Exam Blueprint and Specialty Competencies

Introduction – Blueprint for the Gerontological Nursing Certification Exam

The primary function of the Blueprint for the CNA Gerontological Nursing Certification Exam is to describe how the exam is to be developed. Specifically, this blueprint provides explicit instructions and guidelines on how the competencies are to be expressed within the exam in order for accurate decisions to be made on the candidates’ competence in gerontological nursing.

The blueprint has two major components: (1) the content area to be measured and (2) the explicit guidelines on how this content is to be measured. The content area consists of the list of competencies (i.e., the competencies expected of fully competent practising gerontological nurses with at least two years of experience), and the guidelines are expressed as structural and contextual variables. The blueprint also includes a summary chart that summarizes the exam guidelines.

Description of Domain

The Gerontological Nursing Certification Exam is a criterion-referenced exam. ¹ A fundamental component of a criterion-referenced approach to testing is the comprehensive description of the content area being measured. In the case of the Gerontological Nursing Certification Exam, the content consists of the competencies of a fully competent practising nurse with at least two years of experience.

This section describes the competencies, how they have been grouped and how they are to be sampled for creating an exam.

Developing the List of Competencies

A working group of nine highly experienced gerontological nurses from various regions in Canada created the current list of competencies during a five-day meeting. These competencies were reviewed by a group of five gerontological nurses in Eastern Canada and a subsequent group of eight gerontological nurses from Western Canada. The final list of competencies was approved by the Gerontological Nursing Certification Exam Committee.

¹. Criterion-referenced exam: An exam that measures a candidate’s command of a specified content or skills domain or list of instructional objectives. Scores are interpreted in comparison to a predetermined performance standard or as a mastery of defined domain (e.g., percentage correct and mastery scores), independently of the results obtained by other candidates (Brown, 1983).
Assumptions

Core to the specialty of gerontological nursing is the assumption that nursing assessment, planning, interventions and evaluations are targeted to the care of the older adult. The aim is to optimize health, independence and well-being of older adults across the continuum of care. In developing the competencies for gerontological nurses, the following assumptions were made.

The client

- The definition of “older adult” varies across cultures, individuals, societies and/or geographic regions.
- The client may be an individual, a family, a group, a community or population.
- The older adult is viewed comprehensively within the physiological, psychological, social, cultural, developmental, environmental and spiritual dimensions of a total life experience.
- The client and/or substitute decision-maker is actively involved in determining goals of care and subsequent interventions by participating in shared decision-making to make informed decisions that are consistent with personal values and preferences to the extent that they desire.

The environment

Gerontological nursing:

- Takes place in a variety of settings across the continuum of care;
- Occurs within a socio-political legal context; and
- Is provided in the context of teams that include clients, significant others, formal and informal caregivers, volunteers and interprofessional team members.

The gerontological nurse

The gerontological nurse:

- Is a registered nurse (RN) who works with older adults;
- Promotes safe, efficient, evidence-informed and effective health-care programs/services for older adults;
- Practices and advocates for client-centred care;
- Works in partnership with older adult to incorporate their individual preferences, expectations, needs and experiences into the goals of care and subsequent interventions;
• Collaborates with the interprofessional health-care team;

• Uses evidence-based, reliable, validated and standardized measurement tools to assess clients and to evaluate outcomes;

• Applies relevant theoretical frameworks and an evolving and specialized body of knowledge;

• Pursues lifelong learning to maintain competence in the provision of quality gerontological nursing care;

• Contributes to the development of new specialty knowledge and the evaluation of current knowledge through research and quality improvement activities;

• Actively engages in specialty knowledge translation;

• Bases practice on codes of ethics, jurisdictional standards of practice and legal requirements;

• Provides leadership and supervision to formal care providers;

• Provides guidance, support and education to informal care providers;

• Uses a variety of approaches to enhance awareness about issues that impact the health of older adults and actively participates in health promotion activities for older adults;

• Actively advocates for the rights of the older adult to engage in self-care;

• Recognizes the impact of the social determinants of health;

• Establishes therapeutic relationships with older clients, considering processes of care and their associated developmental tasks;

• Recognizes normal age-related changes, common diseases and conditions, and atypical presentation;

• Recognizes the impact of one’s and others’ values, beliefs and judgments on care; and

• Engages in effective, respectful and compassionate communication when interacting with the older adult.

