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## Nursing & Midwifery Services



**Andy Carter**  
**Director**  
**Nursing and Midwifery Services**

Nursing and Midwifery Services has had another outstanding year of high-quality research activity focused on providing best evidence to improve patient care and health service delivery. The ongoing and substantial expertise of our nursing and midwifery researchers is evident in our high number of peer reviewed publications, awarded grants and ongoing research projects funded by the NHMRC and industry partners. The depth and breadth of our research experience has been demonstrated by notable research excellence awards. For example, Dr Nicole Marsh received the *Rising Star Award*, Metro North Research Excellence Award; and Griffith University's *'Excellence in Publication'* Award; and Emily Larsen was awarded the *Nursing Research Award* at the Herston Healthcare Symposium. Congratulations Nicole and Emily!

This year we welcomed Professor Jed Duff who was appointed a Conjoint Professor and Nursing Chair with the Royal Brisbane and Women's Hospital and Queensland University of Technology. Professor Duff comes with a wealth of experience in research that focuses on improved patient outcomes through multidisciplinary practice-based research. His research has a particular emphasis on implementation science, and he is actively engaged in the national and international perioperative nursing community. In recognition of his commitment to global perioperative nursing, Jed was chosen to join the International Council of Nursing's Global Nursing Leadership Institute.

2020 has been a very successful year building on our already strong foundation of nursing and midwifery research. We are proud of our ongoing commitment to research and our successful collaborations with university and industry partners. Well done to our nursing and midwifery researchers!

## Nursing & Midwifery Research Centre

The aim of the Nursing and Midwifery Research Centre is to lead and support excellence in nursing/midwifery research. Our focus is to ensure our research is funded, of high quality, clinically driven and undertaken in collaboration with consumers. Our notable achievements for 2020 include 43 peer reviewed publications, 5 invited international presentations, \$1,962,180 of grant funding, supervision of 21 higher degree research students and 7 research awards.

In 2020 our vascular access research program led by Dr Nicole Marsh had a successful year with the completion of our NHMRC funded PISCES trial. This large multi-centre randomised controlled trial (1027 participants) compared alternative dressings (chlorhexidine impregnated disc) and securement (integrated securement device) for the prevention of PICC failure and catheter associated bloodstream infection in cancer patients. In addition, our commitment to consumer participation in research has led to the co-development of a vascular access passport. This application allows patients to record information about their current vascular access device and participate in planning for future devices to meet their clinical needs and personal preferences.

Professor Fiona Coyer is based in Intensive Care Services where another busy year was seen in the research sphere. We were successful in receiving funding to explore family members and clinicians' experiences of, and satisfaction with, virtual visiting and meetings. We also received, in collaboration with the Herston Biofabrication Institute, MNHHS SEED funding to develop customised facial cushions for prone patients. Our collaboration continues with Sydney Local Health District researchers with 2 major funded studies. We completed a pilot RCT evaluating closed loop arterial blood sampling systems in the ICU.

The translation of research outcomes into clinical practice in our health care settings continues to be an important vision for Nursing and Midwifery Research and thus, our Research Centre continues to conduct research initiatives through collaboration and partnership with service lines and multidisciplinary teams. We are thrilled to welcome Professor Jed Duff to the Unit. Jed describes himself as a 'pracademic' – someone who helps solve real-world problems by combining the views of practitioners and academics. Of interest to Jed is overcoming the challenge of moving research outcomes into evidence-based practice.

Throughout 2020 we have provided opportunities for nurses and midwives to participate in research projects and evidence-based practice training, enabling skill development and promoting confidence for nurses to apply research principles in their relevant clinical specialities. We look forward to another successful year in 2021.

### Research Awards and Achievements

| Recipient<br>(RBWH staff in bold) | Award  | Event  |
|-----------------------------------|--|--|
| <b>Dr Nicole Marsh</b>            | Rising Star Award  | 2020 Metro North Research Excellence Awards  |
| <b>Dr Nicole Marsh</b>            | Excellence in Publication Award – Alliance for vascular access for observational study of peripheral intravenous catheter outcomes in adult hospitalized patients: A multivariable analysis of peripheral intravenous catheter failure | Menzies Health Institute Queensland Publication Quality Scheme – Griffith University |
| <b>Emily Larsen</b>               | Nursing Research Award   | Herston Health Precinct Symposium, 2020  |
| <b>Dr Nicole Marsh</b>            | AVATAR Researcher of the Year  | Alliance for Vascular Access Research and Education, Griffith University, 2020       |
| <b>Emily Larsen</b>               | AVATAR HDR Student of the Year   | Griffith University  |
| <b>Dr Nicole Marsh</b>            | Service line award, Nursing and Midwifery Services, How many audits do you really need?  | QuARRIES Award 2020  |
| <b>Professor Fiona Coyer</b>      | Service line CC and CCS award,   | QuARRIES Award 2020  |

