EVALUATION OF RESEARCH CAPACITY IN A STATE HEALTH DISTRICT

Steven J Kamper*[1,2], Christian Wiley[2], Rachel Beldham-Collins[2,3], Louise Cowles[2], Jessica Heikkinen[2], Jacqueline Henderson[2], Laura Kirsten[2], Guy D. Eslick[4]

1. School Health Sciences, University of Sydney, Australia

2. Nepean Blue Mountains Local Health District, NSW, Australia

3. Western Sydney Local Health District, NSW, Australia

4. Australian Paediatric Surveillance Unit (APSU), The Kids Research Institute, The Sydney Children's Hospital Network, The Children's Hospital, Westmead, New South Wales, Australia.

Correspondence: Steven.kamper@sydney.edu.au

ABSTRACT

OBJECTIVE

To describe the perceived research capacity and support at the individual, department and organisation levels among clinicians in a state funded health district in Sydney, Australia.

METHODS

We asked allied health, medical, nursing, management and administrative staff across Nepean Blue Mountains Local Health District to fill in the Research Capacity in Context survey online. The survey includes questions about individual skills and capacity regarding research, available support and encouragement for research from the department and organisation, and motivators and barriers to involvement in research. Descriptive analyses (means and proportions) were reported separately for each staff category.

RESULTS

Four hundred and thirty-nine people responded, approximately 7% of total staff, of whom around 80% were clinicians. Response rate was highest from allied health clinicians (approx. 26%), rates were 4-6% for the other staff categories. Participants rated their individual research capacity as poor to good for most aspects, medical staff rated themselves higher than allied health and nursing. Respondents identified the lack of quarantined time and necessity to prioritise clinical duties as the key barriers to engaging with research. The most identified motivators were desire to improve services and outcomes for patients and resolving clinical problems.

CONCLUSIONS

Clinicians in the public health service are motivated to engage with research to improve services for their patients but they lack the time and support. If health services wish to encourage research activity among clinicians, they need to free up time from delivering clinical care and provide access to training and operational support.

KEYWORDS

research capacity; health professionals; clinical research

INTRODUCTION

BACKGROUND AND RATIONALE

Research capacity building in health care has been the subject of increasing interest over the past two decades[1]. Given that research is the foundation of clinical practice guidelines and evidence-based practice, the ability of health professionals to find, appraise, integrate, and conduct research is critical. Activities in many countries demonstrate the perceived importance of research capacity building among health care professionals[2-4]. In Australia, research capacity building activities have accelerated recently due to the Australian federal government allocating substantial capital through the Primary Health Care Research, Evaluation & Development Strategy[5] and the Medical Research Future Fund for clinician-led research[6]. These large public investments reflect recognition of the need for the health system to produce relevant and applicable research to inform delivery of best-practice care to the population. To do this there needs to be adequate capacity within the system itself to propose, design and conduct research, as opposed to in universities and medical research institutes.

The starting point for building research capacity in any jurisdiction is to map the current context. This includes currently available capabilities and stakeholder perspectives regarding barriers and enablers to engagement in research among healthcare professionals. Some similar work has been undertaken in Australian systems previously and indicates shortcomings in individual skills, departmental and organisational support. This study adds a further jurisdiction and expands the scope beyond community health, nutrition and dietetics, podiatry and allied health which formed the populations of interest for many of these previous studies[7-10]. Understanding barriers and enablers is critical as a basis for designing strategies to increase research engagement and activity. Identifying variations across different sectors within a large organisation is also important to determine the need, if any, for tailoring and targeting of solutions.

SIGNIFICANCE

The project identifies current levels of research skill and support for health professionals in Nepean Blue Mountains Local Health District (NBMLHD). The findings of this project will contribute to the body of knowledge quantifying research capacity within the public health sector in Australia. The findings will inform future research support and education programs, service planning and policy initiatives to build research capacity in NBMLHD and beyond.

OBJECTIVES

This project describes research capacity among health professionals in NBMLHD. A survey based on the Research Capacity in Context (RCC)[11] tool was distributed to staff to measure, it included:

1. Research involvement,
2. Self-rated research expertise,
3. Barriers and motivators of research at
    a. individual,
    b. department and
    c. organisational levels.

METHOD

STUDY SETTING / ELIGIBILITY CRITERIA

Health professionals including allied health (largest representation: Physiotherapy, Occupational therapy, Radiation Therapy, Radiography, Psychology), clinical support, management, medical and nursing staff working in NBMLHD were invited to complete the survey. This was a convenience sample in that participation was voluntary. The survey was distributed to all staff from June to October 2019. Recruitment, participant information, consent procedures and study methods were provided with the email invitation and approved by the Apollo sub-committee of the NBMLHD Human Research Ethics Committee on 16 May 2019 (#12-19(A)).

DATA COLLECTION

Staff were made aware of the survey via various means:

- Promotion by department heads across medical, nursing and allied health.

- An invitation letter through email using the hospital staff email system.

