Disability Research Capacity:
Key Definitions and Frameworks

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Executive Summary

One of the aims of the National Disability Research Partnership (NDRP) is to improve disability research capability / capacity. However, there are debates about what this means precisely, particularly since the terms research capability and capacity are often used as though they are the same thing. Moreover, it is not always clear how research capability / capacity can be improved.

The aim of this document is to prompt discussions regarding what the NDRP aims to achieve in respect to building disability research capacity and capability. The first step in this process is to reach agreement about what the NDRP means by research capacity / capability. To achieve this, this document identifies that research capacity focuses on enhancing the overall quality and usefulness of research and how this is achieved. As such, it incorporates factors at the individual, group / team, organisational and cross-organisational (disciplinary) levels. In contrast, research capability and competencies focus solely on the individual level and refer to the development of individuals' research knowledge, skills and attitudes / interest.

This document also identifies that there are debates regarding the terms used when explaining efforts to develop research capacity / capability. Such efforts are often referred to as 'research capacity building', 'research capacity development' and 'research capacity strengthening', with some claiming that 'research capacity building' assumes there is currently zero capacity. Despite these issues, and the term used, efforts to develop research capacity usually focus on establishing institutional factors that enable high quality and useful research to be undertaken. They also focus on improving the abilities of individuals and groups to understand, use and undertake high quality research.

Following this review, it will be important for the National Disability Research Partnership to:

- Identify what high disability research capacity looks like (i.e., what will be in place if there is high disability research capacity);
- Recognise the need to build on what research capability and capacity already exists;
- Determine the scope of the disability research capacity framework;
- Carefully consider **why** you want to develop research capability / capacity, reflecting on the three core reasons identified in the literature: (1) enhancing evidence-based practice; (2) ensuring research is relevant and derives direct benefits for end users (i.e., through prioritizing the development of the research capabilities of people with disabilities); and/or (3) enhancing the performance of higher education institutions;
- Carefully consider how disability research capacity and capability will be developed;
- Prioritise actions taken to improve disability research capacity; and
- Consider how to evaluate and measure research capacity and the effectiveness of research capacity building efforts.

Introduction

One of the aims of the National Disability Research Partnership (NDRP) is to improve disability research capability / capacity. However, there are debates about what this means precisely, particularly since the terms research capability and capacity are often used interchangeably. Moreover, it is not always clear how research capability / capacity can be improved.

The aim of this document is to prompt discussions regarding what the NDRP aims to achieve in respect to building disability research capacity and capability. The first step in this process is to reach agreement about what the NDRP means by research capacity / capability. To achieve this, this document outlines definitions of these terms, which were obtained through undertaking a database search[1] using the following key terms: (1) research capacity; (2) research capabilities; (3) research competencies / competency / competence; and (4) research knowledge and skills. This document also identifies common mechanisms used to develop research capability / capacity and frameworks used.

This document is outlined as follows. Section 1 outlines the key definitions of research capacity, capability and competencies. Section 2 identifies terminology considerations when developing research capacity / capability. Section 3 proposes a way forward with National Disability Research Partnership's (NDRP) conceptualisation of research capacity and capabilities. Section 4 provides concluding thoughts and key considerations for the NDRP.

1. Key Definitions

Research capacity and capability have become a key concern among both academics and practitioners in recent years. But when we examine these concepts in more detail, it is evident that this terminology is often not well defined and there is a lack of conceptual clarity. Many authors use the terms 'research capacity' and 'research capability' loosely, with the terms often not defined and used interchangeably. This means there are challenges in distinguishing between individual research capability and research capacity at the macro level. Few authors have distinguished between these terms (with the exception of Corchon et al., 2011; McAllister & Brien, 2017; Rossall et al., 2008) and, therefore, there is not a universal approach that the NDRP can follow.

When discussing the issues with the term 'capacity building' more broadly (see Section 3), Potter and Brough (2004) argue that it is important to clarify and be precise with the terms used, as otherwise different stakeholders will use the same term, but they may have fundamentally different understandings of what it means. This can present issues for claims that there is a lack of capacity, as different stakeholders may have different perceptions of how this manifests and, therefore, may also have totally different ideas about the action required to address issues. This can also mean that attempts to address the issues lead to considerable wasted effort and resources, as well as frustration when investment does not lead to expected results (Potter & Brough, 2004). Therefore, this section identifies the different definitions used to try and enable conceptual clarity for the National Disability Research Partnership and, therefore, an articulation of desired aims for disability research.

