control	4.76	4.77	4.78	4.81	4.79
Initiating Emergency Care Procedures for a Choking Client	4.86	4.83	4.83	4.88	4.88
Medical Terminology	4.42	4.33	4.46	4.47	4.46
Medication Administration	4.82	4.82	4.79	4.84	4.85
Medication Administration and Documentation	4.83	4.81	4.79	4.83	4.80
Medication Administration Equipment and Supplies	4.63	4.60	4.60	4.66	4.66
Medication Administration Measurements	4.79	4.75	4.76	4.72	4.81
Medication Administration Rights	4.75	4.75	4.75	4.78	4.75
Medication Administration Safety and Hazards	4.74	4.73	4.73	4.75	4.74
Medication Brand/Generic Names	4.43	4.45	4.50	4.47	4.60
Medication Changes On Medication Record	4.79	4.81	4.80	4.82	4.85
Medication Classifications	4.37	4.43	4.42	4.49	4.54
Medication Contraindications	4.55	4.54	4.55	4.61	4.65
Medication Directions	4.78	4.75	4.76	4.73	4.85
Medication Disposal Documentation	4.55	4.55	4.58	4.50	4.64
Medication Disposal Procedures	4.57	4.56	4.56	4.52	4.61
Medication Error	4.81	4.82	4.80	4.82	4.83
Medication Error Documentation	4.82	4.79	4.78	4.77	4.82
Medication Error Reporting	4.79	4.81	4.81	4.78	4.82
Medication Measurement Devices	4.57	4.59	4.58	4.58	4.65
Medication Orders	4.71	4.69	4.69	4.71	4.79
Medication Preparation Techniques	4.58	4.58	4.58	4.59	4.69
Medication Purpose	4.51	4.50	4.56	4.49	4.58
Medication Records	4.66	4.67	4.67	4.59	4.71
Medication Related Symptoms that Require Monitoring of Signs	4.70	4.70	4.73	4.75	4.80
Medication Restocking	4.36	4.39	4.41	4.42	4.48

Subgroup Analysis: Mean Importance by Years of Experience					
Knowledge of:	<=1 year	2-5 years	6-10 years	11-14 years	>=15 years
Medication Security	4.70	4.69	4.72	4.72	4.71
Medication Side Effects	4.61	4.63	4.68	4.69	4.71
Medication Storage	4.56	4.54	4.58	4.50	4.58
Medication Storage Requirements	4.53	4.53	4.54	4.55	4.57
Medication Warning Labels	4.69	4.70	4.71	4.71	4.72
Medications that Require Measurements Prior to Administration	4.69	4.71	4.72	4.69	4.77
Metered Dose Inhaler	4.43	4.47	4.54	4.59	4.61
Nasal Administration	4.38	4.42	4.45	4.51	4.52
Nebulized Administration	4.44	4.45	4.50	4.49	4.57
Nonroutine Medication Administration	4.40	4.47	4.43	4.49	4.54
Normal Blood Sugar Ranges	4.56	4.54	4.61	4.58	4.64
Normal Medication Dosages	4.52	4.58	4.55	4.52	4.67
Normal Versus Abnormal Values	4.40	4.44	4.42	4.37	4.50
Normal Vital Sign Ranges	4.55	4.57	4.58	4.53	4.63
Oral Administration	4.54	4.60	4.59	4.59	4.67
Oral Medication Administration Techniques	4.58	4.60	4.59	4.58	4.67
Organizing Medication Administration to Multiple Clients	4.73	4.69	4.72	4.71	4.74
Own Limitations and When to Seek Assistance	4.73	4.66	4.73	4.67	4.76
Oxygen Administration Equipment and Supplies	4.63	4.53	4.59	4.52	4.61
Oxygen Administration Safety Considerations	4.55	4.54	4.57	4.49	4.60
Policies and Procedures	4.56	4.53	4.55	4.53	4.65
Prescription/Over the Counter (OTC)	4.38	4.39	4.41	4.44	4.52
Prioritizing Care	4.49	4.48	4.49	4.49	4.54
Procedure to Implement the "Rights" of Medication Administration	4.67	4.71	4.75	4.66	4.70
Procedures to Follow When an Incident/Accident Occurs	4.72	4.71	4.70	4.70	4.76
Procedures to Follow When Client Receives Wrong Medication	4.82	4.84	4.84	4.87	4.89
Procedures to Follow When Client Refuses to Take Medication	4.57	4.62	4.59	4.55	4.68
Procedures to Follow When Client's Medication is Not Administered	4.64	4.68	4.65	4.66	4.71
Procedures to Follow When Client's Medication is Not Available	4.63	4.65	4.63	4.64	4.72
Procedures Used for Medication Refills, New Orders and Changes	4.52	4.59	4.60	4.58	4.64
Procedures Used When Medication is Discontinued	4.51	4.58	4.59	4.49	4.59
Professional Ethics	4.55	4.59	4.63	4.60	4.70
Proper Techniques for Disposal of Syringes	4.67	4.65	4.70	4.71	4.76
Purpose of Medication	4.50	4.51	4.57	4.54	4.59
Receiving Report	4.48	4.47	4.55	4.54	4.56
Rectal Administration	4.42	4.43	4.46	4.45	4.58
Reporting Information to Nurse	4.70	4.70	4.76	4.72	4.80
Reporting Procedures	4.52	4.54	4.56	4.55	4.64

Subgroup Analysis: Mean Importance by Years of Experience					
Knowledge of:	<=1 year	2-5 years	6-10 years	11-14 years	>=15 years
Reporting Requirements and Process	4.47	4.47	4.49	4.50	4.55
Requirements for Medication Labels	4.51	4.55	4.65	4.58	4.64
Resource Information for Medication (e.g., Drug Book)	4.53	4.49	4.54	4.52	4.61
Roles and Responsibilities of Health Care Team	4.55	4.53	4.54	4.55	4.60
Safe Practice	4.68	4.69	4.70	4.70	4.73
Scope of Practice	4.56	4.54	4.51	4.60	4.61
Setting Professional Boundaries	4.49	4.50	4.48	4.47	4.60
Side Effects	4.58	4.62	4.67	4.68	4.71
Side Effects of Medication	4.63	4.68	4.73	4.73	4.75
Signs and/or Symptoms of High Blood Sugar	4.75	4.71	4.75	4.75	4.80
Signs and/or Symptoms of Low Blood Sugar	4.75	4.72	4.75	4.78	4.78
Special Administration Information	4.58	4.57	4.60	4.59	4.62
Special Administration Instructions	4.59	4.59	4.62	4.58	4.64
Special Documentation Instructions	4.60	4.59	4.62	4.56	4.66
Special Medication Instructions	4.63	4.63	4.66	4.61	4.66
Sublingual Administration	4.46	4.50	4.53	4.55	4.60
Team Building	4.29	4.28	4.30	4.33	4.37
Techniques to Verify Medication is Swallowed	4.56	4.57	4.58	4.58	4.64
Three Medication Administration Safety Checks	4.69	4.67	4.69	4.75	4.74
Time Management Skills	4.42	4.40	4.40	4.51	4.49
Timeliness of Medication Record Review	4.44	4.42	4.41	4.45	4.54
Topical Administration	4.36	4.40	4.41	4.46	4.55
Transdermal Administration	4.46	4.46	4.54	4.55	4.57
Transdermal Medication Safety Considerations	4.50	4.51	4.58	4.59	4.63
Types of Client Abuse	4.66	4.68	4.72	4.75	4.77
Types of Client Exploitation	4.60	4.60	4.65	4.71	4.73
Types of Client Neglect	4.67	4.67	4.72	4.69	4.78
Types of Medication Errors	4.76	4.73	4.76	4.76	4.79
Types of Medication Interactions	4.64	4.62	4.67	4.67	4.72
Use of Medication Records and Other Forms	4.58	4.55	4.57	4.62	4.60
Vaginal Administration	4.37	4.34	4.40	4.39	4.44
Various Medication Forms	4.44	4.37	4.44	4.38	4.51
Vital Sign Equipment and Use	4.56	4.56	4.63	4.60	4.66
Vital Signs	4.64	4.67	4.70	4.70	4.69
Wasteful Care Practices (e.g., Overuse of Products)	4.38	4.35	4.33	4.35	4.40
When Not to Administer Medications	4.73	4.74	4.76	4.74	4.79

APPENDIX G: SUBGROUP ANALYSIS: MEAN IMPORTANCE BY WORK SETTING¹

Subgroup Analysis: Mean Importance by Work Setting – Hospitals*		Hcensup	Hchedep	Hemeroo	Hextcar	HinpHos	HitnCar	HitnCar	Hltdel	Hmedsur	Hnurses	Hopeero	Hpeatr	Hposmat	Hpsychi	Hreero	Hoher
Knowledge of:	Count	26	11	8	370	57	112	33	1	19	9	5	3	2	45	34	216
"Rights" of Medication Administration	4.96	5.00	4.63	4.82	4.87	5.00	4.97	5.00	5.00	4.94	4.89	4.75	4.50	5.00	4.89	5.00	4.85
Abdominal Thrust Technique	4.18	4.40	4.33	4.05	4.04	4.25	4.38	5.00	5.00	4.24	4.67	4.25	3.00	5.00	4.12	5.00	4.26
Adverse Reactions To Medications	4.64	4.89	4.38	4.73	4.71	4.64	4.68	5.00	5.00	4.56	5.00	5.00	3.67	5.00	4.73	5.00	4.71
Approved Medical Abbreviations And Symbols	4.50	4.89	4.86	4.48	4.42	4.45	4.34	5.00	5.00	4.94	4.67	5.00	4.50	5.00	4.58	4.50	4.60
Assisting Client with Reading And Understanding Labels	4.23	4.00	3.29	4.06	3.96	3.56	4.21	4.21	3.00	4.13	4.33	3.75	3.50	4.50	4.05	4.50	4.11
Assisting Client with Self-Administration Of Medication	4.18	4.14	3.86	4.23	4.15	3.80	4.23	3.00	3.00	4.38	4.57	4.67	4.00	5.00	4.13	4.50	4.31
Authorized Duties	4.48	4.90	4.00	4.45	4.41	4.27	4.37	5.00	5.00	4.65	4.44	4.75	4.00	5.00	4.52	4.50	4.55
Barriers to Communication	4.35	4.80	4.00	4.38	4.33	4.36	4.67	5.00	5.00	4.63	4.75	5.00	4.00	5.00	4.29	4.50	4.38
Baseline Client Health Status/Condition	4.50	4.70	4.50	4.53	4.43	4.45	4.69	5.00	5.00	4.94	4.63	4.75	4.00	5.00	4.42	4.50	4.54
Basic Medical Terminology	4.58	4.44	4.25	4.48	4.34	4.36	4.63	5.00	5.00	4.53	4.56	4.00	3.00	5.00	4.59	4.50	4.45
Buccal Administration	4.29	4.67	4.00	4.40	4.27	4.25	4.69	5.00	5.00	4.27	4.44	4.67	3.50	5.00	4.32	5.00	4.24
Change in Client Health Status/Condition	4.80	4.80	4.75	4.71	4.71	4.73	4.82	5.00	5.00	4.94	4.67	5.00	4.00	5.00	4.71	5.00	4.73
Clean Technique	4.75	5.00	4.38	4.75	4.70	4.73	4.84	5.00	5.00	4.82	4.89	4.75	5.00	5.00	4.71	4.50	4.77
Client Allergies	4.88	4.90	4.50	4.84	4.86	4.91	4.88	5.00	5.00	4.94	4.78	5.00	4.00	5.00	4.84	5.00	4.82
Client Identification Methods	4.92	4.70	4.38	4.76	4.73	4.73	4.66	5.00	5.00	4.82	4.56	4.75	5.00	5.00	4.84	5.00	4.76
Client Medication Schedule	4.79	4.90	4.50	4.73	4.70	4.73	4.84	5.00	5.00	4.75	4.78	4.50	5.00	5.00	4.89	4.50	4.75
Client Positioning For Medication Administration	4.88	4.70	4.00	4.73	4.55	4.91	4.63	5.00	5.00	4.59	4.67	4.25	4.00	5.00	4.40	5.00	4.58
Client Rights	4.88	4.90	4.75	4.75	4.71	4.91	4.81	5.00	5.00	4.76	4.78	4.75	4.50	5.00	4.76	5.00	4.77
Client Teaching	4.40	4.30	3.88	4.21	4.14	4.50	4.52	5.00	5.00	4.53	4.38	4.33	3.50	5.00	4.38	4.50	4.32
Client's Right To Self-Administer Medications	4.38	4.57	4.38	4.33	4.24	4.64	4.44	5.00	5.00	4.25	4.44	4.33	3.50	5.00	4.13	4.50	4.34
Client-Specific Instructions	4.57	4.44	4.13	4.48	4.36	4.36	4.53	5.00	5.00	4.19	4.78	4.50	3.50	5.00	4.52	4.50	4.46
Communicating Information to Health Care Team	4.65	4.89	4.63	4.80	4.67	4.82	4.66	5.00	5.00	4.88	4.89	4.50	4.00	5.00	4.74	5.00	4.76

¹ For complete names of work setting subgroups, refer to Table 14.

