



# Job Analysis Report

National Certification Corporation (NCC)

Reproductive Health and Infertility (RHI)

January 2024

Submitted to:



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# Executive Summary

This report describes the methodology and procedures used to conduct a job analysis and develop the exam specifications for the National Certification Corporation (NCC) Reproductive Health and Infertility (RHI) certification examination.

The three major activities that comprise the job analysis process described in this report are as follows:

1. **Job Analysis Committee Meeting** – A gathering of subject matter experts (SMEs) to discuss and develop a description of the scope of practice
2. **Job Analysis Survey** – A large-scale survey of practitioners not involved with the SME panel to validate the task and knowledge statements developed by the committee
3. **Development of Examination Specifications** – The development of an Examination Content Outline by the committee based on the results of the survey

Several practitioners were assembled by NCC to serve as subject matter experts (SMEs). The individuals selected represent a wide variety of work-related characteristics such as years of experience, work setting, geographic location, and areas of specialty. This helps in developing a scope of practice that is reflective of the roles and responsibilities of the job role and is relatively free from bias. By analyzing the experiences and expertise of current practitioners, the results from the job analysis become the basis of a validated assessment that reflects the competencies required for competent job performance.

The job analysis process utilized in this study yields exam specifications that accurately reflect the scope of practice, allowing for the development of fair, accurate, and realistic assessments of candidates' readiness for certification. The resultant Examination Content Outline (Appendix E) indicates a 100-item examination with content distribution requirements at the competency area (content domain) level as well as topic (content subdomain) level. The five competency areas are:

1. General Assessment, Reproductive Anatomy, and Physiology
2. Pathophysiology, Evaluation, and Diagnosis of Reproductive Health Disorders
3. Non-Assisted Reproductive Technologies (ART) Treatment and Complications
4. Assisted Reproductive Technologies (ART) Treatment and Complications
5. Reproductive Health Treatment and Complications

# Introduction

This report describes the methodology and procedures used to conduct a job analysis and develop the exam specifications for the National Certification Corporation (NCC) Reproductive Health and Infertility (RHI) certification examination.

The job analysis was conducted in accordance with principles and practices outlined in the *Standards for Educational and Psychological Testing*<sup>1</sup>, which describe principles and guidelines for all aspects of test development, including content validation.

A job analysis (sometimes referred to as a practice analysis, job task analysis, role delineation study, work analysis, or competency profiling) is a scientific inquiry conducted to identify the tasks and work activities conducted, the context in which those tasks and activities are carried out, and the competencies (knowledge areas, skills, and abilities) required to perform a job role successfully<sup>2</sup>. Different methods can be used which may differ in the levels of specificity in analyzing and describing different work elements, with the choice of method largely dependent on the intended purpose and use of the results. The methodology of the current analysis was tailored to the creation of exam specifications for test development.

When completed, the job analysis process utilized in this study yields exam specifications that accurately reflect the scope of practice, allowing for the development of fair, accurate, and realistic assessments of candidates' readiness for certification. The job analysis is typically performed every 5 to 7 years so that the content outline represents the current scope of practice. Because it serves as the primary basis for content validity evidence, as required by the aforementioned standards, the job analysis is a primary mechanism by which a certifying body or regulatory board can ensure the accuracy and defensibility of an exam. It serves as the foundation of the certification exam and is critical to the success of the entire exam development process. All necessary documentation verifying that the validation process has been implemented in accordance with professional standards is included in this report.

This report is divided into the major activities of the job analysis process, which are:

1. **Job Analysis Committee Meeting** – A gathering of subject matter experts (SMEs) to discuss and develop a description of the scope of practice
2. **Job Analysis Survey** – A large-scale survey to practitioners not involved with the SME panel to validate the task and knowledge statements developed by the committee
3. **Development of Examination Specifications** – The development of an Examination Content Outline by the committee based on the results of the survey

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<sup>1</sup> American Educational Research Association, American Psychological Association, National Council on Measurement in Education (2014). *Standards for Educational and Psychological Testing*. AERA.

<sup>2</sup> Sackett, P.R., Walmsley, P.T., Laczko, R.M. (2012). *Job and work analysis: Industrial and Organizational Psychology*. In N. Schmitt, S. Highhouse (Eds.), *Comprehensive Handbook of Psychology*, Volume 12. John Wiley and Sons.

# Job Analysis Committee Meeting

NCC selected subject matter experts (SMEs) to represent a wide variety of work-related characteristics such as years of experience, work setting, geographic location, and areas of specialty to develop a scope of practice that is reflective of the roles and responsibilities of the job and is relatively free from bias. See Appendix A for a complete list of the SMEs and their qualifications.

Prior to the job analysis committee meeting, ten SMEs were interviewed to help provide background information on the job role, the history of the credential, and the anticipated future of the job role. These interviews were conducted between July 11, 2023 and July 17, 2023.

PSI Services LLC (PSI) conducted a job analysis committee meeting on July 31, 2023 with SMEs to discuss the scope of practice and develop a list of tasks and knowledge areas that reflect the job role. PSI led the SMEs in refining task and knowledge statements, and organizing them into a domain and subdomain structure. The outgoing exam content outline was used as a resource when developing the knowledge and tasks. See Appendix B for the presentation used to orient the job analysis committee at the beginning of the meeting.