- Advertisement in NBMLHD website and newsletter.

- A reminder email sent 2 weeks after opening of the survey.

An invitation email contained a website link to the online survey and study information sheet and researcher contact information. Participant consent was provided online prior to accessing the survey. The survey was run using Qualtrics, a secure web application for building and managing online surveys and databases. Participants were able to go back via a back button while still in the survey.

The survey included self-rated research skill/success, research involvement, the barriers and motivators to research involvement at individual, department and organisational levels. The survey comprised four parts; I; participant and workplace characteristics, and parts ii; (individual research capacity), iii; (department research capacity) and iv; (organisation research capacity) The survey was adapted from the Research Capacity in Context (RCC) tool developed by Queensland Health and Griffith University, a validated tool to measure clinician research capacity[11] (Appendix 1).

The RCC tool includes six questions about an individual's own research capacity, research involvement, research support, and barriers and motivators to involvement in research. Participants were then asked to rate their individual success/skill level on 14 items using a 4-point Likert scale: 1 'no knowledge', 2 'poor', 3 'good' and 4 'excellent'. After completing questions at individual level, participants were asked 19 questions about research capacity in their department with 5 response options: 'nil', 'some/a little', 'moderate', 'extensive', and 'unsure'. And 18 questions about the research capacity of the organisation with 4 response options: 'no', 'yes – to some extent', 'yes – definitely', and 'unsure'. Surveys also included questions about enablers and barriers to research activity at each level.

STATISTICAL ANALYSIS

Survey data were exported from Qualtrics to SPSS for analysis. Descriptive analyses were conducted to describe participant demographics such as age, gender, geographic location, and education level. Mean scores of all items pertaining to self-rated research success/skill and capacity were calculated. Open-ended questions exploring barriers and motivators were coded into meaningful categories. Responses were divided by professional grouping for all questions. All available data were analysed regardless of whether surveys were filled in completely.

RESULTS

PARTICIPANTS

There were approximately 6,178 staff members in 2019 in NBMLHD, including; 655 in allied health, 1,556 in clinical support and management, 1,003 medical staff and 2,827 nursing staff[12]. There were 439 respondents to all or part of the survey, a response rate of 7%, we note that the total staff numbers are estimates so there is some imprecision in calculation of response proportions. By professional group, response rates were 26% for allied health, 6% for clinical support and management, 6% for medical, and 4% for nursing. Gender distribution in the sample was representative of the LHD staff profile (70-75% female), over half the sample were between the ages of 35 and 55 years, >3/4 of the sample had a primary role as a clinician, and years of professional experience was evenly split between <10 years, 10-20 and 20+ years. Just over half the sample had postgraduate qualifications (beyond bachelor degree) and 50 respondents were currently enrolled in postgraduate training (Table 1).

TABLE 1. SAMPLE CHARACTERISTICS - PARTICIPANTS

Number		Age		Role		Highest education	
Total*	439	18-24	15	Senior clinician	187	Leaving certificate	2
Allied Health	170	25-34	84	Junior clinician	119	Cert I-IV	21
Clinical Services	19	35-44	107	Manager	36	Bachelor (+/- hon)	145
Management	69	45-54	116	Researcher	15	Grad Dip/Adv Dip	73
Medical	57	55-64	74	Educator	14	College Fellowship	7
Nursing	119	65+	5	Executive	8	Masters coursework	94
Female	301			Other	2	Masters research	26
Male	89					Doctorate	30
Not specified	8					Other	3

* totals may not add up due to missing responses for individual questions

RESEARCH PROVISIONS

Thirty-three percent of respondents stated that research was part of their job, but less than half of them identified provisions that enabled research in the workplace. Of those with research as part of their job, 47% percent had quarantined time to conduct research, 17% and 16%

reported that they had research supervision and research training respectively, and 4% had access to funds to support research. Notwithstanding small numbers, provisions to support research did not differ substantially between professional groups (Table 2).