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[1] The following databases were used: Business Source Premier, Emerald, Wiley, ProQuest, ScienceDirect, Taylor & Francis.

1.1.   Research Capacity

Research capacity is defined in different ways, with two broad conceptualisations evident in the literature.

The most common conceptualisation of research capacity is that it is a multilevel concept that exists at individual, team, and institution or organisation levels (Pager et al., 2012; Sitthi-amorn & Somrongthong, 2000). To put it simply, it is about individuals, teams, organisations and disciplines having the ability (research expertise, knowledge and skills) to undertake research activities and disseminate research findings, **as well as** the funding, resources / time, and incentives to undertake and engage in research (Gill et al., 2019; Howard et al., 2013; Levine et al., 2013; Nchinda, 2002; Segrott, McIvor and Green, 2006; Torres et al., 2017; van Rensburg et al., 2017; Wimbush, 1999). This is achieved through creating the necessary research infrastructure, environment and culture (see Table 1) (Nchinda, 2002; Segrott, McIvor and Green, 2006).

Table 1: Elements of research capacity

Factor	Description	References
Institutional context	Organisational, managerial, and material conditions within institutions, including: • Research infrastructure, such as laboratories, equipment, libraries. • An effective system of information storage, retrieval, and utilisation. • Effective research management systems • Appropriate management systems. • Policies that facilitate and support the research enterprise including incentives that recognise and reward high quality research.	(Sawyerr, 2004; Volmink & Dare, 2005).
Quality of the research environment and facilities	• Supportive research environment, including adequate training and development of researchers. • Assembling of a critical mass of researchers. • A positive research culture. • Devoting adequate time to research.	(Corchon et al., 2011; McCance et al., 2007; Sawyerr, 2004).
Investment	Funding to undertake research.	(Corchon et al., 2011; McCance et al., 2007; Volmink & Dare, 2005).
Sufficiently skilled people to conduct and publish research	Research skills, competencies, attitudes, and values of individual researchers.	(Sawyerr, 2004; Volmink & Dare, 2005).

The second conceptualisation of research capacity is to see it as *individual* research skills and the ability to design research, collect and analyse data, and disseminate findings (Carroll-Scott et al., 2012; Howard et al., 2013; Ismaila & Meerahb, 2012; Kania-Richmond et al., 2017; Matus et al., 2018; Short et al., 2010; Thornicroft et al., 2012). Embedded in this conceptualisation is the idea

that researchers should be competent in research methodologies and their associated approaches to data collection and analysis (Rees et al., 2007). This second conceptualisation of research capacity overlaps with definitions of research capability.

Questions for the NDRP
1. How will you use the term 'research capacity' (i.e., will it be the macro-level definition)?
2. What is the unit of analysis or focus for the NDRP?
i. Are you focused on developing the research knowledge and abilities of individuals? **And/or**
ii. Are you focused on enhancing the overall quality and usefulness of disability research?
2. What research infrastructure is currently in place to support disability research?
3. What incentives are currently in place to encourage high quality disability research?
4. How supportive is the disability research environment?
5. What funding opportunities are in place to support disability research?

## 1.2. Research Capability and Competencies

Research capability is a term that is commonly referred to loosely in the academic literature but is rarely defined, whereas the term 'research competency' is not commonly used and overlaps with definitions of research capability (focusing on the individual level). From the few definitions evident, it is clear that both **occur at the individual level** and refer to the acquisition or development of an individuals' research knowledge, skills and attitudes / interest (see Corchon et al., 2011; McVicar & Caan, 2005; Rossall et al., 2008). Research knowledge and skills refers to the ability of individuals to obtain and critically analyse literature and apply that knowledge to evidence-based practice (Hymel, 2003; Ward et al., 2020). It also refers to the ability to identify research problems, formulate research questions, collect and analyse data, disseminate research findings (and contribute knowledge to the literature) and to apply knowledge to solve problems (Hymel, 2003; Swank & Lambie, 2016; Qiu, Feng, Reinhardt and Li, 2019; Vinitwatanakhun, 2018). An example of the types of capabilities required of researchers is outlined in the UK's *Researcher Development Framework*, which was developed to plan, promote and support the personal, professional and career development of researchers in higher education (see Vitae, 2011).

