Widening participation in medicine in the UK and Australia: An international comparison of policy, process and experience

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I hereby declare that:

I, the named candidate, composed this thesis.

This thesis has not been accepted in any previous application for a degree.

Except where explicit attribution is made, the work presented in this thesis is entirely my own.

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Abstract

Medical education is concerned with developing best medical practice in supporting diverse, culturally competent physicians to deliver excellent patient care. Recent policy and practice aims to encourage applicants from disadvantaged backgrounds into the profession via widening access (WA) and widening participation (WP) initiatives. However certain groups remain under-represented in medicine worldwide. For those who do successfully navigate their way through the selection process, we know little about this journey, and how these policies and practices operate 'on the ground'.

The UK and Australia share historical similarities in the trajectory of their health and education policies, as well as significant differences in more recent policy drivers linked to WP. These two countries make for good systems of comparison in exploring how WP medical students and medical school staff experience and perceive WP policy and practice. Research approaches used qualitative methods (participant interviews and document analysis) within a comparative case study design to explore WA and WP within and between each context.

Underpinned by a critical constructivist paradigm, theoretical frameworks applied in data analysis include a critical discourse analysis of national policy aimed at WP, an actor-network theory perspective on institutional WA and WP policy and processes, and a narrative inquiry of WP student experiences. The aim was to achieve a better understanding of how widening participation in medicine is interpreted and experienced at national (macro), institutional (meso) and individual (micro) levels in each context, with a view to encouraging and supporting meaningful changes in the philosophies, policies and practices of WP.

Findings suggest that universities and medical schools are replete with competing priorities that are often in tension with practices aimed at greater inclusion. Opening up medicine to embrace diversity will not happen without the deconstruction of entrenched processes and practices, explicit recognition of context, and the equal engagement of all stakeholders.

Summary of salient points

- Individuals from underrepresented backgrounds continue to face myriad challenges in accessing and participating in medicine, and it is important to understand how these challenges manifest due to a complex enmeshment of factors linked to disadvantage and marginalisation if WA and WP initiatives are to be successful.
- Context is key - both nations recognise tensions inherent in striving to achieve both local and global WP goals, but Australia appears to prioritise community values in working towards 'nation building' while in the UK the focus on individuality and meritocracy seems at odds with achieving parity for disadvantaged individuals.
- Well-established assumptions such as the requirement for academic excellence and what kind of person is suitable for medicine that reinforce inequalities and misrecognitions in access to medicine are now questioned by many, but the slow pace of change indicates that powerful actors are reproducing WA and WP practices in ways that support and favour their own interests.
- Current approaches to WP in medicine still work from a position of deficit – of making 'them' like 'us' – future practice should consider how to support and play to WP student strengths, engaging all stakeholders in prioritising both student retention and community health needs.
- WP medical students experience complex and challenging journeys into medicine and we have yet to understand how they carry the long term impact of historical disadvantage and marginalisation into their future careers. Contextually relevant processes and practices should foreground the needs of these future medical practitioners, as well as the communities they aim to serve.
- Attending to structural inequalities and the redistribution of resources and opportunities means a political reframing of equity through the representation of hitherto marginalised voices, perspectives and experiences.
- Opening up medicine to embrace diversity requires the deconstruction of entrenched processes and practices - transformative medical education should rethink existing admission and selection processes that promote different kinds of excellence, and embrace diversity and inclusion in more socially accountable ways.

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Publications and presentations during enrolment

Publications

Journal article

Coyle, M., Sandover, S., Poobalan, A., Bullen, J. and Cleland, J., 2021. Meritocratic and fair? The discourse of UK and Australia's widening participation policies. *Medical Education*, 55(7), pp.825-839.

Presentations

'Meritocratic and fair? A comparative discourse analysis of widening access policy in the UK and Australia'. *Research presentation*. Australian Consortium for Social and Political Research Incorporated (ACSPRI) Biennial Social Science Methodology Conference, Online: December 2020.

'Social mobility vs social accountability: A critical discourse analysis of widening access to higher education and medicine in the UK and Australia'. *Milestone 3 presentation*. The School of Medicine, Medical Sciences and Nutrition (SMMSN) PGR Winter Conference. University of Aberdeen, Aberdeen, UK, (online): November 2020.

'Social mobility vs social accountability: A critical discourse analysis of widening access to higher education and medicine in the UK and Australia'. *Short communications*. The Association for the Study of Medical Education in Europe (AMEE) Conference. Online: August 2020.

'Exploring widening access to medical education in the UK and Australia: An international comparison'. *HDR student PhD presentation*. The Mark Liveris Student Research Seminar. Curtin University, Perth, Australia (online): May 2020.

'Doctors: Why diversity matters'. Three Minute Thesis Competition (3MT). *PhD student presentation*. Curtin University, Perth, Australia. September 2019. **(Finalist)**

‘International research challenges’. *Milestone 1 presentation*. The School of Medicine, Medical Sciences and Nutrition (SMMSN) PGR Winter Conference. University of Aberdeen, Aberdeen, UK: November 2018. **(Winner – 1st year session)**

‘Widening access to medicine: An international comparison of student experiences’ *Research Dilemma.* The Rogano Conference, Maastricht University, Netherlands: August 2018

Chapter 1: Introduction

Setting the scene

This opening chapter provides a general introduction to the overall thesis. I begin by setting the scene in terms of the study context, and my positionality as researcher and PhD candidate in relation to the project. I then summarise the thesis background, rationale and aims, and conclude the chapter with a general overview and chapter outlines.

Study context

The genesis of this doctoral research came about via a collaborative effort between the then newly formed Aberdeen – Curtin Alliance and the Centre for Healthcare Education Research and Innovation (CHERI) within the School of Medicine, Medical Sciences and Nutrition (SMMSN) at the University of Aberdeen. The Alliance was established in 2017 and represents a broad collaboration spanning multiple disciplines across the two universities, drawing on the strengths of both institutions to deliver high-impact research amid transnational educational opportunities for postgraduate students.

Students are co-supervised by academics at both universities and commence their studies at either Aberdeen or Curtin as a 'home' institution, spending a middle year of their studies at the 'host' university. Professor Jennifer Cleland (my lead supervisor) and Professor Sally Sandover (second supervisor), then based at CHERI and Curtin Medical School respectively, worked in tandem to develop the original idea for this PhD research which centred on an international comparison of student experiences of widening access (WA) to medicine. Funded by the Alliance, the proposed doctoral programme was advertised in late 2017, and following a successful application I was enrolled as a PhD candidate in April 2018.

In parellel, 2017 was a significant year in other respects related to the context of this research. In light of a long-standing commitment to widening access (WA) to higher education, and engagement with Reach Scotland (a national project created in 2010 to widen access to historically elite professions), the University of Aberdeen was awarded funding in 2017 to develop a pre-medical Gateway programme to support students from less traditional/privileged backgrounds to pursue a career in medicine. In the same year, the newly formed Curtin Medical School enrolled its very first cohort of medical students. In

addition to the standard entry route, Curtin provides three alternative pathways into medicine for students based on differing widening participation (WP) criteria and objectives; Equity, Rural and Indigenous pathways. This provided a unique opportunity to explore this topic for my PhD.

Criteria used to determine who is eligible or not for WA and WP initiatives varies considerably both with and between national contexts. Despite developments in WA to and WP in medicine globally, these groups of people, often referred to as coming from 'diverse', 'non-traditional' or 'disadvantaged' backgrounds, remain under-represented in medicine worldwide (Cleland et al, 2012). Linked to the process of colonisation, Australian medical education is historically similar to that of the UK, and the two countries make for good systems of comparison in light of key cultural, historical and political differences.

Widening participation and widening access are terms often used interchangeably in higher and medical education contexts, and they can have multiple if similar understandings (Patterson and Price, 2017). WA and WP are also used interchangeably within this thesis where broadly, they refer to the 'process of encouraging underrepresented socioeconomic groups to apply for higher education' (Angel and Johnson, 2000; Cleland et al, 2015a). Nicholson and Cleland (2015) provide a useful definition of and distinction between these terms:

- Widening Access (WA) emphasises more the equality or fairness of the selection processes that act as a gateway to Higher Education (HE). This may refer to specific selection policies that increase the matriculation of certain unrepresented groups.
- Widening participation (WP) refers to the policy that people such as those coming from disadvantaged backgrounds, mature students, students from ethnic and cultural groups and disabled students should be encouraged to take part, and be represented proportionately, within higher education.

Different contexts and institutions appear to favour one or the other, and at the beginning of this research journey I was using 'access' most frequently, a term more common within the UK and certainly within policy documents at the University of Aberdeen. As I became more immersed in the Australian context, data and research, it became clear that 'participation' dominated language and discourse and was more aligned with the aims of

this thesis. Participation goes beyond access and selection, focusing on providing equality of opportunity and promoting social mobility, breaking the intergenerational transmission of disadvantage (Milburn, 2012a; 2012b). The differences are subtle, but important, and my use of both terms reflects my understanding and experiences within each context.

During my enrolment my lead supervisor moved to Singapore to take up a new role at the Lee Kong Chian School of Medicine, and so Dr Amudha Poobalan (previously my advisor) stepped in as my Aberdeen-based supervisor in late 2018. As Curtin Medical School (CMS) had yet to establish a postgraduate enrolment programme, Professor Jaya Dantas (who co-ordinates the PhD programme in International Health at Curtin) assisted the Medical School with the process of my admission and ongoing supervision in an official capacity at the university. After arriving in Australia and having discussions with staff members about my research at CMS, Dr Jonathan Bullen also offered to come on board as a supervisor, providing particular support and guidance when it came to Aboriginal and Torres Strait Islander contexts within my thesis.

Researcher context

My motivations for choosing to pursue this programme of study are linked to my personal, professional and educational background. Only once I began the PhD did I really start to understand my own complex motivations for and interest in the research.

My parents are Irish immigrants who both came from poor farming backgrounds in rural and remote parts of Ireland. They left the country in the 1970s amid limited employment opportunities and increasing political unrest linked to The Troubles in Northern Ireland, eventually settling in London. I was lucky to receive an excellent secondary education at a Catholic grammar school there and going to university was expected, however my parents knew nothing of this process. 20+ years ago there was limited information at home and school, and my peers and I were largely unaware of league tables and ‘elite’ universities. I was interested in forensic sciences, a less prolific subject at the time, and primarily chose where to study based on course content. I was the first in my family to attend university, and completed a BSc Hons at Abertay Dundee University, known as a post-1992 or former polytechnic university.

Following graduation in 2006 I spent the following 10 years outside academia, mainly working in health and social care related fields and predominantly within the third sector. I experienced significant health problems during this time which brought me into regular and sustained contact with both primary and secondary health services. As I recovered, I became very aware of how lucky I was compared to many others. I had major advantages linked to certain privileges that meant I could access such excellent care with relative ease. Fair access to better opportunities and treatments became something I was passionate about, and I was able to tackle some of these issues in my role as a collective advocacy project manager. My work was focused on supporting groups of people with mental health problems to share their experiences, collaborating with NHS services and other stakeholders in developing awareness raising materials and contributing to local service redesign. I became more acutely aware of how unsupported, underfunded and under resourced many people and services were, and my frustration grew at always trying to do so much with so little. I knew I operated with a small corner of much wider health systems and structures of which I knew little of, and I wanted to understand more about the bigger picture and where my interests and skills might lie. Returning to higher education gave me this opportunity and more, and I completed a Master of Public Health in 2017 at the University of Aberdeen.

Following my MPH degree and prior to commencing this PhD I was employed as a research assistant at both the Health Economics and Health Services Research Units at Aberdeen. I had a strong background in health-related fields, but widening access to, and participation in, medicine, and indeed higher education, was not something I knew very much about. I was intrigued by the fairness and social justice aims of these policies and drives and wanted to know more about what it might mean for better patient care. The internationally comparative aspect of the research was a unique opportunity from which to view a very complex problem, and the programme ultimately fused together my experiences and interests, raising big questions about culture, class, identity and privilege that I had often asked of myself.

Thesis background and rationale in summary

Medical education and research are concerned with developing and supporting best medical practice, producing high calibre physicians with the appropriate skills and attributes who

can contribute to improving health outcomes for patients and the wider public. Having a diverse, culturally competent healthcare workforce is considered crucial for improving healthcare quality (Mahon et al, 2013), and more recent policy and practice within medical education is aimed at encouraging potential students from 'non-traditional' backgrounds into the profession via WA and WP initiatives. However, individuals from low socioeconomic, rural, indigenous and some ethnic and cultural backgrounds remain under-represented in high status degrees such as medicine (Southgate et al, 2017; Sadler et al, 2017; Bowes et al, 2013; Hay et al, 2016; Gale and Parker, 2013; BMA, 2009; Cleland et al, 2012). This lack of success may reflect the limits of an approach which does not acknowledge (or begin to address) the complex sociological issues which may act as barriers to 'getting in', 'staying in' and 'getting on' in medical school (Milburn, 2012a; 2012b) and which risk 'pathologising' non-traditional students as lacking the essential skills, attributes or knowledge to be successful in medical education (Brosnan and Turner, 2009; Reay, 1998).

Moreover, although the number and quality of studies exploring and investigating widening access to medicine are increasing, gaps remain in the literature. First, some applicants from WA/WP backgrounds do successfully negotiate the complex medical admissions process, enter medical school and graduate into postgraduate training, but still very little is known about whether they struggle once in medical school. Some recent quantitative studies indicate that disadvantage may in fact continue (Cleland et al, 2015b; Stegers-Jager et al, 2015), but there are relatively few empirical studies which move 'beyond the numbers' (Baxter et al, 2015), from the macro to the micro, to explore the policies, processes and experiences of WP in medicine. Issues in WA to medicine are complex and confounded by myriad intersecting systemic challenges which are difficult to define and address, and many solutions proposed have often been relatively simplistic. However, a better understanding of these structures, and the experiences of WP medical students, is critical to driving change in the philosophies, policies and practice of WA and WP.

Although many countries struggle with widening access to medicine, to the best of our knowledge, there are no cross-context comparisons. UK and Australian contexts share aspects of their history and culture, attitudes, values and beliefs (Maleki and De Jong, 2014). There are also similarities in the ways in which the education systems are organised and the factors that have been identified as inhibiting or facilitating educational attainment and

progression to higher education (Hackett, 2014; Wellings, 2015). However, the only cross-cultural study I could identify focused generally on higher education systems, WP policy and institutional level interventions, but did not include data from users, or students (Bowes et al, 2013).

In summary, numerous gaps in the literature remain regarding WP in medicine. The collaboration between Curtin and Aberdeen provides the ideal opportunity to address some of these research gaps, and thus extend knowledge on the topic of WA and WP in medicine. My aim is to gain new insight into the ways in which medical students from WA backgrounds negotiate the medical selection process and experience medical school, as well as the policies and practices that limit or enable this journey. This will represent the first cross-context qualitative study on the topic of WP in medicine.

Thesis 'with publications'

Increasing numbers of countries and universities are adopting a thesis 'with publications' format, and it is becoming a common feature of doctoral research in medical education. In contrast to a traditional thesis, 'results' chapters are presented in publication format i.e. Introduction, Methods, Results, Discussion (IMRD) - these are referred to in this thesis as studies One to Four. Only overall introduction and discussion chapters are required to accompany the study chapters, but I have also chosen to include additional background and methodology chapters to provide further detail and description of the research context and processes. In line with standard journal requirements, Chapters 4-7 (study chapters) use the term 'we' to refer to the group of researchers that were involved in each study. References pertaining to each study are presented in typical publication format following the discussion section, and to maintain consistency all other references are also presented at the end of each chapter. Bibliographies therefore appear throughout this thesis in lieu of a full thesis bibliography at the end of the document.

At the University of Aberdeen a minimum of one publication is required (no maximum), and all publications must be after the PhD programme start date. These publications may be published, under review or in submission. As with traditional theses, the following requirements apply:

- I am the primary and first-named author on all work presented in this thesis and for consideration of the award of the PhD.
- My individual contribution to each multi-author publication is clearly and fully articulated, so my contribution to the creation of new and independent research may be accurately judged
- The thesis is presented as one coherent whole and follows a natural and logical progression between studies. Publications are stylistically incorporated into the thesis, and additional information before and after each publication reinforces how the publications are linked to the overall thesis aims

Overarching thesis aims

My research goals were to design and conduct original research that would address some existing research gaps and contribute to knowledge within WP literature. This comparative exploration of WP in medicine in the UK and Australia was guided by two overarching thesis aims:

1. To develop a critical understanding of WP in medicine both within and between each context
2. To explore meaningful changes in the policies and practices of WP in medicine

I was interested in how WP in medicine is communicated at national (macro), interpreted at institutional (meso), and experienced at individual (micro) levels, and this generated the following research question(s):

1. How is widening participation in medicine interpreted and experienced at a national, institutional and individual level?
    1.1 How are discourses of WP to higher and medical education positioned, both within and between each context?
    1.2 How do staff within medical education perceive policy and practice aimed at widening participation in medicine?
    1.3 How do medical students from widening participation backgrounds experience the journey into and at medical school?