## Research Grants Awarded in 2020

| Investigator Names<br>(RBWH staff in bold)  | RBWH<br>Departments /<br>Research<br>Groups   | Research Project<br>Title   | Granting Body  | Total Awarded | Year/s    |
|---|---|---|--|---------------|-----------|
| Andrew Bulmer, <b>Nicole Marsh</b> , Claire Rickard   | Nursing and Midwifery Research Centre   | GE venue go portable ultrasound console   | Griffith University 2020 Health Group Equipment Scheme | \$46,375      | 2020-2021 |
| Bryan Gregory, Annabelle Levido,<br>Pierre Clement, Helena Morrey, Marianne Kirrane, Adam Stott,<br>Kristy Jackman, <b>Fiona Coyer</b>  | Intensive Care Services,<br>Nursing and Midwifery Research Centre,<br>Social Work,<br>Surgical,<br>Treatment & Rehabilitation | Virtual visiting for families in the ICU – the VITAL study  | RBWH Foundation COVID grant round                      | \$25,267.95   | 2020-2021 |
| <b>Nicole Marsh, Emily Larsen</b> ,<br>Claire Rickard,<br>Kerrie McLeod, Rob Ware,<br>Ass Prof Amanda Ullman,<br>Catherine O'Brien, Andrew Bulmer, Julie Flynn  | Nursing and Midwifery Research Centre,<br>Nursing and Midwifery Services  | Developing ideal catheter to vein ratio parameters for peripheral venous and midline devices: recommendations to prevent catheter failure (the DIAMETER study)                                    | RBWH and RBWH Foundation Research Project Grant        | \$40,000      | 2020-2021 |
| <b>Nicole Marsh, Emily Larsen</b> ,<br>Prof Claire Rickard, <b>Kerrie McLeod</b> , Rob Ware,<br>Amanda Ullman, <b>Catherine O'Brien</b> , Andrew Bulmer, <b>Julie Flynn</b>   | Nursing & Midwifery Research Centre,<br>Nursing & Midwifery Services  | Comparing the use of Midline Catheters versus Peripherally Inserted Central Catheters for patients requiring peripherally Compatible Therapies: A randomised controlled trial (the COMPACT Trial) | Griffith University                                    | \$66,900      | 2020-2021 |
| Shaun O'Leary, <b>Adrienne Young</b> , Diann Eley, <b>Peter Buttrum</b> , <b>Merrylin Banks</b> , <b>Nicole Marsh</b> , Mark Cruickshank, James Elliott, Nicholas Talley, Scott Bell  | Nursing and Midwifery Research Centre   | Sustainable career pathways for clinician-scientists in Australian public health  | RBWH and RBWH Foundation Research Project Grant        | \$39,229.95   | 2020      |
| Deanne August, <b>Nicole Marsh</b> , Colette McIntyre, Pieter Koorts, Rebecca Allen, Linda McLaughlin, Robert Ware, Ass Prof Amanda Ullman. <b>Katie Foxcroft</b> , Linda Cobbald, Kate Coghill, Gillian Lack, Gemma Yates, <b>Patricia Smith</b> | Nursing and Midwifery Research Centre,<br>Women's and Newborn Services  | Implementing the near infrared (NIR)-informed peripheral intravenous catheter (PIVC) scrum in neonatal care: an intervention study  | RBWH and RBWH Foundation Research Project Grant        | \$39,957.89   | 2020-2021 |

| Investigator Names<br>(RBWH staff in bold)  | RBWH<br>Departments /<br>Research<br>Groups | Research Project<br>Title   | Granting Body  | Total Awarded  | Year/s    |
|---|---|---|--|----------------|-----------|
| Prof Claire Rickard, Ass Prof Amanda Ullman, <b>Nicole Marsh</b> , Tricia Kleidon, Gerben Keijzers, Jessica Schults, Prof Marie Cooke, Ass Prof Joshua Byrnes, Robert Ware, <b>Louise Cullen</b> , Pauline Calleja, Fiona MacFarlane, Steven McTaggart, Henry Goldstein, <b>Nathan Peters, Catriona Booker, Stephanie Hadikusumo, Krispin Hajkowicz</b> , Stuart Watkins, Audra Gedmintas, <b>Kerri McLeod</b> , Herbert Down, Fiona Allsop, Jeremy Wellwood, Mark Elcock | Nursing and Midwifery Research Centre       | Difficult peripheral intravenous catheter insertion: Australian considerations for sustainable implementation of ultrasound guided procedures   | National Health and Medical Research Council (NHMRC) Partnership Grant | \$1,497,197.00 | 2020-2023 |
| Di Marsden, <b>Jed Duff</b> , Kerry Boyle, Rachel Peake, Tony Martin, Joe Miller, Dominique Cadihac, Kelvin Hill, John Wiggers, Carlos Garcia Esperon   | Nursing and Midwifery Research Centre       | Let's have a yarn about our bladder   | Early Career Seed Grant, Stroke Foundation                             | \$49,966       | 2020-2021 |
| Claire Rickard, <b>Nicole Marsh</b> , Raymond Chan, Peter Mollee, Geoffrey Playford, Li Zhang, Andrew Hallahan, Evan Alexandrou   | Nursing and Midwifery Research Centre       | Peripherally inserted central catheter securement: the PISCES Trial   | National Health and Medical Research Council (NHMRC)                   | \$98,830       | 2020-2021 |
| Claire Rickard, Joshua Byrnes, Vineet Chopra, Amanda Ullman, <b>Nicole Marsh, Emily Larsen</b> , Raymond Chan   | Nursing and Midwifery Research Centre       | Measuring quality of life and experience for central venous access devices in cancer care: Developing and preliminary testing of MyVAD measures | Griffith University  | \$22,953.00    | 2020-2021 |
| Amanda Ullman, <b>Nicole Marsh</b> , Andrew Bulmer, Naomi Runnegar, Tricia Kleidon, Paul Lee-Archer, Benjamin Pearch, Deanne August, Cathy Biles, Joshua Byrnes, Vineet Chopra, Alan Coulthard, Rob Ware, Claire Rickard, Marianne Wallis, Peter Mollee   | Nursing and Midwifery Research Centre       | Peripherally inserted central catheter innovation to reduce infections and clots: the PICNIC trial  | NHMRC Grant  | \$30,936       | 2020-2021 |
| Amanda Ullman, <b>Nicole Marsh</b> , Emily Larsen, Claire Rickard   | Nursing and Midwifery Research Centre       | Consumer-led innovation to implement improvements in vascular access device management: The Vascular Access Passport                            | Griffith University  | \$4,567.00     | 2020      |