Three papers differentiated research capacity from research capability, with the following distinctions provided:

- Research capability may refer to the possession of skills and commitment to design and implement new research and then to utilise research in daily practice, whereas research capacity occurs at the macro level and describes the system's resources and culture that exists to support and sustain research practice (McAllister & Brien, 2017).
- Corchon et al. (2011) state that research capacity is enhanced when the barriers to research capability are reduced and the facilitators of research capability are enhanced (where barriers and facilitators can include research environment and infrastructure, as per Table 1).
- Rossall et al. (2008) also differentiated research capability from research capacity, stating that research capability is about the "development of individuals' research skills (ability), whereas research capacity is about utility, which can be achieved by the collaboration of more than one organisation to establish connections with a wider knowledge and

expertise base. Activity of this nature therefore creates a higher quality of research output because of the combined skills mix and organisational reputations, which in turn increases capacity" (p.160) (see Figure 1).

Figure 1: Turning research capability into research capacity (from: Rossall et al., 2008)
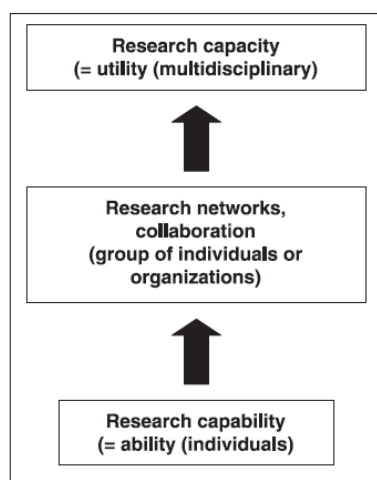
1.3. Concluding comments regarding definitions

From the summary above, it is clear that research capacity is generally seen as a macro-level concept that focuses on enhancing the overall quality and usefulness of research and the mechanisms required to achieve this. As such, it is a multi-level concept that incorporates factors at the individual, group / teams, organisational and cross-organisational (disciplinary) levels. In contrast, research capability and competencies focus solely on the individual researcher level.

2. Developing research capacity / capability

Another consideration for the NDRP is the terminology used when explaining efforts to develop research capacity / capability. In the literature, such efforts are often referred to as 'research capacity building', 'research capacity development' and 'research capacity strengthening'; sometimes these terms are used in purposeful ways, whereas other times they are used interchangeably. Most refer to 'research capacity building', but there is a lack of conceptual clarity and agreement on what this means (Condell & Begley, 2007); therefore, it is a "slippery and often contested term" (Murray & Pollard, 2011, p.220). There are also debates around these terms, particularly because some perceive that research capacity *building* assumes there is currently zero capacity (see Lee & Kuzhabekova, 2019; Trostle, 1992), whereas research capacity *development* or research capacity *strengthening* suggest there is currently capacity, and the focus is on building on what is already there (Lee & Kuzhabekova, 2019).

However, reviewing the literature reveals that their definitions are often the same, irrespective of the actual term used. In summary, they involve systematic efforts (Rees et al., 2007) to improve research, including:

- The process of "individual and institutional development which leads to higher levels of skills and greater ability to perform useful research" (Trostle, 1992, p. 1321). This is, by far, the most used (and cited) definition in the literature.

- Improving the abilities of individuals and groups to understand, utilise and undertake high quality research (collect and analyse data) and disseminate quality reports (Rees et al., 2007; van Rensburg et al., 2017), thus, enhancing research skills and expertise (Christie & Menter, 2009; McDermott & Bawden, 2017; Wray & Wallace, 2011).
- Developing and implementing tools and training to build a user's ability to understand and utilise research (Dilkes et al., 2011).
- Providing practitioners with the opportunity to participate in research so they can evaluate interventions (Dilkes et al., 2011; McCance et al., 2007).

Increasingly, the emphasis is on **adopting a systems approach** that recognises that often it is not a lack of skills that is the issue; it is the lack of supportive infrastructure that enables the research skills to be applied (Potter & Brough, 2004). This approach incorporates training and development, developing and facilitating networks, enabling collaborations and research partnerships, which can accommodate diversity and reduce barriers to involvement (Pickstone et al., 2008; Potter & Brough, 2004). These barriers include: lack of incentives; responsibility not being appropriately allocated; lack of monitoring progress; lack of linkages across boundaries; responsibility being set at too low levels; wider organisational contextual factors; and insufficient / inappropriate staffing (Potter & Brough, 2004). An example of a systems approach to developing research capacity is the *Research Capacity Development for Impact Framework* developed by Cooke (2021) (see Appendix A).