Subgroup Analysis: Mean Importance by Work Setting – Hospitals*

Knowledge of:	Hcnsup	HcheDep	Hemeroo	HextCar	HinpHos	HitmCar	HlabDel	HmedSur	HnurseR	HopeRo	Hpatr	HpostMat	Hpsychi	Hreero	HOther	
Count	26	11	8	370	57	112	33	1	19	9	5	3	2	45	34	216
Complete Medication Orders	4.95	4.88	4.63	4.78	4.80	4.91	4.83	5.00	4.94	4.71	5.00	4.33	5.00	4.81	5.00	4.80
Conditions Making Medications Dangerous to Use	4.83	4.80	4.71	4.82	4.84	4.80	4.83	5.00	4.81	4.88	5.00	5.00	5.00	4.89	5.00	4.77
Confidentiality	5.00	5.00	4.75	4.87	4.86	4.91	4.91	5.00	5.00	5.00	4.75	5.00	5.00	4.86	5.00	4.92
Controlled Medications	4.92	5.00	4.88	4.90	4.88	4.64	4.97	5.00	4.88	5.00	5.00	5.00	5.00	5.00	5.00	4.89
Controlled Substances and Medicines	4.91	5.00	4.88	4.92	4.88	4.64	5.00	5.00	4.88	5.00	5.00	4.50	5.00	5.00	5.00	4.89
Controlled Substance Counts	4.96	5.00	4.25	4.87	4.75	4.45	4.94	5.00	4.81	5.00	5.00	4.50	5.00	4.95	5.00	4.89
Controlled Versus Non Controlled Medication	4.76	4.50	4.13	4.59	4.56	4.27	4.71	5.00	4.59	5.00	4.67	3.50	5.00	4.70	4.50	4.65
Cultural and Religious Sensitivity and Awareness	4.35	4.30	3.38	4.18	3.96	4.00	4.06	5.00	4.06	4.22	4.33	3.00	4.50	4.30	4.50	4.11
Dating Medications	4.67	4.80	4.43	4.66	4.72	4.67	4.79		4.88	4.86	4.50	5.00	5.00	4.71	5.00	4.72
Disinfection Process	4.74	4.80	4.38	4.66	4.50	4.55	4.74	5.00	4.69	5.00	5.00	4.00	5.00	4.72	4.50	4.71
Documentation of Medication Administration	4.96	4.80	4.75	4.87	4.86	4.91	5.00	5.00	4.94	5.00	5.00	5.00	5.00	4.95	5.00	4.89
Documentation of Response to Medication	4.83	4.67	4.63	4.74	4.75	4.91	4.81	5.00	5.00	5.00	5.00	5.00	5.00	4.81	5.00	4.81
Documentation Requirements	4.74	4.70	4.38	4.72	4.66	4.70	4.68	5.00	4.93	4.78	4.75	4.50	5.00	4.84	5.00	4.76
Documenting the Effectiveness of Medication	4.70	4.56	4.38	4.67	4.73	4.82	4.74	5.00	4.67	4.89	5.00	4.50	5.00	4.79	5.00	4.64
Ear Administration	4.64	4.56	3.88	4.44	4.48	4.40	4.57	5.00	4.40	4.78	4.67	3.50	5.00	4.58	4.00	4.46
Effective Communication (e.g., Verbal and Non-Verbal)	4.48	4.60	4.13	4.62	4.45	4.45	4.56	5.00	4.71	4.89	4.75	4.50	5.00	4.75	4.50	4.61
Effective Communication Techniques and Resources	4.48	4.50	4.25	4.57	4.45	4.45	4.63	5.00	4.76	4.56	4.25	4.50	5.00	4.68	4.50	4.54
Effectiveness of Medication	4.73	4.60	4.13	4.65	4.69	4.64	4.77	5.00	4.76	4.88	4.75	5.00	5.00	4.81	4.50	4.67
Effects of Medication Interactions	4.86	4.50	4.13	4.73	4.76	4.73	4.84	5.00	4.82	4.89	5.00	4.50	5.00	4.84	4.50	4.72
Efficient Medication Administration Practices	4.83	4.80	4.50	4.72	4.71	4.64	4.67	5.00	4.69	5.00	5.00	5.00	5.00	4.84	5.00	4.73
Expected Response to Medication	4.39	4.67	4.14	4.53	4.50	4.60	4.61	5.00	4.59	5.00	5.00	4.50	5.00	4.61	5.00	4.58
Expiration Date Location	4.50	4.90	4.50	4.65	4.71	4.82	4.74	5.00	4.88	5.00	4.75	5.00	5.00	4.59	4.50	4.72
Expiration Dates of Medications	4.52	4.90	4.63	4.71	4.75	4.91	4.72	5.00	4.88	4.89	4.50	5.00	5.00	4.61	5.00	4.73
Eye Administration	4.50	4.70	4.25	4.57	4.46	4.73	4.69	5.00	4.47	4.78	4.67	3.50	5.00	4.53	4.50	4.58
Factors that Effect Medication Utilization In the Body	4.39	4.50	4.38	4.49	4.57	4.55	4.56	5.00	4.47	4.89	4.67	3.00	5.00	4.60	4.50	4.46
FERPA	4.44	4.75	4.17	4.38	4.43	4.50	4.44		4.73	4.57	5.00	4.00	5.00	4.53	5.00	4.30
Giving Report	4.81	4.56	4.50	4.59	4.67	4.82	4.55	5.00	4.76	4.89	4.25	4.00	5.00	4.51	5.00	4.50

Subgroup Analysis: Mean Importance by Work Setting – Hospitals*																
Knowledge of:	Hcnsup	HcheDep	Hemeroo	HextCar	HinpHos	HitmCar	HitmCar	HlabDel	HmedSur	HnurseR	HopeRo	Hpeatri	HposMat	Hpsychi	Hreero	HOther
Count	26	11	8	370	57	112	33	1	19	9	5	3	2	45	34	216
Herbal Supplements	3.58	4.43	3.71	3.89	3.87	4.18	4.19	5.00	3.93	3.83	3.67	1.50		3.65	4.00	4.04
HIPAA	4.90	4.90	4.50	4.82	4.67	4.82	4.71	5.00	4.88	5.00	4.75	2.00	5.00	4.77	5.00	4.81
How to Respond to Signs and Symptoms of High Blood Sugar	4.92	4.89	4.50	4.85	4.80	4.82	4.94	5.00	4.82	5.00	5.00	3.50	5.00	4.83	4.50	4.83
How to Respond to Signs and Symptoms of Low Blood Sugar	4.92	4.89	4.50	4.85	4.80	4.82	4.94	5.00	4.82	5.00	5.00	3.50	5.00	4.76	4.50	4.83
Incident/Accident Reports	4.78	4.63	4.38	4.66	4.48	4.73	4.69	5.00	4.76	5.00	5.00	4.50	5.00	4.79	5.00	4.69
Incidents/Accidents	4.74	4.63	4.25	4.68	4.59	4.73	4.72	5.00	4.76	5.00	5.00	4.50	5.00	4.82	4.50	4.74
Infection Control	4.91	5.00	4.25	4.82	4.73	4.82	4.72	5.00	4.82	5.00	5.00	4.50	5.00	4.82	4.50	4.80
Initiating Emergency Care Procedures for a Choking Client	4.91	5.00	4.38	4.88	4.82	4.91	4.84	5.00	4.94	4.89	5.00	4.50	5.00	4.89	4.50	4.87
Medical Terminology	4.73	4.44	4.13	4.47	4.37	4.55	4.42	5.00	4.47	5.00	5.00	4.50	5.00	4.48	4.50	4.42
Medication Administration	4.83	4.90	4.50	4.82	4.85	5.00	4.87	5.00	5.00	5.00	5.00	5.00	5.00	4.84	5.00	4.85
Medication Administration and Documentation	4.79	4.90	4.50	4.82	4.76	4.73	4.84	5.00	5.00	5.00	5.00	5.00	5.00	4.82	4.50	4.83
Medication Administration Equipment and Supplies	4.71	4.78	4.38	4.66	4.55	4.73	4.58	5.00	4.71	4.89	4.50	4.00	5.00	4.61	4.50	4.70
Medication Administration Measurements	4.70	4.78	4.50	4.78	4.65	4.64	4.72	5.00	4.88	5.00	5.00	5.00	5.00	4.74	5.00	4.80
Medication Administration Rights	4.79	4.90	4.50	4.80	4.79	5.00	4.65	5.00	4.94	4.89	4.75	5.00	5.00	4.80	5.00	4.81
Medication Administration Safety and Hazards	4.79	4.80	4.75	4.74	4.70	4.91	4.71	5.00	4.76	4.78	4.75	4.33	5.00	4.73	5.00	4.81
Medication Brand/Generic Names	4.46	4.70	4.50	4.55	4.53	4.73	4.61	5.00	4.50	4.88	3.75	3.50	5.00	4.66	5.00	4.47
Medication Changes on Medication Record	4.87	4.90	4.75	4.82	4.85	4.91	4.94	5.00	4.94	5.00	4.75	4.50	5.00	4.80	5.00	4.83
Medication Classifications	4.62	4.50	4.25	4.52	4.42	4.55	4.57	5.00	4.56	4.67	4.67	4.50	4.50	4.59	4.50	4.50
Medication Contraindications	4.74	4.67	4.43	4.63	4.55	4.80	4.53	5.00	4.81	5.00	5.00	4.50	5.00	4.68	5.00	4.65
Medication Directions	4.78	4.80	4.50	4.79	4.79	4.73	4.71	5.00	4.75	4.89	4.75	5.00	5.00	4.77	5.00	4.86
Medication Disposal Documentation	4.74	4.56	4.13	4.61	4.57	4.50	4.55	5.00	4.63	4.88	4.50	5.00	5.00	4.64	5.00	4.67
Medication Disposal Procedures	4.70	4.67	4.13	4.61	4.50	4.40	4.61	5.00	4.56	4.89	4.75	5.00	5.00	4.66	5.00	4.64
Medication Error	4.83	5.00	4.63	4.84	4.82	4.91	4.90	5.00	4.94	4.89	5.00	5.00	5.00	4.80	5.00	4.84
Medication Error Documentation	4.87	5.00	4.63	4.81	4.80	5.00	4.90	5.00	5.00	4.89	5.00	5.00	5.00	4.82	5.00	4.84
Medication Error Reporting	4.83	5.00	4.50	4.82	4.79	4.91	4.87	5.00	4.94	4.89	5.00	5.00	5.00	4.80	5.00	4.85
Medication Measurement Devices	4.74	4.78	4.38	4.62	4.59	4.73	4.61	5.00	4.82	4.78	4.67	5.00	5.00	4.65	4.50	4.71

Subgroup Analysis: Mean Importance by Work Setting – Hospitals*

Knowledge of:	Hcnsup	Hchedep	Hemeroo	Hextcar	HinpHos	Htncar	Htncar	Hlabeled	Hmedsur	Hnurses	Hopeero	Hpatri	Hpostmat	Hpsychi	Hreero	Hoher
Count	26	11	8	370	57	112	33	1	19	9	5	3	2	45	34	216
Medication Orders	4.86	4.89	4.50	4.75	4.71	4.91	4.87	5.00	4.94	4.75	4.75	5.00	5.00	4.77	5.00	4.78
Medication Preparation Techniques	4.74	4.67	4.25	4.65	4.52	4.55	4.53	5.00	4.82	4.78	4.67	5.00	5.00	4.61	4.50	4.67
Medication Purpose	4.48	4.78	4.38	4.60	4.55	4.64	4.71	5.00	4.63	4.67	4.25	5.00	4.50	4.66	4.50	4.60
Medication Records	4.61	4.60	4.63	4.73	4.71	4.82	4.74	5.00	4.88	4.89	5.00	5.00	5.00	4.75	5.00	4.77
Medication Related Symptoms that Require Monitoring of Signs	4.78	4.78	4.38	4.78	4.77	4.55	4.81	5.00	4.63	4.89	5.00	4.50	5.00	4.82	4.50	4.79
Medication Restocking	4.61	4.70	4.00	4.46	4.39	4.45	4.35	5.00	4.50	4.88	4.67	4.50	5.00	4.48	4.50	4.54
Medication Security	4.77	4.90	4.29	4.75	4.68	4.64	4.77	5.00	4.76	4.67	4.75	4.50	5.00	4.79	5.00	4.77
Medication Side Effects	4.77	4.56	4.38	4.72	4.71	4.82	4.84	5.00	4.65	5.00	4.75	5.00	5.00	4.82	4.50	4.69
Medication Storage	4.61	4.60	4.50	4.60	4.59	4.73	4.68	5.00	4.69	4.56	5.00	4.50	5.00	4.68	5.00	4.68
Medication Storage Requirements	4.73	4.60	4.25	4.56	4.57	4.64	4.55	5.00	4.69	4.78	4.67	4.50	5.00	4.66	5.00	4.64
Medication Warning Labels	4.74	4.80	4.38	4.76	4.75	4.82	4.90	5.00	4.81	5.00	4.75	5.00	5.00	4.80	5.00	4.76
Medications that Require Measurements Prior to Administration	4.82	4.80	4.50	4.78	4.80	4.82	4.87	5.00	4.82	4.89	5.00	5.00	5.00	4.74	5.00	4.79
Metered Dose Inhaler	4.58	4.67	4.00	4.55	4.54	4.55	4.67	5.00	4.60	4.63	4.67	3.50	5.00	4.57	4.50	4.64
Nasal Administration	4.40	4.60	4.13	4.51	4.38	4.50	4.45		4.50	4.78	4.25	3.50	5.00	4.41	4.50	4.53
Nebulized Administration	4.45	4.56	4.14	4.54	4.45	4.55	4.52	5.00	4.36	4.75	4.67	4.00	5.00	4.53	4.50	4.56
Non-Routine Medication Administration	4.48	4.40	3.88	4.51	4.41	4.36	4.52	5.00	4.13	4.67	3.75	4.00	5.00	4.56	5.00	4.58
Normal Blood Sugar Ranges	4.67	4.78	4.25	4.61	4.54	4.50	4.58		4.60	4.78	4.75	3.50	5.00	4.51	4.00	4.64
Normal Medication Dosages	4.52	4.67	4.25	4.62	4.64	4.64	4.62	5.00	4.47	4.78	4.75	4.00	5.00	4.53	4.00	4.65
Normal Versus Abnormal Values	4.52	4.56	4.13	4.48	4.55	4.40	4.46		4.75	4.67	4.75	3.50	5.00	4.51	4.00	4.50
Normal Vital Sign Ranges	4.62	4.70	4.25	4.62	4.62	4.45	4.52	5.00	4.53	4.89	4.75	4.00	5.00	4.50	4.00	4.60
Oral Administration	4.54	4.70	3.88	4.62	4.57	4.55	4.65	5.00	4.60	4.78	4.50	4.00	5.00	4.67	4.00	4.69
Oral Medication Administration Techniques	4.57	4.70	4.13	4.63	4.67	4.55	4.63	5.00	4.67	4.78	4.67	3.50	5.00	4.66	4.50	4.69
Organizing Medication Administration to Multiple Clients	4.82	4.56	4.88	4.78	4.72	5.00	4.86	5.00	4.88	5.00	5.00	3.50	5.00	4.84	5.00	4.78
Own Limitations and When to Seek Assistance	4.75	4.80	4.50	4.75	4.70	4.73	4.77	5.00	4.94	5.00	5.00	4.00	5.00	4.84	4.50	4.77
Oxygen Administration Equipment and Supplies	4.71	4.63	4.38	4.61	4.60	4.64	4.67	5.00	4.81	4.88	5.00	4.00	4.50	4.46	4.50	4.65
Oxygen Administration Safety Considerations	4.59	4.89	4.13	4.62	4.23	4.82	4.67	5.00	4.86	4.43	5.00	4.00	5.00	4.33	5.00	4.61