## Current RBWH Department / Research Group Led Research Activity

| Lead Investigator Name<br>(RBWH staff in bold) | Other Study Investigators<br>(RBWH staff in bold)   | Research Project Title  | Number of Patients Recruited in 2020 | Total number of Patients Recruited |
|--|---|---|--------------------------------------|------------------------------------|
| <b>Nicole Marsh</b>                            | <b>Emily Larsen</b> , Claire Rickard (GU), <b>Kerrie McLeod</b> , Rob Ware (GU), Amanda Ullman (GU), <b>Catherine O'Brien</b> , Andrew Bulmer (GU), <b>Julie Flynn</b>  | Developing ideal catheter to vein ratio parameters for peripheral venous and midline devices: recommendations to prevent catheter failure (the DIAMETER study)                                    | 70                                   | 70                                 |
| <b>Nicole Marsh</b>                            | <b>Emily Larsen</b> , <b>Julie Flynn</b> , Samantha Keogh (QUT), Claire Rickard (GU)  | Peripheral intravenous COCOA pilot randomised controlled trial  | 200                                  | 200                                |
| <b>Nicole Marsh</b>                            | <b>Emily Larsen</b> , Prof Claire Rickard (GU), <b>Peter Groom</b> , Tricia Kleidon (Qld Children's Hospital, QCH), <b>Catherine O'Brien</b> , Evan Alexandrou (Liverpool Hospital), <b>Megan Nicholas</b> , <b>Catriona Booker</b> | Comparing the use of Midline Catheters versus Peripherally Inserted Central Catheters for patients requiring peripherally Compatible Therapies: A randomised controlled trial (the COMPACT Trial) | 18                                   | 18                                 |
| <b>Fiona Coyer</b>                             | Tony Parker (QUT), <b>Jill Campbell</b> , Anna Doubrovsky (QUT)   | Biochemical characteristics and healing rates of medical device-related pressure injuries (the MEDICI study); a prospective observational pilot study   |                                      |                                    |
| <b>Fiona Coyer</b>                             | <b>Bryan Gregory</b> , <b>Annabelle Levido</b> , <b>Pierre Clement</b> , <b>Helena Morrey</b> , <b>Marianne Kirrane</b> , <b>Adam Stott</b> , <b>Kristy Jackman</b>   | Virtual visiting for families in the ICU: The VITAL study   | 48 staff<br>24 family members        | 48 staff<br>24 family members      |
| <b>Fiona Coyer</b>                             | <b>Annabel Levido</b> , <b>Kerrie Coleman</b> , <b>Kathy Hocking</b> , Michelle Barakat-Johnson (University of Sydney, US), Tom Long (QUT)  | Clinicians experiences of extended PPE wear, a qualitative study  | 9                                    | 9                                  |
| <b>Fiona Coyer</b>                             | <b>Jayesh Dhanani</b> , Samantha Keogh (QUT), Flavia Huygens (QUT), Suzanne Parker, (University of Queensland, UQ)  | Evaluation of a closed loop-blood sampling system in the intensive care: a pilot randomised controlled trial  | 80                                   | 80                                 |
| <b>Nicole Marsh</b>                            | <b>Emily Larsen</b> , Julie Flynn (GU), Claire Rickard (GU), Sue Cadigan (Qld Children's Hospital, QCH), <b>Barbara Hewer</b> , <b>Peter Groom</b>  | Managing Intravenous Devices among patients with limited vascular access or prolonged therapy: Investigating the Efficacy of midline catheters – the MIDLINE study                                | 42                                   | 143                                |
| <b>Theresa Green</b>                           | <b>Tara Hormann</b> , Tony Parker (QUT), Jonathon Peake (QUT), Gregory Bix (USA)  | Characteristics of physical activity required to elevate circulating neuroprotective LG3 peptide as a novel stroke therapy  | 0 (closed to recruitment)            | 10                                 |
| <b>Theresa Green</b>                           | <b>Anna Farrell</b> , <b>Lee Moylan</b> , Bernd Ploderer (QUT)  | An image-based tablet app to support communication of daily activity scheduling between patients with post-stroke aphasia, family and hospital staff  | 0 (closed to recruitment)            | 5                                  |
| <b>Theresa Green</b>                           | <b>Kevin Clark</b> , Aneeka Bott (QUT), Bernd Ploderer (QUT)  | Better Individualised Stroke Care Using Technology (BISCUT)   | 8 (now closed to recruitment)        | 10                                 |
| <b>Theresa Green</b>                           | Bernd Ploderer (QUT), <b>Anna Farrell</b> , <b>Lee Moylan</b>   | Aphasia Communication App/ StrokeAssist aphasia app evaluation  | 0 (closed to recruitment)            | 5                                  |

| Lead Investigator Name<br>(RBWH staff in bold) | Other Study Investigators<br>(RBWH staff in bold)   | Research Project Title   | Number of Patients Recruited in 2020 | Total number of Patients Recruited |
|--|---|--|--------------------------------------|------------------------------------|
| <b>Theresa Green</b>                           | <b>Andrew Wong, Sandy Jamieson, Meaghan Osbourne</b>  | Post-acute NP-led stroke service delivery model: managing residual neurological issues and multiple chronic conditions post discharge – a pilot project.                                 | N/A                                  |                                    |
| <b>Joan Webster</b>                            | Brigid Gillespie (GU), Wendy Chaboyer (GU), David Ellwood (GU), Jennifer Whitty (UQ), Luckman Thalib (Kuwait University), Nicky Cullum (Uni of Manchester), <b>Margarette Somerville, Deborah Birthisel, Rebecca Kimble</b> | Adding negative pressure to improve healing: The dressing trial  | 0                                    | 2035                               |
| <b>Nicole Marsh</b>                            | Amanda Ullman (GU), Gabor Mihala (GU), Marie Cooke (GU), Claire Rickard (GU)  | Peripheral intravenous catheter failure and infection in adults: a systematic review and meta-analysis. (a study)  | N/A                                  |                                    |
| <b>Nicole Marsh</b>                            | <b>Emily Larsen, M Takashima, Tricia Kleidon (QCH), Samantha Keogh (QUT), Amanda Ullman (GU), Gabor Mihala (GU), Vineet Chopra (University of Michigan), Claire Rickard (GU)</b>  | Peripheral intravenous catheter failure: a secondary analysis of risks from 11,830 catheters   | N/A                                  |                                    |
| <b>Emily Larsen</b>                            | <b>Nicole Marsh, Gabor Mihala (GU), Michelle King, Matthew Zunk, Amanda Ullman (GU), Samantha Keogh (QUT), Tricia Kleidon (QCH), Claire Rickard (GU)</b>  | Intravenous antimicrobial administration through peripheral venous catheters – establishing risk profiles from an analysis of 5254 devices   |                                      |                                    |
| <b>Emily Larsen</b>                            | <b>Nicole Marsh, Gillian Ray-Barruel (GU), Evan Alexandrou (Liverpool Hospital), C Friese, Claire Rickard (GU), Vineet Chopra (University of Michigan)</b>  | One Million Global Catheters (OMG) Oncology/Haematology sub-analysis project   | N/A                                  |                                    |
| <b>Emily Larsen</b>                            | <b>Nicole Marsh, Nicole Gavin, Julie Flynn (GU), Joan Webster</b>   | Cancer caRE: The risk factors of vEnous access failuRe (CareTaKER study)   | 0                                    | 201                                |
| <b>Nicole Marsh</b>                            | <b>Emily Larsen, Joshua Byrnes (GU), Claire Rickard (GU), Tracey Hawkins, Kerri McLeod</b>  | Investigating and Measuring Patient outcome and experience tools to enable implementation within existing exit survey Applications in local Value Based Health_Care Teams (IMPACT Study) | N/A                                  |                                    |