Questions for the NDRP
1. If there was high disability research capacity, what would it look like? What would be in place?
2. If there were strong disability research capabilities, what would they look like? What would be in place?
3. What actions can members of the NDRP take to increase disability research capacity?
4. What actions can members of the NDRP take to increase disability research capabilities?
5. What should the priority actions be to increase disability research capacity and capabilities?
6. How could/would you track progress over time?

3. Suggested way forward

Based on the above definitions, the NDRP could consider conceptualising the aims of the disability research community as follows: the aim is to develop research capacity, which focuses on developing individual <u>and</u> collective research capabilities. This also involves supporting the ability of individuals and groups to undertake and disseminate quality research that is both rigorous and relevant to the disability community.

- Developing research capabilities involves developing individuals (academics, practitioners and people with disabilities) to undertake quality research, and developing their research expertise, knowledge and skills.
- Supporting the ability to undertake quality research involves providing the institutional support necessary to ensure individuals and groups (including those within the disability community) have the opportunity to contribute to, undertake and disseminate research (see Figure 2).

Figure 2: Suggested disability research capacity framework[2]

Research Capacity	
Developing research capabilities:	**Supporting the ability to undertake and disseminate research to realise impact:**
Research training: Higher Degree by Research (Masters, Professional Doctorate and PhDs), workshops, courses (Burke et al., 2005; Cooke et al., 2008; Dodania and LaPorte, 2008; Heitor, Horta and Mendonça, 2014; Hofman et al., 2013; Nchinda, 2002; Orme and Powell, 2007; Segrott, McIvor and Green, 2006; Trostle, 1992; Usher et al, 2015; Wimbush, 1999; van Rensburg et al., 2017) **Programs to support participation in, and completion of, PhD programs (disadvantaged groups)** (Elston et al., 2013). **Post-doctoral fellowships** (Heitor, Horta and Mendonça, 2014; Hofman et al., 2013; Nchinda, 2002) **Research coaching and mentoring** (Cooke et al., 2008; Maritz et al., 2013; Putz et al., 2018; Segrott, McIvor and Green, 2006; van Rensburg et al., 2017) **Research secondments** (Wimbush, 1999) **Internship programme** (Wright et al., 2020)	**Participatory research involving those who are affected by the research** (Sitthi-amorn and Somrongthong, 2000; Volmink and Dare, 2005); i.e., people with disabilities. **Establishing research support networks** (Cooke et al., 2008; Jackson, 2008; Kahn, Petichakis, and Walsh, 2012; Orme and Powell, 2007; Sweeny et al., 2019; Wimbush, 1999) **Practitioner-academic research partnerships** (Bethune et al., 2019; Cooke, 2021; Gerardi and Wolff, 2008; Orme and Powell, 2007; Usher et al, 2015; van Rensburg et al., 2017; Volmink and Dare, 2005) **Engagement in research** (van Rensburg et al., 2017) **Providing institutional support (i.e. secondments, internships, fellowships)** (Cooke, 2021; Nchinda, 2002) **Research infrastructure (appropriate and supportive research environment)** (Nchinda, 2002; Segrott, McIvor and Green, 2006; Withington et al., 2020) **Strong research leadership** (Nchinda, 2002; Orme and Powell, 2007; Segrott, McIvor and Green, 2006) **Competitive funding programs** (Heitor, Horta and Mendonça, 2014; Nchinda, 2002; van Rensburg et al., 2017) **Formation of research units with performance-based funding** (Heitor, Horta and Mendonça, 2014) **Protected and dedicated time for practitioners (i.e. allied health) to undertake and disseminate research** (Cooke, 2021; Cooke et al., 2008; Howard et al., 2013; van Rensburg et al., 2017; Wimbush, 1999) **Administrative and practical support** (van Rensburg et al., 2017; Withington et al., 2020) Career pathways (Cooke, 2021; Trostle, 1992)

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[2] The 'developing research capabilities' section above is often a narrow university-based conception of research capabilities; this is the only conception found in the literature. It could be worth considering what else would need to be put in place to develop the research capabilities of people within the disability community.

