



JOB ANALYSIS of Healthcare Interpreters

Test Development
Solutions



Conducted on behalf of



Date:

October 31, 2022

Submitted by:

Charis Walikonis, M.A.
Senior Assessment Design Specialist
Assessment Services, Prometric

ACKNOWLEDGEMENTS

We would like to thank the many individuals who provided invaluable assistance throughout the conduct of the Certification Commission for Healthcare Interpreters (CCHI) Job Analysis Study.

Above all, we thank the many dedicated professionals who generously contributed their time and expertise. Over 600 individuals participated in different phases of the job analysis, including survey pilot test participants, and survey respondents. In particular, the Task Force and Test Specifications Committee members contributed many hours of their time to define the tasks, knowledge and skills of the healthcare interpreting profession, develop the survey, review the results, and advise on the implications of the project:

	Task Force Committee	Test Specifications Committee
Sura Al Khalidi, CHI™-Arabic		x
Paula Coulter, CHI™-Spanish	x	x
Kristin Grace, CoreCHI™		x
Pla Htoo, CoreCHI™	x	
Jane Kontrimas, CoreCHI™		x
Rebecca Kranz, CHI™-Spanish	x	x
Lynn La, CoreCHI™	x	
Nanyi Mateo, CHI™-Spanish	x	x
Hala Mukhtar, CHI™-Arabic	x	
Annalisa Nash Fernandez, CoreCHI™ & CHI™-Spanish	x	
E. Adriana Perez, CHI™-Spanish		x
Isabel Pinto Franco, CoreCHI™		x
Alicia Quim, CHI™-Spanish	x	
Laura Rodriguez, CHI™-Spanish		x
Patricia Rozzo-Leadley, CHI™-Spanish	x	x
I. Lissett Samaniego, past CHI™-Spanish	x	
Gilberto Sanchez, CHI™-Spanish	x	x
Hilda Sanchez-Herrera, CHI™-Spanish		x
Narayan Sharma, CoreCHI™	x	x
Kun (Jasmine) Shi, CHI™-Mandarin	x	x
Emily Sielen, CHI™-Spanish	x	
Norio Takaki, CoreCHI™		x
Catherine Wilson, CHI™-Spanish	x	

At CCHI, Natalya Mytareva, M.A., CoreCHI™, ICE-CCP, Executive Director, provided excellent oversight and support throughout the project.

At Prometric, Charis Walikonis, Senior Assessment Design Specialist; You-Min Lin, Test R&D Specialist; Adena LeBeau, Senior Psychometrician; and Alyssa Rulf-Fountain, Senior Manager, all provided leadership and guidance throughout the job analysis process.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	i
TABLE OF CONTENTS	ii
LIST OF TABLES.....	iv
LIST OF FIGURES.....	v
LIST OF APPENDICES	vi
EXECUTIVE SUMMARY.....	vii
INTRODUCTION.....	1
JOB ANALYSIS STUDY AND ADHERENCE TO PROFESSIONAL STANDARDS	1
METHOD.....	3
1. CONDUCT OF JOB ROLE RESEARCH	3
2. DEVELOPMENT OF THE SURVEY.....	3
Conduct of the Job Analysis Study Task Force Meetings	3
Survey Construction	5
Survey Review by Task Force.....	5
Survey Pilot Test	5
Final Version of the Survey.....	5
3. DISSEMINATION OF THE SURVEY	8
4. ANALYSIS OF THE SURVEY DATA.....	8
Criterion for Interpretation of Mean Importance Ratings	8
5. DEVELOPMENT OF THE TEST SPECIFICATIONS	9
RESULTS.....	10
SURVEY RESPONSES.....	10
DEMOGRAPHIC CHARACTERISTICS OF SURVEY RESPONDENTS	10
ADDITIONAL QUESTIONS PRESENTED TO SURVEY RESPONDENTS	17
TASK AND KNOWLEDGE OVERALL RATINGS	20
TASKS	20
KNOWLEDGE AND SKILLS	21
SUBGROUP ANALYSIS OF TASK AND KNOWLEDGE/SKILL RATINGS.....	21
CONTENT COVERAGE RATINGS	23
TEST CONTENT RECOMMENDATIONS.....	24
WRITE-IN COMMENTS	27
DEVELOPMENT OF FINAL TASKS, KNOWLEDGE, SKILLS, AND EXAM SPECIFICATIONS	28
REVIEW OF SURVEY RESULTS.....	28
REVISION OF TASK, KNOWLEDGE, AND SKILL DOMAINS AND STATEMENTS.....	28
DOMAINS, TASKS, KNOWLEDGE, AND SKILLS RECOMMENDED FOR INCLUSION	28
DEVELOPMENT OF TEST CONTENT WEIGHTS.....	33
CORECHI™ WEIGHTS	34
CHI™ WEIGHTS.....	35
ETOE™ WEIGHTS.....	35
CCHI COMMISSIONERS' REVIEW	36

SUMMARY AND CONCLUSIONS.....	37
REFERENCES	39
Appendix A. Certificant Data Compared with Survey Background Information Results.....	40
Appendix B. The CoreCHI™ Exam Specifications	44
Appendix C. The CHI™ Exams Specifications.....	45
Appendix D. The ETOE™ Exam Specifications	47

LIST OF TABLES

TABLE 1. SELECT CHARACTERISTICS OF THE TASK FORCE COMMITTEE	4
TABLE 2. TASK RATING SCALES	6
TABLE 3. KNOWLEDGE AND SKILLS RATING SCALE	6
TABLE 4. CONTENT COVERAGE RATING SCALE	6
TABLE 5. TASKS BY PASS, BORDERLINE, AND FAIL CATEGORIES	21
TABLE 6. KNOWLEDGE AND SKILL STATEMENTS BY PASS, BORDERLINE, AND FAIL CATEGORIES	21
TABLE 7. YEARS OF EXPERIENCE INDEX OF AGREEMENT ANALYSIS SUBGROUPS	22
TABLE 8. YEARS OF EXPERIENCE INDEX OF AGREEMENT COEFFICIENTS	23
TABLE 9. PRIMARY LANGUAGE OF INTERPRETATION INDEX OF AGREEMENT ANALYSIS SUBGROUPS	23
TABLE 10. PRIMARY LANGUAGE OF INTERPRETATION INDEX OF AGREEMENT COEFFICIENTS	23
TABLE 11. MEAN, STANDARD DEVIATION, AND FREQUENCY DISTRIBUTION PERCENTAGE OF TASK CONTENT COVERAGE	24
TABLE 12. MEAN, STANDARD DEVIATION, AND FREQUENCY DISTRIBUTION PERCENTAGE OF KNOWLEDGE/SKILL CONTENT COVERAGE	24
TABLE 13. SURVEY RESPONDENTS' CORECHI™ TEST CONTENT WEIGHTING RECOMMENDATIONS	25
TABLE 14. SURVEY RESPONDENTS' CHI™ TEST CONTENT WEIGHTING RECOMMENDATIONS	25
TABLE 15. ETOE™ ACTIVITY IMPORTANCE RATING MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTION PERCENTAGES	26
TABLE 16. ETOE™ ACTIVITY EFFECT ON INTERPRETING ACCURACY RATING MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTION PERCENTAGES	27
TABLE 17. SURVEY RESPONDENTS' ETOE™ TEST CONTENT WEIGHTING RECOMMENDATIONS	27
TABLE 18. FINAL TASK STATEMENTS	29
TABLE 19. FINAL KNOWLEDGE AND SKILL STATEMENTS	30
TABLE 20. FINAL CORECHI™ EXAM WEIGHTS APPROVED BY COMMISSIONERS	34
TABLE 21. FINAL CHI™ EXAM WEIGHTS APPROVED BY COMMISSIONERS	35
TABLE 22. FINAL ETOE™ EXAM WEIGHTS APPROVED BY COMMISSIONERS	35

LIST OF FIGURES

FIGURE 1. WHAT IS YOUR U.S. STATE OR TERRITORY OF RESIDENCE?	10
FIGURE 2. WHAT IS YOUR RELATIONSHIP TO HEALTHCARE INTERPRETERS?	11
FIGURE 3. HOW DO YOU IDENTIFY YOURSELF?	11
FIGURE 4. WHAT IS YOUR AGE?	11
FIGURE 5. WHAT IS THE HIGHEST LEVEL OF FORMAL EDUCATION THAT YOU HAVE COMPLETED?	12
FIGURE 6. HOW MUCH FORMAL TRAINING DO YOU HAVE IN HEALTHCARE INTERPRETING?	12
FIGURE 7. HOW MANY YEARS OF EXPERIENCE DO YOU HAVE IN HEALTHCARE INTERPRETING?	12
FIGURE 8. WHAT IS THE PRIMARY MODALITY THROUGH WHICH YOU DELIVER HEALTHCARE INTERPRETING?	12
FIGURE 9. ON YOUR TYPICAL WORKDAY OR WEEK, WHAT PERCENTAGE OF YOUR INTERPRETING ENCOUNTERS ARE IN EACH MODALITY?	13
FIGURE 10. DO YOU PROVIDE REMOTE SIMULTANEOUS INTERPRETING (RSI)?	13
FIGURE 11. IF YES TO PREVIOUS: ON AVERAGE, HOW OFTEN DO YOU PROVIDE RSI?	13
FIGURE 12. WHAT IS YOUR CURRENT EMPLOYMENT STATUS IN RELATION TO HEALTHCARE INTERPRETING?	14
FIGURE 13. HOW MANY HOURS DO YOU INTERPRET PER WEEK IN A HEALTHCARE SETTING?	14
FIGURE 14. IN WHAT SETTING(S) DO YOU PRIMARILY INTERPRET?	14
FIGURE 15. IN WHAT PRIMARY LANGUAGE DO YOU INTERPRET IN HEALTHCARE SETTINGS?	15
FIGURE 16. IN WHAT SECONDARY LANGUAGE, IF ANY, DO YOU INTERPRET IN HEALTHCARE SETTINGS?	16
FIGURE 17. HOW WAS YOUR PRIMARY (NON-ENGLISH) INTERPRETING LANGUAGE ACQUIRED?	17
FIGURE 18. WHAT IS YOUR CURRENT INTERPRETER CERTIFICATION STATUS?	17
FIGURE 19. DO YOU AGREE WITH CCHI'S ELIGIBILITY REQUIREMENTS?	17
FIGURE 20. WHAT DO YOU THINK A MINIMAL GENERAL EDUCATION REQUIREMENT SHOULD BE?	18
FIGURE 21. WHAT IS THE MINIMUM LEVEL OF LANGUAGE PROFICIENCY (BASED ON THE ACTFL SCALE) THAT AN ENTRY-LEVEL CERTIFIED INTERPRETER SHOULD POSSESS, BOTH IN ENGLISH AND THE OTHER MAIN LANGUAGE OF SERVICE?	18
FIGURE 22. IS TRANSLATION OF WRITTEN DOCUMENTS FROM ENGLISH (NOT SIGHT TRANSLATION) PART OF YOUR JOB DESCRIPTION OR JOB DUTIES AS A HEALTHCARE INTERPRETER?	18
FIGURE 23. IF YES: WHAT KIND OF DOCUMENTS DO YOU TRANSLATE?	18
FIGURE 24. IF YES: HOW OFTEN DO YOU DO WRITTEN TRANSLATION?	19
FIGURE 25. IF YES: HAVE YOU RECEIVED TRAINING IN WRITTEN TRANSLATION?	19
FIGURE 26. DO YOU WRITE DOWN THE PROVIDER'S ORAL INSTRUCTIONS IN THE PATIENT'S LANGUAGE?	19
FIGURE 27. DO YOU DO SIGHT TRANSLATION OR WRITTEN TRANSLATION FROM THE PATIENT'S LANGUAGE INTO ENGLISH?	19
FIGURE 28. HOW DOES YOUR FACILITY APPROACH SIGHT TRANSLATION (READING AN ENGLISH DOCUMENT IN THE PATIENT'S LANGUAGE)?	20
FIGURE 29. HOW DO YOU HANDLE THE REGISTER OF THE SPEAKER DURING ACTUAL ENCOUNTERS?	20
FIGURE 30. HOW COMFORTABLE ARE YOU WITH THE NEED TO INTERVENE WHEN CLARIFICATION IS NEEDED?	20
FIGURE 31. FREQUENCY DISTRIBUTIONS FOR CHI™ SKILLS MEASURED BY EACH ETOE™ ACTIVITY	26

LIST OF APPENDICES

APPENDIX A: CERTIFICANT DATA COMPARED WITH SURVEY BACKGROUND INFORMATION RESULTS

APPENDIX B: THE CORECHI™ EXAM SPECIFICATIONS

APPENDIX C: THE CHI™ EXAMS SPECIFICATIONS

APPENDIX D: THE ETOE™ EXAM SPECIFICATIONS

EXECUTIVE SUMMARY

Certification Commission for Healthcare Interpreters' (CCHI) mission is "to develop and administer a comprehensive national interpreter certification program in order to assess medical interpreters' competence and to help ensure quality of interpreting in any healthcare setting and in any modality of interpreting." As a critical step in the process of administering such a program, CCHI requested from Prometric a **job analysis study of the healthcare interpreting profession and the CoreCHI™, CHI™, and ETOE™ exam programs**.

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

- validate the tasks, knowledge, and skills important for the healthcare interpreter profession; and,
- develop test specifications for the CoreCHI™, CHI™, and ETOE™ exams.

Conduct of the Job Analysis Study

The job analysis study consisted of several activities: background research, collaboration with a Task Force of subject matter experts to ensure representativeness of the tasks, knowledge, and skill statements; survey development; survey dissemination; compilation and analysis of survey results; and test specifications development. The successful outcome of the job analysis study depended on the excellent information provided by healthcare interpreter professionals actively working in the field.

Survey Development

Survey research is an effective way to identify the tasks, knowledge, and skills that are important for the healthcare interpreter profession. The task, knowledge, and skill statements included on the survey covered six domains of practice. The development of the survey was based on a draft of task, knowledge, and skill statements developed from a variety of resources, primarily the 2016 job analysis study conducted and published by CCHI.

Survey Content

The survey, disseminated in May-June 2022, consisted of six sections. CCHI distributed an open link to a wide variety of healthcare interpreter professionals, including interpreters certified by CCHI as well as those not certified by CCHI.

Survey Sections

- Section 1: Task Statements
- Section 2: Knowledge and Skill Statements
- Section 3a: Recommendation for Test Content: CoreCHI™
- Section 3b: Recommendation for Test Content: CHI™
- Section 4: Recommendations for Test Content: ETOE™
- Section 5: Background and General Information
- Section 6: Comments

Results

Survey Response

A total of 583 healthcare interpreter professionals submitted completed surveys. Based on the analysis of survey responses, a representative group of healthcare interpreter professionals completed the survey in sufficient numbers to meet the requirements for statistical analysis of the results. 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 task, knowledge, and skill statements by the importance for competent entry-level performance among healthcare interpreter professionals using a five-point scale (0 = Of no importance to 4 = Very important). Additionally, participants were asked how frequently they perform Domain 6 “Interpreting in Health Settings” tasks in their current role using a five-point scale (0 = Never to 4 = Repeatedly).

Content Coverage

Evidence was provided for the comprehensiveness of the content coverage within the domains. If the task and knowledge/skill statements within a domain are adequately defined, then it should be judged as being well covered. Respondents indicated that the content within each task and knowledge/skill domain was well to very well covered, thus supporting the comprehensiveness of the defined domains.

Test Specifications Development

In August 2022, the Test Specifications Committee convened to review the results of the job analysis survey; finalize the list of tasks, knowledge, and skills; and recommend content weightings that will guide the development of the CoreCHI™, CHI™, and ETOE™ examinations.

Summary

In summary, this study used a multi-method approach to identify the tasks, knowledge, and skills that are important to the work performed by healthcare interpreter professionals. The job analysis process allowed for input from a representative group of healthcare interpreters and was conducted within the guidelines of professionally sound practice. The results of the job analysis can be used by the CCHI to guide development of the CoreCHI™, CHI™, and ETOE™ exams. Results also have implications for the healthcare interpreting profession as a whole for a wide variety of purposes.

RESULTS AT A GLANCE

WHO COMPLETED THE SURVEY

- ♦ A total of 583 responses were used for analysis. 495 of responses are from CCHI certificants.
- ♦ A majority of respondents (64%) are Spanish interpreters. The remaining respondents interpret in 41 other languages as their primary language of interpretation.
- ♦ Respondents represent 47 U.S. states or territories, as well as outside the U.S.
- ♦ A majority of respondents (70%) deliver healthcare interpreting primarily in person as opposed to via telephonic (15%) or video modalities (14%) (1% did not provide a response).