The job analysis committee developed 22 task statements, as follows:

1. Obtain health history.
2. Perform problem focused physical exam.
3. Perform preconceptual screening.
4. Perform or assist with gynecological exam.
5. Manage or coordinate care for patients with complex reproductive conditions.
6. Perform or assist with diagnostic studies.
7. Interpret diagnostic study findings.
8. Manage or provide referral for abnormal findings.
9. Perform or assist with endometrial biopsy.
10. Perform or assist with male reproductive exam.
11. Perform mental health screening.
12. Apply ethical, legal and patient safety issues inherent in providing care.
13. Provide education and counseling about reproductive health and infertility.
14. Screen for conditions that may cause infertility.
15. Initiate pharmacologic therapy as appropriate.
16. Coordinate and manage treatment cycles.
17. Perform or assist with ultrasound.
18. Perform or assist with intrauterine insemination (IUI).
19. Provide reproductive surgery counseling.
20. Provide psychosocial support.
21. Assisting with obtaining informed consent.
22. Reporting and documenting data outcomes



The job analysis committee developed 31 knowledge statements across 5 content domains, as follows.

- 1. General Assessment, Reproductive Anatomy, and Physiology**
  - A. Medical, Reproductive, Lifestyle, Sexual and Genetic History
  - B. Screening and Counseling
  - C. Menstrual Cycle
  - D. Reproductive Lifespan
- 2. Pathophysiology, Evaluation, and Diagnosis of Reproductive Health Disorders**
  - A. Endocrine / HPO Axis, Thyroid Disorders, PCOS, and DOR
  - B. Structural (Tubal, Cervical and Uterine)
  - C. Endometriosis
  - D. Male Disorders
  - E. Genetic and Congenital Disorders
  - F. Unexplained infertility
  - G. Recurrent Pregnancy Loss
  - H. Diagnostic Evaluation
- 3. Non-Assisted Reproductive Technologies (ART) Treatment and Complications**
  - A. Lifestyle Modifications
  - B. Ovulation Induction
  - C. Intrauterine Insemination (IUI)
  - D. Reproductive Surgeries
  - E. Male Therapies
- 4. Assisted Reproductive Technologies (ART) Treatment and Complications**
  - A. In vitro fertilization (IVF) Stimulation Protocols and Procedures
  - B. Andrology procedures
  - C. Pre-implantation genetic testing (PGT)
  - D. Third Party Reproduction
  - E. Fertility Preservation
  - F. Normal and Abnormal Embryo Development
  - G. Frozen Embryo Transfer Protocols
  - H. Quality Assurance and Safety, Data Outcomes and Benchmarking
- 5. Reproductive Health Treatment and Complications**
  - A. Treatment of Endocrine Disorders
  - B. Contraception and Hormone Management
  - C. Early Pregnancy Management
  - D. Treatment of Chronic Pelvic Pain
  - E. Ethical, Legal Cultural and Religious Aspects of Care and DEI (Diversity, Equity and Inclusivity)
  - F. Psychosocial Aspects of Care

Following the creation of the task and knowledge lists, the committee members were tasked with identifying linkages between the task and knowledge statements. This was done to provide evidence that the knowledge areas were indeed required to perform the tasks identified. This was also done to ensure that each task was covered by at least one relevant knowledge area and that each knowledge area had at least one relevant task identified. Table 1 shows a matrix of knowledge-task linkages identified.

**Table 1.**  
***Linkages Among Knowledge and Task Statements.***

	T01	T02	T03	T04	T05	T06	T07	T08	T09	T10	T11	T12	T13	T14	T15	T16	T17	T18	T19	T20	T21	T22
K01	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X
K02	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X			X		
K03	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			X		
K04	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X			X		
K05	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X		X	X	X	
K06	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X			X		
K07	X	X	X		X	X	X	X		X		X	X	X	X	X	X			X		
K08	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X
K09	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X
K10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X
K11	X	X	X		X	X	X	X		X	X	X	X	X	X	X				X		
K12	X	X	X	X	X	X	X	X				X	X		X	X	X			X	X	
K13	X	X	X	X	X	X	X	X		X	X	X	X			X	X	X		X	X	
K14	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	
K15	X	X	X		X	X	X	X		X		X	X	X	X	X			X	X	X	
K16	X	X	X		X	X	X	X				X	X		X	X	X			X	X	X
K17	X	X	X		X	X	X	X		X		X	X	X	X	X			X	X	X	X
K18	X	X	X		X	X	X	X			X	X	X	X		X				X	X	X
K19	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X
K20	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X		X	X	X	X
K21	X				X	X	X	X			X	X	X	X		X				X	X	X
K22	X	X	X		X	X	X	X	X			X	X		X	X	X			X	X	X
K23	X	X	X	X	X	X	X	X			X	X	X		X	X	X		X	X	X	X
K24	X	X	X	X	X	X	X	X				X	X		X	X	X			X	X	X
K25					X	X					X	X	X		X	X	X			X	X	X
K26	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X					X		
K27	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				X		
K28	X	X	X	X	X	X	X	X			X	X	X		X	X	X		X	X	X	X
K29	X	X	X	X	X	X	X	X	X		X	X	X	X	X		X		X	X	X	
K30		X	X		X	X	X	X			X	X	X	X		X	X			X	X	X
K31	X	X	X		X	X	X	X			X	X	X	X		X	X			X		

# Job Analysis Survey

PSI developed, administered, and monitored a survey to validate the tasks and knowledge areas developed by the job analysis committee and to help determine content weighting. To this end, the survey collected respondents' ratings of the importance and frequency for each task and knowledge area. The importance and frequency scale were used to evaluate the appropriateness of the inclusion of each knowledge statement and task.