Subgroup Analysis: Mean Importance by Work Setting – Hospitals*																
Knowledge of:	Hcnsup	HcheDep	Hemeroo	HextCar	HinpHos	HitmCar	HlabDel	HmedSur	HNurser	Hopeero	Hpeatri	HposMat	Hpsychi	Hreero	HOther	
Count	26	11	8	370	57	112	33	1	19	9	5	3	2	45	34	216
Policies and Procedures	4.57	4.78	4.50	4.63	4.40	4.55	4.67	5.00	4.69	4.78	5.00	4.50	4.50	4.64	5.00	4.63
Prescription/Over the Counter (OTC)	4.57	4.33	4.25	4.50	4.33	4.55	4.56	5.00	4.62	4.33	4.25	3.00	4.00	4.30	4.50	4.55
Prioritizing Care	4.61	4.67	4.25	4.58	4.31	4.45	4.53	5.00	4.75	4.44	4.50	4.00	4.00	4.55	5.00	4.61
Procedure to Implement the "Rights" of Medication Administration	4.79	4.67	4.50	4.76	4.68	4.91	4.82	5.00	4.88	4.78	4.75	5.00	5.00	4.63	5.00	4.76
Procedures to Follow When an Incident/Accident Occurs	4.75	4.89	4.50	4.76	4.69	4.90	4.78		4.88	4.78	5.00	5.00	4.50	4.72	5.00	4.81
Procedures to Follow When Client Receives Wrong Medication	4.79	5.00	4.63	4.88	4.84	5.00	4.84	5.00	4.93	4.89	5.00	5.00	5.00	4.88	5.00	4.91
Procedures to Follow When Client Refuses to Take Medication	4.71	4.70	4.38	4.65	4.64	4.73	4.63	5.00	4.67	4.78	4.75	4.50	5.00	4.67	5.00	4.72
Procedures to Follow When Client's Medication is Not Administered	4.71	4.78	4.63	4.74	4.69	4.82	4.69	5.00	4.80	4.89	5.00	5.00	5.00	4.74	5.00	4.73
Procedures to Follow When Client's Medication is Not Available	4.67	4.60	4.75	4.73	4.76	4.73	4.78	5.00	4.73	4.75	4.75	5.00	4.50	4.72	5.00	4.77
Procedures Used for Medication Refills, New Orders and Changes	4.63	4.80	4.38	4.64	4.58	4.64	4.63	5.00	4.71	4.71	4.50	4.00	5.00	4.64	5.00	4.71
Procedures Used When Medication is Discontinued	4.42	4.60	4.50	4.62	4.45	4.60	4.58		4.79	4.86	4.50	4.50	5.00	4.63	5.00	4.69
Professional Ethics	4.54	4.44	4.25	4.64	4.41	4.64	4.73	5.00	4.69	5.00	5.00	4.50	5.00	4.65	5.00	4.69
Proper Techniques for Disposal of Syringes	4.73	4.78	4.00	4.67	4.62	4.40	4.89		4.64	4.25	4.75	4.50	4.00	4.71	5.00	4.70
Purpose of Medication	4.70	4.40	4.63	4.62	4.57	4.91	4.66	5.00	4.73	4.56	4.50	4.00	5.00	4.60	5.00	4.61
Receiving Report	4.71	4.78	4.25	4.57	4.43	4.55	4.64	5.00	4.60	4.75	4.67	3.50	5.00	4.57	4.50	4.57
Rectal Administration	4.57	4.75	3.63	4.51	4.38	4.33	4.72		4.69	4.50	4.67	5.00	5.00	4.47	4.50	4.58
Reporting Information to Nurse	4.78	4.70	4.63	4.78	4.84	4.90	4.72		4.94	4.89	5.00	5.00	5.00	4.74	5.00	4.76
Reporting Procedures	4.71	4.44	4.25	4.60	4.61	4.64	4.45	5.00	4.88	4.56	4.50	4.33	4.00	4.56	4.50	4.62
Reporting Requirements and Process	4.58	4.44	4.43	4.54	4.49	4.55	4.44	5.00	4.69	4.56	4.25	4.00	4.00	4.52	4.50	4.58
Requirements for Medication Labels	4.71	4.70	4.38	4.62	4.56	4.64	4.61	5.00	4.73	4.67	4.50	4.00	5.00	4.64	5.00	4.74
Resource Information for Medication (e.g., Drug Book)	4.63	4.40	4.63	4.61	4.45	4.73	4.71	5.00	4.73	4.78	4.00	4.00	5.00	4.67	5.00	4.58
Roles and Responsibilities of Health Care Team	4.70	4.70	4.75	4.63	4.53	4.91	4.48	5.00	4.69	4.78	4.75	4.50	5.00	4.60	5.00	4.65

Subgroup Analysis: Mean Importance by Work Setting – Hospitals*																
Knowledge of:	Hcnsup	HcheDep	HemeRoo	HEXtCar	Hlphos	HtmCar	HtmCar	HlabDel	HMedSur	HNurser	HopeRoo	HPeatrl	HPosMat	HPsychi	HReero	HOther
Count	26	11	8	370	57	112	33	1	19	9	5	3	2	45	34	216
Safe Practice	4.58	4.90	4.25	4.74	4.55	4.55	4.76	5.00	4.75	4.67	4.50	4.00	4.50	4.81	5.00	4.76
Scope of Practice	4.54	4.80	4.50	4.64	4.41	4.82	4.56	5.00	4.88	4.78	3.75	4.00	5.00	4.72	5.00	4.59
Setting Professional Boundaries	4.52	4.78	4.38	4.60	4.46	4.55	4.53	5.00	4.75	4.89	4.25	4.00	5.00	4.53	5.00	4.60
Side Effects	4.71	4.67	4.50	4.68	4.64	4.91	4.79	5.00	4.75	5.00	4.75	3.50	5.00	4.64	5.00	4.70
Side Effects of Medication	4.83	4.78	4.50	4.77	4.67	4.91	4.97	5.00	4.75	5.00	4.75	4.50	5.00	4.69	5.00	4.73
Signs and/or Symptoms of High Blood Sugar	4.87	4.90	4.63	4.76	4.80	4.91	4.82	5.00	4.75	4.89	4.75	4.50	4.50	4.81	4.50	4.77
Signs and/or Symptoms of Low Blood Sugar	4.83	4.90	4.50	4.76	4.76	4.91	4.85	5.00	4.75	4.78	4.75	4.50	4.50	4.78	4.50	4.77
Special Administration Information	4.71	4.60	4.38	4.66	4.56	4.45	4.66	5.00	4.81	4.78	4.50	5.00	5.00	4.60	5.00	4.66
Special Administration Instructions	4.71	4.70	4.38	4.70	4.56	4.45	4.66	5.00	4.81	4.78	4.50	5.00	5.00	4.58	5.00	4.69
Special Documentation Instructions	4.67	4.70	4.38	4.70	4.57	4.45	4.75	5.00	4.75	4.78	4.50	5.00	5.00	4.60	5.00	4.65
Special Medication Instructions	4.75	4.70	4.38	4.75	4.66	4.64	4.84	5.00	4.80	4.78	4.75	5.00	5.00	4.71	5.00	4.68
Sublingual Administration	4.71	4.70	4.25	4.62	4.57	4.40	4.58	5.00	4.63	4.75	4.67	4.00	4.50	4.43	4.50	4.59
Team Building	4.42	4.67	4.00	4.45	4.22	4.36	4.47	5.00	4.53	4.67	4.67	4.00	5.00	4.37	4.00	4.46
Techniques to Verify Medication is Swallowed	4.63	4.80	4.25	4.63	4.49	4.45	4.67	5.00	4.57	4.67	4.50	4.00	4.50	4.72	4.50	4.66
Three Medication Administration Safety Checks	4.63	4.80	4.75	4.74	4.69	4.73	4.75	5.00	4.94	4.89	5.00	4.00	5.00	4.70	5.00	4.74
Time Management Skills	4.54	4.50	4.13	4.53	4.31	4.36	4.48	5.00	4.53	4.78	4.50	4.50	5.00	4.60	4.50	4.56
Timeliness of Medication Record Review	4.50	4.33	4.25	4.51	4.45	4.55	4.56	5.00	4.50	4.67	4.50	3.50	5.00	4.58	5.00	4.55
Topical Administration	4.42	4.50	3.88	4.47	4.36	4.27	4.53	5.00	4.50	4.88	4.25	2.50	5.00	4.44	4.50	4.54
Transdermal Administration	4.58	4.50	3.75	4.54	4.38	4.11	4.57	5.00	4.50	4.78	4.67	3.50	5.00	4.59	4.50	4.60
Transdermal Medication Safety Considerations	4.54	4.60	4.25	4.59	4.41	4.33	4.57	5.00	4.63	4.78	4.67	3.50	5.00	4.59	4.50	4.64
Types of Client Abuse	4.75	5.00	4.75	4.78	4.78	4.82	4.66	5.00	4.75	4.78	4.75	4.50	5.00	4.72	5.00	4.78
Types of Client Exploitation	4.75	5.00	4.50	4.68	4.70	4.45	4.63	5.00	4.69	4.78	4.75	3.50	5.00	4.72	4.00	4.73
Types of Client Neglect	4.79	5.00	4.88	4.74	4.82	4.82	4.85	5.00	4.80	4.67	4.75	4.50	5.00	4.70	5.00	4.79
Types of Medication Errors	4.88	4.80	4.50	4.79	4.79	5.00	4.91	5.00	4.88	4.89	4.75	4.50	5.00	4.74	5.00	4.83
Types of Medication Interactions	4.75	4.80	4.38	4.72	4.69	4.91	4.78	5.00	4.81	4.89	4.50	4.50	5.00	4.70	5.00	4.72
Use of Medication Records and Other Forms	4.67	4.70	4.38	4.66	4.58	4.73	4.73	5.00	4.63	4.56	4.67	4.00	4.50	4.60	4.50	4.66
Vaginal Administration	4.52	4.83	4.38	4.47	4.43	4.56	4.48	5.00	4.69	4.88	4.33	3.00	5.00	4.48	4.00	4.49
Various Medication Forms	4.57	4.50	4.25	4.49	4.37	4.64	4.50	5.00	4.56	4.50	3.75	3.50	4.00	4.53	4.50	4.53

Subgroup Analysis: Mean Importance by Work Setting – Hospitals*		HGensup	HCheDep	HEmeroo	HExtCar	HinpHos	HtmCar	HtmCar	HitmCar	HlabDel	HMedSur	HNurser	HopeRoo	HPeatri	HPostMat	HPsychi	HReeroo	HOther
Knowledge of:																		
Count		26	11	8	370	57	112	33	1	19	9	5	3	2	45	34	216	
Vital Sign Equipment and Use		4.58	4.80	4.50	4.64	4.47	4.64	4.67	5.00	4.63	4.78	4.25	4.50	5.00	4.64	4.50	4.72	
Vital Signs		4.58	5.00	4.63	4.74	4.67	4.82	4.82	5.00	4.88	4.78	4.25	4.50	5.00	4.65	4.50	4.76	
Wasteful Care Practices (e.g., Overuse of Products)		4.50	4.50	4.25	4.45	4.22	4.64	4.53	5.00	4.44	4.67	4.25	4.33	5.00	4.49	5.00	4.42	
When Not to Administer Medications		4.75	4.60	4.75	4.82	4.76	4.91	4.88	5.00	4.94	5.00	4.75	4.50	5.00	4.83	5.00	4.81	

