JULIA STEINBERG, MMATH DPHIL

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RESEARCH SUMMARY

A/Prof Julia Steinberg leads the Genomics and Precision Health research stream at The Daffodil Centre, a joint venture between the University of Sydney and Cancer Council NSW.
Her research program leverages and integrates large-scale genetic, genomic, behaviour, and medical data to improve human health and reduce the burden of disease. A/Prof Steinberg's main focus is on the opportunities and challenges of precision health for cancer - effectively and sustainably delivering the right intervention to the right population at the right time, from innovative cancer screening and early detection to targeted cancer treatment.

As particular highlights, A/Prof Steinberg co-leads the Australian Cancer Risk Study: a multidisciplinary, collaborative research program on genomic risk prediction and risk-tailored screening and early detection for common cancers, funded by the Genomics Health Futures Mission in June 2021. She also leads a new collaborative program of work on multi-cancer early detection tests, funded by the Genomics Health Futures Mission from February 2025.

Further work includes
- identifying healthcare gaps that need to be addressed and populations subgroups with different risks or needs, based on analyses of current pathways to cancer diagnosis, patterns of cancer care, and costs of cancer;
- informing health service planning (including for cancer genomic medicine) and identification of "best-buy" cancer control interventions, based on forecasts of future cancer burden and the number of patients for potential targeted treatment based on key molecular characteristics of the tumour (so-called "pan-tumour biomarkers").

A/Prof Steinberg is committed to mentoring and supporting early career researchers, with her current team including a Postdoctoral Research Fellow, a PhD student / Research Assistant, two Statisticians, and a Program Manager. She has successfully co-supervised one PhD to completion and currently supervises three PhD students (one as Lead Supervisor).

CURRENT ACADEMIC POSITIONS

2022-current	Genomics and Precision Health Stream Lead, The Daffodil Centre, The University of Sydney and Cancer Council NSW
2022-current	Adjunct Associate Professor, The University of Sydney
2018-current	Honorary Senior Research Fellow, Institute of Translational Genomics, Helmholtz Zentrum München, Germany

PAST ACADEMIC POSITIONS

2021-2022	Senior Research Fellow, The Daffodil Centre, University of Sydney and Cancer Council NSW
2019-2021	Senior Research Fellow, Cancer Research Division, Cancer Council NSW
2019-2021	Honorary Senior Research Fellow, School of Public Health, Faculty of Medicine and Health, University of Sydney
2017-2018	Research Fellow, Cancer Research Division, Cancer Council NSW
2016-2017	Bye Fellow, Murray Edwards College, University of Cambridge, UK
2015-2017	Postdoctoral Fellow, Wellcome Trust Sanger Institute, UK
2010-2014	DPhil in Genomic Medicine and Statistics, University of Oxford, UK
2006-2010	Master in Mathematics, University of Oxford, UK

PEER-REVIEWED PUBLICATIONS

SUMMARY: 83 publications (76 since 2015), 3970 citations (3370 in last 5 years)
12 publications as first author (including *Nature Communications*) and 16 publications as senior author (including *Lancet Public Health*).
h-index: 27 (Google Scholar).
Field-weighted citations impact: 2.2-fold more citations than global average for health and medical researchers (SciVal; 1.3-fold higher than Australian average).

1. H. M. Tanha, M. H. Law, N. Ingold, P. Ly, C. M. Olsen, N. Pandeya, D.P. Smith, R.J. MacInnis*, D.C. Whiteman*, A. E. Cust*, J. Steinberg* (2025). Polygenic Risk Scores for Prostate Cancer: Comparative Evaluations in UK and Australian Cohorts. **Human Genetics and Genomics Advances**, 6:100477. * joint senior authors
    - Peer-review praised "this is a timely and informative study that highlights important methodological considerations in genetic risk prediction for prostate cancer"
2. M.B. Tehrani, J. Hayward, T. Gusen. M. Makeham, J. Steinberg, S. Bernett, D. Wilkinson, C. Forwood, F. Lam, A. Williams, K. Berger-Marges, A. Ma on behalf of the PRECISE Consortium (2025). Genomics and Precision Medicine: The expanding role of General Practitioners. **The Australian Journal of General Practice**, in press.
3. E. DeBertoli, E. McGahan, J. Berkman, L.G. Aoude, A.K. Smit, A. Gokoolparsadh, A. Hermes, L. Newett, M. Bourke, S. Hanson, H. Hughes, O. Hofmann, I. Goranitis, R. McWhirter, V. Milch, J. Steinberg, A. McInerney-Leo (2025). Utility of germline, somatic and ctDNA testing in adults with cancer. **Cancer Medicine**, in press.
    - part of evidence review that informed Cancer Australia's National Framework for Genomics in Cancer Control (2025)
4. Y.-J. Kang*, Q. Luo*, J. Worthington, A. Kelly, J. Cuff, J. Zalcberg, K. Canfell, J. Steinberg (2025). Informing health system planning for biomarker-based treatment: statistical prevalence projections for solid cancers with key pan-tumour biomarkers (dMMR, MSI, high TMB) in Australia to 2042. **Lancet Regional Health – Western Pacific** 57:101537.
5. D. Mizrahi, D. Goldsbury, P. Sarich, A.E. Cust, N. Houssami, E. Stamatakis, K. Canfell, M.F. Weber, J. Steinberg (2025). Digital health technology use among people aged 55 years and over: Findings from the 45 and Up Study. **International Journal of Medical Informatics** 200:105911.
6. D. Goldsbury*, Y.-J. Kang*, C. Tang. H. M. Tanha, A. K. Smit, K. L. A. Dunlop, L. Petelin, P. Ngo, H, Hui, N.S. Meagher, M. A. Merritt, M. Weber, A. DeFazio, A. E. Cust, K. Canfell, J. Steinberg (2025). Sociodemographic and health factors associated with genetic testing in Australia: insights from a cohort-based study of 45,061 participants. **European Journal of Human Genetics** 33:819–824.
7. K.L.A. Dunlop, N. Singh, A.K. Smit, A.L. Morrow, J. Steinburg, A.E. Cust, M. Makeham, C. Bonner, B. Terrill, L.V. Monrouxe, D. Wilkinson, S. Sawleshwarkar, A.S. Ma (2025). Building capacity for genomics in primary care: A scoping review of practitioner attitudes, education needs and enablers. **Frontiers in Medicine** 12:1577958.
8. A. Salisbury, J. Cardi, R. Norman, A.K. Smit, A.E. Cust, C. Low, M. Caruana, L. Gordon, K. Canfell, J. Steinberg, A. Pierce (2024). Preferences for genetic and genomic risk-informed chronic disease screening and early detection: A systematic review of discrete choice experiments. **Applied Health Economics and Health Policy** 23(3):395-408.
9. M. Bourke, A. McInerney-Leo, J. Steinberg, T. Boughtwood, V. Milch, A. L. Ross, E. Ambrosino, K. Dalziel, F. Franchini, L. Huang, R. Peters, F. Santos Gonzalez, I. Goranitis (2025). The cost effectiveness of genomic medicine in cancer control: a systematic literature review. **Applied Health Economics and Health Policy**, 23:359–393.
    - part of evidence review that informed Cancer Australia's National Framework for Genomics in Cancer Control (2025)
10. E. DeBertoli, E. McGahan, T. Yanes, J. Berkman, N. Fuentes-Bolanos, V. Milch, J. Steinberg, A. McInerney-Leo (2024). Utility of genomic testing in children, adolescents, and young adults with cancer. **Journal of the National Cancer Institute** 117(4):601-610.
    - part of evidence review that informed Cancer Australia's National Framework for Genomics in Cancer Control (2025)