<b>Importance</b>	How important is this knowledge area in your role providing RHI care? How important is this task in your role providing RHI care? 0 - NA 1 - Minimally Important 2 - Somewhat Important 3 - Moderately Important 4 - Very Important 5 - Critically Important
<b>Frequency</b>	How frequently is this knowledge area used in your role providing RHI care? How frequently do you perform this task in your role providing RHI care?  0 - NA 1 - Rarely 2 - Seldom 3 - Occasionally 4 - Frequently 5 - Very Frequently

Between August 18, 2023 and August 31, 2023, a pilot survey was conducted with the job analysis committee to ensure that the survey was operating correctly, and any modifications or corrections were made address the pilot survey reviewers' comments. See Appendix C for a copy of the final job analysis survey.

The live survey was sent using online survey software to a list of 59,997 individuals that was obtained from NCC. The number of individuals that responded to the survey (tasks and knowledge statements) was 4,009 (6.7%). The survey was opened on September 1, 2023 and closed on September 29, 2023. See Appendix D for the email sent to potential respondents.

Following the close of the survey, the data were analyzed to identify any respondents who did not complete the survey or provided responses lacking any variance (i.e., "straight-lining" or providing the same response to every task or knowledge). Responses from 2,986 respondents were removed from the data set, yielding a usable number of 1,023 completed responses.





Table 2 shows the mean ratings provided for frequency and importance of the task statements. Table 3 shows the mean ratings provided for the frequency and importance of the knowledge statements.

**Table 2.**

***Frequency and Importance Ratings for Task Statements.***

<b>Task Statements</b>		<b>Importance</b>	<b>Frequency</b>
1	Obtain health history	4.35	4.27
2	Perform problem focused physical exam	3.51	3.33
3	Perform preconceptual screening	3.22	2.94
4	Perform or assist with gynecological exam	3.45	3.40
5	Manage or Coordinate care for patients with complex reproductive conditions	3.66	3.40
6	Perform or Assist with diagnostic studies	3.50	3.18
7	Interpret diagnostic study findings	3.58	3.24
8	Manage or provide referral for abnormal findings	3.55	3.22
9	Perform or assist with endometrial biopsy	2.65	2.20
10	Perform or assist with male reproductive exam	1.49	0.72
11	Perform mental health screening	3.36	2.81
12	Apply ethical, legal and patient safety issues inherent in providing care	4.16	4.09
13	Provide education and counseling about reproductive health and infertility	4.11	4.09
14	Screen for conditions that may cause infertility	3.39	3.12
15	Initiate pharmacologic therapy as appropriate	3.40	3.24
16	Coordinate and manage treatment cycles	3.18	2.88
17	Perform or assist with ultrasound	2.90	2.44
18	Perform or assist with intrauterine insemination (IUI)	2.24	1.69
19	Provide reproductive surgery counseling	2.15	1.61
20	Provide psychosocial support	3.95	3.89
21	Assisting with obtaining informed consent	3.95	3.69
22	Reporting and documenting data outcomes	3.24	2.99

**Table 3.*****Frequency and Importance Ratings for Knowledge Statements.***

<b>Knowledge Statements</b>		<b>Importance</b>	<b>Frequency</b>
1	Medical, Reproductive, Lifestyle, Sexual and Genetic History	4.09	4.10
2	Screening and Counseling	3.87	3.87
3	Menstrual Cycle	4.07	4.19
4	Reproductive Lifespan	3.65	3.64
5	Endocrine / HPO Axis, Thyroid Disorders, PCOS, and DOR	3.71	3.53
6	Structural (Tubal, Cervical and Uterine)	3.55	3.26
7	Endometriosis	3.30	3.02
8	Male Disorders	2.73	2.20
9	Genetic and Congenital Disorders	3.33	2.84
10	Unexplained infertility	3.32	3.02
11	Recurrent Pregnancy Loss	3.60	3.24
12	Diagnostic Evaluation	3.76	3.58
13	Lifestyle Modifications	3.34	3.28
14	Ovulation Induction	3.10	2.82
15	Intrauterine Insemination (IUI)	2.63	2.26
16	Reproductive Surgeries	2.26	1.72
17	Male Therapies	1.99	1.30
18	In vitro fertilization (IVF) Stimulation Protocols and Procedures	2.63	2.25
19	Andrology procedures	1.96	1.38
20	Pre-implantation genetic testing (PGT)	2.36	2.00
21	Third Party Reproduction	2.23	1.73
22	Fertility Preservation	2.57	2.17
23	Normal and Abnormal Embryo Development	2.36	1.91
24	Frozen Embryo Transfer Protocols	2.42	2.07
25	Quality Assurance and Safety, Data Outcomes and Benchmarking	2.36	1.86
26	Treatment of Endocrine Disorders	3.18	2.73
27	Contraception and Hormone Management	3.34	3.29
28	Early Pregnancy Management	3.71	3.60
29	Treatment of Chronic Pelvic Pain	2.66	2.26
30	Ethical, Legal Cultural and Religious Aspects of Care and DEI (Diversity, Equity and Inclusivity)	3.59	3.35
31	Psychosocial Aspects of Care	3.87	3.76

The survey included demographic questions regarding professional characteristics relevant to the job role. Table 4 shows a summary of the demographic questions in the survey.

