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# Job Analysis Report for the Vascular Access Certification Corporation (VACC)

## Vascular Access Board Certified (VA-BC™) Examination

*Conducted on behalf of*



**June 27, 2025**

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*Prepared by:*



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## ACKNOWLEDGEMENTS

We would like to thank the many individuals who provided invaluable assistance throughout the conduct of the Vascular Access Certification Corporation (VACC) Job Analysis for the Vascular Access Board Certified (VA-BC™) examination.

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At VACC, Patricia Hurlbut, Administrative Manager, and Brian Mondragón Jones, Executive Director, provided outstanding guidance and coordination throughout this job analysis study.

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*Appendices A and B are provided at the end of this Report.*

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*All other appendices are available in an Excel workbook that is provided separately with this Report.*

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## EXECUTIVE SUMMARY

The Vascular Access Certification Corporation (VACC), an organization with the mission to “certify vascular access health care professionals and related disciplines working in the field of vascular access through professional board certification”<sup>1</sup> commissioned a job analysis study from Prometric for the Vascular Access Board Certified (VA-BC™) examination.

A job analysis is designed to obtain descriptive information about the tasks performed in a job and the knowledge needed to adequately perform those tasks. The purpose of this job analysis was to:

- develop and validate the listing of the tasks and knowledge related to work performed by vascular access health care professionals;
- update the test specifications for the VA-BC™ examination; and,
- obtain useful information that can guide educational and professional development initiatives.

### Conduct of the Job Analysis

The job analysis consisted of several activities: collaboration with subject matter experts to ensure representativeness of the tasks and knowledge; survey development; survey dissemination; compilation of survey results; and test specifications development. The successful outcome of the job analysis depended on the excellent information provided by vascular access health care professionals in various phases of the study.

### Survey Development

Survey research is an efficient and effective way to identify the tasks and knowledge that are important for vascular access health care professionals. The tasks and knowledge included on the survey covered seven task domains and eight knowledge domains. Development of the survey was based on a draft of task and knowledge statements developed from a variety of resources and refined by a committee of subject matter experts appointed by VACC.

### Survey Content

The survey, disseminated in April and May 2025, consisted of five sections.

Survey Sections
Section 1: Background and General Information
Section 2: Tasks
Section 3: Knowledge
Section 4: Test Content Recommendations
Section 5: Comments

<sup>1</sup> <https://www.vacert.org/about-us/> Retrieved on June 9, 2025

## RESULTS

### Survey Response Rate

The VA-BC™ job analysis survey was disseminated using an open participation link. A total of 700 surveys were submitted, 494 of which qualified for inclusion in the data analysis. Based on the analysis of the survey responses, a representative group of vascular access health care professionals completed the survey in sufficient numbers to meet the requirements for conducting statistical analysis. This is evidenced by review of the responses for each of the background and general information questions as well as confirmation by the Test Specifications Committee.

### Survey Ratings

Participants were asked to rate the tasks and knowledge by the importance for a vascular access health care professional using a five-point scale (0 = Of no importance to 4 = Very important).

### Content Coverage

Evidence was provided for the comprehensiveness of the content coverage within the domains. That is, if the tasks and knowledge within a domain are adequately defined, then it should be judged as being well covered. Most respondents indicated that the content within each task and knowledge domain was *well* or *very well* covered, thus supporting the comprehensiveness of the defined domains.

### Test Specifications Development

Throughout May and June 2025, a Test Specifications Committee convened to review the results of the job analysis and to create the test content outline that will guide the update of the VA-BC™ examination.

### Summary

In summary, this study used a multi-method approach in identifying the tasks and knowledge that are important for competent performance by vascular access health care professionals. The job analysis process allowed for input from a representative group of vascular access health care professionals and other stakeholders and was conducted within the guidelines of professionally sound practice. The results of the job analysis can be used by VACC to develop the VA-BC™ examination and guide professional development initiatives.

### RESULTS AT A GLANCE

#### WHO COMPLETED THE SURVEY

*A total of 494 responses were used for analysis. The majority of respondents indicated working in a hospital. Most of the respondents identified as a Registered Nurses.*

#### TASKS IMPORTANCE RATINGS

*All 53 task statements achieved high importance ratings. Respondents indicated that the survey covered the important tasks well or very well.*

#### KNOWLEDGE IMPORTANCE RATINGS

*All 45 knowledge statements achieved high importance ratings. Respondents indicated that the survey covered the important knowledge well or very well.*

## INTRODUCTION

The Vascular Access Certification Corporation (VACC), an organization with the mission to “certify vascular access health care professionals and related disciplines working in the field of vascular access through professional board certification”<sup>2</sup> commissioned a job analysis study from Prometric for the Vascular Access Board Certified (VA-BC™) examination.

The major purpose of this job analysis study was to identify the tasks and knowledge that are important for competent performance by vascular access health care professionals. The development of the VA-BC™ examination is based on validated tasks and knowledge identified through the job analysis process.

This report describes the job analysis study including the:

- rationale for conducting the job analysis study;
- methods used to define tasks and knowledge;
- types of data analysis conducted and their results; and,
- outcomes and conduct of the test specifications meeting.

### *Job Analysis Study and Adherence to Professional Standards*

A job analysis study refers to procedures designed to obtain descriptive information about the tasks performed on a job and the knowledge, skills, or abilities requisite to the performance of those tasks. The specific type of information collected during a job analysis is determined by the purpose for which the information will be used.

For the purposes of developing certification examinations, a job analysis study should identify important tasks, knowledge, skills, or abilities deemed important by and for the professional role that is the subject of the certification. For VACC, the professional role is vascular access health care professionals.

The use of a job analysis study (also known as practice analysis, role and function study, or role delineation study) to define the test content domain(s) is a critical component in establishing the content validity of the credential it supports. Content validity refers to the extent to which the content covered by an examination is representative of the tasks and knowledge required to competently perform a job.

A well-designed job analysis study should include the participation of a representative group of subject matter experts who reflect the diversity within the profession. Diversity refers to regional or job context factors and to subject matter expert factors such as experience, gender, and race/ethnicity. Demonstration of content validity is accomplished through the judgments of subject matter experts. The process is enhanced by the inclusion of large numbers of subject matter experts who represent the diversity of the relevant areas of expertise.

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<sup>2</sup> <https://www.vacert.org/about-us/> Retrieved on June 9, 2025

The *Standards for Educational and Psychological Testing*<sup>3</sup> (2014) (*The Standards*) is a comprehensive technical guide that provides criteria for the evaluation of tests, testing practices, and the effects of test use. *The Standards* were developed jointly by the American Educational Research Association (AERA), the American Psychological Association (APA), and the National Council on Measurement in Education (NCME). The guidelines presented in *The Standards*, by professional consensus, have come to define the necessary components of quality testing. Consequently, a testing program that adheres to *The Standards* is more likely to be judged to be valid and defensible than one that does not.

As stated in Standard 11.13,

“The content domain to be covered by a credentialing test should be defined clearly and justified in terms of the importance of the content for credential-worthy performance in an occupation or profession. A rationale and evidence should be provided to support the claim that the knowledge or skills being assessed are required for credential-worthy performance in that occupation and are consistent with the purpose for which the credentialing program was instituted...Typically, some form of job or practice analysis provides the primary basis for defining the content domain...” (pp. 181-182)

The job analysis study for the VA-BC™ examination was designed to follow the guidelines presented in *The Standards* and to adhere to accepted professional practice.

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<sup>3</sup> American Educational Research Association, American Psychological Association, National Council on Measurement in Education (2014). *Standards for Educational and Psychological Testing*. Washington, DC: American Educational Research Association.

**STEPS OF THE JOB ANALYSIS STUDY**

1. Conduct of a planning meeting
2. Development of the survey
3. Dissemination of the survey
4. Analysis of the survey data
5. Development of the test specifications

**METHOD**

The job analysis study for the VA-BC™ examination involved a multi-method approach that included meetings with subject matter experts and a survey. This section of the report describes the activities conducted for the job analysis study.

First, subject matter experts identified the tasks and knowledge they believed were important to the work performed by vascular access health care professionals. Then, a survey was developed and disseminated to vascular access health care professionals. The purpose of the survey was to obtain verification (or refutation) that the tasks and knowledge identified by the subject matter experts are important to the work performed by vascular access health care professionals.

Survey research functions as a “check and balance” on the judgments of the subject matter experts and reduces the likelihood that unimportant areas will be considered in the development of the test specifications. The use of a survey is also an efficient and cost-effective method of obtaining input from large numbers of subject matter experts and makes it possible for ratings to be analyzed separately by appropriate subgroups of respondents.

The survey results provide information to guide the development of test specifications and content-valid examinations. What matters most is that a credentialing examination covers the important tasks and knowledge needed to perform job activities.

The methodology used to conduct the job analysis is described in detail below and included the following steps:

**1. Conduct of a Planning Meeting**

On November 25, 2024 the VACC representative and the Prometric staff responsible for conducting the job analysis study held a project planning meeting via web conference. During the planning meeting, the selection of the Task Force/Test Specifications Committee members, meeting dates, logistics, and survey delivery were the topics of discussion.

**2. Development of the Survey****2.1. Conduct of the Job Analysis Task Force Meeting**

The Job Analysis Task Force was comprised of a representative group of 12 vascular access health care professionals. A list of the Task Force members can be found in Appendix A at the end of this report. A summary of Task Force members’ demographics appears in Table 1 below.

Table 1. *Summary of Task Force Members' Demographics*

Panel Member No.	Certifications	Current Position	Total Years of Experience	Highest Degree	Gender	Age	Race/Ethnicity	Location
1	ANCC, VA-BC, NP, RN	Nurse Practitioner	16	Masters	F	51-60	Asian/Pacific American	CA, USA
2	RN, VA-BC, CRNI	Staff Nurse	11	Masters	F	31-40	Multiracial	IA, USA
3	RN, VA-BC, CCRN	Resource/ PICC Nurse	6	Associate	F	31-40	Caucasian/White	MN, USA
4	CRNI, VA-BC, CPUI, LNC	Infusion Registered Nurse	20	Masters	N/A	N/A	N/A	WA, USA
5	RN, VA-BC, CVAA(c)	Infection Control Practitioner	2.5	Bachelors	F	41-50	Asian/Pacific American	BC, CA
6	RN, CRNI, VA-BC	Vascular Access Consultant	33	Associate	M	51-60	Caucasian/White	KY, USA
7	RN, PHRN, CFRN, NRP, VA-BC	Flight Nurse	12	Bachelors	M	31-40	Caucasian/White	PA, USA
8	RN, VA-BC	Infusion Nurse	15	Bachelors	N/A	31-40	Caucasian/White	NV, USA
9	CIC, VA-BC, CPHQ	Director of Clinical Strategy – Vascular Access	30	Masters	F	51-60	Caucasian/White	CA, USA
10	CPN, VA-BC, CP-CA SANE	VAT RN/ CDI RN	3	Masters	F	41-50	African American	TX, USA
11	RN, VA-BC, CCRN	ICU Nurse Manager	13	Bachelors	F	31-40	Caucasian/White	KS, USA
12	RN, VA-BC	Vascular Access Unit Educator	9	Bachelors	F	41-50	Caucasian/White	KS, USA

N/A = Not Specified

An in-person Task Force meeting was conducted in Milwaukee on February 22 and February 23, 2025. The purpose of the meeting was to identify tasks and knowledge, important to the role performed by vascular access health care professionals, in order to develop the survey content for validation by survey participants. The meeting agenda is available in Appendix B1 at the end of this report.

Activities conducted during the meeting included reviewing and, as needed, revising the major domains, tasks, and knowledge that are necessary for competent performance of vascular access health care professionals. Survey rating scales and background and general information questions were presented, discussed, and revised as needed.

## **2.2. Survey Construction and Review Activities**

### **2.2.1. Survey Construction**

Upon completion of the Task Force meeting, Prometric constructed a draft online survey. The survey covered the following task and knowledge domains:

#### **Task Domains**

1. Patient Assessment
2. Preparation
3. Insertion
4. Care and Maintenance
5. Troubleshooting Complications and Interventions
6. Professional Development and Evidence-Based Practice
7. Legal and Ethical Considerations

#### **Knowledge Domains**

1. Device Assessment and Selection
2. Patient Assessment
3. Preparation
4. Insertion
5. Care and Maintenance
6. Troubleshooting Complications and Interventions
7. Professional Development and Evidence-Based Practice
8. Legal and Ethical Considerations

### **2.2.2 Survey Review by the Task Force Committee**

Each Task Force member received a web link to the draft survey. The purpose of the review was to provide the Task Force with an opportunity to view their work and recommend any revisions.

Comments were compiled by Prometric and reviewed via web conference with VACC and the Task Force members. Recommended refinements were incorporated, as appropriate, into the survey in preparation for a pilot test.

### **2.2.3. Survey Pilot Test**

The purpose of the small-scale survey pilot test was to have vascular access health care professionals, who had no previous involvement in the development of the survey, to review the survey and offer suggestions for improvement.

The Task Force members nominated vascular access health care professionals who were asked to participate in the survey pilot test. Survey pilot test participants were asked to review the survey for clarity of wording, ease of use, and comprehensiveness of content coverage. Comments were compiled by Prometric and reviewed via web conference with VACC and the Task Force members. The survey was revised and finalized based on the review of the pilot test comments.

### 2.2.4. Final Version of the Survey

The final version of the survey consisted of five sections: Section 1: Background and General Information; Section 2: Tasks; Section 3: Knowledge; Section 4: Test Content Recommendations; and Section 5: Comments.

In Section 1: Background and General Information, survey participants were asked to provide general and background information about themselves and their professional activities.

In Section 2: Tasks and Section 3: Knowledge, survey participants were asked to rate the task and knowledge statements using the rating scales shown below.

Table 2. *Tasks Importance Scale*

Tasks
<b>How important is competent performance of the task for a vascular access health care professional?</b>
0 = Of no importance
1 = Of little importance
2 = Of moderate importance
3 = Important
4 = Very important

Table 3. *Knowledge Importance Scale*

Knowledge
<b>How important is the knowledge for competent performance for a vascular access health care professional?</b>
0 = Of no importance
1 = Of little importance
2 = Of moderate importance
3 = Important
4 = Very important

In addition, survey participants were asked to indicate how well the statements covered the tasks and knowledge within each domain. Respondents made their judgments using a five-point rating scale (1 = Very Poorly; 2 = Poorly; 3 = Adequately; 4 = Well; 5 = Very Well).