### Collaborative Research Activity Involving RBWH Department / Research Group

| Lead Investigator Name<br>(RBWH staff in bold) | Other Study Investigators<br>(RBWH staff in bold)  | Research Project Title   | Number of Patients Recruited in 2020 | Total number of Patients Recruited |
|--|--|--|--------------------------------------|------------------------------------|
| Shaun O'Leary                                  | <b>Adrienne Young, Diann Eley, Peter Buttrum, Merrylin Banks, Nicole Marsh, Mark Cruickshank, James Elliott, Nicholas Talley, Scott Bell</b> | Sustainable career pathways for clinician-scientists in Australian public health | N/A                                  |                                    |



| Lead Investigator Name<br>(RBWH staff in bold) | Other Study Investigators<br>(RBWH staff in bold)   | Research Project Title   | Number of Patients Recruited in 2020 | Total number of Patients Recruited |
|--|---|--|--------------------------------------|------------------------------------|
| Claire Rickard                                 | Amanda Ullman, <b>Nicole Marsh</b> , Tricia Kleidon, Gerben Keijzers, Jessica Schults, Marie Cooke, Joshua Byrnes, Robert Ware, <b>Louise Cullen</b> , Pauline Calleja, Fiona MacFarlane, Steven McTaggart, Henry Goldstein, <b>Nathan Peters</b> , <b>Catriona Booker</b> , <b>Stephanie Hadikusumo</b> , <b>Krispin Hajkowicz</b> , Stuart Watkins, Audra Gedmintas, <b>Kerri McLeod</b> , Herbert Down, Jeremy Wellwood, Mark Elcock | Difficult peripheral intravenous catheter insertion: Australian considerations for sustainable implementation of ultrasound guided procedures              | N/A                                  |                                    |
| Deanne August                                  | <b>Nicole Marsh</b> , <b>Colette McIntyre</b> , <b>Pieter Koorts</b> , <b>Rebecca Allen</b> , <b>Linda McLaughlin</b> , Rob Ware, Amanda Ullman, <b>Katie Foxcroft</b> , <b>Linda Cobbald</b> , <b>Kate Coghill</b> , <b>Gillian Lack</b> , <b>Gemma Yates</b> , <b>Patricia Smith</b>  | Implementing the near infrared (NIR)-informed peripheral intravenous catheter (PIVC) scrub in neonatal care: an intervention study                         | 135                                  | 135                                |
| Bryan Gregory                                  | <b>Dwarakanathan Ranganathan</b> , <b>Fiona Coyer</b>   | The effects of renal replacement therapy on immunosuppressive drug concentrations (CITRIC II Study)  |                                      |                                    |
| Prof Amanda                                    | <b>Nicole Marsh</b> , Andrew Bulmer, Naomi Runnegar, Tricia Kleidon, Paul Lee-Archer, Benjamin Pearch, Deanne August, Cathy Biles, Joshua Byrnes, Vineet Chopra, Alan Coulthard, Rob Ware, Claire Rickard, Marianne Wallis, Peter Mollee  | Peripherally inserted central catheter innovation to reduce infections and clots: the PICNIC trial   | 69                                   | 388                                |
| Lauren Kearney                                 | <b>Nicole Marsh</b> , Amanda Ullman, Deb Massey, Alison Craswell, Rachel Nugent, Guy Godsall  | Peripheral intravenous catheter management in childbirth [PICMIC]: An observational study  | 101                                  | 101                                |
| Nicole Gavin                                   | <b>Nicole Marsh</b> , <b>Catherine O'Brien</b> , Samantha Keogh, Louise Marquart, Makrina Totsika   | Standard versUs peRForated peripheral intravenous catheters. The SURF trial: a pilot randomised controlled trial   | 101                                  | 101                                |
| Clint Douglas                                  | <b>Robyn Fox</b> , <b>Catriona Booker</b> , <b>Alanna Geary</b> , Sandy Middleton, Glenn Gardner, Patrick Kelly, Rachael Morton, Elizabeth McInnes, Carol Windsor   | Transforming nursing assessment in acute hospitals: A cluster randomised controlled trial of an evidence-based core assessment protocol (the ENCORE trial) |                                      |                                    |
| Colette McIntyre                               | <b>Nicole Marsh</b> , Amanda Ullman, Karen New, Deanne August, Donna Hovey, <b>Patricia Smith</b> , <b>Pieter Koorts</b> , <b>Katie Foxcroft</b>  | NeOnatal Vascular Access (NOVA) study: an observational study of neonatal vascular access complications  | 0                                    | 140                                |
| Nicole Gavin                                   | <b>Nicole Marsh</b> , Amanda Ullman, Tricia Kleidon, <b>Emily Larsen</b> , Claire Rickard, <b>Jill Campbell</b>   | Estimating prevalence of impaired skin surrounding DevicEs: the EPISODE study  | 0                                    | 639                                |