11. J. Berkman, E. DeBertoli, J. Steinberg, V. Milch, T. Yanes, A. McInerney-Leo (2024). Mainstreaming Cancer Genomic Testing: A Scoping Review of the Acceptability, Efficacy, and Impact. **Clinical Genetics**, in press.
    - part of evidence review that informed Cancer Australia's National Framework for Genomics in Cancer Control (2025)
12. J.-B. Lew, Q. Luo, J. Worthington, H. Ge, E. He, J. Steinberg, M. Caruana, D.L. O'Connell, E. Feletto, K. Canfell (2025). Recalibrating an Established Microsimulation Model to Capture Trends and Projections of Colorectal Cancer Incidence and Mortality. **Medical Decision Making**, 45(3):257-275.
    - model improvement **directly underlying health economic evaluations for colorectal clinical guidelines update 2024 and resulting expansion of National Bowel Cancer Screening to Australians age 45-49 in 2025**
13. M. Rahman, M. David, J. Steinberg, A. Cust, X.Q. Yu, C. Rutherford, E. Banks, J. Byles, K. Canfell (2025). Association of optimism and social support with health-related quality of life among Australian women cancer survivors- A cohort study. **Asia-Pacific Journal of Clinical Oncology** 21(2):221-231
14. S. Wade, P. Ngo, Y. He, M. Caruana, J. Steinberg, Q. Luo, M. David, A. McWilliams. K.M. Fong, K. Canfell, M. Weber (2024). Estimates of the eligible population for Australia's targeted National Lung Cancer Screening Program, 2025-2030. **Public Health Research and Practice** 34342410.
15. A. Morrow, R. Baffsky, K. Tucker, B. Parkinson, J. Steinberg, P. Chan, E. Kennedy, D. Debono, E. Hogden, N. Taylor (2024). Improving Lynch syndrome detection: a mixed-methods process evaluation of a hybrid type III effectiveness-implementation trial. **BMC Health Services Research**, 24:1552.
16. A. Morrow, P. Chan, G. Tiernan, E. Kennedy, J. Steinberg, E. Hogden, D. Debono, N. Taylor (2024). Bridging the gap between intuition and theory: a comparison of different approaches to implementation strategy development for improving Lynch syndrome detection. **Public Health Genomics**, 27(1):110–123.
17. R. Shah, … J. Steinberg, …, I. Soerjomataram [29 authors] (2024). The global impact of the COVID-19 pandemic on delays and disruptions in cancer care services: A systematic review and meta-analysis. **Nature Cancer** 6(1):194-204.
18. R. Shah, …, J. Steinberg, …, I. Soerjomataram [25 authors] (2024). Global review of COVID-19 mitigation strategies and their impact on cancer service disruptions. **Journal of Cancer policy** 100486.
19. S. Yap, Q. Luo, S. Wade, P. Ngo, D. Goldsbury, P. Sarich, E. Banks, M. Weber. K. Canfell, M. David, J. Steinberg (2024). Impact of weighting on the association between sociodemographic characteristics, health behaviours and cancer, cardiovascular and all-cause mortality in the Australian 45 and Up Study. **Cancer Epidemiology**, 90:102567.
20. D. Goldsbury, A. Pearce, P. Haywood, L. Gordon, D. Karikios, K. Canfell, J. Steinberg*, M. Weber* (2024). Out-of-pocket health care expenses for people with and without cancer, New South Wales, 2020: a cross-sectional study. **Medical Journal of Australia**, 221(2), 94-102. *** joint senior authors.**
    - Covered by national media (incl. The Age, The Sydney Morning Herald), audience >2m people
21. Q. Luo, J. Steinberg, C. Kahn, M. Caruana, P.B. Grogan, A. Page, R. Ivers, E. Banks, D.L. O'Connell*, K. Canfell* (2024). Trends and projections of cause-specific premature mortality in Australia to 2044: a statistical modelling study. **The Lancet Regional Health – Western Pacific**, 13:100987.
    - University of Sydney EMCR Outstanding Publication Award 2024
22. Q. Luo, D. Jenkin, M. Weber, J. Steinberg, K. White, A. Irving, H. Rillstone, A. Kelly, K. Canfell, E. Feletto (2024). Multiple myeloma incidence, mortality and prevalence estimates and projections for Australia, 1982 to 2043. **Medical Journal of Australia**, 221(2):103-110.
23. J. Steinberg^, S. Hughes^, [50 authors], K. Canfell (2023). Risk of COVID-19 death for people with a pre-existing cancer diagnosis prior to COVID-19-vaccination: A systematic review and meta-analysis. **International Journal of Cancer**, 154(8), 1394-1412.
    - evidence review directly commissioned by the World Health Organisation
    - "top viewed article": among 10% most-viewed papers published by the journal in 2023