Thesis overview

This thesis approaches WP in medicine from subjective ontology and interpretivist epistemology, where knowledge is constructed at an individual or collective level and exists in multiple and complex formats (Savin-Baden and Major, 2013). My position is one of critical constructivism, which approaches constructivism within a social and cultural context, adding in a critical dimension aimed at critiquing and/or reforming these environments (Kincheloe and McLaren, 2011). It considers how power operates to regulate discourses and discursive practices (Lemke, 1995), exposing conditions that promote social and educational advantage and disadvantage (Brosio, 2000). Different individuals coming from diverse backgrounds will see the world in different ways and as a critical constructivist I also focus

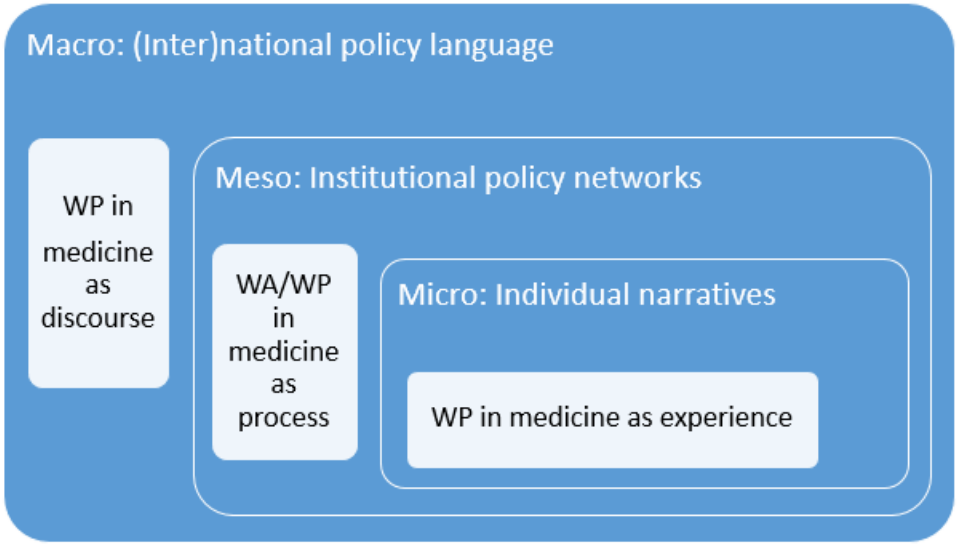
my attention on interpretation of these experiences, connecting the object of inquiry to the contexts in which it is embedded (Kincheloe, 2005).

The comparative, cross-cultural nature of this research forms the core critical dimension to this work. It asks what can be learned from studying policy and practice aimed at disadvantaged groups by examining prevailing national and institutional discourses of power both within and between different cultures and contexts. Exploring and illuminating constructions of individual 'truths' via interpretation of marginalised experiences is in itself a critical constructive act, representing a paradigmatic cornerstone of pedagogical research (Kincheloe, 2005).

I used qualitative methods and tools of analysis to explore WP in medicine at various levels of policy formation, appropriation and experience at macro, meso and micro levels (Bartlett and Vavrus, 2017). (See figure 1 for a visual representation of scales of analysis within this thesis). It is useful to think of these levels, or scales of analysis as relational networks rather than stratified categories (Ball, 2016):

- Macro-level tends to refer to larger structures like national policies, and the broader culture and context.
- Meso-level refers to practice, guidance, or shared understandings which take place within larger groups like communities, institutions or geographic regions.
- Micro-level refers to actions, ideas and experiences on the level of the individual, within a small group, or a specific initiative or location.

Figure 1. Visual representation of scales of analysis

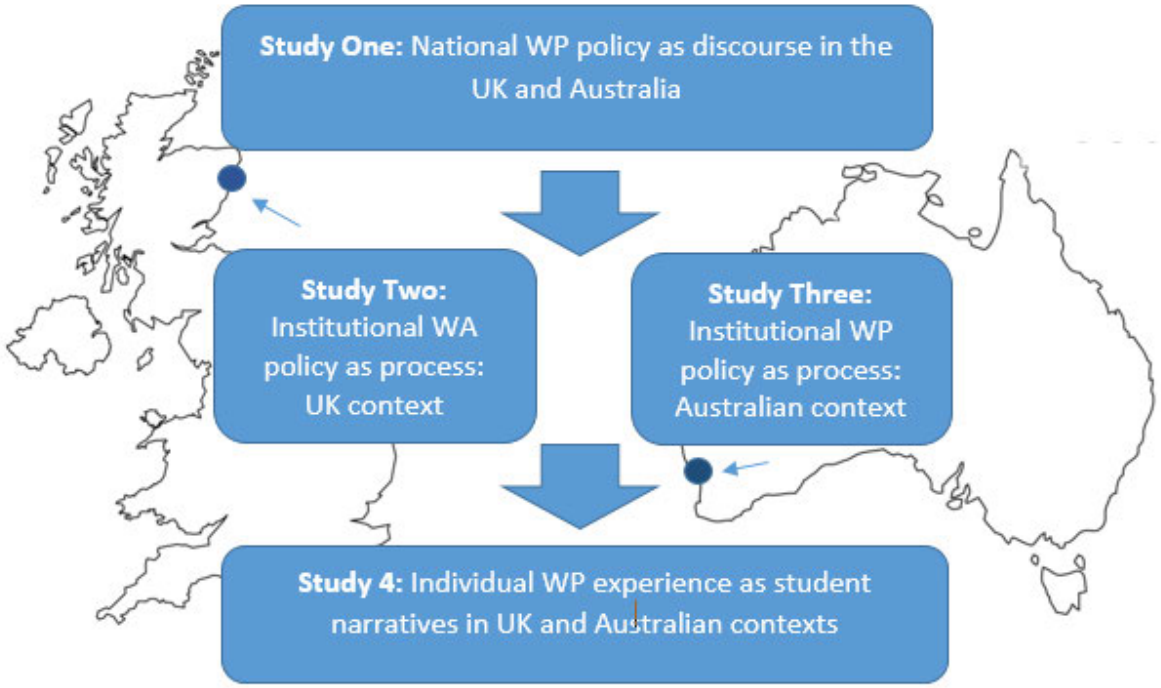


The comparative aspect of this thesis uses both horizontal and vertical dimensions to develop a thorough understanding of the particular in each context and at each scale. Using a comparative case study research design (Bartlett and Vavrus, 2017), my qualitative data collection tools included interviews with staff and students, and content analysis of national and institutional policy documents (see figure 2 for a visual representation of studies One – Four). In brief, these studies include:

- Study One (*Meritocratic and Fair?*). Guided by a priori themes based on the United Nations Sustainability Goals (2015), this cross-context exploration of national level policy documents uses critical discourse analysis to examine how discourses of WP to higher and medical education are positioned, both within and between UK and Australian contexts.
- Studies Two (UK) and Three (Australia) - (*Following the Policy*). These studies use Actor-Network Theory (ANT) to attend to the sociomateriality of WP by documenting the connections between key human and non-human actors. Using institutional policy and admissions documents, as well as interviews with medical school staff and WP students, each study explores how institutional WP to medicine policy is enacted at locations in both the UK and Australia.
- Study Four (*Inclusion in an Exclusive World?*). This study focuses on the storied experiences of the journey into and at medical school for students from WP backgrounds in both the UK and Australia. It uses narrative inquiry to explore student's

relationships with key actors (identified in studies Two and Three), finding shared meaning in their positive and negative experiences of communication, connection and support.

Figure 2. Visual representation of Studies One – Four



Chapter outlines

In addition to this introductory chapter, this thesis 'with publications' is structured as follows:

Chapter 2: Background provides general information on the history and background of WA/WP in medicine, providing context and highlighting the importance of the topic and identifying gaps in the literature. It concludes by stating how this thesis aims to address some of these knowledge gaps.

Chapter 3: Methodology provides a detailed description of the qualitative approach, explicating the research paradigm and design framework that underpins the thesis as a whole. It describes data sources and collection methods and introduces and justifies theoretical and conceptual lenses in relation to each study. It ends with a criteria framework for assessing the quality of the research.

Chapter 4: Study One *(Meritocratic and Fair? The discourse of UK and Australia's widening participation policies)* presents the first study in this thesis which was successfully published in 2021 in the journal *Medical Education.* This, and all study chapters include a preface providing some information on the conditions and context specific to each study.

Chapters 5: Study Two *(Following the policy: An actor-network theory perspective on widening access to medicine in the UK)*

Chapter 6: Study Three *(Following the policy: An actor-network theory perspective on widening participation in medicine in Australia)*

Chapter 7: Study Four *(Inclusion in an exclusive world? Student narratives of WP in medicine in the UK and Australia)*

Chapter 8: Discussion concludes the thesis, drawing together and presenting a discussion of the thesis as a whole. Findings are summarised and considered in terms of empirical and conceptual contributions to knowledge in the field. This chapter reiterates the aims of the thesis and considers how well these have been met, critically reflecting on the design and research process. It also considers broad implications of the findings and makes some recommendations for future research and practice, ending with some concluding remarks.

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Chapter 2: Background

Introduction

This chapter provides a comprehensive overview of widening access to and participation in higher education and medicine. I begin by discussing international developments in higher education, reflecting on widening access and participation within UK and Australian contexts. These concepts are then discussed in relation to the structure and function of medical education in each country, and I highlight some key literature in relation to widening access to, and participation in, medicine. Finally, I consider some gaps within the existing literature, and how this thesis aims to address these gaps.

International developments in higher education

Worldwide, the higher education sector has seen major transformations in the last half century. Prior to the Second World War, participation within higher education institutions was largely limited to more elite groups within society (Reay, 2001). However, subsequent decades saw a growing demand for tertiary education (Guri-Rosenbilt et al, 2007), and higher education had to adapt in response to this challenge of 'massification'. Specific challenges included new patterns of sector funding, increasingly diversified higher education systems in most countries, and greater social mobility for a growing segment of the population (Altbach et al, 2010). Initially, the tertiary education system struggled to cope with overwhelming demand, prompting an urgent need for expanded infrastructure and teaching faculties and facilities.

As neoliberal globalisation began to take hold, policy attention to widening access to higher education was driven by concerns around economic stability and growth, national competitiveness, and the concept of a knowledge society (Burke, 2012). Intellectual and human capital are key requirements for economic growth within a knowledge economy, which draws on neo-classical economic and human capital theory. Higher education is a key producer of this human capital in terms of intellectual skills and talent, and nations, corporations and public organisations must compete internationally for this talent, as well as for reputation and resources (van der Wende, 2017). Higher education institutions similarly compete for status, ranking and funding in the pursuit and production of

excellence, aiming to secure sought after positions within this global knowledge economy (Van der Wende, 2009; 2011). This contributes to an increasingly highly stratified and hierarchical higher education system, where research intensive, elite institutions continue to recruit students from more affluent socio-economic backgrounds (Barr, 2008). Student identity is highly enmeshed with institutional identity within this highly differentiated system, having a profound impact on individual aspirations, choices and experiences in relation to higher education participation (Reay, 2001; Reay et al, 2005; Crozier and Reay, 2008). Neoliberal frameworks continue to reproduce these hierarchical systems, deploying market mechanisms such as league tables that put pressure on universities to respond effectively to consumer demand (Naidoo, 2003).

This century has seen new developments in terms of massification, where a shift from an elite to a mass higher education system aimed to increase the overall number of students in tertiary education, thereby diversifying the student body as more individuals enter higher education from a range of social, cultural and ethnic backgrounds (Altbach et al, 2010; Morgan, 2013). This has diversified the landscape of higher education but is also tied in with the processes of increasing stratification, differentiation and selection which are connected to discourses of excellence, quality and standards (Burke, 2012).

Whilst competition has always been a feature of higher education systems and contributes to excellence, it can also be detrimental to a sense of academic community, mission and traditional values (Altbach et al, 2010). Massification now requires universities to broaden their missions, not only to respond to the profitable aspects of globalisation, but to balance economic and social responsiveness in considering local contexts and community need. This means being more open and inclusive to disadvantaged and minority students, supporting the integration of student groups with varied cultural, ethnic and religious backgrounds, and embracing diversity as the key to success in a global knowledge society (Van der Wende, 2017). Higher education institutions have begun to recognise the value and importance of creating true international and intercultural learning communities, contributing to ‘a public response to the problem of pluralism, fear and suspicion our societies face’ (Nussbaum, 2012). A more inclusive higher education system allows people to develop effective competencies needed for this society, and so improving access to higher education for

groups from traditionally disadvantaged backgrounds has become a priority for higher education institutions around the globe (McKay and Shah, 2018).

Higher education and widening access in the UK and Australia

In recent decades, systems of higher education have moved towards a progressively universal approach in terms of access, particularly in more economically developed nations such as the UK and Australia. Both countries demonstrate similar trajectories in the massification of their higher education systems since the middle of the 20th century, with comparable levels of public and private contributions, participation rates, and similar academic structures and quality assurance frameworks (Hackett, 2014). Their respective governments have recognised the essential role that universities play in the development of and contribution to a global knowledge economy, and the dividends afforded to their nations in becoming international frontrunners in the higher education sector (Wellings, 2015).

However, the impact of globalisation on higher education institutions, where increasing competition at a global level is in contention with a local commitment to inclusion, is now driving some of the growing inequalities in the higher education systems of richer countries (van der Wende, 2017). High levels of social disparity in both the UK and Australia mean universities struggle to offer equality of opportunity in a largely meritocratic environment, where entry to higher education is primarily determined by academic success (Wellings, 2015). For example, following an extensive publication by the National Committee of Inquiry into Higher Education in 1997, known as the Dearing Report (1997), widening participation in higher education became a key focus of government policy in the UK. The chronic under-representation of non-traditional students, i.e. women, minority ethnic groups and individuals from lower socio-economic classes within the tertiary education sector was brought to the forefront of subsequent national agendas designed to ameliorate disadvantages and increase the proportion of these groups within higher education (Dillon, 2007). These policies stimulated significant changes within the landscape of UK higher education and presented higher education institutions with numerous challenges as they adapted to respond effectively in achieving a more heterogeneous student population in a climate of chronic underfunding (McClaran, 2003, Trow, 2007), attempting to bring quality

education in cooperation rather than competition with social inclusion (Gidley et al, 2010). This propelled the development and implementation of new policies and practices in the UK, followed closely by Australia, which aimed to improve access and widen participation in higher education (Gale and Parker, 2013).

This push for fairer access and increasing the diversity of student populations is being implemented by a wide range of context-specific widening access interventions and initiatives, supported and encouraged internationally by government-led policies and guidelines in both the UK (Connell-Smith and Hubble, 2018) and Australia (Gale and Parker, 2013). Alongside governments, regulatory authorities and national organisations have acknowledged the necessity of expanding systems of higher education, but despite policy initiatives aimed at greater inclusion, the more elite groups in society have largely retained their advantage in most countries (Altbach et al, 2010). In both countries the focus has primarily been on increasing numbers of students from low socio-economic (UK), or equity (Australia) backgrounds, but other disadvantaged groups are also targeted, such as people living in rural and remote areas. In Australia, this includes Aboriginal and Torres Strait Islander people, groups which struggle most in terms of access to and achievement in higher education (Ford, 2013).

Widening access to medical education

The global massification of higher education has seen an overall increase in university students from under-represented groups, particularly in Western countries (Altbach, 2013; Shah et al, 2015). However, the fair access agenda remains side-lined when it comes to increasing participation in the professions (Milburn, 2012a), where people from certain equity groups such as those from low socio-economic status, first-in-family, rural, indigenous and some ethnic and cultural backgrounds remain under-represented in high status degrees and professions (Reay et al 2009, Gale and Parker, 2013). These 'non-traditional' groups are significantly more under-represented in medicine and are primarily targeted for improving access to the medical profession (Milburn, 2012a; Bowes et al, 2013; Gale & Parker, 2013).