In Section 4: Test Content Recommendations, survey participants were asked to indicate the content weights that the eight knowledge areas below should receive on the examination:

1. Device Assessment and Selection
2. Patient Assessment
3. Preparation
4. Insertion
5. Care and Maintenance
6. Troubleshooting Complications and Interventions
7. Professional Development and Evidence-Based Practice
8. Legal and Ethical Considerations

This was accomplished by distributing 100 percentage points across the eight knowledge areas. These distributions represented the allocation of examination items survey participants believed should be devoted to each knowledge area.

In Section 5: Comments, survey participants were provided the opportunity to comment on the following:

- What additional professional development and/or continuing education could you use to improve your performance in your current work role?
- How do you expect your work role to change over the next 5 years? What tasks will be performed and what knowledge will be needed to meet changing practice demands?

### **3. Dissemination of the Survey**

Prometric disseminated the job analysis survey on April 7, 2025 by sending an e-mail invitation with an open survey link to a list of active VA-BC™ credential holders provided by VACC. Two reminder emails were sent to these members encouraging participation in the survey. Appendix B2, provided at the end of this report, contains an export of the online survey text.

### **4. Analysis of the Survey Data**

As previously noted, the purpose of the survey was to validate the tasks and knowledge that relatively large numbers of vascular access health care professionals judged to be relevant (verified as important) to their work. This objective was accomplished through an analysis of the mean importance ratings for tasks and knowledge. The derivation of the test specifications from those statements verified as important by the surveyed professionals provides a substantial evidential basis for the content validity (content relevance) of credentialing examinations.

Based on information obtained from the survey, data analyses by respondent subgroups (e.g., job role) are possible when sample size permits. A subgroup category is required to have at least 30 respondents to be included in the subgroup analyses. This is a necessary condition to ensure that the mean value based upon the sample of respondents is an accurate estimate of the corresponding population mean value.

The following quantitative data analyses were produced:

- Means, standard deviations, and frequency (percentage) distributions for task statements and tasks content coverage ratings
- Means, standard deviations, and frequency (percentage) distributions for knowledge statements and knowledge content coverage ratings
- Means and standard deviations for test content (allocations by domain) recommendations
- Index of agreement values for designated subgroups

#### 4.1 Criterion for Interpretation of Mean Importance Ratings

Because the purpose of the survey is to ensure that only validated task and knowledge statements are included in the development of the test specifications, a criterion (cut point) for inclusion needed to be established.

A criterion that has been used in similar studies is a mean importance rating that represents the midpoint between moderately important and important. For the importance rating scale used across many studies, the value of this criterion for a 5-point scale ranging from 0 = Of no importance to 4 = Very important is 2.50.

<i>Definition of Pass, Borderline and Fail Categories for Task and Knowledge Importance Mean Ratings</i>	
	<u>Means</u>
<b>Pass:</b>	At or above 2.50
<b>Borderline:</b>	2.40 to 2.49
<b>Fail:</b>	Less than 2.40

This criterion is consistent with the intent of content validity. Therefore, Prometric recommended the value of this criterion should be set at 2.50. Accordingly, the task and knowledge statements were placed into one of three categories: Pass, Borderline, or Fail as determined by their mean importance ratings.

- The Pass Category contains those statements with mean ratings at or above 2.50, and are considered eligible for inclusion in the development of the test specifications.
- The Borderline Category contains those statements with mean ratings between 2.40 and 2.49. The Borderline Category is included to provide a point of discussion for the Test Specifications Committee to determine if the statement(s) warrant(s) inclusion in the test specifications.
- The Fail Category contains those statements with mean ratings less than 2.40. It is recommended that statements in the Fail Category be excluded from consideration in the test specifications.

If the Test Specifications Committee believes that a statement rated below 2.50 should be included in the test specifications and can provide compelling written rationales, those statements may be considered for inclusion. For example, although a professional activity or knowledge/ skill may have a mean rating of less than 2.50, more than 50.00% of the respondents may have rated the statement as important or very important. In this instance, the Test Specifications Committee might recommend the inclusion of the statement. The written rationale would note that a majority of the survey respondents rated the statement as important.

#### 5. Development of the Test Specifications

Prometric facilitated two remote meetings on May 29 and June 5, 2025 to develop the VA-BC™ test specifications based on the job analysis results. A copy of the meeting agenda is provided in appendix B1 at the end of this report. The meetings focused on:

- finalizing the tasks and knowledge that are important for inclusion based on the survey results;
- establishing the percentage test content weights for each area on the examination to guide test development activities;
- establishing linkage between the tasks and knowledge; and
- mapping the old content blueprint to the new test specifications.

## RESULTS

### Survey Responses

Prometric disseminated the VACC VA-BC™ job analysis survey to 5,526 vascular access health care professionals. Of the 700 participants who submitted the survey, 494 respondents completed the survey in full. Surveys with less than 55% completion rate were excluded from data analysis. The resulting response rate was 8.93%. The sample size used in this analysis was 494.

Based on the analysis of survey responses, a representative group of vascular access health care professionals completed the survey in sufficient numbers to meet the requirements to conduct statistical analysis. This was evidenced by the distribution of responses for each of the background information questions and was confirmed through discussion with the Test Specifications Committee.

### Demographic Characteristics of Survey Respondents

The profile of survey respondents can be found below. All responses to the background and general information section of the survey are provided in Appendix C1. Write-in responses to “Other, please specify” options are included in Appendix C2. The results in the figures below reflect the 494-sample size used for analysis.

Figure 1. *Demographic Question 1. Do you currently hold the VA-BC™ designation?*

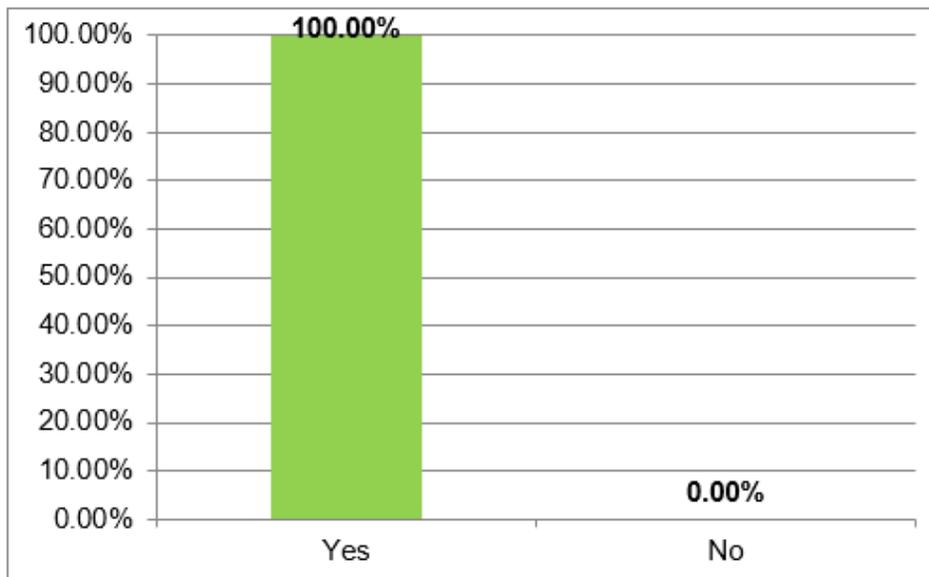


Figure 2. Demographic Question 2. Which of the following best describes your current position?

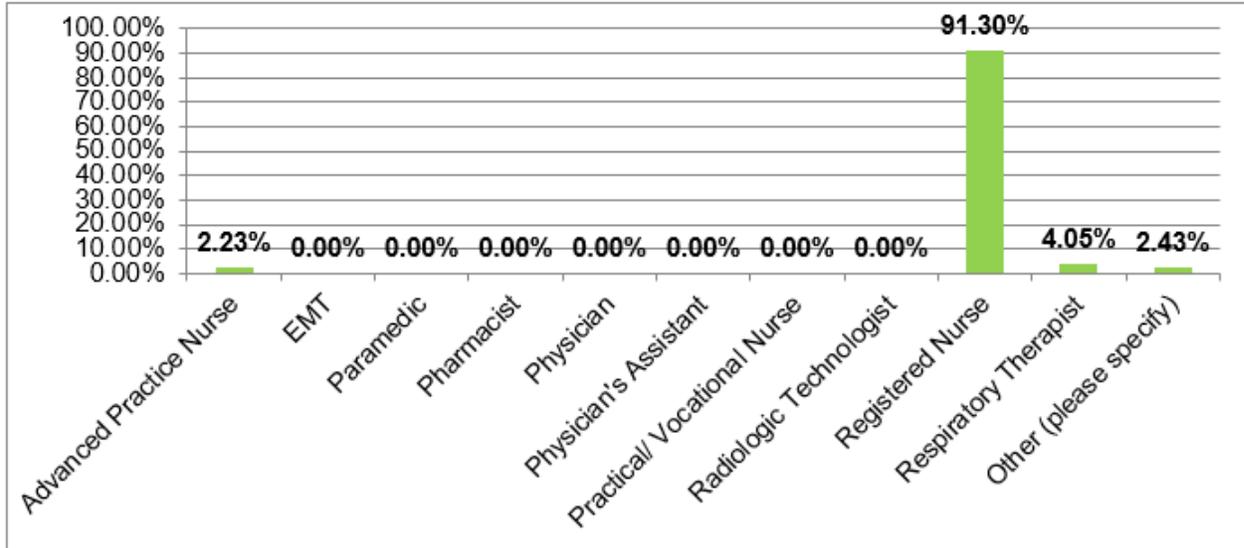


Figure 3. Demographic Question 3. Which of the following most closely describes your primary job function?

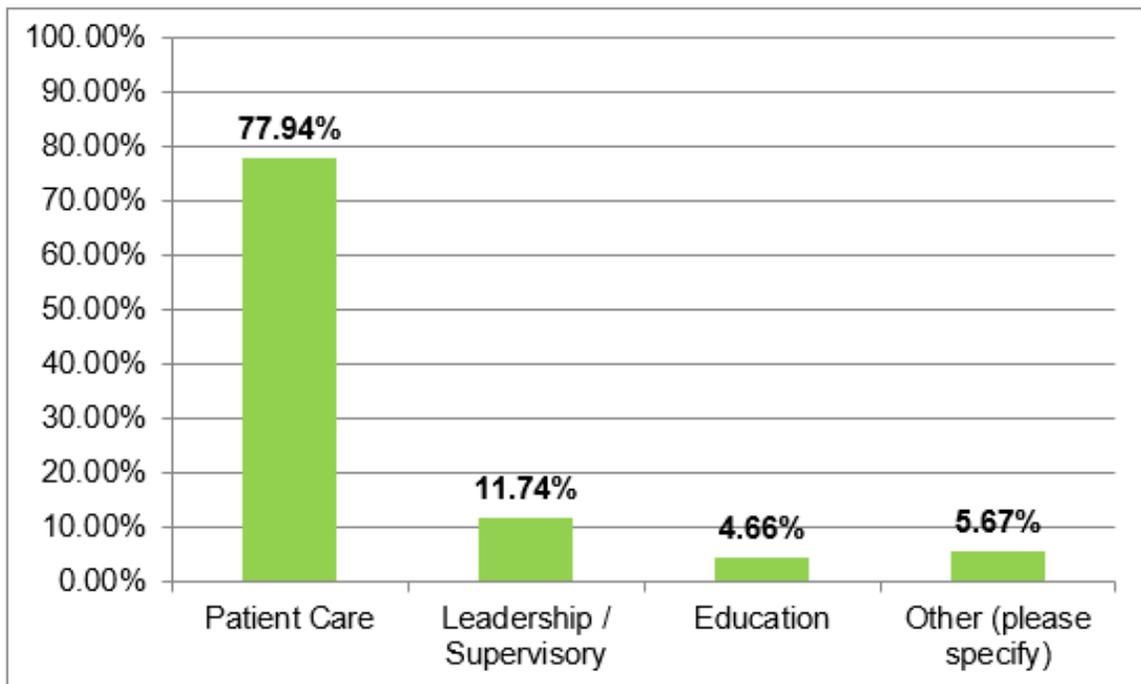


Figure 4. Demographic Question 4. How long have you been involved in vascular access?

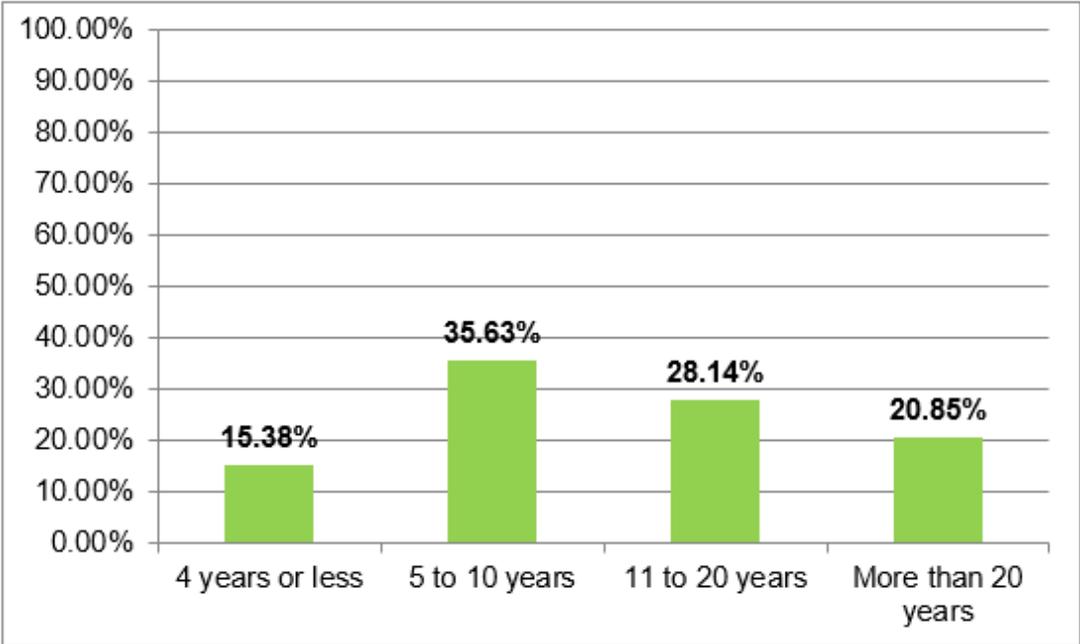


Figure 5. Demographic Question 5. Which of the following best describes your highest educational attainment?