Health

• The definitions of health vary greatly and are influenced by culture and where a person is on the lifespan.

• Wellness involves a person’s whole being, including physiological, psychological, social, cultural, developmental, environmental and spiritual components.

• Is a personal concept and is based on the client’s perspectives, beliefs and values.
Competency Categories

The competencies are classified under an eight-category classification scheme. Some of the competencies lend themselves to one or more of the categories; therefore, these eight categories should be viewed simply as an organizing framework. Also, it should be recognized that the competency statements vary in scope, with some representing global behaviours and others more discrete and specific nursing behaviours.

Percentage of Competencies in Each Group

The following table presents the number and the percentage of competencies in each category.

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of competencies</th>
<th>Percentage of the total number of competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture and Human Diversity</td>
<td>4</td>
<td>5%</td>
</tr>
<tr>
<td>Assessment of the Older Adult</td>
<td>12</td>
<td>14%</td>
</tr>
<tr>
<td>Health Promotion and Risk Reduction</td>
<td>29</td>
<td>33%</td>
</tr>
<tr>
<td>Illness and Disease Management</td>
<td>19</td>
<td>22%</td>
</tr>
<tr>
<td>Ethical and Legal Issues</td>
<td>6</td>
<td>7%</td>
</tr>
<tr>
<td>Health-Care Systems and Policy</td>
<td>7</td>
<td>8%</td>
</tr>
<tr>
<td>Professional Development</td>
<td>6</td>
<td>7%</td>
</tr>
<tr>
<td>Information and Health-Care Technologies</td>
<td>5</td>
<td>6%</td>
</tr>
</tbody>
</table>

Competency Sampling

Using the grouping and guidelines, the Gerontological Nursing Certification Exam will consist of approximately 165 questions; the categories have been given the following weights in the total exam.
Table 2: Competency Sampling

<table>
<thead>
<tr>
<th>Categories</th>
<th>Approximate weights in the total examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture and Human Diversity</td>
<td>5-10%</td>
</tr>
<tr>
<td>Assessment of the Older Adult</td>
<td>15-20%</td>
</tr>
<tr>
<td>Health Promotion and Risk Reduction</td>
<td>20-25%</td>
</tr>
<tr>
<td>Illness and Disease Management</td>
<td>20-25%</td>
</tr>
<tr>
<td>Ethical and Legal Issues</td>
<td>10-15%</td>
</tr>
<tr>
<td>Health-Care systems and Policy</td>
<td>5-10%</td>
</tr>
<tr>
<td>Professional Development</td>
<td>3-5%</td>
</tr>
<tr>
<td>Information and Health-Care Technologies</td>
<td>3-5%</td>
</tr>
</tbody>
</table>

Technical Specifications

In addition to the specifications related to the competencies, other variables are considered during the development of the Gerontological Nursing Certification Exam. This section presents the guidelines for two types of variables: structural and contextual.

**Structural variables:** Structural variables include those characteristics that determine the general appearance and design of the exam. They define the length of the exam, the format and presentation of the exam questions (e.g., multiple-choice) and any special functions of exam questions (e.g., independent questions).

**Contextual variables:** Contextual variables specify the nursing contexts in which the exam questions will be set (e.g., client culture, client health situation or health-care environment).