More recently, medical school populations have made great gains in terms of gender, ethnicity and age in many (but not all) contexts (BMA, 2009; Young et al, 2012; Milburn,

2012a; GMC, 2019). However, when it comes to applicants from a low socioeconomic status (BMA, 2009), rural and remote (McKimm, 2010; Hay et al, 2016) and indigenous backgrounds (Prideaux, 2009: Sadler et al, 2017), medicine is failing to achieve diversity (Alexander and Cleland, 2018; Southgate et al, 2018).

School type can be a major factor in an individual's likelihood of applying to medicine, where 80% of all applicants come from just 20% of secondary education institutions (predominantly independent and grammar schools as opposed to state funded comprehensives; Garrud, 2014). In 2016, only 16% of medical students came from two-fifths of the most underrepresented postcodes in higher education in the UK, compared to 25% across all subjects (GMC, 2019). In addition, the proportion of medical students from low socioeconomic backgrounds is half that of university students overall in the UK (MSC, 2018), and in Australia, approximately 10% of medical students come from low socio-economic backgrounds (Southgate et al, 2015). On the other hand, the UK now has a well-represented proportion of women (55%) and people from ethnic minority groups (33%) in medical schools, relative to the population as a whole (GMC, 2019). In 2015, 25.9% of Australian domestic students reported living in a rural or remote area prior to entering medicine, but only 1.7% of the same cohort identified as being of Aboriginal or Torres Strait Islander descent (Medical Training Review Panel, 2016).

These and other groups are primarily targeted for increasing representation within medicine in the UK and worldwide via macro-level policy and guidelines (Millburn, 2012a; Cohen and Steinecke, 2006), where a low socio-economic or equity status is usually the shared underlying concern (Bowes et al, 2013; Gale & Parker, 2013). The reasons for such disadvantage in terms of access to an elite profession such as medicine are often multifaceted, as they are interconnected within a myriad of wider, complex structural and societal issues including: ethnic minority inequalities (Orom et al, 2013), parental education (Esping-Anderson, 2004), personal aspirations (Southgate et al, 2015), educational attainment (Gale & Parker, 2013) and family and peer influences and expectations (Howard, 2003).

Why is widening access to and participation in medicine important?

Why is it so important to overcome obstacles and recruit more individuals from non-traditional backgrounds into medicine? Providing equitable higher educational opportunities for people from all backgrounds as form of social justice and upward mobility also applies to medical education, as does the argument for greater workforce diversity (Garrud & Owen, 2018). This highly complex issue is driven by the sociological concepts of both social justice and improving healthcare (Nicholson and Cleland, 2015). It is understood that improving healthcare provision and providing the best patient care can be achieved by ensuring, as far as possible, a proportional representation of doctors in terms of the society they serve (BMA, 2009; Whitla et al, 2003; Saha et al, 2008; Xu et al, 1997).

Improving access to medical education as a form of social justice is premised on evidence suggesting that aspiring to the profession and achieving the necessary entry requirements are linked to wider concerns around social equality (Archer and Leathwood, 2003) and notions of cultural and social capital (Reay et al, 2001; Garlick and Brown, 2008). Social capital is premised on the strength of an individual's relationships within social organisations and networks that facilitate cooperation and trust for mutual benefit (Putman, 1995). Cultural capital extends to a broad spectrum of features such as skills, posture, speech, clothing, mannerisms, possessions and credentials that a person acquires through being a member of certain social classes or groups within society (Bourdieu, 1986). Sharing similar forms and levels of capital with others creates a collective identity, and both social and cultural capital are unevenly distributed throughout different societal groups. Individual capital is key to understanding the argument for social justice within medical education, where students who lack these forms of capital face threats to social mobility and their progression in society (Nicholson and Cleland, 2016).

Medical school applicants from 'traditional' backgrounds generally have a privileged educational background and are encouraged to aspire to the profession by family and peer networks that can assist and advise at various stages of the process (Hill et al, 2004). For 'non-traditional' applicants, university and particularly medical school can be an alien environment in which they feel unwelcome (Greenhalgh et al, 2006; Greenhalgh et al, 2004; Orom, et al, 2013), where pursuing a medical career may be counter-cultural for those who

come from backgrounds where higher education is not the norm (Reay et al, 2001). There are clear social, emotional and financial risks for disadvantaged students in going to medical school, where the concept of social mobility is closely linked to notions of meritocracy. Meritocratic systems, common in economically developed nations and particularly evident in the UK, are lauded for their perceived fairness and the opportunities they provide to all individuals. However, those non-traditional applicants who do not possess enough capital or have access to the right resources may still be at a considerable disadvantage in a highly competitive, supposedly meritocratic application process (Alexander and Cleland, 2018).

Developing a diverse, culturally competent student cohort can benefit both the medical school environment and the medical workforce (Nicholson and Cleland 2015). Increases in medical student diversity have been called for in several international contexts (Cohen, 2003; Carrasiquillo and Lee-Ray, 2008; Sikakana, 2010; Hay et al, 2016). Diverse students contribute a better understanding of diverse populations (Whitla et al, 2003; Saha et al, 2008; Morrison and Grbic, 2015), multilingualism (Flores, 2000) and a resilience and aptitude for overcoming barriers (Cleland and Medhi, 2015; Jardine, 2012). In addition to these factors, there is evidence to suggest that training medical students in more diverse educational environments may improve their skills and benefit patients who come from cultures and backgrounds different to their own (Cohen and Steinecke, 2006; Whitla et al, 2003; Niu et al, 2012; Mathers et al, 2011). A more diverse medical workforce may also increase the numbers of practitioners willing to work in underprivileged and underserved communities, locations and specialties (Cooter et al, 2004; Walker et al; 2012; Puddey et al, 2014; Dowell et al, 2015; Larkins et al, 2015). This is especially important in communities where low socioeconomic status is the underlying concern, as these groups over-proportionally access health services due to factors linked to poverty such as poor housing and diet (Angel and Johnson, 2000; Bedi and Gilthorpe, 2000). This argument for widening access to and participation in medicine is based on the premise that increased diversity within the health professions will improve healthcare outcomes, in that ‘like will treat like’ (James et al, 2008), and has been behind policy and initiatives in underserved rural areas of Australia (Tesson et al, 2005; Hay et al, 2016) and service delivery in deprived UK communities (Dowell et al, 2015). These outcomes are dependent on these individuals choosing to practice in these areas as graduates (McGrail et al, 2011; Wade et al, 2007).

Medical education in UK and Australian contexts

The UK and Australia share similar medical education systems, adapted to their respective populations and contexts, and make for good systems of comparison.

UK

In the UK, medical education is predominantly undertaken by secondary school leavers who embark on a standard length five-year medical degree (Alexander and Cleland, 2018). In the last twenty years accelerated four-year training programmes have been introduced for graduate entrants to medicine, and now account for training 10% of medical students in the UK (Kumwenda et al, 2018). At the time of commencing this thesis, there were 33 UK medical schools recognised by the General Medical Council, and collectively they accepted approximately 6500 new medical students each year, 90% of whom are UK-domiciled at application (Mackenzie et al, 2016). Medical student numbers are regulated by the government, and in 2016 England's health secretary announced plans to expand medical student places by 25%, training up to 1500 more doctors per year from 2018 onwards (Torjesen, 2016). These extra places were proposed in response to continuing low levels of participation in medicine from lower socioeconomic groups, and as way for the state medical education system to meet the needs of the state funded and controlled National Health Service (NHS). Many of these new places are being delivered via six new medical schools in England, none of which were 'on stream' at the time of starting this thesis.

Australia

Australian medical education is historically similar to that of the UK, with more recent influences coming from the USA and Canada, where the majority of entrants are high school students who will complete a five or six year medical degree course (Wilson et al, 2012). There are 21 medical schools in Australia, and in 2018 there were 3,822 new students who commenced studying medicine, 83% of whom are domestic students (Medical Deans, 2018). As with broader university education, the majority of places are subsidised by federally controlled Commonwealth supported places (CSP), and 26.5% of domestic students are in a bonded scheme. Bonded schemes are government initiatives designed to increase workforce numbers in underserved areas and include the Medical Rural Bonded Scholarship scheme (Medical Deans, 2018). Since the 1990's the Commonwealth Department of Health

have been establishing University Departments of Rural Clinical Schools as a way of addressing workforce shortages in rural, regional and remote Australia, allowing students to undertake significant clinical training in these areas (Prideaux, 2009). As well as bonded schemes, the Australian Government also now offer a sponsored financial incentive to medical schools who enrol 25% of rural origin medical students in an attempt to address a severe and ongoing doctor shortage across regional and rural parts of the country (Hay et al, 2016).

Indigenous Australians have significantly poorer health outcomes than non-Indigenous Australians, and many medical schools have begun to recognise this significance in their recruitment strategies by working to attract and train Indigenous students and maintain admissions quotas (Prideux, 2009). In 2004 there were only around 90 Indigenous doctors in Australia, and calls were made for upwards of another 900 doctors that needed to be trained over the next ten years (AMA, 2004; National Aboriginal and Torres Strait Islander Health Council, 2008). A total of 275 Aboriginal and Torres Strait Islander students were enrolled at an Australian medical school in 2014, increasing to 310 in 2018 (Medical Deans, 2018). However, despite the growing numbers of Indigenous doctors and the positive impact this has had on Indigenous health and on medical education and training for both Indigenous and non-Indigenous Australians (Lawson, 2007), there are still fewer than 400 Indigenous doctors in Australia today.

Barriers in accessing medicine

As previously mentioned, individuals from underrepresented backgrounds face a myriad of additional challenges in accessing medicine. It is important to understand how these challenges manifest due to a complex enmeshment of factors linked to disadvantage and marginalisation if widening access initiatives are to be successful (Milburn, 2012a; Milburn 2012b; Alexander and Cleland, 2018; Bassett et al, 2018; Southgate et al, 2017; Southgate, 2017). In addition to the progress report on Fair Access to Professional Careers in the UK (Milburn, 2012a), another report by the then Independent Reviewer on Social Mobility and Child Poverty explored the challenge, particularly for universities, in widening access to higher education for disadvantaged and under-represented groups (Milburn, 2012b). This report breaks down the life-cycle of students into four stages which I repurpose here as

useful in delineating challenges for aspiring doctors; getting ready, getting in, staying in, and getting on.

Getting ready

Educational disadvantage often begins early and can have a major impact on the likelihood of a successful application to higher education and medicine. Inequalities in pre-university education are evident in schools, where inequitable practices, processes and 'deficit' assumptions often begin and continue throughout schooling and the tertiary education system (Southgate et al, 2017). In the UK, evidence shows that inequalities in attainment by socioeconomic group begin to emerge in primary school (Chowdry et al, 2013), and in Australian contexts, students from low socioeconomic, Indigenous and remote backgrounds are up to four years behind high socioeconomic groups in literacy and numeracy skills (Cobbold, 2017). There is considerable variability in schools' access to resources and information, and in how much support they can provide to students, particularly those who wish to pursue a high-status degree such as medicine (Southgate et al, 2015). School culture can have a significant impact on student aspiration to certain careers (Archer and Leathwood, 2003; Gorard et al, 2006; Reay, 2001; Slack, 2003), and evidence from the UK suggests some students in state schools are discouraged from applying to medicine due to school factors including teacher expectations (McHarg et al, 2007; MSC, 2014a; Southgate et al, 2015). University is an unfamiliar environment for non-traditional or 'working class' students, and the decision to go on to higher education involves more social, emotional and financial risk than for middle class students (Archer and Leathwood, 2003). Medical school in particular is seen as 'not for the likes of me' (Greenhalgh et al, 2006), and addressing these perceptions and accompanying lack of aspiration is an important aim of WA outreach (Cleland et al, 2012a). This indicates a pressing need to tackle considerable problems within current policy, systems and processes, where many potential and capable applicants from disadvantaged backgrounds may believe medicine is not an option for them (Greenhalgh et al, 2004; Mathers and Parry, 2009). Recent evidence indicates this is changing; in their study on UK school pupils' perceptions of medicine, Alexander et al found non-traditional students engaged with WA initatives appear to have embraced the belief that medicine is accessible to all with the desire and ability to become a doctor (Alexander et al, 2019).

In addition to school factors, familial and community dynamics and wider societal influences also play into student aspirations and cultural norms, and ultimately impact upon educational and career choices (Southgate et al, 2017; Bridges 2006; Hill et al, 2004; Miller and Cummings, 2009; Robb et al, 2007). Students from disadvantaged backgrounds are also less likely to have the freedom to relocate for study which limits the pool of available medical schools, particularly for those who live rurally (Hughes et al, 2008; Mangan et al, 2010; Alexander and Cleland, 2018), and there is a paucity of evidence indicating how many students are affected by lack of outreach opportunities in rural areas (MSC, 2014b).

Getting in

Selection procedures for medicine tend to be strongly influenced by academic attainment and biased towards students who have had access to a high standard of pre-university education (Cleland at al, 2012a). Globally, high academic achievement is a fundamental requirement of medical degrees, and in all contexts, students from lower socioeconomic backgrounds underperform in school exit examinations compared to their more privileged counterparts (Bowes et al, 2013; Chowdry et al, 2013; Gorard et al, 2006). For example, in Australia, where students gain access to university by achieving an Australian Tertiary Admission Rank (ATAR), the average score for students in the lowest socioeconomic decile is 67/100, compared to 84/100 for those in the highest decile, making disadvantaged students far less able to compete for places in high status degrees (Lamb et al, 2015). Access to university is even less likely for Indigenous Australian students, where only 8% are eligible for entry through an ATAR compared with 46% of non-Indigenous students (Wilks and Wilson, 2015). Yet ATARs are not indicative of a student's potential to become an excellent doctor (Southgate et al, 2018).

This multifaceted and intersecting array of barriers to medical school for disadvantaged students are evident in the numbers. Australian medical schools enrol 10-16% of students from low socioeconomic backgrounds as opposed to 46% from middle and 38% from high socioeconomic backgrounds (Department of Education and Training, 2015; Southgate, 2017). UK contexts demonstrate a very low intake of non-traditional students with minimal improvement over time, and despite investment in widening participation strategies, the proportion of students from low socioeconomic backgrounds fell from 14% to 11% in recent years (Cleland et al, 2012a).

Staying in

When it comes to the success and progression of medical students from widening access backgrounds once they are in medical school, there is a limited evidence base despite the importance of preventing dropout of successful applicants (Patterson and Price, 2017; Curtis et al, 2014). Students targeted by these strategies are assumed to be 'riskier' investments and more likely to fail (Cleland et al, 2012a), requiring more ongoing support in a counter-cultural environment (Brown and Garlick, 2006; Leathwood and O'Connell, 2003). Yet, recent research from a national UK study demonstrates that medical students from state funded schools are more likely to outperform fellow students from independent schools (Kumwenda et al, 2017), indicating a possibility of similar findings among widening access students (Patterson and Price, 2017).

Recent findings from large scale studies in the UK (Curtis and Smith, 2020) and New Zealand (Curtis et al, 2017) support existing evidence that equity-targeted admission programmes can support a widening participation agenda in medicine (Garlick and Brown, 2008), however WP to medicine research should extend beyond the numbers, exploring post-graduation clinical contexts, including the effect of a diversified health workforce on patient and community outcomes (Baxter et al, 2015).

One of the few studies focused on 'staying in' medical school explored both faculty staff attitudes and the experiences of medical students from impoverished and marginalised backgrounds in a Canadian setting and found an institutional climate that often alienated these students (Beagan, 2001, 2005). This research indicated that simply getting into medical school is not enough to ensure equitable participation for under-represented groups, and significant barriers to full engagement in medical education do indeed persist. This study was undertaken in the late 1990s, prior to the increased drive towards widening access which has happened in many countries over the last 10 years. Findings from a recent large scale quantitative study on medical schools in the UK found that students from state-funded schools with similar entry grades to their independent school counterparts were likely to do better academically once in medical school (Kumwenda, 2017). However other quantitative research also suggests that disadvantage may in fact continue (Cleland et al, 2015b; Stegers-Jager et al, 2015).

There are few contemporary investigations that have explored the lived experiences of medical students from WA backgrounds who have achieved a place at medical school. One study, an amalgamation of three qualitative data sets, found evidence of disadvantage for some students from non-traditional backgrounds during both the application and undergraduate stages of medicine, suggesting that they may struggle to negotiate their way through these crucial early stages and gain access to appropriate resources (Nicholson & Cleland, 2016). Other research has focused on the experiences of first-in-family (FIF) students at medical school in both the Australian context (Brosnan at al, 2016) and in the UK (Bassett et al, 2018), highlighting a complex set of interconnecting issues including social capital, 'fitting in' to medical school, financial concerns and lack of high school support.