Subgroup Analysis: Mean Importance by Work Setting – Nursing Home										
Knowledge of:	NAssLiv	NDmnCar	NltmCar	NLonTer	NPerCar	NPsychi	NResCar	NSHCar	NSubAcu	NOther
Count	991	442	77	797	71	44	292	359	29	50
"Rights" of Medication Administration	4.84	4.90	4.81	4.89	4.91	4.89	4.87	4.87	4.81	4.77
Abdominal Thrust Technique	4.23	4.11	4.00	4.04	4.21	4.23	4.17	3.94	3.63	4.02
Adverse Reactions to Medications	4.74	4.70	4.60	4.73	4.75	4.89	4.71	4.69	4.64	4.79
Approved Medical Abbreviations and Symbols	4.52	4.53	4.53	4.52	4.54	4.57	4.55	4.57	4.45	4.55
Assisting Client with Reading and Understanding Labels	4.07	4.03	4.09	3.92	4.11	4.19	4.09	3.85	4.05	3.95
Assisting Client with Self-Administration of Medication	4.23	4.25	4.20	4.17	4.28	4.42	4.28	4.11	4.00	4.16
Authorized Duties	4.48	4.49	4.48	4.49	4.60	4.53	4.45	4.49	4.34	4.62
Barriers to Communication	4.40	4.38	4.36	4.35	4.51	4.50	4.50	4.27	4.24	4.24
Baseline Client Health Status/Condition	4.53	4.47	4.47	4.45	4.55	4.64	4.58	4.45	4.41	4.46
Basic Medical Terminology	4.46	4.45	4.57	4.46	4.56	4.65	4.49	4.50	4.32	4.57
Buccal Administration	4.33	4.33	4.37	4.36	4.50	4.35	4.35	4.32	4.18	4.20
Change In Client Health Status/Condition	4.74	4.74	4.70	4.72	4.79	4.77	4.76	4.69	4.61	4.78
Clean Technique	4.72	4.75	4.71	4.76	4.81	4.77	4.74	4.77	4.52	4.91
Client Allergies	4.81	4.85	4.87	4.86	4.91	4.82	4.86	4.86	4.79	4.90
Client Identification Methods	4.73	4.80	4.82	4.82	4.78	4.88	4.74	4.83	4.75	4.72
Client Medication Schedule	4.74	4.73	4.76	4.73	4.79	4.81	4.79	4.73	4.44	4.78
Client Positioning for Medication Administration	4.57	4.62	4.68	4.70	4.73	4.56	4.65	4.68	4.27	4.52
Client Rights	4.72	4.72	4.73	4.73	4.80	4.74	4.77	4.70	4.30	4.74
Client Teaching	4.17	4.19	4.28	4.11	4.16	4.40	4.24	4.06	3.71	4.23
Client's Right to Self-Administer Medications	4.30	4.29	4.30	4.25	4.33	4.39	4.36	4.22	3.87	4.30
Client-Specific Instructions	4.41	4.40	4.49	4.39	4.42	4.62	4.39	4.40	4.09	4.47
Communicating Information to Health Care Team	4.75	4.75	4.76	4.74	4.70	4.85	4.74	4.77	4.54	4.79
Complete Medication Orders	4.80	4.79	4.75	4.77	4.83	4.85	4.80	4.82	4.79	4.86
Conditions Making Medications Dangerous to Use	4.80	4.79	4.82	4.79	4.86	4.84	4.79	4.79	4.63	4.87
Confidentiality	4.84	4.85	4.88	4.86	4.87	4.86	4.85	4.86	4.63	4.91
Controlled Medications	4.88	4.90	4.88	4.91	4.88	4.88	4.91	4.91	4.81	4.89
Controlled Substances and Medicines	4.89	4.88	4.85	4.90	4.85	4.88	4.89	4.90	4.82	4.89
Controlled Substance Counts	4.90	4.86	4.82	4.89	4.82	4.90	4.86	4.89	4.79	4.88
Controlled Versus Non Controlled Medication	4.62	4.60	4.61	4.61	4.52	4.67	4.57	4.60	4.21	4.63
Cultural and Religious Sensitivity and Awareness	4.11	4.14	4.14	4.04	4.08	4.30	4.15	4.04	3.62	4.14
Dating Medications	4.67	4.65	4.68	4.63	4.76	4.72	4.70	4.59	4.19	4.71
Disinfection Process	4.63	4.67	4.62	4.65	4.68	4.72	4.65	4.64	4.42	4.73
Documentation of Medication Administration	4.87	4.87	4.84	4.86	4.88	4.88	4.88	4.88	4.75	4.87
Documentation of Response to Medication	4.74	4.72	4.66	4.70	4.80	4.79	4.75	4.71	4.48	4.76
Documentation Requirements	4.69	4.69	4.65	4.66	4.64	4.72	4.72	4.67	4.54	4.67
Documenting the Effectiveness of Medication	4.65	4.69	4.58	4.64	4.69	4.78	4.62	4.62	4.28	4.55
Ear Administration	4.41	4.41	4.38	4.40	4.46	4.46	4.43	4.38	4.00	4.31
Effective Communication (e.g., Verbal and Non-Verbal)	4.58	4.58	4.64	4.59	4.57	4.72	4.59	4.61	4.29	4.61
Effective Communication Techniques and Resources	4.49	4.51	4.59	4.49	4.48	4.65	4.53	4.53	4.00	4.44

Subgroup Analysis: Mean Importance by Work Setting – Nursing Home										
Knowledge of:	NAssLiv	NDmnCar	NltmCar	NLonTer	NPerCar	NPsychi	NResCar	NSkiCar	NSubAcu	NOther
Count	991	442	77	797	71	44	292	359	29	50
Effectiveness of Medication	4.60	4.61	4.67	4.61	4.71	4.74	4.61	4.64	4.36	4.58
Effects of Medication Interactions	4.72	4.69	4.68	4.69	4.78	4.79	4.70	4.70	4.50	4.74
Efficient Medication Administration Practices	4.69	4.66	4.67	4.68	4.66	4.74	4.70	4.68	4.44	4.76
Expected Response to Medication	4.51	4.49	4.51	4.51	4.55	4.67	4.51	4.46	4.25	4.45
Expiration Date Location	4.62	4.58	4.55	4.59	4.61	4.67	4.65	4.59	4.29	4.53
Expiration Dates of Medications	4.71	4.69	4.59	4.68	4.75	4.79	4.74	4.70	4.32	4.62
Eye Administration	4.56	4.55	4.46	4.54	4.58	4.56	4.53	4.54	4.21	4.55
Factors that Effect Medication Utilization In the Body	4.45	4.43	4.45	4.39	4.55	4.60	4.45	4.39	4.19	4.43
FERPA	4.31	4.31	4.33	4.32	4.43	4.36	4.35	4.28	3.93	4.23
Giving Report	4.57	4.59	4.52	4.53	4.66	4.65	4.60	4.50	4.31	4.45
Herbal Supplements	3.86	3.82	3.78	3.79	3.85	3.85	3.89	3.72	3.59	3.68
HIPAA	4.76	4.82	4.78	4.84	4.69	4.84	4.74	4.83	4.67	4.61
How to Respond to Signs and Symptoms of High Blood Sugar	4.84	4.85	4.78	4.80	4.83	4.90	4.84	4.80	4.85	4.89
How to Respond to Signs and Symptoms of Low Blood Sugar	4.84	4.86	4.81	4.80	4.84	4.88	4.85	4.79	4.85	4.88
Incident/Accident Reports	4.66	4.60	4.44	4.54	4.59	4.76	4.68	4.49	4.25	4.57
Incidents/Accidents	4.67	4.61	4.46	4.58	4.69	4.76	4.69	4.53	4.16	4.63
Infection Control	4.79	4.81	4.78	4.79	4.82	4.81	4.80	4.77	4.73	4.73
Initiating Emergency Care Procedures for a Choking Client	4.85	4.87	4.82	4.84	4.82	4.91	4.85	4.81	4.76	4.74
Medical Terminology	4.45	4.44	4.53	4.42	4.52	4.57	4.47	4.42	4.26	4.23
Medication Administration	4.82	4.84	4.82	4.83	4.82	4.88	4.86	4.85	4.70	4.80
Medication Administration and Documentation	4.83	4.85	4.85	4.81	4.85	4.84	4.83	4.86	4.70	4.78
Medication Administration Equipment and Supplies	4.63	4.68	4.64	4.63	4.60	4.58	4.62	4.68	4.48	4.59
Medication Administration Measurements	4.77	4.79	4.77	4.78	4.74	4.70	4.75	4.82	4.67	4.76
Medication Administration Rights	4.77	4.82	4.68	4.79	4.69	4.77	4.76	4.81	4.70	4.72
Medication Administration Safety and Hazards	4.74	4.78	4.73	4.75	4.75	4.81	4.75	4.74	4.50	4.71
Medication Brand/Generic Names	4.49	4.54	4.54	4.54	4.55	4.60	4.47	4.53	4.33	4.54
Medication Changes on Medication Record	4.83	4.84	4.83	4.81	4.82	4.81	4.81	4.85	4.78	4.83
Medication Classifications	4.48	4.52	4.49	4.45	4.51	4.81	4.50	4.42	4.04	4.50
Medication Contraindications	4.58	4.63	4.60	4.57	4.67	4.84	4.62	4.57	4.37	4.54
Medication Directions	4.79	4.80	4.69	4.78	4.81	4.84	4.78	4.80	4.67	4.74
Medication Disposal Documentation	4.61	4.59	4.51	4.57	4.57	4.77	4.60	4.56	4.27	4.54
Medication Disposal Procedures	4.57	4.61	4.53	4.56	4.55	4.74	4.58	4.61	4.22	4.52
Medication Error	4.82	4.84	4.78	4.83	4.84	4.88	4.86	4.86	4.74	4.77
Medication Error Documentation	4.81	4.81	4.75	4.81	4.80	4.88	4.82	4.83	4.50	4.76
Medication Error Reporting	4.81	4.82	4.75	4.82	4.79	4.90	4.83	4.86	4.67	4.76
Medication Measurement Devices	4.62	4.66	4.59	4.62	4.66	4.71	4.62	4.63	4.56	4.58
Medication Orders	4.73	4.72	4.70	4.71	4.74	4.84	4.78	4.74	4.68	4.65

Subgroup Analysis: Mean Importance by Work Setting – Nursing Home

Knowledge of:	NAssLiv	NDmnCar	NltmCar	NLonTer	NPerCar	NPsychi	NResCar	NSkiCar	NSubAcu	NOther
Count	991	442	77	797	71	44	292	359	29	50
Medication Preparation Techniques	4.60	4.62	4.58	4.62	4.64	4.77	4.60	4.63	4.56	4.68
Medication Purpose	4.56	4.59	4.53	4.54	4.63	4.84	4.58	4.52	4.37	4.57
Medication Records	4.70	4.68	4.68	4.66	4.72	4.77	4.75	4.64	4.41	4.57
Medication Related Symptoms that Require Monitoring of Signs	4.76	4.76	4.67	4.73	4.78	4.81	4.74	4.75	4.73	4.74
Medication Restocking	4.45	4.43	4.34	4.39	4.47	4.65	4.49	4.31	4.00	4.33
Medication Security	4.72	4.70	4.68	4.70	4.67	4.77	4.72	4.69	4.63	4.69
Medication Side Effects	4.68	4.68	4.68	4.66	4.79	4.81	4.70	4.63	4.58	4.62
Medication Storage	4.58	4.58	4.55	4.52	4.56	4.67	4.62	4.49	4.42	4.46
Medication Storage Requirements	4.58	4.57	4.53	4.51	4.62	4.74	4.61	4.51	4.35	4.48
Medication Warning Labels	4.71	4.76	4.74	4.72	4.84	4.86	4.78	4.71	4.64	4.70
Medications that Require Measurements Prior to Administration	4.73	4.76	4.74	4.74	4.78	4.81	4.76	4.74	4.61	4.74
Metered Dose Inhaler	4.55	4.54	4.49	4.50	4.59	4.68	4.54	4.50	4.26	4.42
Nasal Administration	4.49	4.47	4.42	4.46	4.52	4.62	4.45	4.43	4.12	4.30
Nebulized Administration	4.53	4.52	4.50	4.47	4.55	4.66	4.50	4.47	4.36	4.44
Non-Routine Medication Administration	4.47	4.53	4.47	4.49	4.55	4.62	4.46	4.51	4.35	4.33
Normal Blood Sugar Ranges	4.62	4.62	4.51	4.57	4.59	4.75	4.56	4.58	4.38	4.60
Normal Medication Dosages	4.60	4.57	4.51	4.59	4.60	4.70	4.61	4.58	4.26	4.61
Normal Versus Abnormal Values	4.51	4.52	4.45	4.43	4.52	4.56	4.44	4.40	4.13	4.45
Normal Vital Sign Ranges	4.60	4.60	4.62	4.61	4.65	4.74	4.57	4.62	4.48	4.52
Oral Administration	4.60	4.62	4.57	4.64	4.60	4.70	4.61	4.64	4.50	4.66
Oral Medication Administration Techniques	4.61	4.65	4.51	4.65	4.61	4.67	4.61	4.64	4.41	4.63
Organizing Medication Administration to Multiple Clients	4.71	4.72	4.66	4.74	4.77	4.88	4.74	4.73	4.73	4.55
Own Limitations and When to Seek Assistance	4.68	4.74	4.73	4.73	4.66	4.83	4.67	4.76	4.82	4.73
Oxygen Administration Equipment and Supplies	4.65	4.61	4.49	4.53	4.65	4.64	4.59	4.51	4.38	4.60
Oxygen Administration Safety Considerations	4.62	4.60	4.55	4.52	4.63	4.70	4.56	4.50	4.44	4.63
Policies and Procedures	4.56	4.56	4.60	4.59	4.61	4.72	4.57	4.59	4.54	4.57
Prescription/Over the Counter (OTC)	4.43	4.43	4.48	4.46	4.36	4.53	4.45	4.40	4.32	4.46
Prioritizing Care	4.52	4.50	4.51	4.51	4.48	4.63	4.54	4.50	4.48	4.58
Procedure to Implement the "Rights" of Medication Administration	4.74	4.78	4.76	4.74	4.78	4.82	4.75	4.74	4.64	4.70
Procedures to Follow When an Incident/Accident Occurs	4.73	4.75	4.72	4.72	4.79	4.80	4.77	4.71	4.57	4.62
Procedures to Follow When Client Receives Wrong Medication	4.84	4.88	4.84	4.86	4.88	4.88	4.86	4.88	4.75	4.73
Procedures to Follow When Client Refuses to Take Medication	4.61	4.64	4.59	4.62	4.65	4.70	4.67	4.64	4.41	4.61
Procedures to Follow When Client's Medication is Not Administered	4.66	4.69	4.61	4.69	4.72	4.80	4.72	4.69	4.48	4.59