24. C.G. Allen, D.L. Olstad, A.R. Kahkoska, Y. Guan, P.S. Ramos, J. Steinberg, S.A. Staras, C.Y. Lumpkins, L. V. Milko, E. Turbitt, A. Rahm, K.W. Saylor, S. Best, A. Hatch, I. Santangelo, M.C. Roberts (2023). Extending an Antiracism Lens to the Implementation of Precision Public Health Interventions. **American Journal of Public Health**, 113(11), 1210-1218.
    - selected for the American Public Health Association Continuing Medical Education (CME) program
25. S. Yap, E. He, S. Egger, D.E. Goldsbury, J.-B. Lew, P.J. Ngo, J. Worthington, H. Rillstone, J.R. Zalcberg, J. Cuff, R.L. Ward, K. Canfell, E. Feletto*, J. Steinberg* (2023). Colon and rectal cancer treatment patterns and their associations with clinical, sociodemographic and lifestyle characteristics: analysis of the Australian 45 and Up Study cohort. **BMC Cancer**, 23, 60. *** joint senior authors.**
26. A. Morrow, J. Steinberg, P. Chan, G. Tiernan, E. Kennedy, N. Egoroff, D. Hilton, L. Sankey, R. Venchiarutti, A. Hayward, A. Pearn, S. McKay, D. Debono, E. Hogden, N. Taylor (2023). In person and virtual process mapping experiences to capture and explore variability in clinical practice: application to genetic referral pathways across seven Australian hospital networks. **Translational Behavioral Medicine**, ibad009.
27. E. Cheng, L.S. Velentzis, M. Weber, J. Steinberg, K. Canfell, X.Q. Yu (2023). Female reproductive and hormonal factors and lung cancer mortality among never-smokers: a prospective cohort study of 287,408 Chinese women. **International Journal of Cancer**, 152(12), 2528-2540.
28. S. O'Haire, F. Franchini, Y.-J. Kang, J. Steinberg, K. Canfell, J. Desai, S.B. Fox, M.J. Ijzerman (2023). Systematic review of NTRK ½/3 fusion prevalence pan-cancer and across solid tumours. **Scientific Reports**, 13, 4116.
    - estimates from this study **directly informed the re-imbursement of larotrectinib through the Australian Pharmaceutical Benefits Scheme** (for non-small-cell lung cancer, soft tissue sarcoma, and brain cancers), with estimates from the original application for approval changed to the study's estimates for two of these cancers in the revised submission (Public Summary Document – March 2024 meeting of the Pharmaceutical Benefits Advisory Committee)
29. L.S. Velentzis, V. Freeman, D. Campbell, S. Hughes, Q. Luo, J. Steinberg, S. Egger, G.B. Mann, C. Nickson. Breast cancer risk assessment tools for stratifying women into risk groups: a systematic review (2023). **Cancers**, 15(4), 1124.
30. D. Goldsbury^, A. Vassallo^, M. Weber, J. Steinberg, P. Webb, A. 4eFazio, K. Canfell (2023). The direct health services costs of ovarian cancer in Australia: Estimates from the 45 and Up Study. **PLOS One**, 18(4), e0282851. ^ joint first authors
31. S. Yap^, A. Vassallo^, D. Goldsbury, D.L. O'Connell, A. Brand, J. Emery, A. DeFazio*, K. Canfell, J. Steinberg* (2023). Pathways to diagnosis of endometrial and ovarian cancer in the 45 and Up Study cohort. **Cancer Causes and Control**, 34(1), 47-58. *** joint senior authors**; ^ joint first authors
32. Y-J. Kang, S. O'Haire, F. Franchini, M. Ijzerman, J. Zalcberg, F. Macrae, K. Canfell, J. Steinberg (2022). A scoping review and meta-analysis on the prevalence of pan-tumour biomarkers (dMMR, MSI, high TMB) in different solid tumours. **Scientific Reports**, 12, 20495.
33. M.F. Weber, P. Ngo, E. Banks, J. Steinberg, D.E. Goldsbury, P. Grogan, K. Canfell (2022). Capacity of the 45 and Up Study to mobilise evidence-based improvements in cancer control: case study in lung cancer. **Public Health Research and Practice**, 32(4), phrp3242232.
34. Q. Luo, J. Steinberg, X.Q. Yu, M. Weber, M. Caruana, S. Yap, P. Grogan, E. Banks, D. O'Connell, K. Canfell (2022). Projections of smoking-related cancer mortality in Australia to 2044. **Journal of Epidemiology & Community Health**, 76(9), 792-9.
    - **provided key estimates to support cancer advocacy efforts** (projecting that over 250,000 Australians will die from cancers caused by cigarette smoking over the next 25 years)
    - **covered by 35 media outlets, scoring in the top 5% of all research outputs by Altmetric**
35. S. Yap^, Q. Luo^, S. Wade, M. Weber, E. Banks, K. Canfell, D. O'Connell*, J. Steinberg* (2022). Raking of data from a large Australian cohort study improves generalisability of estimates of prevalence of health and behaviour characteristics and cancer incidence. **BMC Medical Research Methodology**, 22, 140. *** joint senior authors**; ^ joint first authors

