

# Michelle McDowell, PhD

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## Professional Experience

- 2022 **Consultant**, *World Health Organisation (WHO)*, Pharmacovigilance Unit and the Digital Health and Innovation (DIH) Department.
- 2021-present **Senior Researcher**, *Eyeo GmbH*, Cologne, Germany, [Remote].
- 2021-present **Guest Scientist**, *Harding Center for Risk Literacy*, Faculty of Health Sciences Brandenburg, University of Potsdam, Potsdam, Germany.
- 2020-present **Associate Researcher**, Max Planck Institute for Human Development, Berlin, Germany.
- 2020 **Senior Research Program Leader**, *Harding Center for Risk Literacy*, Faculty of Health Sciences Brandenburg, University of Potsdam, Potsdam, Germany.
- 2016–2019 **Research Scientist**, *Harding Center for Risk Literacy*, Max Planck Institute for Human Development, Berlin, Germany.
- 2013–2015 **Postdoctoral Research Fellow**, *Center for Adaptive Behavior and Cognition and Harding Center for Risk Literacy*, Max Planck Institute for Human Development, Berlin, Germany.
- 2011–2012 **Research Fellow**, *Griffith Health Institute, Area of Strategic Investment*, Griffith University, Brisbane, Australia.

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## Professional Qualifications

- 2011 **PhD, Doctor of Philosophy**, *Department of Psychology*, Griffith University, Brisbane, Australia.
- 2010 **Graduate Certificate in Research Management**, Southern Cross University, Tweed Heads, Australia.
- 2005 **Bachelor of Psychology (First Class Honours)**, *Department of Psychology*, Griffith University, Brisbane, Australia.

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## Science Communication & Outreach

- 2021 *Guest article in BfR2GO Magazine*. Ellermann, C., McDowell, M, Schirren, C. O., & Jenny, M. A.. (2021). Risks at a glance: Visualisations can make risk information more understandable, particularly for people with low numeracy and reading skills. *BfR2Go*, Issue 2/2201, p16-17. German Federal Institute for Risk Assessment (BfR).  
<https://tinyurl.com/bfr2go>

- 2018-2020 *Member of the CAPUR Scientific Committee*, a collaboration of international experts on risk: Ball, D., Humpherson, E., Johnson, B., McDowell, M., Ng, R., Radaelli, C., Renn, O., Seedhouse, D., Spiegelhalter, D., Uhl, Al. & Watt, J. Improving Society's Management of Risks: A Statement of Principles. Collaboration to explore new avenues to improve public understanding and management of risk, *Supported by Atomium - European Institute for Science, Media and Democracy (EISMD)*
- 2018 *Civic Statistics and Citizen Engagement: A Call for Action*. Invited to be part of the Roundtable Conference for the ProCivicStat project, an initiative funded by the European Commission ERASMUS+ to explore ways to promote civic engagement by incorporating statistics about society into teaching curricula.
- 2018 McDowell, M. (2018, November). Building Risk Competency. Future Medicine Science Match, Berlin Science Week 2018, Germany.
- <https://youtu.be/SoTLrfV4Hjs> McDowell, M. (2015, June). How to improve risk literacy in 3 minutes. Long Night of the Sciences, Max Planck Institute for Human Development.
- <https://tinyurl.com/wiredfbox> Work featured in Wired magazine. *Charted: The Tricky Trade-Offs of Cancer Screenings and Treatments*. Written by Bret Stetka (2015, June 19).

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## Grants and Awards

- 2021-2023 Boosting citizens' vaccination decision-making using effective communication (with M. Jenny, F. Rebitschek, F. De Bock, C. Leuker, L. Wieler) – DFG (260,300 EUR)
- 2018 Vontobel Prize for Research on Age(ing) awarded to Andrea Loizeau and Florian Riese for the paper: Loizeau, AJ, Theill, N, Cohen, SM, Eicher, S, Mitchell, SL, Meier, S, **McDowell, M.**, Martin, M & Riese, F. (2019), Fact Box Decision Support Tools Reduce Decisional Conflict about Artificial Hydration and Antibiotics for Pneumonia in Advanced Dementia: a Randomized Controlled Trial. *Age and Ageing*, (25,000CHF)
- 2017 “VisRisk”: Visualising and communicating complex evidence in risk assessments – Federal Institute for Risk Assessment (111,900€)
- 2016 Best Poster Prize. Rauwolf, G, **McDowell, M**, Okan, Y & Ziegler, M. Grün=gesund? Über die Farbwirkung bei der Benutzung von Icon Arrays [Green=healthy? The effect of colour in Icon Arrays.] EbM Kongress, Cologne.
- 2012 Patients' illness and treatment perceptions in prostate cancer – Griffith Health Institute New Researcher Grant, Griffith University (4,000AUD)
- 2011 Cancer Council Queensland Travel Grant, Society for Medical Decision-Making (SMDM) Annual Meeting, Chicago  
Prostate Cancer Foundation of Australia Travel Grant, 2th Australasian Prostate Cancer Conference (APCC), Melbourne
- 2008-2010 Develop support services for the families of men with prostate cancer – Cancer Council Queensland (166,082AUD)
- 2010 Behavioural Basis of Health PhD Publication Bonus Scheme award  
Griffith Graduate Research School Conference Travel Grant, International Communication Association conference, Singapore