**Table 4.**

***Results of the Demographic Questions in the Job Analysis Survey.***

<b>1. Which of the following best describes your PRIMARY practice setting?</b>	<b><i>n</i></b>	<b>%</b>
Reproductive Endocrinology and Infertility - Private Practice	308	30
Reproductive Endocrinology and Infertility - Academic Practice	107	10.4
Reproductive Endocrinology and Infertility - Other	39	3.8
Family Practice/Primary Care Office	28	2.7
Inpatient Hospital Unit	117	11.4
OB/GYN Practice	307	30
Public Health Clinic	46	4.5
Urology	4	0.4
Other	67	6.5
Missing	2	0.2

<b>2. Which of the following best describes your professional primary role?</b>	<b><i>n</i></b>	<b>%</b>
Physician	80	7.8
Nurse Practitioner	403	39.3
Midwife	15	1.5
Nurse Midwife	55	5.4
Clinical Nurse Specialist	11	1.1
Registered Nurse	333	32.5
Physician Assistant	18	1.8
Embryologist	31	3
Genetic Counselor	2	0.2
Mental Health Professional	15	1.5
Licensed Practical/Vocational Nurse	3	0.3
Non-nurse Clinical Coordinator	4	0.4
Medical Assistant	21	2
Other	31	3
Missing	3	0.3

<b>3. What is your highest level of education?</b>	<b><i>n</i></b>	<b>%</b>
Certificate	20	2
Diploma	23	2.2
Associate	67	6.5
Baccalaureate	267	26
Masters	413	40.3
Post Masters	47	4.6
Doctorate - MD/DO	78	7.6
Doctorate - DNP	75	7.3
Doctorate - PhD	31	3
Doctorate - Other	1	0.1
Missing	3	0.3

**4. On average, how many hours per week do you provide Reproductive Health and Infertility (RHI) care?**  
**Mean = 28.98 | Standard Deviation = 15.848 | Minimum = 0 | Maximum = 100**

**5. How many years of experience do you have providing Reproductive Health and Infertility (RHI) care?**  
**Mean = 12.29 | Standard Deviation = 10.602 | Minimum = 0 | Maximum = 47**

<b>6. Which of the following best describes your PRIMARY practice location?</b>	<b><i>n</i></b>	<b>%</b>
Region 1: Northeast (ME, NH, VT, MA, RI, CT, NY, NJ, PA)	187	18.2
Region 2: Midwest (WI, IL, MI, IN, OH, ND, SD, NE, KS, MN, IA, MO)	237	23.1
Region 3: South (KY, TN, MS, AL, FL, GA, SC, NC, VA, WV, DC, MD, DE, TX, OK, AR, LA)	318	31
Region 4: West (MT, ID, WY, NV, UT, CO, AZ, NM, WA, OR, CA, AK, HI)	223	21.8
Canada	7	0.7
Other	50	4.9
Missing	3	0.3

**7. What percentage of your practice is devoted to the field of Reproductive Health and Infertility (RHI)?**  
**Mean = 71.17 | Standard Deviation = 37.471 | Minimum = 0 | Maximum = 100**



# Development of Exam Specifications

The Job Analysis Committee met on November 17, 2023 and December 15, 2023 to review the results of the survey, finalize the tasks and knowledge that would comprise the next Examination Content Outline, and finalize the content weighting for the examination.

The committee reviewed the demographic results and confirmed that the results matched expectations and impressions of the practitioner population, suggesting that the respondent sample is reflective of the target population.

No changes to the task list were made. Diagnostic Evaluation was deleted from the knowledge list because it was duplicative with other topics.

The committee then reviewed the draft content weighting, discussing any adjustments necessary to align the number of items per content area for adequate content coverage on the assessment. The draft content weighting was developed by calculating the criticality value (mean importance rating multiplied by the mean frequency rating) and then determining a percentage weight based on the relative weight of the criticality value for each content area.

The committee made a few significant changes to the weights to reflect the necessity of knowledge for this subspecialty.

See Table 5 for a summary of the content weighting determination. The final Examination Content Outline can be found in Appendix E.

**Table 5.**  
***Content Weighting Determination.***

Knowledge Statements		Criticality	Percentage	Draft # Items	Final # Items
<b>General Assessment, Reproductive Anatomy, and Physiology</b>					
K1	Medical, Reproductive, Lifestyle, Sexual and Genetic History	16.77	6.25	6	5
K2	Screening and Counseling	14.98	5.58	6	5
K3	Menstrual Cycle	17.05	6.36	6	6
K4	Reproductive Lifespan	13.29	4.95	5	4
<b>Pathophysiology, Evaluation, and Diagnosis of Reproductive Health Disorders</b>					
K5	Endocrine / HPO Axis, Thyroid Disorders, PCOS, and DOR	13.10	4.88	5	6
K6	Structural (Tubal, Cervical and Uterine)	11.57	4.31	4	4
K7	Endometriosis	9.97	3.71	4	2
K8	Male Disorders	6.01	2.24	2	2
K9	Genetic and Congenital Disorders	9.46	3.52	4	5
K10	Unexplained infertility	10.03	3.74	4	2
K11	Recurrent Pregnancy Loss	11.66	4.35	4	4

Knowledge Statements		Criticality	Percentage	Draft # Items	Final # Items
<b>Non-Assisted Reproductive Technologies (ART) Treatment and Complications</b>					
K12	Lifestyle Modifications	10.96	4.08	4	3
K13	Ovulation Induction	8.74	3.26	3	3
K14	Intrauterine Insemination (IUI)	5.94	2.22	2	2
K15	Reproductive Surgeries	3.89	1.45	1	2
K16	Male Therapies	2.59	0.96	1	2
<b>Assisted Reproductive Technologies (ART) Treatment and Complications</b>					
K17	In vitro fertilization (IVF) Stimulation Protocols and Procedures	5.92	2.21	2	6
K18	Andrology procedures and interpretation of results	2.70	1.01	1	2
K19	Pre-implantation genetic testing (PGT)	4.72	1.76	2	3
K20	Third Party Reproduction	3.86	1.44	1	2
K21	Fertility Preservation	5.58	2.08	2	3
K22	Normal and Abnormal Embryo Development	4.51	1.68	2	3
K23	Frozen Embryo Transfer Protocols	5.01	1.87	2	3
K24	Quality Assurance and Safety, Data	4.39	1.64	2	2
<b>Reproductive Health Treatment and Complications</b>					
K25	Treatment of Endocrine Disorders	8.68	3.24	3	4
K26	Contraception and Hormone Management	10.99	4.10	4	4
K27	Early Pregnancy Management	13.36	4.98	5	5
K28	Treatment of Chronic Pelvic Pain	6.01	2.24	2	2
K29	Ethical, Legal Cultural and Religious Aspects of Care and DEI (Diversity, Equity and Inclusivity)	12.03	4.48	4	2
K30	Psychosocial Aspects of Care	14.55	5.42	5	2