| Lead Investigator Name<br>(RBWH staff in bold) | Other Study Investigators<br>(RBWH staff in bold)   | Research Project Title   | Number of Patients Recruited in 2020 | Total number of Patients Recruited |
|--|---|--|--------------------------------------|------------------------------------|
| Claire Rickard                                 | <b>Nicole Marsh</b> , Sandy McCarthy, Tricia Kleidon, <b>Emily Larsen</b> , Li Zhang, Amanda Ullman, Rachel Edwards, Melissa Arneil | Controlling device Occlusion and infection by Connector Design And decontamination (The COCOA pilot trial)   | 0                                    | 180                                |
| Claire Rickard                                 | <b>Nicole Marsh</b> , Raymond Chan, Peter Mollee, Geoffrey Playford, Li Zhang, Andrew Hallahan, Evan Alexandrou                     | Peripherally InSerted CEntral catheter Securement: the PISCES Trial  | 112                                  | 1027                               |
| Claire Rickard                                 | <b>Nicole Marsh</b> , Peter Carr, Gavin Jackson, Marie Cooke, Marianne Wallis   | Integrated versus nOn-integrated Peripheral inTravenous catheter. Which Is the most clinical and cost-effective systeM for peripheral intravenoUs catheter Management? (The OPTIMUM trial) | 0                                    | 1759                               |
| Helen Edwards                                  | <b>Fiona Coyer</b> , Patricia Sinasac, Kathleen Finlayson, Christina Parker, Jessica Schluter, <b>Kerrie Coleman</b>                | Reducing the prevalence and severity of wounds through implementation of the Champions for Skin Integrity Model – Protecting Skin Integrity (PSI)  | N/A                                  |                                    |
| Michelle Barakat-Johnson                       | <b>Fiona Coyer</b> , John Stephenson, Ashleigh Dolton, Sarah Jones, Jayne Campbell, Heidi Buhr                                      | Efficacy of a heel off-loading boot in reducing heel pressure injuries in intensive care patients: a single-blinded randomised controlled trial  | N/A                                  |                                    |
| Michelle Barakat-Johnson                       | <b>Fiona Coyer</b> , Kate White, John Stephenson  | Effectiveness of a Pressure Injury Clinical Judgement Risk-screening tool and prevention plan: Cluster Randomised Control Trial (EmPIRE RCT)   | N/A                                  |                                    |
| Michelle Barakat-Johnson                       | <b>Fiona Coyer</b>  | A novel implementation of best available evidence into practice for incontinence-associated dermatitis (IMBED)   | N/A                                  |                                    |
| Gillian Ray-Barruel                            | <b>Nicole Marsh</b> , Min-Lin Wu, Andrew Bulmer, Claire Rickard, Wendy Moyle  | Adaptation of the catheter-associated urinary tract infection (CAUTI) targeted assessment for prevention (TAP) tool for use in the Australian acute healthcare setting: a validation study | N/A                                  |                                    |
| Gillian Ray-Barruel                            | <b>Nicole Marsh</b> , Vineet Chopra, Tricia Kleidon, Claire Rickard   | To be or not to be left in situ: Prevalence and complications of ideal intravenous catheters. A secondary analysis of 15,000 catheters   | N/A                                  |                                    |
| Amanda Ullman                                  | <b>Nicole Marsh</b> , <b>Emily Larsen</b> , Claire Rickard  | Consumer-led innovation to implement improvements in central venous access device management: The Vascular Access Passport   | 10                                   | 10                                 |

| Lead Investigator Name<br>(RBWH staff in bold) | Other Study Investigators<br>(RBWH staff in bold)  | Research Project Title  | Number of Patients Recruited in 2020 | Total number of Patients Recruited |
|--|--|---|--------------------------------------|------------------------------------|
| Gerben Keijzers                                | Hugo Evison, Amy Sweeney, Jamie Ranse, <b>Nicole Marsh</b> , Joshua Byrnes, Claire Rickard, Peter Carr   | Clinician decision making in peripheral intravenous cannulation in emergency settings   | 0                                    | 1249                               |
| Claire Rickard                                 | Amanda Corley, <b>Nicole Marsh</b> , Amanda Ullman, India Lye  | Anti-microbial Disc infection preventions in vascular access (ADORN Trial)  | 10                                   | 80                                 |
| Jessica Schults                                | Claire Rickard, Marie Cooke, Amanda Ullman, Tricia Kleidon), <b>Nicole Marsh</b> , Gillian Ray-Barruel   | Developing a vascular access registry minimum dataset: An international Delphi study  | N/A                                  |                                    |
| Claire Rickard                                 | Jessica Schults, Amanda Ullman, Tricia Kleidon, <b>Nicole Marsh</b> , Gillian Ray-Barruel, Marie Cooke, Gabor Mihala, Robert Ware, Joshua Byrnes, Malcolm Wolski, Jolon Faichney | IVCare: A vascular access clinical registry based at Griffith University  | N/A                                  |                                    |
| Claire Rickard                                 | Joshua Byrnes, Vineet Chopra, Amanda Ullman, <b>Nicole Marsh</b> , <b>Emily Larsen</b> , <b>Raymond Chan</b>   | Measuring Quality of Life and Experience for Central Venous Access Devices in Cancer Care: Developing and preliminary testing of <u>MyVAD</u> | N/A                                  |                                    |

## Research Activity With a Specific Focus on First Nations People

| Lead Investigator Name<br>(RBWH staff in bold) | Other Study Investigators<br>(RBWH staff in bold)  | Research Project Title              | Number of Patients Recruited in 2020 | Total number of Patients Recruited |
|--|--|-------------------------------------|--------------------------------------|------------------------------------|
| Di Marsden                                     | <b>Jed Duff</b> , Kerry Boyle, Rachel Peake, Tony Martin, Joe Miller, Dominique Cadilhac, Kelvin Hill, John Wiggers, Carlos Garcia Esperon | Let's have a yarn about our bladder |                                      |                                    |