A 2008 study explored the reasons why Indigenous Australian medical students withdrew from their degree course and found financial problems to be the most prominent. Many students were also disappointed with the course content and teaching methods and wanted more support and encouragement from university (Ellender et al, 2008). Another study exploring perceptions of Indigenous Australian medical students found that the factors that influence progress through medical training are complex and inter-related, and are linked to student support, confidence and coping skills, course content and learning styles, and concerns around discrimination and cultural safety (Garvey et al, 2009). A recent review of qualitative research in the UK suggests students from WA backgrounds experience isolation and seek connection with peers form similar backgrounds, but have unique strengths linked to experiences of adversity and disadvantage (Krstić et al, 2021).

Getting on

When it comes to the progression of WA students beyond their medical degree in terms of post-graduation outcomes, opportunities and experiences as medical professionals, there is limited evidence (Garlick and Brown, 2008; Curtis et al, 2014). A small number of quantitative studies have examined outcomes of WP medical students at the point of graduation from medical school in both UK (Kumwenda et al, 2018; Curtis and Smith, 2020) and New Zealand contexts (Curtis et al, 2017). There appears to be limited research that explicitly explores the career choices and challenges of medical graduates from under represented backgrounds, however a UK cohort study found trainees from underrepresented backgrounds were significantly more likely to choose a career in general

practice over other competitive medical specialties (Kumwenda et al, 2019), and a recent UK survey indicated that GPs from non-traditional backgrounds are more likely to work in underserved areas, suggesting WA may have a positive impact on service delivery (Dowell et al, 2015).

Widening participation strategies

Given the complexity of widening access to medicine and contextually relevant factors to consider, attempting to address these barriers requires a range of strategies and initiatives. These are most commonly directed at disadvantaged school students and application and selection processes, and involve pre-application, application, graduate entry and gateway to medicine approaches (Patterson and Price, 2017).

Pre-application ('Getting ready')

Widening participation strategies that focus at the recruitment stage ('getting ready') of potential applicants to medicine typically involve outreach initiatives and are carried out by medical schools worldwide. These activities aim to raise awareness and interest in the profession among groups that would not usually produce many applicants (Alexander and Cleland, 2018), who consider medicine to be an unrealistic aspiration (Hill et al, 2004). These recruitment-focused approaches typically involve high school visits from university representatives who provide information about application requirements and procedures to teachers and students (Alexander and Cleland, 2018). Low-intensity activities also include open days or information sessions where school students are invited to the medical school, with more high-intensity programmes centred around weekend programmes, summer schools, near-peer mentoring and 'taster' sessions (Brown and Garlick, 2006; Dismore, 2009; Dalley et al, 2009; Beedham et al, 2006; Greenhalgh et al, 2006). Outreach strategies can also involve longer term approaches such as pipeline or partnership programmes with schools (Terrell and Beaudreau, 2003; Fincher et al, 2002; Soto-Greene et al, 1999; Murray-Garcia and Garcia, 2002).

Lower intensity activities tend to be preferred by both students and institutions for being less time consuming and cheaper (Cleland et al, 2012a), however high-intensity approaches such as mentoring generally have a better impact on successful applications from disadvantaged students (Kamali et al, 2005). All outreach approaches are aimed at raising

aspirations and compensating for the disadvantage of targeted individuals, encouraging the adoption of additional skills and knowledge to make them better equipped for applying to medicine (Alexander and Cleland, 2018; BMA, 2010). Although evidence indicates that pre-application approaches do have a positive effect on recruitment of a more diverse student population, these strategies have been criticised for focusing on the deficiencies of students without fully addressing environmental barriers, including those within medical schools themselves (Jones and Thomas, 2006; O'Shea et al, 2015; Sheeran et al, 2007; Smit, 2012). This 'deficit model' is demonstrated in outreach activities implemented by UK medical schools, where the goals of such initiatives are centred on increasing the social mobility of potential applicants (Alexander et al, 2017). In Australian contexts similar approaches exist, with evidence indicating that earlier and more sustained initiatives within the widening participation agenda are needed to achieve a more diverse medical student cohort (Gore et al, 2017). In the USA, partnerships between universities and community organisations provide pipeline and mentorship opportunities for underrepresented minorities, and have been successful in increasing the matriculation of medical students from these groups (Parrish et al, 2008; Carrasiquillo and Lee-Ray, 2008).

Application ('Getting in')

Traditionally, admission to medical school was determined almost exclusively by academic performance. However, using this as a sole selection criterion created an unfair bias against applicants from disadvantaged and underrepresented backgrounds (Wilson et al, 2012; Brown and Garlick, 2006; O'Neill et al, 2013). Increasing fairness in medical selection processes has prompted the use of tools that aim to judge potential and ability in becoming a doctor (Mackenzie et al, 2016; Tiffin et al, 2012), with varying degrees of effectiveness (Patterson et al, 2016).

Globally, medical schools aimed to address this problem by introducing admissions tests that aim to measure whether an applicant has the required attitudes, behaviours and cognitive ability for medicine (Turnbull et al, 2003; Alexander and Cleland, 2018). In the UK, the UKCAT (UK Clinical Aptitude Test) was introduced in 2006 (Greatrix and Dowell, 2020). In Australia, the UMAT (Undergraduate Medical and health sciences Admissions Test) had been in place since 1991. The UCAT ANZ (University Clinical Aptitude Test for Australia and New Zealand) replaced the UMAT in 2019 (UCAT, 2022). This test is based on the UKCAT and

is now being implemented in both Australian and New Zealand contexts (Griffin et al, 2020). The BioMedical Admissions Test (BMAT) is another test used by universities around the world (Cambridge Assessment Admissions Testing, 2022), in addition to the Graduate Medical School Admissions Test (GAMSAT). Most medical schools expect applicants to take either the UCAT, BMAT or GAMSAT, mainly focusing on whether they have the range of mental abilities and behavioural attributes considered important for a career in medicine (NHS, 2022).

Many medical schools are now introducing contextualised admissions as part of the selection process (MSC, 2014a), where data such as home postcode, first-in-family applicants, and school attended is used as an indicator to identify applicants of low socioeconomic status (Cleland et al, 2014). Adjustments include highlighting identified applicants with borderline admissions scores for further consideration, amending interview processes, and offering lower academic entry requirements (Bridger et al, 2012). In considering the specific context and circumstances of an applicant's attainment, contextual admissions aim to more effectively assess potential based on ability and increase the success rate of identified applicants (Patterson and Price, 2017; Alexander and Cleland, 2018). However, many inconsistences exist between different medical school's application of contextual admissions (Cleland et al, 2015a), and effectively identifying ability is much more problematic than assessing attainment (Bolivar et al, 2015; Cleland et al, 2014, 2015a).

Similar to contextual admissions in the UK, the Association of American Medical Colleges (AAMC) designed the Experiences-Attributes-Metrics model which is now widely used by American medical schools (Thomas and Dockter, 2019). This evidence-based model aims to standardise holistic admissions processes and helps medical schools to reach their aim of creating a diverse and culturally prepared workforce, ensuring that every applicant is given individualised consideration. The AAMC defines holistic review as 'a flexible, individualized way of assessing an applicant's capabilities by which balanced consideration is given to experiences, attributes, and academic metrics and, when considered in combination, how the individual might contribute value as a medical student and physician' (AAMC 2022). This definition acknowledges that academic metrics should be considered alongside several other important criteria and in the context of each applicant's pathway into medicine, where decision makers consider each applicant not only as a medical student, but also as a

future doctor (Conrad et al, 2016). Holistic admissions are designed to identify, recruit and retain students from disadvantaged backgrounds who have attributes that may enhance their ability to provide care to underserved and minority communities, helping them overcome intergenerational barriers created by race, ethnicity and poverty (Carnevale and Strohl, 2013; Espenshade and Radford, 2009)

Selection tools such as interviewing techniques and Situational Judgement Tests (SJTs) also have a part to play in widening participation to medicine. Traditional panel interviews demonstrated wide variation in structure and were found to be potentially subject to bias, likely disadvantaging non-traditional applicants (Kreiter et al, 2004). Multiple Mini Interviews (MMI's) are increasingly common in medical interviewing as an improved and more reliable way of fairly selecting appropriate candidates (Pau et al, 2013). This method is now widely used as the standard interview approach in UK (Cleland et al, 2014) and Australian contexts (Wilson et al, 2012), where scores are aggregated with other application data to influence recruitment decisions (McKimm, 2010). As with MMI's, SJTs have been found to be a reliable and valid tool in widening participation (Patterson et al, 2016). Similar to aptitude tests and MMIs, they are designed to be 'un-coachable', and so should not unduly disadvantage minority applicants who do not have access to preparatory courses and tutoring (Cullen et al, 2006; Christian et al, 2010). Like many selection tools however, there is limited evidence on the predictive validity of SJTs on professional performance (Cleland et al, 2012a).

There also exist specific measures at the application stage that are actively designed to increase numbers of applicants from underrepresented groups. These measures highlight the standout differences in widening participation strategies implemented in UK and Australian medical admissions procedures. As previously mentioned, UK approaches tend to focus on a 'deficit model', where activities are framed as necessary 'top-up opportunities' that will enable non-traditional candidates to succeed within a meritocratic system of achievement (Alexander and Cleland, 2018). In Australia, medical schools have made changes to their selection processes that aim to directly increase applications from candidates who represent underserved communities and who are more likely to work in these areas of need (Wilson et al, 2012). In response to the World Health Organisation's policy recommendations for targeted admissions to increase numbers of health

professionals in rural and remote areas, Australian federal government policy introduced affirmative action and accreditation programs which provide intake quotas for medical students from Indigenous and rural backgrounds (McKimm, 2010). Admission quotas for Indigenous medical students aim to reflect a proportional representation of Aboriginal and Torres Strait Islanders relative to the Australian population (2.4%) within each cohort (Lawson, 2007). In terms of increasing numbers of rural students, the Australian Government reform involved a financial incentive to medical schools of reaching a minimum 25% enrolment of rural students into a yearly cohort (Hay et al, 2016).

Graduate entry pathways

Graduate entry pathways are becoming more common and also aim to widen access to the profession, where older applicants with more varied life experience can diversify the student cohort and perhaps be more interested in working in underserved areas and disciplines (Carter and Peile, 2007; Dowell et al, 2015; Wilkinson et al, 2004). Graduates, having a proven track record in tertiary education, are anticipated as being more self-directed learners with increased commitment and motivation following a mature decision to study medicine, leading to higher retention rates (Wilkinson et al, 2004; McCrorie, 2003). Accelerated graduate entry medical courses (GEM) are usually for 4 years rather than the standard 5 year degree, and have been in existence for over twenty years in both the UK (Kunwenda et al, 2018) and Australia (Puddey and Mercer, 2014). The higher education system in the USA means medicine is only available to graduates – students must progress from high school to university and then onto medical school (Peile, 2007). Selection criteria are varied with different aptitude tests and qualification requirements linked to course type and context, and graduates make up approximately a quarter of the current medical student population in the UK (Peile, 2007; Cleland et al, 2012b), some attending traditional 5 year programmes as well as those on GEM degree pathways (Garrud and McManus, 2018).

Whether GEM programmes are successful in terms of increased diversity, academic outcomes or increased retention remains unclear. Efforts to diversify the medical student population on socioeconomic grounds appear only marginally successful, and graduate applicants from WA backgrounds are less likely than others to be offered a place at medical school (Kumwenda et al, 2018). Existing studies comparing graduate entry versus undergraduate entry medical students who have participated in programmes with similar

curriculum content and assessment have been mixed (Manning and Garrud, 2009; Calvert et al, 2009; Price and Wright, 2010; Byrne et al, 2014; Al Rumayyan et al, 2016; Dodds et al, 2010; Reid et al, 2012), but overall graduate entry students tend to perform as well as, if not better academically than their undergraduate counterparts (Puddey et al, 2019) despite often having lower school-leaving results (Shehmar et al, 2010).

Gateway to medicine programmes

Some medical schools offer specific routes for individuals from underrepresented and disadvantaged backgrounds, where applicants spend additional time developing the required knowledge and skills for embarking on a medical degree (Brown and Garlick, 2006; Mathers et al, 2011). These initiatives have lower entry requirements and can add up to an extra year of academic preparation to the beginning of a medical course in the form of a foundation year, tailor-made preparatory or extended programmes (Curtis et al, 2014; Garlick and Brown, 2008). In the UK these 'gateway' programmes are generally aimed at students from low socio-economic backgrounds (Garrud and Owen, 2018), whereas special access pathways are usually reserved for Indigenous students in Australian contexts (Wilson et al, 2012). These courses are well received by enrolled students and are generally considered to be successful, adding diversity to medical school cohorts (Garlick and Brown, 2008). However, the reality is that they are resource-intensive and offer a very limited number of places to applicants who meet the entry criteria (Mathers et al, 2011). They may be effective to some extent, but the goals and purposes of these heterogeneous programmes vary considerably based on individual and institutional contexts (Dueñas et al, 2021), and there is limited evidence as to whether gateway courses achieve or fall short of WP aims (Mahesan et al, 2011; Curtis and Smith, 2020). These programmes are also potentially problematic in terms of framing disadvantaged students as being deficient and may perpetuate an incompatibility with ideas of excellence (Alexander and Cleland, 2018).

Widening participation in medicine: What next?

Overall, the proportion of applicants from some under-represented groups has not changed significantly over time (BMA, 2009; Cleland et al, 2012a), demonstrating the shortcomings of approaches that are not designed to address the complex sociological issues that may act as barriers to 'getting in', 'staying in' and 'getting on' in medical school (Milburn, 2012a;

2012b). The predominant meritocratic approach risks pathologising non-traditional students as lacking the essential skills, attributes or knowledge to be successful in medicine (Brosnan and Turner, 2009; Reay, 1998), however it remains to be seen how new medical schools in different contexts may change the landscape of WP in medicine in response to emerging policy drivers and contextually relevant factors.

Although the number and quality of studies exploring and investigating widening access to medicine are increasing, gaps remain in the literature. Some applicants from widening access backgrounds do successfully navigate their way into medical school and continue to postgraduate training, but in-depth knowledge about their experiences remains sparse. Understanding more about this journey at medical school should also bring into focus the attitudes and viewpoints of institutional staff members who work with and support medical students. They can be seen as conduits for implementing widening access policy into practice, via both formal and informal institutional processes and interactions, and this thesis aims to extend this knowledge an in-depth look at viewpoints from a myriad of staff roles within medical schools.

The ways in which different nations approach widening access to and participation in medicine will be shaped by their unique social, political and economic circumstances. Much can be learned from examining and comparing policy discourses, practices and experiences of WA and WP in medicine from an international perspective, as how it is conceptualised at a macro level will have a major impact on the ways in which it is understood, implemented and experienced 'on the ground'.

Summary

In this chapter I have provided an overview as to the historical background and context of WA to and WP in medicine, situating this phenomenon on an international stage and paying particular attention to the two nations of interest within this thesis, the UK and Australia. I explicated the problem this research aims to address and identified gaps in the literature and described how I plan to address these gaps via a set of interconnecting research questions. The next chapter presents the general methodology and overall approach I used to do so. It details paradigmatic frameworks, practical tasks and theoretical lenses, as well as a consideration of how to approach and maintain quality in qualitative work.

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Chapter 3: Methodology

Introduction

Reflecting on assumptions about knowledge and reality and how these can and should shape the research process is key to effective study design (McMillan, 2015). This required a thorough consideration of both my own values and worldview, as well identifying an appropriate approach to address the research questions proposed within this thesis. What follows is a discussion of the philosophical underpinnings and methodological framework that form the basis of this work, and an explanation of the core methods implemented in each context to bring findings to light.

It is worth noting here that philosophical terminology encompasses many closely related concepts and terms which are often used interchangeably within and between schools of thought. I identified and utilised those which most align with my own understandings of philosophy and justify these accordingly.