Subgroup Analysis: Mean Importance by Work Setting – Nursing Home										
Knowledge of:	NAssLiv	NDmnCar	NltmCar	NLonTer	NPerCar	NPsychi	NResCar	NSkCar	NSubAcu	NOther
Count	991	442	77	797	71	44	292	359	29	50
Procedures to Follow When Client's Medication is Not Available	4.65	4.68	4.64	4.68	4.69	4.80	4.75	4.69	4.45	4.65
Procedures Used for Medication Refills, New Orders and Changes	4.62	4.59	4.54	4.59	4.69	4.79	4.65	4.59	4.29	4.57
Procedures Used When Medication is Discontinued	4.58	4.51	4.44	4.55	4.57	4.71	4.61	4.54	4.21	4.60
Professional Ethics	4.60	4.60	4.64	4.63	4.61	4.77	4.61	4.64	4.56	4.76
Proper Techniques for Disposal of Syringes	4.73	4.72	4.63	4.66	4.59	4.78	4.72	4.64	4.48	4.74
Purpose of Medication	4.57	4.56	4.55	4.56	4.64	4.70	4.59	4.52	4.28	4.57
Receiving Report	4.56	4.57	4.57	4.52	4.64	4.73	4.53	4.52	4.28	4.50
Rectal Administration	4.48	4.54	4.47	4.51	4.57	4.73	4.50	4.50	4.19	4.49
Reporting Information to Nurse	4.73	4.74	4.79	4.77	4.75	4.82	4.77	4.81	4.72	4.70
Reporting Procedures	4.59	4.58	4.57	4.58	4.61	4.70	4.62	4.59	4.42	4.62
Reporting Requirements and Process	4.51	4.55	4.55	4.50	4.54	4.59	4.50	4.53	4.41	4.48
Requirements for Medication Labels	4.62	4.65	4.57	4.60	4.62	4.70	4.63	4.55	4.37	4.51
Resource Information for Medication (e.g., Drug Book)	4.55	4.59	4.67	4.58	4.63	4.75	4.57	4.62	4.46	4.62
Roles and Responsibilities of Health Care Team	4.58	4.59	4.63	4.57	4.60	4.66	4.55	4.57	4.45	4.64
Safe Practice	4.71	4.72	4.70	4.72	4.69	4.82	4.65	4.73	4.76	4.66
Scope of Practice	4.55	4.57	4.62	4.62	4.55	4.77	4.52	4.67	4.63	4.62
Setting Professional Boundaries	4.51	4.53	4.55	4.53	4.58	4.66	4.56	4.55	4.50	4.57
Side Effects	4.67	4.68	4.61	4.67	4.76	4.82	4.66	4.66	4.50	4.62
Side Effects of Medication	4.72	4.73	4.71	4.71	4.78	4.82	4.72	4.70	4.54	4.60
Signs and/or Symptoms of High Blood Sugar	4.79	4.76	4.73	4.73	4.78	4.86	4.74	4.73	4.63	4.76
Signs and/or Symptoms of Low Blood Sugar	4.79	4.75	4.75	4.73	4.80	4.86	4.75	4.73	4.71	4.74
Special Administration Information	4.59	4.63	4.65	4.63	4.69	4.73	4.59	4.61	4.50	4.52
Special Administration Instructions	4.61	4.65	4.65	4.63	4.66	4.70	4.63	4.64	4.56	4.43
Special Documentation Instructions	4.63	4.63	4.65	4.64	4.70	4.79	4.65	4.64	4.46	4.43
Special Medication Instructions	4.66	4.68	4.72	4.67	4.75	4.73	4.70	4.67	4.54	4.58
Sublingual Administration	4.53	4.56	4.54	4.61	4.55	4.74	4.52	4.58	4.39	4.41
Team Building	4.33	4.38	4.37	4.35	4.38	4.61	4.36	4.29	4.30	4.32
Techniques to Verify Medication is Swallowed	4.58	4.62	4.53	4.64	4.49	4.77	4.63	4.59	4.59	4.48
Three Medication Administration Safety Checks	4.70	4.75	4.75	4.74	4.74	4.84	4.73	4.76	4.77	4.71
Time Management Skills	4.43	4.49	4.47	4.51	4.51	4.68	4.43	4.52	4.52	4.51
Timeliness of Medication Record Review	4.47	4.53	4.50	4.49	4.54	4.66	4.51	4.48	4.38	4.43
Topical Administration	4.46	4.44	4.38	4.47	4.43	4.66	4.44	4.45	4.10	4.40
Transdermal Administration	4.52	4.52	4.44	4.58	4.47	4.74	4.47	4.56	4.32	4.51
Transdermal Medication Safety Considerations	4.56	4.56	4.55	4.62	4.60	4.77	4.54	4.61	4.50	4.63
Types of Client Abuse	4.73	4.75	4.74	4.74	4.73	4.84	4.76	4.78	4.66	4.57
Types of Client Exploitation	4.65	4.66	4.67	4.65	4.70	4.81	4.66	4.71	4.56	4.57
Types of Client Neglect	4.72	4.75	4.75	4.73	4.82	4.86	4.76	4.75	4.64	4.54
Types of Medication Errors	4.77	4.78	4.73	4.78	4.82	4.88	4.78	4.81	4.64	4.71

Subgroup Analysis: Mean Importance by Work Setting – Nursing Home										
Knowledge of:	NAssLiv	NDmnCar	NltmCar	NLonTer	NPerCar	NPsychi	NResCar	NSkiCar	NSubAcu	NOther
Count	991	442	77	797	71	44	292	359	29	50
Types of Medication Interactions	4.70	4.69	4.64	4.68	4.78	4.77	4.72	4.67	4.54	4.60
Use of Medication Records and Other Forms	4.59	4.58	4.58	4.60	4.65	4.70	4.59	4.61	4.36	4.46
Vaginal Administration	4.42	4.48	4.42	4.44	4.53	4.70	4.42	4.41	4.00	4.26
Various Medication Forms	4.43	4.48	4.45	4.48	4.56	4.66	4.43	4.48	4.35	4.44
Vital Sign Equipment and Use	4.61	4.65	4.63	4.62	4.66	4.73	4.61	4.64	4.43	4.58
Vital Signs	4.69	4.71	4.71	4.71	4.75	4.79	4.66	4.73	4.61	4.59
Wasteful Care Practices (e.g., Overuse of Products)	4.36	4.42	4.40	4.40	4.49	4.56	4.42	4.38	4.27	4.51
When Not to Administer Medications	4.72	4.78	4.75	4.79	4.81	4.86	4.76	4.81	4.86	4.73

Subgroup Analysis: Mean Importance by Work Setting - Community												
Knowledge of:	CAduCar	CAduFos	CClOut	CCorrFac	CGrpHom	CHomHea	CIndLiv	CHosCar	CPsychi	CSchool	CYouCmp	COther
Count	68	10	10	37	224	169	118	36	22	39	6	78
"Rights" of Medication Administration	4.80	4.44	4.75	4.75	4.78	4.82	4.83	4.86	4.73	4.81	5.00	4.80
Abdominal Thrust Technique	4.06	4.25	4.38	4.13	4.17	4.17	4.37	4.32	3.71	4.23	4.33	4.21
Adverse Reactions to Medications	4.65	4.67	4.33	4.50	4.63	4.74	4.68	4.74	4.73	4.69	5.00	4.62
Approved Medical Abbreviations and Symbols	4.41	4.67	4.88	4.46	4.40	4.47	4.50	4.41	4.59	4.53	4.67	4.45
Assisting Client with Reading and Understanding Labels	3.75	3.22	4.25	3.94	3.94	4.06	4.18	4.22	4.15	4.30	4.50	3.97
Assisting Client with Self-Administration of Medication	3.86	3.71	4.50	4.12	4.22	4.20	4.39	4.27	4.22	4.25	4.33	4.38
Authorized Duties	4.40	4.43	4.38	4.44	4.32	4.44	4.40	4.54	4.52	4.68	5.00	4.44
Barriers to Communication	4.21	4.43	4.25	4.03	4.18	4.37	4.46	4.56	4.27	4.39	5.00	4.38
Baseline Client Health Status/Condition	4.51	4.57	4.50	4.03	4.46	4.46	4.53	4.63	4.23	4.48	5.00	4.54
Basic Medical Terminology	4.34	4.25	4.50	4.14	4.28	4.41	4.45	4.46	4.38	4.54	4.83	4.51
Buccal Administration	4.12	4.00	4.00	3.62	4.15	4.28	4.40	4.40	4.33	4.29	4.40	4.40
Change In Client Health Status/Condition	4.73	4.78	4.63	4.22	4.70	4.76	4.76	4.74	4.55	4.74	5.00	4.74
Clean Technique	4.71	4.33	4.75	4.47	4.62	4.67	4.75	4.71	4.77	4.81	5.00	4.81
Client Allergies	4.70	4.67	4.88	4.56	4.76	4.80	4.79	4.86	4.77	5.00	5.00	4.77
Client Identification Methods	4.69	4.44	4.75	4.64	4.60	4.68	4.60	4.71	4.67	4.81	5.00	4.77
Client Medication Schedule	4.71	4.33	4.71	4.42	4.72	4.72	4.75	4.74	4.76	4.89	5.00	4.76
Client Positioning for Medication Administration	4.53	4.33	4.50	3.97	4.42	4.60	4.57	4.50	4.19	4.52	4.60	4.49
Client Rights	4.74	4.22	4.88	4.55	4.68	4.66	4.73	4.68	4.65	4.79	4.83	4.77
Client Teaching	4.13	4.00	4.50	3.97	4.06	4.16	4.25	4.18	4.00	4.50	5.00	4.30
Client's Right to Self-Administer Medications	4.27	4.25	4.50	4.10	4.31	4.35	4.32	4.32	4.06	4.37	4.80	4.51
Client-Specific Instructions	4.43	4.13	4.63	4.10	4.38	4.40	4.38	4.60	4.21	4.74	5.00	4.59
Communicating Information to Health Care Team	4.64	4.44	4.88	4.48	4.74	4.70	4.69	4.76	4.80	4.71	4.83	4.82
Complete Medication Orders	4.68	4.56	4.78	4.63	4.68	4.77	4.77	4.82	4.53	4.72	5.00	4.87
Conditions Making Medications Dangerous to Use	4.71	4.67	4.88	4.56	4.75	4.83	4.79	4.77	4.71	4.88	5.00	4.85
Confidentiality	4.89	4.44	4.88	4.76	4.81	4.82	4.84	4.83	4.81	4.94	5.00	4.89
Controlled Medications	4.79	4.67	4.86	4.85	4.81	4.87	4.87	4.85	4.95	4.81	4.80	4.93
Controlled Substances and Medicines	4.83	4.67	4.86	4.81	4.79	4.87	4.87	4.85	4.95	4.78	4.80	4.92
Controlled Substance Counts	4.78	4.33	4.80	4.75	4.75	4.84	4.80	4.88	4.95	4.89	4.80	4.93
Controlled Versus Non Controlled Medication	4.50	4.22	4.43	4.53	4.43	4.61	4.62	4.56	4.67	4.60	4.80	4.71
Cultural and Religious Sensitivity and Awareness	3.98	3.67	4.38	3.47	3.97	4.17	4.13	4.19	4.14	4.15	4.17	4.24