TASK, KNOWLEDGE, & SKILL IMPORTANCE RATINGS

All 19 tasks and all 90 knowledge/skill statements achieved high importance ratings for the overall group.

INTRODUCTION

Certification Commission for Healthcare Interpreters' (CCHI) mission is "to develop and administer a comprehensive national interpreter certification program in order to assess medical interpreters' competence and to help ensure quality of interpreting in any healthcare setting and in any modality of interpreting." As a critical step in the process of administering such a program, CCHI requested from Prometric a job analysis study of the healthcare interpreting profession and the CoreCHI™, CHI™, and ETOE™ exam programs.

This report describes the job analysis study, including the:

- rationale for conducting the job analysis study;
- methods used to define job tasks, knowledge, and skills;
- types of data analyses conducted and their results; and
- results 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 study is determined by the purpose for which the information will be used.

For purposes of developing credentialing examinations, a job analysis study should identify important tasks, knowledge, skills, and/or abilities deemed important by the profession.

The use of a job analysis study (also known as practice analysis, role and function study, or role delineation) to define the content domain(s) is a critical component in establishing the content validity of the certification. Content validity refers to the extent to which the content covered by an examination is representative of the tasks, knowledge, skills, or abilities related to 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 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 experts who represent the diversity of the relevant areas of expertise.

The *Standards for Educational and Psychological Testing* (2014) (the *Standards*) is a comprehensive technical guide that provides criteria for the evaluation of tests, testing practices, score interpretations, and the use of tests to make decisions. 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*, by professional consensus, have come to define the necessary components of quality testing. As a consequence, 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 CoreCHI™, CHI™, and ETOE™ exams was designed to follow the guidelines presented in the *Standards* and to adhere to accepted professional practice.

METHOD

The job analysis study of the healthcare interpreting profession and the CoreCHI™, CHI™, and ETOE™ exams involved a multi-method approach that included preliminary research, meetings with subject matter experts, and a survey. This section of the report describes the activities conducted for the job analysis study.

First, experts identified the tasks, knowledge, and skills that they believed were important to the professional work done by healthcare interpreters. Then, a survey was developed and disseminated to healthcare interpreter professionals. The purpose of the survey was to obtain verification (or refutation) that the tasks, knowledge, and skills identified by the experts are important to the work of healthcare interpreters. Survey research functions

as a “check and balance” on the judgments of the 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 experts and makes it possible for analysis of ratings 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 certification examination covers the important tasks, knowledge, and skills needed to perform job activities.

The steps of the job analysis study are described in detail below:

STEPS OF THE JOB ANALYSIS STUDY

1. Conduct of job role research
2. Development of the survey instrument
3. Dissemination of the survey
4. Analysis of the survey data
5. Development of the test specifications

1. Conduct of Job Role Research

Prometric, in collaboration with CCHI, conducted a review of available materials to develop draft task, knowledge, and skill statements. The primary source for the statements was the 2016 job analysis study conducted and published by CCHI. The team also reviewed job descriptions and additional relevant materials, in particular to look for changes in the profession since 2016 (e.g., NCIHC, 2021) and the 2021 EtoE Interpreter Testing Study Report. CCHI’s Test Development Committee also reviewed the domains, tasks, knowledge, and skills and suggested edits based on recent changes in the profession, especially those stemming from the COVID-19 pandemic. After collecting all draft statements, Prometric worked with CCHI to reorganize the knowledge and skill statements for efficient survey design and formatting.

2. Development of the Survey

Conduct of the Job Analysis Study Task Force Meetings

In March 2022, Prometric staff facilitated a series of Task Force meetings totaling 16 hours. The purpose of the meetings was to develop the survey content, primarily validated task, knowledge, and skill statements. CCHI also created a pre-meeting orientation module for the subject matter experts to

complete on their own time, providing background information on the exams and the job analysis process.

The Task Force Committee was composed of a representative group of healthcare interpreter professionals. In total, 15 interpreters comprised the committee. Table 1 summarizes the characteristics of the Task Force.

Table 1. Select Characteristics of the Task Force Committee

Characteristic		Count
Credential held	CoreCHI™	4
	CHI™-Spanish	9
	CHI™-Arabic	1
	CHI™-Mandarin	1
Years of experience in healthcare interpreting	4 years or fewer	3
	5–10 years	7
	More than 10 years	4
Languages other than English (LOTE) represented	ASL	1
	Arabic	1
	Burmese	1
	Karen	1
	Mandarin	2
	Nepali	1
	Portuguese	1
	Spanish	10
	Vietnamese	1
Employment status	Staff interpreters	11
	Freelance interpreters	4
Location	Arizona	1
	British Columbia	1
	California	2
	Connecticut	1
	Dominican Republic	1
	Illinois	1
	Massachusetts	1
	Michigan	1
	Minnesota	1
	North Carolina	1
	New York	1
	Ohio	1
	Texas	1
	Washington	1
Highest education completed	High school	4
	Bachelor's degree	4
	Master's degree	6
	Doctoral degree	1

Activities conducted during the meeting included reviewing and confirming the definition of the target audience and purpose of CCHI certification programs, reviewing and revising the major domains, tasks, knowledge, and skills that are necessary for competent performance of the work interpreters do in healthcare settings. Survey rating scales and background and general information questions were also presented, discussed, and revised as needed.

Survey Construction

Upon the completion of the Task Force Meeting, Prometric staff constructed the draft survey. The following task and knowledge/skill domains were covered in the survey:

1. Professional Responsibility and Interpreter Ethics
2. Managing the Interpreting Encounter
3. Healthcare Terminology
4. U.S. Health Systems
5. Cultural Responsiveness
6. Interpreting in Health Settings

Survey Review by Task Force

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

Comments provided by the Task Force members were compiled by Prometric staff and reviewed via Web conference with the Task Force members on April 19 and 21, 2022. Refinements, as recommended by consensus of the Task Force, were incorporated into the online survey in preparation for a pilot test.

Survey Pilot Test

The goal of the small-scale pilot test was for professionals in the field who had no previous involvement in the development of the survey to review the instrument and offer suggestions for improvement. The Task Force members nominated 25 healthcare interpreters to participate in the pilot.

Pilot participants reviewed the survey for clarity of wording, ease of use, and comprehensiveness of content coverage. Comments were compiled by Prometric staff and reviewed via Web conference with the Task Force members on May 12, 2022. The Task Force revised and finalized the survey based on the review of the pilot test comments.

Final Version of the Survey

The final version of the online surveys consisted of six sections:

- Section 1: Task Statements
- Section 2: Knowledge and Skill Statements
- Section 3a: Recommendation for Test Content: CoreCHI™
- Section 3b: Recommendation for Test Content: CHI™
- Section 4: Recommendation for Test Content: ETOE™
- Section 5: Background and General Information
- Section 6: Comments

In Section 1: Task Statements, survey participants rated the statements using the importance and frequency scales shown in Table 2.

Table 2. Task Rating Scales

<u>Importance</u> How important is performance of the task to a newly certified healthcare interpreter?	<u>Frequency</u> (Domain 6 only) On average, how frequently do you perform this task in your current position (assuming full-time employment over a one-year period)?
0 = Of no importance 1 = Of little importance 2 = Of moderate importance 3 = Important 4 = Very important	0 = Never 1 = Rarely (once per year) 2 = Sometimes (once per month) 3 = Often (once per week) 4 = Repeatedly (more than once a week)

In Section 2: Knowledge and Skill Statements, survey participants rated the statements using the importance scale shown in Table 3.

Table 3. Knowledge and Skills Rating Scale

<u>Importance</u> How important is the knowledge or skill to a newly certified healthcare interpreter?
0 = Of no importance 1 = Of little importance 2 = Of moderate importance 3 = Important 4 = Very important

Survey participants were asked to provide a rating measuring the representativeness of each task and knowledge/skill domain. Respondents made their judgments using the rating scale shown in Table 4.

Table 4. Content Coverage Rating Scale

How well do the statements in Domain (#) cover important aspects of (the domain)?
1 = Very Poorly 2 = Poorly 3 = Adequately 4 = Well 5 = Very Well

Respondents could note any topics that were not covered within a specific domain in an open response field.

In Section 3a: Recommendation for Test Content: CoreCHI™, survey participants indicated the content weights that Domains 1–5 should receive on the CoreCHI™ exam.

In Section 3b: Recommendation for Test Content: CHI™, participants indicated the content weights that the areas covered on the CHI™ performance-based exam should receive:

1. Consecutive Interpreting
2. Simultaneous Interpreting

3. Sight Translation from English into the non-English language
4. Translation from English to the non-English language

In Section 4: Recommendation for Test Content: ETOE™, the 6 activities under consideration to be included in the ETOE™ exam were each defined:

- A. Memory Capacity (audio input to audio output)
- B. Restate the Meaning (audio-to-audio)
- C. Equivalence of Meaning (text-to-audio)
- D. Shadowing (audio-to-audio)
- E. Listening Comprehension (audio-to-audio)
- F. Reading Comprehension (text-to-audio)

Following the definition of each activity, survey participants answered the following questions:

1. The Knowledge, Skills, Abilities/Competencies (KSA/Cs) measured by this activity are needed for successful performance in which of the following? (Select all that apply.)
 - ☐ Consecutive interpreting
 - ☐ Simultaneous interpreting
 - ☐ Sight translation
 - ☐ Written translation
2. How important for the interpreter's performance is this activity?
 - ☐ Not important at all (The KSA/Cs measured by this activity are not necessary.)
 - ☐ Minimally important (These KSA/Cs may somewhat contribute to performance quality.)
 - ☐ Moderately important (These KSA/Cs are helpful to have, they add to performance quality.)
 - ☐ Very important (Every interpreter must have these KSA/Cs.)
3. To what degree would the inability of the interpreter to perform this task affect accuracy of interpreting?
 - ☐ No effect (Accuracy is not affected.)
 - ☐ Minimal effect (Accuracy may be slightly affected.)
 - ☐ Moderate effect (Accuracy will be affected to some degree.)
 - ☐ Substantial effect (Accuracy cannot be maintained.)

Following consideration of each individual activity, survey participants indicated the content weights that Activities A–F should receive on the ETOE™ exam.

In Section 5: Background and General Information, survey participants responded to general and background information questions about themselves and their professional activities.

In Section 6: Comments, survey respondents were given the opportunity to answer open-ended questions:

- “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 job demands?”

3. Dissemination of the Survey

CCHI decided to disseminate the survey broadly since the certification is not required for employment, and the majority of practicing interpreters in the U.S. are not certified. CCHI disseminated the survey on May 17, 2022, to a wide pool of healthcare interpreters via a direct email to 4,870 CCHI certificants and by making the survey link available on CCHI’s website and social media channels. The survey remained open for six weeks. The invited survey participants received three reminder emails prior to the survey’s close on June 28, 2022.

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 healthcare interpreter professionals judged to be relevant (verified as important) to their work. This objective was accomplished through an analysis of the mean importance ratings for task, knowledge, and skill statements. The derivation of test specifications from those statements verified as important by the surveyed professionals provides a substantial evidential basis for the content validity of credentialing examinations. For the purposes of this study, the overall group was included in the analysis.

Based on information obtained from the survey, data analyses by respondent subgroups (e.g., work setting, specialization, years of experience) are possible when sample size permits. A subgroup category is required to have at least 30 respondents to be included in the mean 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 importance and content coverage ratings
- Means, medians, modes, and frequency (percentage) distributions for task frequency ratings
- Means, standard deviations, and frequency (percentage) distributions for knowledge statements and content coverage ratings
- Means and standard deviations for test content recommendations
- Index of agreement values for designated subgroups

Criterion for Interpretation of Mean Importance Ratings

Since a major purpose of the survey is to ensure that only validated tasks, knowledge, and skills are included in the development of test specifications, a criterion (cut point) for inclusion needs to be established.

A criterion 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 is 2.50.

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

- The Pass Category contains statements whose mean ratings are at or above 2.50, and are eligible for inclusion in the development of test specifications.
- The Borderline Category contains those statements whose mean ratings are 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 task, knowledge, or skill warrants inclusion in the test specifications.
- The Fail Category contains those statements whose mean ratings are less than 2.40. It is recommended that tasks, knowledge, and skills in the Fail Category be excluded from consideration in the test specifications.

5. Development of the Test Specifications

On August 27 and 28, 2022, Prometric staff facilitated a meeting with the Test Specifications Committee to review the survey results and to develop test specification recommendations based on the job analysis results. The goals of the meeting were to:

1. Finalize the list of core tasks and underlying knowledge and skills required upon entry to the profession
2. Recommend final content weightings for the CoreCHI™, CHI™, and ETOE™ exams

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

- Presentation of the job analysis survey results to the committee;
- Identification of the task, knowledge, and skill statements to be included in the final list;
- Discussion of content appropriate for the exam (i.e., tasks, knowledge, and skills); and,
- Development of the test content weights for the exams.

All discussions and outcomes of the meeting were informed by the survey results. The purposes of the final list of core tasks, knowledge, and skills are 1) to inform exam candidates and individuals considering a career in healthcare interpreting about what the job entails and requires of professionals, and 2) to guide test development activities. The purpose of developing test content weights is to guide test development activities. The test content weights should reflect the real-world usage of interpreting tasks, knowledge, and skills to the extent possible.

Definition of **Pass**, **Borderline**, and **Fail** Categories for Importance Mean Ratings

	<u>Means</u>
Pass:	2.50 or above
Borderline:	2.40 to 2.49
Fail:	Below 2.40

RESULTS

Survey Responses

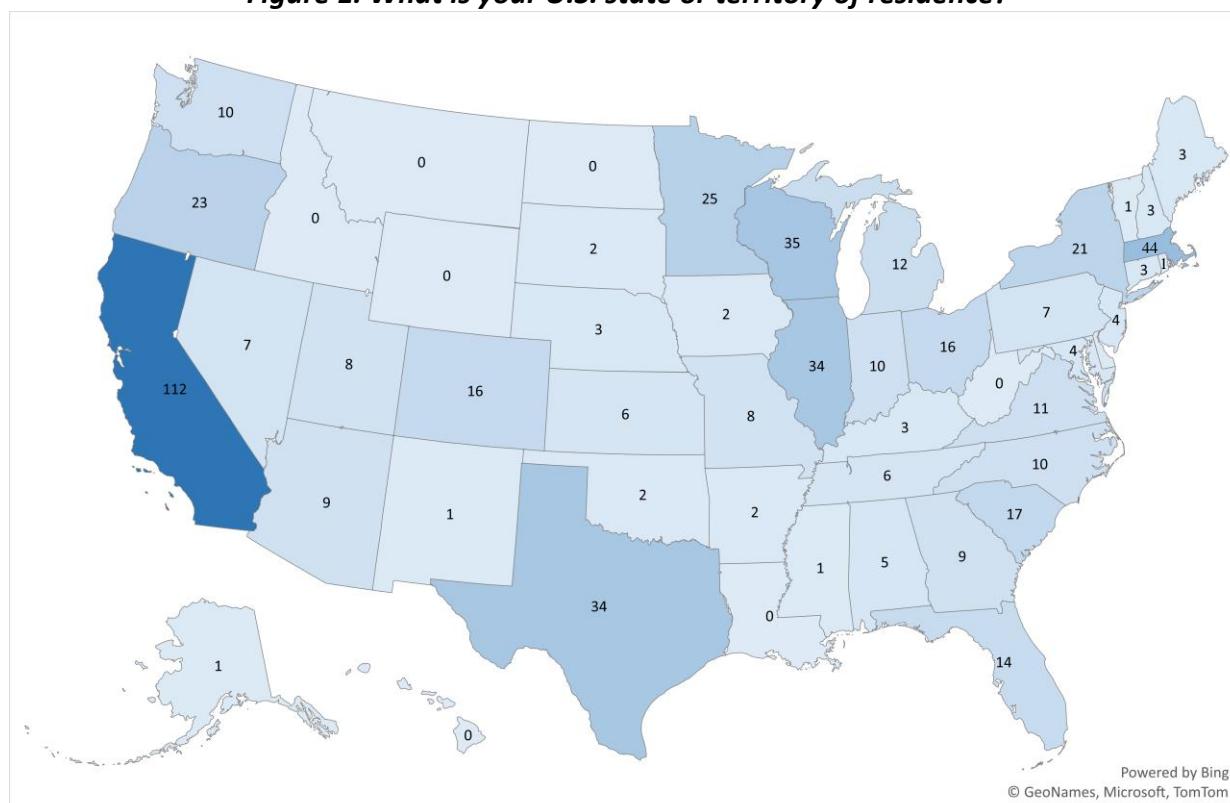
The professional fatigue induced by the Covid-19 pandemic has significantly lowered the level of volunteer engagement of all professionals in the healthcare field, healthcare interpreters included. Of 4,870 healthcare interpreters invited to participate, 583 submitted useable responses that qualified for analysis (1,007 insufficient responses were removed from analysis). In order to be included, Prometric requires that responses be at least 55% complete (excluding background information questions). Because the survey link was distributed to an unknown number of participants, an exact response rate cannot be calculated. Out of 583 responses used for this report, 495 were from CCHI certificants.