Ontology

Worldview has its genesis in our assumptions about the nature of reality, where ontology refers to the philosophies that underpin these perspectives (Savin-Baden and Major, 2013). There are two dominant ontological positions about what is real – objectivism and subjectivism. Objectivism posits that an external and knowable physical and absolute reality exists independently of human thought and perception (MacKay, 1997). Objectivists do acknowledge a social realm where our perception of reality is often imperfect and distorted but believe that this social world can be explained in terms of laws, including cause and effect (Savin-Baden and Major, 2013). At the opposite end of the spectrum lies a subjective ontology, which understands reality as a construction of the human mind and is therefore created and experienced by individuals and groups (Savin-Baden and Major, 2013). Here, there is no 'real' world that is independent of human consciousness, and individuals inhabit different worlds based on unique sets of meaning (Schuh and Barab, 2008). Along this continuum can be found an intersubjective ontology (see figure 3), 'a region where you are partly blown by the winds of reality and partly an artist creating a composite out of inner

and outer events' (Bateson, 1978) where mutual agreement about what is real is usually formed by a group of individuals (Savin-Baden and Major, 2013).

Figure 3. The ontological continuum

All researchers occupy a philosophical stance somewhere along this ontological continuum. It is a position that is shaped by both personal convictions and experiences, and by the nature of the research aims and objectives at hand (Potter, 1996). These caveats directly influence the purpose and design of scholarly work.

The aim of this thesis is to address 'how' questions – how are discourses of widening participation to higher and medical education positioned, both within and between UK and Australian contexts? How is widening access to medicine interpreted and experienced at an institutional and individual level? These questions align with my own beliefs about the existence of multiple, complex and context-dependent realities which are fundamentally constructed within the human mind (McMillan, 2015). These mental constructions can represent both individual and collective 'truths' about reality and are continually expressed and contested via written and spoken language. A subjectivist ontology guides this research where phenomenon, subject and researcher are actively involved in creating and interpreting meaning through experience (Savin-Baden and Major, 2013).

Epistemology

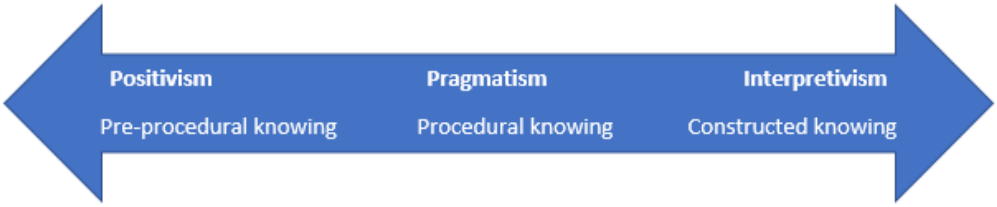
Building on our perception of reality is our view about the nature of knowledge, or epistemology. Our assumptions about knowledge, its origin and nature, and the limits of what can be known are considered central values or theories when approaching a phenomenon of study (Hofer and Pintrich, 1997). Epistemologies are inevitably constrained by ontologies, drawing on differing philosophical perspectives that support and define opposing views about the nature of reality and knowledge (Guba and Lincoln, 2005).

Much like ontology, epistemology also exists on a continuum of philosophical perspective. At one end of this continuum lies that of positivism. Positivism is closely linked to the ontological position of objectivism and has long been the dominant perspective in the physical and social sciences (Bunniss and Kelly, 2010). Positivism maintains that knowledge is absolute and true, that there are 'facts' about the social world that can be collected and measured, and that phenomena can be predicted and controlled (Savin-Baden and Major, 2013). Only that which we can quantify counts as a valid source of knowledge, and this initial approach to knowledge acquisition can be described as 'pre-procedural knowing' (Kuhn and Weinstock, 2002).

Further along this continuum is a pragmatist epistemology, which corresponds to the ontology of intersubjectivity. For pragmatists, knowledge, or 'truth' is adaptable and can be negotiated through a process of both experience and reason (Savin-Baden and Major, 2013). Knowledge acquisition from a pragmatic perspective is seen as 'procedural knowing' (Kuhn and Weinstock, 2002) and involves active processing where no single truth exists, only that which is useful and workable (Brownlee, 2003).

At the other end of the epistemological spectrum lies interpretivism (see figure 4). A worldview based on an interpretivist epistemology has its roots in and argues for a subjective reality, where there can be no ultimate truth (Tavakol and Zeinaloo, 2004; Bunniss and Kelly, 2010). Knowledge is constructed at an individual or collective level and exists in multiple and complex formats, where 'truth' depends on the knower's frame of reference (Savin-Baden and Major, 2013). This view of the nature of knowledge as 'constructed knowing' based on individual and collective experiences (Brownlee, 2003), and our subjective interpretations of 'truth', underpins this entire body of work. Interpretivist research recognises many unique realities that are all grounded in experience and dependent on context, where knowledge is derived from perceptions and experiences of both the researcher and participant (Carter and Little, 2007; Weaver and Olson, 2006; Tavakol and Zeinaloo, 2004).

Figure 4. The epistemological continuum



Axiology

Linked to ontology and epistemology, and key to understanding and applying worldview within research is a consideration of the theory of the nature of value, or axiology. The values of the researcher and the role and place of these values linked to the phenomenon under study inform the choice of methods (Zaidi and Larson, 2018), and influence the knowledge creation process (Biedenbach and Jacobsson, 2016). As a concept, axiology attempts to bring together and critically examine a broad spectrum of questions related to the essence of goodness, right conduct, value, and obligation (Hiles, 2008). This has particular relevance within this thesis when drawing out the meaning and understanding behind terms such as 'fairness' and 'social justice' and how they relate to equity and meritocratic ideals.

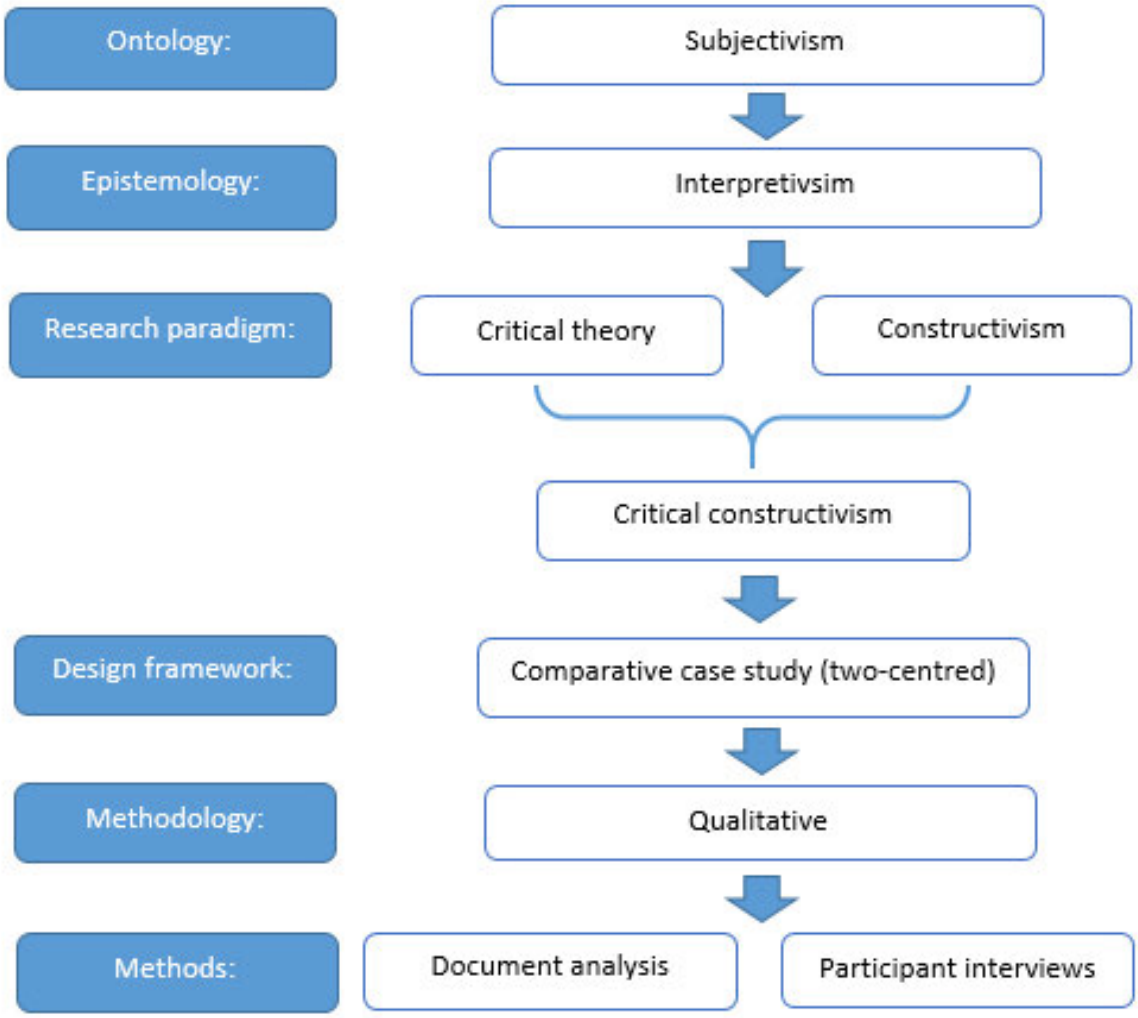
As discussed in chapter 2, current policy and practice in WA and WP has largely been shaped by meritocratic discourses, emphasising 'fair access' where universities are open to all who have the ability to participate (Burke, 2012). Engagement with issues of power is noticeably absent here, rendering notions of fairness problematic as they are conflated with equality. These ideas of fair access – embedded in specific cultural values and assumptions – serve to reinforce social inequalities, where inclusion requires the transformation of the individual and reinforces notions of deficit. Effective WP must ultimately be a project of equity and social justice rather than fairness, where the aim is to develop strategies, policies and practices that are able to disrupt and dismantle long-standing inequalities in higher - in this case medical – education (Fraser, 2003).

My values align with these understandings of WA and P, and were instrumental in guiding my paradigmatic framework and methodological choices throughout this thesis. In making these decisions I ultimately selected a variety of methods to explore my research aims,

supported by a blended paradigm. These are detailed below (please see p104-107 for a comprehensive account of how quality research and methodological alignment was achieved and maintained within this thesis).Research paradigm

The next methodological step in approaching the fundamental elements of research design involves careful consideration of paradigmatic stance. A philosophical paradigm is a worldview that guides the researcher and the research process through a lens of inquiry (Guba and Lincoln, 1994). I draw upon two well-known paradigms from a subjective and interpretivist perspective – constructivism and critical theory. These have come together to form a blended philosophical orientation that is emerging as a paradigmatic stance or worldview in its own right (Kincheloe, 2005), and lends itself well both to this research and represents my personal belief system. See figure 5 for the elements of research design and methodology.

Figure 5. Elements of research design



Constructivism

Constructivism has many interrelated meanings and is an overarching term for the dominant paradigm within a subjective and interpretative worldview. It refers to the concept of sense-making, both individually and collectively, of the world around us (Mann and Macleod, 2015). Constructivism is in direct contrast to objective and positivist philosophies, where knowledge, and therefore meaning, is not discovered but is socially constructed by individuals (Raskin, 2002). Constructivists recognise the existence of multiple 'truths' that are a result of human perspective, where individuals continually create and test concepts, models and schemes to make sense of their experiences (Schwandt, 2000). Research from a constructivist standpoint seeks to understand these truths by exploring

how individual and collective meanings are constructed, presented and used through language and action (Savin-Baden and Major, 2013). The researcher and the researched are inseparable here, where the researcher is an active participant with their own set of beliefs and experiences that will naturally shape the research process and outcomes (Mann and MacLeod, 2015).

Critical theory

At its core, critical theory views knowledge as political and believes that a critical approach to research should be aimed at eliminating social injustice, particularly in reference to marginalised groups (Mackenzie and Knipe, 2006). From an interpretivist epistemological perspective, criticalism goes beyond understanding and exploring individual constructions of reality as seen in constructivism. Critical theory argues that not all experiences or 'truths' can be treated as equal, because some are the consequence of prejudice and discrimination at the hands of more powerful others (McMillan, 2015). Critical research focuses on power and the way it can operate to disadvantage some individuals in social interactions, determining what and whose knowledge counts. It also recognises the intrinsic power imbalance implicated in the relationship between researcher and the researched, and that what can be known is inextricably linked to this interaction (McMillan, 2015). The three main worldviews of positivism, interpretivsim and criticalism are summarised in table 1 below.

Table 1. Summary of three worldviews (adapted from McMillan, 2015)

	Positivism	Interpretivism	Criticalism
Ontology *(assumptions about the nature of reality)*	-There is a reality 'out there', and it can be known. -Laws and mechanisms govern the workings of that reality. -Research can (in principle) find out the true state of that reality.	-There are multiple realities because meaning is grounded in experience. -Knowledge can be derived from sources other than the senses. -Reality is complex, and context-dependent.	-Reality may be objective or subjective, but truth is continually contested by competing groups.
Epistemology *(assumptions about the nature of knowledge)*	-The investigator and the object under investigation are two independent entities. -It should be possible to study something without influencing it. -Part of good research is employing strategies to reduce or eliminate any influence. -What is found – if replicable – is true. The investigator might acknowledge 'true for now', but the assumption is that 'true' can indeed be found with the correct techniques, information or research question	-Knowledge is derived from people's experiences – both those of the researcher and the research participants. -Perceptions and experiences of both the researcher and the research participants affect what is seen and conceptualised. -There are multiple ways of knowing.	-Power relations determine what (and whose) knowledge counts. -Power is implicated in the relationship between the researcher and the researched. -What can be known is inextricably intertwined with the interaction between the researcher and the researched.
Related theories	-Behaviourism	-Social constructivism/social constructionist theory (emphasis on construction of meaning) -Socio-cultural theory (emphasis on context of complex social environments) -Socio-materialism, including actor-network theory and complexity theory (emphasis on inter-relatedness of all aspects within a system)	-Critical theory -Critical realism -Race/class theory

Critical constructivism

As stated earlier, paradigmatic standpoints can come together to form blended philosophies that both represent a researcher's worldview and are most appropriate for the research problem and setting (Reichardt and Cook, 1979). Critical constructivism borrows from both critical theory and constructivist perspectives in this instance. Rather than working in competition with one another, when viewed through a subjectivist, interpretive lens these paradigms work together to explore the complex relationship between experience, perception and environment. A respect for subjugated knowledge helps to construct a research design where marginalised experiences are viewed as an important way of seeing the socio-educational whole (Kincheloe, 2005). Critical constructivism considers how power operates to regulate discourses and discursive practices (Lemke, 1995), exposing conditions that promote social and educational advantage and disadvantage (Brosio, 2000). Critical theory and constructivist approaches to research are being used with growing regularity within the fields of healthcare and medical education (McMillan, 2015; Mann and MacLeod, 2015).

This thesis aims to examine widening access to and participation in medical education - endeavours firmly rooted in notions of social justice, workforce diversity and improving patient care. The comparative, cross-cultural nature of this research forms the core critical dimension to this work. It asks what can be learned from studying policy and practice aimed at disadvantaged groups by examining prevailing institutional discourses of power both within and between different cultures and contexts. Exploring and illuminating constructions of individual 'truths' via interpretation of marginalised experiences is in itself a critical constructive act, representing a paradigmatic cornerstone of pedagogical research (Kincheloe, 2005).

Design Framework

The next step in approaching the research problem at hand requires careful consideration of an appropriate framework that will address the aims of this thesis and put these philosophical and paradigmatic perspectives into practice. Similar to paradigmatic standpoints there exist a multitude of design frameworks that could be applied in this instance.

Case study research

Case study within academic research is often presented in many different forms from a variety of diverse perspectives (Yazan, 2015). However, most proponents of this approach agree that it is not prescriptive in structure, content or data collection tools, and should be seen as an approach to research that aims to capture the complexity of relationships, beliefs and attitudes within a bounded unit (Hamilton and Corbett-Whittier, 2013). The strength of the case study approach is capturing for context rather than controlling for it, and it has an essential role to play in medical education research (Cleland et al, 2021). Case study design considers 'how and 'why' questions and can be useful in a study when the boundaries are not clear between phenomenon and context (Yin, 2003). See table 2 for some basic elements of case study research.

