

## Genomic Nursing Competencies

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For the purposes of the competencies, genomics will now be the terminology used which encompasses genes and anything that regulates genes.

- **Genetics** – Study of individual genes and their impact on relatively rare single gene disorders.
- **Genomics** – Study of all the genes in the human genome together, including their interactions with each other, the environment, and the influence of other psychosocial and cultural factors.

The rest of the key definitions are more established, but are offered to clarify the use in this report of what can have more general meanings:

- **Clients** – Recipients of health care may include persons, families, communities, and/or populations from any race, ethnicity/ancestry, culture, or religious background. The term *clients* will be used throughout the document to reflect the focus of nursing care.
- **Pedigree** – A graphic illustration of a family health history using standardized symbols.
- **Resources** – A collection of genetic and genomic tools and sites for healthcare referrals for delivery of nursing care.
- **Services** – The delivery of genetic and genomic health care.
- **Technology** – The use of tools and/or machines to perform tasks; in this case, the identification and assessment of genetic and genomic information (e.g., the use of microarray technology to assess the genetic features of a specific tumor).

### ***Nursing Assessment: Applying/Integrating Genomic Knowledge***

Demonstrates an understanding of the relationship of genomics to health, prevention, screening, diagnostics, prognostics, selection of treatment, and monitoring of treatment effectiveness.

Collects, reviews, and updates personal and family health history to include any genomic testing, and environmental and other risks factors.

Conducts health and physical assessments which incorporate knowledge about known or potential environmental, genomic, and other risk factors (e.g. behavioral, lifestyle).

Assesses clients' knowledge, perceptions, and responses to genomic information about self and family members.

### ***Identification***

Evaluates assessment data to identify clients who may benefit from specific genomic information and/or services.

Identifies credible, accurate, appropriate, and current genomic information, resources, services, and/or technologies specific to given clients.

Identifies ethical, ethnic/ancestral, cultural, religious, legal, fiscal, and societal issues related to genetic and genomic information and technologies.

42 Recognizes issues that undermine the rights of all clients for autonomous, informed genomic-  
43 related decision-making and voluntary action.

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45 ***Referral Activities***

46 Facilitates referrals for specialized genomic services for clients as needed.

47 ***Provision of Education, Care, and Support***

48 Develops a plan of care in collaboration with the interdisciplinary team that incorporates  
49 genomic assessment information.

50 Facilitates client's access to credible, accurate, appropriate, and current genomic information,  
51 resources, services, and/or technologies.

52 Advocates for autonomous, informed genomic-related decision-making.

53 Demonstrates in practice the importance of tailoring genomic information and services that are  
54 responsive to the unique attributes of every person.

55 Uses health promotion/disease prevention practices that-consider genomic influences as well as  
56 personal and environmental risk factors.

57 Provides genomic healthcare in collaboration with interdisciplinary professionals and when  
58 possible the client and family.

59 Performs interventions appropriate to clients' genomic healthcare needs.

60 Evaluates impact and effectiveness of genomic interventions on clients' outcome.

## Appendix

### DRAFT Genomic\* Nursing Competencies based on Delphi

\*For the purposes of the competencies, genomics will now be the terminology used which encompasses genes and anything that regulates genes.