Based on the analysis of survey responses, a representative group of healthcare interpreter 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 comparison with CCHI's database of certified individuals, as well as discussion with the Test Specifications Committee. A comparison of select background information question results with CCHI's certificant data is included as **Appendix A**.

Demographic Characteristics of Survey Respondents

The profile of survey respondents is below. The results in the figures below reflect the sample size of 583 used for the analysis. Percentages reported are based on the number of respondents who answered each question.

Figure 1. What is your U.S. state or territory of residence?



Delaware-1, District of Columbia-2, Massachusetts-44, Rhode Island-1, American Samoa-1, U.S. Virgin Islands-2, Outside the U.S.-9

Figure 2. What is your relationship to healthcare interpreters? (Check all that apply.)

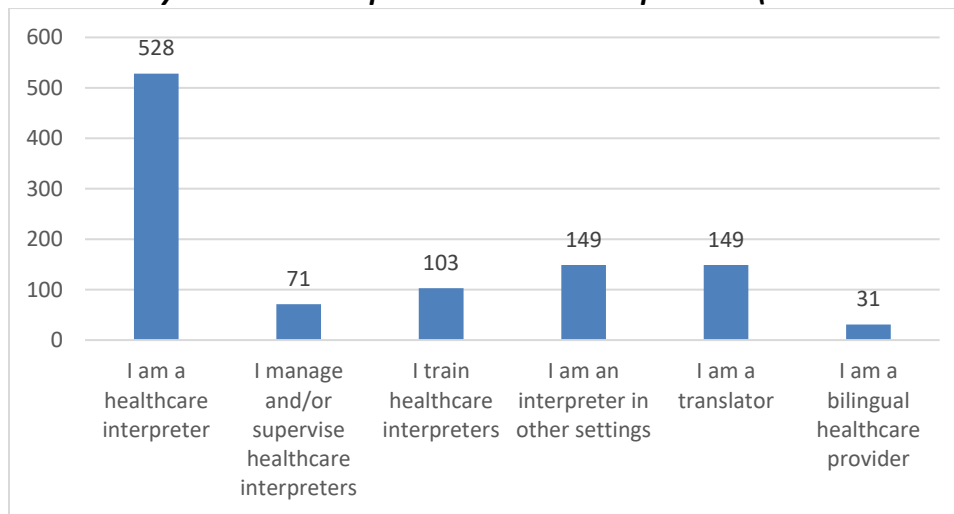


Figure 3. How do you identify yourself?

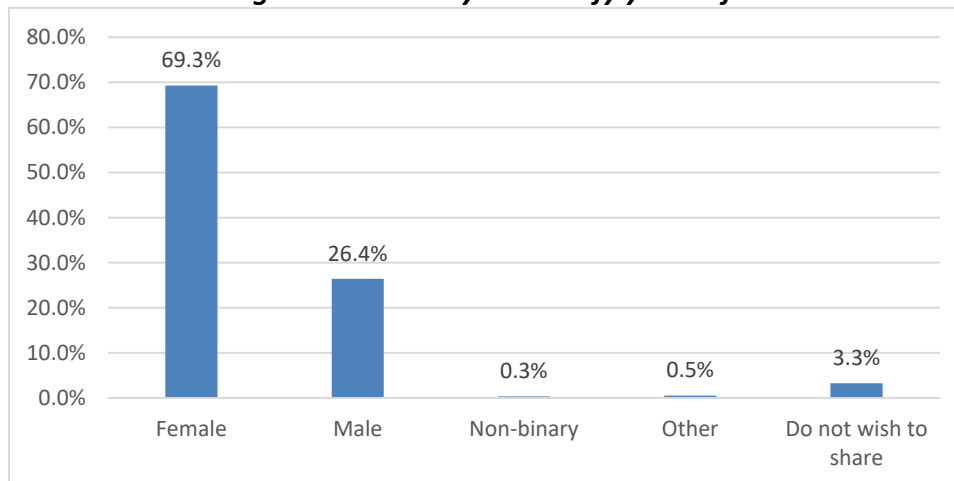


Figure 4. What is your age?

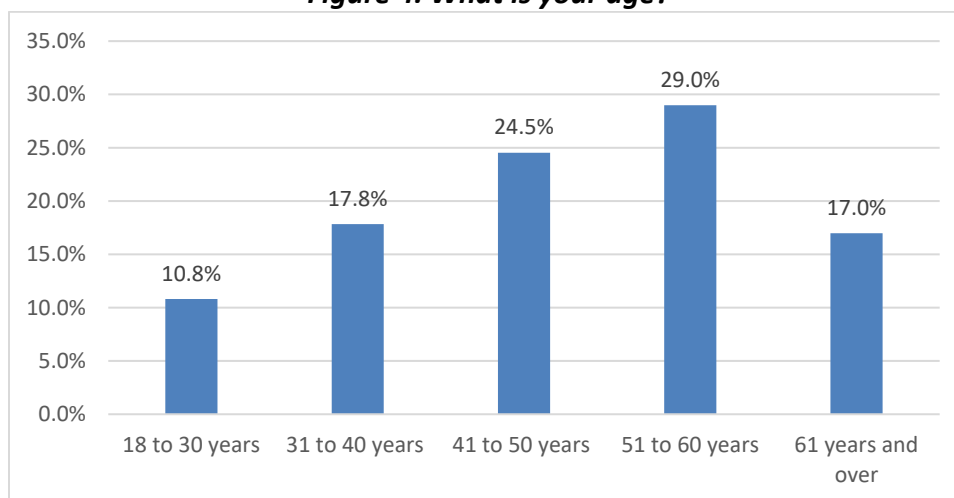


Figure 5. What is the highest level of formal education (from any country) that you have completed?

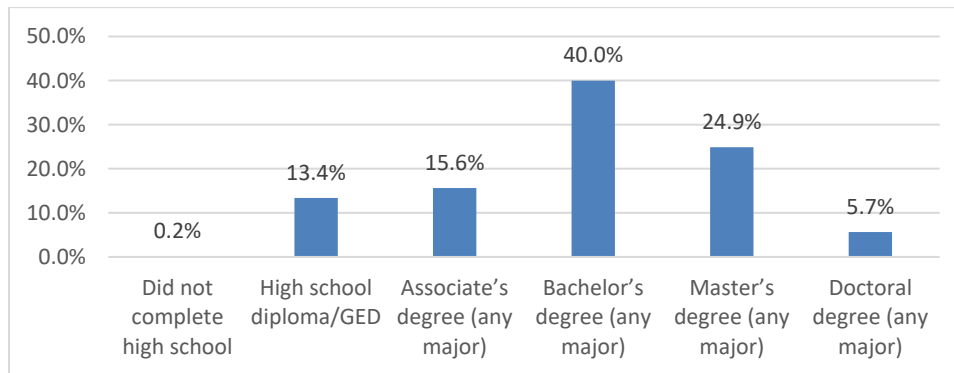


Figure 6. How much formal training do you have in healthcare interpreting?

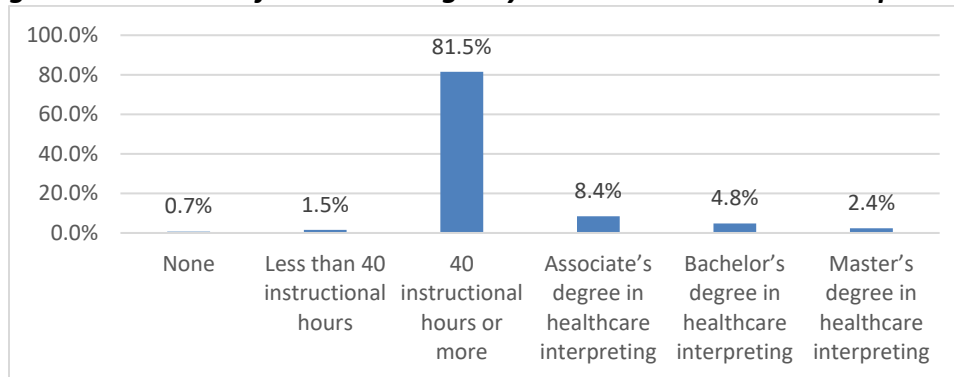


Figure 7. How many years of experience do you have in healthcare interpreting?

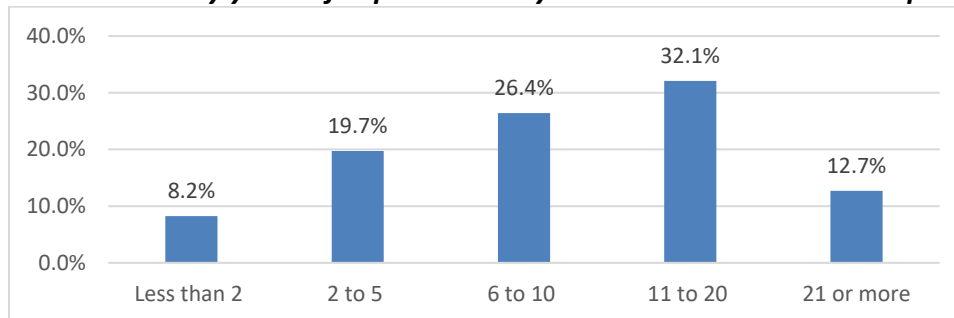


Figure 8. What is the primary modality through which you deliver healthcare interpreting?

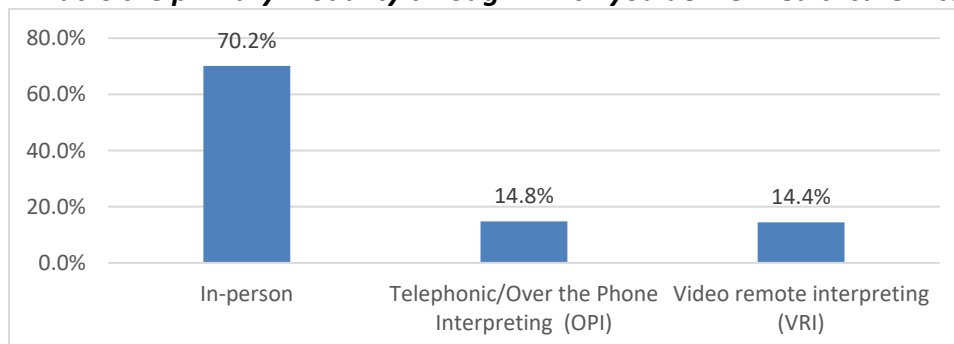


Figure 9. On your typical workday or week, what percentage of your interpreting encounters are in each modality?

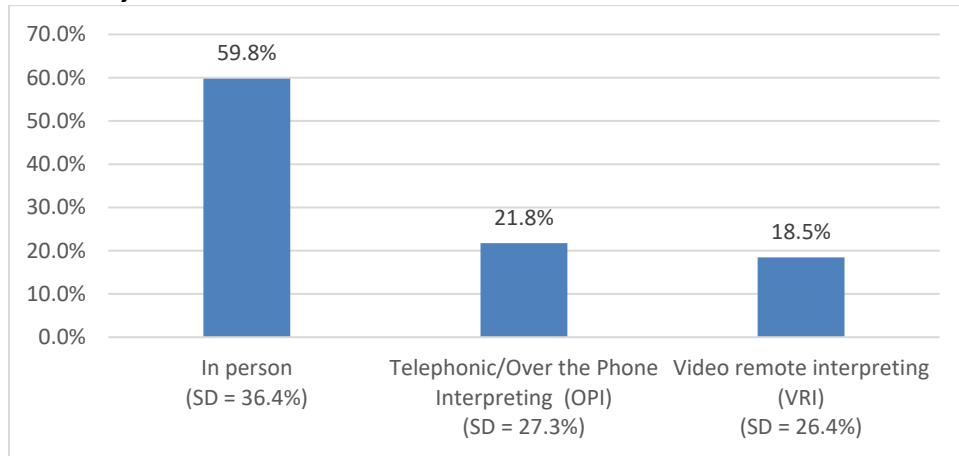


Figure 10. Do you provide Remote Simultaneous Interpreting (RSI)?

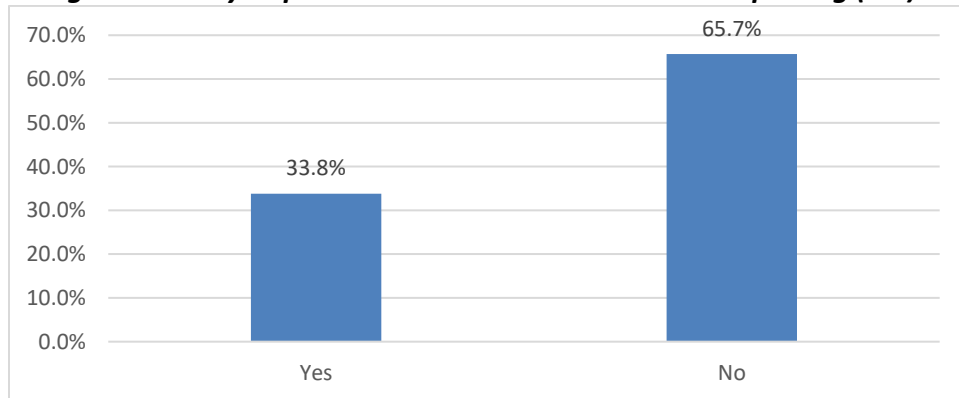


Figure 11. If yes to previous: On average, how often do you provide RSI?

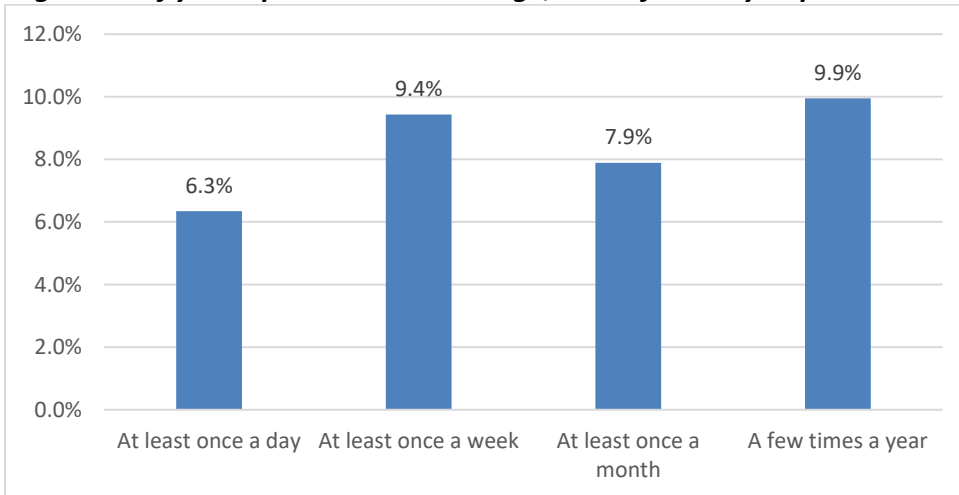


Figure 12. What is your current employment status in relation to healthcare interpreting? (Check all that apply.)