**Structural Variables**

**Exam Length:** The exam consists of approximately 165 multiple-choice questions.

**Question Presentation:** The multiple-choice questions are presented in one of two formats: case-based or independent. Case-based questions are a set of approximately four questions associated with a brief health-care scenario (i.e., a description of the client’s health-care situation). Independent questions stand alone. In the Gerontological Nursing Certification Exam, 70 to 80 per cent of the questions are presented as independent questions and 20 to 30 per cent are presented within cases.
Taxonomy for Questions: To ensure that competencies are measured at different levels of cognitive ability, each question on the Gerontological Nursing Certification Exam is aimed at one of three levels: knowledge/comprehension, application or critical thinking.²

1. Knowledge/Comprehension
   This level combines the ability to recall previously learned material and to understand its meaning. It includes such mental abilities as knowing and understanding definitions, facts and principles, and interpreting data (e.g., knowing the effects of certain drugs or interpreting data appearing on a client’s record).

2. Application
   This level refers to the ability to apply knowledge and learning to new or practical situation. It includes applying rules, methods, principles and theories while providing care to clients (e.g., applying nursing principles to the care of clients).

3. Critical Thinking
   The third level of the taxonomy deals with higher-level thinking processes. It includes the abilities to judge the relevance of data, to deal with abstraction and to solve problems (e.g., identifying priorities of care or evaluating the effectiveness of interventions). The gerontological nurse with at least two years of experience should be able to identify cause-and-effect relationships, distinguish between relevant and irrelevant data, formulate valid conclusions and make judgments about the needs of clients.

The following table presents the distribution of questions for each level of cognitive ability.

<table>
<thead>
<tr>
<th>Cognitive Ability level</th>
<th>Percentage of items on the Gerontological Nursing Certification Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge/Comprehension</td>
<td>25-35%</td>
</tr>
<tr>
<td>Application</td>
<td>35-45%</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>25-35%</td>
</tr>
</tbody>
</table>

These levels are adapted from the taxonomy of cognitive abilities developed in Bloom, 1956.
Contextual Variables

**Client Gender and Age**: The age of the client will be 65 years and over and will be determined by the health situations presented in the questions. The questions will divide equally between gender.

**Client Culture**: Questions are included that measure awareness, sensitivity and respect for different cultural values, beliefs and practices, without introducing stereotypes.

**Client Health Situation**: In the development of the Gerontological Nursing Certification Examination, the client is viewed comprehensively within the physiological, psychological, social, cultural, developmental, environmental and spiritual dimensions of a total life experience.

**Health-Care Environment**: Gerontological nursing is practiced in a variety of settings. The health-care environment is specified only where it is required for clarity or in order to provide guidance to the examinee.

Conclusions

The Blueprint for the Gerontological Nursing Certification Exam is the product of a collaborative effort between CNA, ASI, Canadian Gerontological Nursing Association and a number of gerontological nurses across Canada. Their work has resulted in a compilation of the competencies required of practising gerontological nurses and has helped determine how those competencies will be measured on the Gerontological Nursing Certification Exam. A summary of these guidelines can be found in the summary chart: Gerontological Nursing Certification Exam Development Guidelines.

It is recognized that gerontological nursing practice will continue to evolve. As this occurs, the blueprint may require revision so that it accurately reflects current practices. CNA will ensure that such revision takes place in a timely manner and will communicate any changes in updated editions of this document.
## Summary Chart

Gerontological Nursing Exam Development Guidelines

<table>
<thead>
<tr>
<th>STRUCTURAL VARIABLES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Examination Length and Format</td>
<td>Approximately 160-165 multiple choice questions</td>
</tr>
</tbody>
</table>
| Question Presentation         | 70-80% independent questions  
                              | 20-30% case-based questions |
| The Cognitive Domain          | Knowledge/Comprehension  
                              | 25-35% of questions       
                              | Application                | 35-45% of questions       
                              | Critical Thinking          | 25-35% of questions       |
| Competency Categories         | Culture and Human Diversity | 5-10% of questions       
                              | Assessment of the Older Adult | 15-20% of questions       
                              | Health Promotion and Risk Reduction | 20-25% of questions       
                              | Illness and Disease Management | 20-25% of questions       
                              | Ethical and Legal Issues    | 10-15% of questions       
                              | Health-Care Systems and Policy | 5-10% of questions       
                              | Professional Development   | 3-5% of questions         
                              | Information and Health-Care Technologies | 3-5% of questions |