Subgroup Analysis: Mean Importance by Work Setting - Community												
Knowledge of:	CAduCar	CAduFos	CClOut	CCorrFac	CGrpHom	CHomHea	CIndLiv	CHosCar	CPsychi	CSchool	CYouCmp	COther
Count	68	10	10	37	224	169	118	36	22	39	6	78
Dating Medications	4.59	4.22	4.75	4.48	4.55	4.66	4.66	4.70	4.40	4.74	4.83	4.68
Disinfection Process	4.60	4.33	4.88	4.45	4.53	4.66	4.58	4.63	4.62	4.67	4.83	4.65
Documentation of Medication Administration	4.80	4.70	4.88	4.70	4.82	4.87	4.87	4.91	4.86	4.92	5.00	4.88
Documentation of Response to Medication	4.73	4.44	4.75	4.42	4.67	4.77	4.77	4.80	4.65	4.83	5.00	4.80
Documentation Requirements	4.69	4.44	4.88	4.58	4.64	4.66	4.62	4.74	4.76	4.72	5.00	4.73
Documenting the Effectiveness of Medication	4.59	4.11	4.57	4.16	4.53	4.65	4.68	4.69	4.55	4.39	4.83	4.66
Ear Administration	4.32	4.29	4.14	4.07	4.23	4.42	4.44	4.29	4.29	4.25	4.33	4.42
Effective Communication (e.g., Verbal and Non-Verbal)	4.62	4.22	4.75	4.48	4.56	4.55	4.57	4.57	4.62	4.80	5.00	4.62
Effective Communication Techniques and Resources	4.56	4.13	4.38	4.39	4.46	4.52	4.48	4.54	4.43	4.63	4.83	4.55
Effectiveness of Medication	4.54	3.89	4.29	4.27	4.54	4.62	4.57	4.77	4.48	4.50	4.83	4.64
Effects of Medication Interactions	4.70	4.22	4.63	4.52	4.70	4.76	4.64	4.83	4.71	4.71	5.00	4.75
Efficient Medication Administration Practices	4.60	4.33	4.63	4.44	4.59	4.65	4.67	4.77	4.45	4.65	4.67	4.72
Expected Response to Medication	4.53	4.22	4.29	4.06	4.44	4.49	4.46	4.60	4.48	4.61	4.83	4.58
Expiration Date Location	4.70	4.22	4.38	4.21	4.58	4.59	4.62	4.71	4.35	4.60	4.50	4.66
Expiration Dates of Medications	4.69	4.11	4.38	4.47	4.65	4.70	4.66	4.77	4.53	4.64	4.33	4.73
Eye Administration	4.52	4.25	4.33	4.10	4.38	4.55	4.58	4.60	4.19	4.18	4.17	4.53
Factors that Effect Medication Utilization In the Body	4.38	4.38	4.43	4.00	4.29	4.50	4.53	4.56	4.15	4.19	4.67	4.42
FERPA	4.33	4.60	4.40	4.24	4.20	4.33	4.37	4.41	4.36	4.52	4.67	4.49
Giving Report	4.54	4.22	4.60	4.34	4.38	4.57	4.56	4.53	4.33	4.35	4.33	4.41
Herbal Supplements	3.67	3.78	3.40	3.37	3.74	3.87	3.93	4.16	3.41	3.79	4.17	3.90
HIPAA	4.80	4.25	4.88	4.59	4.61	4.68	4.73	4.65	4.85	4.71	5.00	4.73
How to Respond to Signs and Symptoms of High Blood Sugar	4.81	4.44	4.71	4.44	4.74	4.86	4.82	4.88	4.79	4.85	5.00	4.83
How to Respond to Signs and Symptoms of Low Blood Sugar	4.78	4.44	4.71	4.47	4.73	4.85	4.83	4.89	4.74	4.85	5.00	4.85
Incident/Accident Reports	4.78	4.44	4.50	4.32	4.64	4.70	4.69	4.69	4.70	4.78	5.00	4.71
Incidents/Accidents	4.77	4.44	4.50	4.42	4.63	4.69	4.69	4.71	4.65	4.74	5.00	4.69
Infection Control	4.75	4.56	4.63	4.56	4.70	4.76	4.78	4.89	4.57	4.71	5.00	4.85
Initiating Emergency Care Procedures for a Choking Client	4.86	4.78	4.86	4.75	4.81	4.87	4.85	4.89	4.71	4.79	4.83	4.91
Medical Terminology	4.34	4.00	4.50	4.31	4.16	4.47	4.53	4.56	4.38	4.42	4.50	4.50
Medication Administration	4.86	4.75	4.75	4.73	4.75	4.85	4.89	4.83	4.86	4.73	5.00	4.79
Medication Administration and Documentation	4.86	4.67	4.75	4.73	4.72	4.86	4.83	4.86	4.86	4.81	5.00	4.77
Medication Administration Equipment and Supplies	4.68	4.44	4.63	4.33	4.56	4.68	4.60	4.68	4.38	4.63	4.67	4.66

Subgroup Analysis: Mean Importance by Work Setting - Community												
Knowledge of:	CAduCar	CAduFos	CCIOut	CCorrFac	CGrpHom	CHomHea	CIndliv	CHosCar	CPsychi	CSchool	CYouCmp	COther
Count	68	10	10	37	224	169	118	36	22	39	6	78
Medication Administration Measurements	4.75	4.67	4.75	4.72	4.66	4.72	4.76	4.74	4.71	4.81	5.00	4.75
Medication Administration Rights	4.75	4.33	4.71	4.64	4.64	4.76	4.77	4.79	4.81	4.71	4.83	4.75
Medication Administration Safety and Hazards	4.77	4.67	4.44	4.67	4.68	4.73	4.71	4.82	4.76	4.74	4.83	4.80
Medication Brand/Generic Names	4.45	4.56	4.38	4.55	4.23	4.47	4.52	4.54	4.48	4.35	4.67	4.47
Medication Changes on Medication Record	4.79	4.50	4.75	4.67	4.68	4.80	4.87	4.85	4.81	4.80	4.83	4.84
Medication Classifications	4.45	4.33	4.38	4.19	4.28	4.56	4.52	4.69	4.57	4.21	4.33	4.43
Medication Contraindications	4.53	4.33	4.38	4.30	4.46	4.67	4.60	4.71	4.75	4.61	4.67	4.59
Medication Directions	4.78	4.67	4.75	4.70	4.65	4.75	4.80	4.85	4.86	4.86	5.00	4.84
Medication Disposal Documentation	4.59	4.00	4.50	4.52	4.42	4.55	4.59	4.67	4.75	4.64	4.83	4.62
Medication Disposal Procedures	4.54	4.00	4.63	4.36	4.39	4.53	4.58	4.71	4.70	4.71	4.83	4.57
Medication Error	4.77	4.56	4.88	4.66	4.75	4.81	4.85	4.91	4.95	4.83	4.83	4.85
Medication Error Documentation	4.82	4.67	4.88	4.69	4.76	4.81	4.84	4.86	4.95	4.86	4.83	4.84
Medication Error Reporting	4.80	4.44	4.88	4.75	4.72	4.78	4.83	4.82	5.00	4.91	5.00	4.87
Medication Measurement Devices	4.60	4.50	4.63	4.48	4.43	4.51	4.65	4.76	4.55	4.59	4.67	4.64
Medication Orders	4.67	4.44	4.88	4.73	4.55	4.73	4.70	4.68	4.81	4.65	4.50	4.79
Medication Preparation Techniques	4.57	4.33	4.25	4.52	4.47	4.62	4.65	4.65	4.48	4.65	4.83	4.67
Medication Purpose	4.59	4.33	4.38	4.36	4.45	4.53	4.62	4.64	4.52	4.49	4.67	4.52
Medication Records	4.73	4.56	4.50	4.52	4.60	4.69	4.75	4.71	4.67	4.61	4.67	4.63
Medication Related Symptoms that Require Monitoring of Signs	4.63	4.67	4.75	4.48	4.63	4.77	4.75	4.85	4.81	4.74	4.67	4.80
Medication Restocking	4.38	4.00	4.38	4.31	4.30	4.43	4.49	4.54	4.47	4.63	5.00	4.49
Medication Security	4.67	4.22	4.63	4.66	4.57	4.69	4.78	4.80	4.76	4.78	4.83	4.78
Medication Side Effects	4.69	4.67	4.38	4.50	4.60	4.73	4.75	4.71	4.86	4.69	5.00	4.69
Medication Storage	4.70	4.33	4.50	4.36	4.51	4.56	4.56	4.60	4.52	4.70	4.67	4.64
Medication Storage Requirements	4.70	4.22	4.50	4.38	4.45	4.53	4.59	4.71	4.52	4.64	4.67	4.56
Medication Warning Labels	4.75	4.44	4.63	4.42	4.63	4.71	4.77	4.70	4.71	4.67	4.67	4.75
Medications that Require Measurements Prior to Administration	4.65	4.56	4.75	4.56	4.62	4.76	4.77	4.74	4.71	4.70	4.67	4.78
Metered Dose Inhaler	4.47	3.89	4.57	4.21	4.38	4.60	4.56	4.56	4.45	4.47	4.50	4.49
Nasal Administration	4.37	3.89	4.17	4.04	4.25	4.45	4.45	4.56	4.30	4.44	4.60	4.46
Nebulized Administration	4.45	4.38	4.43	4.22	4.32	4.52	4.55	4.55	4.42	4.45	4.33	4.48
Non-Routine Medication Administration	4.37	3.89	4.14	4.43	4.29	4.34	4.40	4.56	4.50	4.32	4.50	4.44
Normal Blood Sugar Ranges	4.56	4.25	4.33	4.41	4.45	4.57	4.61	4.59	4.83	4.33	4.83	4.63
Normal Medication Dosages	4.63	4.56	4.57	4.38	4.43	4.59	4.68	4.64	4.57	4.29	4.67	4.66
Normal Versus Abnormal Values	4.33	4.50	4.33	4.18	4.26	4.43	4.53	4.58	4.26	4.25	4.50	4.47
Normal Vital Sign Ranges	4.52	4.33	4.75	4.19	4.43	4.53	4.57	4.52	4.48	4.41	4.50	4.59
Oral Administration	4.61	4.63	4.25	4.39	4.43	4.52	4.60	4.54	4.67	4.53	4.83	4.66

Subgroup Analysis: Mean Importance by Work Setting - Community												
Knowledge of:	CAduCar	CAduFos	CCIOut	CCorrFac	CGrpHom	CHomHea	CIndliv	CHosCar	CFpsychi	CSchool	CYouCmp	COther
Count	68	10	10	37	224	169	118	36	22	39	6	78
Oral Medication Administration Techniques	4.62	4.44	4.63	4.38	4.39	4.57	4.66	4.64	4.67	4.51	4.83	4.66
Organizing Medication Administration to Multiple Clients	4.62	4.33	4.88	4.61	4.57	4.72	4.79	4.63	4.90	4.79	5.00	4.79
Own Limitations and When to Seek Assistance	4.70	4.67	4.88	4.84	4.60	4.60	4.70	4.56	4.95	4.84	4.83	4.77
Oxygen Administration Equipment and Supplies	4.63	4.71	4.71	4.60	4.44	4.64	4.63	4.69	4.65	4.67	5.00	4.54
Oxygen Administration Safety Considerations	4.53	4.63	4.50	4.21	4.43	4.58	4.61	4.66	4.47	4.74	4.83	4.59
Policies and Procedures	4.62	4.33	4.63	4.49	4.44	4.50	4.46	4.60	4.52	4.64	4.50	4.64
Prescription/Over the Counter (OTC)	4.38	4.33	4.50	4.06	4.29	4.39	4.36	4.51	4.29	4.44	4.67	4.52
Prioritizing Care	4.31	4.22	4.50	4.47	4.32	4.44	4.47	4.59	4.48	4.52	4.67	4.55
Procedure to Implement the "Rights" of Medication Administration	4.71	4.22	4.50	4.61	4.61	4.72	4.78	4.80	4.76	4.61	4.83	4.72
Procedures to Follow When an Incident/Accident Occurs	4.69	4.44	4.63	4.69	4.66	4.74	4.80	4.79	4.77	4.78	4.67	4.70
Procedures to Follow When Client Receives Wrong Medication	4.70	4.56	4.75	4.86	4.79	4.86	4.91	4.86	4.95	4.86	4.83	4.91
Procedures to Follow When Client Refuses to Take Medication	4.63	4.00	4.50	4.42	4.49	4.53	4.67	4.57	4.77	4.72	4.83	4.72
Procedures to Follow When Client's Medication is Not Administered	4.65	4.33	4.75	4.53	4.63	4.65	4.73	4.68	4.86	4.75	4.83	4.72
Procedures to Follow When Client's Medication is Not Available	4.66	4.33	4.50	4.58	4.59	4.67	4.75	4.73	4.86	4.66	4.67	4.76
Procedures Used for Medication Refills, New Orders and Changes	4.50	3.78	4.57	4.54	4.43	4.59	4.69	4.65	4.60	4.61	4.67	4.67
Procedures Used When Medication is Discontinued	4.60	4.22	4.63	4.39	4.46	4.50	4.55	4.71	4.59	4.64	4.67	4.67
Professional Ethics	4.58	4.13	4.88	4.58	4.44	4.54	4.53	4.54	4.68	4.81	4.83	4.74
Proper Techniques for Disposal of Syringes	4.64	4.13	4.88	4.50	4.55	4.63	4.72	4.71	4.65	4.77	4.67	4.66
Purpose of Medication	4.60	4.50	4.63	4.28	4.44	4.61	4.59	4.69	4.38	4.46	4.50	4.51
Receiving Report	4.42	4.38	4.43	4.23	4.29	4.58	4.57	4.57	4.33	4.30	4.33	4.61
Rectal Administration	4.38	4.25	4.75	4.15	4.26	4.45	4.54	4.58	4.50	4.58	4.33	4.40
Reporting Information to Nurse	4.79	4.33	4.75	4.79	4.60	4.74	4.73	4.80	4.76	4.69	5.00	4.75
Reporting Procedures	4.61	4.22	4.67	4.50	4.41	4.50	4.61	4.69	4.50	4.54	4.83	4.56
Reporting Requirements and Process	4.52	4.11	4.63	4.34	4.28	4.39	4.50	4.66	4.55	4.60	4.83	4.53
Requirements for Medication Labels	4.66	4.00	4.63	4.28	4.45	4.62	4.62	4.74	4.57	4.46	4.50	4.57
Resource Information for Medication (e.g., Drug Book)	4.44	3.89	4.50	4.50	4.33	4.49	4.59	4.63	4.41	4.34	4.17	4.61
Roles and Responsibilities of Health Care Team	4.57	4.33	4.50	4.53	4.39	4.58	4.63	4.66	4.50	4.39	4.17	4.63
Safe Practice	4.56	3.89	4.88	4.67	4.58	4.64	4.66	4.77	4.68	4.73	4.83	4.74