## Research Publications

### Journal Articles

- Gavin CN, Kleidon T, Larsen E, O'Brien C, Ullman A, Northfield S, Mihala G, Runnegar, **Marsh N**, Rickard CM. A comparison of hydrophobic polyurethane and polyurethane peripherally inserted central catheter: results from a feasibility randomized controlled trial. *Trials*. 2020; 21(787): 1-11 <https://doi.org/10.1186/s13063-020-04699-z>
- Schults J, Kleidon T, Chopra V, Cooke M, Paterson R, Ullman A, **Marsh N**, Ray-Barruel G, Hill J, Devrim I, Hammarskjold F, Pedreira M, Bertoglio S, Egan G, Mimos O, Van Boxtel T, DeVries M, Magalhaes M, Hallum C, Oakley S, Rickard C. International recommendations for a vascular access minimum dataset: a Delphi consensus-building study. *BMJ Qual Saf*. 2020; 0: 1-9 <http://doi.org/10.1136/bmjqs-2020-011274>
- Ingleman J, Parker C, **Coyer F**. Exploring body morphology and skin microcirculation in patients with critical illness. *Australian Critical Care*. 2020; 33: S1 – S3 <http://doi.org/10.1016/j.aucc.2020.04.009>
- Rheault H, **Coyer F**, Bonner A. Time to listen: Chronic disease yearning with Aboriginal and Torres Strait Islander peoples living in remote Australia. *Collegian*. 2020. <https://doi.org/10.1016/j.colegn.2020.06.001>
- Munday J, Higgins N, Mathew S, Dalgleish L, Batterbury A, Burgess L, Delaney LJ, Griffin BR, Hughes JA, Ingleman J, Keogh S, **Coyer F**. Nurse-led randomised controlled trials in the peri-operative setting: A scoping review. *Journal of Multidisciplinary Healthcare*. 2020;13:647-660. <http://doi.org/10.2147/JMDH.S255785>

- 
6. **Coyer F**, Coleman K, Hocking K, Leong T, Levido A, Barakat-Johnson M. Maintaining skin health and integrity for staff wearing personal protective equipment for prolonged periods: a practical tip sheet. *Wound Practice and Research*. 2020;28(2):75-83

---

  7. Barakat-Johnson M, Carey R, Coleman K, Hocking K, Leong T, Levido A, Counter K, **Coyer F**. Pressure injury prevention for COVID-19 patients in a prone position. *Wound Practice and Research*. 2020;28(2):50-57

---

  8. **Coyer F**, Cook J-L, Brown W, Vann A, Doubrovsky A. Securement to prevent device-related pressure injuries in the intensive care unit: A randomised controlled feasibility study. *International Wound Journal*. <http://dx.doi.org/10.1111/iwj.13432>

---

  9. **Coyer F**, Campbell J, Doubrovsky A. Efficacy of an incontinence-associated dermatitis intervention for critically ill patients in intensive care; an open label pilot randomised control trial. *Adv Skin & Wound Care*. 2020;33(7):375-382

---

  10. Larsen E, **Marsh N**, O'Brien C, Monteagel E, Friese C, Rickard CM. Inherent and modifiable risk factors for peripheral venous catheter failure during cancer treatment: a prospective cohort study. *Supportive Care in Cancer*. <https://doi.org/10.1007/s00520-020-05643-2>

---

  11. Larsen EM, Corley A, Mitchell M, Lye I Powell M, Tom S, Mihala G, Ullman AJ, Gibson V, **Marsh N**, Kleidon TM, Rapchuk IL, Rickard CM. A pilot randomised controlled trial of two dressing and securement methods to prevent arterial catheter failure in intensive care. *Australian Critical Care*. <http://doi.org/10.1016/j.aucc.2020.05.004>

---

  12. Keogh S, Shelverton C, Flynn J, Mihala G, Mathew S, Davies K, **Marsh N**, Rickard CM. Implementation and evaluation of peripheral intravascular catheter flushing guidelines: A stepped wedge cluster randomised trial. *BMC Medicine*. 2020; 18(252):1-11 <https://doi.org/10.1186/s12916-020-01728-1>

---

  13. Wang N, Doubrovsky A, Campbell J, Singh V, Collins J, **Coyer F**. Pressure injury development in critically ill patients with a cervical collar in situ: a retrospective longitudinal study. *Int Wound Journal*. 2020. <http://dx.doi.org/10.1111/iwj.13363>

---

  14. **Marsh N**, Larsen E, Webster J, Cooke M, Rickard C. The benefits of a vascular access specialist placing a peripheral intravenous catheter: a narrative review of the literature. *Vascular Access*. 2020; 6(1): 10-15

---

  15. **Marsh N**, Larsen E, Flynn J, O'Brien C, Kleidon T, Groom P, Hewer B, Rickard C. The MIDLINE trial – Managing intravenous devices among patients with limited vascular access or prolonged therapy: a pilot randomised control trial protocol. *Vascular Access*. 2020; 6(1): 20-24

---

  16. **Larsen E**, Byrnes J, **Marsh N**, Rickard C. Patient reported outcome and experience measures for peripheral venous catheters: a scoping review protocol. *Vascular Access*. 14 (1), 6-11

---

  17. Dalglish L, Campbell J, Finlayson K, **Coyer F**. Acute skin failure in the critically ill adult population: A systematic review. *Adv Skin & Wound Care*. 2020;33:76-83. <https://doi.org/10.1097/01.ASW.0000617844.69248.92>

---

  18. Gefen A, Alves P, Ciprandi G, **Coyer F**, Milne CT, Ousey K, Ohura N, Waters N, Worsley P, Black J, Barakat-Johnson M, Beeckman D, Fletcher J, Kirkland-Kyhn H, Lahmann NA, Moore Z, Payan Y, Schlüer A-B. Device-related pressure-ulcers: SECURE prevention. *Journal of Wound Care*. 2020;29(Sup2b):S1-S52

---

  19. Kleidon T, Rickard C, Gibson V, Mihala G, Schults J, Xu G, Bauer M, **Marsh N**, Larsen E, Cattanach P, Ullman A. (2020) A pilot randomized controlled trial of peripheral intravenous catheter securement in pediatrics. *Journal of Tissue Viability*. JIF=5.5 DOI: 10.1016/j.jtv.2020.03.006

---

  20. Ray-Barruel G, Wu M, **Marsh N**, Mitchell B. Strategies for CAUTI prevention: Are we on the same page? (letter to the Editor) *Infection, Disease and Health*. 2020. <https://doi.org/10.1016/j.idh.2020.01.005>