2009 Commercialisation Training Scheme Scholarship for Graduate Certificate in Research Management, Southern Cross University

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## Publications

- 2022 Schneider, M., **McDowell, M.**, Guttorp, P., Steel, A. E., & Fleischhut, N. (2022) Effective uncertainty visualization for aftershock forecast maps. *Natural Hazards and Earth System Sciences*, 22(4), 1499-1518. doi:10.5194/nhess-22-1499-2022
- Ellermann, C., **McDowell, M.**, Schirren, C. O., Lindemann, A.-K., Koch, S., Lohmann, M., & Jenny, M. A. (2022) Identifying content to improve risk assessment communications within the Risk Profile: Literature reviews and focus groups with expert and non-expert stakeholders. *PLOS ONE*, 17(4), e0266800. doi:10.1371/journal.pone.0266800
- 2021 **McDowell, M** & Kause, A. (2021) Communicating uncertainties about the effects of medical interventions using different display formats. *Risk Analysis*, 41(12), 2220-2239. doi:10.1111/risa.13739
- Luan, S., Yang, Y., Huang, Y., & **McDowell, M.** (2021) Public knowledge of stroke and heart attack symptoms in China: A cross-sectional survey. *BMJ Open*, 11:e043220. doi:10.1136/bmjopen-2020-043220
- 2020 **McDowell, M**, & Pachur, T. (2020). Availability, Affect, and Decisions to Seek Information About Cancer Risks: A Brief Report. *Medical Decision Making*, 40(8), 941-945. doi:10.1177/0272989X20951775
- Brick, C., **McDowell, M**, & Freeman, A. L. (2020). Risk communication in tables vs. text: a Registered Report randomised trial on 'fact boxes'. *Royal Society Open Science*, 7:190876. doi:10.1098/rsos.190876
- 2019 **McDowell, M**, Gigerenzer, G, Wegwarth, O, & Rebitschek, F (2019). Effect of tabular and icon fact box formats on comprehension of benefits and harms of prostate cancer screening: A randomized trial. *Medical Decision Making*, 39(1), 41-56. doi:10.1177/0272989X18818166.
- Loizeau, AJ., Theill, N., Cohen, SM., Eicher, S., Mitchell, SL., Meier, S., **McDowell, M.**, Martin, M. & Riese, F. (2019), Fact box decision support tools reduce decisional conflict about artificial hydration and antibiotics for pneumonia in advanced dementia: A randomized controlled trial. *Age and Ageing*, 48 (1), 67-74. doi:10.1093/ageing/afy149.
- 2018 **McDowell, M**, Galesic, M, & Gigerenzer, G (2018). Natural frequencies do foster public understanding of medical tests: Comment on Pighin, Gonzalez, Savadori and Giroto (2016). *Medical Decision Making*. 38(3), 390-399. doi:10.1177/0272989X18754508.
- Taylor, BJ, Stevenson, M, & **McDowell, M** (2018). Communicating risk in dementia care: Survey of health and social care professionals. *Health & Social Care in the Community*, 26, e291-e303. doi:10.1111/hsc.12519.
- Stevenson, M, **McDowell, ME**, Taylor, BJ (2018). Concepts for communication about risk in dementia care: A review of the literature. *Dementia*, 17(3), 359-390. doi:10.1177/1471301216647542.