36. J. Steinberg, P. Chan, E. Hogden, G. Tiernan, A. Morrow et al (2022). Lynch syndrome testing of colorectal cancer patients in a high-income country with universal healthcare: a retrospective study of current practice and gaps in seven Australian hospitals. **Hereditary Cancer in Clinical Practice**, 20(1), 18.
    - **informed national trial** to improve Lynch syndrome testing (ACTRN12618001072202)
37. Q. Luo, D.L. O'Connell, X.Q. Yu, C. Kahn, M. Caruana, F. Pesola, P. Sasieni, P.B. Grogan, S. Aranda, C.J. Cabasag, I. Soerjomataram, J. Steinberg*, K. Canfell* (2022). Cancer incidence and mortality in Australia from 2020 to 2044 and an exploratory analysis of the potential effect of treatment delays during the COVID-19 pandemic: a statistical modelling study. **Lancet Public Health**, 7, e537-48. *** joint senior authors**
    - **informed the Australian government's 10-year Australian Cancer Plan (finalised 2023)** – a plan for national action with 2- and 5- year goals and visionary 10-year ambitions, to set a transformative agenda to accelerate world-class cancer outcomes and improve the lives of all Australians affected by cancer.
    - University of Sydney EMCR Outstanding Publication Award 2023 for Luo
    - Editorialised as "seminal research", "critical to understanding how large-scale public health crises influence the quality of and access to care"
38. P. Sarich^, C.J. Cabasag^, E. Liebermann^, P. Vaneckova^, C. Carle^, S. Hughes, S. Egger, D.L. O'Connell, M.F. Weber, A. Mafra da Costa, M. Caruana, F. Bray, K. Canfell*, O. Ginsburg*, J. Steinberg*, I. Soerjomataram* (2022). Tobacco smoking changes during the first pre-vaccination phases of the COVID-19 pandemic: A systematic review and meta-analysis. **eClinicalMedicine**, 47, 101375. *** joint senior authors**; ^ joint first authors
39. J. Steinberg, M.M. Iles, J.Y. Lee, X. Wang, M. Law, A.K. Smit, T. Nguyen-Dumont, G.G. Giles, M.C. Southey, R.L. Milne, G.J. Mann, D.T. Bishop, R.J. MacInnis, A.E. Cust (2022). Independent evaluation of melanoma polygenic risk scores in UK and Australian prospective cohorts. **British Journal of Dermatology**, 186, 823-834.
40. C. Carle^, S. Hughes^, V. Freeman^, D. Campbell^, S. Egger, …, D. O'Connell*, K. Canfell*, J. Steinberg* (2022). The risk of contracting SARS-CoV-2 or developing COVID-19 for people with a preexisting cancer diagnosis: a systematic review and critical appraisal of the early evidence. **Journal of Cancer Policy**, 33, 100338. *** joint senior authors**; ^ joint first authors
41. V. Freeman^, S. Hughes^, C. Carle^, D. Campbell^, S. Egger, … , D. O'Connell*, J. Steinberg*, K. Canfell* (2022). Do COVID-19 patients with cancer have a higher risk of COVID-19-related death than those without cancer? A systematic review and critical appraisal of the early evidence. **Journal of Cancer Policy**, 33, 100340. *** joint senior authors**; ^ joint first authors
42. V. Nair-Shalliker, A. Bang, S. Egger, X.Q. Yu, K. Chiam, J. Steinberg, M. Patel, E. Banks, D.L. O'Connell, B. Armstrong, D.P. Smith (2022). Family history, urological factors and anti-diabetic medications are associated with risk of prostate cancer diagnosis. **British Journal of Cancer**, 127, 735–746.
43. G. Dawson, K. Bleicher, S. Baynes, C. D'Este, J. Steinberg, M. Weber, J. Newby, D. Ding, B. Liu, B. Edwards, A. Milat, M. McNamara (2022). 45 and Up COVID Insights: A dynamic and collaborative approach to evidence-making during the COVID-19 pandemic. **Public Health Research and Practice**, 32(4), phrp32232214.
44. E. Cheng, M. Weber, J. Steinberg, K. Canfell, X.Q. Yu (2022). Evaluating risk factors for lung cancer in never-smokers using two Australian studies. **Journal of Cancer Research and Clinical Oncology**, online ahead of print, doi 10.1007/s00432-022-04043-9.
45. E. Feletto, A. Kohar, D. Mizrahi, P. Grogan, J. Steinberg, C. Hughes, W.L. Watson, K. Canfell, X.Q. Yu (2022). An ecological study of obesity-related cancer incidence trends in Australia from 1983-2017. **The Lancet Regional Health – Western Pacific**, 29, 100575.
46. P. Kreitmaier, M. Suderman, L. Southam, R. Coutinho de Almeida, K. Hatzikotoulas, I. Meulenbelt, J. Steinberg, C. Relton, J.M. Wilkinson, E. Zeggini (2022). An epigenome-wide view of osteoarthritis in primary tissues. **American Journal of Human Genetics**, 109 (7), 1255-1271.
47. E. Cheng, K.H. Chan, M. Weber, J. Steinberg, J. Young, K. Canfell, X.Q. Yu (2022). Solid Fuel, Secondhand Smoke, and Lung Cancer Mortality: a prospective cohort study of 323,794 Chinese adults. **American Journal of Respiratory Critical Care Medicine**, 206(9), 1153-1162