INDIVIDUAL RESEARCH SKILLS

Respondents rated their individual skill as either 'no knowledge', 'poor' (I have heard of this but I have had no experience), 'good' (I have done this but I require assistance), o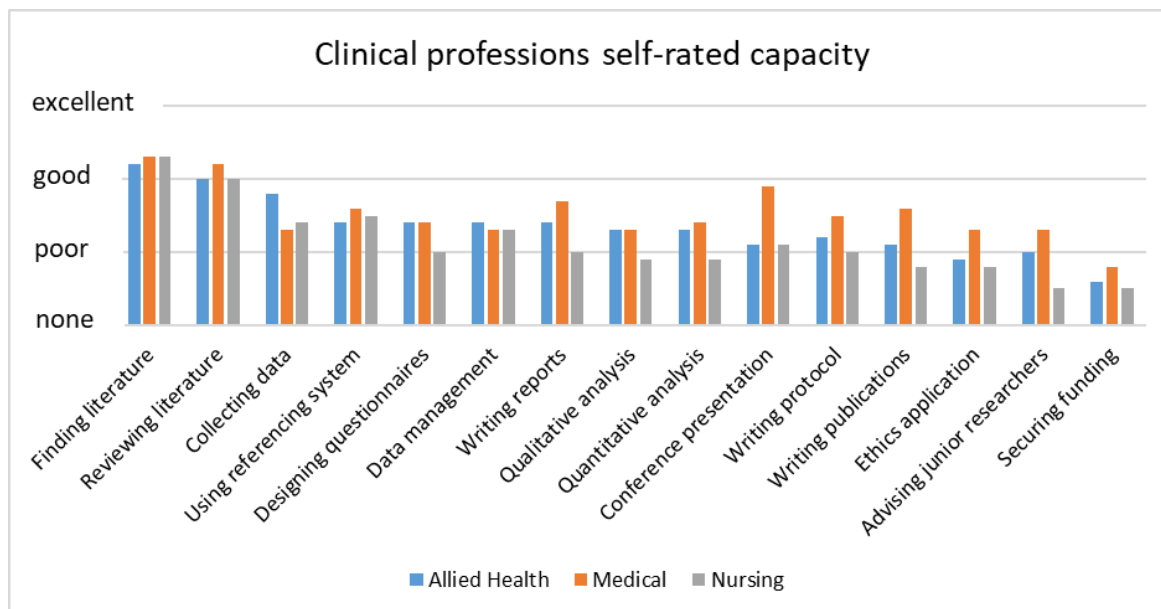r 'excellent' (I have done this many times and require no assistance) for various aspects of the research process. Staff reported their individual capacity as low for most aspects with mean values typically between poor and good. Highest scores were for finding and reviewing literature (mean ~ good) and lowest for securing funding, ethics applications and advising junior researchers (mean ~ poor) (Figure 1). In general, nursing staff rated themselves lower than allied health staff who in turn rated themselves lower than medical staff for most aspects.

TABLE 2. RESEARCH PROVISIONS

	All	**Allied Health**	**Clinical support**	**Management**	**Medical**	**Nursing**
Part of job	146	62	9	18	28	29
%	33%	36%	47%	26%	49%	24%
Provisions						
Quarantined time	47%	48%	78%	56%	46%	34%
Library access	34%	34%	33%	33%	50%	31%
Software	27%	23%	67%	44%	21%	28%
Supervision	17%	19%	11%	17%	14%	24%
Training	16%	19%	0%	22%	11%	24%
Admin support	13%	8%	22%	22%	25%	10%
Funds	4%	2%	0%	11%	7%	7%
Other	13%	5%	0%	11%	21%	31%

*Percentage of people who have research as part of their job

FIG 1. RATINGS OF INDIVIDUAL RESEARCH CAPACITY

DEPARTMENT RESEARCH CAPACITY

Respondents rated capacity within their department to support various aspects of the research process as 'unsure', 'nil', 'some/a little', 'moderate', or 'extensive', the total percentage that responded moderate or extensive are reported (Table 3). Respondents reported limited capacity

at the department level to support research activities. For all aspects less than half of the staff reported moderate or extensive capacity within the department, for most the figure was less than 30%. Nursing staff typically rated department-level research capacity lower than other groups but the ranking of different aspects was similar across groups.

ORGANISATIONAL RESEARCH CAPACITY

Respondents rated the capacity in the organisation (NBMLHD) to support various aspects of the research process as 'unsure', 'no', 'yes, to some extent', or 'yes, definitely', the total percentage that responded 'yes, to some extent' or 'yes, definitely' are reported (Table 4). Generally, around 30-60% of staff answered yes to capacity for the specific aspects within the health district, an exception was 70% endorsement of the statement that the LHD promotes evidence-based practice.

BARRIERS AND MOTIVATORS

Participants chose from a pre-determined list of barriers to conducting research at an individual, and department level, and list of motivators to conducting research at an individual level. The 10 most often endorsed barriers and motivators are reported along with the percentage of respondents (Table 5). Lack of time, and other priorities were by far the most common barriers. There were no major discrepancies between professional groups regarding barriers at individual or department level. The prospect of developing skills and increasing job satisfaction were the most common personal motivators for conducting research, a finding common to all groups.

TABLE 3. DEPARTMENT RESEARCH CAPACITY

	All	Allied Health	Clinical support	Management	Medical	Nursing
Evidence guides planning	45%	54%	56%	44%	45%	25%
Team leaders' support	40%	43%	33%	39%	50%	28%
Practice relevant research	39%	44%	67%	33%	44%	24%
Supports multidisc. Research	33%	38%	33%	26%	44%	17%
Supports research publication	32%	36%	25%	23%	46%	18%
Disseminates research	30%	34%	44%	21%	46%	15%
Accessible research experts	30%	29%	33%	26%	37%	28%
Research opportunities	29%	33%	11%	26%	41%	16%
Supports HDR scholarships	29%	34%	33%	21%	34%	21%
External research partners	25%	22%	50%	23%	34%	21%
Research training	25%	28%	22%	28%	26%	19%
Monitors research quality	23%	25%	33%	13%	29%	18%
Consumer involvement	20%	18%	33%	26%	22%	18%
Plans/policies for research	20%	22%	11%	13%	38%	7%
Research mentoring	19%	21%	22%	18%	20%	14%
Staff involved in research plans	19%	20%	11%	18%	29%	12%
Funding, equipment, admin	17%	19%	22%	15%	26%	9%
Applies for funding	16%	16%	11%	5%	32%	13%
Software available	16%	16%	33%	21%	15%	9%