---

  21. Schults J, Woods C, Cooke M, Kleidon T, Marsh N, Ray-Barruel G, Rickard C. Healthcare practitioner perspectives and experiences regarding vascular access device data: An exploratory study. *International Journal of Healthcare Management*. 2020; <https://doi.org/10.1080/20479700.2020.1721750>

---

  22. Labeau S, Afonso E, Benbenishty J, Blackwood B, Boulanger C, Brett, SJ, Calvino-Gunther S, Chaboyer W, **Coyer F**, Deschepper M, Francois G, Honore P, Jankovic R, Khanna A, Llaurado-Serra M, Lin F, Rose L, Rubulotta F, Saager L, Williams G, Blot S. Prevalence associated factors and outcomes of pressure injuries in adult intensive care unit patients: the DecubICUs study. 2020 *Intensive Care Medicine*. <https://doi.org/10.1007/s00134-020-06234-9>
-

- 
23. **Coyer F.** (Letter to the Editor) Moisture-associated skin-damage: A timely report of an oft forgotten clinical problem. *Intensive and Critical Care Nursing*. 2020. <https://doi.org/10.1016/j.iccn.2020.102944>
- 
24. **Marsh N,** Webster J, Ullman A, Mihala G, Cooke M, Chopra V, Rickard C. Peripheral intravenous catheter non-infectious complications in adults: A systematic review and meta-analysis. *Journal of Advanced Nursing*. 2020. <http://doi.org/10.1111/jan.14565>
- 
25. Rickard C, Flynn F, Larsen E, Mihala G, Playford E, Shaw J, Keogh S, Ullman A, Zhang, L, Gavin N, Kleidon T, Chopra V, McCarthy A, Rocha PK, **Marsh N.** Needleless connector decontamination for prevention of central venous access device infection: A pilot randomized controlled trial. *American Journal of Infection Control*. 2020. <http://doi.org/10.1016/j.ajic.2020.07.026>
- 
26. Gavin NC, **Marsh N,** Marquart L, O'Brien C, Totsika M, Keogh S. Standard versus perforated peripheral intravenous catheter. The SURF trial: a pilot randomised controlled trial protocol. *Vascular Access*. 2020; 6(2):9-14. <https://doi.org/10.33235/va.6.2.9-14>
- 
27. **Marsh N,** Webster J, Ullman AJ, Mihala G, Cooke M, Chopra V, Rickard CM. Peripheral intravenous catheter complications in adults: a systematic review and meta-analysis. *Journal of Advanced Nursing*. 2020; 00:1-17 <http://doi.org/10.1111/jan.14565>
- 
28. Massey D, Ray-Barruel G, Cooke M, Ullman A, Wallis M, **Marsh N,** Craswell A. (2020) Undergraduate nursing students' perceptions of the current content and pedagogical approaches used in PIVC education. A qualitative descriptive study. *Nurse Education Today*. <https://doi.org/10.1016/j.nedt.2020.104577>
- 
29. Kleidon T, Horowitz J, Rickard CM, Ullman A, **Marsh N,** Schults J, Ratz D, Chopra V. (2020) Peripherally Inserted Central Catheter Thrombosis Following placement via electrocardiography vs. traditional methods: an analysis of 42,687 patients. *American Journal of Medicine*. <https://doi.org/10.1016/j.amjmed.2020.06.010>
- 
30. Gardner A, Helms C, Gardner G, **Coyer F,** Gosby H. Development of nurse practitioner metaspecialty clinical practice standards: A national sequential mixed method study. *Journal of Advanced Nursing*. <https://doi.org/10.1111/jan.14690>
- 
31. Barakat-Johnson M, Basjarahil S, Campbell J, Cunich M, Disher G, Geering S, Ko N, Lai M, Leahy C, Leong T, McClure E, O'Grady M, Walsh J, White K, **Coyer F.** Implementing best available evidence into practice for incontinence-associated dermatitis in Australia: A multisite multimethod study protocol. *Journal of Tissue Viability*. 2020. <https://doi.org/10.1016/j.jtv.2020.10.002>
- 
32. Laupland K, **Coyer F.** Physician and nurse research in multidisciplinary intensive care units. *Am J Crit Care*. 2020. <https://doi.org/10.4037/ajcc2020136>
- 
33. Gefen A, Alves P, Ciprandi G, **Coyer F,** Milne CT, Ousey K, Ohura N, Waters N, Worsley P, Black J, Barakat-Johnson M, Beeckman D, Fletcher J, Kirkland-Kyhn H, Lahmann NA, Moore Z, Payan Y, Schluer A-B. Device-related pressure-ulcers: SECURE prevention. *Journal of Wound Care*. 2020;29(Sup2b):S1-S52
- 
34. Dalglish L, Campbell J, Finlayson K, **Coyer F.** Acute skin failure in the critically ill adult population: A systematic review. *Adv Skin & Wound Care*. 2020;33:76-83. <https://doi.org/10.1097/01.ASW.0000617844.69248.92>
- 
35. Dunstan E, **Coyer F.** Safety culture in two Australian tertiary hospital intensive care units: A cross sectional survey. *Aust Crit Care*. 2020; 33(1):4-11. <https://doi.org/10.1016/j.aucc.2018.11.069>
- 
36. Grant A, **Coyer F.** Contextual factors to registered nurse research utilisation in an Australian adult metropolitan tertiary intensive care unit: A descriptive study. *Aust Crit Care*. 2020;33(1):71-79. <https://doi.org/10.1016/j.aucc.2019.01.001>
- 
37. Barakat-Johnson M, Lai M, **Coyer F,** Wand T, White K. Systemwide practice change program to combat hospital-acquired pressure injuries: Translating knowledge into practice. *Journal of Nursing Care Quality*. 2020;35(1):51-57. <https://doi.org/10.1097/NCQ.0000000000000395>
- 
38. Lin F, Wu Z, Song B, **Coyer F,** Chaboyer W. Pressure injury prevention programs in adult intensive care patients: A systematic review. *Int Journal of Nursing Studies*. 2020;102:103483. <https://doi.org/10.1016/j.ijnurstu.2019.103483>
- 
39. Nicholson, Hamlin L, **Duff J,** Gillespie B, and Williams C (2020) "Identifying research priorities for improving patient care in the perioperative environment: A descriptive cross-sectional study," *Journal of Perioperative Nursing*: Vol. 33 : Iss. 4 , Article 6. <https://doi.org/10.26550/2209-1092.1095>
-

