

Nurses, Genomics and Clinical Practice

Developed August 2020

Next review August 2021

KEY STATEMENT

The Australian College of Nursing (ACN) is committed to supporting a workplace ready nursing workforce, advancing nurse leadership in the emerging genomics era, and applying evidence-based care through increased genomic literacy. ACN considers the role that nurses play in translating best practice evidence and providing high quality care as critical to ensure improved patient outcomes across the lifespan from preconception to end of life care.

PURPOSE

This position statement has been developed to highlight the significant leadership role that nurses have in the era of genomic based health care. It is intended to provide nurses with the rationale for adopting rapid translation of person-centred genomic evidence into mainstream and specialty clinical practice and to highlight the important role nurses have in genomic health care.

BACKGROUND

The Nursing and Midwifery Board of Australia (NMBA) regulates nursing practice and sets out standards for the nursing profession (Professional Standards: Professional Codes and Guidelines, 2018). In particular, genomic evidence supports these Professional Standards and informs:

Standard 1: Thinks critically and analyses nursing practice;

Standard 4: Comprehensively conducts assessments;

Standard 6: Provides safe, appropriate and responsive quality nursing

(Nursing and Midwifery Board of Australia, 2018).

The World Health Organization (WHO) describes genomics as the study of genes and their functions, and related techniques (World Health Organization, 2002, 2004). In the context of health care, human genetic evidence makes a significant contribution to the management of health of the individual as part of their clinical care (e.g. for diagnostic or therapeutic decision-making); and can inform the health outcomes and policy implications of that clinical use. Genomic health care involves the use of genomic information and technologies at any stage of the health care continuum to determine disease risk and predisposition, diagnosis and prognosis, and the selection and prioritisation of therapeutic options. Genomic health care also takes into account the potential ethical, psychological and social implications of genomic information and the application of genomic technologies (Genetics in Nursing & Midwifery Task and Finish Group, 2011).

Genomic evidence is used in health care delivery with an impact on individuals, families, communities, and diverse health care settings and is central to our understanding of human health and disease with ethical, legal and societal implications.

Nurses, as registered health practitioners, have a key role and responsibility to ensure they use best evidence in their clinical care; and to ensure they understand the influence of genomic evidence on quality and safe use of medicines (Calzone et al., 2018; Tonkin et al., 2020).

Translating genomic evidence into nursing practice creates a genuine person-centred approach that delivers high quality personalised care to individuals. Genomic literacy builds a nursing and midwifery workforce that is workplace ready, contemporary, and agile.

RECOMMENDATIONS

That nurses:

- 1.1 Support or promote Australian Government policy frameworks, for example the NSW Strategic Plan to guide the integration of genomics into our health care system (Australian Health Ministers' Advisory Council, 2017; National Health and Medical Research Council, 2020; NSW Health, 2017).
- 1.2 Employ critical thinking strategies and the best evidence in making decisions and providing safe, quality nursing practice within person-centred and evidence-based frameworks that include genomic evidence.
- 1.3 Apply genomic evidence through reflection on patient experiences, knowledge, actions, feelings and beliefs to identify how these will shape ethical decisions and practice (Genetics in Nursing & Midwifery Task and Finish Group, 2011; National Health and Medical Research Council, 2007, 2013).
- 1.4 Respect all ethnicities, cultures and experiences, which includes responding to the influence of genomic evidence on risk of disease in family and community that underpin the health of Aboriginal and Torres Strait Islander peoples and people of other ethnicities (Australian Health Ministers' Advisory Council, 2017; National Health and Medical Research Council, 2013).
- 1.5 Uphold the principles of quality use of medicines, namely: selecting management options wisely; choosing suitable medicines and being aware if a medicine has pharmacogenomic variants that influence the safety response of the medication in some patients (Pharmgkb, 2020; Thorn C.F., Klein T.E., & Altman R.B., 2013).
- 1.6 Access, analyse, and use the best pharmacogenomic evidence derived from scholarly sources on genomic findings, for safe, quality practice (National Health and Medical Research Council, 2014; National Health and Medical Research Council, 2020; Thorn C.F. et al., 2013).
- 1.7 Comply with legislation, regulations, policies, guidelines and other standards or requirements relevant to the confidential management of personal genomic information within the context of practice when making decisions (National Health and Medical Research Council, 2007, 2020).