Percentage rating 'moderate' or 'extensive' capacity

TABLE 4. NEPEAN BLUE MOUNTAINS LOCAL HEALTH DISTRICT RESEARCH CAPACITY

	All	Allied Health	Clinical support	Management	Medical	Nursing
Promotes EBP	70%	71%	78%	57%	74%	74%
Managers' support	58%	63%	67%	57%	50%	49%
Encourages relevant research	56%	60%	67%	46%	53%	52%
Accessible research experts	51%	49%	56%	43%	63%	52%
Supports multidisc research	51%	54%	67%	41%	58%	41%
External research partners	51%	49%	78%	53%	58%	44%

Plan/policy research development	50%	54%	56%	51%	50%	40%
Supports HDR scholarships	49%	51%	56%	49%	47%	47%
Evidence guides planning	48%	49%	78%	51%	47%	38%
Supports research publication	48%	48%	56%	46%	58%	40%
Forums to present research	47%	53%	44%	36%	50%	37%
Research training	40%	43%	44%	38%	32%	39%
Consumer involvement	38%	41%	44%	38%	35%	32%
Monitors research quality	37%	37%	33%	32%	45%	36%
Applies for funding	36%	37%	56%	35%	38%	28%
Funding, equipment, admin	32%	36%	33%	35%	24%	28%
Software available	31%	30%	56%	27%	41%	26%
Research career pathways	29%	29%	33%	27%	22%	34%

Percentage 'yes, to some extent' or 'yes, definitely'. EBP = evidence-based practice

TABLE 5. BARRIERS AND MOTIVATORS TO CONDUCTING RESEARCH

	All	Allied Health	Clinical support	Management	Medical	Nursing
		n=140	n=9	n=59	n=43	n=66
Personal barriers						
Other priority	71%	81%	44%	45%	71%	68%
Time	65%	73%	44%	38%	80%	56%
Research skills	34%	33%	0	40%	34%	36%
Work/life balance	33%	36%	11%	23%	27%	39%
Management support	31%	26%	67%	20%	43%	35%
Funds	27%	26%	44%	10%	41%	26%
Backfill	27%	29%	11%	10%	18%	39%
Personal commitment	24%	24%	11%	23%	32%	24%
Software	21%	22%	33%	10%	18%	26%
No coordinated approach	17%	15%	22%	15%	27%	14%
Department barriers						
		N=103	N=9	N=25	N=29	N=40
Time	54%	62%	11%	39%	68%	45%
Other priority	22%	22%	11%	35%	21%	17%
Management support	12%	9%	11%	12%	7%	24%
Backfill	10%	12%	11%	4%	0	12%
Funds	9%	8%	11%	4%	14%	10%
Research skills	8%	6%	0	27%	7%	5%
Resources	7%	6%	22%	8%	14%	2%
Mentoring	6%	6%	0	0	7%	10%
Opportunities	5%	4%	0	4%	4%	10%
Other	21%	15%	33%	23%	36%	21%
Personal Motivators						
Develop skills	74%	74%	90%	78%	67%	47%
Job satisfaction	62%	65%	80%	63%	57%	36%
Clinical/service problems	46%	51%	40%	35%	43%	29%
Keep brain stimulated	46%	50%	60%	45%	38%	27%
Career advancement	46%	48%	70%	38%	48%	26%

Prove theory or hunch	30%	28%	30%	38%	40%	15%
Mentors available	28%	28%	20%	25%	33%	18%
Opportunities available	27%	30%	30%	30%	19%	15%
Increased credibility	26%	23%	10%	28%	36%	18%
Encouraged by managers	25%	30%	10%	25%	14%	15%

Department-level motivators for conducting research were elicited in an open question. By far the most common motivators were to conduct research aimed at providing the best possible services and outcomes for patients and resolving clinical and service problems. This suggests that clinicians are mainly interested in research that is directly applicable to patients. Other commonly mentioned motivators (in order of frequency) included career development and advancement, academic or professional interest, and for acknowledgement /recognition. Responses were selected from a list of options, along with a free-text alternative. These latter responses were endorsed by approximately one-third of participants. Respondents were also motivated by departmental and management support, by colleagues doing research, and by availability of external resources and personnel.