Table 2. The basic elements of case study research (adapted form Cleland et al, 2021)

Element	Description
The case	The case is based on an entity of interest or unit of analysis, which might be a programme, individual, group, social situation, organisation, event, phenomena or process.
A bounded system	The case is specifically bounded by time, space and activity. This helps to manage contextual variables although the boundaries between the case and its context may be blurred.
Studied in context	The case is studied in its real-life setting or natural environment. Contextual variables may include political, economic, social, cultural, historical and/or organisational factors.
In-depth study	The case affords intensive analysis of an issue that yields to fieldwork and that may vary in depth and engagement depending on the philosophical orientation of the research, purpose and methods. Given the subjective nature of interpretation, reflexivity is an essential part of the research process.
Selecting the study	The case should reflect the purpose and conditions of the study. This may include people, settings, events, phenomena, social processes. This may involve single, within case and between or multiple case sampling in order to capture ordinary, unique, varied, etc.
Multiple sources of evidence	The case draws on multiple sources of evidence to be comprehensive in depth and breadth of inquiry. This can include multiple methods, data and/or analyses. Triangulation is a highly valued and often used logic of combining sources of evidence.

There are three main case study methodologists (see table 3 for their definitions of a case and epistemic stance). Robert Yin's work on case study (1983) was one of the earliest comprehensive texts available to social science researchers. His background hails from an

objective, positivist approach, reflected in his attempt to make case study as a method fit a quantitative model of research (Hamilton and Corbett-Whittier, 2013).

Sharan Merriam, another key author in the field of case study research, highlighted thick description as an essential feature where 'a qualitative case study is an intensive, holistic description and analysis of a single instance, phenomenon or social unit' (Merriam, 1998). Merriam defines case study as occurring within a bounded, integrated system, believing alongside other scholars that these are the most important attributes of case study work (Smith, 1978; Stake, 1995). Robert Stake champions the case study approach as a work of art, based strongly on qualitative methods with emphasis on interpretation of the case (Stake, 1995). For Stake, case study work is empirical in that researchers base the study on their observations in the field, and holistic in considering the interrelationship between the phenomenon and its contexts. It is interpretive where research is grounded in researcher-subject interaction within a constructivist paradigm, and finally also empathic, meaning that researchers reflect subjective vicarious experiences from an emic perspective (Yazan, 2015).

Table 3. Main case study methodologists and their definitions and epistemic stance (adapted from Cleland et al, 2021)

Methodologist	Definition	Epistemology
Yin (2003)	Case is 'a contemporary phenomenon within its real-life context, especially when the boundaries between a phenomenon and context are not clear and the researcher has little control over the phenomenon and context' (p13)	Post-positivism realism
Stake (1995)	Case is 'a specific, a complex, functioning thing'. More specifically 'an integrated system' which 'has a boundary and working parts' and purposive (in social sciences and human services) (p.2). (p.xi)	Constructivism and interpretivism
Merriam (2009)	Case is 'a thing, a single entity, a unit around which there are boundaries' (p.27) and it can be a person, a program, a group, a specific policy and so on. 'an in-depth description and analysis of a bounded system' (p.40)	Constructivism

This thesis embodies aspects of case study research from several of these traditional perspectives, most notably those of Sharan Merriam and Robert Stake. As previously

indicated, several key authors advocate placing boundaries on a case as necessary to limit the scope of the research (Savin-Baden and Major, 2013). Determining the case is central to an effective case study approach, defined by Miles and Huberman (1994) as 'a phenomenon of some sort occurring in a bounded context'. For the purposes of this investigation, the case is therefore the phenomenon of widening access to medical education, bounded in the context of two countries (UK and Australia) and experienced at two centres (a medical school in each context). A key feature of this work is its comparative nature, which requires further methodological considerations and an adapted approach.

Comparative case study

The comparative case study framework is well suited to research about policy and practice, where policy is understood as a 'political process of cultural production engaged in and shaped by social actors who exert incongruent amounts of influence over the design, implementation and evaluation of policy' (Bartlett and Vavrus, 2017: p1-2). Similar to Merriam's understanding of case study, the comparative case study approach is considered a heuristic endeavour and highlights the benefits in what can be achieved through comparison.

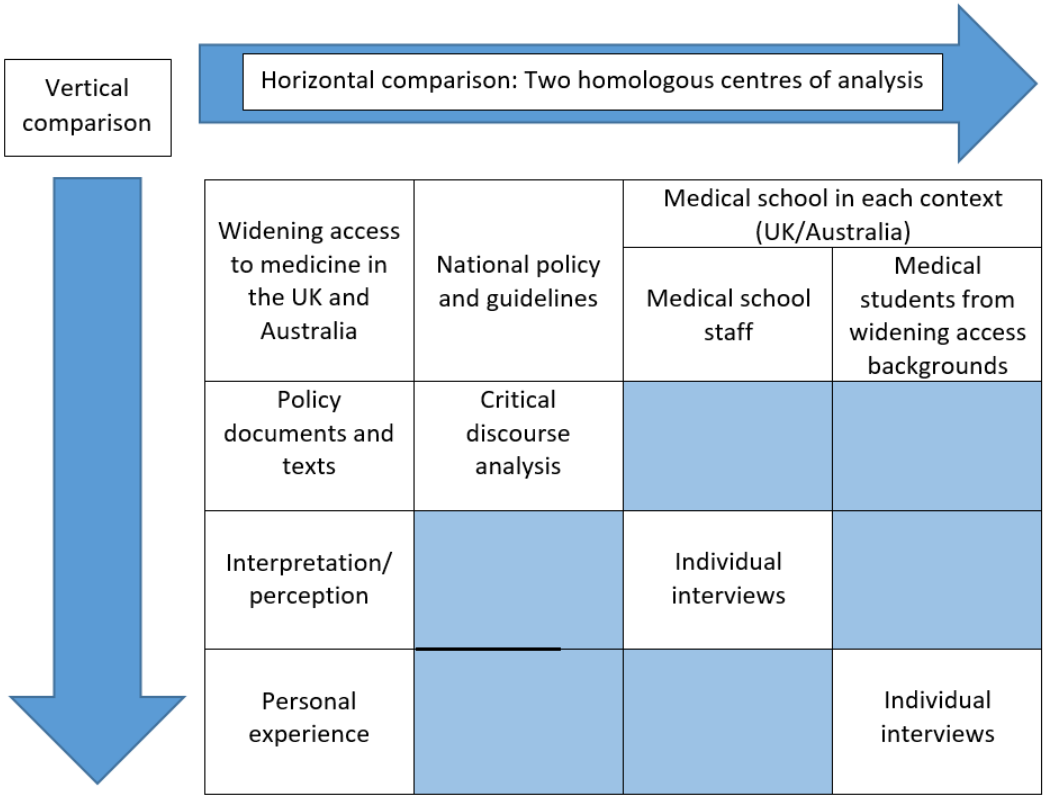
Bartlett and Vavrus identified two general approaches to comparison utilising Maxwell's (2013) terminology: variance-oriented and process-oriented. Variance-oriented studies tend to rely on positivist epistemologies and quantitative methods, whereas process-oriented approaches draw on an interpretive epistemology and critical constructivist paradigms, employing qualitative methods in understandings of comparison (Bartlett and Vavrus, 2017). This thesis adopts a process-oriented approach to comparison where including more than one locus of study allows us to distinguish phenomenon from context (Geertz, 1973).

Attention to power and inequality is central to the comparative case study approach, and it is guided by both critical theory and constructivism, where it aims to understand and incorporate the perspectives and experiences of social actors in the study (Bartlett and Vavrus, 2017). Looking at policy as practice requires attention to policy formation and implementation as cultural and social processes along more than one axis of analysis. The goal of this design framework is to develop a thorough understanding of the particular in each context and at each scale, and to analyse how these understandings produce similar

and different interpretations of the policy or phenomenon under study (Bartlett and Vavrus, 2017). With this in mind, these authors identified three potential axes of analysis within a comparative case study approach: horizontal, vertical and transversal. The horizontal axis compares how similar policies unfold in distinct, socially produced locations (Massey, 2005) and are also complexly connected (Tsing, 2005).

Vertical comparison pays attention to the way that policy or phenomena travels through assemblages of actors, attending to multiple sites, spaces and scales of policy within and between contexts (Ball, 2016). Here, analytical tools are used to demonstrate how people, objects and discourses are connected through policy. A transversal axis considers how processes and relations are historically situated and tends to focus on change over time (Bartlett and Vavrus, 2017). Not all comparative case studies employ all three axes, and few can emphasise each equally. Some studies are more pre-structured than others, as is the case within this thesis, where degrees of flexibility are limited by research aims, researcher skills, and the time and resources available (Bartlett and Vavrus, 2017). This research utilises a comparative case study approach along horizontal and vertical axes, exploring the phenomenon of widening access to medicine across two homologous sites, tracing policy interpretation and individual experiences among actors and authoritative texts at different scales (Bartlett and Vavrus, 2017). See figure 6 for a visual depiction of a comparative case study design in terms of context and initial data collection methods in response to the aims of this thesis.

Figure 6. Comparative case study design



Methodological approaches

There are two main methodological categories of research approach - quantitative and qualitative – and these can be combined to form what is known as a mixed-methods approach. The debate between these two methodologies is well known and documented, but I and many others agree that each approach is useful in its own right and should be viewed as complementary rather than in opposition to each other (Bordage, 2009). Here, I will briefly describe these two methodologies before a discussion and explanation of the specific methods utilised within this thesis.

Quantitative research methods

The quantitative approach to the collection and analysis of data has its roots in an objective ontology and positivist epistemology. Positivism regards the goal of knowledge as being able to describe the phenomena that we experience via observation and measurement using quantitative methods. Here, the researcher and the researched are separated and must remain independent of each other, where the researcher has no influence on the research process. Reality is tangible and measurable, and an objective 'truth' can be discovered,

enabling us to understand the world well enough that we might predict and control it (Cleland, 2015). This view of research and understanding symbolises one extreme end of the philosophical and paradigmatic continuum, and was a common approach taken by early social scientists who wanted to explain the natural world via examination of relationships between variables (Ryan, 2006). Contemporary quantitative research has moved on from purely positivist perspectives to occupy a post-positivist stance, accepting that all observation is fallible and all theory is revisable (Cleland, 2015).

Qualitative research methods

Qualitative approaches to scientific research largely came about due to the constraints of quantitative methods when addressing social science issues within a natural sciences model. Researchers wanted to solve questions related to the subjective mind and began to seek out new ways of carrying out social research that recognised knowledge as non-neutral (Savin-Baden and Major, 2013). A view of the world from a subjective and interpretive perspective recognises that society does not exist in an objective, observable form. Reality is experienced subjectively because individuals give it meaning and create and recreate a social system, where knowledge is constructed and context bound and the personal is political (Ryan, 2006). Qualitative research is concerned with how this social world is produced, experienced, interpreted and understood, and it seeks to apprehend multiple realities using a plethora of structured approaches and theories (Cleland, 2015). Qualitative methods harness these approaches, aiming to develop understanding of these individual and social worlds through learning about experiences and interpretations of these experiences (Ritchie & Lewis, 2003). Interpretive and subjective researchers believe that research should be holistic rather than reductionist, and whilst there is great diversity in the field of qualitative research, there are many shared assumptions within qualitative methodologies.

Within a qualitative approach shaped by a critical constructivist paradigm there exist a multitude of methods that can be put into practice in achieving research goals. A core feature of comparative case study research and of this qualitative exploration is the triangulation of multiple data sources to develop an in-depth understanding of WA to medicine in both UK and Australian contexts. This approach supports the principle in case

study research that the phenomena be viewed and explored from multiple perspectives (Baxter and Jack, 2008).

Methods

Introduction

As stated earlier, there are numerous methodological tools or methods available to the qualitative researcher. A case study framework encourages the use of multiple tools to examine different viewpoints to ensure quality and develop a broad understanding of the research topic (Hamilton and Corbett-Whittier, 2013).

The following sections in this methodological chapter outline the data collection and analysis methods in more detail for the studies within this thesis. Later chapters present more specific methods for each study and associated findings in the form of a paper, in line with the requirements of a thesis with publication format. This naturally engenders some repetition with regard to background and methodological information throughout this thesis but allows for more detailed explication of these considerations within this chapter.

Methods: Study one

This study applied a critical discourse analysis to policy related documents on widening access to and participation in medicine in both the UK and Australia. I wanted to achieve a critical understanding of how WP policy is legitimised and perpetuated at national levels in both contexts, and highlight similarities and differences between them. Study One aimed to address my first research question (in bold) as part of this comparative exploration of WP in the UK and Australia:

1. How is widening participation in medicine interpreted and experienced at a national, institutional and individual level?

    1.1 How are discourses of WP to higher and medical education positioned, both within and between each context?

    1.2 How do staff within medical education perceive policy and practice aimed at widening participation in medicine?

    1.3 How do medical students from widening participation backgrounds experience the journey into and at medical school?

The part of this study required some initial methods and processes to identify appropriate documentation, and the selection and appraisal of their content. This involved two stages in approach that were somewhat iterative in nature. The first stage applied a framework for the interpretation of textual documents, wherein documents were selected based on whether their content and context were appropriate to the conceptual underpinnings of the study (Hodder, 1994). This stage assisted in determining the authenticity, credibility and representativeness of the final corpus of texts (Bowen, 2009), and laid the foundations for the second stage of analysis. The second stage applied a Foucauldian approach to critical discourse analysis, where the task was to seek an understanding of the meanings conveyed within the texts, by locating statements of truth and the discourses they serve to legitimise and perpetuate (Razack et al, 2014).

Stage 1: Document analysis

Understanding discourses of widening access to medicine at a national level requires an identification and examination of key texts and documents that represent the institutions and organisations that embody and regulate systems of higher education and medicine. Documents are socially embedded artefacts that require a contextualised interpretation, where meaning resides in the writing and reading of texts in context (Hodder, 1994). Organisational and institutional documents are a staple of qualitative research and embody social 'facts' that are produced, shared and organised in socially organised ways (Bowen, 2009). Solicited, publicly endorsed texts from relevant sources are key to exploring legitimised national discourses of widening access and provide data on the context in which subjects operate, providing essential background information and historical insight (Bowen 2009). Recommendations, guidelines and reports from official health and educational organisations can both take the form of and influence national and local policy. Policy can be difficult to define and depends largely on the context and topic of interest, but it can be conceptualised as the sets of processes and practices that are produced by and work to construct texts and discourse (Ball, 1993). Analysis of UK and Australian nationally recognised policies and texts will form part of a triangulation of methods, bringing together structural, macro-level analysis of education systems and policies, with micro-level investigation exploring individual perceptions and experiences (Ozga, 1990). My aim is to

develop a deep qualitative understanding of the processes and practices of widening access to higher education and medicine.

The first stage of exploring national discourses of WA to medicine within a comparative case study approach to this research involved applying some of the main principles of document analysis. This method is particularly suited to qualitative case studies (Stake, 1995), where a systematic procedure of the selection and examination of documents can serve to gain understanding and develop knowledge on the topic of interest (Corbin and Strauss 2008). Organisation and institutional documents can provide data on the context in which participants operate and uncover insights pertinent to the research problem (Merriam, 1998). This investigation began with an international perspective, locating relevant United Nations sustainable development goals for 2030 (2015) and their associated targets. These assisted in the development of a priori themes which led document selection and inclusion criteria.

Content analysis

In choosing the documents for analysis, the process of organising the texts began by producing a description of each document with the aim of situating the text within the context of the organisation that produced it (Razack et al, 2014). This involved an initial skimming of the document to decide of whether it was appropriate for inclusion, followed by several re-readings and surface interpretation to locate relevant information. Content analysis can be thought of as a first-pass document review, in which meaningful and relevant passages of text are identified (Bowen 2009). It was necessary to establish the parameters of each document, making explicit the context of their production, authors, target audience and original sources of information that contributed to the creation of the texts (Bowen, 2009). The aim of this content description was to make explicit the historical context before further interpretation, for there is no 'original' or 'true' meaning of a text outside specific historical contexts (Hodder, 1994). It is important to note here, that due to the recent nature of the identified texts (2008-2018), it was not possible to assess how they have been interpreted, transmitted and transformed into policies and guidelines out with this timeframe. These documents can be viewed as reflections of and on the past and present situation of widening access to higher education and medicine (Razack et al, 2014).

Conceptual framework: Discourse analysis

Discourse and discourse analysis

Discourse analysis is about studying and analysing the use of language, and the contexts in which language and texts are put to practice (Hodges et al, 2008). The production of knowledge through language constructs objects within discourses, in this case widening access to and participation in medicine. This phenomenon and its associated individuals, groups and institutions occupy different positions within various discursive practices. Understanding how these elements shift in relation to one another can be thought of as a way of 'making strange' the taken for granted features of the processes and practices of a discursive object such as widening access to and participation in medicine (Kuper et al, 2013).