# Appendix A.

## Subject Matter Experts

### Job Analysis Committee

NAME	RELEVANT CREDENTIALS	YEARS OF EXPERIENCE	EMPLOYER/ AFFILIATION	JOB TITLE	GEOGRAPHIC LOCATION
<b>Amanda Meats</b>	DNP, RN, NE-BC	5	Women's Health Specialty, Advanced Reproductive Medicine and Gender Diversity Clinic, University of Kansas Health System, Kansas City, KS	Ambulatory Clinic Manager	KS
<b>James Toner, Jr.</b>	MD, PhD	35	Emory Reproductive Center and Associate Professor, Division of Reproductive Endocrinology & Infertility, Department of Gynecology & Obstetrics, Emory University School of Medicine, Atlanta, GA	Physician and Associate Professor	GA
<b>Jared Robins</b>	MD, MBA	25	American Society for Reproductive Medicine, Birmingham, AL and Department of Obstetrics and Gynecology, Wayne State University, Detroit, MI	CEO and Professor	IL
<b>Jennifer Atkinson</b>	BBA, MSN, RN	7	MCRM Fertility, St. Louis, MO	VP, Operations	MO
<b>Kathleen Bugge</b>	BSN, MS in Education	31	Shady Grove Fertility, Rockville, MD	Clinical Education Team	MD
<b>Leslie King</b>	WHNP-BC	5	MCRM Fertility, Tulsa, OK	WHNP	OK
<b>Marica Bookal Mundy</b>	MSN, MBA, CNAMB	28	Center for Advance Reproductive Services	Director of Clinical Operations	CT
<b>Monica Moore</b>	WHNP-BC	30	Fertile Health, LLC, Ponte Vedra Beach, FL	Founder and Lead Educator	FL
<b>Patti Roberts</b>	RN	14	Reproductive Science Center of the Bay Area, San Ramon, CA	Clinical Operations Specialist	CA
<b>Robin Scott</b>	WHNP, MSN, RNC-REIN, RN	36	SOUTIEN: Fertility and IVF Nurse Support for Practices and Patients	Founder/Director	IN
<b>Tiffany Messerall</b>	DNP, APRN, WHNP-BC, RNC-OB, EBP-C	4	OhioHealth David P. Blom Administrative Campus, Columbus, OH	Evidence Based Practice Lead	OH

**Interviewees**

<b>NAME</b>	<b>RELEVANT CREDENTIALS</b>	<b>YEARS OF EXPERIENCE</b>	<b>EMPLOYER/ AFFILIATION</b>	<b>JOB TITLE</b>	<b>GEOGRAPHIC LOCATION</b>
<b>Amanda Meats</b>	DNP, RN, NE-BC	5	Women’s Health Specialty, Advanced Reproductive Medicine and Gender Diversity Clinic, University of Kansas Health System, Kansas City, KS	Ambulatory Clinic Manager	KS
<b>James Toner, Jr.</b>	MD, PhD	35	Emory Reproductive Center and Associate Professor, Division of Reproductive Endocrinology & Infertility, Department of Gynecology & Obstetrics, Emory University School of Medicine, Atlanta, GA	Physician and Associate Professor	GA
<b>Jennifer Atkinson</b>	BBA, MSN, RN	7	MCRM Fertility, St. Louis, MO	VP, Operations	MO
<b>Kathleen Bugge</b>	BSN, MS in Education	31	Shady Grove Fertility, Rockville, MD	Clinical Education Team	MD
<b>Leslie King</b>	WHNP-BC	5	MCRM Fertility, Tulsa, OK	WHNP	OK
<b>Marica Bookal Mundy</b>	MSN, MBA, CNAMB	28	Center for Advance Reproductive Services	Director of Clinical Operations	CT
<b>Monica Moore</b>	WHNP-BC	30	Fertile Health, LLC, Ponte Vedra Beach, FL	Founder and Lead Educator	FL
<b>Patti Roberts</b>	RN	14	Reproductive Science Center of the Bay Area, San Ramon, CA	Clinical Operations Specialist	CA
<b>Robin Scott</b>	WHNP, MSN, RNC-REIN, RN	36	SOUTIEN: Fertility and IVF Nurse Support for Practices and Patients	Founder/Director	IN
<b>Tiffany Messerall</b>	DNP, APRN, WHNP-BC, RNC-OB, EBP-C	4	OhioHealth David P. Blom Administrative Campus, Columbus, OH	Evidence Based Practice Lead	OH





# Appendix B.

## Job Analysis Presentation



### Job Analysis

PSI Certification Psychometrics

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#### Objectives



Develop a description of the profession

- Define the relevant tasks
- Define the relevant knowledge



Develop all other elements for a survey

- Develop background information questions
- Review rating scales



Establish linkages

- Identify meaningful connections between the task and knowledge lists



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#### Job Analysis Process

1. Prepare Draft Materials
2. Conduct Job Analysis Meeting
3. Conduct Pilot Survey
4. Conduct Live Survey
5. Perform Data Analysis
6. Create Exam Specifications
7. Develop Summary Report



You Are Here



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# Introduction



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## Purpose of Credentialing Examinations

- To protect the public from harm caused by incompetent professional practice
- To assess professional competence in terms of the knowledge and skills required to successfully perform the tasks associated with the job role
- To establish and apply a consistent standard that reflects the competency level required of practitioners who meet the eligibility requirements
- To provide a valid and reliable means of identifying those who are competent to practice in the profession



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## What is a Job Analysis?