DISCUSSION

STATEMENT OF MAIN FINDINGS
Approximately 7% of NBMLHD staff responded to a survey asking about research capacity which indicates either low overall interest in the topic among clinical staff or poor appetite for surveys. Allied health was a notable outlier with more than a quarter (26%) of staff completing the survey. Respondents identified securing funding, obtaining ethics approval, and advising junior researchers as most challenging. Staff rated department level capacity as lacking; fewer than half the respondents rated their department as having moderate or extensive capabilities in the aspects explored, in general nursing staff rated capacity lower than other professions. More than two-thirds of staff agreed that NBMLHD as an organisation promotes evidence-based practice, but other key aspects of research capacity in the organisation were endorsed by only 30-60% of staff.

Lack of dedicated time for research and other priorities was consistently identified as the main barrier to conducting research at all levels. Respondents also reported lack of individual research skills, funding and mentoring, as deficiencies in departmental and organisational capacity. Large proportions of NBMLHD staff were motivated by the possibility to improve clinical outcomes for their patients through research involvement, as well as develop skills, increase job satisfaction, and progress their careers.

INTERPRETATION IN CONTEXT OF LITERATURE
The most directly comparable data come from a study that assessed research capacity in Western Sydney Local Health District, NSW using similar methods and with a very similar response rate [13]. While the individual skills questions were asked on a different scale, the pattern of results was very similar, in terms of generally higher scores for medical staff compared to allied health and nursing (Fig 1), and lowest scores for securing funding, advising junior researchers and applying for ethics. A strength of our study and that of Lee et al [9] was collection of data from all clinical professions, as opposed to Allied Health only, which enabled comparison of research capacity between professions. Despite the broader scope, our results are also similar to those in studies conducted in Allied Heath in other Australian health services [10, 14-18]. These studies also identified challenges with securing funding and gaining ethics and highlighted the key barriers of time and competing clinical priorities.

There has also been recognition of the potential benefits of developing research capacity among clinicians in other parts the world. In the UK, identification of similarly low levels of research capacity in the National Health Service, and in low and middle income countries generally [19] has led to significant efforts to increase activity [20, 21]. There is a body of research that recognises the issue of low research capacity in nursing and midwifery, with a systematic review having identified eight studies that aimed to increase capacity [22].

Findings regarding the most important barriers i.e. the lack of time for research and prioritisation of other (clinical) duties is common to this and research in other jurisdictions [9, 12-15]. Motivators such as the desire to develop skills,

improve job satisfaction are similarly ubiquitous. Of note though, Nepean Blue Mountains staff also explicitly identified research as a method to improve the quality of services and outcomes for their patients, few previous studies report this [23]. The finding is significant because it points to recognition by respondents of the fact that clinical practice and research can be complementary rather than discreet activities.

STRENGTHS AND LIMITATIONS

Strengths of this study include wide distribution across all staff in the health district, supported by encouragement from managers and use of a validated survey to collect data. The study collected data using a questionnaire validated for the purpose. Concordance of these results with other studies aimed at the same purpose increases the likelihood that successful strategies to increase research engagement are likely to generalise across jurisdictions. The most important limitation is the response rate of 7% which invites cautious interpretation as to generalisability. However, it is likely that respondents were staff with a greater degree of interest in research than the norm for the population. If we assume that those people are also more likely to be involved in research in future, then description of barriers and enablers from these people will be of most benefit in designing strategies to increase research activities and engagement.

IMPLICATIONS

The most important finding from this study is the consistent identification by all professional groups of lack of time and other clinical priorities as a barrier to research engagement. This lies outside the control of clinical staff. The implication is that if health service executive and management want to support research among clinical staff, they need to ensure that time is made available through relief from direct clinical duties. Without addressing this issue, it is unlikely that other supportive actions will lead to widespread increase in research activity. Secondary supportive actions would be best directed towards identified barriers of low research skills, access to mentoring and expert guidance, resources for administrative support, equipment, software and funding.

Clinicians stated that the desire to improve clinical services and patient outcomes were motivators to engage in research, this represents an untapped opportunity for health service leadership. Identifying research-practice gaps and areas of poor service performance, and resourcing and supporting clinicians to conduct research addressing these questions offers a way for the health service to better meet their obligations to their patients.

In general, while nurses had slightly lower ratings of individual and departmental capacity there were not large differences in patterns of responses between professional groups. This suggests that strategies to address barriers and poor capacity can be designed at a district level, adaptations for delivery need only address operational and work-flow differences rather than professional area.

CONCLUSION

Over 400 staff from Nepean Blue Mountains Local Health District in Sydney, Australia responded to a survey about research capacity. Most respondents were clinicians involved in delivering allied health, medical or nursing services. Staff identified lack of time and competing clinical priorities as the key barrier to engaging with research and desire to improve patient outcomes, build skills and increase job satisfaction as key motivators. Increase in clinician-driven research activity will likely require top-down approaches to release clinicians from clinical duties. Staff rated their individual research capacity as low and identified important gaps in capacity and support at the department and organisational level. Key gaps included availability of funding and resources to support research, mentoring and training.