| Competencies                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                  |
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| ORIGINAL WITH TRACKED CHANGES                                                                                                                                                                                                                                                                                                                                                                                                                                                           | REVISED                                                                                                                                          |
| <b>Professional Responsibilities</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                  |
| <p>1. All registered nurses are expected to engage in professional role activities that are consistent with <i>Nursing: Scope and Standards of Practice</i> (2004) by the American Nurses Association. In addition, competent nursing practice now requires the incorporation of genetic and genomic knowledge and skills in order to:</p> <p><del>•Recognize when one's own attitudes and values related to genetic and genomic science may affect care provided to clients.</del></p> | Eliminated                                                                                                                                       |
| <p>2. Advocate for clients' access to desired genetic/genomic services and/or resources including support groups.</p>                                                                                                                                                                                                                                                                                                                                                                   | Eliminated                                                                                                                                       |
| <p><del>Examine competency of practice on a regular basis, identifying areas of strength, as well as areas in which professional development related to genetics and genomics would be beneficial.</del></p>                                                                                                                                                                                                                                                                            | Eliminated                                                                                                                                       |
| <p><del>Incorporate genetic and genomic technologies and information into registered nurse practice.</del></p>                                                                                                                                                                                                                                                                                                                                                                          | Eliminated                                                                                                                                       |
| <p>Demonstrate in practice the importance of tailoring genetic and genomic information and services to clients based on their culture, religion, knowledge level, literacy, and preferred language.</p>                                                                                                                                                                                                                                                                                 | <b>Moved</b> to Provision of Education, Care and Support                                                                                         |
| <p>Advocate for the rights of all clients for autonomous, informed genetic and genomic-related decision-making and voluntary action.</p>                                                                                                                                                                                                                                                                                                                                                | <b>Moved</b> to Provision of Education, Care and Support                                                                                         |
| <b>Professional Practice Domain</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                  |
| <i>Nursing Assessment: Applying/Integrating Genomic Knowledge</i>                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                  |
| ORIGINAL WITH TRACKED CHANGES                                                                                                                                                                                                                                                                                                                                                                                                                                                           | REVISED                                                                                                                                          |
| <p>The registered nurse:<br/>Demonstrates an understanding of the relationship of genetics and genomics to health, prevention, screening, diagnostics, prognostics,</p>                                                                                                                                                                                                                                                                                                                 | <p>1. The registered nurse:<br/>Demonstrates an understanding of the relationship of genomics to health, prevention, screening, diagnostics,</p> |

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| selection of treatment, and monitoring of treatment effectiveness.                                                                                                                                                                | prognostics, selection of treatment, and monitoring of treatment effectiveness.                                                                                                   |
| <del>Demonstrates ability to elicit a minimum of three generations of family health history information.</del>                                                                                                                    | Eliminated                                                                                                                                                                        |
| <del>Constructs a pedigree from collected family history information using standardized symbols and terminology.</del>                                                                                                            | Eliminated                                                                                                                                                                        |
| Collects, reviews, and updates personal and family health history to include any genomic testing, and environmental and other risks factors.                                                                                      | <b>No Change</b><br>2. Collects, reviews, and updates personal and family health history to include any genomic testing, and environmental and other risks factors.               |
| Conducts comprehensive health and physical assessments which incorporate knowledge about environmental, genomic <del>influences</del> , and <b>other</b> risk factors.                                                            | 3. Conducts health and physical assessments which incorporate knowledge about known or potential environmental, genomic, and other risk factors.                                  |
| <del>Critically analyzes the history and physical assessment findings for genetic, environmental, and genomic influences and risk factors.</del>                                                                                  | Eliminated                                                                                                                                                                        |
| Assesses clients' knowledge, perceptions, and responses to <del>genetic and</del> genomic information.                                                                                                                            | 4. Assesses clients' knowledge, perceptions, and responses to genomic information about self and family members.                                                                  |
| Develops a plan of care that incorporates genetic and genomic assessment information.                                                                                                                                             | <b>Moved</b> to Provision of Education, Care and Support                                                                                                                          |
| <b>Identification</b>                                                                                                                                                                                                             |                                                                                                                                                                                   |
| <b>ORIGINAL WITH TRACKED CHANGES</b>                                                                                                                                                                                              | <b>REVISED</b>                                                                                                                                                                    |
| The registered nurse:<br><b>Evaluates assessment data to identify</b> <del>identifies</del> clients who may benefit from specific <del>genetic and</del> genomic information and/or services <del>based on assessment data.</del> | 5. The registered nurse:<br>Evaluates assessment data to identify clients who may benefit from specific genomic information and/or services.                                      |
| Identifies credible, accurate, appropriate, and current genomic information, resources, services, and/or technologies specific to given clients.                                                                                  | <b>No Change</b><br>6. Identifies credible, accurate, appropriate, and current genomic information, resources, services, and/or technologies specific to given clients.           |
| Identifies ethical, ethnic/ancestral, cultural, religious, legal, fiscal, and societal issues related to genetic and genomic information and technologies.                                                                        | <b>No Change</b><br>7. Identifies ethical, ethnic/ancestral, cultural, religious, legal, fiscal, and societal issues related to genetic and genomic information and technologies. |
| <del>Defines</del> <b>Recognize</b> issues that undermine the rights of all clients for autonomous, informed <del>genetic and</del> genomic-related decision-making and voluntary action.                                         | 8. Recognizes issues that undermine the rights of all clients for autonomous, informed genomic-related decision-making and voluntary action.                                      |