- 2017 **McDowell, M** & Jacobs, P (2017). Meta-analysis of the effect of natural frequencies on Bayesian reasoning. *Psychological Bulletin*, 143, 1273-1312. doi:10.1037/bul0000126.
- 2016 **McDowell, M**, Rebitschek, F, Gigerenzer, G, & Wegwarth, O (2016). A simple tool for communicating the benefits and harms of health interventions: A guide for creating a fact box. *MDM Policy & Practice* (1), 1-10. doi:10.1177/2381468316665365.
- McDowell, ME** (2016), Making sense of numbers about health risks – The fact box. In G. Elywyn, A. Edwards, & R. Thompson (Eds.), *Shared decision-making in health care: Achieving evidence-based patient choice* (3rd ed.) (pp.123-128). Oxford, UK: Oxford University Press.
- 2014 Chambers, SK, Girgis, A, Occhipinti, O, Hutchison, S, Turner, J, **McDowell, M**, et al. (2014). A randomized trial comparing two low-intensity psychological interventions for distressed patients with cancer and their caregivers. *Oncology Nursing Forum*, 41, E256-E266. doi:10.1188/14.ONF.E256-E266.
- 2013 **McDowell, ME**, Occhipinti, S, Gardiner, RA, & Chambers, SK. (2013). Prevalence and predictors of cancer specific distress in men with a family history of prostate cancer. *Psycho-Oncology*, 22 (11), 2496-2504. doi:10.1002/pon.3312.
- McDowell, ME**, Occhipinti, S, & Chambers, SK. (2013). Classifying the reasons men consider to be important in prostate-specific antigen (PSA) testing decisions: Evaluating risks, lay beliefs, and informed decisions. *Annals of Behavioral Medicine*, 46 (3), 322-335. doi:10.1007/s12160-013-9508-4.
- McDowell, ME**, Occhipinti, S, & Chambers, SK. (2013). The influence of family history on cognitive heuristics, risk perception, and prostate cancer screening behavior. *Health Psychology*, 32 (11), 1158-1169. doi:10.1037/a0031622.
- 2012 **McDowell, ME**, Occhipinti, S, & Chambers, SK. (2012). Patterns of PSA testing in Australian men: The influence of family history. *British Journal of Urology International*, 109 (3), S64-S70. doi:10.1111/j.1464-410X.2012.11050.x.
- 2011 **McDowell, ME**, Occhipinti, S, Ferguson, M, & Chambers, SK. (2011). Prospective predictors of psychosocial support service use after cancer. *Psycho-oncology*, 20 (7), 788-791. doi:10.1002/pon.1774.
- 2010 **McDowell, ME**, Occhipinti, S, Ferguson, M, Dunn, J, & Chambers, SK. (2010). Predictors of change in unmet supportive care needs in cancer. *Psycho-oncology*, 19: 508-516. *Second most highly cited paper in Psycho-Oncology in 2010.* doi:10.1002/pon.1604.
- 2009 **McDowell, ME**, Occhipinti, S, Gardiner, RA, Baade, P, & Steginga, S. (2009). A review of PSA screening prevalence and risk perceptions for first-degree relatives of men with prostate cancer. *European Journal of Cancer Care*, 18 (6), 545-555. doi:10.1111/j.1365-2354.2008.01046.x.
- 2008 Dunn, J, Greenbank, S, **McDowell, ME**, Mahoney, C, Mazerolle, P, Occhipinti, S & Steginga, S. (2008). Community knowledge, attitudes and behaviours about environmental tobacco smoke in homes and cars. *Health Promotion Journal of Australia*, 19 (2), 113-117. doi:10.1071/HE08113.

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## Invited Talks

- 2018 McDowell, M. (2018, November). Communicating Statistics to Promote Understanding. Q-Step Program for data-led research internships, University of Manchester, United Kingdom.
- McDowell, M. (2018, August). Educating the public about understanding risk: Challenges and obstacles. Roundtable Conference: Civic Statistics and Citizen Engagement: A Call for Action. ProCivicStat project, Max Planck Institute for Human Development, Germany.
- McDowell, M. (2018, April). Knowing your risks: The effect of information representation on risk literacy. University of Massachusetts, Amherst, USA.
- 2017 McDowell, M. (2017, August). Communicating risk to the public. Ghent Group Summer School on Forensic Psychiatry for consultants and experienced trainees, Seon, Germany.
- 2016 McDowell, M. & Jacobs, P. (2016, July). Twenty years of natural frequencies: A meta-analysis. University of Konstanz, Germany.
- 2015 McDowell, M. (2015, November). Communicating risk in social and health care. Ulster University, Northern Ireland.
- <https://youtu.be/qRc5whjX8Hc> McDowell, M. (2015, October). Less is More: Transparency Instead of Information Overload. Plenary at The 23rd Cochrane Colloquium, Vienna, Austria.
- McDowell, M. & Kause, A. (2015, March). When 30% is not 3 out of 10: Promoting risk literate decisions. Workshop on Perception of health and environmental risks, Else Kroner-Fresenius-Stiftung, Bad Homburg, Germany.
- 2014 McDowell, M. (2014, October). Developing simple decision tools for patients. University of Leeds, United Kingdom.