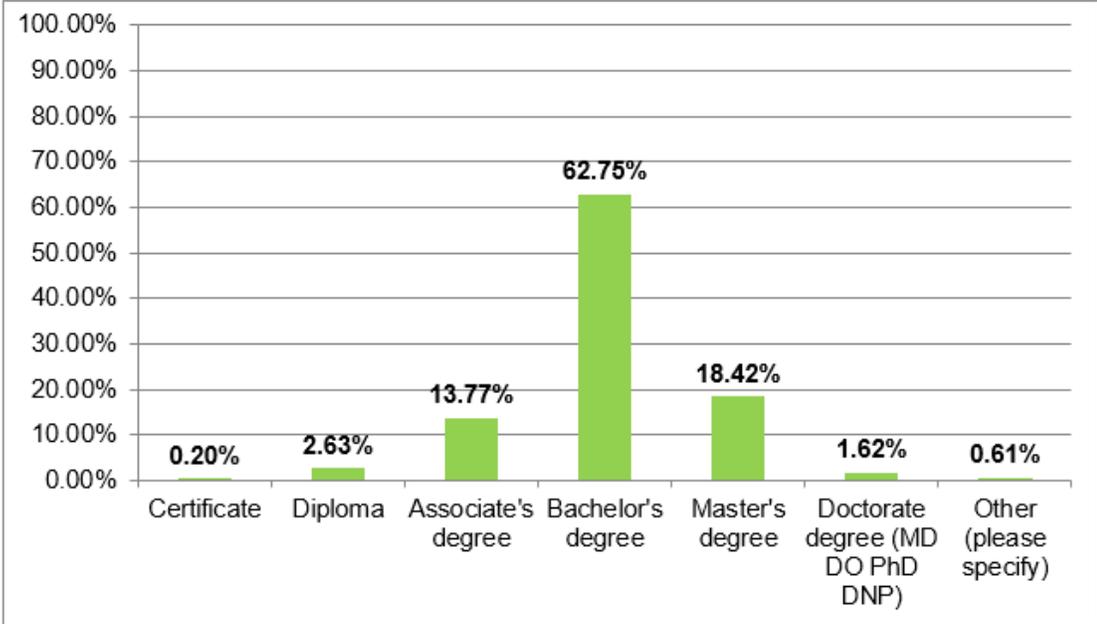


Figure 6. What is your primary patient population? (Select all that apply)

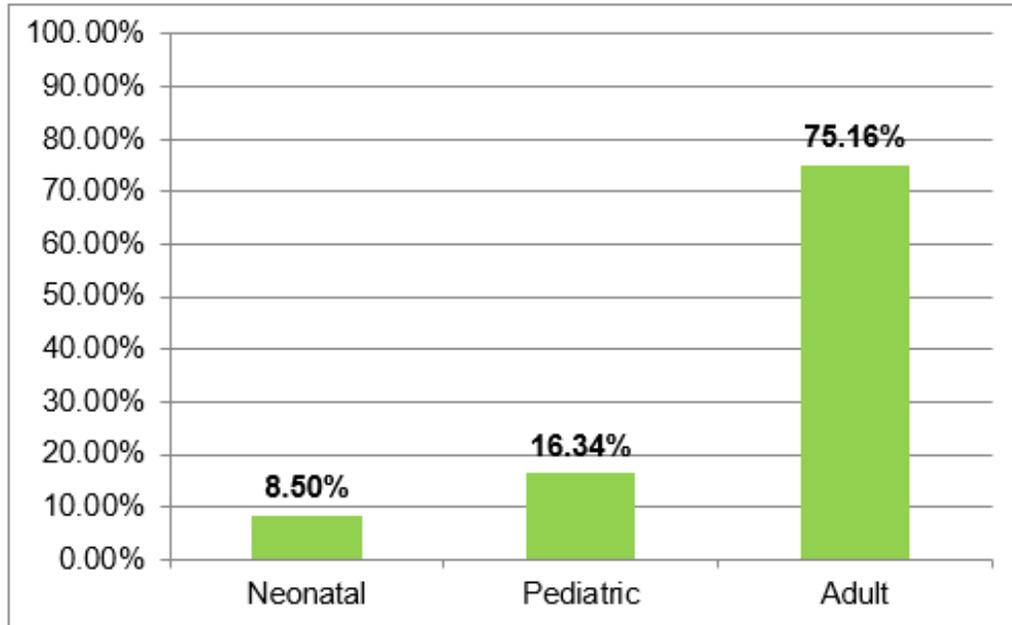


Figure 7. Demographic Question 7. What is your experience with the following vascular access devices? (Select all that apply)

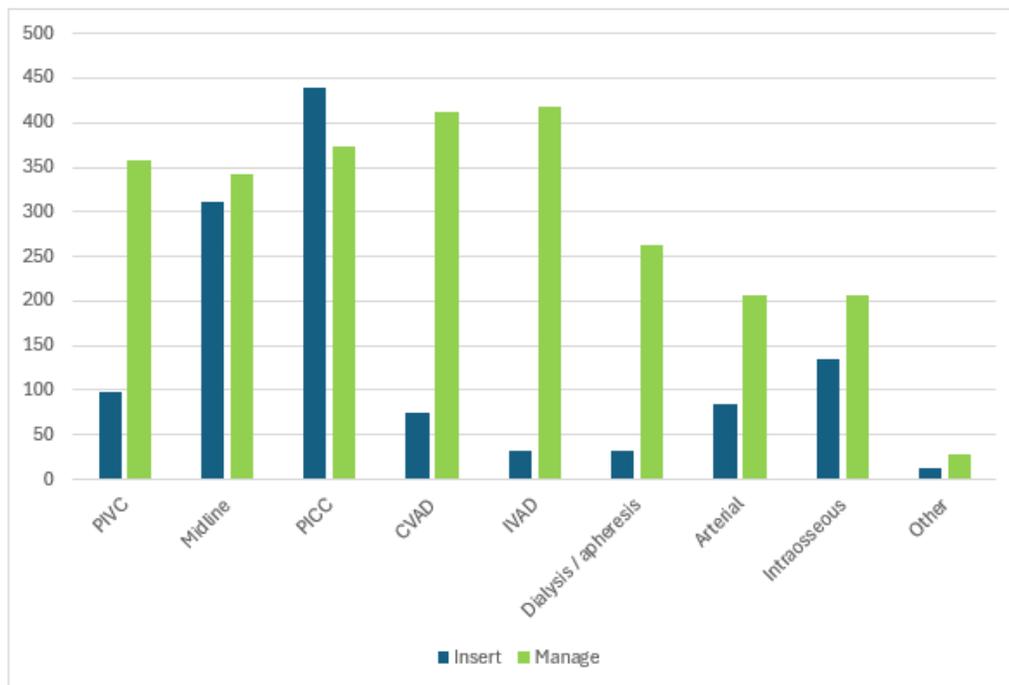


Figure 8. Demographic Question 8. Which of the following most closely describes your primary employment setting?

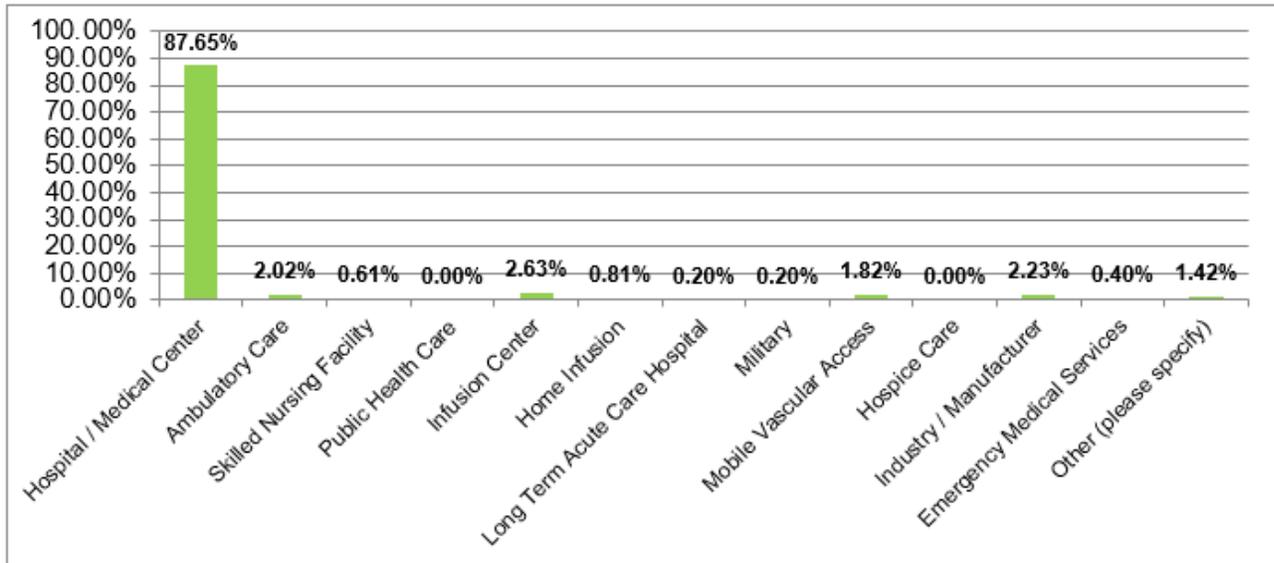


Figure 9. Demographic Question 9. Which of the following additional certification(s) do you hold? (Select all that apply)

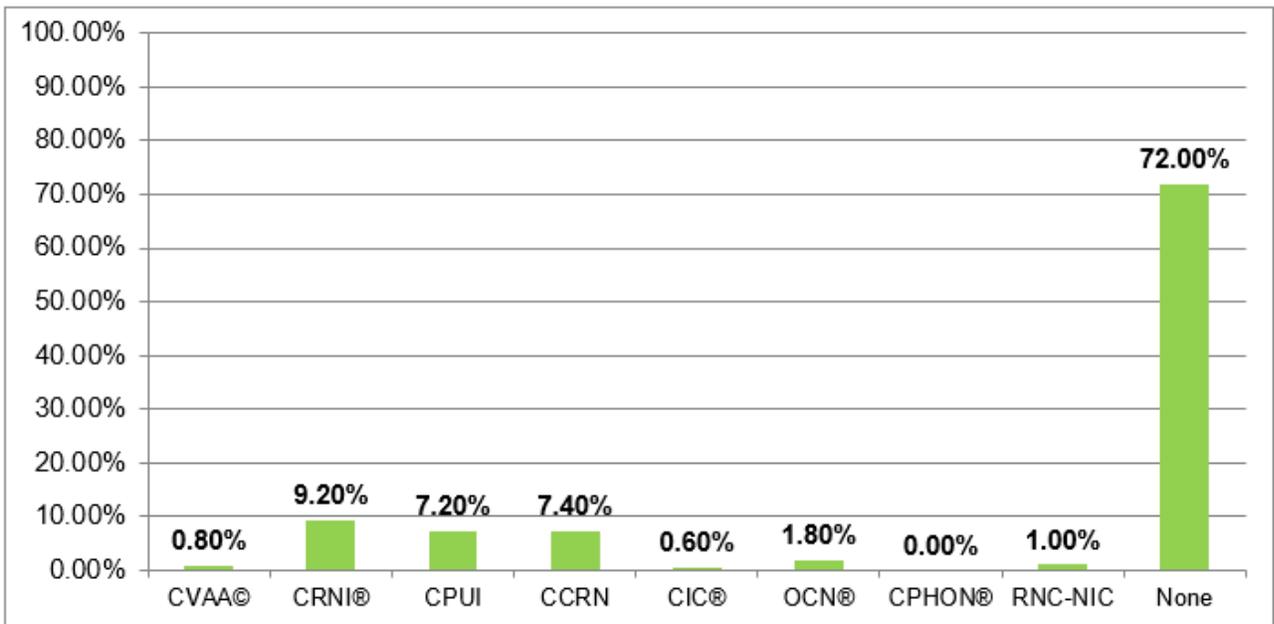


Figure 10. Demographic Question 10. In which country do you primarily work? (Select one from the drop-down menu)

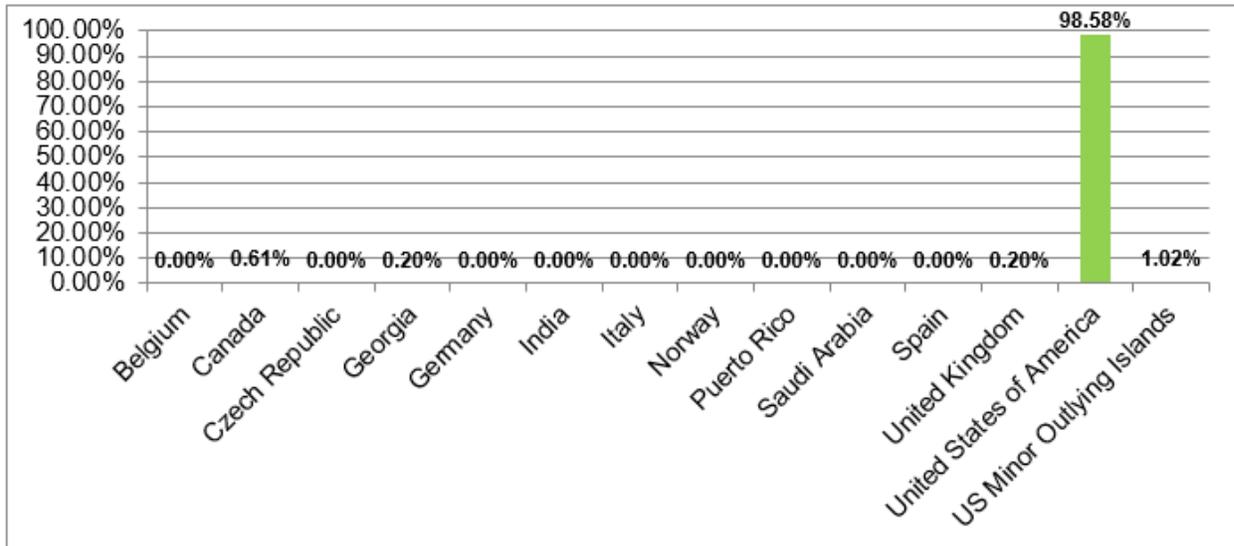


Figure 11. Demographic Question 10a. In which state / territory do you primarily work? (Select one from the drop-down menu)