- 
40. **Duff J.** 2020. Enhanced recovery after surgery in Australia: A classic example of an evidence-practice gap. *Journal of Perioperative Nursing*. 2020;33(4): Article 5. <https://doi.org/10.26550/2209-1092.1109>

---

  41. Geia L, **Duff J** et al (2020) A unified call to action from Australian nursing and midwifery leaders: ensuring that Black lives matter

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  42. **Duff J**, Cullen L, Hanrahan K, Steelman V (2020) Determinants of an evidence-based practice environment: an interpretive description. *Implementation Science Communication*. <https://doi.org/10.1186/s43058-020-00070-0>

---

  43. Delaforce A, **Duff J**, Munday J, Hardy J (2020) Preoperative Anemia and Iron Deficiency Screening, Evaluation and Management: Barrier Identification and Implementation Strategy Mapping. *Journal of Multidisciplinary Healthcare*. <http://doi.org/10.2147/JMDH.S282308>
- 

## Conference Presentations – Invited Speaker, Oral and Poster

### Invited Speaker

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1. **Marsh N.** Be sure to secure VADs when patient access is limited. 3M Health Care Academy Webinar. 2020

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  2. **Marsh N.** (online presentation) Lived experiences of clinical research higher degree journeys. Early and Mid-Career Clinical Researcher Workshop. RBWH Auditorium. 2020

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  3. **Larsen E.** (online presentation) Risk factors for peripheral intravenous catheter failure in the care of patients with cancer: how can we improve care? Infusion Nurses Society. 2020

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  4. **Larsen E, Marsh N.** (online presentation) Risk factors for PIVC failure: Answering big questions with big data. AVA at your Fingertips. 2020

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  5. **Duff J.** (online presentation) How to promote evidence-based practice in the perioperative setting. ACORN, Australian College of Perioperative Nurses. Sunshine Coast University Hospital, Australia. 2020

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  6. **Duff J.** (Digital Conference) Implementation Science. Centre of Interprofessional Collaboration within Emergency Care Annual Conference. Linnaeus University, Sweden. 2020
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### Poster Presentations

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1. **Marsh N**, Larsen E, Takashima M, Kleidon T, Keogh S, Ullman A, Rickard CM. Preventing peripheral intravenous catheter failure: a secondary analysis of 11,830 catheters. Herston Health Precinct Symposium, 2020, Brisbane, Australia

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  2. **Marsh N**, Larsen E, Webster J, Cooke M, Rickard CM. The benefit of a vascular access specialist placing a peripheral intravenous catheter: a narrative review of the literature. Herston Health Precinct Symposium, 2020, Brisbane, Australia

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  3. **Marsh N**, Larsen E, Hewer B, Monteagle E, Ware R, Schults J, Rickard CM. Learnings from 2,274 Peripheral Intravenous Catheter Audits: 'How many audits do you really need?' Herston Health Precinct Symposium, 2020, Brisbane, Australia

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  4. Larsen E, **Marsh N**, Mihala G, King M, Zunk M, Ullman AJ, Keogh S, Kleidon T, Rickard CM. Intravenous antimicrobial administration through peripheral venous catheters – establishing risk profiles from an analysis of 5252 devices. Herston Health Precinct Symposium, 2020, Brisbane, Australia

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  5. Holmes E, **Marsh N.** Does the knowledge of fetal fibronectin (fFN) results impact clinical decision making and length of hospital stay for symptomatic women with a singleton pregnancy at risk of preterm labour. Herston Health Precinct Symposium, 2020, Brisbane, Australia

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  6. Massey D, Cooke M, Ullman A, Craswell A, **Marsh N**, Ray-Barruel. - Undergraduate Nursing students' perceptions of peripheral intravenous catheter education. Herston Health Precinct Symposium, 2020, Brisbane, Australia

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  7. Wheaton B, **Marsh N.** Does the Use of a Structured Risk Assessment Reduce Violence and Aggression in Acute Mental Health Units? Herston Health Precinct Symposium, 2020, Brisbane, Australia. Herston Health Precinct Symposium, 2020, Brisbane, Australia
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8. Radford R, **Marsh N**. Does removal of the wound dressing early increase the potential for surgical site infections in patients with clean, clean/contaminated wounds. Herston Health Precinct Symposium, 2020, Brisbane, Australia

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  9. Higgins N, Marsh N, Jones L, McLeod K, Hutton T, Larsen E, Muir-Cochrane E, Dart N, Fawcett L. Survey of staff experiences during COVID19 pandemic. Herston Health Precinct Symposium, 2020, *Brisbane, Australia*

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  10. Pearse I, **Marsh N**, Larsen E, Ullman A, Rickard C, Corley A. Polyhexamethylene biguanide discs for central line-associated infection in the intensive care unit: A pilot randomised controlled trial. Herston Health Precinct Symposium, 2020, Brisbane, Australia. Herston Health Precinct Symposium, 2020, Brisbane, Australia

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  11. Corley A, **Marsh N**, Ullman A, Rickard CM. Securement bundles to prevent peripheral intravenous catheter (PIVC) failure: a 3-arm non masked pilot randomised controlled trial. Herston Health Precinct Symposium, 2020, Brisbane, Australia

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  12. Barnbrook C, **Marsh N**. Does offering non-pharmaceutical interventions to patients at bedtime improve the patient's ability to sleep in the hospital environment? Herston Health Precinct Symposium, 2020, Brisbane, Australia

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  13. Larsen EN, Ray-Barruel G, Takashima M, **Marsh N**, Friese CR, Chopra V, Alexandrou E, Rickard CM. Peripheral Intravenous catheters in the care of oncology and haematology patients. Herston Health Precinct Symposium, 2020, Brisbane, Australia
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