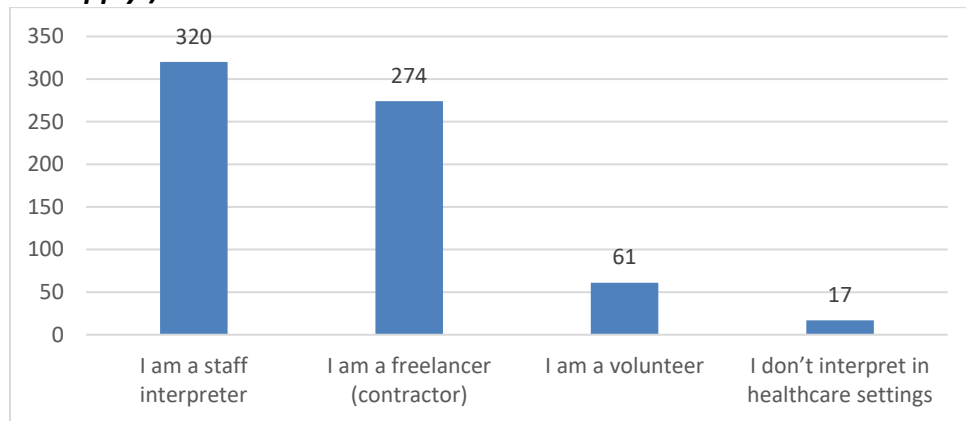


Figure 13. How many hours do you interpret per week in a healthcare setting?

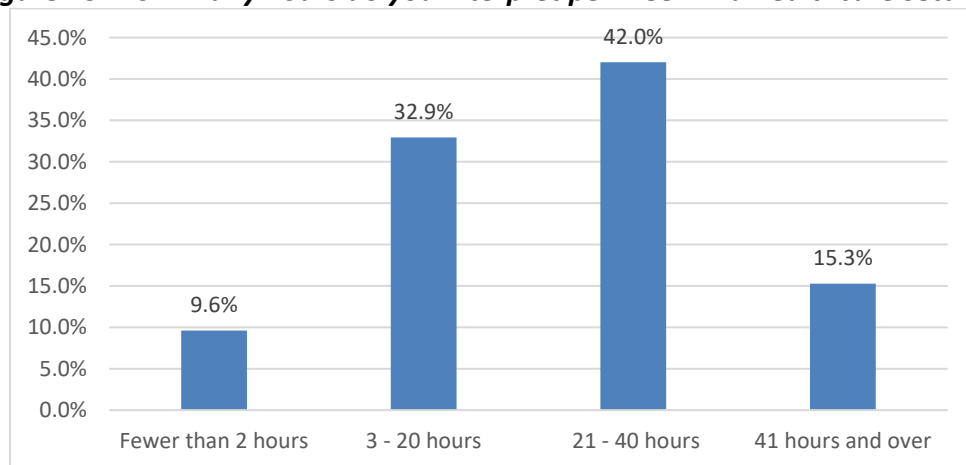


Figure 14. In what setting(s) do you primarily interpret? (Check all that apply.)

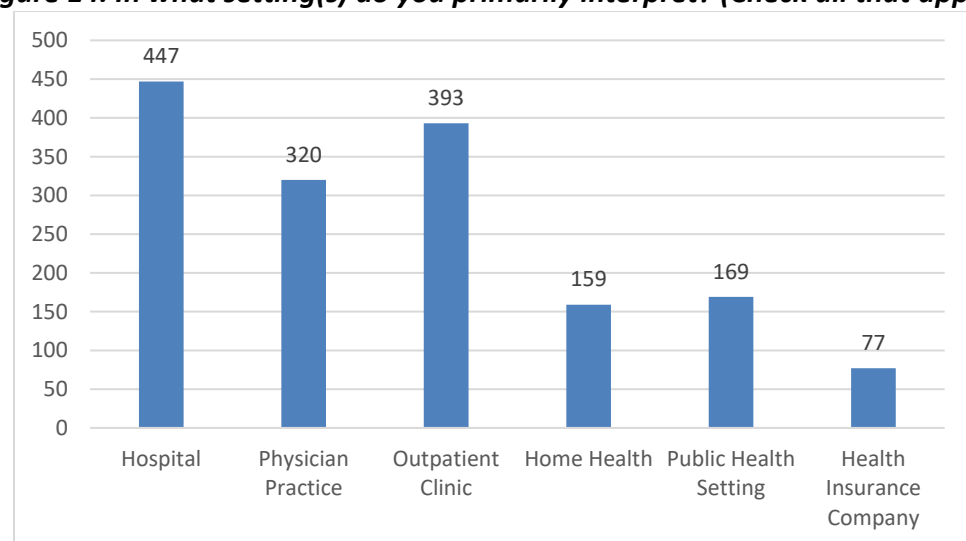


Figure 15. In what PRIMARY language do you interpret in healthcare settings?

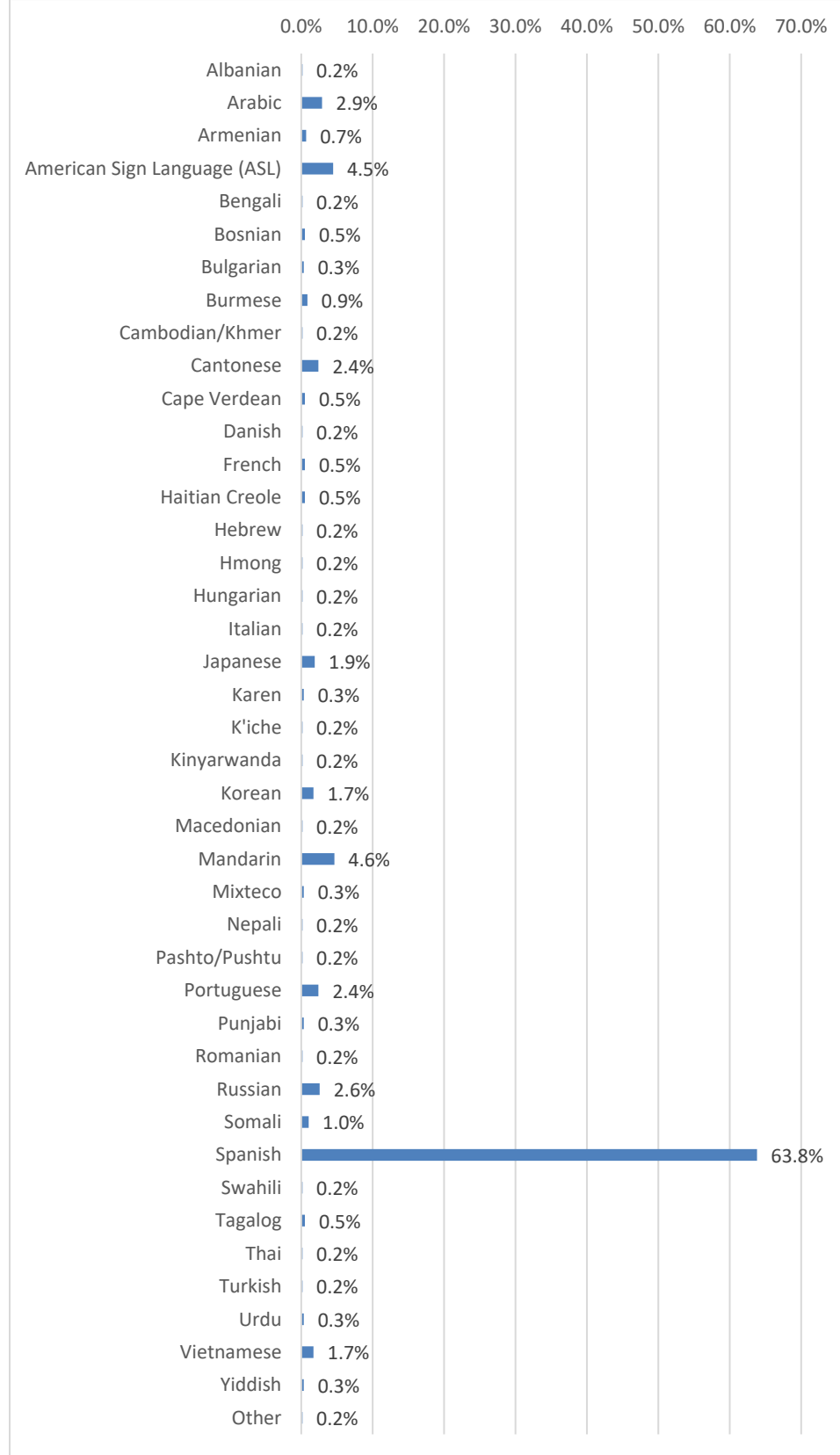


Figure 16. In what SECONDARY language, if any, do you interpret in healthcare settings?

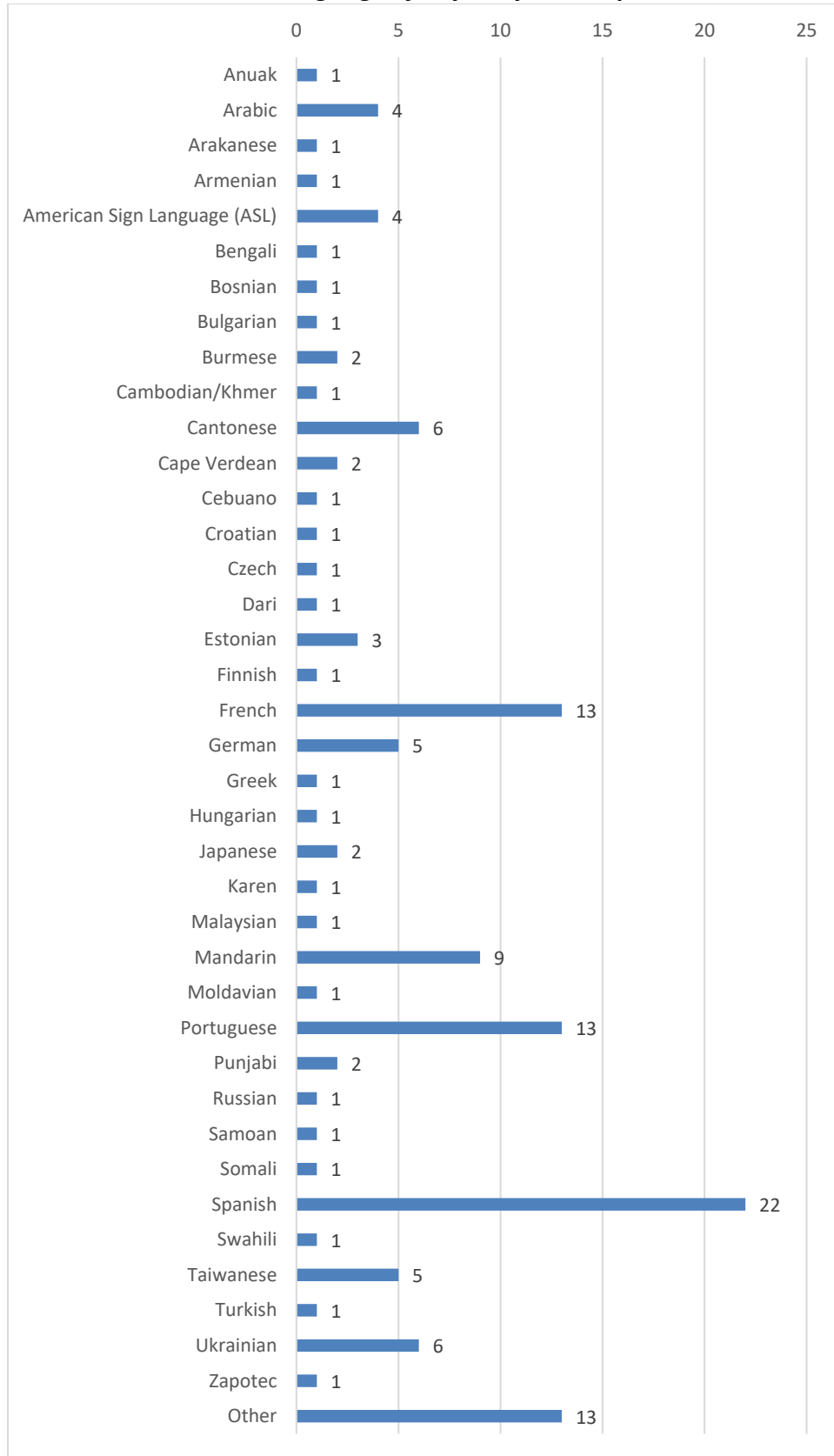


Figure 17. How was your primary (non-English) interpreting language acquired?

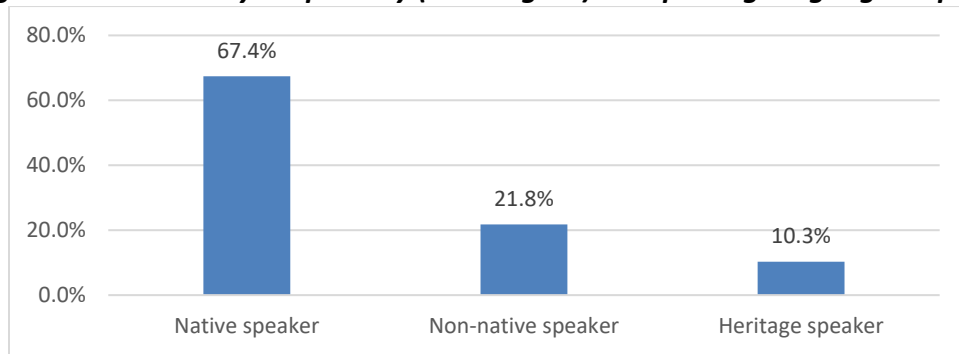
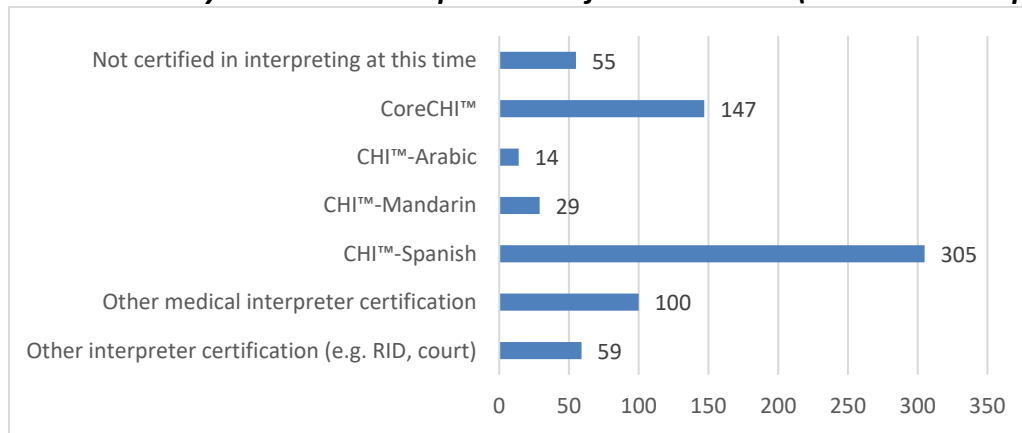


Figure 18. What is your current interpreter certification status? (Check all that apply.)



Additional Questions Presented to Survey Respondents

In addition to demographic and interpreter profile questions presented to respondents, the survey asked a number of questions targeting information needed to make decisions related to the test specifications and other program considerations. Results are presented in the figures below.

Figure 19. Do you agree with CCHI's eligibility requirements?

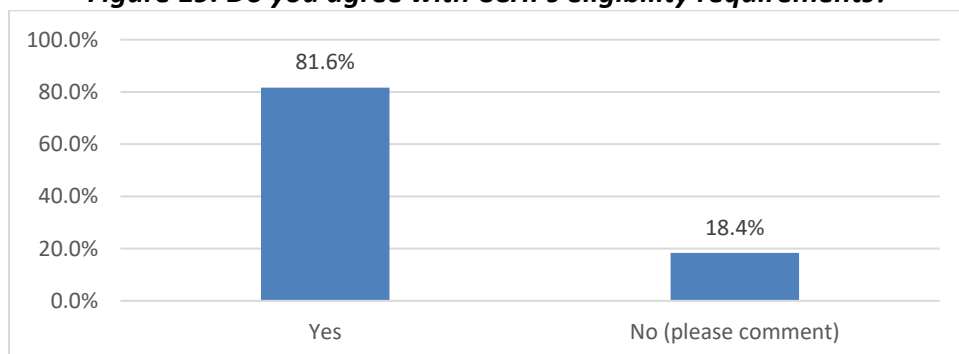


Figure 20. What do you think a minimal general education requirement should be?