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<td>Health-Care Environment</td>
<td>It is recognized that gerontological nursing is practiced in a variety of settings. The health-care environment is specified only where it is required for clarity or in order to provide guidance to the examinee.</td>
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The Gerontological Nursing Certification Exam

List of Competencies

Culture and Human Diversity

The gerontological nurse:

1-1 Ensures quality of care tailored to the individualized needs of older adults, including:
   1-1a Diverse communities (e.g., Veterans, First Nations, corrections, homeless populations, immigrants, marginalized populations);
   1-1b Family (e.g., family composition and dynamics, intergenerational relationships, older adult as primary caregiver, geographical dispersion, surrogate families);
   1-1c Sexuality and intimacy (e.g., sexual orientation, relationships, need for intimacy and privacy, preferences); and
   1-1d Special needs populations (e.g., intellectually and physically challenged, long-term mental illness).

Assessment of the Older Adult

The gerontological nurse:

2-1 Assesses older adults in the following areas:
   2-1a Physiological (e.g., age-related changes in body systems, common conditions, atypical presentation);
   2-1b Functional (e.g., activities of daily living, instrumental activities of daily living);
   2-1c Cognitive (e.g., memory, language, visual-spatial, orientation to time, place and person, attention, processing time, perceptual disturbances);
   2-1d Psychological (e.g., previous coping patterns, mood and affect, decision-making style, history of mental illness and trauma, developmental stage, response to life transitions, grief and loss);
   2-1e Social/cultural (e.g., roles, relationships, caregiver, formal/informal supports, life events, education, leisure, literacy, income, lifestyle, intimacy/sexuality);
2-1f Spiritual (e.g., religious affiliation, practices, values and beliefs, spiritual growth and distress);

2-1g Environmental (e.g., living arrangements, location, physical layout); and

2-1h Risk factors (e.g., altered nutrition, tobacco, alcohol and/or substance use, level of physical activity, immunization status, safety issues, driving ability).

2-2 Assesses older adults’ medication(s) (prescribed, over the counter, complementary, supplements) in the following areas:

2-2a Response to pharmacological intervention (e.g., effectiveness, interactions and adverse effects, high-risk and inappropriate medications, toxicity);

2-2b Use (e.g., adherence patterns, polypharmacy, history, beliefs and understanding, administration methods, medication reconciliation); and

2-2c Diagnostic results and implications related to treatment (e.g., adjustments, appropriate dosing and titration).

2-3 Assesses pain in older adults (e.g., risk factors, impact on function and quality of life, personal beliefs, manifestations, corroborative history, previous response to non-pharmacological and pharmacological interventions).

**Health Promotion and Risk Reduction**

The gerontological nurse:

3-1 Utilizes evidence-informed screening protocols to promote health and prevent illness in older adults in the following areas:

3-1a Mental health (e.g., depression scales, cognitive screens, substance use assessment tools, smoking cessation readiness, self-harm risk);

3-1b Abuse of older adults (e.g., indicators of neglect, caregiver factors, corroborative history, risk assessment);

3-1c Physiological (e.g., diagnostics, vision, hearing, oral, nutrition, cancer, infectious diseases);

3-1d Immunizations (e.g., vaccination schedules, influenza, pneumovax, tetanus toxoid, herpes zoster, hepatitis A and B); and

3-1e Falls (e.g., gait, balance and mobility, risk assessments).
Selects the relevant interventions to support the following:

- **3-2a** Functional abilities (e.g., energy conservation measures, exercise programs, linkages to formal and informal resources);
- **3-2b** Self-care management (e.g., learning styles and approaches, literacy, self-determination, anticipatory planning for the future, access to resources);
- **3-2c** Decision support (e.g., coaching, aids, shared decision-making, personal choices);
- **3-2d** Cognitive/intellectual functioning (e.g., enhancing cognitive function, reducing excess disability, mild cognitive impairment);
- **3-2e** Supportive and compensating environment (e.g., strengthening supports, social networks, structural modifications, adaptive devices);
- **3-2f** Spiritual well-being (e.g., hope, self-actualization, religious/spiritual beliefs and practices, art, music, nature);
- **3-2g** Sleep/rest (e.g., sleep hygiene, accommodating lifelong patterns);
- **3-2h** Lifestyle patterns (e.g., lifestyle counselling, determining priorities for action, support for lifestyle change, leisure, resources);
- **3-2i** Coping behaviours (e.g., enhancing strengths, problem-solving, counselling, support groups, stress reduction, conflict resolution);
- **3-2j** Substance use (e.g., harm reduction measures, withdrawal support, psychosocial support, community resources);
- **3-2k** Urinary and bowel elimination (e.g., continence strategies, diet and hydration, mobility, hygiene, medication effects);
- **3-2l** Sexual function (e.g., education, safety, resources, advocacy);
- **3-2m** Abuse of older adults (e.g., safety plans, respite, counselling, resources); and
- **3-2n** Iatrogenesis (e.g., causes of infection, deconditioning, impact of therapeutic and diagnostic regimes, relocation).

Individualizes care and optimizes health of older adults through the use of evidence-informed interventions to reduce harm and promote safety in the following areas:

- **3-3a** Integumentary (e.g., healthy skin practices, pressure reduction strategies, environmental modification to avoid trauma);
- **3-3b** Nutrition (e.g., affordable and nutritious food, supplements, dysphagia management, food preferences, hydration, weight management);
- **3-3c** Environment (e.g., home safety audits, emergency preparedness planning, environmental modifications and removal of hazards, hyper/hypothermia);
- **3-3d** Falls (e.g., strength and balance exercises, medication review, protective and assistive devices, environmental modifications, orthostatic hypotension);
- **3-3e** Polypharmacy (e.g., medication review and reconciliation, counselling regarding safe practices);
3-3f Iatrogenesis (e.g., proactive care planning, older adult-friendly environments, diligent monitoring, restorative care/rehabilitation);
3-3g Addictions (e.g., support groups/programs, treatment centres, counselling);
3-3h Physical and chemical restraints (e.g., alternatives to restraints, regular review and monitoring);
3-3i Caregivers (e.g., respite, mobilizing support, counselling, access resources); and
3-3j End-of-life transitions (e.g., advance directives, culturally sensitive care and communication, pain/symptom management and supportive care).

**Illness and Disease Management**

The gerontological nurse:

4-1 Assesses older adults’ health, and determines the relevant intervention in the following areas:

4-1a Sensory/perception (e.g., macular degeneration, cataracts, glaucoma, presbycusis, tinnitus, chronic sinusitis);
4-1b Integumentary (e.g., skin care practices, lesions, wounds, cellulitis, psoriasis, fungal);
4-1c Gastrointestinal (e.g., constipation, diarrhea, bleeds, ulcers, obstructions, reflux disease, hemorrhoids, diverticulitis);
4-1d Musculoskeletal (e.g., osteoporosis, osteoarthritis, rheumatoid arthritis, foot deformities, degenerative disc disease, fractures, post-polio syndrome);
4-1e Cardiovascular (e.g., congestive heart failure, pulmonary edema, hypertension, anemias, myocardial infarction, coronary artery disease);
4-1f Respiratory (e.g., chronic obstructive pulmonary disease [COPD], asthma, tuberculosis, pneumonia, sleep apnea);
4-1g Genitourinary (e.g., incontinence, renal failure, prolapses, impotence, infection, benign prostatic hypertrophy, vaginitis, sexually transmitted infections);
4-1h Endocrine/metabolic (e.g., thyroid dysfunction, diabetes mellitus, metabolic syndrome);
4-1i Neurological (e.g., acquired brain injuries, herpes zoster, stroke [brain attack], Parkinson’s disease, multiple sclerosis, seizures, vertigo, neuropathies);
4-1j Pain (e.g., acute, persistent, neuropathic, nociceptive);
4-1k Delirium (e.g., risk, prevention, hypo/hyperactive, causes, manifestations, consequences, vigilance);
4-1l Dementias (e.g., types, stages, behavioural manifestations);
4-1m Mental health (e.g., anxiety, depression, risk for self-harm, post-traumatic stress disorder, impact of pre-existing conditions);
4-1n Neoplasm (e.g., prostate, breast, lung, skin, colon); and
4-1o Frailty and failure to thrive (e.g., resilience, vulnerability, consequences of adverse events).