“ Procedure to identify the content of a job in terms of activities involved and attributes or requirements needed to perform the activities. ”

This is the primary source of content validity for a credentialing assessment

This is the process by which the Examination Specifications are created

A representative list of knowledge and tasks associated with the job is developed



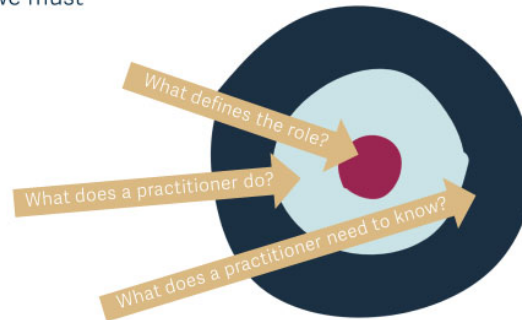
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## Multiple Levels of Analysis

To create a comprehensive and accurate representation of the job role, we must identify:

- Target Population
- Tasks Performed
- Knowledge Required



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## Terminology

### Tasks

Specific work activities performed to fulfill job responsibilities

### Knowledge

Information needed to fulfill job responsibilities

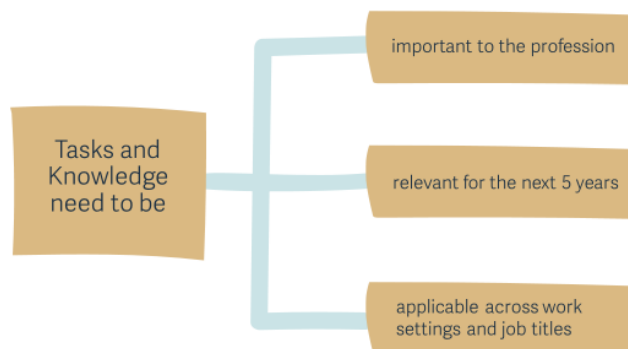
### Content Domains (and subdomains)

Grouping of knowledge topics, required to create an outline format



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## Requirements for Tasks and Knowledge



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## Rating Scales

Importance

How important is this  
[task / knowledge]  
to the job role?

0 - Not Relevant  
1 - Minimally Important  
2 - Somewhat Important  
3 - Moderately Important  
4 - Very Important  
5 - Critically Important

Frequency

How frequently is this  
[task performed /  
knowledge used]  
in the job role?

0 - Not Relevant  
1 - Rarely  
2 - Seldom  
3 - Occasionally  
4 - Frequently  
5 - Very Frequently



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## Why Are You Here?

### Subject Matter Experts (SMEs)

You are here to provide your content expertise and your professional experience

### Facilitators

We are here to guide you through the process

### Client Representatives

You are here to provide additional background information and the certifying body's perspective



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## Questions?



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# Linkage Process



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## Linkage Analysis

### Knowledge vs. Task

- The list of Knowledge areas is used to delineate what content will be directly assessed by the exam
- Tasks provide additional context for the application of those knowledge and skills

### Purpose of Linkage Analysis

- To establish evidence that the Knowledge areas are applicable to the Tasks
- To determine any potential gaps in either inventory



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## Linkage Matrix

- We will identify connections among tasks and knowledge

The Outcome Looks Something Like This

Each linkage represents that the knowledge is required in order to complete the task

	T1	T2	T3	T4	T5
1A1	X				
1A2		X			
1A3		X		X	
1B1			X		
1B2			X		X
1C1				X	
1C2				X	
2A1	X		X		
2A2		X			
2B1			X	X	
2B2		X			
2B3			X	X	X
2B4		X	X		



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## Linkage Thought Process

Doesn't everything apply to everything?  
- Not exactly

	Grilling	Baking
Knife Techniques	✗	—

Consider this example:

- I need knowledge of **Knife Techniques** to **Prepare Ingredients For Grilling**
- I don't need knowledge of **Knife Techniques** to **Mix Baking Ingredients**



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## Questions?



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# Appendix C.

## Survey Text



### NCC Reproductive Health and Infertility (RHI) Job Analysis Survey

#### Welcome

The purpose of this survey is to identify tasks and knowledge reflective of the Reproductive Health and Infertility (RHI) role. The results of this survey will be used to help develop the specifications for the RHI certification exam. Those who complete it will have a chance to win an Amazon gift card.

The survey will likely require 10 to 15 minutes to complete. You can complete each part of the survey in separate sittings at the same computer. Please be aware that you must completely finish a page before clicking on "Next" to save your responses up to that point. If you need to review your responses, you can use the 'Prev' button to move back through the survey. There is no limit on the number of times you can use the link to go back to the survey before clicking on "Done" to submit your survey.

Your individual responses will be kept confidential and will be combined with those of other respondents. Only staff persons from PSI Services and NCC will have access to the data collected. Aggregated data from this survey will be published in a report that summarizes the process used to develop the specifications for the RHI certification exam.

Please direct all inquiries to: [info@nccnet.org](mailto:info@nccnet.org)

The deadline for completion of the survey is September 29, 2023.

Do you agree to participate in the survey?

- Yes
- No



Welcome (cont.)

Do you currently provide Reproductive Health and Infertility (RHI) care?

Yes

No





## Demographic Information

Which of the following best describes your PRIMARY practice setting?