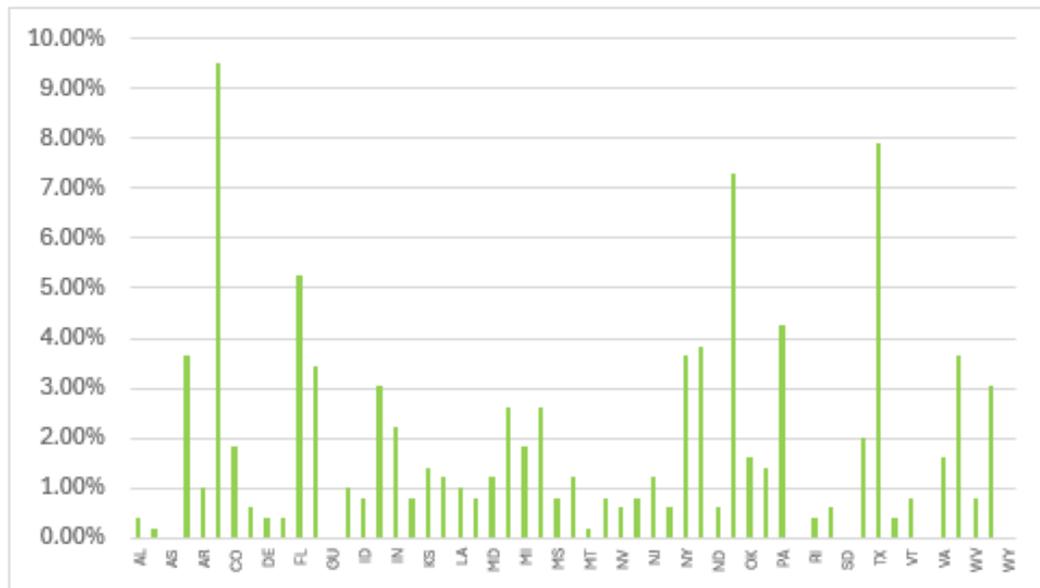


Figure 12. Demographic Question 10b. In which province / territory do you primarily work? (Select one from the drop-down menu)

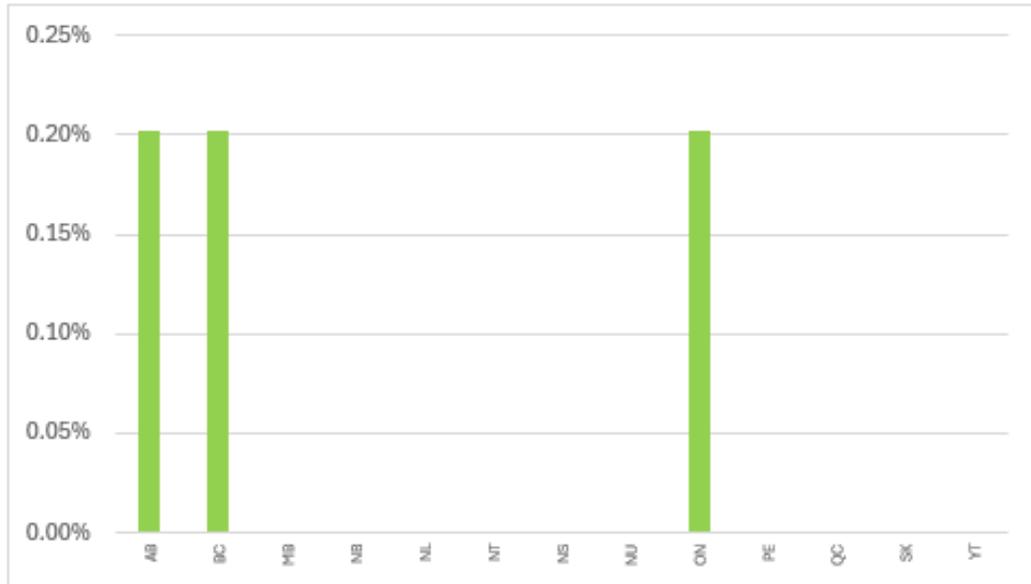


Figure 13. Demographic Question 11. What is your age? (Optional)

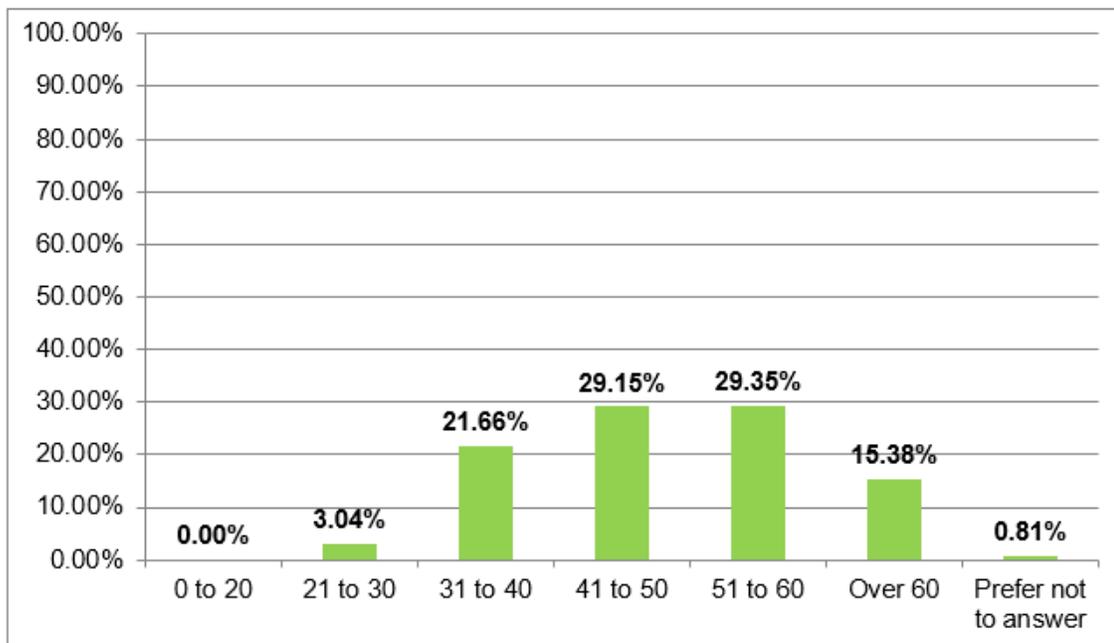


Figure 14. Demographic Question 12. What is your gender? (Optional)

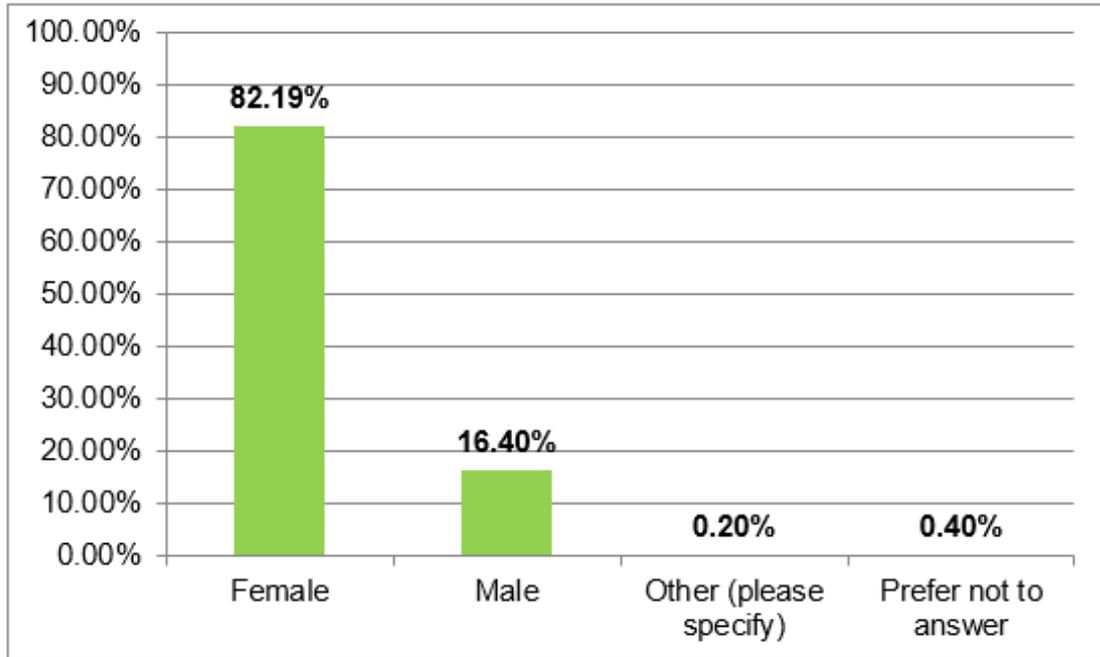
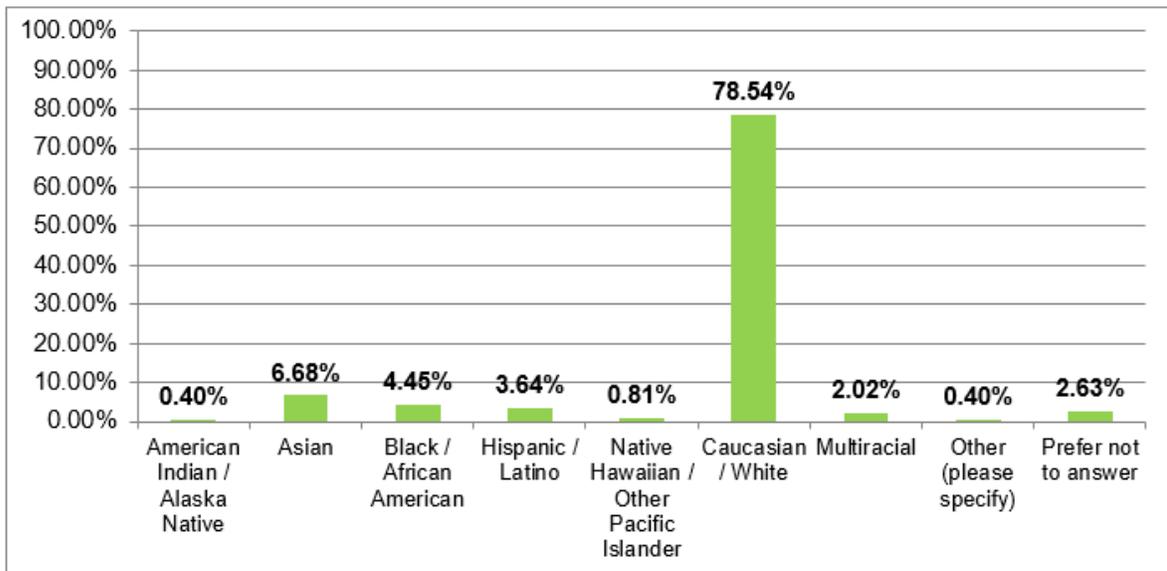


Figure 15. Demographic Question 13. How would you describe your race/ ethnicity? (Optional)



### **Task and Knowledge Overall Ratings**

The following provides a summary of survey respondents' ratings of the tasks and knowledge. All task and knowledge statements achieved high means (at or above 2.50), thereby validating their importance to competent performance for vascular access health care professionals.

#### **Tasks**

Means, standard deviations and frequency (percentage) distributions for the task ratings included on the survey are provided in Appendices D1 and D2. All 53 (100%) of the tasks achieved high importance ( $\geq 2.50$ ).

#### **Knowledge**

Means, standard deviations and frequency (percentage) distributions for each knowledge statement included on the survey are presented in Appendices E1 and E2. All 45 (100%) of knowledge statements passed the  $>2.50$  threshold for frequency.

### **Subgroup Analyses of Task and Knowledge Ratings**

The index of agreement is a measure of the extent to which subgroups of respondents agree on which task and knowledge statements are important. Using the mean importance ratings for tasks and knowledge, indices of agreement were computed:

- If the subgroup means are above the critical importance value (mean ratings at or above 2.50), then they are in agreement that the content is important.
- If the subgroup means are below the critical importance value (mean ratings less than 2.50), then the subgroups are in agreement that the content is considered less important.
- By contrast, if one subgroup's (for example, female) mean ratings are above the critical importance value and another subgroup's (for example, male) means are below the critical importance value then the subgroups are in disagreement as to whether the content is important.

The index of agreement provides a method of computing the similarity in judgments between groups that is more tailored to the purpose of a job analysis than the correlation coefficient. Although the correlation coefficient measures the relationship between the full range of possible ratings, the index of agreement focuses on whether two groups agree that the content should (or should not) be included in an examination. As one of the major purposes of this job analysis is to identify appropriate test content, the agreement index provides a statistical method to address this question at the subgroup level. Furthermore, the agreement index requires only 30 respondents per subgroup for computation, whereas the correlation coefficient requires at least 100 respondents per subgroup to provide a reliable measure of agreement.

An illustrative example for two groups on a survey with 100 knowledge statements shows how the index is computed. If two groups passed the same 96 knowledge statements and failed the same 2 knowledge areas (out of the 100 total knowledge areas in the survey), the consistency index would be computed as:  $Agreement = [(96 + 2)/100] = 0.98$ . Values of 0.80 or less are considered to disagree and therefore additional mean analysis is necessary. If required, the additional analysis will be considered by the Test Specifications Committee to make a decision about whether to include the statements identified as having differences in the final test specifications.

An agreement coefficient was calculated for subgroups based on the following background information question:

10a. In which state / territory do you primarily work? (Select one from the drop-down menu)

All subgroups were perfectly aligned for importance of both task and knowledge statements reaching very high index of agreement coefficients of 1.00. The subgroups of respondents and the respective agreement coefficients are provided in Appendix F.

### **Content Coverage Ratings**

Survey participants were asked to indicate how well the statements within each of the task and knowledge domains covered important aspects of that area. These responses provide an indication of the adequacy (comprehensiveness) of the survey content.

The five-point rating scale for adequacy of content coverage was: 1 = Very Poorly, 2 = Poorly, 3 = Adequately, 4 = Well, and 5 = Very Well. The means, standard deviations, and frequency (percentage) distributions for the task and knowledge ratings are provided in Appendix G. The means for the task and knowledge domains exceeded the >2.50 threshold, which provides supportive evidence that the tasks and knowledge were comprehensive and well covered on the survey.

### **Write-In Comments**

Survey respondents were provided the opportunity to write in tasks or knowledge that they believe should be included in the listing of important tasks and knowledge. These comments can be found in Appendices H1 and H2. At the Test Specifications meeting, the committee reviewed the content coverage comments to determine whether there are any important statements not covered on the survey that should be included in the test specifications. Most comments were determined to be covered elsewhere among the statements or to be insufficiently important for the level for which the comment was provided. Four task statements and three knowledge statements were revised based on the content coverage comments with the purpose of clarifying the statements the comments were related to.

### **Test Content Recommendations**

In survey Section 4: Test Content Recommendations, participants were asked to assign a percentage weight to each knowledge domain. The sum of percentage weights was required to equal 100. This information guided the Test Specifications Committee in making decisions about how much emphasis the domains should receive on the test content outline. The mean weights across all survey respondents are available in Appendix I1.

### **General Comments**

Many survey respondents provided responses to the open-ended questions about professional development and continuing education needs. These comments can be found in Appendix J.