DATA AVAILABILITY STATEMENT:

Data may be available on request subject to conditions from the ethics committee.

DISCLOSURE OF POTENTIAL CONFLICTS OF INTEREST:

All authors declare no conflicts of interest.

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APPENDIX

ADAPTED RESEARCH CAPACITY IN CONTEXT SURVEY

Part I

Questions about your background:

1.1 Which of the following profession best describes your current work role and experience?

(Please select a **single response that best fits**)

- □ Medical staff
    - □ Staff Specialist
    - □ Senior Registrar
    - □ Registrar
    - □ Resident Medical Officer
    - □ Junior Medical Officer
    - □ Other: _____

- □ Nursing and Midwifery staff
    - □ Nurse Manager
    - □ Clinical Nurse Consultant
    - □ Clinical Midwifery Consultant
    - □ Clinical Nurse Specialist
    - □ Clinical Midwifery Specialist
    - □ Registered Nurse
    - □ Registered Midwife
    - □ Nurse Educator
    - □ Midwifery Educator
    - □ Clinical Nurse Educator
    - □ Clinical Midwifery Educator
    - □ Enrolled Nurse
    - □ Other: _____

- □ Allied health staff
    - □ Dietetics/Nutrition
    - □ Occupational Therapy
    - □ Pharmacy
    - □ Physiotherapy
    - □ Psychology/clinical psychology
    - □ Podiatry
    - □ Speech Pathology
    - □ Social Work
    - □ Radiography
    - □ Radiation Therapy

- □ Nuclear Medicine Technology
- □ Sonography
- □ Exercise Physiology
- □ Other: _____

- □ Dental/Oral health
    - □ Dental officer
    - □ Oral Health Therapist
    - □ Other: _____
- □ Clinical Support
    - □ Aboriginal Health Worker/Practitioner
    - □ Hospital Assistant
    - □ Wardsperson
    - □ Hospital Assistant
    - □ Allied Health Assistant
    - □ Health Education, Health Promotion, and Health Protection
    - □ Interpreters and Liaison Officers
    - □ Technician/Technologist
    - □ Hospital Scientist/Biomedical Engineers
    - □ Cleaning, Linen and Food
    - □ Other_____

    - □ Management and Administration

        - □ Information management (e.g. librarian, medical records, and data manager)
        - □ Clinical Support Executive (e.g. Hospital Executive)
        - □ Administrative and Executive Assistant
        - □ Corporate Services
        - □ Senior Manager/Executive
        - □ Data Analyst
        - □ Researcher
        - □ Project Director
        - □ Project Manager
        - □ Project Officer
        - □ Security Services, Fire Safety
        - □ Maintenance or Tradesperson
        - □ Other:_____

1.2 Your gender
- □ Female
- □ Male
- □ Prefer not to say

1.3 Your age

- □ 18-24 years
- □ 25-34 years
- □ 35-44 years
- □ 45-54 years
- □ 55-64 years
- □ 65-74 years
- □ 75 years and over

1.4 Please indicate your highest professional qualification (Australian qualifications framework)

- □ Certificate I-IV
- □ Diploma, Advanced diploma, Associate degree
- □ Bachelor degree
- □ Bachelor degree with honours
- □ Graduate diploma, Graduate certificate
- □ Masters degree (coursework)
- □ Masters degree (research)
- □ Doctoral degree
- □ Other, specify_____

1.5 Are you <u>currently enrolled</u> in any higher degree study or other professional development related to research?

- □ Yes
- □ No

If yes, please indicate what level of study you are enrolled in

- □ Certificate I-IV
- □ Diploma, Advanced diploma, Associate degree
- □ Bachelor degree
- □ Bachelor honours degree
- □ Graduate diploma, Graduate certificate
- □ Masters degree (coursework)
- □ Masters degree (research)
- □ Doctoral degree

1.6 Which of the following best describes where you work?

- □ Nepean Hospital
- □ Nepean Cancer Care Centre
- □ Nepean Centre for Oral Health
- □ Blue Mountains District ANZAC Memorial Hospital
- □ Lithgow Hospital
- □ Springwood Hospital
- □ Mental Health Services (Inpatient)
- □ Mental Health Services (Community outpatient)

☐ Primary Care and Community Health Services (Chronic and Complex)

☐ Primary Care and Community Health Services (Child and Family)

☐ Primary Care and Community Health Services (IVPRS)

☐ Population Health Services

☐ Drug & Alcohol Services

☐ District offices (Station Street Penrith)

Other: _____

1.7 Which of the following best describes your role in the team based on your position grade/level?

☐ Junior Clinician/staff member

☐ Senior Clinician/staff member

☐ Executive

☐ Manager

☐ Educator

☐ Researcher

1.8 In total, how many years have you been working as a health professional?

☐ <1 year

☐ 1-5 years

☐ 6-10 years

☐ 11-15 years

☐ 16-20 years

☐ >20 years

Research translation questions

Research translation as creation of knowledge through research followed by translation of knowledge into changes in clinical practice and policy that underpin improvements in Australia's health care. **1.9 Have you implemented any research knowledge/findings into your clinical practice?**

☐ Yes

☐ No

☐ Unsure

If YES.