48. Q. Luo, J.B. Lew, J. Steinberg, J. Worthington, X.Q. Yu, M. Caruana, I. Soerjomataram, F. Bray, S. Lawrance, M. Arcorace, D.L. O'Connell, K. Canfell, E. Feletto (2022). Trends in colon and rectal cancer mortality in Australia from 1972-2015 and associated projections to 2040. **Scientific Reports**, 12, 3994.
49. S. Yap, A. Vassallo, D. Goldsbury, U. Salagame, L. Velentzis, E. Banks, D.L. O'Connell, K. Canfell*, J. Steinberg* (2022). Accurate categorisation of menopausal status for research studies: a step-by-step guide and detailed algorithm considering age, self-reported menopause and factors potentially masking the occurrence of menopause. **BMC Research Notes**, 15, 88. *** joint senior authors**
50. G. Katsoula, J. Steinberg, M. Tuerlings, R.C. de Almeida, L. Southam, D. Swift, I. Meulenbelt, J. M. Wilkinson, E. Zeggini (2022). A molecular map of long non-coding RNA expression, isoform switching and alternative splicing in osteoarthritis. **Human Molecular Genetics**, 31(12), 2090-2105.
51. A. Morrow, P. Chan, G. Tiernan, J. Steinberg, D. Debono, L. Wolfenden, K.M. Tucker, E. Hogden, N. Taylor. (2022) Building capacity from within: qualitative evaluation of a training program aimed at upskilling healthcare workers in delivering an evidence-based implementation approach. **Translational Behavioral Medicine**, ibab094.
52. D.E. Goldsbury, E. Feletto, M.F. Weber, P. Haywood, A. Pearce, J.-B. Lew, J. Worthington, E. He, J. Steinberg, D.L. O'Connell, K. Canfell (2021). Health system costs and days in hospital for colorectal cancer patients in New South Wales, Australia. **PloS ONE**, 16 (11), e0260088.
53. E. Cheng, M. Weber, J. Steinberg*, Q.X. Yu* (2021). Lung cancer risk in never-smokers: an overview of environmental and genetic factors. **Chinese Journal of Cancer Research**, 33 (5), 548-562. *** joint senior authors**
54. C.G. Boer, K. Hatzikotoulas, L. Southam, *et al.* (including J. Steinberg) (2021). Deciphering osteoarthritis genetics across 826,690 individuals from 9 populations. **Cell**, 184 (18), 4784-4818.e17.
55. J. Steinberg, L. Southam, A. Fontalis, M.J. Clark, R.L. Jayasuriya, *et al.* (2021). Linking chondrocyte and synovial transcriptional profile to clinical phenotype in osteoarthritis. **Annals of the Rheumatic Diseases**, 80, 1070-1074.
56. J. Steinberg, S. Yap, D. Goldsbury, V. Nair-Shalliker, E. Banks, K. Canfell, D. O'Connell (2021). Large-scale systematic analysis of exposure to multiple cancer risk factors and the associations between exposure patterns and cancer incidence. **Scientific Reports**, 11, 2343.
    - **downloaded 950+ times**
57. J. Steinberg, L. Southam, T.I. Roumeliotis, M.J. Clark, R.L. Jayasuriya, *et al.* (2021). A molecular quantitative trait locus map for osteoarthritis. **Nature Communications**, 12, 1309.
58. N. Butterfield, K.F. Curry, J. Steinberg, H. Dewhurst, D. Komla-Ebri, *et al.* (2021). Accelerating functional gene discovery in osteoarthritis. **Nature Communications**, 12, 467.
59. Q. Luo, J. Steinberg, X.Q. Yu, M. Caruana, K. Canfell, D. O'Connell (2021). How well have projected lung cancer rates predicted the actual observed rates? **Asian Pacific Journal of Cancer Prevention**, 22 (2), 437-445.
60. E. Cheng, S. Egger, S. Hughes, M. Webber, J. Steinberg, *et al.* (2021). Systematic review and meta-analysis of residential radon and lung cancer in never-smokers, and comparison with ever-smokers. **European Respiratory Review**, 30, 200230.
61. Q. Luo, J. Steinberg, D.L. O'Connell, P.B. Grogan, K. Canfell, E. Feletto (2020). Changes in cancer incidence and mortality in Australia over the period 1996-2015. **BMC Research Notes**, 13, 561.
62. A. Morrow, E. Hogden, Y.-J. Kang, J. Steinberg, K. Canfell, *et al*. (2019). Comparing theory and non-theory based implementation approaches to improving referral practices in cancer genetics: a cluster randomised trial protocol. **BMC Trials**, 20, 373.
63. K.T. Simms, J. Steinberg, M. Caruana, M.A. Smith, J.B. Lew, I. Soerjomataram, P.E. Castle, F. Bray, K. Canfell (2019). Impact of scaled up human papillomavirus vaccination and cervical screening and the potential for global elimination of cervical cancer in 181 countries, 2020–99: a modelling study. **Lancet Oncology**, 20 (3), 394-407.
    - **directly informed WHO strategy for cervical cancer elimination as a public health problem**

- **field-weighted citation impact top 1% in Oncology**
- geographical reach: **cited by researchers from 50 countries, 6 continents** (Scopus)
- **covered in >110 articles (>80 news outlets) incl. international media**, eg. The Guardian
- **tweeted by 1,100 people from >100 countries**, incl. >800 members of the public