## DEVELOPMENT OF THE TEST SPECIFICATIONS

Two test specifications meetings for the VA-BC™ examination were conducted remotely on May 29 and June 5, 2025. A list of the Test Specifications Committee members can be found in Appendix A. The meeting agenda is provided in Appendix B1. Both appendices are available at the end of this report.

The steps involved in the development of the test specifications included:

- presentation of the job analysis project and results to the Test Specifications Committee;
- identification of the tasks and knowledge to be included on the VA-BC™ test specifications;
- review of survey respondents' content coverage write-in comments;
- development of the test content weights for the examination;
- linkage of tasks and knowledge;
- mapping of the old content blueprint to the new test specifications.

### *Presentation of the Job Analysis Results to the Test Specifications Committee*

The first activity in the test specifications development was to provide the Test Specifications Committee with an overview of the job analysis activities and to present the results of the study.

### *Task and Knowledge Statements to be Included on the Test Specifications*

The Test Specifications Committee reviewed the task and knowledge results to make final recommendations about the areas that should be included on the VA-BC™ examination. The survey results served as the primary source of information used by the Test Specifications Committee members to make test content decisions.

All 53 tasks achieved mean ratings at or above 2.50 (Pass category) and were included on the VA-BC™ test specifications. Four of the task statements were revised based on the content coverage write-in comments. A list of all task statements and Test Specifications Committee comments can be found in Appendix D2.

All 45 knowledge statements achieved high importance ratings ( $\geq 2.50$ ). Three knowledge statements were updated to incorporate the corresponding content coverage write-in comments. A list of all knowledge statements and committee recommendations are provided in Appendix E2.

### *Development of the Test Content Weights*

The Test Specifications Committee participated in an exercise that required every member to individually assign a percentage weight to each of the knowledge domains. Weights were then entered into a spreadsheet and shown to the committee. The committee members were able to compare the test content weights derived from the survey responses to their own estimates. This resulted in an extended discussion among committee members regarding the optimal percentages for the examination.

Table 4 presents the test specifications recommendations, including the percentage content weights by domain and the target number of questions for the VA-BC™ examination. This information can also be found in Appendix I2. The approved test specifications is presented in Appendix K.

Table 4. *Test Content Weights Recommended by the Test Specifications Committee*

Content Areas	Number of Knowledge Statements	TS Committee Percentage Recommendations	Number of Examination Items
1. Device Assessment and Selection	8	14%	17
2. Patient Assessment	6	18%	23
3. Preparation	4	11%	14
4. Insertion	4	11%	14
5. Care and Maintenance	6	14%	17
6. Troubleshooting Complications and Interventions	4	16%	20
7. Professional Development and Evidence-Based Practice	6	8%	10
8. Legal and Ethical Considerations	7	8%	10
<b>Total</b>	<b>45</b>	<b>100%</b>	<b>125</b>

### **Linkage of Tasks and Knowledge**

Linking tasks and knowledge verifies that each knowledge area included on an examination is related to the competent performance of important professional activities. As such, linking documents the content validity of the professional activities included in the test specifications.

Linking does not require the production of an exhaustive listing; rather, task-knowledge links are developed to ensure that each knowledge area is identified as being related to the performance of at least one, or in most cases several, important tasks.

Linking also provides guidance for item-writing activities. When item writers develop questions for specific knowledge areas, they have a listing of tasks that relate to the knowledge. This provides context for developing examination questions and assists the item writers in question design. The linking of tasks and knowledge is provided in Appendix L.

### **Crosswalk**

The Test Specifications Committee was asked to review the old VA-BC™ test specifications and compare it to the new list of knowledge areas. For each content area on the old test specifications the committee was asked to indicate the corresponding knowledge area from the new test specifications. The crosswalk exercise, paired with a gap analysis of the entire item bank, provides information about any specific content areas in need of new examination questions. The mapping of the old content blueprint to the new test specifications can be found in Appendix M.

## SUMMARY AND CONCLUSIONS

The job analysis study for the VA-BC™ examination was conducted to:

- identify and validate tasks and knowledge important to the work performed by vascular access health care professionals;
- create test specifications that will be used to develop the VA-BC™ examination; and,
- identify professional development/continuing education needs relevant to the work role of vascular access health care professionals.

The tasks and knowledge were developed through an iterative process involving the combined efforts of VACC, Prometric, and subject matter experts. The tasks and knowledge were entered into a survey and subjected to verification/refutation through dissemination to vascular access health care professionals. The survey participants were asked to rate the importance of specific tasks and knowledge.

The results of the study support the following:

- All of the tasks and knowledge that were verified as important through the survey provide the foundation of empirically derived information from which to develop the test specifications for the VA-BC™ examination.
- Evidence was provided in this study that the comprehensiveness of the content within the task and knowledge domains was well covered.

In summary, the study used a multi-method approach to identify the tasks and knowledge important to the work performed by vascular access health care professionals. The results of the study will be used to update the VA-BC™ examination.

## APPENDIX A MEETING PARTICIPANTS

<b>Task Force Committee February 22 – February 23, 2025</b>
Christine Garten
Micah Klaas
Corrie Moreau
Bonnie Schug
Michelle Devries
Nikia Ali
Sarah Freund
Elizabeth Martin
Randi Sandlin
Annia Xu
Michael Stiller
Matt Gibson

<b>Test Specifications Committee May 29 – June 5, 2025</b>
Micah Klaas
Corrie Moreau
Bonnie Schug
Nikia Ali
Sarah Freund
Randi Sandlin
Annia Xu
Roger Donini
Ashley Hansen
Lauren Langlands
Laura Palmieri
Carey Prather

# APPENDIX B1

## TASK FORCE PRE-MEETING INFORMATION AND TEST SPECIFICATIONS PRE-MEETING INFORMATION



PREPARING FOR YOUR  
PARTICIPATION IN THE

VASCULAR ACCESS BOARD CERTIFIED<sup>CM</sup>  
(VA-BC<sup>CM</sup>)

JOB ANALYSIS

TASK FORCE MEETING  
FEBRUARY 22 – 23, 2025

PREPARED BY:



ASSESSMENT SERVICES

## INTRODUCTION

The Vascular Access Certification Corporation (VACC) has commissioned a Job Analysis from Prometric for the Vascular Access Board Certified<sup>CM</sup> (VA-BC<sup>CM</sup>) examination.

A job analysis is designed to obtain descriptive information about the tasks performed in a job and the knowledge/skills needed to support the performance. The purpose of the job analysis is to:

- Create a list of the tasks and knowledge related to work performed by vascular access health care professionals; and,
- Update the test specifications for the VA-BC<sup>CM</sup> examination.

## PARTICIPATION IN A TASK FORCE MEETING

During the meeting, we will define the major content areas (domains) along with the important tasks performed and the knowledge needed for competent performance. The information produced in this meeting will be incorporated into a survey distributed to vascular access health care professionals.

Your role—along with the other task force members— is to actively provide information during the meeting based on your professional expertise about the work performed by vascular access health care professionals.

On behalf of VACC, we welcome you as a critical contributor to this important project by serving on the Task Force Committee!

## PREPARING FOR THE TASK FORCE MEETING

This document provides information to prepare you for participation in the Task Force meeting, including

- the meeting schedule and agenda
- an overview of the job analysis process and how task and knowledge statements are developed
- the current list of content areas included on the VA-BC<sup>CM</sup> examination

Tatyana Loughran, Sr. Assessment Design Specialist, will serve as the Prometric meeting facilitator.

## ABOUT THE MEETING

### ACCOMMODATION AND MEETING LOCATION

#### ACCOMODATION

**The Pfister Hotel**  
424 E Wisconsin Ave  
Milwaukee, WI 53202

#### MEETING LOCATION

**EDI Office**  
555 E Wells St  
Room #1217  
Milwaukee, WI 53202

### MEETING SCHEDULE

#### DAY 1 - SATURDAY, FEBRUARY 22

8:30am – 9:00am	Breakfast (catered at the EDI Office)
9:00am – 9:30am	Welcome and Orientation
9:30am – 10:30am	Job Analysis Task Force
10:30am – 10:45am	AM Break
10:45am – 12:00pm	Job Analysis Task Force
12:00pm – 12:30pm	Lunch (catered at the EDI Office)
12:30pm – 2:00pm	Job Analysis Task Force
2:00pm – 2:15pm	PM Break
2:15pm – 3:45pm	Job Analysis Task Force
3:45pm – 4:00pm	Wrap up



**DAY 2 - SUNDAY, FEBRUARY 23**

8:30am – 9:00am	Breakfast (catered at the EDI Office)
9:00am – 10:30am	<b>Job Analysis Task Force</b>
10:30am – 10:45am	AM Break
10:45am – 12:00pm	<b>Job Analysis Task Force</b>
12:00pm – 12:30pm	Lunch (catered at the EDI Office)
12:30pm – 2:00pm	<b>Job Analysis Task Force</b>
2:00pm – 2:15pm	PM Break
2:15pm – 3:45pm	<b>Job Analysis Task Force</b>
3:45pm – 4:00pm	Wrap up

**AGENDA**

- Welcome and introductions
- Overview of the conduct of a job analysis
- Develop the task domains and statements
- Develop the knowledge/skill domains and statements
- Develop the survey background information questions
- Discussion about post-Task Force Meeting activities and assignments:
  - Review of draft job analysis survey by Task Force Committee
  - Survey pilot nominations and pilot test
  - Conference calls
  - Test Specification Committee schedule

## JOB ANALYSIS DEFINED

A job analysis (also known as a practice analysis, role and function study, body of knowledge study or role delineation) refers to procedures designed to obtain descriptive information about the tasks performed on a job and the important knowledge/skills needed to competently perform those activities. The specific type of job information collected is determined by the purpose for which the information will be used. For purposes of developing certification examinations, the study should identify important tasks and knowledge necessary for competent performance.

In addition, a well-designed job analysis should reflect the diversity within the job. Diversity refers to regional or job context factors (e.g., geographic region, practice setting) and to subject-matter expert factors (e.g., professional experience, education).

By asking people of diverse backgrounds to rate the importance of tasks and knowledge, fairness is built into the certification process from the start. If diverse people perceive the job in similar ways, then that perception can be applied in support of including that content in the examination.

## ADHERENCE TO THE STANDARDS FOR EDUCATIONAL AND PSYCHOLOGICAL TESTING

The job analyses conducted by Prometric are designed to adhere to professional practice guidelines presented in *The Standards for Educational and Psychological Testing* (2014) (*The Standards*).

*The Standards* is a comprehensive technical guide that provides criteria for the evaluation of tests, testing practices, and the effects of test use. It was developed jointly by the American Psychological Association (APA), the American Educational Research Association (AERA), and the National Council on Measurement in Education (NCME). The guidelines presented in *The Standards* have, by professional consensus, come to define the necessary components of quality testing. Consequently, a testing program that adheres to *The Standards* is more likely to be judged valid and defensible than one that does not.

*The Standards* emphasize the concept of content validity and the need to conduct a job analysis to assure that the knowledge assessed in credentialing initiatives are in fact limited to those important for competent performance. As noted in Standard 11.13, "The content domain to be covered by a credentialing test should be defined clearly and justified in terms of the importance of the content for credential-worthy performance in an occupation or profession. A rationale and evidence should be provided to support the claim that the knowledge or skills being assessed are required for credential-worthy performance in that occupation and are consistent with the purpose for which the credentialing program was instituted...Typically, some form of job or practice analysis provides the primary basis for defining the content domain..." (pp. 181-182).

## OBJECTIVES OF THE JOB ANALYSIS

The objectives of the study are two-fold: (1) to construct with subject-matter experts a comprehensive delineation of tasks and knowledge related to important work activities, and (2) to obtain, using survey methodology, the independent judgments of a national sample of professionals to verify (or refute) the importance of the tasks and knowledge.

The verification/refutation component plays a critical part in ensuring that the content area (in whole or in part) is judged relevant to work in the profession being examined. The verified list of important tasks and knowledge can be used in the development of test specifications for licensure examinations.

## THE TASK FORCE MEETING: DELINEATION OF DOMAINS, TASKS, AND KNOWLEDGE/SKILLS

The major aim of conducting a job analysis is to develop a concise and logical compilation of what professionals do in specific terms that can be readily communicated and understood. The delineation procedure involves a number of steps including the identification of: (1) domains; (2) tasks; and (3) the knowledge/skills underlying the performance of tasks:

1. Domains (also known as topic areas, content areas, or dimensions) represent the principal areas of a) job responsibility and b) knowledge needed to perform one's professional responsibilities. These may be characterized as major headings in an outline format and may include a brief behavioral description of the domain. (The domains for tasks and knowledge may be different.)
2. When all domains have been identified, each domain will be described in terms of the tasks performed to fulfill important job responsibilities. The tasks identified in the job analysis must cover all aspects of the work that are relevant to the objectives of the study.
3. After the domains and tasks have been compiled, the knowledge/skill domains and the knowledge/skills associated with the performance of activities are identified.

## CURRENT DOMAINS (CONTENT AREAS)

Domains are the essential content areas that should be covered on an exam. Below is a list of the four domains that are included in the current VA-BC<sup>CM</sup> examination:

- I. Clinical Knowledge and Application**
  - A. Device Assessment and Selection
  - B. Patient Assessment
  - C. Preparation
  - D. Insertion
  - E. Care and Maintenance of Vascular Access
  - F. Troubleshooting, Complications, and Interventions
- II. Interpersonal and Communication Skills**
- III. Professional Development**
- IV. Legal and Ethical Considerations**



## WRITING TASKS

Tasks are distinct, identifiable, specific job-related tasks performed by professionals in your field that are necessary for competent performance. Tasks should begin with action verbs such as:

Administer	Calculate	Counsel	Document	Identify	Interview	Negotiate	Read	Revise
Analyze	Compute	Describe	Establish	Instruct	Maintain	Obtain	Recommend	Schedule
Assess	Conduct	Design	Evaluate	Integrate	Measure	Perform	Report	Supervise
Audit	Consult	Discuss	Formulate	Interpret	Monitor	Plan	Review	Write

A few examples of some *commonly misused verbs* that should be avoided because of ambiguity are:

Assist	Consider	Determine	Help	Know	Participate	Process	Understand
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Since tasks vary in complexity, the writer should expect to have statements of varying length and complexity. The following are some examples of appropriately written tasks:

- Create and maintain sterile field for vascular access device insertion
- Educate and train medical, nursing and ancillary staff regarding the patient’s vascular access device use, care and maintenance
- Monitor patient for post-insertion complications (e.g. infection, device damage, thrombosis, phlebitis, malposition, nerve damage, extravasation, inability to achieve hemostasis)

## WRITING KNOWLEDGE/SKILLS

The development of knowledge/skills requires inferring behaviors from the tasks. In the writing of these statements, conciseness with specificity is the goal. Adjectives modifying the level or extent of the knowledge (e.g., some, thorough, clearly, effectively) should not be used. Doing so introduces a qualifier that is not appropriate or necessary in the job analysis process. The following are a few examples of knowledge statements:

Knowledge of/Skill in:

- Laboratory values relevant to device placement and maintenance
- Professional codes of conduct, professional guidelines, scope of practice and standards of care
- Infection prevention procedures, concepts and principles (e.g. sterile field, aseptic non-touch technique [ANTT], common pathogens)

## REVIEWING THE TASKS AND KNOWLEDGE/SKILLS

The following questions will be used to review the draft listing of tasks and knowledge after it has been created:

**CLARITY:** Are the domains succinct? Are the tasks and knowledge/skills clearly worded?

**RELEVANCE:** Are the tasks and knowledge/skills relevant to the work performed by a vascular access health care professional?