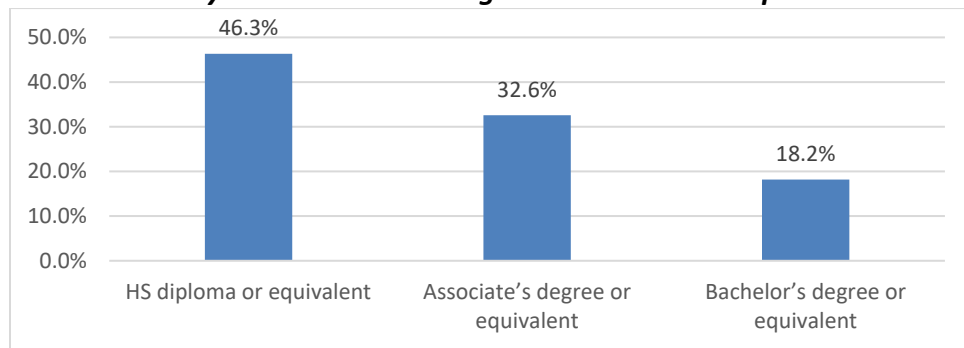


Figure 21. What is the minimum level of language proficiency (based on the ACTFL scale) that an entry-level certified interpreter should possess, both in English and the other main language of service?

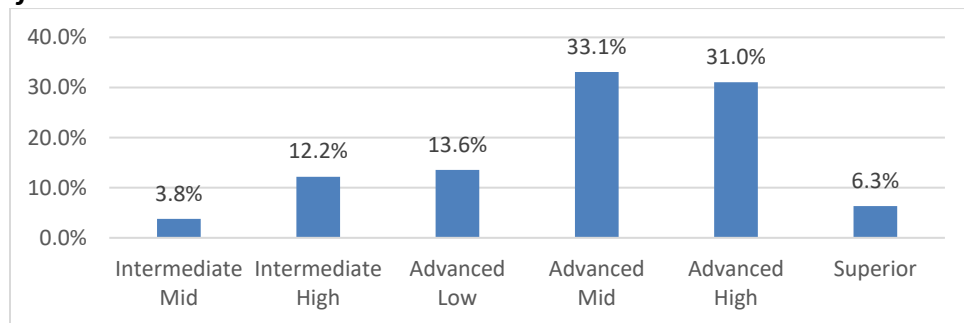


Figure 22. Is translation of written documents from English (not sight translation) part of your job description or job duties as a healthcare interpreter?

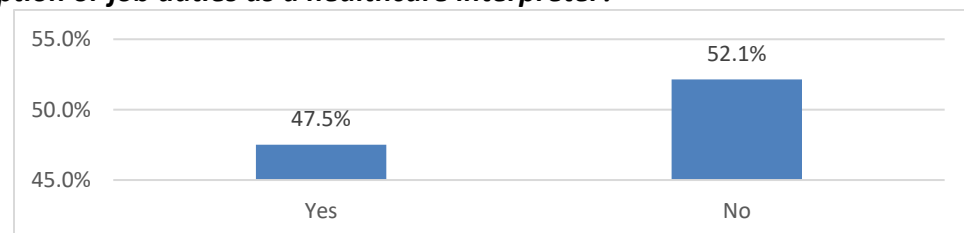


Figure 23. If yes: What kind of documents do you translate? (Check all that apply.)

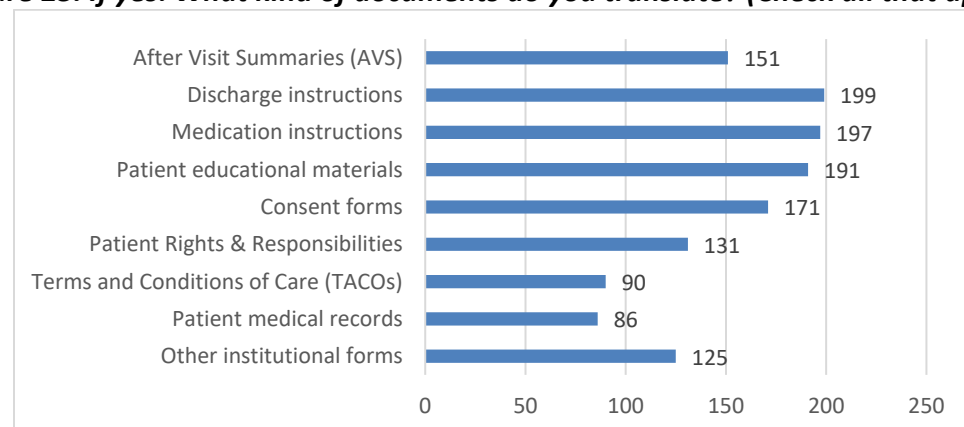


Figure 24. If yes: How often do you do written translation?

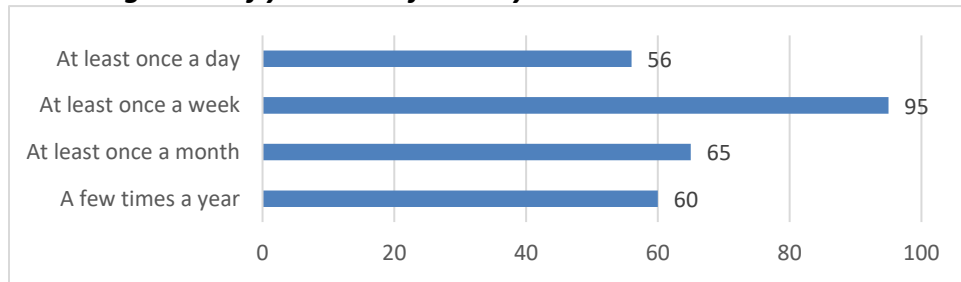


Figure 25. If yes: Have you received training in written translation?

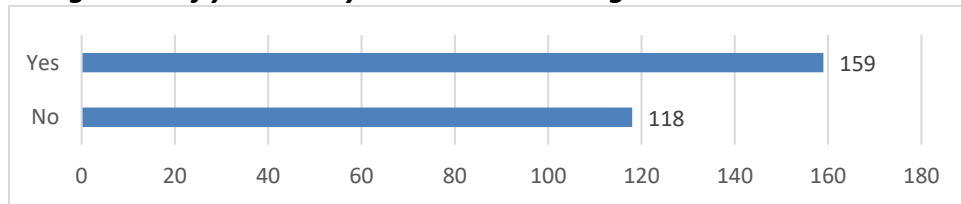


Figure 26. Do you write down the provider's oral instructions in the patient's language?

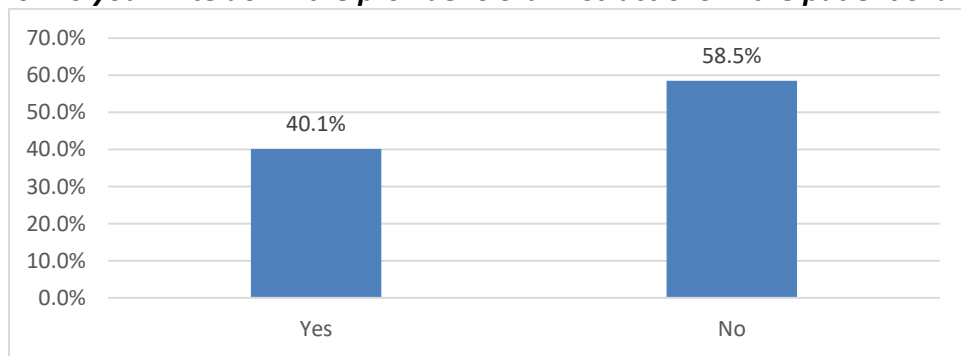


Figure 27. Do you do sight translation or written translation from the patient's language into English?

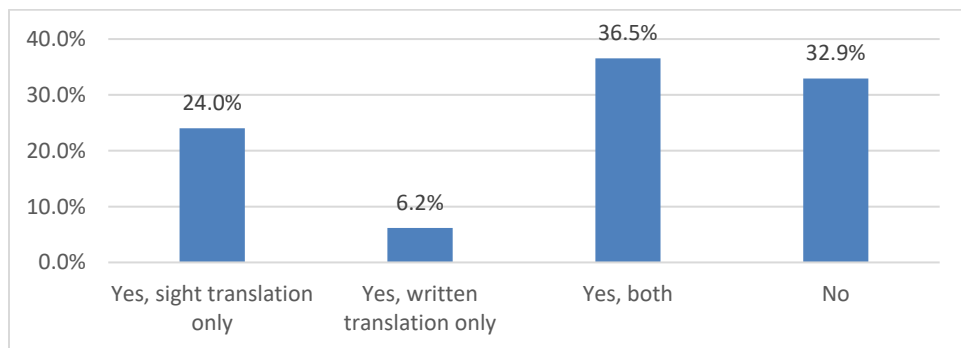


Figure 28. How does your facility approach sight translation (reading an English document in the patient's language)?

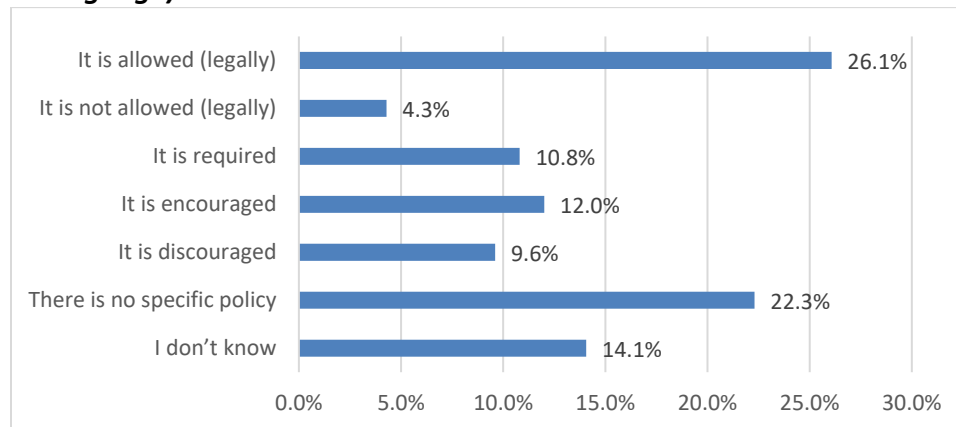


Figure 29. How do you handle the register of the speaker during actual encounters?

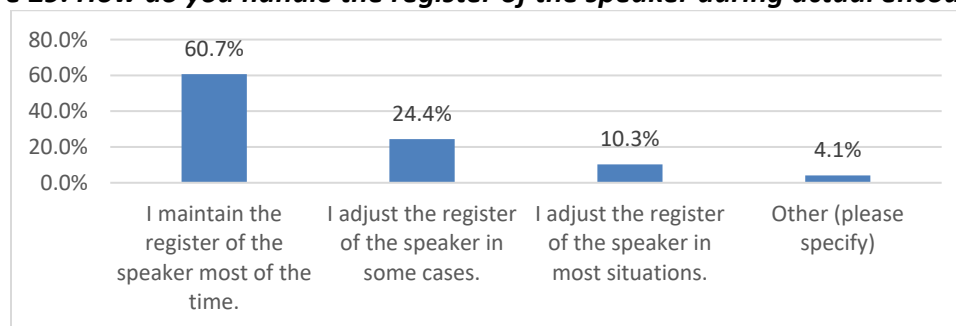
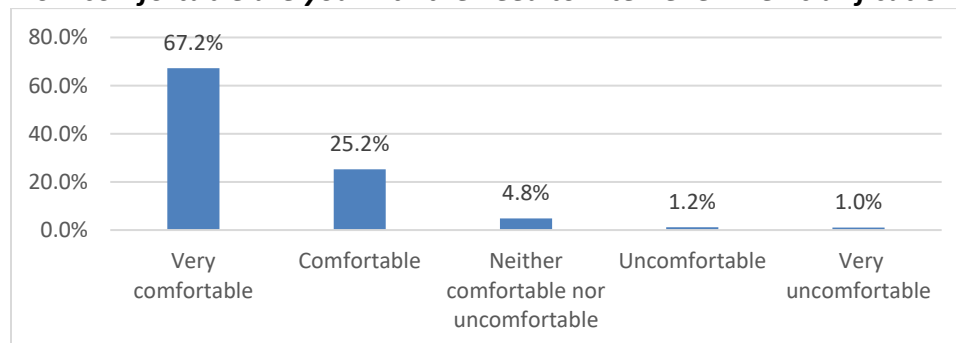


Figure 30. How comfortable are you with the need to intervene when clarification is needed?



Task and Knowledge Overall Ratings

The following provides a summary of survey respondents' ratings of the tasks, knowledge, and skills. **The survey respondents passed 109 (100%) of the 109 task, knowledge, and skill statements.**

Tasks

Means and standard deviations for the importance scale ratings were calculated. **A total of 19 (100%) of the 19 tasks achieved high importance means.** Table 5 shows the delineation of tasks in Pass, Borderline, and Fail categories by domain.

Table 5. Tasks by Pass, Borderline, and Fail Categories

Task Domains	No. of Task Statements	Pass (Mean 2.50 or above)	Borderline (Mean 2.40 to 2.49)	Fail (Mean below 2.40)
1. Professional Responsibility and Interpreter Ethics	7	7	0	0
2. Managing the Interpreting Encounter	3	3	0	0
3. Healthcare Terminology	1	1	0	0
4. U.S. Health Systems	1	1	0	0
5. Cultural Responsiveness	2	2		
6. Interpreting in Health Settings	5	5	0	0
Total	19	19	0	0
Percentage		100%	0%	0%

The mean, median, and modal responses for the frequency rating scale were calculated. It should be noted that frequency is not necessarily related to importance: A task may be done infrequently but considered highly important, or it may be done frequently but considered less important. Two out of 4 tasks were most frequently rated as Repeatedly (more than once a week) (mode = 4), and the other two were most frequently rated as Sometimes (once per month) (mode = 2).

Knowledge and Skills

A total of 90 (100%) of the 90 knowledge and skill statements achieved high importance means. Table 6 shows the knowledge and skill statements placed in Pass, Borderline, and Fail categories.

Table 6. Knowledge and Skill Statements by Pass, Borderline, and Fail Categories

Knowledge and Skill Domains	No. of Task Statements	Pass (Mean 2.50 or above)	Borderline (Mean 2.40 to 2.49)	Fail (Mean below 2.40)
1. Professional Responsibility and Interpreter Ethics	22	22	0	0
2. Managing the Interpreting Encounter	27	27	0	0
3. Healthcare Terminology	6	6	0	0
4. U.S. Health Systems	8	8	0	0
5. Cultural Responsiveness	6	6		
6. Interpreting in Health Settings	21	21	0	0
Total	90	90	0	0
Percentage		100%	0%	0%

Subgroup Analysis of Task and Knowledge/Skill Ratings

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

- If the subgroup means are above the critical importance value (mean ratings at or above 2.50), then they agree that the content is important.

- If the subgroup means are below the critical importance value (mean ratings less than 2.50), then the subgroups agree that the content is considered less important.
- By contrast, if one subgroup's mean ratings are above the critical importance value and another subgroup's means are below the critical importance value, then the subgroups are in disagreement regarding the content's importance.

The index of agreement provides a method of computing the similarity in judgments between groups and is tailored to the purpose of a job analysis study more than the correlation coefficient. Although the correlation coefficient measures the tendency toward agreement along the full range of possible ratings, the agreement index 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 study 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 areas shows how to compute the index. If two groups passed the same 96 knowledge areas 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 show less than optimal agreement and therefore require additional mean analyses.

Agreement coefficients were produced on the following background information questions:

- **7.** How many years of experience do you have in healthcare interpreting?
- **14.1.** In what PRIMARY language do you interpret in healthcare settings?

578 participants responded to background information question 7, all of whom qualified for inclusion in one of the two subgroups shown in Table 7.

Table 7. Years of Experience Index of Agreement Analysis Subgroups

Subgroup	Responses Included in Subgroup	Count
Group 1	<ul style="list-style-type: none"> • Less than 2 • 2 to 5 	163
Group 2	<ul style="list-style-type: none"> • 6 to 10 • 11 to 20 • 21 or more 	415
Total		578

The index of agreement coefficients for tasks and knowledge/skills are shown in Table 8. The agreement coefficients were 1.00 for both the tasks and knowledge/skill statements.

Table 8. Years of Experience Index of Agreement Coefficients

Task Importance			Knowledge and Skill Importance		
	Group 1	Group 2		Group 1	Group 2
Group 1	1.00		Group 1	1.00	
Group 2	1.00	1.00	Group 2	1.00	1.00

576 participants responded to background information question 14.1, all of whom qualified for inclusion in one of the three subgroups shown in Table 9.