- Reproductive Endocrinology and Infertility - Private Practice
- Reproductive Endocrinology and Infertility - Academic Practice
- Reproductive Endocrinology and Infertility - Other
- Family Practice/Primary Care Office
- Inpatient Hospital Unit
- OB/GYN Practice
- Public Health Clinic
- Urology
- Other (please specify)

Which of the following best describes your professional primary role?

- Physician
- Nurse Practitioner
- Midwife
- Nurse Midwife
- Clinical Nurse Specialist
- Registered Nurse
- Physician Assistant
- Embryologist
- Genetic Counselor
- Mental Health Professional
- Licensed Practical/Vocational Nurse
- Non-nurse Clinical Coordinator
- Medical Assistant
- Other (please specify)

What is your highest level of education?

- Certificate
- Diploma
- Associate
- Baccalaureate
- Masters
- Post Masters
- Doctorate - MD/DO
- Doctorate - DNP
- Doctorate - PhD
- Doctorate - Other

On average, how many hours per week do you provide Reproductive Health and Infertility (RHI) care?

How many years of experience do you have providing Reproductive Health and Infertility (RHI) care? (Select 0 for less than 1 year)

Which of the following best describes your PRIMARY practice location?

- Region 1: Northeast (ME, NH, VT, MA, RI, CT, NY, NJ, PA)
- Region 2: Midwest (WI, IL, MI, IN, OH, ND, SD, NE, KS, MN, IA, MO)
- Region 3: South (KY, TN, MS, AL, FL, GA, SC, NC, VA, WV, DC, MD, DE, TX, OK, AR, LA)
- Region 4: West (MT, ID, WY, NV, UT, CO, AZ, NM, WA, OR, CA, AK, HI)
- Canada
- Other (please specify)

What percentage of your practice is devoted to the field of Reproductive Health and Infertility (RHI)? (Enter a whole number, without a percent sign)

If you would like to be notified when this exam is available, please provide your email.



If you would like to join the Content or Item Writing Team, please provide your name and email?

Name

Email

Please re-enter your email



Tasks

Please use the following rating scales to indicate how frequently you perform each task and how important it is to your professional role providing RHI care.

**Frequency:** How frequently do you perform this task in your role providing RHI care?

- 0 - NA
- 1 - Rarely
- 2 - Seldom
- 3 - Occasionally
- 4 - Frequently
- 5 - Very Frequently

**Importance:** How important is this task in your role providing RHI care?

- 0 - NA
- 1 - Minimally
- 2 - Somewhat
- 3 - Moderately
- 4 - Very
- 5 - Critically

Task Ratings

Frequency	Importance
Obtain health history	
<input type="text"/>	<input type="text"/>
Perform problem focused physical exam	
<input type="text"/>	<input type="text"/>
Perform preconceptual screening	
<input type="text"/>	<input type="text"/>
Perform or assist with gynecological exam	
<input type="text"/>	<input type="text"/>
Manage or Coordinate care for patients with complex reproductive conditions	
<input type="text"/>	<input type="text"/>
Perform or Assist with diagnostic studies	

<input type="text"/>	<input type="text"/>
Interpret diagnostic study findings	
<input type="text"/>	<input type="text"/>
Manage or provide referral for abnormal findings	
<input type="text"/>	<input type="text"/>
Perform or assist with endometrial biopsy	
<input type="text"/>	<input type="text"/>
Perform or assist with male reproductive exam	
<input type="text"/>	<input type="text"/>
Perform mental health screening	
<input type="text"/>	<input type="text"/>
Apply ethical, legal and patient safety issues inherent in providing care	
<input type="text"/>	<input type="text"/>
Provide education and counseling about reproductive health and infertility	
<input type="text"/>	<input type="text"/>
Screen for conditions that may cause infertility	
<input type="text"/>	<input type="text"/>
Initiate pharmacologic therapy as appropriate	
<input type="text"/>	<input type="text"/>
Coordinate and manage treatment cycles	
<input type="text"/>	<input type="text"/>
Perform or assist with ultrasound	
<input type="text"/>	<input type="text"/>
Perform or assist with intrauterine insemination (IUI)	
<input type="text"/>	<input type="text"/>
Provide reproductive surgery counseling	
<input type="text"/>	<input type="text"/>
Provide psychosocial support	
<input type="text"/>	<input type="text"/>
Assisting with obtaining informed consent	
<input type="text"/>	<input type="text"/>
Reporting and documenting data outcomes	

What critical task, if any, do you think is missing from this list?



Knowledge

Please use the following rating scales to indicate how frequently you use each knowledge area and how important it is to your professional role providing RHI care.

**Frequency:** How frequently do you perform this task in your role providing RHI care?

- 0 - NA
- 1 - Rarely
- 2 - Seldom
- 3 - Occasionally
- 4 - Frequently
- 5 - Very Frequently

**Importance:** How important is this task in your role providing RHI care?

- 0 - NA
- 1 - Minimally
- 2 - Somewhat
- 3 - Moderately
- 4 - Very
- 5 - Critically

General Assessment, Reproductive Anatomy, and Physiology

Frequency	Importance
Medical, Reproductive, Lifestyle, Sexual and Genetic History	
<input type="text"/>	<input type="text"/>
Screening and Counseling	
<input type="text"/>	<input type="text"/>
Menstrual Cycle	
<input type="text"/>	<input type="text"/>
Reproductive Lifespan	
<input type="text"/>	<input type="text"/>