**REDUNDANCY:** Are the tasks and knowledge/skills unique and discrete?

**OMISSIONS:** Have any important tasks and knowledge/skills been omitted?

**COMPREHENSIVENESS:** Are the domains, tasks, and knowledge/skills comprehensive and representative?



PREPARING FOR YOUR  
PARTICIPATION IN THE

VASCULAR ACCESS BOARD CERTIFIED™  
(VA-BC™)

JOB ANALYSIS

TEST SPECIFICATION MEETINGS  
MAY 29 – JUNE 10, 2025

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PREPARED BY:



ASSESSMENT SERVICES

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## INTRODUCTION

The Vascular Access Certification Corporation (VACC) has commissioned a Job Analysis from Prometric for the Vascular Access Board Certified™ (VA-BC™) examination.

A job analysis is designed to obtain descriptive information about the tasks performed in a job and the knowledge/skills needed to support the performance of these activities. The purpose of the Job Analysis is to:

- Review and revise the list of the tasks and knowledge related to work performed by vascular access health care professionals; and,
- Update the test specification for the VA-BC™ examination.

## PREPARING FOR THE TEST SPECIFICATION MEETING

This document provides information to prepare you for participation in the Test Specification meeting, including

- the meeting schedule and an agenda
- an overview of the Job Analysis process
- an overview of the Test Specification development process

Tatyana Loughran, Senior Assessment Design Specialist, will serve as the Prometric meeting facilitator.

## PARTICIPATION IN A TEST SPECIFICATION MEETING

The purpose of the test specification meeting is to review the results of the job analysis survey that was disseminated between April and May 2025, and update the VA-BC™ test specification. Your role—along with the other test specification committee members— is to actively provide information during the meeting based on your professional expertise about the work performed by vascular access health care professionals.

On behalf of VACC, we welcome you as a critical contributor to this important project by serving on the Test Specification Committee!

## ABOUT THE MEETING

### MEETING SCHEDULE

#### MEETING I

**DATE:** Thu, May 29

**TIME:** 8am – 12pm ET

#### MEETING II

**DATE:** Tue, June 3

**TIME:** 8am – 12pm ET

#### MEETING III

**DATE:** Thu, Jun 5

**TIME:** 8am – 12pm ET

#### MEETING IV

**DATE:** Tue, Jun 10

**TIME:** 8am – 12pm ET

### AGENDA

- Welcome and introductions
- Overview of the conduct of the Job Analysis
- Review of the results of the Job Analysis
- Development of the Test Specification
  - Recommendations regarding test content (task and knowledge areas)
  - Recommendations regarding test content weights
  - Linking of knowledge areas and tasks

### PROFESSIONAL JOB ANALYSIS STEPS

- Development of a Job Analysis survey with subject-matter experts
- Administration of an Internet-delivered survey
- Conduct of the survey data analysis
- Development of the test specification
- Preparation of the report

## JOB ANALYSIS DEFINED

A Job Analysis (also known as a job task analysis, practice analysis, role and function study, body of knowledge study, or role delineation) refers to procedures designed to obtain descriptive information about the professional activities performed on a job and the important knowledge needed to competently perform those professional activities. The specific type of job information collected for a job analysis is determined by the purpose for which the information will be used. For purposes of developing certification examinations, a job analysis should identify important tasks and knowledge necessary for competent performance.

In addition, a well-designed job analysis should reflect the diversity within the job. Diversity refers to regional or job context factors (e.g., geographic region, practice setting) and to subject-matter expert factors (e.g., professional experience, gender).

By asking people of diverse backgrounds to rate the importance of professional activities and knowledge, fairness is built into the certification process from the start. If diverse people perceive the job in similar ways, then that perception can be applied in support of including that content in the credentialing examination.

## ADHERENCE TO THE STANDARDS FOR EDUCATIONAL AND PSYCHOLOGICAL TESTING

The job analyses conducted by Prometric are designed to adhere to professional practice guidelines presented in *The Standards for Educational and Psychological Testing* (2014) (*The Standards*).

*The Standards* is a comprehensive technical guide that provides criteria for the evaluation of tests, testing practices, and the effects of test use. It was developed jointly by the American Psychological Association (APA), the American Educational Research Association (AERA), and the National Council on Measurement in Education (NCME). The guidelines presented in *The Standards* have, by professional consensus, come to define the necessary components of quality testing. Consequently, a testing program that adheres to *The Standards* is more likely to be judged valid and defensible than one that does not.

*The Standards* emphasize the concept of content validity and the need to conduct a job analysis to assure that the knowledge assessed in credentialing initiatives are in fact limited to those important for competent performance. As noted in Standard 11.13, "The content domain to be covered by a credentialing test should be defined clearly and justified in terms of the importance of the content for credential-worthy performance in an occupation or profession. A rationale and evidence should be provided to support the claim that the knowledge or skills being assessed are required for credential-worthy performance in that occupation and are consistent with the purpose for which the credentialing program was instituted...Typically, some form of job or practice analysis provides the primary basis for defining the content domain..." (pp. 181-182).

## CONDUCT OF THE TEST SPECIFICATION MEETING

### STEP 1: REVIEW THE RESULTS OF THE JOB ANALYSIS SURVEY

The results of the job analysis survey will be presented to the Test Specification Committee (background and general information questions; task and knowledge ratings for importance).

The survey results represent the independent judgments of vascular access health care professionals. Participants verified (or refuted) the importance of each task and knowledge.

Criteria that will be used to aid the Test Specification Committee in making informed recommendations are comprised of the survey responses for each task and knowledge statement (e.g., importance means, standard deviations, frequency distribution of responses).

### STEP 2: RECOMMENDATIONS FOR TEST CONTENT (TASK AND KNOWLEDGE AREAS)

- Review of means, standard, deviations, and frequency percentages for task importance ratings
- Review of task content coverage comments
- Review of means, standard, deviations, and frequency percentages for knowledge importance ratings
- Review of knowledge area content coverage comments

### STEP 3: RECOMMENDATIONS REGARDING TEST CONTENT WEIGHTS

The Test Specification Committee will recommend the content weighting (percentage of items).

The committee members will be led through an activity where they assign a percentage weight to each knowledge domain/subdomain for these examinations. After reviewing the data, the Committee will determine the optimal percentage weights for each domain.

The approved test content weights for each part will be used to guide examination development activities including item writing and examination assembly.

### STEP 4: LINKING OF KNOWLEDGE AREAS AND TASKS

The Test Specification committee will develop task-knowledge links to ensure that each knowledge area is identified as being related to the performance of at least one, or in most cases several, important tasks.

Linking knowledge areas and tasks verifies that each knowledge area included on an examination is related to the competent performance of important professional activities.

As such, linking documents the content validity of the professional activities included in the test specification.

## APPENDIX B2 JOB ANALYSIS SURVEY

# VACC VA-BC Job Analysis Survey 2025

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Start of Block: Captcha

Q1 Please answer to proceed to the survey.

End of Block: Captcha

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Start of Block: Instructions Page

Q1

### **Vascular Access Board Certified (VA-BCTM)**

#### **Job Analysis Survey 2025**

#### **ABOUT THE SURVEY**

The purpose of this job analysis study is to identify the essential tasks and knowledge required for competent performance by certified vascular access health care professionals. The findings from this study will be utilized to update the test specifications and guide the development of the VA-BCTM examination. This job analysis study was developed with the valuable input of Subject Matter Experts who are VA-BCTM certified and generously volunteered their time to this project. Your participation in this study is critical to ensuring the success of the job analysis.

#### **SURVEY FORMAT**

This survey can be completed in approximately 30 minutes. Most questions take just seconds to answer. A progress bar is provided at the bottom of each page to indicate the percentage of the survey you have completed. The survey consists of the following sections: Section 1: Background and General Information Section 2: Tasks Section 3: Knowledge Section 4: Test Content Recommendations Section 5: Comments Section 6: Survey Drawing Each time you select the "Next" button, your answers will be recorded and you will be automatically transferred to the next set of items.

#### **SURVEY DRAWING**

In recognition of the value of your time, you will be offered the chance to enter a drawing to win a \$25 Amazon gift card, to be randomly awarded to 10 respondents. To be eligible, the survey must be completed in full. To be entered into the drawing, you must provide your full name, email address and phone number at the end of the survey. Please note that all private information provided will be kept confidential.

#### **HOW TO EXIT AN INCOMPLETE SURVEY AND CONTINUE LATER**

If you cannot finish the entire survey in one sitting, you can exit the survey by closing your web browser. To re-access the survey please use the original survey URL (link). Your responses are automatically recorded as you

navigate to the next page. Ensure you complete all questions on the current page and select the "Next" button, before exiting the survey.

**TECHNICAL ASSISTANCE** If you encounter any technical difficulties with completing the survey online or have questions regarding the survey content, you can contact us via email. Please be sure to identify the survey you are taking (VACC VA-BCTM Job Analysis Survey 2025). Email: tatyana.loughran@prometric.com. You will receive a response within 24 hours or less, Monday through Friday.

End of Block: Instructions Page

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Start of Block: Section 1: Background and General Information

biq

**SECTION 1: BACKGROUND AND GENERAL INFORMATION** The information that you provide in this section is completely confidential and will be used for research purposes only. Please answer the following questions by selecting the response that most closely describes you or your professional activities, or type in your answer as appropriate.

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**biq1 1. Do you currently hold the VA-BCTM designation?**

Yes (1)

No (2)

*Skip To: End of Survey If 1. Do you currently hold the VA-BCTM designation? = No*

-----

**biq2 2. Which of the following best describes your current position?**

- Advanced Practice Nurse (1)
  - EMT (2)
  - Paramedic (69)
  - Pharmacist (70)
  - Physician (71)
  - Physician's Assistant (104)
  - Practical Nurse / Vocational Nurse (105)
  - Radiologic Technologist (106)
  - Registered Nurse (107)
  - Respiratory Therapist (108)
  - Other (please specify) (74) \_\_\_\_\_
- 

**biq3 3. Which of the following most closely describes your primary job function?**

- Patient Care (1)
  - Leadership / Supervisory (69)
  - Education (2)
  - Other (please specify) (95) \_\_\_\_\_
- 

Page Break \_\_\_\_\_

**biq4 4. How long have you been involved in vascular access?**

- 4 years or less (1)
  - 5 to 10 years (69)
  - 11 to 20 years (94)
  - More than 20 years (95)
- 

**biq5 5. Which of the following best describes your highest educational attainment?**

- Certificate (8)
  - Diploma (7)
  - Associate's degree (73)
  - Bachelor's degree (74)
  - Master's degree (75)
  - Doctorate degree (MD DO PhD DNP) (76)
  - Other (please specify) (81) \_\_\_\_\_
- 

**biq6 6. What is your primary patient population? (Select all that apply)**

- Neonatal (81)
  - Pediatric (8)
  - Adult (7)
- 

Page Break

**biq7 7. What is your experience with the following vascular access devices? (Select all that apply) \***  
**Includes education, monitoring compliance, line care, daily / routine usage**

	Insert (1)	Use / Manage* (2)
Peripheral intravenous catheters (PIVC) (8)	<input type="checkbox"/>	<input type="checkbox"/>
Midline catheters (7)	<input type="checkbox"/>	<input type="checkbox"/>
Peripherally inserted central catheters (PICC) (73)	<input type="checkbox"/>	<input type="checkbox"/>
Central venous access devices (CVAD) (81)	<input type="checkbox"/>	<input type="checkbox"/>
Implanted vascular access devices (IVAD) (74)	<input type="checkbox"/>	<input type="checkbox"/>
Dialysis / apheresis catheters (75)	<input type="checkbox"/>	<input type="checkbox"/>
Arterial catheters (76)	<input type="checkbox"/>	<input type="checkbox"/>
Intraosseous devices (77)	<input type="checkbox"/>	<input type="checkbox"/>
Other (78)	<input type="checkbox"/>	<input type="checkbox"/>

*Display this question:*

*If 7. What is your experience with the following vascular access devices? (Select all that apply) \*... = Other [ Insert ]*  
*Or 7. What is your experience with the following vascular access devices? (Select all that apply) \*... = Other [ Use / Manage\* ]*

**biq7a 7a. Please specify the vascular access device(s) you insert and/or work with.**

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**biq8 8. Which of the following most closely describes your primary employment setting?**

- Hospital / Medical Center (1)
- Ambulatory Care (57)
- Skilled Nursing Facility (58)
- Public Health Care (59)
- Infusion Center (60)
- Home Infusion (61)
- Long Term Acute Care (LTAC) Hospital (62)
- Military (63)
- Mobile Vascular Access (64)
- Hospice Care (65)
- Industry / Manufacturer (66)
- Emergency Medical Services (67)
- Other (please specify) (68) \_\_\_\_\_

**biq9 9. Which of the following additional certification(s) do you hold? (Select all that apply)**

- Canadian Vascular Access Association Certified [CVAA©] (1)
- Certified Registered Nurse Infusion [CRNI®] (57)
- Certified PICC Ultrasound Inserter [CPUI] (58)
- Certified Critical Care Registered Nurse [CCRN] (59)
- Certified in Infection Control [CIC®] (60)
- Oncology Certified Nurse [OCN®] (61)
- Certified Pediatric Hematology Oncology Nurse [CPHON®] (62)
- Registered Nurse Certified in Neonatal Intensive Care [RNC-NIC] (63)
- None (64)

**biq10 10. In which country do you primarily work? (Select one from the drop-down menu)**

▼ Belgium (1) ... US Minor Outlying Islands (69)

*Display this question:*

*If 10. In which country do you primarily work? (Select one from the drop-down menu) = United States of America*

**biq10a 10a. In which state / territory do you primarily work? (Select one from the drop-down menu)**

▼ Alabama (1) ... Multiple States (83)

*Display this question:*

*If 10. In which country do you primarily work? (Select one from the drop-down menu) = Canada*

biq10b 10a. In which province / territory do you primarily work? (Select one from the drop-down menu)

▼ Alberta (1) ... Yukon (68)

Q641

**Optional Biographical Questions**

The following questions are **optional**. Any information provided in this section is completely confidential and is only used to assure diversity within the survey results.

biq11 11. What is your age?