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## Selected Presentations

- 2019 McDowell, M., Rebitschek, F. & Jenny, M. (2019, August). How well do people estimate a variety of everyday risks? A study of six European countries. Paper presented at the Subjective Probability, Utility and Decision Making Conference, Amsterdam, The Netherlands.
- 2016 McDowell, M. (2016, October). Information representations to boost statistical literacy. Paper presented at the Herbert Simon Society conference, Turin, Italy.
- Rebitschek, F. G., McDowell, M., Gigerenzer, G., & Wegwarth, O. (2016, March). Experimental evaluation of fact boxes for informed decision-making. Poster presentation, 58th Conference of Experimental Psychologists (TeaP 2016), Heidelberg, Germany.
- 2015 McDowell, M. & Jacobs, P. (2015, August). Twenty years of natural frequencies: A systematic review and meta-analysis of the effect of natural frequencies on Bayesian reasoning. Paper presented at the Subjective Probability, Utility, and Decision Making Conference, Budapest, Hungary.
- 2014 McDowell, M. Occhipinti, S. & Chambers, SK. (2014, June). Risk perception and uncertainty in health contexts: The role of personal experience with prostate cancer on risk perceptions, screening behavior, and the implications for risk communication. Paper presented at the Society for Risk Analysis conference, Istanbul, Turkey.

- 2013 McDowell, M. Occhipinti, S. & Chambers, SK. (2013, August). Understanding prostate cancer screening behavior: Family history, cognitive heuristics, and perceptions of risk. Paper presented at the Subjective Probability, Utility, and Decision Making Conference, Barcelona, Spain.
- 2012 McDowell, M. Occhipinti, S. & Chambers, SK. (2012, June). Preventing prostate cancer through early detection: The importance of understanding how men integrate information about prostate cancer into judgements about risk and screening. Paper presented at the International Conference on Language and Social Psychology, Leeuwarden, The Netherlands.

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## Teaching Experience

- 2021, 2022 Guest Lecturer, Lecture Series, Department of Economics, Risk Management programme. Hochschule Magdeburg-Stendal, Germany.
- 2022, 2021, Course Lecturer, EU-FORA European Food Risk Assessment Fellowship Programme, 2020, 2019, risk communication module, Bundesinstitute für Risikobewertung [Federal Institute 2018 for Risk Assessment], Berlin, Germany.
- 2020, 2019, Course Lecturer, Winter School on Bounded Rationality, T. A. Pai Management 2018, 2017 Institute (TAPMI), Manipal, India.
- 2022, 2019, Course Lecturer, Summer Institute on Bounded Rationality, Max Planck Institute for 2018, 2017 Human Development, Berlin, Germany.
- 2010 Guest Lectures on *social cognition, attribution theory, and attitude change*, Social Psychology, Griffith University, School of Applied Psychology.
- 2009, 2008, Head Tutor, *Issues in Quantitative Research*, Griffith University, School of Applied 2007 Psychology.
- 2008, 2007, Head Tutor, *Introduction to Individual and Social Psychology*, Griffith University, 2006 School of Applied Psychology.
- 2007 Head Tutor, *Social Psychology*, Griffith University, School of Applied Psychology.
- 2006 Tutor, *Research Workshop*, Griffith University, School of Applied Psychology.

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## Research Supervision

- ongoing Charlotte Dries, PhD in Psychology. Strengthening the public's vaccination decision-making through effective online communication, with Dr. Felix Rebitschek. Harding Center for Risk Literacy, University of Potsdam
- Ellerman, C. PhD in Public Health. Communicating evidence about health risks and risk assessments to the general public with a focus on vulnerable populations, with Dr. Felix Rebitschek. University of Potsdam.
- 2017 Maia Salholz-Hillel, M.Sc, Humboldt University, School of Mind and Brain, "*Inferring binary choice from Bayesian estimates of medical diagnostic test outcomes*", with Prof. Dr. Markus Feufel.
- 2016 Gudrun Rauwolf, M.Sc, Humboldt University, "*Green=Benefit? Communicating Health Risks with Icon Arrays: The Influence of Color*", with Prof. Dr. Matthias Ziegler.

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## Academic Service

- 2021-2023 *Editorial board membership: Medical Decision Making*
- 2022 *Grant reviewer: Israeli Science Foundation; The Netherlands Organisation for Scientific Research (NWO/ZonMw) Vidi-programme*
- 2019, 2020 *Grant reviewer: UK Research and Innovation (UKRI)*
- 2008-2010 *Postgraduate Representative, Griffith University, School of Applied Psychology*  
Developed Postgraduate Research Seminar series, workshops on publishing and career guidance, and sought research and financial support for postgraduate students.
- 2007-2009 *Psychology Undergraduate Research Internship Program Coordinator*  
Developed and implemented an internship program for undergraduate students with staff and external research organisations. Program was recognised by the Dean of Graduate Research; other university departments sought to develop similar programs.

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## Reviewer

- Annals of Behavioral Medicine
- BMC Medical Informatics and Decision Making
- BMC Public Health
- BMJ Open
- Cognition
- International Journal of Human-Computer Studies
- Journal of Experimental Psychology: Applied
- Medical Decision Making
- Patient Education and Counseling
- Psycho-oncology
- Psychonomic Bulletin & Review
- Public Health
- Quarterly Journal of Experimental Psychology
- Risk Analysis
- SAGE Open
- Scientific Reports
- Thinking and Reasoning