64. Q. Luo, J. Steinberg, D. O'Connell, X.Q. Yu, M. Caruana, *et al.* (2019). Lung cancer mortality in Australia in the twenty-first century: how many lives can be saved with effective tobacco control? **Lung Cancer** 130, 208-215.
    - **covered by national media**, including news.com.au
65. I. Tachmazidou, K. Hatzikotoulas, L. Southam, J.E. Gordillo, V. Haberland, J. Zheng, T. Johnson, M. Koprulu, E. Zengini, J. Steinberg, *et al.* (2019). Identification of new therapeutic targets for osteoarthritis through genome-wide analyses of UK Biobank. **Nature Genetics** 51, 230–236.
    - **field-weighted citation impact top 4% in Genetics**
    - **covered by 20 national and international media outlets** in UK, USA, Germany, India
66. E. Zengini*, K. Hatzikotoulas*, I. Tachmazidou*, J. Steinberg *et al*. (2018). Genome-wide analyses using UK Biobank data provide insights into the genetic architecture of osteoarthritis. **Nature Genetics** 50, 549–558. * = joint first authors
    - **field-weighted citation impact top 2% in Genetics**
    - geographical reach: **cited by researchers from 25 countries, 4 continents** (Scopus)
    - **covered by 8 national and international media outlets** in US, UK, and France
67. J. Steinberg, R. Brooks, L. Southam, S. Bhatnagar *et al.* (2018). Widespread Epigenomic, Transcriptomic and Proteomic Differences Between Osteophytic and Articular Patient Chondrocytes in Osteoarthritis. **Rheumatology** 57(8), 1481-1489.
68. K. Hatzikotoulas, A. Roposch, The DDH Case Control Consortium, K. Shah, M. Clark, S. Bratherton, V. Limbani, J. Steinberg *et al.* (2018). Genome-wide association study of developmental dysplasia of the hip identifies an association with GDF5. **Communications Biology** 1, 56.
69. E. Casalone, I. Tachmazidou, S. Hackinger, D. Suveges, J. Steinberg *et al.* (2018). A novel variant in GLIS3 is associated with osteoarthritis. **Annals of the Rheumatic Diseases**, 77 (4), 620-623.
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    - **highlighted in landmark review** by I. Bartha, J. di Iulio, J. C. Venter, A. Telenti (2018). Human gene essentiality. Nature Reviews Genetics 19, 51-62.
77. A. Taylor, J. Steinberg, T. Andrews and C. Webber (2015). GeneNet Toolbox for MATLAB: a flexible platform for the analysis of gene connectivity in biological networks. **Bioinformatics** 31 (3), 442–444.

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80. K. Y. Popadin, M. Gutierrez-Arcelus, T. Lappalainen, A. Buil, J. Steinberg *et al.* (2014). Gene Age Predicts the Strength of Purifying Selection Acting on Gene Expression Variation in Humans. **American Journal of Human Genetics** 95 (6), 660-674.
81. H. Akpudo, B. Aleksic, A. Alkelai, C. Burton, T. Carrillo-Roa *et al.* (2014) Summaries of oral sessions at the XXI World Congress of Psychiatric Genetics, Boston, Massachusetts, 17-21 October 2013: state of the field. **Psychiatric Genetics** 24 (4), 125-50.
82. Q. Ferry, J. Steinberg *et al.* (2014). Diagnostically-relevant facial gestalt information from ordinary photos. **eLife**, e02020.
    - **cited in US patent for new diagnostic technologies** ("Systems, methods, and computer readable media for using descriptors to identify when a subject is likely to have a dysmorphic feature").
    - geographical reach: **cited by researchers from 33 countries, 6 continents** (Scopus)
    - **covered by 12 national and international news outlets** (Altmetric), including print (e.g. Daily Mail) and TV (e.g. Russia TV)
    - highlighted by I. Lokody (2014). In brief: Clinical genetics: Facing disease — new algorithm to aid diagnosis. Nature Reviews Genetics 15, 514.
83. J. Steinberg and C. Webber (2013). FMRP targets in ASD: single- and multiple-hit genetic etiologies. **American Journal of Human Genetics** 93 (5), 825-839.
    - **highlighted as "Exceptional"** in N. Philip (2014). F1000Prime Recommendation of [Steinberg J and Webber C, Am J Hum Genet 2013, 93(5):825-39]. DOI: 10.3410/f.718171210.793488230.
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INVITED COMMENTARIES

1. M.M. Rahman, J. Worthington, J. Steinberg, M. David (2024). Using G-methods to assess and mitigate bias from coarsening time intervals in evaluating colorectal cancer screening efficiency. **International Journal of Epidemiology**, 53(6), dyae159.

GOVERNMENT AND OTHER COMMISSIONED REPORTS

1. E. DeBortoli, …, J. Steinberg, A. McInerney-Leo (2023). Evidence review to inform development of the National Framework for Genomics in Cancer Control. Produced for Cancer Australia.
    - **directly commissioned to inform Cancer Australia's National Framework for Genomics in Cancer Control**
    - full evidence review and resulting Framework available online: https://www.canceraustralia.gov.au/key-initiatives/national-framework-genomics-cancer-control
2. The Daffodil Centre (2023). The ROSA Project: Roadmap for Optimising Screening in Australia – Breast. Produced by the Daffodil Centre on behalf of Cancer Council Australia.
    - **commended by Hon. Mark Butler MP, Minister for Health and Aged Care, for "generating the evidence base to inform the future of breast cancer screening"**
    - recommendations **informed BreastScreen Australia National Policy and Funding Review** 2024/2025 (https://www.health.gov.au/our-work/breastscreen-australia-national-policy-and-funding-review)
    - project summary available online: https://www.cancer.org.au/about-us/policy-and-advocacy/early-detection/breast-cancer/rosa

3. M. Weber, P. Sarich, H. Hui, K. Barron, P. Ngo, J. Steinberg, *et al.* (2020) Prevalence and impact of lung cancer exposures on lung cancer risk in Australia. Confidential report for Cancer Australia lung cancer screening enquiry prepared by Cancer Council NSW.
    - **Directly commissioned to inform Cancer Australia Lung Cancer Screening Enquiry**: https://www.canceraustralia.gov.au/publications-and-resources/cancer-australia-publications/report-lung-cancer-screening-enquiry , **which led to new National Lung Cancer Screening Program in Australia from 2025**
4. Q. Luo, J. Steinberg, P. Grogan, D.L. O'Connell (2020). Lung cancer mortality in Western Australia: Projected outcomes to 2014. Prepared for Cancer Council WA to inform tobacco control initiatives.