Subgroup Analysis: Mean Importance by Work Setting - Community												
Knowledge of:	CAduCar	CAduFos	CClOut	CCorrFac	CGrpHom	CHomHea	CIndLiv	CHosCar	CPsychi	CSchool	CYouCmp	COther
Count	68	10	10	37	224	169	118	36	22	39	6	78
Scope of Practice	4.45	4.44	4.63	4.69	4.30	4.46	4.40	4.60	4.80	4.44	4.83	4.54
Setting Professional Boundaries	4.45	4.11	4.50	4.46	4.28	4.48	4.43	4.63	4.32	4.46	4.00	4.58
Side Effects	4.75	4.56	4.50	4.39	4.50	4.68	4.65	4.77	4.73	4.71	4.83	4.65
Side Effects of Medication	4.80	4.67	4.63	4.47	4.61	4.77	4.77	4.76	4.82	4.72	4.83	4.72
Signs and/or Symptoms of High Blood Sugar	4.75	4.56	4.71	4.58	4.64	4.81	4.82	4.91	4.81	4.64	5.00	4.75
Signs and/or Symptoms of Low Blood Sugar	4.77	4.56	4.71	4.59	4.65	4.82	4.81	4.88	4.71	4.64	5.00	4.74
Special Administration Information	4.42	4.38	4.63	4.22	4.43	4.65	4.57	4.71	4.55	4.70	4.83	4.62
Special Administration Instructions	4.40	4.00	4.75	4.36	4.47	4.68	4.63	4.71	4.59	4.64	4.83	4.64
Special Documentation Instructions	4.45	3.67	4.75	4.31	4.46	4.71	4.65	4.71	4.71	4.64	4.83	4.58
Special Medication Instructions	4.63	4.22	4.75	4.33	4.51	4.71	4.74	4.71	4.59	4.65	4.67	4.63
Sublingual Administration	4.51	4.43	4.71	4.19	4.29	4.54	4.55	4.56	4.67	4.48	4.67	4.53
Team Building	4.32	4.22	4.25	3.97	4.07	4.26	4.30	4.47	4.27	4.24	4.50	4.49
Techniques to Verify Medication is Swallowed	4.56	4.33	4.67	4.44	4.42	4.55	4.61	4.62	4.77	4.54	4.67	4.67
Three Medication Administration Safety Checks	4.73	4.44	4.86	4.44	4.61	4.72	4.74	4.83	4.73	4.67	5.00	4.65
Time Management Skills	4.34	4.00	4.50	4.44	4.12	4.38	4.47	4.55	4.38	4.34	4.50	4.48
Timeliness of Medication Record Review	4.40	3.78	4.57	4.22	4.21	4.45	4.50	4.58	4.59	4.34	4.83	4.41
Topical Administration	4.46	4.25	4.75	3.94	4.27	4.40	4.50	4.44	4.48	4.29	4.50	4.47
Transdermal Administration	4.41	4.29	4.75	4.34	4.24	4.43	4.58	4.56	4.67	4.40	4.50	4.49
Transdermal Medication Safety Considerations	4.50	4.43	4.75	4.28	4.37	4.51	4.62	4.69	4.62	4.53	4.50	4.51
Types of Client Abuse	4.77	4.22	4.75	4.43	4.60	4.67	4.80	4.88	4.81	4.61	5.00	4.79
Types of Client Exploitation	4.66	4.63	4.75	4.37	4.54	4.55	4.68	4.86	4.76	4.63	5.00	4.75
Types of Client Neglect	4.70	4.56	4.71	4.54	4.64	4.70	4.76	4.82	4.86	4.53	4.67	4.78
Types of Medication Errors	4.75	4.78	4.71	4.66	4.67	4.75	4.76	4.89	4.95	4.74	5.00	4.82
Types of Medication Interactions	4.72	4.67	4.57	4.28	4.56	4.74	4.69	4.91	4.43	4.63	4.83	4.64
Use of Medication Records and Other Forms	4.56	4.33	4.71	4.46	4.41	4.65	4.63	4.68	4.59	4.66	5.00	4.58
Vaginal Administration	4.31	4.43	4.40	3.88	4.19	4.47	4.38	4.53	4.50	4.38	4.33	4.29
Various Medication Forms	4.29	4.22	4.13	4.17	4.15	4.41	4.40	4.56	4.41	4.55	4.67	4.42
Vital Sign Equipment and Use	4.48	4.22	4.63	4.31	4.43	4.61	4.61	4.65	4.64	4.69	4.83	4.65
Vital Signs	4.62	4.56	4.63	4.23	4.56	4.70	4.70	4.77	4.67	4.62	4.83	4.71
Wasteful Care Practices (e.g., Overuse of Products)	4.29	4.44	4.11	4.31	4.09	4.37	4.29	4.56	4.42	4.48	4.83	4.46
When Not to Administer Medications	4.70	4.60	4.63	4.50	4.65	4.75	4.77	4.77	4.82	4.78	5.00	4.88

APPENDIX H: SUBGROUP ANALYSIS: MEAN IMPORTANCE BY NCSBN GEOGRAPHIC AREA

Subgroup Analysis: Mean Importance by NCSBN Geographic Area				
Knowledge of:	Area I	Area II	Area III	Area IV
"Rights" of Medication Administration	4.85	4.81	4.87	4.82
Abdominal Thrust Technique	3.86	4.01	4.24	4.19
Adverse Reactions to Medications	4.59	4.65	4.79	4.68
Approved Medical Abbreviations and Symbols	4.44	4.48	4.60	4.43
Assisting Client with Reading and Understanding Labels	3.58	3.93	4.11	3.97
Assisting Client with Self-Administration of Medication	3.84	4.16	4.32	4.12
Authorized Duties	4.44	4.44	4.55	4.37
Barriers to Communication	4.08	4.26	4.48	4.28
Baseline Client Health Status/Condition	4.21	4.43	4.55	4.48
Basic Medical Terminology	4.38	4.40	4.51	4.32
Buccal Administration	4.17	4.22	4.39	4.28
Change In Client Health Status/Condition	4.60	4.68	4.76	4.70
Clean Technique	4.65	4.73	4.78	4.63
Client Allergies	4.85	4.80	4.86	4.77
Client Identification Methods	4.79	4.71	4.80	4.68
Client Medication Schedule	4.56	4.72	4.77	4.72
Client Positioning for Medication Administration	4.59	4.53	4.66	4.47
Client Rights	4.66	4.67	4.77	4.69
Client Teaching	4.00	4.13	4.20	4.13
Client's Right to Self-Administer Medications	4.05	4.24	4.36	4.22
Client-Specific Instructions	4.22	4.37	4.47	4.38
Communicating Information to Health Care Team	4.74	4.72	4.76	4.71
Complete Medication Orders	4.71	4.75	4.83	4.72
Conditions Making Medications Dangerous to Use	4.78	4.77	4.82	4.78
Confidentiality	4.80	4.86	4.86	4.80
Controlled Medications	4.90	4.86	4.92	4.84
Controlled Substances and Medicines	4.90	4.86	4.92	4.82
Controlled Substance Counts	4.86	4.86	4.93	4.82
Controlled Versus Noncontrolled Medication	4.55	4.56	4.71	4.51
Cultural and Religious Sensitivity and Awareness	4.05	4.00	4.21	3.97
Dating Medications	4.55	4.54	4.74	4.64
Disinfection Process	4.57	4.62	4.69	4.53
Documentation of Medication Administration	4.85	4.84	4.90	4.84
Documentation of Response to Medication	4.65	4.64	4.78	4.71
Documentation Requirements	4.62	4.63	4.73	4.69
Documenting the Effectiveness of Medication	4.50	4.56	4.71	4.57
Ear Administration	4.23	4.32	4.44	4.36
Effective Communication (e.g., Verbal and Nonverbal)	4.50	4.58	4.62	4.51
Effective Communication Techniques and Resources	4.40	4.47	4.54	4.43
Effectiveness of Medication	4.54	4.54	4.65	4.55

Subgroup Analysis: Mean Importance by NCSBN Geographic Area				
Knowledge of:	Area I	Area II	Area III	Area IV
Effects of Medication Interactions	4.70	4.66	4.75	4.66
Efficient Medication Administration Practices	4.56	4.65	4.72	4.61
Expected Response to Medication	4.35	4.44	4.58	4.44
Expiration Date Location	4.42	4.50	4.67	4.66
Expiration Dates of Medications	4.52	4.59	4.74	4.75
Eye Administration	4.46	4.46	4.58	4.48
Factors that Effect Medication Utilization In the Body	4.34	4.32	4.49	4.35
FERPA	4.17	4.23	4.39	4.28
Giving Report	4.30	4.46	4.61	4.46
Herbal Supplements	3.72	3.67	3.96	3.79
HIPAA	4.81	4.74	4.82	4.69
How to Respond to Signs and Symptoms of High Blood Sugar	4.75	4.77	4.86	4.79
How to Respond to Signs and Symptoms of Low Blood Sugar	4.76	4.76	4.86	4.79
Incident/Accident Reports	4.46	4.56	4.67	4.65
Incidents/Accidents	4.48	4.60	4.69	4.62
Infection Control	4.71	4.76	4.81	4.76
Initiating Emergency Care Procedures for a Choking Client	4.81	4.82	4.87	4.83
Medical Terminology	4.29	4.39	4.50	4.28
Medication Administration	4.81	4.78	4.87	4.78
Medication Administration and Documentation	4.85	4.76	4.86	4.78
Medication Administration Equipment and Supplies	4.56	4.60	4.68	4.56
Medication Administration Measurements	4.79	4.73	4.82	4.71
Medication Administration Rights	4.76	4.69	4.81	4.75
Medication Administration Safety and Hazards	4.67	4.70	4.77	4.73
Medication Brand/Generic Names	4.46	4.47	4.56	4.36
Medication Changes On Medication Record	4.79	4.79	4.86	4.76
Medication Classifications	4.40	4.36	4.53	4.40
Medication Contraindications	4.56	4.53	4.63	4.51
Medication Directions	4.72	4.75	4.82	4.73
Medication Disposal Documentation	4.49	4.48	4.67	4.53
Medication Disposal Procedures	4.52	4.49	4.66	4.52
Medication Error	4.79	4.77	4.85	4.82
Medication Error Documentation	4.80	4.75	4.85	4.78
Medication Error Reporting	4.79	4.77	4.85	4.79
Medication Measurement Devices	4.52	4.55	4.68	4.53
Medication Orders	4.70	4.68	4.79	4.62
Medication Preparation Techniques	4.54	4.57	4.67	4.53
Medication Purpose	4.45	4.47	4.59	4.53
Medication Records	4.58	4.61	4.74	4.66
Medication Related Symptoms that Require Monitoring of Signs	4.72	4.70	4.77	4.70
Medication Restocking	4.20	4.34	4.51	4.39
Medication Security	4.66	4.66	4.78	4.65
Medication Side Effects	4.59	4.64	4.70	4.62

Subgroup Analysis: Mean Importance by NCSBN Geographic Area				
Knowledge of:	Area I	Area II	Area III	Area IV
Medication Storage	4.40	4.48	4.64	4.59
Medication Storage Requirements	4.39	4.47	4.62	4.55
Medication Warning Labels	4.61	4.65	4.78	4.70
Medications that Require Measurements Prior to Administration	4.67	4.69	4.76	4.69
Metered Dose Inhaler	4.42	4.49	4.55	4.50
Nasal Administration	4.35	4.39	4.51	4.42
Nebulized Administration	4.39	4.45	4.53	4.46
Nonroutine Medication Administration	4.44	4.46	4.53	4.35
Normal Blood Sugar Ranges	4.42	4.58	4.66	4.47
Normal Medication Dosages	4.38	4.56	4.65	4.52
Normal Versus Abnormal Values	4.27	4.39	4.53	4.37
Normal Vital Sign Ranges	4.50	4.57	4.66	4.46
Oral Administration	4.60	4.57	4.65	4.53
Oral Medication Administration Techniques	4.60	4.58	4.66	4.54
Organizing Medication Administration to Multiple Clients	4.67	4.71	4.77	4.62
Own Limitations and When to Seek Assistance	4.73	4.74	4.73	4.57
Oxygen Administration Equipment and Supplies	4.35	4.54	4.62	4.59
Oxygen Administration Safety Considerations	4.35	4.51	4.63	4.55
Policies and Procedures	4.40	4.53	4.64	4.50
Prescription/Over the Counter (OTC)	4.47	4.36	4.50	4.34
Prioritizing Care	4.43	4.48	4.58	4.39
Procedure to Implement the "Rights" of Medication Administration	4.70	4.66	4.76	4.69
Procedures to Follow When an Incident/Accident Occurs	4.63	4.70	4.75	4.72
Procedures to Follow When Client Receives Wrong Medication	4.89	4.85	4.86	4.82
Procedures to Follow When Client Refuses to Take Medication	4.47	4.60	4.65	4.59
Procedures to Follow When Client's Medication is Not Administered	4.57	4.65	4.71	4.67
Procedures to Follow When Client's Medication is Not Available	4.60	4.63	4.69	4.64
Procedures Used for Medication Refills, New Orders and Changes	4.45	4.55	4.66	4.56
Procedures Used When Medication is Discontinued	4.43	4.50	4.64	4.56
Professional Ethics	4.66	4.62	4.66	4.49
Proper Techniques for Disposal of Syringes	4.54	4.67	4.72	4.70
Purpose of Medication	4.38	4.50	4.61	4.51
Receiving Report	4.33	4.51	4.58	4.43
Rectal Administration	4.44	4.42	4.54	4.37
Reporting Information to Nurse	4.74	4.71	4.76	4.69
Reporting Procedures	4.41	4.55	4.61	4.48
Reporting Requirements and Process	4.37	4.49	4.54	4.42
Requirements for Medication Labels	4.45	4.54	4.65	4.56
Resource Information for Medication (e.g., Drug Book)	4.48	4.54	4.59	4.41
Roles and Responsibilities of Health Care Team	4.43	4.53	4.62	4.49
Safe Practice	4.68	4.70	4.74	4.62
Scope of Practice	4.69	4.54	4.62	4.42
Setting Professional Boundaries	4.54	4.50	4.57	4.39