| <b>Referral Activities</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                         |
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| <b>ORIGINAL WITH TRACKED CHANGES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>REVISED</b>                                                                                                                                          |
| The registered nurse:<br>Facilitates referrals for specialized <del>genetic and</del> genomic services for clients as needed.                                                                                                                                                                                                                                                                                                                                                                                                         | 9. The registered nurse:<br>Facilitates referrals for specialized genomic services for clients as needed.                                               |
| <b>Provision of Education, Care, and Support</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                         |
| <b>ORIGINAL WITH TRACKED CHANGES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>REVISED</b>                                                                                                                                          |
| The registered nurse:<br><del>Provides clients with interpretation of selective genetic and genomic information or services.</del>                                                                                                                                                                                                                                                                                                                                                                                                    | Eliminated                                                                                                                                              |
| <b>Moved from Profession Practice Domain</b><br>Develops a plan of care <b>in collaboration with the interdisciplinary team</b> that incorporates <del>genetic and</del> genomic assessment information.                                                                                                                                                                                                                                                                                                                              | 10. The registered nurse:<br>Develops a plan of care in collaboration with the interdisciplinary team that incorporates genomic assessment information. |
| <del>Provides</del> <b>Facilitates</b> clients with <b>access to</b> credible, accurate, appropriate, and current <del>genetic and</del> genomic information, resources, services, and/or technologies <del>that facilitate decision-making.</del>                                                                                                                                                                                                                                                                                    | 11. Facilitates client's access to credible, accurate, appropriate, and current genomic information, resources, services, and/or technologies.          |
| <b>Moved from Professional Responsibilities</b><br>Advocate for the rights of all clients for autonomous, informed <del>genetic and</del> genomic-related decision-making <del>and voluntary action.</del>                                                                                                                                                                                                                                                                                                                            | 12. Advocates for autonomous, informed genomic-related decision-making.                                                                                 |
| <b>Moved from Professional Responsibilities</b><br>Demonstrates in practice the importance of tailoring <del>genetic and</del> genomic information and services <b>that are responsive to the unique attributes of every person</b> <del>to clients based on their culture, religion, knowledge level, literacy, and preferred language.</del>                                                                                                                                                                                        | 13. Demonstrates in practice the importance of tailoring genomic information and services that are responsive to the unique attributes of every person. |
| Uses health promotion/disease prevention practices that:<br><ul style="list-style-type: none"> <li>• <del>C</del> consider <del>genetic and</del> genomic influences <b>as well as</b> <del>on</del> personal and environmental risk factors.</li> <li>• <del>Incorporate knowledge of genetic and/or genomic risk factors (e.g., a client with a genetic predisposition for high cholesterol who can benefit from a change in lifestyle that will decrease the likelihood that the genetic risk will be expressed).</del></li> </ul> | 14. Uses health promotion/disease prevention practices that consider genomic influences as well as personal and environmental risk factors.             |
| <del>Uses genetic and genomic-based interventions and information to improve clients' outcomes.</del>                                                                                                                                                                                                                                                                                                                                                                                                                                 | Eliminated                                                                                                                                              |
| <b>Provides genomic healthcare in collaboration</b><br><del>Collaborates with interdisciplinary</del>                                                                                                                                                                                                                                                                                                                                                                                                                                 | 15. Provides genomic healthcare in collaboration with interdisciplinary                                                                                 |

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| <p><b>professionals and when possible the client and family</b> <del>healthcare providers in providing genetic and genomic health care.</del></p>       | <p>professionals and when possible the client and family.</p>                               |
| <p><del>Collaborates with insurance providers/payers to facilitate reimbursement for genetic and genomic healthcare services.</del></p>                 | <p>Eliminated</p>                                                                           |
| <p>Performs interventions/treatments appropriate to clients' <del>genetic and genomic healthcare needs.</del></p>                                       | <p>16. Performs interventions appropriate to clients' genomic healthcare needs.</p>         |
| <p>Evaluates impact and effectiveness of <del>genetic and genomic technology, information, interventions, and treatments</del> on clients' outcome.</p> | <p>17. Evaluates impact and effectiveness of genomic interventions on clients' outcome.</p> |

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