POSITION STATEMENTS

1. M.-A. Young^, T. Yanes^, A.E. Cust, K. Dunlop, S. Limb, A. J. Newson, R. Purvis, L. Thiyagarajan, R. Scott, K. Verma, P.A. James*, J. Steinberg* (2023). **Human Genetics Society of Australasia Position Statement**: Use of Polygenic Scores in Clinical Practice and Population Health. Twin Research and Human Genetics, 26(1), 40-48. *** joint senior authors.** ^ joint first authors

CONFERENCES AND MEETINGS

INVITED PRESENTATIONS (*) AND LEADERSHIP ROLES

2025 Co-Chair, Transdisciplinary Conference for Future Leaders in Precision Public Health, global.
2025* Potential of polygenic risk scores for risk-tailored early detection of common cancers. Australian Polygenic Score Implementation Summitt, Australia.
2024 Member of Organising Committee, 2nd Transdisciplinary Conference for Future Leaders in Precision Public Health, global.
2024* Potential of polygenic risk scores for risk-tailored early detection of common cancers: initial results for prostate cancer from the Australian Cancer Risk Study and related research. Familial Aspects of Cancer Research and Practice, Australia.
2023 Session chair and member of Organising Committee, 2nd Transdisciplinary Conference for Future Leaders in Precision Public Health, global.
2022 Invited participant at the Australian Genomics Polygenic Score Incubator Project Workshop, Australia.
2022 Scientific Advisory Panel, NSW Cancer Conference, Australia.
2022* "Performance of melanoma polygenic risk scores to date". Australian Skin and Skin Cancer Research Centre Genetics Summit, Australia.
2022 Invited participant at the closed Policy and Practice Roundtable on Melanoma PRS for risk-tailored interventions, Australian Skin and Skin Cancer Research Centre Genetics Summit, Australia.
2021 "Genetic Epidemiology" Conference Session Chair, World Congress of Epidemiology, global.
2021 Conference Session Chair, GeneMappers, Australia.
2020* "External validation of a melanoma polygenic risk score in two cohort studies". International Melanoma Genetics Consortium (GenoMEL) 2020 Virtual Meeting, global.
2017 Discussion Leader, Gordon Research Seminar in Quantitative Genetics and Genomics, USA.
2016* "Functional Genomics of Osteoarthritis". Genome Science, UK.
2016* "Functional Genomics of Osteoarthritis". University of Cambridge, Department of Surgery Interdisciplinary Research Workshop, UK.
2015 Conference Chair, Gordon Research Seminar in Quantitative Genetics and Genomics, Italy.

PRESENTATIONS SELECTED FROM ABSTRACTS – SINCE 2015 (9 ORAL*, 15 TOTAL)

2022-2025 – unable to travel internationally due to parental leave, baby/toddler care responsibilities

2025* "Community preferences for population-wide genomic risk stratification (using polygenic risk scores) and risk-based cancer screening", Australian Health Economics Society Conference, Australia.

2025* "Disparities in cancer survival by socioeconomic status in NSW, 1980-2019: findings from a population-based study". NSW Cancer Summit, Australia.

2023* "Comparing theory-based and non-theory-based implementation approaches to inform successful genomic medicine strategies in practice: a two-arm parallel randomised clinical trial for improving tumour testing and genetics services referral for Lynch syndrome". NSW Cancer Conference, Australia.

2021* "Independent evaluation of melanoma polygenic risk scores in UK and Australian prospective cohorts". World Congress of Epidemiology, virtual meeting, global.

2021* "Genomic testing to identify colorectal cancer patients with Lynch syndrome: current practice and gaps in Australia". Sydney Cancer Conference, Australia.

2021 "Genomic testing to identify colorectal cancer patients with Lynch syndrome: current practice and gaps in Australia". GeneMappers, Australia.

2021* "Genomic testing to identify colorectal cancer patients with Lynch syndrome: current practice and gaps in Australia". Sydney Catalyst Research Showcase, Australia.

2021* "Independent evaluation of melanoma polygenic risk scores in UK and Australian prospective cohorts". Australian Polygenic Risk Symposium, Australia.

2020* "Independent evaluation of melanoma polygenic risk scores in UK and Australian prospective cohorts". American Society of Human Genetics Annual Meeting, USA.

2019 "Decoding the genomic basis of osteoarthritis: molecular profiling of patient tissues reveals clinically-relevant insights". GeneMappers, Australia.

2018* "Large-scale systematic analysis of relationships between cancer risk factors and their joint association with cancer incidence". Annual Scientific Meeting of the Clinical Oncology Society of Australia, Australia. ***"Best of the Best Orals" session.***

2017 "Multi-omics analyses of disease-relevant patient tissue samples: insights and lessons for the example of osteoarthritis". Gordon Research Conference in Quantitative Genetics and Genomics, USA.

2015 "Integrated molecular phenotyping in chondrocytes identifies genes and pathways disrupted in Osteoarthritis". American Society of Human Genetics Annual Meeting, USA.

2015 "Genetics of Haematological Traits: Leveraging Genetics of Population Isolates from Europe to Sub-Saharan Africa". Genomics of Common Disease, UK.

2015 "Gene haploinsufficiency predictions without study bias". Gordon Research Conference in Quantitative Genetics and Genomics, Italy.

INVITED SEMINAR PRESENTATIONS

2025 "Genomics and Precision Health for cancer: applications from risk-based early detection to detecting current inequities in cancer survival". College of Health and Medicine, University of Tasmania, Tasmania, Australia.

2024 "Genomics and Precision Health for cancer: applications from cancer risk prediction to detecting current inequities in cancer survival". Cancer Epidemiology Division, Cancer Council Victoria, Victoria, Australia.

2022 "Genomics and Precision Health for Cancer". Helmholtz Zentrum Muenchen, Germany.

2022 "Towards predicting cancer risk in the broader population: Validation of melanoma genomic risk prediction in Australian and UK prospective cohorts". Daffodil Centre Flagship Seminar, virtual international meeting.

2022 "Genomics and Precision Health: opportunities and challenges to sustainably and effectively reduce cancer burden". Griffith University Public Health Seminar, Queensland, Australia.

2021 "Early evidence on COVID-19 risks for people with cancer: systematic reviews and critical appraisal". Inaugural Daffodil Centre Flagship Seminar, virtual international meeting (120+ attendees).