4. Conclusion

This document has outlined the key conceptualisations of the terms research capacity, capability and competencies. It has identified that research capacity is generally seen as a macro-level concept that focuses on enhancing the overall quality and usefulness of research and the mechanisms required to achieve this. As such, it is a multi-level concept that incorporates factors at the individual, group / teams, organisational and cross-organisational (disciplinary) levels. In contrast, research capability and competencies focus solely on the individual researcher level. It has also outlined the common definitions of the terms research capacity building, development and strengthening. Following this review, it will be important for the National Disability Research Partnership to:

- Recognise the need to build on what research capability and capacity already exists (Hofman et al., 2013); that is, identifying the financial (i.e., funding opportunities), human and organisational resources available to support disability research activities (see Lionis et al., 2018; Segrott, McIvor, & Green, 2006).
- Determine the scope of the disability research capacity framework. That is, identifying whether the focus is on one or a combination of the following: disability researchers in universities; practitioners; members of the disability community etc.
- Carefully consider **why** you want to develop research capability / capacity. In the literature, the following reasons are provided:
  1. It is important for **enhancing evidence-based practice**. The focus here is on practitioners developing skills so they can undertake research activities to implement research findings or so they can more effectively use evidence in practice (see Cooke et al., 2008; Gill et al., 2019; Matus et al., 2018; McDermott & Bawden, 2017; Nchinda, 2002; Withington et al., 2020). At a basic level, this includes developing the ability of practitioners to understand and interpret research so they can use evidence, rather than engage in research activities themselves (Dilkes et al., 2011; Hulcombe et al., 2014).
      - If this is the NDRP's aim, then the focus will be on academics and practitioners engaged in research and/or service delivery to people with disabilities.
  2. Those who discuss undertaking **research with the end users** argue that research capability / capacity is important for ensuring research is relevant, and derives direct benefits, for end users (see Lee & Kuzhabekova, 2019; although focused on developing nations, principles apply here). That is, that research is used and impactful (Cooke, 2021) for those that are ultimately affected by the research.
      - If this is the NDRP's aim, then the focus will be on people with disabilities / members of the disability community, academics, and practitioners engaged in research and/or service delivery to people with disabilities.
  3. For those focused **solely on research capability / capacity within academia**, the reason for developing research capacity is to enhance the performance of higher education institutions, through attracting grant funding and publishing research in high impact journals (see Kahn, Petichakis, & Walsh, 2012; Rowley, 1999; Segrott et al., 2006).
      - If this is the NDRP's aim, then the focus will be on academic researchers.
- There is a lot of debate about how to evaluate and measure research capacity and the effectiveness of research capacity building efforts (see, for example, Cooke, 2005). This may need to be a consideration while developing the framework.

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Appendix A

Research Capacity Development for Impact Framework developed by Cooke (2021)
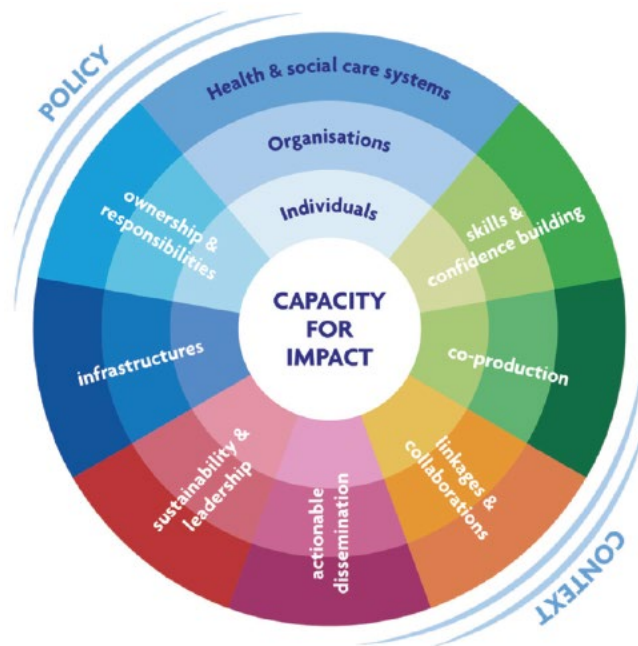
Figure. A Framework for RCDi. Abbreviation: RCDi, research capacity development for impact.

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