Which of the following research knowledge/findings did you implement in your clinical practice?

☐ Findings from clinical efficacy studies (in which new interventions are trialled under optimal conditions)

☐ Findings from clinical effectiveness studies (in which new interventions are trialled in "real world" settings)

☐ Evidence based on a systematic review or meta-analysis

☐ Established evidence-based guidelines and policy

☐ Your own research findings

1.10 How often has your research been successfully translated into clinical practice?

☐ I have not completed any research

□ Never
□ Sometimes
□ Mostly
□ Always

1.11 Which setting did you perform the research translation process (tick multiple that apply)?
□ Clinical
□ Community/population health
□ Other_____

Parts I-IV

Research Capacity in Context Tool

Developed by Queensland Health and Griffith University

The following survey is modified from Research Capacity in Context (RCC) Tool developed by Queensland Health and Griffith University

This tool operates on the premise that research capacity building occurs within the context of the organisation. For that reason we ask questions of your perceptions of the research capacity and its supports on three levels: organisation, team and individual level.

1. **INDIVIDUAL LEVEL**

1.1 Please rate your <u>own</u> current success or skill level for each of the following aspects by circling a response.

Poor = I have heard of this but I have had no experience

Good = I have done this but I require assistance

Excellent = I have done this many times and require no assistance

i) Finding relevant literature	No knowledge	Poor	Good	Excellent
iii) Critically reviewing the literature	No knowledge	Poor	Good	Excellent
iii) Using a computer referencing system (eg Endnote)	No knowledge	Poor	Good	Excellent
iv) Writing a research protocol	No knowledge	Poor	Good	Excellent
v) Securing research funding	No knowledge	Poor	Good	Excellent
vi) Submitting an ethics application (Apollo, LNR, Full Ethics)	No knowledge	Poor	Good	Excellent
vii) Designing questionnaires	No knowledge	Poor	Good	Excellent
viii) Collecting data e.g. surveys, interviews	No knowledge	Poor	Good	Excellent
ix) Using computer data management systems	No knowledge	Poor	Good	Excellent
x) Analysing qualitative research data	No knowledge	Poor	Good	Excellent
xi) Analysing quantitative research data	No knowledge	Poor	Good	Excellent

xii) Writing a research report	No knowledge	Poor	Good	Excellent
xiii) Writing for publication in peer-reviewed journals	No knowledge	Poor	Good	Excellent
xiv) Providing advice to less experienced researchers	No knowledge	Poor	Good	Excellent
xv) Conference Presentations (Abstract/Poster/Oral)	No knowledge	Poor	Good	Excellent

1.2 Please indicate any research activity you are currently (within the last month) involved with. Tick (☐) as many as apply

☐ Writing a research report or thesis, presentation or paper for publication

☐ Writing a research protocol

☐ Submitting an ethics application (Apollo, LNR, Full Ethics)

☐ Collecting data eg surveys, interviews

☐ Analysing qualitative research data

☐ Analysing quantitative research data

☐ Writing a literature review

☐ Applying for research funding

☐ Not currently involved in research

☐ Other __

1.3 Please state whether you are involved in research related activities as part of your job?

☐ **Yes**

☐ **No**

If yes, what provisions are made for you to conduct research as part of your role? Tick (☐) as many as apply

☐ Software   ☐ Administrative support

☐ Research supervision   ☐ Training

☐ Time   ☐ Library access

☐ Research funds   ☐ Other __

1.4 Please indicate if you have completed any of the following research activities in the past 12 months. Tick (☐) as many as apply

☐ No research activity completed in the past 12 months

☐ Secured research funding

☐ Submitted a thesis as part of a research degree (e.g., Masters, PhD)

☐ Co-authored a paper for publication

- ☐ Presented research findings at a conference
- ☐ Writing a research report or thesis, presentation or paper for publication
- ☐ Writing a research protocol
- ☐ Submitting an ethics application (Apollo, LNR, Full Ethics)
- ☐ Collecting data e.g. surveys, interviews
- ☐ Analysing qualitative research data
- ☐ Analysing quantitative research data
- ☐ Writing a literature review
- ☐ Applying for research funding
- ☐ Other_____

1.5 What are the barriers to research for you personally? Tick (☐) as many as apply

- ☐ Lack of time for research
- ☐ Lack of suitable backfill
- ☐ Other work roles take priority
- ☐ Lack of funds for research
- ☐ Lack of support from management
- ☐ Lack access to equipment for research
- ☐ Lack of administrative support
- ☐ Lack of software for research
- ☐ Isolation

- ☐ Lack of library/internet access
- ☐ Not interested in research
- ☐ Other personal commitments
- ☐ Desire for work / life balance
- ☐ Lack of a co-ordinated approach to research
- ☐ Lack of skills for research
- ☐ Intimidated by research language
- ☐ Intimidated by fear of getting it wrong
- ☐ Other __