4-2 Recognizes and utilizes standards of care to address infection-related issues in older adults:
   4-2a Prevention (e.g., screening, environmental considerations, immunization);
   4-2b Surveillance (e.g., epidemiology, awareness of database creation and maintenance, mandatory reporting, vigilance, risk potential);
   4-2c Outbreaks and epidemics (e.g., types, management); and
   4-2d Infection control (e.g., hand hygiene, precautions, best practice guidelines).

**Ethical and Legal Issues**

The gerontological nurse:

5-1 Recognizes and understands the implications of ethical principles in the care of older adults in the following areas:
   5-1a Balance between autonomy and safety (e.g., right to live at risk, family/substitute decision-maker involvement, confidentiality);
   5-1b Restraints (e.g., chemical, physical, environmental);
   5-1c End of life (e.g., client preferences, determining goals of care, symptom management); and
   5-1d Ethical dilemmas (e.g., allocation of resources, artificial nutrition and hydration, negotiating goals of care).

5-2 Recognizes and understands the legal obligations related to the care of older adults in the following areas:
   5-2a Decision-making (e.g., informed consent, substitute decision-makers, care directives, guardianship, adult protection); and
   5-2b Potential for exploitation (e.g., crime, fraud, abuse, neglect, transgression of boundaries).
Health-Care Systems and Policy

The gerontological nurse:

6-1 Recognizes and understands the impact of an aging population on health-care delivery systems in the following areas:
   6-1a Health-care system (e.g., resource availability/accessibility, gaps in service, client-centered care policies, mandatory reporting);
   6-1b Demographics of aging (e.g., targeted programming, epidemiology, awareness of trends);
   6-1c Geographical- and climate-related influences (e.g., urban/rural, remote areas); and
   6-1d Biases and prejudices (e.g., agism, myths, stereotypes, paternalism).

6-2 Facilitates older adults’ navigation through the health-care system, considering the following:
   6-2a Life history (e.g., past and current experiences, willingness to accept help, resource availability);
   6-2b Living arrangements and settings of care (e.g., ambulatory, community and facility-based care, transitions between settings, human and financial resources, adaptations and accessibility); and
   6-2c Complementary therapies (e.g., current use, herbal remedies, acupuncture, TENS, Reiki, massage therapy).

Professional Development

The gerontological nurse:

7-1 Recognizes the implications of interprofessional practice when caring for older adults:
   7-1a Scope of practice (e.g., education, delegation/assignment, supervision, leadership);
   7-1b Effective communication (e.g., collaborative problem-solving, team-building, advocacy, outcome-driven dialogue, assertive action); and
   7-1c Interprofessional collaboration (e.g., role clarity, negotiating responsibilities, team-building).
7-2 Provides leadership when caring for older adults:
   7-2a Workplace (e.g., respectful and healthy communities of practice, stakeholder engagement, team-building, supportive and collaborative environments); and
   7-2b Change facilitation (e.g., continuous quality improvement, using evidence-informed guidelines, problem identification, action planning).

7-3 Engages in professional growth (e.g., certification, membership in professional associations, reflective practice, lifelong learning, mentorship).

**Information and Health-Care Technologies**

The gerontological nurse:

8-1 Enhances older adults’ independence through the application of relevant technologies:
   8-1a Assistive devices (e.g., communication devices);
   8-1b Computer technology (e.g., electronic communication, social networking websites, interactive video games); and
   8-1c Health informatics (e.g., telehealth, information resources).

8-2 Enhances older adults’ safety through the application of relevant technologies:
   8-2a Personal safety (e.g., alert systems, bed alarms); and
   8-2b Emergency preparedness (e.g., emergency response systems).