Subgroup Analysis: Mean Importance by NCSBN Geographic Area				
Knowledge of:	Area I	Area II	Area III	Area IV
Side Effects	4.67	4.61	4.70	4.58
Side Effects of Medication	4.73	4.65	4.76	4.65
Signs and/or Symptoms of High Blood Sugar	4.71	4.73	4.79	4.68
Signs and/or Symptoms of Low Blood Sugar	4.77	4.72	4.79	4.70
Special Administration Information	4.62	4.56	4.66	4.50
Special Administration Instructions	4.63	4.58	4.66	4.53
Special Documentation Instructions	4.58	4.57	4.69	4.53
Special Medication Instructions	4.62	4.62	4.70	4.57
Sublingual Administration	4.52	4.49	4.61	4.40
Team Building	4.14	4.26	4.42	4.21
Techniques to Verify Medication is Swallowed	4.58	4.54	4.65	4.53
Three Medication Administration Safety Checks	4.68	4.65	4.75	4.66
Time Management Skills	4.49	4.38	4.51	4.33
Timeliness of Medication Record Review	4.37	4.38	4.55	4.37
Topical Administration	4.28	4.39	4.51	4.36
Transdermal Administration	4.46	4.49	4.56	4.41
Transdermal Medication Safety Considerations	4.55	4.53	4.60	4.48
Types of Client Abuse	4.63	4.69	4.75	4.68
Types of Client Exploitation	4.58	4.65	4.68	4.57
Types of Client Neglect	4.57	4.70	4.74	4.67
Types of Medication Errors	4.70	4.73	4.80	4.72
Types of Medication Interactions	4.64	4.63	4.70	4.62
Use of Medication Records and Other Forms	4.51	4.55	4.64	4.52
Vaginal Administration	4.30	4.33	4.46	4.33
Various Medication Forms	4.33	4.40	4.50	4.31
Vital Sign Equipment and Use	4.52	4.58	4.64	4.56
Vital Signs	4.60	4.66	4.73	4.64
Wasteful Care Practices (e.g., Overuse of Products)	4.17	4.35	4.44	4.28
When Not to Administer Medications	4.76	4.76	4.78	4.69

APPENDIX I: NONRESPONDER STUDY RESULTS

Table I.1. Demographics of Responders and Nonresponders

		Responders	Nonresponders
Gender %	Female	92.3	93.8
	Male	7.7	6.2
Average Age		45.4	43.4
Average Years of Experience		6.3	5.7
Years of Experience %	1 Year or Less	16.0	15.5
	2 to 5 Years	38.8	48.8
	6 to 10 Years	23.4	15.5
	11 to 14 Years	7.3	9.3
	15 Years or More	14.5	10.9

Table I.2. Percent Not Performed and Importance Ratings for Responders and Nonresponders

Knowledge of	% Not Performed		Mean Importance	
	Responders	Nonresponders	Responders	Nonresponders
"Rights" of Medication Administration	0.4	1.6	4.84	4.80
Abdominal Thrust Technique	12.5	16.4	4.14	3.99
Adverse Reactions to Medications	1.3	0.8	4.71	4.57
Approved Medical Abbreviations and Symbols	1.6	0.8	4.52	4.45
Assisting Client with Reading and Understanding Labels	11.4	12.0	4.00	3.88
Assisting Client with Self-Administration of Medication	15.0	14.5	4.20	4.07
Authorized Duties	1.8	1.6	4.47	4.43
Barriers to Communication	2.0	2.4	4.34	4.23
Baseline Client Health Status/Condition	2.5	2.4	4.48	4.33
Basic Medical Terminology	0.8	2.4	4.43	4.35
Buccal Administration	12.8	13.9	4.30	4.29
Change In Client Health Status/Condition	0.9	2.4	4.71	4.72
Clean Technique	0.7	0.8	4.72	4.71
Client Allergies	0.3	0.8	4.82	4.83
Client Identification Methods	0.5	1.6	4.74	4.77
Client Medication Schedule	0.6	0.8	4.73	4.71
Client Positioning for Medication Administration	1.1	2.4	4.57	4.58
Client Rights	0.7	0.8	4.71	4.69
Client Teaching	8.5	11.7	4.16	4.04
Client's Right to Self-Administer Medications	9.4	10.7	4.28	4.19
Client-Specific Instructions	4.4	4.8	4.41	4.25
Communicating Information to Health Care Team	1.3	1.7	4.74	4.66
Complete Medication Orders	6.3	7.3	4.78	4.72
Conditions Making Medications Dangerous to Use	2.9	2.5	4.79	4.74
Confidentiality	0.3	0.8	4.84	4.84
Controlled Medications	1.2	4.0	4.88	4.85
Controlled Substances and Medicines	1.4	5.6	4.88	4.87
Controlled Substance Counts	2.7	6.4	4.88	4.88

Table I.2. Percent Not Performed and Importance Ratings for Responders and Nonresponders

Knowledge of	% Not Performed		Mean Importance	
	Responders	Nonresponders	Responders	Nonresponders
Controlled Versus Non Controlled Medication	1.3	1.6	4.61	4.51
Cultural and Religious Sensitivity and Awareness	4.0	4.9	4.08	4.07
Dating Medications	2.9	5.6	4.64	4.59
Disinfection Process	2.0	0.8	4.63	4.53
Documentation of Medication Administration	0.8	0.8	4.86	4.87
Documentation of Response to Medication	3.2	4.0	4.72	4.62
Documentation Requirements	1.3	4.0	4.69	4.55
Documenting the Effectiveness of Medication	4.0	5.0	4.62	4.52
Ear Administration	6.5	9.0	4.37	4.36
Effective Communication (e.g., Verbal and Non-Verbal)	0.5	0.8	4.58	4.47
Effective Communication Techniques and Resources	0.9	1.6	4.49	4.36
Effectiveness of Medication	1.9	2.5	4.59	4.45
Effects of Medication Interactions	1.7	2.4	4.70	4.63
Efficient Medication Administration Practices	0.7	0.8	4.67	4.59
Expected Response to Medication	1.5	1.6	4.49	4.39
Expiration Date Location	0.7	0.8	4.59	4.57
Expiration Dates of Medications	0.6	0.8	4.68	4.64
Eye Administration	2.5	2.5	4.51	4.48
Factors that Effect Medication Utilization In the Body	3.6	2.4	4.40	4.21
FERPA	18.6	21.3	4.31	4.02
Giving Report	3.9	2.4	4.51	4.45
Herbal Supplements	15.2	16.1	3.83	3.43
HIPAA	1.9	1.6	4.76	4.80
How to Respond to Signs and Symptoms of High Blood Sugar	2.8	1.6	4.81	4.78
How to Respond to Signs and Symptoms of Low Blood Sugar	2.6	1.6	4.81	4.80
Incident/Accident Reports	4.0	4.8	4.62	4.52
Incidents/Accidents	3.2	0.8	4.64	4.54
Infection Control	1.1	0.8	4.78	4.77
Initiating Emergency Care Procedures for a Choking Client	2.2	4.8	4.85	4.81
Medical Terminology	1.4	2.5	4.41	4.28
Medication Administration	0.4	0.8	4.82	4.82
Medication Administration and Documentation	0.5	1.6	4.81	4.82
Medication Administration Equipment and Supplies	0.9	2.4	4.62	4.63
Medication Administration Measurements	1.0	1.6	4.76	4.73
Medication Administration Rights	0.6	1.7	4.75	4.74
Medication Administration Safety and Hazards	0.4	0.8	4.74	4.66
Medication Brand/Generic Names	0.6	1.6	4.49	4.45
Medication Changes on Medication Record	1.9	2.5	4.81	4.82
Medication Classifications	1.5	3.3	4.44	4.35
Medication Contraindications	2.5	3.2	4.57	4.55

Table I.2. Percent Not Performed and Importance Ratings for Responders and Nonresponders

Knowledge of	% Not Performed		Mean Importance	
	Responders	Nonresponders	Responders	Nonresponders
Medication Directions	0.7	0.8	4.78	4.71
Medication Disposal Documentation	4.8	6.6	4.57	4.48
Medication Disposal Procedures	4.4	5.0	4.57	4.55
Medication Error	1.6	1.7	4.81	4.85
Medication Error Documentation	2.0	3.3	4.80	4.81
Medication Error Reporting	0.9	2.5	4.81	4.81
Medication Measurement Devices	1.2	2.5	4.60	4.57
Medication Orders	3.4	3.3	4.71	4.70
Medication Preparation Techniques	1.5	2.5	4.60	4.57
Medication Purpose	0.9	0.8	4.53	4.53
Medication Records	1.2	0.8	4.67	4.65
Medication Related Symptoms that Require Monitoring of Signs	1.7	3.3	4.73	4.66
Medication Restocking	3.2	5.0	4.41	4.33
Medication Security	0.9	0.8	4.71	4.62
Medication Side Effects	0.9	1.6	4.66	4.58
Medication Storage	0.6	0.8	4.56	4.51
Medication Storage Requirements	0.8	1.6	4.54	4.55
Medication Warning Labels	0.6	0.8	4.70	4.71
Medications that Require Measurements Prior to Administration	1.2	2.4	4.72	4.71
Metered Dose Inhaler	7.6	6.6	4.51	4.47
Nasal Administration	4.5	3.3	4.44	4.39
Nebulized Administration	11.9	17.4	4.48	4.45
Non-Routine Medication Administration	4.3	5.0	4.47	4.35
Normal Blood Sugar Ranges	7.5	9.1	4.58	4.53
Normal Medication Dosages	1.6	1.6	4.58	4.48
Normal Versus Abnormal Values	6.9	6.7	4.43	4.36
Normal Vital Sign Ranges	1.2	0.8	4.58	4.48
Oral Administration	0.8	0.8	4.60	4.50
Oral Medication Administration Techniques	1.0	0.8	4.61	4.51
Organizing Medication Administration to Multiple Clients	6.1	4.0	4.72	4.61
Own Limitations and When to Seek Assistance	1.1	0.8	4.70	4.70
Oxygen Administration Equipment and Supplies	12.8	13.3	4.57	4.59
Oxygen Administration Safety Considerations	12.6	12.2	4.55	4.56
Policies and Procedures	0.8	0.8	4.56	4.58
Prescription/Over the Counter (OTC)	3.6	5.7	4.42	4.36
Prioritizing Care	3.1	3.3	4.50	4.42
Procedure to Implement the "Rights" of Medication Administration	0.7	0.8	4.71	4.68
Procedures to Follow When an Incident/Accident Occurs	1.2	0.8	4.72	4.75
Procedures to Follow When Client Receives Wrong Medication	1.1	0.8	4.85	4.88

Table I.2. Percent Not Performed and Importance Ratings for Responders and Nonresponders

Knowledge of	% Not Performed		Mean Importance	
	Responders	Nonresponders	Responders	Nonresponders
Procedures to Follow When Client Refuses to Take Medication	0.6	0.8	4.61	4.62
Procedures to Follow When Client's Medication is Not Administered	0.7	1.6	4.67	4.68
Procedures to Follow When Client's Medication is Not Available	0.8	1.6	4.66	4.64
Procedures Used for Medication Refills, New Orders and Changes	4.0	6.6	4.59	4.62
Procedures Used When Medication is Discontinued	2.1	4.2	4.57	4.51
Professional Ethics	0.7	0.8	4.61	4.61
Proper Techniques for Disposal of Syringes	13.4	14.3	4.68	4.73
Purpose of Medication	0.7	3.3	4.54	4.52
Receiving Report	2.1	3.3	4.51	4.51
Rectal Administration	14.6	18.0	4.46	4.49
Reporting Information to Nurse	0.6	1.6	4.73	4.76
Reporting Procedures	1.4	1.7	4.55	4.53
Reporting Requirements and Process	2.5	1.7	4.49	4.49
Requirements for Medication Labels	2.4	1.6	4.58	4.57
Resource Information for Medication (e.g., Drug Book)	1.2	2.5	4.53	4.50
Roles and Responsibilities of Health Care Team	0.9	0.8	4.55	4.56
Safe Practice	0.3	0.8	4.70	4.65
Scope of Practice	2.1	1.6	4.55	4.55
Setting Professional Boundaries	1.3	2.5	4.51	4.52
Side Effects	0.7	1.6	4.64	4.60
Side Effects of Medication	0.9	1.6	4.70	4.63
Signs and/or Symptoms of High Blood Sugar	2.7	3.3	4.74	4.73
Signs and/or Symptoms of Low Blood Sugar	2.7	3.3	4.74	4.77
Special Administration Information	2.0	4.1	4.59	4.51
Special Administration Instructions	1.9	4.1	4.61	4.49
Special Documentation Instructions	2.1	4.9	4.61	4.53
Special Medication Instructions	1.3	3.3	4.65	4.57
Sublingual Administration	6.0	6.6	4.52	4.51
Team Building	2.3	4.1	4.31	4.20
Techniques to Verify Medication is Swallowed	0.9	2.5	4.58	4.56
Three Medication Administration Safety Checks	0.9	3.3	4.70	4.63
Time Management Skills	1.3	4.9	4.43	4.35
Timeliness of Medication Record Review	4.7	3.3	4.45	4.38
Topical Administration	4.1	5.7	4.42	4.37
Transdermal Administration	8.1	10.7	4.50	4.48
Transdermal Medication Safety Considerations	7.2	9.8	4.55	4.47
Types of Client Abuse	1.7	4.1	4.70	4.71
Types of Client Exploitation	2.7	5.7	4.64	4.63
Types of Client Neglect	1.2	4.9	4.70	4.71

Table I.2. Percent Not Performed and Importance Ratings for Responders and Nonresponders

Knowledge of	% Not Performed		Mean Importance	
	Responders	Nonresponders	Responders	Nonresponders
Types of Medication Errors	1.1	2.5	4.75	4.78
Types of Medication Interactions	1.2	2.5	4.66	4.62
Use of Medication Records and Other Forms	1.8	3.3	4.57	4.58
Vaginal Administration	22.0	28.7	4.37	4.51
Various Medication Forms	2.8	8.2	4.42	4.44
Vital Sign Equipment and Use	1.7	0.8	4.60	4.55
Vital Signs	1.3	0.8	4.68	4.60
Wasteful Care Practices (e.g., Overuse of Products)	4.8	7.4	4.37	4.25
When Not to Administer Medications	0.9	0.8	4.75	4.76



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