Table 9. Primary Language of Interpretation Index of Agreement Analysis Subgroups

Subgroup	Count
Group 1: Spanish	372
Group 2: All non-CHI™ languages	160
Group 3: Arabic and Mandarin	44
Total	576

The index of agreement coefficients for tasks and knowledge/skills are shown in Table 10. The agreement coefficients were 1.00 for both the tasks and knowledge/skill statements.

Table 10. Primary Language of Interpretation Index of Agreement Coefficients

Task Importance				Knowledge and Skill Importance			
	Group 1	Group 2	Group 3		Group 1	Group 2	Group 3
Group 1	1.00			Group 1	1.00		
Group 2	1.00	1.00		Group 2	1.00	1.00	
Group 3	1.00	1.00	1.00	Group 3	1.00	1.00	1.00

Because all of the subgroups achieved strong agreement (coefficients of 0.80 or higher), additional mean analyses are not necessary to validate decisions about exam content. In fact, all subgroups were in perfect agreement, indicating that **healthcare interpreters are closely aligned regarding which tasks, knowledge, and skills are important, regardless of their years of experience or primary language of interpretation.**

Content Coverage Ratings

The survey participants indicated how well the statements within each of the task and knowledge/skill domains covered important aspects of that area. These responses provide an indication of the comprehensiveness of the survey content.

The five-point rating scale included 1=Very Poorly, 2=Poorly, 3=Adequately, 4=Well, and 5=Very Well. The means and standard deviations for the task and knowledge ratings are provided in Tables 11 and 12. For the task domains, the means ranged from 4.4 to 4.6 and for the knowledge/skill statements ranged from 4.4 to 4.7. These means provide evidence that the tasks and knowledge/skills were well to very well covered on the survey.

Table 11. Mean, Standard Deviation, and Frequency Distribution Percentage of Task Content Coverage

Task Domain	Content Coverage						
	Mean	SD	Frequency Percentage				
			1=Very poorly	2=Poorly	3=Adequately	4=Well	5=Very well
1. Professional Responsibility and Interpreter Ethics	4.6	0.62	0.2%	0.0%	6.2%	24.9%	67.1%
2. Managing the Interpreting Encounter	4.6	0.66	0.2%	0.3%	7.4%	24.5%	65.4%
3. Healthcare Terminology	4.5	0.75	0.3%	1.4%	9.3%	26.8%	59.7%
4. U.S. Health Systems	4.4	0.81	0.2%	2.6%	12.0%	30.5%	52.0%
5. Cultural Responsiveness	4.5	0.68	0.0%	0.7%	8.6%	26.2%	61.9%
6. Interpreting in Health Settings	4.6	0.68	0.3%	0.5%	7.4%	22.8%	67.1%

Table 12. Mean, Standard Deviation, and Frequency Distribution Percentage of Knowledge/Skill Content Coverage

Knowledge and Skill Domain	Content Coverage						
	Mean	SD	Frequency Percentage				
			1=Very poorly	2=Poorly	3=Adequately	4=Well	5=Very well
1. Professional Responsibility and Interpreter Ethics	4.6	0.64	0.0%	0.3%	7.4%	20.8%	68.6%
2. Managing the Interpreting Encounter	4.7	0.62	0.2%	0.3%	5.5%	20.9%	71.0%
3. Healthcare Terminology	4.6	0.67	0.0%	0.7%	7.9%	24.4%	64.5%
4. U.S. Health Systems	4.4	0.80	0.2%	1.7%	13.0%	23.7%	57.8%
5. Cultural Responsiveness	4.5	0.71	0.0%	0.9%	9.6%	25.4%	61.2%
6. Interpreting in Health Settings	4.6	0.64	0.2%	0.5%	5.8%	24.4%	67.1%

Survey respondents could write in tasks or knowledge/skills that they believe should be included in the listing of important tasks and knowledge/skills. The Test Specifications Committee reviewed the comments to determine whether there were areas not covered on the survey that should be included in the final list of tasks, knowledge, and skills and on the exams, and concluded there were no comments from respondents that warranted adding any additional tasks, knowledge areas, or skills.

Test Content Recommendations

In Sections 3a, 3b, and 4 of the survey, participants were asked to assign a percentage weight to each area that should be included on the respective exam for that section. The sum of percentage weights

was required to equal 100. This information guided the Test Specifications Committee in developing recommendations about how much emphasis the domains should receive on the test content outlines.

For Section 3a: Recommendation for Test Content: CoreCHI™, the mean weights across all survey respondents are in Table 13.

Table 13. Survey Respondents' CoreCHI™ Test Content Weighting Recommendations

Domain	Mean (%)	SD (%)	Range	
			Minimum	Maximum
Domain 1. Professional Responsibility and Interpreter Ethics	23.7%	9.10	0	75
Domain 2. Managing the Interpreting Encounter	21.5%	8.99	0	100
Domain 3. Healthcare Terminology	27.7%	12.43	0	80
Domain 4. U.S. Health Systems	11.8%	7.58	0	100
Domain 5. Cultural Responsiveness	15.4%	6.61	0	40

For Section 3b: Recommendation for Test Content: CHI™, the mean weights across all survey respondents are in Table 14.

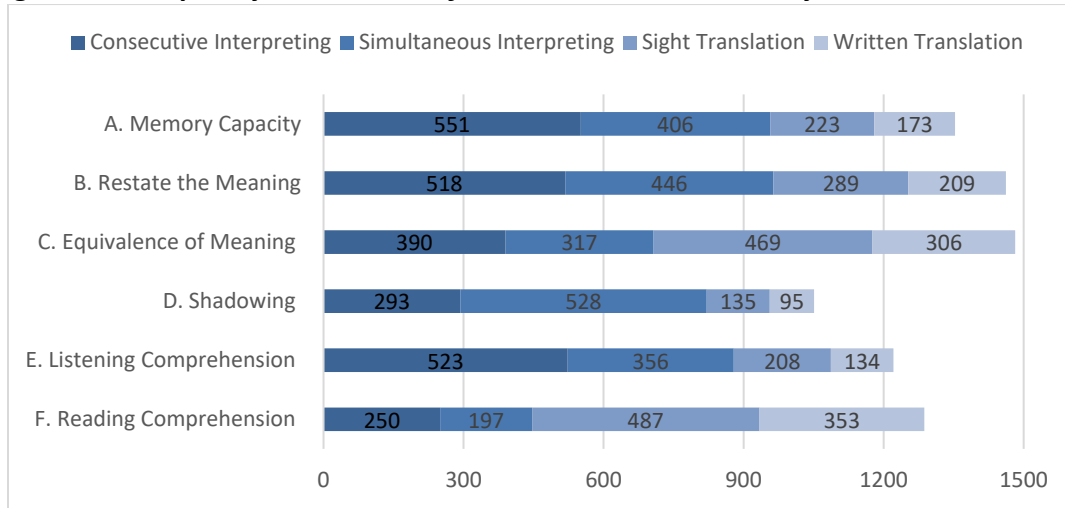
Table 14. Survey Respondents' CHI™ Test Content Weighting Recommendations

CHI™ Section	Mean (%)	SD (%)	Range	
			Minimum	Maximum
1. Consecutive Interpreting	46.1%	18.97	0	100
2. Simultaneous Interpreting	22.0%	11.00	0	95
3. Sight Translation from English to the non-English language	16.6%	8.77	0	100
4. Translation from English to the non-English language	15.3%	10.46	0	100

For Section 4: Recommendation for Test Content: ETOE™, before recommending test content weightings the survey participants responded to a series of questions about each proposed ETOE™ activity. The activities were proposed based on their performance in CCHI's EtoE Interpreter Testing Study (2021), which serves as the foundation for the ETOE™ test development. The intent of question 1, "The Knowledge, Skills, Abilities/Competencies (KSA/Cs) measured by this activity are needed for successful performance in which of the following? (Select all that apply.)," was to ascertain if and how these monolingual activities correspond to the four tasks of Domain 6. Interpreting in Health Settings and, therefore, the CHI™ exam.

Responses confirmed that the ETOE™ activities do have a desired correspondence to the Domain 6 tasks. Each activity targets knowledge/skills in two tasks corresponding to the source input method (audio or text) and has additional rather significant impact on the tasks with the opposite source input method. Results for question 1 are presented in Figure 31 as relative response frequency distributions (counts) for each ETOE™ activity.

Figure 31. Frequency Distributions for CHI™ Skills Measured by Each ETOE™ Activity



Results for question 2, “How important for the interpreter’s performance is this activity?,” are presented in Table 15 as means, standard deviations, and response frequency distributions. All of the presented activities achieved mean importance ratings at or above 2.50; thus, their eligibility for inclusion in the development of the ETOE™ test specifications has been confirmed.

Table 15. ETOE™ Activity Importance Rating Means, Standard Deviations, and Frequency Distribution Percentages

ETOE™ Activity	Mean	SD	Frequency Percentage			
			0=Not important at all	1=Minimally important	2=Moderately important	3=Very important
A. Memory Capacity	2.8	0.52	0.7%	2.4%	17.4%	79.5%
B. Restate the Meaning	2.7	0.61	1.0%	4.1%	22.7%	72.1%
C. Equivalence of Meaning	2.6	0.64	1.4%	3.8%	30.7%	64.1%
D. Shadowing	2.5	0.67	1.0%	6.6%	31.3%	61.1%
E. Listening Comprehension	2.6	0.64	1.2%	4.5%	27.9%	66.4%
F. Reading Comprehension	2.5	0.62	0.7%	4.7%	34.3%	60.3%

The respondents were also asked the question regarding the impact of each monolingual activity on the accuracy of interpreting (question 3). All mean ratings for this aspect of interpreting also achieved the threshold of 2.50, confirming the relevance of these activities to the interpreter’s job. Results for question 3, “To what degree would the inability of the interpreter to perform this task affect accuracy of interpreting?,” are presented in Table 16 as means, standard deviations, and response frequency distributions.

Table 16. ETOE™ Activity Effect on Interpreting Accuracy Rating Means, Standard Deviations, and Frequency Distribution Percentages

ETOE™ Activity	Mean	SD	Frequency Percentage			
			0=No effect	1=Minimal effect	2=Moderate effect	3=Substantial effect
A. Memory Capacity	2.6	0.63	1.0%	4.3%	31.0%	63.6%
B. Restate the Meaning	2.5	0.67	1.7%	4.8%	31.0%	62.4%
C. Equivalence of Meaning	2.5	0.69	2.2%	4.8%	35.3%	57.6%
D. Shadowing	2.5	0.72	1.9%	8.0%	32.9%	57.3%
E. Listening Comprehension	2.5	0.70	2.4%	5.0%	30.4%	62.2%
F. Reading Comprehension	2.5	0.66	1.6%	4.7%	35.2%	58.5%

Survey participants were then asked to assign a percentage weight to each area that should be included on the ETOE™ exam. The mean weights across all survey respondents are in Table 17.

Table 17. Survey Respondents' ETOE™ Test Content Weighting Recommendations

ETOE™ Activity	Mean (%)	SD (%)
A. Memory Capacity	22.2	11.13
B. Restate the Meaning	19.2	7.89
C. Equivalence of Meaning	16.3	7.27
D. Shadowing	12.2	6.10
E. Listening Comprehension	16.9	6.91
F. Reading Comprehension	13.2	6.36

Write-In Comments

Many survey respondents provided responses to the open-ended questions in Section 6: Comments about expected changes in their job role over the next few years and professional development/continuing education needs.

DEVELOPMENT OF FINAL TASKS, KNOWLEDGE, SKILLS, AND EXAM SPECIFICATIONS

The test specification meetings for the CoreCHI™, CHI™, and ETOE™ exams occurred August 27–28, 2022. Prometric staff facilitated a virtual meeting with the Test Specifications Committee focused on the following agenda items:

- Review of survey results
 - Background information data
 - Task, knowledge, and skill ratings
 - Content coverage ratings
 - Comments
- Revision of task, knowledge, and skill domains and statements
 - Edits to be informed by survey data and Test Specifications Committee input
- Development of exam weighting recommendations for the CoreCHI™, CHI™, and ETOE™ exams
 - Review survey respondent-recommended weightings
 - Discuss additional variables in the test specifications
 - Weighting exercise to determine final recommended weightings

Review of Survey Results

The first activity involved in the test specification development was to provide the Test Specifications Committee with an overview of the job analysis survey results. Detailed results were presented, explained, and discussed so that the committee could apply results to decisions later in the meeting.

Revision of Task, Knowledge, and Skill Domains and Statements

The Test Specifications Committee reviewed the task, knowledge, and skill statement results to make final recommendations about the areas that should be included on the final list of core tasks and underlying knowledge and skills required upon entry to the profession.

The survey results served as the primary source of information used by the committee members to make decisions. Recommendations were informed by the following data:

- the mean task, knowledge, and skill importance ratings for all respondents; and
- the appropriateness of the content for entry-level interpreting professionals.

Domains, Tasks, Knowledge, and Skills Recommended for Inclusion

Of the 109 tasks, knowledge, and skills that were included on the survey and achieved mean ratings above 2.50 (Pass category), 109 were included in the final list (19 tasks and 90 knowledge/skills).

Table 18 contains the final list of *task* statements, and Table 19 contains the final list of *knowledge and skill* statements.

Table 18. Final Task Statements

Domain	Task
1. Professional Responsibility and Interpreter Ethics	1. Apply established codes of ethics and standards of practice, and resolve ethical dilemmas as needed, to support optimal patient outcomes and maintain the integrity of the healthcare interpreting profession.
	2. Uphold the boundaries of the interpreter's professional role to respect the autonomy, needs, and contributions of all parties.
	3. Maintain impartiality by recognizing and suspending the interpreter's own values, beliefs, and biases to convey the perspectives of all parties.
	4. Assess the need for advocacy by considering all available information and determining the degree of action necessary to prevent harm or disrespect to any party, and act within appropriate limitations.
	5. Adhere to personal and occupational safety measures by following standard precautionary protocols to reduce the risk of harm and disease.
	6. Manage the interpreter's emotional well-being by using self-monitoring and self-care strategies to safeguard personal wellness and professional performance.
	7. Maintain interpreter certification credential(s) and pursue professional growth and development by keeping abreast of working languages and their variants, relevant legislation, health care delivery systems, and public health guidelines.
2. Managing the Interpreting Encounter	1. Self-monitor one's ability to interpret in a given encounter by considering personal, linguistic, and cultural factors, as well as recognizing modality limitations.
	2. Manage unfamiliar terms and concepts while maintaining transparency and supporting effective communication for all parties.
	3. Establish communication protocols, choose the appropriate interpreting modes according to the communication needs, and manage the flow of communication by intervening as needed, guided by the professional standards of practice.
3. Healthcare Terminology	1. Keep current on healthcare terminology and language usage in the healthcare context in working languages.
4. U.S. Health Systems	1. Maintain familiarity with U.S. health systems, their cultures, organizational structures, and related legal and socioeconomic environments, in order to anticipate and respond appropriately to situations and navigate the systems.
5. Cultural Responsiveness	1. Avoid making assumptions about factors such as a party's identity, meaning, and intention, recognizing that individuals have different levels of acculturation and intracultural variation.
	2. Serve as a respectful cultural mediator by promoting inclusive and equitable encounters, ensuring that all parties' beliefs are represented, and intervening as needed when the interpreter observes a cultural misunderstanding.

6. Interpreting in Health Settings	1. Interpret consecutively between the source and target language.
	2. Interpret simultaneously between the source and target language.
	3. Sight translate a written message by rendering it into a spoken or signed language.
	4. Translate a written message from English into the target language.
	5. Maintain fidelity to the message by conveying the meaning, intent, register, tone, cultural context, and nonverbal communication.