- 0 to 20 (8)
- 21 to 30 (7)
- 31 to 40 (69)
- 41 to 50 (70)
- 51 to 60 (71)
- Over 60 (72)
- Prefer not to answer (73)

biq12 12. What is your gender?

- Female (1)
- Male (2)
- Other (please specify) (3) \_\_\_\_\_
- Prefer not to answer (4)

biq13 13. How would you describe your race/ ethnicity?

- American Indian / Alaska Native (1)
- Asian (2)
- Black / African American (4)
- Hispanic / Latino (5)
- Native Hawaiian / Other Pacific Islander (6)
- Caucasian / White (7)
- Multiracial (8)
- Other (please specify) (3) \_\_\_\_\_
- Prefer not to answer (9)

End of Block: Section 1: Background and General Information

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Start of Block: Section 2: Task

**TD SECTION 2: TASKS** This section contains 7 Task domains. Each domain contains several Task statements. The purpose of the section is to rate the importance of the Task statements for a vascular access health care professional. Domains: 1. Patient Assessment (7 task statements) 2. Preparation (10 task statements) 3. Insertion (9 task statements) 4. Care and Maintenance (10 task statements) 5. Troubleshooting Complications and Interventions (5 task statements) 6. Professional Development and Evidence-Based Practice (5 task statements) 7. Legal and Ethical Considerations (7 task statements)

TD The rating scale you will use is:

**Importance: How important is competent performance of the task for a vascular access health care professional?**

Importance	0 =	Of	No
Importance	1 =	Of	Little
Importance	2 =	Of	Moderate
Importance	3 =		Important

Page Break

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**TD1#1 Domain 1 :~Patient Assessment~**

**~Importance (T)**

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0 = Of no importance (1)    1 = Of little importance (2)    2 = Of moderate importance (3)    3 = Important (4)    4 = Very important (5)

~1. Analyze patient's medical history (e.g. allergies, vascular access history, acute conditions, lab values, imaging, comorbidities - chronic kidney disease [CKD], hypoplastic left heart syndrome [HLHS]) (1)

~2. Analyze indications and contraindications for vascular access devices (40)

~3 .Practice vessel preservation (e.g. acute and chronic conditions, catheter to vein ratio, device performance tracking) (48)

~4. Evaluate patient specific characteristics and resources to maintain vascular access devices (e.g. patient preference, family support, access to home healthcare, financial considerations, patient activity level, developmental /

cognitive deficit,  
sedation needs)  
(41)

~5. Assess  
vascular health  
via visual  
inspection /  
palpation and /  
or imaging  
technology (e.g.  
ultrasound,  
transillumination,  
fluoroscopy /  
Computer  
Tomography [CT]  
/ Magnetic  
Resonance  
Imaging [MRI]  
venogram, chest  
x-ray) (42)



~6. Determine  
insertion  
locations based  
on patient  
therapy, access  
requirements  
and anatomy  
(43)



~7. Determine  
the appropriate  
vascular access  
device for patient  
therapy (e.g.  
peripheral vs.  
central,  
temporary vs.  
implanted /  
tunnelled) (44)



TD1-S How well do the task statements in Domain 1 cover important aspects of Patient Assessment?

- 0 = Very Poorly (1)
- 1 = Poorly (2)
- 2 = Adequately (3)
- 3 = Well (4)
- 4 = Very Well (5)

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TD1-CC What important task statements, if any, are not covered?

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**TD2#2 Domain 2 :~Preparation~**

**~Importance (T)**

0 = Of no importance (1)	1 = Of little importance (2)	2 = Of moderate importance (3)	3 = Important (4)	4 = Very important (5)
--------------------------	------------------------------	--------------------------------	-------------------	------------------------

~1. Coordinate care with interdisciplinary team (e.g. interpreter, child life specialist, case management, providers) (39)

~2. Discuss the risks, benefits and alternatives to vascular access device placement with patient / caregiver and obtain appropriate consent (1)

~3. Prepare appropriate environment for device insertion (e.g. patient bedside, operating room, fluoroscopy, workspace in the home) (26)

~4. Gather necessary supplies (e.g. needleless connectors, filters, tubing, securement devices, saline flush, verify expiration) (27)

~5. Perform verification of procedure and

patient (e.g. time-out, checklists, empowered observer) (28)

~6. Have an intervention plan for emergency complications (40)

~7. Prepare patient for vascular access device placement (e.g. toileting, position the patient for comfort, premedicate) (41)

~8. Select optimal site and vessel for insertion (e.g. patient preference, external measurement, catheter to vein ratio) (42)

~9. Perform infection prevention procedures (e.g. hand hygiene, skin preparation, personal protective equipment [PPE]) (43)

~10. Create and maintain

aseptic field for  
vascular access  
device insertion  
(44)

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TD2-S How well do the task statements in Domain 2 cover important aspects of Preparation?

- 0 = Very Poorly (1)
- 1 = Poorly (2)
- 2 = Adequately (3)
- 3 = Well (4)
- 4 = Very Well (5)

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TD2-CC What important task statements, if any, are not covered?

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TD3#3 Domain 3 :~Insertion~

~Importance (T)

0 = Of no importance (1)	1 = Of little importance (2)	2 = Of moderate importance (3)	3 = Important (4)	4 = Very important (5)
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~1. Prepare the vascular access device and insertion components (e.g. prime device and / or components, trim catheter if indicated, attach needleless connector) (34)

~2. Insert Central Venous Access Devices (CVAD) (e.g. Peripherally Inserted Central Catheters [PICC]; Non-Tunneled Central Venous Catheters: Subclavian, Jugular, Umbilical, and Femoral; Implanted Vascular Access Devices / Ports; Tunneled Catheters) (1)

~3. Insert Peripheral Intravenous Devices (i.e. Short, Long, Midline) (26)

~4. Insert other devices (e.g. Arterial Lines,

Intraosseous  
Devices,  
Umbilical  
Arterial  
Catheter  
[UAC]) (35)

~5. Monitor  
patient's  
tolerance of  
the procedure  
(e.g. increased  
heart rate,  
pain) (36)

<input type="radio"/>				
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~6. Flush the  
device per  
protocol (37)

<input type="radio"/>				
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~7. Confirm  
placement of  
the vascular  
access device  
(e.g. blood  
return, tip  
location  
systems, tip  
confirmation  
systems,  
radiological  
techniques)  
(38)

<input type="radio"/>				
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~8. Apply  
dressing and  
securement  
per protocol  
(39)

<input type="radio"/>				
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~9. Document  
the insertion  
procedure  
(e.g.  
technique,  
location,  
vessel  
accessed, skin  
prep, device  
information,  
dressing,

<input type="radio"/>				
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stabilization,  
pre-  
medication,  
local  
anesthetic, tip  
location,  
patient  
tolerance of  
procedure,  
external  
length) (40)

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TD3-S How well do the task statements in Domain 3 cover important aspects of Insertion?

- 0 = Very Poorly (1)
- 1 = Poorly (2)
- 2 = Adequately (3)
- 3 = Well (4)
- 4 = Very Well (5)

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TD3-CC What important task statements, if any, are not covered?

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**TD4#4 Domain 4 :~Care and Maintenance~**

**~Importance (T)**

0 = Of no importance (1)	1 = Of little importance (2)	2 = Of moderate importance (3)	3 = Important (4)	4 = Very important (5)
--------------------------	------------------------------	--------------------------------	-------------------	------------------------

~1. Assess insertion / exit site via visualization / palpation (e.g. dressing integrity, skin assessment, port needle placement, external length, patient complaints and / or concerns) (34)

~2. Verify patency of all lumens (e.g. brisk blood return upon aspiration, flushing without resistance) (1)

~3. Ensure proper use and set-up of infusion equipment and add-on supplies (e.g. needleless connectors, device clamps) (26)

~4. Monitor patient for post-insertion complications (e.g. infection, device damage, thrombosis, phlebitis, malposition, nerve damage,

infiltration /  
extravasation,  
inability to  
achieve  
hemostasis)  
(27)

~5. Perform  
dressing  
change per  
protocol (e.g.  
securement  
device, port  
needle,  
needleless  
connector)  
(28)

~6. Disinfect  
needleless  
connector or  
hub before  
each access  
per protocol  
(36)

~7. Maintain  
patency of the  
device (e.g.  
flush and lock)  
(37)

~8. Provide  
ongoing  
education to  
the patient /  
caregiver  
regarding  
device care  
and  
maintenance  
(38)

~9.  
Communicate  
a  
comprehensive  
vascular access  
care plan from  
device

<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				

placement to removal (e.g. catheter insertion information, care and maintenance instructions, patient restrictions) (39)

~10. Remove vascular access device using appropriate removal technique per protocol (40)

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TD4-S How well do the task statements in Domain 4 cover important aspects of Care and Maintenance?

- 0 = Very Poorly (1)
- 1 = Poorly (2)
- 2 = Adequately (3)
- 3 = Well (4)
- 4 = Very Well (5)

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TD4-CC What important task statements, if any, are not covered?

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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



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**TD5#5 Domain 5 :~Troubleshooting Complications and Interventions~**

**~Importance (T)**

0 = Of no importance (1)	1 = Of little importance (2)	2 = Of moderate importance (3)	3 = Important (4)	4 = Very important (5)
--------------------------	------------------------------	--------------------------------	-------------------	------------------------

~1. Manage insertion related complications (e.g. inadvertent arterial puncture, pneumothorax, hemothorax, hematoma, catheter tip malposition, nerve injury, wire embolization, cardiac arrhythmia) (34)



~2. Manage post-insertion related complications (e.g. extravasation, infiltration, thrombosis, catheter tip migration, catheter occlusion, dislodgement, catheter associated blood stream infections [CABSIs]) (1)



~3. Administer pharmacologic interventions (e.g. catheter clearance, extravasation treatment, locking solutions - antiseptic,



ethanol,  
anticoagulants)  
(26)

~4. Repair /  
exchange  
catheters per  
manufacturer's  
Instructions for  
Use (IFUs) (27)

~5. Identify  
when to refer  
patients to  
appropriate  
service /  
specialty for  
complications  
(e.g. venous  
occlusion,  
internal  
fracture) (28)

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TD5-S How well do the task statements in Domain 5 cover important aspects of Troubleshooting Complications and Interventions?

- 0 = Very Poorly (1)
- 1 = Poorly (2)
- 2 = Adequately (3)
- 3 = Well (4)
- 4 = Very Well (5)

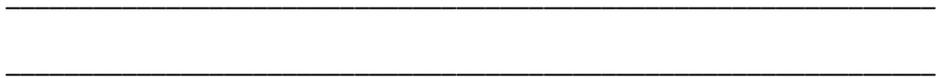
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TD5-CC What important task statements, if any, are not covered?

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**TD6#6 Domain 6 :~Professional Development and Evidence-Based Practice~**

**~Importance (T)**

0 = Of no importance (1)	1 = Of little importance (2)	2 = Of moderate importance (3)	3 = Important (4)	4 = Very important (5)
--------------------------	------------------------------	--------------------------------	-------------------	------------------------

~1. Stay informed of emerging vascular access literature / research and evidence-based practice (e.g. journal clubs, seminars, webinars, conferences, vascular access organizations, emerging technology) (34)



~2. Utilize current evidence-based practice guidelines specific to vascular access (e.g. Infusion Nurses Society [INS], Michigan Appropriateness Guide for Intravenous Catheters [MAGIC], Kidney Disease Outcomes Quality Initiative [KDOQI], Society for Healthcare Epidemiology in America [SHEA], Association for Vascular Access [AVA], Canadian Vascular Access Association [CVAA]) (1)



~3. Monitor the outcome of



practice changes (e.g. implementation of new techniques and / or products, data collection) (26)

~4. Identify quality improvement opportunities (e.g. early assessment for vessel preservation, inclusion of vascular access in unit and hospital wide orientation, root cause analysis, participation in hospital committees - infection control, vascular access, product evaluation) (27)

~5. Act as a resource and support to medical, nursing and ancillary staff related to vascular access and complication management (e.g. education and training, assessment of needs, appropriate device selection, just-



in-time / in-the-  
moment  
training) (28)

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TD6-S How well do the task statements in Domain 6 cover important aspects of Professional Development and Evidence-Based Practice?

- 0 = Very Poorly (1)
- 1 = Poorly (2)
- 2 = Adequately (3)
- 3 = Well (4)
- 4 = Very Well (5)

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TD6-CC What important task statements, if any, are not covered?

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**TD7#7 Domain 7 :~Legal and Ethical Considerations~**

**~Importance (T)**

0 = Of no importance (1)	1 = Of little importance (2)	2 = Of moderate importance (3)	3 = Important (4)	4 = Very important (5)
--------------------------	------------------------------	--------------------------------	-------------------	------------------------

~1. Use codes of conduct, professional guidelines and standards of care to guide vascular access practice (34)

~2. Utilize legal principles in the practice of vascular access (e.g. liability, malpractice, scope of practice, confidentiality, consent) (1)

~3. Follow manufacturer's Instructions for Use [IFUs] and recognize clinical deviations (e.g. off-label use) (26)

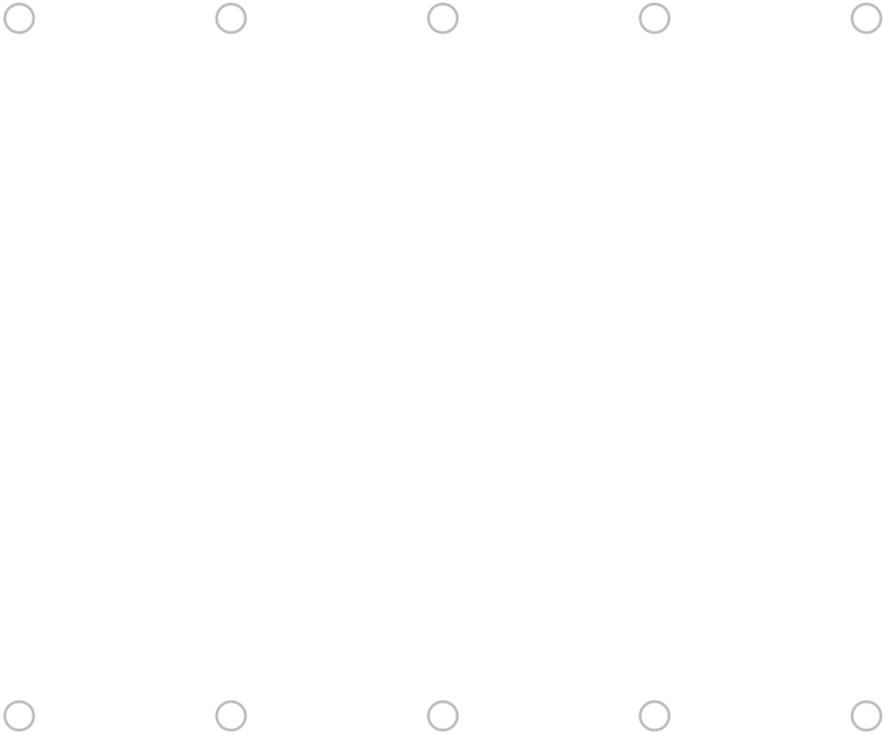
~4. Document vascular access management and complications in a timely, accurate and complete manner (e.g. routine maintenance, interventions) (27)

~5. Advocate for patient's rights and preferences (e.g. cultural and religious

beliefs, family involvement, communication needs, end of life considerations) (28)

~6. Report safety concerns and events promptly and accurately to appropriate supervisors, departments, manufacturers and / or regulatory agencies (e.g. Manufacturer and User Facility Device Experience [MAUDE] database, The Joint Commission [TJC], state health department, local ombudsman) (42)

~7. Practice fiscal responsibility (e.g. accurate recording of charges for reimbursement, judicious use of supplies and equipment, intentional use of time) (43)



TD7-S How well do the task statements in Domain 7 cover important aspects of Legal and Ethical Considerations?