## Pathophysiology, Evaluation, and Diagnosis of Reproductive Health Disorders

Frequency	Importance
Endocrine / HPO Axis, Thyroid Disorders, PCOS, and DOR	
<input type="text"/>	<input type="text"/>
Structural (Tubal, Cervical and Uterine)	
<input type="text"/>	<input type="text"/>
Endometriosis	
<input type="text"/>	<input type="text"/>
Male Disorders	
<input type="text"/>	<input type="text"/>
Genetic and Congenital Disorders	
<input type="text"/>	<input type="text"/>
Unexplained infertility	
<input type="text"/>	<input type="text"/>
Recurrent Pregnancy Loss	
<input type="text"/>	<input type="text"/>
Diagnostic Evaluation	
<input type="text"/>	<input type="text"/>

## Non-Assisted Reproductive Technologies (ART) Treatment and Complications

Frequency	Importance
Lifestyle Modifications	
<input type="text"/>	<input type="text"/>
Ovulation Induction	
<input type="text"/>	<input type="text"/>
Intrauterine insemination (IUI)	
<input type="text"/>	<input type="text"/>
Reproductive Surgeries	
<input type="text"/>	<input type="text"/>
Male Therapies	
<input type="text"/>	<input type="text"/>



## Assisted Reproductive Technologies (ART) Treatment and Complications

Frequency	Importance
In vitro fertilization (IVF) Stimulation Protocols and Procedures	
<input type="text"/>	<input type="text"/>
Andrology procedures	
<input type="text"/>	<input type="text"/>
Pre-implantation genetic testing (PGT)	
<input type="text"/>	<input type="text"/>
Third Party Reproduction	
<input type="text"/>	<input type="text"/>
Fertility Preservation	
<input type="text"/>	<input type="text"/>
Normal and Abnormal Embryo Development	
<input type="text"/>	<input type="text"/>
Frozen Embryo Transfer Protocols	
<input type="text"/>	<input type="text"/>
Quality Assurance and Safety, Data Outcomes and Benchmarking	
<input type="text"/>	<input type="text"/>

## Reproductive Health Treatment and Complications

Frequency	Importance
Treatment of Endocrine Disorders	
<input type="text"/>	<input type="text"/>
Contraception and Hormone Management	
<input type="text"/>	<input type="text"/>
Early Pregnancy Management	
<input type="text"/>	<input type="text"/>
Treatment of Chronic Pelvic Pain	
<input type="text"/>	<input type="text"/>
Ethical, Legal Cultural and Religious Aspects of Care and DEI (Diversity, Equity and Inclusivity)	
<input type="text"/>	<input type="text"/>
Psychosocial Aspects of Care	
<input type="text"/>	<input type="text"/>

What critical knowledge area, if any, do you think is missing from this list?



Thank You!

**Thank you for completing the 2023 NCC WHNP job analysis survey!**

If you need to review your answers, you can use the 'Prev' button below to move back through the survey.

Those who complete the survey can enter a drawing for a chance to win a \$100 Amazon gift card. Your name and email address are requested for this drawing and will be used for this purpose only.

Do you agree to provide your name and email address in order to enter the drawing?

- Yes
- No



### Drawing Information

Enter the drawing for a \$100 Amazon gift card.

Your name

Your email

Please re-enter your email address



### Comment Box

Thank you very much for your responses.

Please provide any additional comments in the text box below.

Please click on **Done** to complete the survey and submit your responses.

Please provide any additional comments here.

# Appendix D.

## Survey Invitation Email

DATE:	Friday, September 1, 2023
FROM:	frank.williams@psionline.com via SurveyMonkey
SUBJECT:	Reproduction and Infertility
BODY:	The National Certification Corporation is conducting a Job Analysis survey for a new Reproductive Health and Infertility Certification and your input would be appreciated. The survey is critical for the development of a national test grid for this specialty certification. Click the button below to start the survey. Thank you for your participation.



# Appendix E.

## Exam Content Outline

<b>1</b>	<b>General Assessment, Reproductive Anatomy, and Physiology</b>	<b>20</b>
	Medical, Reproductive, Lifestyle, Sexual and Genetic History	5
	Screening and Counselling	5
	Menstrual Cycle	6
	Reproductive Lifespan	4
<b>2</b>	<b>Pathophysiology, Evaluation, and Diagnosis of Reproductive Health Disorders</b>	<b>25</b>
	Endocrine / HPO Axis, Thyroid Disorders, PCOS, and DOR	6
	Structural (Tubal, Cervical and Uterine)	4
	Endometriosis	2
	Male Disorders	2
	Genetic and Congenital Disorders	5
	Unexplained infertility	2
	Recurrent Pregnancy Loss	4
<b>3</b>	<b>Non-Assisted Reproductive Technologies (ART) Treatment and Complications</b>	<b>12</b>
	Lifestyle Modifications	3
	Ovulation Induction	3
	Intrauterine Insemination (IUI)	2
	Reproductive Surgeries	2
	Male Therapies	2
<b>4</b>	<b>Assisted Reproductive Technologies (ART) Treatment and Complications</b>	<b>24</b>
	In vitro fertilization (IVF) Stimulation Protocols and Procedures	6
	Andrology procedures and interpretation of results	2
	Pre-implantation genetic testing (PGT)	3
	Third Party Reproduction	2
	Fertility Preservation	3
	Normal and Abnormal Embryo Development	3
	Frozen Embryo Transfer Protocols	3
	Quality Assurance and Safety, Data Outcomes and Benchmarking	2
<b>5</b>	<b>Reproductive Health Treatment and Complications</b>	<b>19</b>
	Treatment of Endocrine Disorders	4
	Contraception and Hormone Management	4
	Early Pregnancy Management	5
	Treatment of Chronic Pelvic Pain	2
	Ethical, Legal Cultural and Religious Aspects of Care and DEI (Diversity, Equity and Inclusivity)	2
	Psychosocial Aspects of Care	2



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