Critical discourse analysis

A less well-known qualitative technique, critical discourse analysis (CDA) is nevertheless gaining traction as an important method in the field of medical education (Hodges et al, 2014). It involves detailed analysis of the use of language and discourse when viewed through a lens of critical theory. Discourses are written and spoken language in a social context and can be thought of as the flow of knowledge through time and space, constantly reshaping and enabling social reality (Wodak and Meyer, 2016). They are about what can be said and thought, who can speak and with what authority, and in what geographical and historical context (Ball, 1993). Different discourses are intimately entangled with one another and form the overall shifting mass of societal discourse that is constantly evolving (Wodak and Meyer, 2009). Discourse analysis is about understanding how these discourses shape the world we live in via a forensic approach to communication.

CDA aims to explore how texts construct representations of the world, by examining the relationships between discursive practices and texts, and the wider social and cultural structures and processes in which they exist (Taylor, 2004). It is intended as a means to make transparent the ways in which documents and texts are constituted by diverse and often competing discourses, and to explicate the power dynamics and relationships at play between and within institutions and subjects (Liasidou, 2008). CDA is of particular value in examining multiple and competing discourses in policy and related texts, by shedding light

on marginalised and hybrid discourses (Taylor, 2004). It has been used in the analysis of educational policies in both UK (Liasidou, 2008; Maslen, 2018) and Australian contexts (Thomas, 2005; Taylor, 2004) to investigate how documents construct and sustain power dynamics related to concepts such as inclusivity, access and economics (Anderson and Holloway, 2018).

The vertical dimension within a comparative case study approach is particularly relevant for the study of policy. Case study research must be multi-scalar if it is to make claims about the phenomenon of interest that extend beyond a single site, exploring interactions at both the local and the national. CDA is ideally suited to the critical study of social practice and of policy – by definition a social text imbued with authority. It encourages consideration of how different social actors respond similarly and differently to authoritative mandates, exploring variable appropriation of policy both as discourse and as practice in different communities (Bartlett and Vavrus, 2017). CDA of social phenomena has its roots in a subjectivist, interpretivist ideation, where written texts are always in the process of being produced and reproduced with meaning. Critical constructivists use CDA to examine how authoritative texts perform their ideological work within socio-cultural and political contexts, where power and knowledge are two sides of a single process (Ball, 1990).

CDA of national level policy was central to approaching the first research question within this thesis. I began this process with a document analysis of texts relating to widening access to and participation in medicine in both the UK and Australia, laying the foundations for a critical analysis of policy discourse within a comparative case study approach. My objective was to engage in a process of revealing the relationship between linguistic practice, discursive action, and political and institutional structures (Wodak et al, 2000). A vertical axis links macro-level exploration of how authoritative knowledge is generated and distributed by national policy making institutions, with micro-level interpretations and experiences of this knowledge as practice (Bartlett and Vavrus, 2017). Beginning with critical analysis of policy discourse was a particularly useful approach to the overarching aims of this thesis, where my goal was to illuminate possibilities for change via contextual comparisons.

Critical discourse analysis and Foucault: What?

There are a number of different approaches to conducting a CDA, and the work of the French philosopher Michel Foucault provides one of the theoretical frameworks used to inform and shape studies utilising discourse analysis (Cheek, 2012). Foucault did not define an explicit or unified theoretical approach but provided a number of concepts aimed at exploring how knowledge and power is continually contrived and contested within language, to show how different discourses are made possible, arise, change and disappear (Kuper et al, 2013). Discourses are 'practices that systematically form the objects of which they speak', and imply systems of exclusion and distribution of power, reproducing and producing new structures (Foucault, 1972). Documents and texts are both the product of and produce discursive understandings of aspects of reality, where the image of the object represented is formed according to the frame or focus that shapes what is to be seen. Foucault understands language as being unable to be neutral or value-free, and texts are thus interrogated to uncover unspoken and unstated assumptions implicit within them (Cheek, 2012) and identify statements of truth that embody deeper and more complex systems of discourse (Boyd et al, 2018). CDA lends itself well to this study, where the goal is to unveil power dynamics within studied phenomena and inspire empowerment via the description and analysis of these dynamics (Wodak and Meyer, 2016).

CDA from a Foucauldian perspective has been used with growing regularity from medical education perspectives (Hodges et al, 2014), including explorations into discourses of competency-based frameworks (Boyd et al, 2018), accreditation and curricular standards (Whitehead et al, 2014) and medical school selection policies (Razack et al, 2014). Discourses of widening access to medical education on medical school websites have been analysed (Alexander et al, 2017), but there appear to be no identifiable studies that examine and compare the competing discourses of access to medicine within organisations and institutions that have national scope.

Critical discourse analysis and Foucault: How?

Michel Foucault was loath to prescribe a systematic methodological procedure for the analysis and interpretation of discourses, in fact he actively resisted doing so (Cheek, 2012). This was intentional on the part of Foucault, as systemising a way of doing discourse analysis

would have gone against his critiques of truth and science and be at odds with a critical approach to understanding how power and knowledge is created and reproduced through language (Foucault, 1972). There is no one way of doing discourse analysis, and Foucault's theoretical work supplies ways of understanding that form the foundations of both the framing and conducting of research that utilises CDA. The way in which data is considered and analysed depends largely on the research problem being explored and the researcher's position, and Foucault's work provides a set of tools that can be adapted and used to shape the unique discursive analysis to be undertaken (Cheek, 2012).

It is still possible, and indeed necessary to be explicit about the methodological steps taken, without trying to dictate what is to be done (Foucault and Gordon, 2008). In order to 'make strange' our assumptions about widening access to medical education, applying the principles of CDA within Foucault's archaeological approach allows us to understand how certain ways of thinking are made possible (Rogers et al, 2005, Shaw and Bailey, 2009, Kuper et al, 2013). The aim is to unearth identifiable discourses about objects, and the subject positions and institutional relations of power that are made possible by particular discourses (Kuper et al, 2013). Study One is presented fully in Chapter 4 and contains further details about the steps I took in applying CDA in data interpretation.

Methods: Participant data collection

To illuminate and compare how these discourses of widening access to medicine are interpreted and experienced 'on the ground', a qualitative understanding of this phenomenon was sought at Aberdeen Medical School in Aberdeen, UK and Curtin Medical School in Perth, Australia. To achieve this, studies Two, Three and Four utilised one-to-one semi-structured interviews with staff and/or student populations within the medical school contexts. As part of a comparative case study approach, this involved data collection from participants at each site within the UK and Australian contexts in response to the following two research questions (in bold):

1. How is widening participation in medicine interpreted and experienced at a national, institutional and individual level?

    1.1 How are discourses of WP to higher and medical education positioned, both within and between each context?

1.2 How do staff within medical education perceive policy and practice aimed at widening participation in medicine?

1.3 How do medical students from widening participation backgrounds experience the journey into and at medical school?

UK context: Aberdeen Medical School, University of Aberdeen

Aberdeen is geographically the UK's most northerly based medical school, and is one of five medical schools situated in Scotland, out of a total of thirty-three in the UK. Medicine has been taught here since the founding of Kings College in 1495, with the formal establishment of a medical school curriculum taking place circa 1787. Medicine is now delivered at one of the largest health campuses in Europe (see figure 7 for an image of one of the main teaching buildings). Aberdeen provides a 5-year undergraduate course in medicine (MBChB), with a focus on a systems-based, integrated approach to learning. In 2018 there were 184 first year students admitted to study medicine, becoming part of a population of approximately 850 medical students in total, supported by a large body of academic, administrative, clinical and support staff.

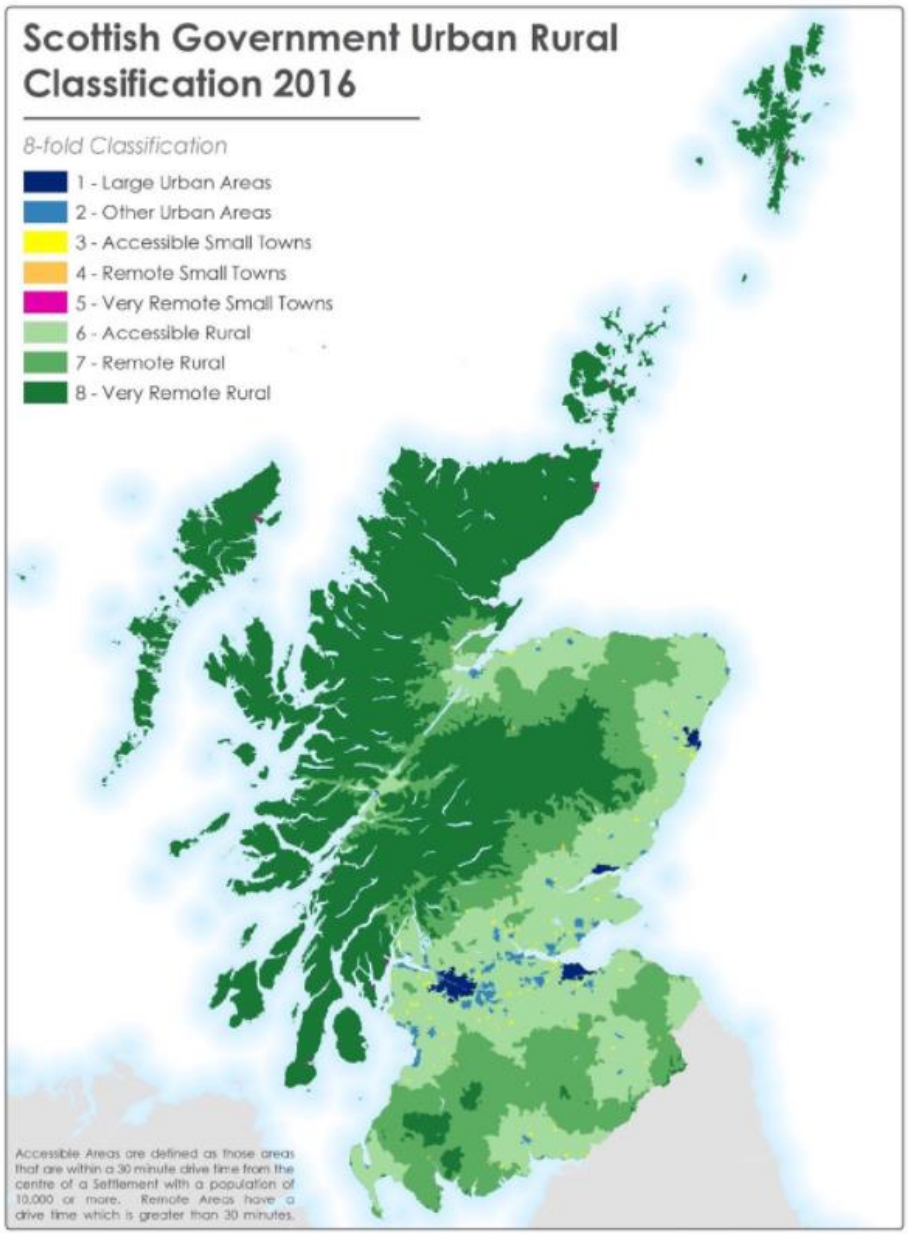
Figure 7. Aberdeen Medical School: The Suttie Centre for Teaching and Learning in Healthcare

Widening access to medicine at Aberdeen Medical School

Aberdeen offers pre-entry support via Reach Scotland, which is a programme aimed at supporting students from disadvantaged backgrounds into professional degrees such as Law and Medicine. The Reach programme at Aberdeen offers a range of guidance and support to prospective medical applicants, including career insight days, application support, mock interviews, and UCAT and personal statement workshops. Participants can also benefit from having travel and accommodation costs covered when taking part in activities.

In line with government policy and guidelines, Aberdeen considers applicants to be widening access if they meet at least one of the following criteria: Residents in SIMD20 (quintile 1) postcode areas; from a Reach School (low-progression school) anywhere in Scotland; care experienced; a young carer; estranged - i.e. living without a family support network; eligible for free school meals; a refugee or asylum seeker; resident in an area considered to be Remote & Rural (5-8 on the 8 fold Urban Rural Classification – see figure 8).

Figure 8. Map of Scottish Government 8-fold urban rural classification (adapted from Scottish Government, 2016)



The school also offers a new pre-medicine access route to pupils from a widening access background via their Gateway2Medicine (G2M) programme. In partnership with North East Scotland College (NESCOL), G2M provides a supportive pre-entry year of teaching and a novel route into medicine for WA students, and has its own, similar set of eligibility criteria, as well as academic and non-academic requirements. The programme is designed to support the delivery of the widening access target set by the Scottish Government - that by 2030, students from the 20% most deprived backgrounds should represent 20% of entrants to higher education.

Australian context: Curtin Medical School

Curtin Medical School is a relatively new addition to universities offering medical education and training in Australia (see figure 9). It is one of three medical schools in Western Australia and one of 21 medical schools across the country. In 2009, Curtin University proposed plans for a medical school to help address the health and workforce needs of West Australians, and later commissioned an independent report in 2013 outlining the implications for the Western Australian community if doctor shortages were not addressed. They included higher costs for medical services, longer waiting times, increased pressure on hospitals and other health workers, and poorer access to medical services, especially in rural, regional and outer metropolitan areas. In May 2015, the Federal government gave formal approval for the Curtin Medical School, and the school's five-year undergraduate MBBS (Bachelor of Medicine, Bachelor of Surgery) degree was granted accreditation by the Australian Medical Council in October 2016.The Curtin Medical School is the newest school in the Faculty of Health Sciences and enrolled its inaugural cohort of sixty students in 2017. These numbers have been growing steadily each year, aiming to increase to an intake of 120 medical students by 2022.

Figure 9. Curtin Medical School

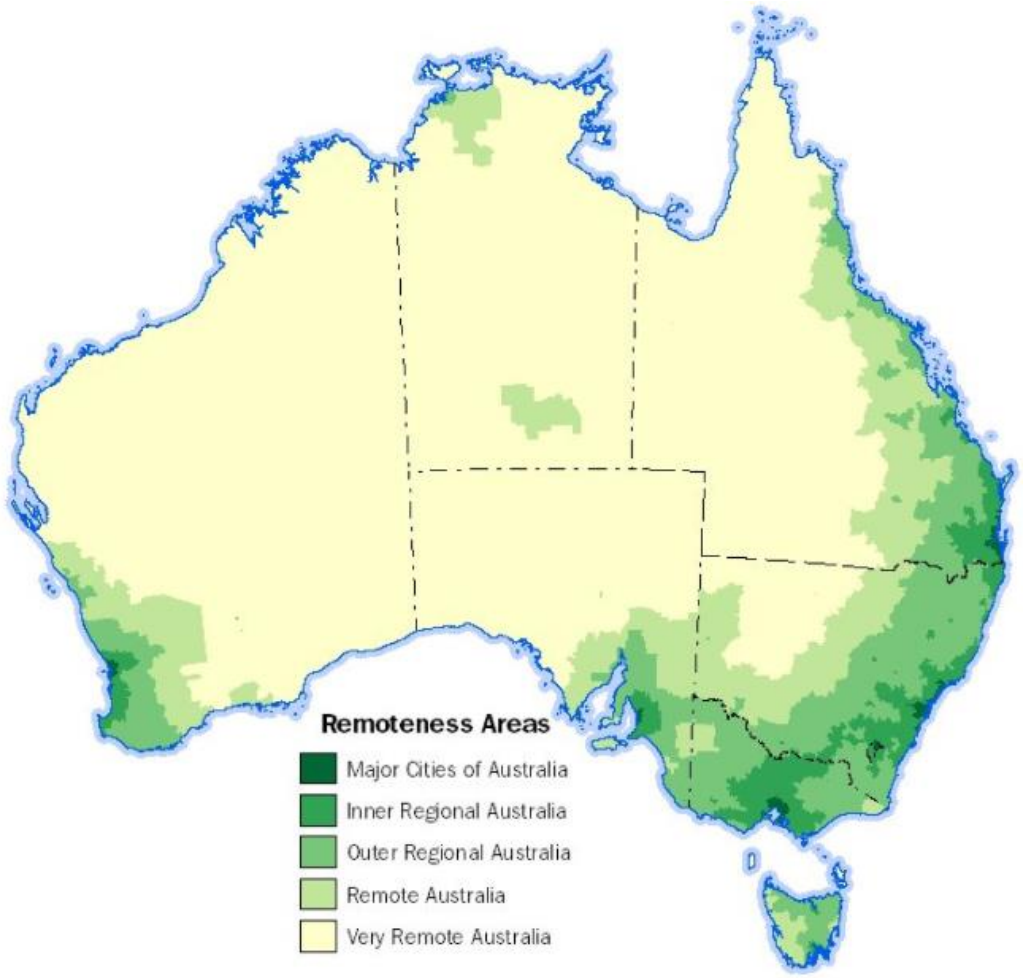
Widening access to medicine at Curtin Medical School

Curtin's medical degree is primarily aimed at Western Australian school leavers, and places are prioritised for students from rural and regional areas, Indigenous backgrounds and those who have experienced long term educational disadvantage. The school awards additional weighting in the admissions process in recognition of the disadvantage experienced by people form these groups in accessing higher education. In 2020 Curtin also began offering Bonded Medical Places (BMP) in line with the Federal Government's BMP scheme. This scheme provides approximately 28% of Commonwealth Supported Places in university medical programs across Australia in return for student commitment to work in regional, rural and remote areas for a set period on completing their training.