REFERENCES

- Australian Health Ministers' Advisory Council. (2017). *National Health Genomics Policy Framework 2018-2021*. Retrieved from Canberra, ACT: [https://www1.health.gov.au/internet/main/publishing.nsf/Content/FD973B58DE82BCFFCA2581CC007D4682/\\$File/National-Health-Genomics-Policy-Framework.pdf](https://www1.health.gov.au/internet/main/publishing.nsf/Content/FD973B58DE82BCFFCA2581CC007D4682/$File/National-Health-Genomics-Policy-Framework.pdf)
- Calzone, K. A., Kirk, M., Tonkin, E., Badzek, L., Benjamin, C., & Middleton, A. (2018). The Global Landscape of Nursing and Genomics. *Journal of nursing scholarship : an official publication of Sigma Theta Tau International Honor Society of Nursing*, 50(3), 249-256. doi:10.1111/jnu.12380
- Genetics in Nursing & Midwifery Task and Finish Group. (2011). *Genetics/Genomics in Nursing and Midwifery: Task and Finish Group Report to the Nursing and Midwifery Professional Advisory Board*. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/215250/dh_131947.pdf
- National Health and Medical Research Council. (2007). National Statement of the Ethical Conduct of Human Research. Retrieved from <https://www.nhmrc.gov.au/sites/default/files/documents/attachments/National%20Statement/e72.pdf>
- National Health and Medical Research Council. (2013). Genetic Discrimination. Retrieved from <https://www.nhmrc.gov.au/about-us/publications/genetic-discrimination#block-views-block-file-attachments-content-block-1>
- National Health and Medical Research Council. (2014). Understanding Direct to Consumer Genetic DNA Testing. Retrieved from <https://www.nhmrc.gov.au/about-us/publications/understanding-direct-consumer-genetic-dna-testing#block-views-block-file-attachments-content-block-1>
- National Health and Medical Research Council. (2020). Genomics Resources for Clinicians and Researchers. Retrieved from <https://www.nhmrc.gov.au/health-advice/genomics/genomics-resources-clinicians-and-researchers>
- NSW Health. (2017). NSW Health Genomics Strategy. Retrieved from <http://www.health.nsw.gov.au/services/Pages/nsw-health-genomics-strategy.aspx>
- Nursing and Midwifery Board of Australia. (2018). Code of Professional Conduct for Nurses in Australia. Retrieved from <https://www.nursingmidwiferyboard.gov.au>
- Pharmgkb. (2020). Resources. Retrieved from <https://www.pharmgkb.org/>

Thorn C.F., Klein T.E., & Altman R.B. (2013). *PharmGKB: The Pharmacogenomics Knowledge Base*. In: Innocenti F., van Schaik R. (eds) *Pharmacogenomics. Methods in Molecular Biology (Methods and Protocols)* (Vol. 1015). Totowa, NJ: Humana Press.

Tonkin, E., Calzone, K. A., Badzek, L., Benjamin, C., Middleton, A., Patch, C., & Kirk, M. (2020). A Maturity Matrix for Nurse Leaders to Facilitate and Benchmark Progress in Genomic Health care Policy, Infrastructure, Education, and Delivery. *Journal of Nursing Scholarship*, n/a. doi:10.1111/jnu.12586

World Health Organization. (2002). **Genomics and world health: report of the Advisory Committee on Health Research**. Retrieved from Geneva, WHO: <https://apps.who.int/iris/handle/10665/42453>

World Health Organization. (2004). *Fifty Seventh World Health Assembly Resolution, WHA 57.13: Genomics and World Health, p16*. Retrieved from Geneva, WHO: https://apps.who.int/gb/ebwha/pdf_files/WHA57/A57_REC1-en.pdf

ACKNOWLEDGEMENT

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CITATION:

Australian College of Nursing (ACN). (2020). 'Nurses, genomics and clinical practice'. ACN, Canberra. ACN 2020.

Paperback: ISBN: 978-1-925913-70-5

E-Book: ISBN: 978-1-925913-71-2