1.6 What are the motivators to do research for you personally? Tick (☐) as many as apply

- ☐ To develop skills
- ☐ Career advancement
- ☐ Increased job satisfaction
- ☐ Study or research scholarships available
- ☐ Dedicated time for research
- ☐ Research written into role description
- ☐ Colleagues doing research
- ☐ Mentors available to supervise
- ☐ Research encouraged by managers

- ☐ Grant funds
- ☐ Links to universities
- ☐ Forms part of Post Graduate study
- ☐ Opportunities to participate at own level
- ☐ Problem identified that needs changing
- ☐ Desire to prove a theory / hunch
- ☐ To keep the brain stimulated
- ☐ Increased credibility
- ☐ Other __

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2. DEPARTMENT LEVEL

2.1 Please rate your <u>department's</u> current success or skill level for each of the following aspects by circling a response.

i) has adequate resources to support staff research training	Nil	some/little	moderate	Extensive	Unsure
ii) has funds, equipment or admin to support research activities	Nil	some/little	moderate	Extensive	Unsure
iii) does team level planning for research development	Nil	some/little	moderate	Extensive	Unsure
iv) ensures staff involvement in developing that plan	Nil	some/little	moderate	Extensive	Unsure
v) has team leaders that support research	Nil	some/little	moderate	Extensive	Unsure
vi) provides opportunities to get involved in research	Nil	some/little	moderate	Extensive	Unsure
vii) does planning that is guided by evidence	Nil	some/little	moderate	Extensive	Unsure
viii) has consumer involvement in research activities/planning	Nil	some/little	moderate	Extensive	Unsure
ix) has applied for external funding for research	Nil	some/little	moderate	Extensive	Unsure
x) conducts research activities relevant to practice	Nil	some/little	moderate	Extensive	Unsure
xi) supports applications for research scholarships/ degrees	Nil	some/little	moderate	Extensive	Unsure
xii) has mechanisms to monitor research quality	Nil	some/little	moderate	Extensive	Unsure
xiii) has identified experts accessible for research advice	Nil	some/little	moderate	Extensive	Unsure
xiv) disseminates research results at research forums/seminars	Nil	some/little	moderate	Extensive	Unsure
xv) supports a multi-disciplinary approach to research	Nil	some/little	moderate	Extensive	Unsure
xvi) has incentives & support for mentoring activities	Nil	some/little	moderate	Extensive	Unsure
xvii) has external partners (eg universities) engaged in research	Nil	some/little	moderate	Extensive	Unsure
xviii) supports peer-reviewed publication of research	Nil	some/little	moderate	Extensive	Unsure
xix) has software available to support research activities	Nil	some/little	moderate	Extensive	Unsure

2.2 What are the biggest barriers to research in your department?

2.3 What are the biggest motivators to research in your department?

1. ORGANISATION LEVEL

1.1 Please rate your <u>organisation's (NBMLHD)</u> success or skill level for each of the following aspects by circling a response.

i) has adequate resources to support staff research training	No	Yes – to some extent	Yes - definitely	Unsure
ii) has funds, equipment or admin to support research activities	No	Yes – to some extent	Yes - definitely	Unsure
iii) has plans/policies for research development	No	Yes – to some extent	Yes - definitely	Unsure
iv) has senior managers that support research	No	Yes – to some extent	Yes - definitely	Unsure
v) ensures staff career pathways are available in research	No	Yes – to some extent	Yes - definitely	Unsure
vi) ensures organisation planning is guided by evidence	No	Yes – to some extent	Yes - definitely	Unsure
vii) has consumers involved in research	No	Yes – to some extent	Yes - definitely	Unsure
viii) accesses external funding for research	No	Yes – to some extent	Yes - definitely	Unsure
ix) promotes clinical practice based on evidence	No	Yes – to some extent	Yes - definitely	Unsure
x) encourages research activities relevant to practice	No	Yes – to some extent	Yes - definitely	Unsure
xi) has software programs for analysing research data	No	Yes – to some extent	Yes - definitely	Unsure
xii) has mechanisms to monitor research quality	No	Yes – to some extent	Yes - definitely	Unsure
xiii) has identified experts accessible for research advice	No	Yes – to some extent	Yes - definitely	Unsure
xiv) supports a multi-disciplinary approach to research	No	Yes – to some extent	Yes - definitely	Unsure
xv) has regular forums/bulletins to present research findings	No	Yes – to some extent	Yes - definitely	Unsure
xvi) engages external partners (eg universities) in research	No	Yes – to some extent	Yes - definitely	Unsure
xvii) supports applications for research scholarships/ degrees	No	Yes – to some extent	Yes - definitely	Unsure
xviii) supports the peer-reviewed publication of research	No	Yes – to some extent	Yes - definitely	Unsure

Please comment on any of the above issues indicating the item you are commenting on.