2021 "COVID-19 impacts on cancer: key data and models". COVID-19 and Cancer Global Modelling Consortium, virtual international meeting (70+ attendees from 5 continents).

2020 "COVID-19 impacts on cancer: current state of research". COVID-19 and Cancer Global Modelling Consortium, virtual international meeting (80+ attendees from 5 continents).

2018 "Large-scale analyses of genomic and epidemiological data to gain insights into disease". Ingham Institute, Australia.

COMMUNITY PRESENTATIONS AND ARTICLES

2025 Interviewed for "Cancer screening could halve rates of late-stage diagnoses", Medical Republic (May 2025); magazine on average read by ~50% of Australian GPs

2025 "What you need to know about the *BRCA* gene". Wrote educational summary printed in Women's Weekly (Feb 2025 edition), with print audience of 1.3m and total audience of ~2.6m.

2021 "What is significance?" Presentation to Cancer Council NSW Prevention and Advocacy Division. *Feedback from attendees: "super helpful", "fascinating and really useful!"*

2021 "Genomics and Human Health" interview for international "Exploring Genetics" web-series by "The Science Explorer" (1.7m facebook followers; video viewed by >1,200 people); subsequent episode featured 2020 Nobel Prize laureate

2019 "Research at Cancer Council NSW" Presentation to community stakeholders. Sydney, Australia.

2019 "What is genetics and how can it help reduce the burden of cancer?" Organisation-wide seminar, Cancer Council NSW.

2019 "Large-scale systematic analysis of relationships between cancer risk factors and their joint association with cancer incidence" Organisation-wide seminar, Cancer Council NSW.

2018 "Research at Cancer Council NSW" Presentation to community stakeholders. Sydney, Australia.

PHD SUPERVISION

2023-current Philip Ly, "Investigating the potential of genomics-informed risk prediction to improve early detection for common cancers in Australia".
Funded by Commomwealth Research Training Program.
Lead Supervisor for Full-time PhD student, University of Sydney.

2022-current Gillian Reyes-Marcellino, "Melanoma risk assessment and risk-stratified melanoma screening and surveillance incorporating skin imaging technologies".
Full-time PhD student, University of Sydney.

2019-current David Goldsbury, "The costs of cancer in New South Wales, Australia".
Part-time PhD student, University of Sydney.

2018-2021 Dr Elvin Cheng (successfully completed), "Characteristics and Risk Factors for Lung Cancer in Never-smokers in Australia and China".
Full-time PhD student, University of Sydney.

TEACHING (* denotes developing new content not previously taught in that course)

UNIT COORDINATION

2021 "Genomics and Public Health" ***unit co-coordinator*** (PUBH5126), Master of Public Health / Master of Clinical Epidemiology, University of Sydney.
This included updating of all interactive components for online delivery during the pandemic, review and development of assessment tasks (including different tasks from group discussions to short tests and written assignments), and personally completing all marking to measure student knowledge.
This unit achieved outstanding student ratings:
- overall USS score 4.54, with score 4.0+ for each of the questions, including
- mean score 4.75 for quality of teaching by teacher(s),
- mean score 4.88 for intellectually rewarding work,
- mean score 4.75 for access to valuable learning resources).
"A score above 4.5 is sensational and helps keep the School as the place with the highest average USS scores across the Faculty." Prof. Joel Negin, Head of School of Public Health in 2021

LECTURES AND PRACTICALS

2024 "Cancer Polygenic Risk Scores" (one lecture), "Cancer Genomics" unit (GMED5003), Masters of Genomics and Precision Medicine course, University of Sydney.

2024* "Public Health Genomics" (three lectures), "Genomics in Clinical Practice" unit (GMED5001), Masters of Genomics and Precision Medicine, University of Sydney.
The lectures constitute a new module on genomics and public health, developed following discussions I led with the Genomics Specialty team (led by Prof. Robyn Jamieson) regarding the incorporation of public health content into the unit and making it available for Masters of Public Health / Masters of Clinical Epidemiology students.

2021 "Risk-stratified population-based cancer screening and prevention" (interactive case study), "Genomics and Public Health" unit, Master of Public Health / Master of Clinical Epidemiology, University of Sydney.

2021* "Introductory human genetics" (five lectures) and "Genetic testing for human disease and disease risk" (two lectures: "What are different applications of genomic testing to improve human health?", "What are some key considerations for population-wide genomic screening tests?"), "Genomics and Public Health" unit (PUBH5126), Master of Public Health / Master of Clinical Epidemiology, University of Sydney.

2021* "Cancer Polygenic Risk Scores" (one lecture), "Cancer Genomics" unit (GMED5003), Masters of Genomics and Precision Medicine, University of Sydney.

2020* "Cancer-related impacts of the COVID-19 pandemic" (one lecture), "Cancer Prevention and Control" unit (PUBH5019), Masters of Public Health, University of Sydney.

2020* "Genetic aspects of cancer" (one lecture), "Cancer Prevention and Control" unit (PUBH5019), Masters of Public Health, University of Sydney.

2016 "Disease genomics" and "Identifying genes and variants associated with disease" (two lectures and a practical), MPhil in Genomic Medicine, University of Cambridge.
Student comments: "brilliant lectures", "great set of relevant talks", "very well paced and clear", "lectures extremely useful and helpful", "very interesting", "tutorial well-prepared".

2016 "Mathematical Biology" classes, Murray Edwards College, University of Cambridge.

2016 "Elementary Maths for Biologists" classes, Murray Edwards College, University of Cambridge.

2015* "Disease genomics" and "Identifying genes and variants associated with disease" (two lectures and a practical), MPhil in Genomic Medicine, University of Cambridge.

2014* "Identifying biological pathways and networks from genetics and genomics studies" one-day workshop, University of Oxford.

2013* "Practical functional genomics analyses" one-day workshop (run twice), University of Oxford.

2010* "First-year Mathematics at Oxford", three-week summer school, Qingdao, China.