Table 19. Final Knowledge and Skill Statements

Domain	Knowledge/Skill
1. Professional Responsibility and Interpreter Ethics Knowledge	Knowledge of . . .
	1. Healthcare interpreter codes of ethics/professional conduct and standards of practice
	2. Roles and goals of all parties in a healthcare encounter
	3. Consequences if boundaries are violated
	4. Interpreter's own values, beliefs, biases, and conflicts of interest
	5. Appropriate degrees/methods of advocacy
	6. Available advocacy resources within the health system and community
	7. Occupational health hazards and risks and their corresponding protocols and safety procedures
	8. Personal and professional stressors and their potential effect on interpreter performance (e.g., vicarious trauma, secondary traumatic stress)
	9. Appropriate resources for managing personal and professional stressors
	10. Techniques for monitoring the interpreter's emotions and response to stressors
	11. Credible sources of continuing education on topics affecting proficiency in interpreting
1. Professional Responsibility and Interpreter Ethics Skills	Skill in . . .
	1. Recognizing ethical dilemmas
	2. Identifying and applying appropriate solutions to ethical dilemmas
	3. Disclosing potential conflicts
	4. Maintaining confidentiality
	5. Educating parties about the role and responsibilities of healthcare interpreters
	6. Supporting the autonomy and right to self-determination of all parties
	7. Refraining from personal involvement unless warranted for advocacy or safety purposes
	8. Identifying situations that are appropriate for advocacy
	9. Determining best approach and time frame for advocacy

	10. Asking for information on safety protocols
	11. Identifying and applying appropriate strategies for self-care and alleviating stress
2. Managing the Interpreting Encounter <i>Knowledge</i>	Knowledge of . . .
	1. The interpreter's language and memory limitations
	2. Protocols and limitations of specific interpreting modalities (e.g., in-person, telephonic, video, remote simultaneous)
	3. Existing language variants
	4. Electronic communication devices, applications, and interfaces used by providers, interpreters, and patients for remote modalities
	5. Techniques and resources for managing unfamiliar terms and concepts while interpreting
	6. Consequences of message distortions (e.g., additions, omissions, substitutions that are not linguistically appropriate)
	7. Register, tone, and style, and strategies for maintaining them
	8. Various modes of interpreting
	9. Interpreter obligations to all parties
	10. Proper positioning of all parties and/or electronic device(s) to support effective communication
2. Managing the Interpreting Encounter <i>Skills</i>	Skill in . . .
	1. Disclosing the interpreter's limitations (e.g., related to language variants, skills)
	2. Disclosing a need for recusal
	3. Managing encounter hand-offs due to overlapping interpreter assignments
	4. Managing situational factors that can affect accuracy (e.g., time pressure, unfamiliar concepts, memory capacity)
	5. Correcting interpreting errors
	6. Asking for pauses, clarification, and repetitions
	7. Establishing linguistic equivalence
	8. Redirecting patients' questions and requests to appropriate healthcare team members
	9. Conducting a pre-session or interpreter introduction to establish ground rules
	10. Intervening at an appropriate level to maintain the flow of the encounter
	11. Monitoring for evidence of parties' comprehension
	12. Addressing technology literacy gaps
	13. Adapting to the physical environment and modality of interpreting as needed

	14. Requesting changes to the physical environment (e.g., positioning, lighting, volume, audiovisual factors) as required by the modality of interpreting
	15. Choosing mode and switching as needed
	16. Maintaining transparency
	17. In simultaneous multi-speaker situations when standard interpreting protocols are not possible, keeping all parties informed about the situation and maintaining transparency
3. Healthcare Terminology Knowledge	Knowledge of . . .
	1. Healthcare terminology (e.g., anatomy and physiology, dental, nutrition, mental and behavioral health, culturally specific medical terms, alternative medicine, health system terminology, etc.)
	2. General vocabulary and idioms used in healthcare settings
	3. Available resources for healthcare terminology
3. Healthcare Terminology Skills	Skill in . . .
	1. Evaluating the credibility of resources for healthcare terminology
	2. Establishing equivalence for healthcare terms that lack direct interpretation and/or translation in the target language
	3. Managing healthcare terminology (e.g., maintaining glossaries)
4. U.S. Health Systems Knowledge	Knowledge of . . .
	1. U.S. health delivery systems
	2. Public health and its implications for populations
	3. Federal and state legislation and regulations pertaining to language and healthcare access
	4. Applicable legislation and regulations regarding the role of interpreters as mandated reporters
	5. Roles and responsibilities of healthcare providers and staff
	6. Social determinants of health and disparities that prevent equitable access to health care
	7. Healthcare organizational structures, specialties, policies, protocols, and procedures
4. U.S. Health Systems Skills	Skill in . . .
	1. Asking for information on the health organization's protocols relevant to the encounter
5. Cultural Responsiveness Knowledge	Knowledge of . . .
	1. Cultural variables among all parties, including the interpreter, in a healthcare encounter
	2. Effect of interpreter's own culturally embedded behaviors and mannerisms and those of other parties on the encounter

	3. Sociocultural factors that impact appropriateness of the interpreting modality (e.g., video remote modality may be a stressor for a patient)
5. Cultural Responsiveness Skills	Skill in . . .
	1. Monitoring the interpreter's own assumptions and cultural biases
	2. Conveying culturally embedded behaviors and mannerisms
	3. Assessing situations for cross-cultural impact on communication and, if needed, determining the most appropriate intervention
6. Interpreting in Health Settings Knowledge	Knowledge of . . .
	1. Terminology, idioms, usage, and cultural significance
	2. Structure and grammar of working languages
	3. Sight translation protocols
	4. Healthcare documents that are appropriate for sight translation
	5. Written translation protocols
6. Interpreting in Health Settings Skills	Skill in . . .
	1. Retaining and recalling information in short-term memory
	2. Taking notes to aid interpreting
	3. Active listening [spoken language] and/or viewing [signed language]
	4. Communicating fluently in working languages
	5. Discerning dialects
	6. Maintaining accuracy
	7. Maintaining the register within target language parameters
	8. Articulating [spoken language] or producing [signed language] clearly to promote comprehension
	9. Self-monitoring for accuracy
	10. Anticipatory listening [spoken language] or viewing [signed language]
	11. Listening [spoken language] and/or viewing [signed language], processing, and interpreting simultaneously
	12. Reading and comprehending written text in English
	13. Anticipatory reading
	14. Reading and comprehending written text in source and target languages when translating
	15. Writing in the target language

Development of Test Content Weights

Before developing recommended test content weights, the Test Specifications Committee reviewed and discussed the survey respondent-derived weightings, as well as the existing exam weightings. Then, for each exam the members participated in an exercise that required each member to assign a percentage weight to each of the areas to be covered on the exam. Average weights were then entered into a

spreadsheet and shown to the committee. The committee members were able to compare the Test Specifications Committee-derived weights to the survey responses and the existing exam weights. This resulted in productive discussions among the committee members regarding the optimal percentages for each exam. Discussion resulted in additional changes, resulting in final Test Specifications Committee recommendations.

CoreCHI™ Weights

The Test Specifications Committee members completed the CoreCHI™ test specifications exercise first. Table 20 shows the committee's test specifications recommendations. On September 27, 2022, CCHI's Commissioners met to review the recommendations and approved the Test Specifications Committee's recommendations for the CoreCHI™ exam.

Table 20. Final CoreCHI™ Exam Weights Approved by Commissioners

Domain	% Weight
1. Professional Responsibility and Interpreter Ethics	23%
2. Managing the Interpreting Encounter	24%
3. Healthcare Terminology	25%
4. U.S. Health Systems	13%
5. Cultural Responsiveness	15%
Total	100%

The Test Specifications Committee also met again on September 15, 2022, to discuss the test specifications further. The committee also reviewed the survey results for task importance within Domains 1, 2, and 5. Upon further the discussion, the committee agreed with the survey results. They recommend that while the form construction of the CoreCHI™ exam should be based on the exact domain alignment, the percentages for each task for these three domains should be taken into account to the extent possible, as a means of ensuring representation within the domains.

The committee also provided the following recommendations for Domains 3 and 4, which each contain only one task.

Domain 3 Recommendations:

- Ensure diversity of specialties and settings and subject matter areas (diseases, anatomy, procedures, etc.) on each form
- Make sure that at least 3-4 questions are about healthcare system (e.g., about provider roles, protocols, departments, etc.)
- Include at least one question related to skills (i.e., not just knowledge areas) in this Domain

Domain 4 Recommendations:

- Ensure diversity of knowledge areas on each form
- Include at least one question related to skills in this Domain

The committee also conducted the linking of the knowledge areas and skills to the tasks of each domain of the CoreCHI™ exam. **The CoreCHI™ exam specifications are presented in Appendix B.**

CHI™ Weights

The Test Specifications Committee members completed the CHI™ test specifications exercise next. Table 21 shows the approved test specifications recommendations.

Table 21. Final CHI™ Exam Weights Approved by Commissioners

Section	% Weight
1. Consecutive Interpreting	70%
2. Simultaneous Interpreting	17%
3. Sight Translation from English to the non-English language	11%
4. Translation from English to the non-English language	2%
Total	100%

In the second meeting on September 15, 2022, the committee also discussed the survey data in response to background information question 22, “Do you do sight translation or written translation from the patient’s language (aka Language Other Than English, LOTE) into English?,” in order to provide a recommendation whether the CHI™ exam should include items related to that task. The group discussed situations when this task is performed as well as the types of documents that are involved.

The committee agreed that an important skill related to this task is an interpreter’s ability to read a text in the patient’s language. All other skills of sight translation are language-direction neutral and can be tested in the task of sight translating from English into the LOTE. And since the committee agreed that the written translation task should be kept on the CHI™ exam in the same format (as a dual-language multiple choice question), that item can also serve the purpose of ascertaining whether candidates can read a text in the LOTE. At the same time, the SMEs recommend that in the next JTA study, the skill of “Reading and comprehending written text in the LOTE” be added for consideration.

The committee then conducted the linking of the knowledge areas and skills to the tasks of the CHI™ exam.

The CHI™ exam specifications are presented in *Appendix C*.

ETOE™ Weights

The Test Specifications Committee members completed the ETOE™ test specifications exercise last. Table 22 shows the committee’s test specifications recommendations. CCHI’s Commissioners reviewed the recommendations on September 27, 2022, and approved the Test Specifications Committee’s recommendations for the ETOE™ exam.

Table 22. Final ETOE™ Exam Weights Approved by Commissioners

Domain	% Weight
Activity A. Memory Capacity	24%
Activity B. Restate the Meaning	21%
Activity C. Equivalence of Meaning	19%
Activity D. Shadowing	13%
Activity E. Listening Comprehension	14%

Domain	% Weight
Activity F. Reading Comprehension	9%
Total	100%

The committee also discussed in depth whether the “Activity F. Reading Comprehension” should be included in the ETOE™ exam and agreed that it should. The major reasons are:

- Reading comprehension of an English text is a critical skill needed to perform accurate sight translation from English. The task of sight translation is an important part of the CHI™ exam; thus, including an activity testing this skill makes both exams more comparable.
- The Reading Comprehension activity, in addition to assessing reading skill, also assesses some other higher-order thinking skills, such as analysis, application, evaluation, synthesis, and inference.
- Answering questions based on a written text correctly appears to be an indirect indicator of the linguistic and cognitive subskills needed for achieving accuracy in interpreting.

The committee performed an exercise to link the knowledge areas and skills to the activities of the ETOE™ exam.

The committee also discussed a possibility of including a non-scored activity in the candidate’s Language Other Than English (LOTE), such as describing an image in LOTE. This would allow CCHI to start collecting audio samples of different languages on a standardized subject that could be used in the future for various continuing education activities that could strengthen the new credential based on the ETOE™ exam.

The ETOE™ exam specifications are presented in *Appendix D*.

CCHI Commissioners’ Review

The Commissioners held a virtual meeting on September 27, 2022, to review the survey results and the corresponding Test Specifications Committee recommendations.

The Commissioners reviewed and discussed the Test Specifications Committee recommendations regarding the examinations’ weights and form construction:

1. The Commissioners approved the domain-level weights and number of questions of the CoreCHI™ exam as recommended by the Test Specifications Committee, as well as the committee’s recommendations pertaining to the form construction (task- and knowledge/skill-level). The approved CoreCHI™ exam specifications are presented in ***Appendix B***.
2. Upon reviewing the SMEs’ recommendations for the CHI™ exam and the corresponding JTA survey data, the Commissioners discussed the task-level weightings further. The following is a summary of the Commissioners’ considerations:
 - Consecutive interpreting remains the main and most accurate mode for healthcare settings. Most hospitals require the consecutive interpreting mode for discharge instructions and discussions of care options as the most accurate mode of interpreting.

- Simultaneous interpreting is a more important mode than sight translation not only due to the criticality of when it is used in healthcare, but also because it is a resources management technique for entry-level interpreters.
- In recent years, the simultaneous interpreting mode is becoming more important in the interpreters' job, which is reflected in the survey data. Thus, it is important to reflect that shift in the test blueprint.
- Wider adoption of offering patients healthcare documents translated in the patient's language results in fewer opportunities for sight translation for some interpreters. Likewise, interpreters working in remote modalities are less likely to use sight translation. While an increase in the weight for the sight translation task is warranted, based on the survey, it seems too high.
- Preserving the written translation task is important because the current format of the item (multiple-choice with the four options in the LOTE) allows for assessment of additional subskills, such as candidates' ability to read a written text in the LOTE and to evaluate the equivalence of meaning.

The Commissioners approved the task weights for the CHI™ exam shown in Table 21 above. **The approved CHI™ exam specifications are presented in Appendix C.**

3. The Commissioners approved the Test Specifications Committee recommendations regarding the ETOE™ exam activities and their percentages, as well as the test-form construction and inclusion of a non-scored activity in the LOTE on the exam. **The approved ETOE™ exam specifications are presented in Appendix D.**

SUMMARY AND CONCLUSIONS

The job analysis study of healthcare interpreter professionals and the CoreCHI™, CHI™, and ETOE™ exams identified tasks, knowledge, and skills that are important to the work performed by healthcare interpreters. Further, the data collected guided and will continue to guide the development of the test specifications that will be used to develop CCHI's examinations.

The task, knowledge, and skill statements were developed through an iterative process involving the combined efforts of CCHI, subject matter experts, and Prometric staff. These statements were entered into a survey format and subjected to verification/refutation through the dissemination of a survey to a population of healthcare interpreter professionals. The survey participants were asked to rate the importance of task, knowledge and skill statements.

The results of the study support the following:

- All of the task and knowledge statements were verified as important through the survey and provide the foundation of empirically derived information from which to develop test specifications for CCHI's examinations.
- Evidence was provided in this study that the comprehensiveness of the content within the task, knowledge, and skill domains was well to very well covered.

- All of the information that resulted from the analysis supported the development of the test specifications.

In summary, the study used a multi-method approach to identify the tasks, knowledge, and skills that are important to the work performed by healthcare interpreter professionals. **The results of the study were used to develop the test specifications for the CoreCHI™, CHI™, and ETOE™ exams, and the detailed results can continue to inform exam development in areas beyond test content weightings.** The list of tasks, knowledge, and skills that resulted from the study are intended to inform prospective healthcare interpreters and candidates for the exam regarding what they can expect in the profession, and what will be expected of them when they enter the profession. The study provides a snapshot of the current healthcare interpreter profession, and results can also be used in other areas of the profession as a reference tool, such as to inform training activities or materials development.