- 0 = Very Poorly (1)
- 1 = Poorly (2)
- 2 = Adequately (3)
- 3 = Well (4)
- 4 = Very Well (5)

TD7-CC What important task statements, if any, are not covered?

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End of Block: Section 2: Task

Start of Block: Section 3: Knowledge

**Q793 SECTION 3: KNOWLEDGE** This section contains 8 Knowledge domains. Each domain contains several Knowledge statements. The purpose of the section is to rate the importance of the Knowledge statements for a vascular access health care professional. Domains: 1. Device Assessment and Selection (8 knowledge statements) 2. Patient Assessment (6 knowledge statements) 3. Preparation (4 knowledge statements) 4. Insertion (4 knowledge statements) 5. Care and Maintenance (6 knowledge statements) 6. Troubleshooting Complications and Interventions (4 knowledge statements) 7. Professional Development and Evidence-Based Practice (6 knowledge statements) 8. Legal and Ethical Considerations (7 knowledge statements)

Q794 The rating scale you will use is:

**Importance: How important is the knowledge for competent performance for a vascular access health care professional?**

Importance	0	=	Of	No
	1	=	Of	Little

Importance  
Importance

2 = Of Moderate  
3 = Important



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**KD1#1 Domain 1 :~Device Assessment and Selection~**

	~Importance (T)				
	0 = Of no importance (1)	1 = Of little importance (2)	2 = Of moderate importance (3)	3 = Important (4)	4 = Very important (5)
~1. Central venous access devices (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
~2. Peripheral intravenous devices (40)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
~3. Dialysis, apheresis and aquapheresis catheters (41)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
~4. Intraosseous devices (47)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
~5. Arterial catheters (48)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
~6. Pulmonary artery catheters (49)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
~7. Device characteristics (e.g. single versus multi-lumen devices, optimal insertion and tip location) (50)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
~8. Supplies (e.g. securement device, antimicrobial dressing, needleless connector) (51)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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**KD1-S** How well do the knowledge statements in Domain 1 cover important aspects of Device Assessment and Selection?

- 0 = Very Poorly (1)
- 1 = Poorly (2)
- 2 = Adequately (3)
- 3 = Well (4)
- 4 = Very Well (5)

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**KD1-CC** What important knowledge statements, if any, are not covered?

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**KD2#2 Domain 2 :~Patient Assessment~**

**~Importance (T)**

0 = Of no importance (1)	1 = Of little importance (2)	2 = Of moderate importance (3)	3 = Important (4)	4 = Very important (5)
--------------------------	------------------------------	--------------------------------	-------------------	------------------------

~1. Patient medical history (e.g. vascular pathology, acute and chronic conditions, comorbidities, laboratory values) (39)

~2. Device applicability (e.g. indications, contraindications, therapy duration, alternatives to IV placement, vesicants and osmolality) (1)

~3. Vessel preservation strategies (e.g. catheter to vein ratio, device performance tracking) (43)

~4. Patient characteristics (e.g. growth and development, cognitive deficit, psychosocial concerns, cultural and religious beliefs, communication needs) (26)

~5. Available resources to maintain devices (e.g. family and community support, supplies) (27)

~6. Imaging technology (e.g.

ultrasound,  
transillumination,  
fluoroscopy /  
Computer  
Tomography [CT]  
/ Magnetic  
Resonance  
Imaging [MRI]  
venogram, chest  
x-ray) (28)

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KD2-S How well do the knowledge statements in Domain 2 cover important aspects of Patient Assessment?

- 0 = Very Poorly (1)
- 1 = Poorly (2)
- 2 = Adequately (3)
- 3 = Well (4)
- 4 = Very Well (5)

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KD2-CC What important knowledge statements, if any, are not covered?

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**KD3#3 Domain 3 :~Preparation~**

**~Importance (T)**

0 = Of no importance (1)    1 = Of little importance (2)    2 = Of moderate importance (3)    3 = Important (4)    4 = Very important (5)

~1. Collaboration with patient's care team (e.g. interpreter, child life specialist, case management) (34)

~2. Infection prevention procedures, concepts and principles (e.g. aseptic technique, personal protective equipment [PPE]) (1)

~3. Anatomy and physiology (e.g. limb abnormalities, body habitus) (26)

~4. Patient preparation (e.g. consent, reposition, time-out, pre-medication, sedation) (35)

KD1-S How well do the knowledge statements in Domain 3 cover important aspects of Preparation?

- 0 = Very Poorly (1)
- 1 = Poorly (2)
- 2 = Adequately (3)
- 3 = Well (4)
- 4 = Very Well (5)

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KD1-CC What important knowledge statements, if any, are not covered?

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**KD4#4 Domain 4 :~Insertion~**

	~Importance (T)				
	0 = Of no importance (1)	1 = Of little importance (2)	2 = Of moderate importance (3)	3 = Important (4)	4 = Very important (5)
~1. Insertion techniques (e.g. Seldinger, Modified Seldinger, Accelerated Seldinger, Over-the-Wire, Over-the-Needle) (34)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
~2. Visualization technology (e.g. ultrasound, infrared, transillumination) (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
~3. Tip navigation and location confirmation systems (e.g. ultrasound, fluoroscopy, electrocardiogram [ECG], x-ray, doppler, magnetism) (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
~4. Complications and emergency interventions (e.g. inadvertent arterial puncture, pneumothorax, catheter tip malposition, nerve injury, anaphylaxis, contamination, wire embolization) (27)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



KD4-S How well do the knowledge statements in Domain 4 cover important aspects of Insertion?

- 0 = Very Poorly (1)
- 1 = Poorly (2)
- 2 = Adequately (3)
- 3 = Well (4)
- 4 = Very Well (5)



KD4-C What important knowledge statements, if any, are not covered?

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**KD5#5 Domain 5 :~Care and Maintenance~**

**~Importance (T)**

0 = Of no importance (1)	1 = Of little importance (2)	2 = Of moderate importance (3)	3 = Important (4)	4 = Very important (5)
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<p>~1. Insertion / exit site assessment (34)</p>	<input type="radio"/>				
<p>~2. Lumen patency and catheter clearance (e.g. flushing technique and protocol) (1)</p>	<input type="radio"/>				
<p>~3. Infection prevention measures and techniques (e.g. equipment disinfection, needleless connector hygiene, dressing change procedure) (26)</p>	<input type="radio"/>				
<p>~4. Patient / caregiver education (e.g. device care; infection prevention) (35)</p>	<input type="radio"/>				
<p>~5. Care plan throughout the healthcare continuum (e.g. catheter insertion information, care and maintenance instructions, patient restrictions) (36)</p>	<input type="radio"/>				

~6. Vascular access device removal (e.g. length of Peripherally Inserted Central Catheters [PICC], complications, patient tolerance, site care, patient positioning) (37)

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KD5-S How well do the knowledge statements in Domain 5 cover important aspects of Care and Maintenance?

- 0 = Very Poorly (1)
- 1 = Poorly (2)
- 2 = Adequately (3)
- 3 = Well (4)
- 4 = Very Well (5)

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KD5-C What important knowledge statements, if any, are not covered?

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**KD6#6 Domain 6 :~Troubleshooting Complications and Interventions~**

**~Importance (T)**

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0 = Of no importance (1)    1 = Of little importance (2)    2 = Of moderate importance (3)    3 = Important (4)    4 = Very important (5)

~1. Post-insertion risks and complications (e.g. infiltration, extravasation, thrombosis, catheter tip migration, catheter occlusion, nerve damage, phlebitis, catheter associated blood stream infections [CABSI]) (34)



~2. Pharmacologic interventions (e.g. catheter clearance, extravasation treatment, locking solutions - antiseptic, ethanol, anticoagulants) (26)



~3. Catheter repair / exchange (1)



~4. Other complications (e.g. venous occlusion, internal fracture, compromised skin integrity, difficult removal) (27)



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**KD6-S** How well do the knowledge statements in Domain 6 cover important aspects of Troubleshooting Complications and Interventions?

- 0 = Very Poorly (1)
- 1 = Poorly (2)
- 2 = Adequately (3)
- 3 = Well (4)
- 4 = Very Well (5)

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**KD6-CC** What important knowledge statements, if any, are not covered?

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**KD7#7 Domain 7 :~Professional Development and Evidence-Based Practice~**

**~Importance (T)**

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0 = Of no importance (1)    1 = Of little importance (2)    2 = Of moderate importance (3)    3 = Important (4)    4 = Very important (5)

~1. Evidence-based practice guidelines (e.g. Infusion Nurses Society [INS], Michigan Appropriateness Guide for Intravenous Catheters [MAGIC], Kidney Disease Outcomes Quality Initiative [KDOQI], Society for Healthcare Epidemiology in America [SHEA], Association for Vascular Access [AVA], Canadian Vascular Access Association [CVAA]) (34)



~2. Process improvement initiatives and outcome evaluation (e.g. implementation of new techniques, products, emerging technologies) (1)



~3. Professional practice and development (e.g. journal clubs, seminars, webinars, conferences) (26)



~4. Critical analysis of published literature (e.g. research methodologies) (27)



~5. Quality improvement methods (e.g. inclusion of vascular access in unit and hospital wide orientation, root cause analysis, participation in hospital committees - infection control, vascular access, product evaluation) (28)



~6. Staff education and training methods (e.g. assessment of needs and learning style, development of training materials, precepting, mentorship, just-in-time training) (36)



KD7-S How well do the knowledge statements in Domain 7 cover important aspects of Professional Development and Evidence-Based Practice?

- 0 = Very Poorly (1)
- 1 = Poorly (2)
- 2 = Adequately (3)
- 3 = Well (4)
- 4 = Very Well (5)

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KD7-CC What important knowledge statements, if any, are not covered?

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**KD8#8 Domain 8 :~Legal and Ethical Considerations~**

**~Importance (T)**

0 = Of no importance (1)	1 = Of little importance (2)	2 = Of moderate importance (3)	3 = Important (4)	4 = Very important (5)
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~1. Professional codes of conduct, guidelines and standards of care (34)

~2. Legal principles in the practice of vascular access (e.g. liability, malpractice, scope of practice, confidentiality, consent) (1)

~3. Documentation requirements (e.g. routine maintenance, interventions, complications) (26)

~4. Manufacturer's guidelines for product use (e.g. Instructions for Use [IFUs], expiration dates, off-label use) (27)

~5. Patient advocacy (28)

~6. Reporting requirements (e.g. Manufacturer and User Facility Device Experience [MAUDE] database, The

Joint Commission [TJC], state health department) (36)

~7. Fiscal responsibility (e.g. accurate recording of charges for reimbursement, judicious use of supplies and equipment, intentional use of time) (37)

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KD8-S How well do the knowledge statements in Domain 8 cover important aspects of Legal and Ethical Considerations?

- 0 = Very Poorly (1)
- 1 = Poorly (2)
- 2 = Adequately (3)
- 3 = Well (4)
- 4 = Very Well (5)

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KD8-CC What important knowledge statements, if any, are not covered?

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End of Block: Section 3: Knowledge

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Start of Block: Section 4: Domain Weighting



TCR

**SECTION 4: TEST CONTENT RECOMMENDATIONS**

Listed below are the eight domains that may be covered on the VA-BCTM Exam. What percentage should be assigned to each domain, if the total score equaled 100? Please use only whole numbers (such as: 12, 20, 35, 47). If you think an area should not be represented, type 0 in the space provided. **The total of all domains must equal 100%.**

- Domain 1. Device Assessment and Selection : \_\_\_\_\_ (1)
- Domain 2. Patient Assessment : \_\_\_\_\_ (2)
- Domain 3. Preparation : \_\_\_\_\_ (3)
- Domain 4. Insertion : \_\_\_\_\_ (30)
- Domain 5. Care and Maintenance : \_\_\_\_\_ (35)
- Domain 6. Troubleshooting Complications and Interventions : \_\_\_\_\_ (36)
- Domain 7. Professional Development and Evidence-Based Practice : \_\_\_\_\_ (37)
- Domain 8. Legal and Ethical Considerations : \_\_\_\_\_ (38)
- Total : \_\_\_\_\_

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End of Block: Section 4: Domain Weighting

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Start of Block: Section 5: Comments

CM1

**SECTION 5: COMMENTS** The following questions are open-ended and contain a text box for you to enter your comments. Comments are optional. 1. What additional professional development and/or continuing education could you use to improve your performance in your current work role?

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CM2 2. How do you expect your work role to change over the next 5 years? What tasks will be performed and what knowledge will be needed to meet changing practice demands?

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End of Block: Section 5: Comments

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Start of Block: Section 6: Incentive

Q735

**SECTION 6: SURVEY DRAWING**

**You Are Eligible to Participate in a Drawing for Completing This Survey**

To enter the drawing, please provide the following information. To ensure your anonymity, this information will not be linked to your survey responses. Your contact information will not be provided to a third party. If you prefer not to enter, you do not need to provide the information below. Regardless of if you provide this information or not, please be sure to proceed to the next page and select the "Submit" button to complete the survey.

- First and Last Name: (1) \_\_\_\_\_
- Email Address: (2) \_\_\_\_\_
- Phone Number: (3) \_\_\_\_\_

End of Block: Section 6: Incentive

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