REFERENCES

- American Educational Research Association, American Psychological Association, National Council on Measurement in Education (Eds.). (2014). *Standards for educational and psychological testing*. Washington, DC: American Psychological Association.
- Certification Commission for Healthcare Interpreters (CCHI). (n.d.). *About us*. Retrieved from <https://cchicertification.org/about-us/>
- Certification Commission for Healthcare Interpreters (CCHI). (2016, November). *National job task analysis study for healthcare interpreters*. Retrieved from https://cchicertification.org/uploads/CCHI_JTA2016_Report.pdf
- Certification Commission for Healthcare Interpreters (CCHI). (2021, May). *EtoE Interpreter Testing Study Report*. Retrieved from https://cchicertification.org/uploads/CCHI_ETOE_Study_Report_May2021.pdf
- National Council on Interpreting in Health Care (NCIHC). (2021). *Interpreter advocacy in healthcare encounters: A closer look*. Retrieved from <https://www.ncihc.org/assets/2022graphics/NSoP.papers/Interpreter%20Advocacy%20in%20Healthcare%20Encounters%20A%20Closer%20Look%20F051121.CW.pdf>

Appendix A. Certificant Data Compared with Survey Background Information Results

CCHI Certificant Data (as of 6/28/22)

1. What is your U.S. state or territory of residence?	Total	Percent
Outside the U.S.	20	0.41%
Alabama	17	0.35%
Alaska	0	
American Samoa	0	
Arizona	94	1.93%
Arkansas	8	0.16%
California	1283	26.34%
Colorado	144	2.96%
Connecticut	28	0.57%
Delaware	10	0.21%
D.C.	5	0.10%
Florida	146	3.00%
Georgia	72	1.48%
Hawaii	2	0.04%
Idaho	2	0.04%
Illinois	230	4.72%
Indiana	67	1.38%
Iowa	17	0.35%
Kansas	29	0.60%
Kentucky	23	0.47%
Louisiana	11	0.23%
Maine	15	0.31%
Maryland	70	1.44%
Massachusetts	251	5.15%
Michigan	109	2.24%
Minnesota	218	4.48%
Mississippi	2	0.04%
Missouri	51	1.05%
Montana	2	0.04%
Nebraska	8	0.16%
Nevada	46	0.94%
New Hampshire	11	0.23%
New Jersey	38	0.78%
New Mexico	28	0.57%

JTA Survey Background Information Question Results

1. What is your U.S. state or territory of residence?	Total	Percent
Outside the U.S.	9	1.54%
Alabama	5	0.86%
Alaska	1	0.17%
American Samoa	1	0.17%
Arizona	9	1.54%
Arkansas	2	0.34%
California	112	19.21%
Colorado	16	2.74%
Connecticut	3	0.51%
Delaware	1	0.17%
D.C.	2	0.34%
Florida	14	2.40%
Georgia	9	1.54%
Hawaii	0	0%
Idaho	0	0%
Illinois	34	5.83%
Indiana	10	1.72%
Iowa	2	0.34%
Kansas	6	1.03%
Kentucky	3	0.51%
Louisiana	0	0%
Maine	3	0.51%
Maryland	4	0.69%
Massachusetts	44	7.55%
Michigan	12	2.06%
Minnesota	25	4.29%
Mississippi	1	0.17%
Missouri	8	1.37%
Montana	0	0%
Nebraska	3	0.51%
Nevada	7	1.20%
New Hampshire	3	0.51%
New Jersey	4	0.69%
New Mexico	1	0.17%

New York	140	2.87%
North Carolina	128	2.63%
North Dakota	0	
Ohio	168	3.45%
Oklahoma	3	0.06%
Oregon	156	3.20%
Pennsylvania	64	1.31%
Puerto Rico	45	0.92%
Rhode Island	16	0.33%
South Carolina	159	3.26%
South Dakota	5	0.10%
Tennessee	55	1.13%
Texas	381	7.82%
U.S. Virgin Islands	0	
Utah	28	0.57%
Vermont	1	0.02%
Virginia	45	0.92%
Washington	109	2.24%
West Virginia	2	0.04%
Wisconsin	304	6.24%
Wyoming	4	0.08%
Total	4870	100.00%

New York	21	3.60%
North Carolina	10	1.72%
North Dakota	0	0%
Ohio	16	2.74%
Oklahoma	2	0.34%
Oregon	23	3.95%
Pennsylvania	7	1.20%
Puerto Rico	4	0.69%
Rhode Island	1	0.17%
South Carolina	17	2.92%
South Dakota	2	0.34%
Tennessee	6	1.03%
Texas	34	5.83%
U.S. Virgin Islands	2	0.34%
Utah	8	1.37%
Vermont	1	0.17%
Virginia	11	1.89%
Washington	10	1.72%
West Virginia	0	0%
Wisconsin	35	6.00%
Wyoming	0	0%
Missed	19	3.26%
Total	583	100%

5. What is the highest level of formal education (from any country) that you have completed?	Total	Percent
High school diploma/GED	1295	26.59%
Associate's degree (any major)	747	15.34%
Bachelor's degree (any major)	1797	36.90%
Master's degree (any major)	840	17.25%
Doctoral degree (any major)	175	3.59%
Missed	16	0.33%
Total	4870	100.00%

5. What is the highest level of formal education (from any country) that you have completed?	Total	Percent
Did not complete high school	1	0.17%
High school diploma/GED	78	13.38%
Associate's degree (any major)	91	15.61%
Bachelor's degree (any major)	233	39.97%
Master's degree (any major)	145	24.87%
Doctoral degree (any major)	33	5.66%
Missed	2	0.34%
Grand Total	583	100%

14.1 In what PRIMARY language do you interpret in healthcare settings?	Total	Percent
Albanian	5	0.10%
Amharic	7	0.14%
Arabic	184	3.78%
Armenian	12	0.25%
American Sign Language (ASL)	106	2.18%
Bengali	0	0.00%
Bosnian	9	0.18%
Bulgarian	4	0.08%
Burmese	12	0.25%
Burundi	0	0.00%
Cambodian/Khmer	10	0.21%
Cantonese	79	1.62%
Cape Verdean	1	0.02%
Croatian	3	0.06%
Czech	2	0.04%
Danish	0	0.00%
Dari	2	0.04%
Farsi	24	0.49%
French	55	1.13%
German	5	0.10%
Greek	1	0.02%
Gujarati	2	0.04%
Haitian Creole	31	0.64%
Hakka	1	0.02%
Hindi	5	0.10%
Hmong	30	0.62%
Hebrew	0	0.00%
Hungarian	0	0.00%
Indonesian	2	0.04%
Italian	5	0.10%
Japanese	54	1.11%
Karen	8	0.16%
K'iche	1	0.02%
Kinyarwanda	1	0.02%
Kirundi	1	0.02%
Korean	81	1.66%
Kurdish	1	0.02%
Laotian	2	0.04%

14.1 In what PRIMARY language do you interpret in healthcare settings?	Total	Percent
Albanian	1	0.17%
Amharic	0	0%
Arabic	17	2.92%
Armenian	4	0.69%
American Sign Language (ASL)	26	4.46%
Bengali	1	0.17%
Bosnian	3	0.51%
Bulgarian	2	0.34%
Burmese	5	0.86%
Burundi	0	0%
Cambodian/Khmer	1	0.17%
Cantonese	14	2.40%
Cape Verdean	3	0.51%
Croatian	0	0%
Czech	0	0%
Danish	1	0.17%
Dari	0	0%
Farsi	0	0%
French	3	0.51%
German	0	0%
Greek	0	0%
Gujarati	0	0%
Haitian Creole	3	0.51%
Hakka	0	0%
Hindi	0	0%
Hmong	1	0.17%
Hebrew	1	0.17%
Hungarian	1	0.17%
Indonesian	0	0%
Italian	1	0.17%
Japanese	11	1.89%
Karen	2	0.34%
K'iche	1	0.17%
Kinyarwanda	1	0.17%
Kirundi	0	0%
Korean	10	1.72%
Kurdish	0	0%
Laotian	0	0%

Lithuanian	1	0.02%
Macedonian	0	0.00%
Mam	1	0.02%
Mandarin	195	4.00%
Mixteco	3	0.06%
Navajo	1	0.02%
Nepali	40	0.82%
Oromo	8	0.16%
Pashto/Pushtu	3	0.06%
Polish	30	0.62%
Portuguese	99	2.03%
Punjabi	8	0.16%
Romanian	5	0.10%
Russian	128	2.63%
Q'anjob'al	1	0.02%
Sign Language other than ASL	1	0.02%
Serbian	1	0.02%
Somali	73	1.50%
Spanish	3376	69.32%
Swahili	8	0.16%
Swedish	1	0.02%
Tagalog	15	0.31%
Thai	2	0.04%
Tigrinya	2	0.04%
Turkish	3	0.06%
Ukrainian	3	0.06%
Urdu	14	0.29%
Vietnamese	101	2.07%
Wolof	1	0.02%
Yiddish	0	0.00%
Total	4870	100.00%

Lithuanian	0	0%
Macedonian	1	0.17%
Mam	0	0%
Mandarin	27	4.63%
Mixteco	2	0.34%
Navajo	0	0%
Nepali	1	0.17%
Oromo	0	0%
Pashto/Pushtu	1	0.17%
Polish	0	0%
Portuguese	14	2.40%
Punjabi	2	0.34%
Romanian	1	0.17%
Russian	15	2.57%
Q'anjob'al	0	0%
Sign Language other than ASL	0	0%
Serbian	0	0%
Somali	6	1.03%
Spanish	372	63.81%
Swahili	1	0.17%
Swedish	0	0%
Tagalog	3	0.51%
Thai	1	0.17%
Tigrinya	0	0%
Turkish	1	0.17%
Ukrainian	0	0%
Urdu	2	0.34%
Vietnamese	10	1.72%
Wolof	0	0%
Yiddish	2	0.34%
Other	1	0.17%
Missed	7	1.20%
Total	583	100%

Appendix B. The CoreCHI™ Exam Specifications

Domain	Task
1. Professional Responsibility and Interpreter Ethics (23%)	1. Apply established codes of ethics and standards of practice, and resolve ethical dilemmas as needed, to support optimal patient outcomes and maintain the integrity of the healthcare interpreting profession.
	2. Uphold the boundaries of the interpreter's professional role to respect the autonomy, needs, and contributions of all parties.
	3. Maintain impartiality by recognizing and suspending the interpreter's own values, beliefs, and biases to convey the perspectives of all parties.
	4. Assess the need for advocacy by considering all available information and determining the degree of action necessary to prevent harm or disrespect to any party, and act within appropriate limitations.
	5. Adhere to personal and occupational safety measures by following standard precautionary protocols to reduce the risk of harm and disease.
	6. Manage the interpreter's emotional well-being by using self-monitoring and self-care strategies to safeguard personal wellness and professional performance.
	7. Maintain interpreter certification credential(s) and pursue professional growth and development by keeping abreast of working languages and their variants, relevant legislation, health care delivery systems, and public health guidelines.
2. Managing the Interpreting Encounter (24%)	1. Self-monitor one's ability to interpret in a given encounter by considering personal, linguistic, and cultural factors, as well as recognizing modality limitations.
	2. Manage unfamiliar terms and concepts while maintaining transparency and supporting effective communication for all parties.
	3. Establish communication protocols, choose the appropriate interpreting modes according to the communication needs, and manage the flow of communication by intervening as needed, guided by the professional standards of practice.
3. Healthcare Terminology (25%)	1. Keep current on healthcare terminology and language usage in the healthcare context in working languages.
4. U.S. Health Systems (13%)	1. Maintain familiarity with U.S. health systems, their cultures, organizational structures, and related legal and socioeconomic environments, in order to anticipate and respond appropriately to situations and navigate the systems.
5. Cultural Responsiveness (15%)	1. Avoid making assumptions about factors such as a party's identity, meaning, and intention, recognizing that individuals have different levels of acculturation and intracultural variation.
	2. Serve as a respectful cultural mediator by promoting inclusive and equitable encounters, ensuring that all parties' beliefs are represented, and intervening as needed when the interpreter observes a cultural misunderstanding.

Appendix C. The CHI™ Exams Specifications

Task 1. Interpret consecutively between the source and target language. 70%

Knowledge of:

1. Terminology, idioms, usage, and cultural significance
2. Structure and grammar of working languages

Skill in:

1. Retaining and recalling information in short-term memory
2. Taking notes to aid interpreting
3. Active listening [spoken language] and/or viewing [signed language]
4. Communicating fluently in working languages
5. Discerning dialects
6. Maintaining accuracy
7. Maintaining the register within target language parameters
8. Articulating [spoken language] or producing [signed language] clearly to promote comprehension
9. Self-monitoring for accuracy
10. Anticipatory listening [spoken language] or viewing [signed language]

Task 2. Interpret simultaneously between the source and target language. 17%

Knowledge of:

1. Terminology, idioms, usage, and cultural significance
2. Structure and grammar of working languages

Skill in:

1. Listening [spoken language] and/or viewing [signed language], processing, and interpreting simultaneously
2. Retaining and recalling information in short-term memory
3. Active listening [spoken language] and/or viewing [signed language]
4. Anticipatory listening [spoken language] or viewing [signed language]
5. Communicating fluently in working languages
6. Discerning dialects
7. Maintaining accuracy
8. Maintaining the register within target language parameters
9. Articulating [spoken language] or producing [signed language] clearly to promote comprehension
10. Taking notes to aid interpreting
11. Self-monitoring for accuracy

Task 3. Sight translate a written message by rendering it into a spoken or signed language. 11%

Knowledge of:

1. Terminology, idioms, usage, and cultural significance
2. Structure and grammar of working languages
3. Sight translation protocols
4. Healthcare documents that are appropriate for sight translation

Skill in:

1. Reading and comprehending written text in English
2. Anticipatory reading
3. Communicating fluently in working languages
4. Maintaining accuracy
5. Maintaining the register within target language parameters
6. Articulating [spoken language] or producing [signed language] clearly to promote comprehension
7. Self-monitoring for accuracy

Task 4. Translate a written message from English into the target language. 2%

Knowledge of:

1. Terminology, idioms, usage, and cultural significance
2. Structure and grammar of working languages
3. Written translation protocols
4. Healthcare documents that are appropriate for written translation

Skill in:

1. Reading and comprehending written text in source and target languages when translating
2. Anticipatory reading
3. Communicating fluently in working languages
4. Maintaining accuracy
5. Maintaining the register within target language parameters
6. Writing in the target language
7. Self-monitoring for accuracy

Appendix D. The ETOE™ Exam Specifications

Activity A. Memory Capacity (audio input to audio output) 24%

Knowledge of:

1. Terminology, idioms, usage, and cultural significance in English
2. Structure and grammar of English

Skill in:

1. Retaining and recalling information in short-term memory
2. Taking notes to aid interpreting
3. Active listening in English
4. Anticipatory listening in English
5. Discerning dialects
6. Communicating fluently in English
7. Maintaining accuracy
8. Maintaining the register
9. Articulating in English clearly to promote comprehension
10. Self-monitoring for accuracy

Activity B. Restate the Meaning (audio-to-audio) 21%

Knowledge of:

1. Terminology, idioms, usage, and cultural significance in English
2. Structure and grammar of English

Skill in:

1. Retaining and recalling information in short-term memory
2. Taking notes to aid interpreting
3. Active listening in English
4. Anticipatory listening in English
5. Discerning dialects
6. Communicating fluently in English
7. Maintaining accuracy
8. Maintaining the register
9. Articulating in English clearly to promote comprehension
10. Self-monitoring for accuracy

Activity C. Equivalence of Meaning (text-to-audio) 19%

Knowledge of:

1. Terminology, idioms, usage, and cultural significance in English
2. Structure and grammar of English
3. Sight translation protocols

Skill in:

1. Reading and comprehending written text in English

2. Anticipatory reading in English
3. Communicating fluently in English
4. Maintaining accuracy
5. Maintaining the register
6. Articulating in English clearly to promote comprehension
7. Self-monitoring for accuracy

Activity D. Shadowing (audio-to-audio) 13%

Knowledge of:

1. Terminology, idioms, usage, and cultural significance in English
2. Structure and grammar of English

Skill in:

1. Listening to English, processing, and speaking simultaneously
2. Retaining and recalling information in short-term memory
3. Active listening in English
4. Anticipatory listening in English
5. Discerning dialects
6. Communicating fluently in English
7. Maintaining accuracy
8. Maintaining the register within target language parameters
9. Articulating in English clearly to promote comprehension
10. Self-monitoring for accuracy

Activity E. Listening Comprehension (audio-to-audio) 14%

Knowledge of:

1. Terminology, idioms, usage, and cultural significance in English
2. Structure and grammar of English

Skill in:

1. Retaining and recalling information in short-term memory
2. Taking notes to aid interpreting
3. Active listening in English
4. Anticipatory listening in English
5. Discerning dialects
6. Communicating fluently in English
7. Maintaining accuracy
8. Maintaining the register within target language parameters
9. Articulating in English clearly to promote comprehension
10. Self-monitoring for accuracy

Activity F. Reading Comprehension (text-to-audio) 9%

Knowledge of:

1. Terminology, idioms, usage, and cultural significance in English
2. Structure and grammar of English

3. Sight translation protocols

Skill in:

1. Reading and comprehending written text in English
2. Anticipatory reading
3. Communicating fluently in English
4. Maintaining accuracy
5. Articulating in English clearly to promote comprehension
6. Self-monitoring for accuracy

Activity G. Spontaneous Speech in Language Other Than English (LOTE) (image/text-to-audio) Non-scored

Knowledge of:

1. Terminology, idioms, usage, and cultural significance in LOTE
2. Structure and grammar of LOTE
3. Physical quality of speech in LOTE (*e.g.*, pronunciation, intonation, and prosody, clarity of signing, etc.)

Skill in:

1. Communicating fluently in LOTE
2. Articulating in LOTE clearly to promote comprehension
3. Self-monitoring for accuracy