Curtin Medical School provides alternative entry pathways for students from rural, equity and indigenous backgrounds. Approximately 25% of places are allocated to Western Australian applicants from a rural background. Rurality is defined by having spent at least ten years cumulatively or five years consecutively residing in an area an Australian Statistical Geography Standard remoteness category (ASGS) RA 2-5 since the commencement of primary school (see figure 10 for a map of remoteness areas in Australia). Equity places are awarded to Western Australian school leavers from schools with an Index of Community

and Socio-Educational Advantage (ICSEA) score of 1000 and below averaged over the preceding three years. Equity places are also available for applicants who are classified as experiencing financial hardship. Places are also available to applicants of Aboriginal and Torres Strait Islander descent and they can apply through the Centre for Aboriginal Studies (CAS) based at Curtin University. Indigenous applicants can also apply through the Indigenous Pre-medicine course and must obtain a Confirmation of Aboriginality prior to commencing the course.

Figure 10. Map of remoteness areas in Australia (adapted from Australian Bureau of Statistics, 2016)



Interviews

Interviews are a core feature of many qualitative inquiries and are seen as the mainstay of qualitative research (Savin-Baden and Major, 2013). They are the most familiar method of qualitative data collection, aiming to provide in-depth access to participants' personal views and experiences on any number of topics (Crabtree and Miller, 1999). Interviews are one of the most important methods when it comes to developing the horizontal axis in comparative case study design, where rich description of each horizontal element is critical to discerning the similarities and differences across each site (Bartlett and Vavrus, 2017). They provide an opportunity for in-depth conversations with diverse social actors, exploring participant sense-making of their experiences and perspectives on the phenomenon of interest. Interview formats vary depending on the epistemological stance and goals of the project, commonly employing a flexible semi-structured approach. This permits the researcher some control over the conversation whilst allowing for some spontaneous back and forth between the researcher and the interviewee (O'Reilly, 2009). This form of interviewing is more consistent with a comparative case study design as it attends to the processual nature of conversation and the social dimensions of knowledge production. Being aware of interaction patterns is critically important here, premised on the belief that knowledge is not out there to be discovered but is socially produced through meaningful interaction between researcher and participant (Bartlett and Vavrus, 2017).

Interviews are key to achieving the aims of this research and respond to my second and third research questions, which seek to illuminate the staff perspectives and student experiences of widening access to medicine at two centres in different contexts. These methods align with the subjective, interpretive philosophical positioning of this work, and embody a constructivist paradigm in approach to research. Comparing and contrasting these constructions of reality and experience, particularly those of individuals from disadvantaged backgrounds, also lends another critical dimension to this study. The ultimate goal here was to understand and interpret policy as practice in different locations and contexts, shedding light on these hitherto sparsely explored experiences.

Semi-structured interviews

To elicit both medical school staff perceptions of widening access policy and practice, and the experiences of medical students from widening access backgrounds, I adopted a semi-structured, one-to-one interview approach with all participants. The design, structure and content of interview questions was very different for the two groups of participants, with interview guides appropriately and carefully curated to engage participants in different discussions about widening access to medicine. The one-to-one interview is a core method in qualitative research and is one of the most common ways of producing knowledge in the human and social sciences (Brinkmann, 2017). Other methodological tools were considered here i.e. focus groups, however the confidential 'safe space' afforded via individual interviews was identified as appropriate for approaching both groups within this study. Widening access is a politically charged 'hot topic' within higher education systems, and individuals may feel uncomfortable sharing potentially sensitive opinions amongst colleagues in a group setting. Similarly, exploring the lived experiences of medical students from disadvantaged backgrounds encourages discussion of personal issues, challenging events and difficult feelings and experiences. A semi-structured rather than structured interview design was employed, as they create better knowledge-producing dialogues between researcher and participant, allowing more freedom for both parties to explore particular topics in more detail (Brinkmann and Kvale, 2015).

Question design

A series of semi-structured questions about widening access to medicine were designed and revised by the research team to facilitate a rich discussion, aiming to encourage participants to express a variety of viewpoints (staff) and experiences (students). These questions initially drew on Beagan's work which explored experiences of race, gender and class at medical school (Beagan, 2001, 2003, 2005). I contacted Brenda Beagan and she was kind enough to share her question guides for these studies with me, and I adapted and developed these in light of current WA and WP and the aims of this study. These questions were used as a guide to facilitate discussion rather than a rigid framework to adhere to, and were adapted in light of different contexts and individual participant circumstances (see appendices A and B for respective staff and student interview guides). Accompanying probes were available to inspire conversation when needed. Questions were kept simple,

encouraged no right or wrong answers, and the language used was appropriate and accessible for participants (Bevan, 2014). My background skills and experience in qualitative research were useful here and I adopted an active listening role, providing prompts and probes and engaging in reciprocal conversation where it was deemed necessary to elicit further responses (Walker, 2011).

Participant recruitment

I aimed to recruit a total of approximately 10 participants from each of the staff and student populations of interest at each medical school, at which point I anticipated reaching data saturation in light of my research questions and methodological approach (Varpio et al, 2016).This approximation also allows for sufficient exploration of staff perceptions, and student experiences of widening access to medicine, and gives the primary researcher the opportunity to build trust and rapport with participants within the time and resources available (Crouch & McKenzie, 2006).

Medical school staff

Staff members with experience and/or interest in the policies and practices of widening access to medical education were approached to take part. Staff members affiliated with each medical school were identified using a purposive, snowball sampling technique via existing contacts (i.e. project supervisors and other members of their departments) and by obtaining email addresses from relevant webpages. Potential participants were sent an email by the lead researcher outlining the aims and objectives of the project, along with a participant information sheet with more detailed information, and a consent form for review (see appendix C for participant consent form and appendix D for staff participant information sheet). Willing participants responded to this email, and a convenient time and space in which to conduct the interview was arranged by the lead researcher.

Medical students from widening access/participation backgrounds

I used a purposive sampling technique (Creswell, 2003) to recruit a variety of students from widening access backgrounds in terms of selection strand via email (Curtin applicants from each of the equity, remote and rural, standard selection route and, similarly, Aberdeen applicants from G2M, protected places, and standard entry route) and socio-demographics

(gender, school leaver or more mature entrant, and ethnicity). Aberdeen Medical School has a much larger population of students and so I sampled those who were currently in first and fourth year of their studies, to allow for a breadth of experiences. At Curtin all students who met selection criteria were approached confidentially by email. The email outlined the aims and objectives of the project, along with a participant information sheet with more detailed information, and a consent form for review (see appendix E for student participant information sheet). Willing participants responded to this email, and a convenient and confidential time and space in which to conduct the interview was arranged by the lead researcher. Due to the impact of the ongoing pandemic, participant recruitment at Curtin was disrupted resulting in various challenges in achieving this task. Once staff and students were allowed back on campus, I employed other methods including distribution of leaflets and posters within the medical school. Covid-19 and its impact on this research process is further detailed in the discussion chapter of this thesis.

Data collection

Each interview took place in a comfortable and appropriate setting, either within staff participant personal office spaces, or within a pre-booked quiet and confidential meeting room on the university campus. Several interviews at Curtin were conducted either by telephone or using Zoom video call software because of Covid-19. Participants were emailed a consent form in advance to sign that outlined the voluntary nature of the study and asked for permission for the interview to be recorded. People were informed that their contributions would remain confidential, and no identifiable information about them would be recorded. Participants were also given or emailed a short questionnaire to complete that gathered some basic personal characteristics and sociodemographic information (See appendix F for staff participant questionnaire, and appendix G for student participant questionnaire). Before each interview formally began, the lead researcher revisited the information sheet with participants, and engaged in conversation, providing appropriate personal information (e.g., socio-economic background and motivations for taking part in this research). This contributed to building effective rapport with participants, essential for creating a comfortable space for dialogue and generating high quality data (Ritchie et al, 2013).

Data analysis

Analysis of the data was an iterative process that happened congruently with data collection to describe and interpret the perceptions and experiences of participants as thoroughly as possible. It was important to keep the research aims and objectives firmly in mind and apply a methodical procedure to protect the validity of the data in such an in-depth investigation.

All interviews were digitally audio-recorded with consent, anonymised and outsourced to a third party for transcription using ZendTo, a secure file sharing platform. The transcripts were then uploaded to data analysis software (Nvivo). Key phrases in the data were identified to allow a coding framework to be developed. This was an inductive and data driven thematic analysis, adapted to the requirements of the differing data sets (Braun & Clarke, 2008). The data (audio files and interview transcripts) were stored in password protected files on university centrally managed network shared drives, and in locked filing cabinets on university premises. Only the immediate research team (primary researcher, principal investigator and secondary supervisors) has access to the data.

For both staff and student groups in each context, transcripts were analysed using inductive thematic techniques. Thematic analysis is an accessible and flexible method for analysing qualitative data and is ideal for identifying and explicating patterns of meaning (Braun & Clarke, 2006). An inductive procedure is highly flexible and independent of theory, themes identified are born out of the data and do not have to adhere to a preconceived framework. A systematic and transparent analytical process is essential for ensuring the quality and validity of qualitative data, without restricting the fluid and iterative nature of inductive thematic analysis (Lack et al, 2011). Detailed analysis of transcripts involved re-visiting the data several times to illuminate sources of meaning in a non-judgemental and objective way, paying attention to the context of narratives and subsequently clustering units of meaning into themes (Groenewald, 2004). Braun & Clarke (2006) provide some useful guidelines which formed the basis of this interview analysis. The following steps were undertaken iteratively, but separately for the staff and student data sets:

Step 1. Familiarising yourself with the data

I began by free reading all transcripts to form an impression of the data set as a whole. On the second read through I made brief notes, or memos, to aid thick description about

important and emerging ideas, and began to discount any chunks of dialogue that were completely off topic.

Step 2. Generating initial codes

Active, or explicitly critical reading was a priority for the third examination of the transcripts, as themes do not 'appear' but must searched for and shared by the researcher (Braun & Clarke, 2006). Using Nvivo software, individual excerpts of data i.e. participant speech were systematically identified and organised into descriptive codes. This process was repeated at a later date to aid in interpretation and enhance the credibility of the data (Lincoln and Guba, 1985) Excerpts of data with similar codes were then collated into broader categories of meaning, enabling the identification of patterns within the data.

Step 3. Searching for themes

Once I had organised coded data into categories of unified meaning, I went back to look at the original, untouched transcripts and took a step back from the detailed analysis involved in coding data. This allowed me to see the bigger picture and search for overarching units of analysis that encompassed a variety of codes and categories. The subsequent steps of the analysis process was undertaken by hand, using large sheets of blank paper and coloured pens to map and visualise categories in relation to one another, brainstorm ideas, and delineate overarching themes and sub-themes.

Step 4. Reviewing themes

It was then necessary to revisit the coded extracts and the entire data set for rigorous interpretation, and to ensure I had not made any obvious errors or omissions in explicating the full range of opinions, viewpoints and experiences. I created a thematic map for each group, and reorganised and merged data as part of the iterative process, using simple diagrams and text.

Step 5. Defining and naming themes

Each theme, sub-theme and category was refined and reworded to correctly reflect the coded data. Final summary and evaluation of this investigation will address whether the research has effectively illuminated the phenomenon in question and should go beyond the

data to develop ideas that shape workable ways of living better in the world (Groenewald, 2004).

Ethical Approval

In Aberdeen, ethical approval for this study (CERB/2018/10/1661) was granted by the College Ethics Review Board of the School of Medicine, Medical Sciences and Nutrition in November 2018. Recruitment of both staff and student participants at Aberdeen Medical School began in February 2019, and was ongoing alongside data collection, which took place between March and May 2019. At Curtin, my application was granted approval by the Curtin University Human Research Ethics Committee in December 2019 (HRE2019-0833). Participant recruitment and data collection began here in February 2020 and continued (with ongoing disruption due to Covid-19) throughout most of the year, until October 2020. Information pertaining to ethical approval at Curtin can be found in appendix H, and for Aberdeen in appendix I.

Methods: Studies Two and Three

Following participant data collection and initial inductive thematic analysis of interview data at each site, I had to think about how I might compare and/or frame the data using conceptual lenses or theoretical frameworks. In terms of both the horizontal and vertical dimensions of my comparative case study I had four stand-alone participant data sets; the UK and the Australian medical school staff, and the two groups of WP medical students in each context. Similar to the approach I took in study One, and as described in a previous section of this chapter, I did an initial, rudimentary independent horizontal comparison between each group in both contexts i.e. comparing staff perceptions of WP between the UK and Australia, and then comparing the WP student experiences in each location. This afforded me a solid grounding in the data and an idea of similarities and differences within and between contexts. However, trying to apply any theoretical lens to draw direct comparisons between the staff and students separately was somewhat futile given the major differences between UK and Australia policy and practice around WP. Context appeared to be key, and so looking at how WP in medicine is interpreted and experienced holistically at each location needed be the focus of data analysis. In light of my second and third research questions I wanted to see the whole picture of WA/WP in each context, and

this meant paying explicit attention to the vertical dimension of this thesis by exploring WP processes at multiple scales in each separate location:

1. How is widening participation in medicine interpreted and experienced at a national, institutional and individual level?
    1.1 How are discourses of WP to higher and medical education positioned, both within and between each context?
    1.2 How do staff within medical education perceive policy and practice aimed at widening participation in medicine?
    1.3 How do medical students from widening participation backgrounds experience the journey into and at medical school?

Influenced by my approach and findings in study One, I wanted to understand how policy discourses might play out 'on the ground', and what this might mean for medical school staff and students. I had an understanding of WP policy discourse at national levels in the UK and Australia, but what about local contexts, processes and experiences?

Following the policy: A sociomaterial approach

As a more recent phenomenon, widening access to medicine remains relatively under-theorised in comparison to many other educational and policy related fields. Reframing existing evidence and familiar methodological approaches by utilising novel conceptual and theoretical frameworks allows us to explore data and illuminate findings in different ways, to further inform practice and future research (Nicholson and Cleland, 2015). One such genre takes a sociomaterial approach to understanding how processes and practices are enacted in the social – in this case educational - world. Traditional approaches in the social sciences, and indeed education, tend to privilege the intentional human subject, which is assumed to be different or separate from the material, or non-human (Fenwick et al, 2011). What is material (non-human) is usually taken to be the background context against which educational practice takes place or wherein it resides, culminating in a blindness as to how educational practice is affected by the non-human and treating materials as mere instruments to advance practice (Sørensen, 2009). To reclaim and rethink the material practices of education, sociomaterial approaches promote methods which identify and trace the multifarious struggles, negotiations, and the relations and forms of connections and

disconnections that constitute the 'things' in education: students, teachers, activities and spaces, concepts, processes, and material artefacts such as texts (Fenwick et el, 2011). Tracing the sociomaterial insists upon attending to the agency of the non-human that is enmeshed with the social and human. It interrupts understandings of knowledge, learning and education as solely social or personal processes, where all things – human, non-human, hybrids, parts, knowledge and systems are performed into existence in webs of relations (Jensen, 2010, Bennett, 2010, Fenwick et al, 2011).

Conceptual framework: Actor-Network Theory

One such conceptual framework that allows us to trace the sociomaterial is that of Actor-Network Theory (ANT). It has many proponents and is less a pre-defined theory and more a sensibility, tracing the ways that things come together to form networks via negotiations that occur at the points of connection. It follows how human and non-human actors are invited or excluded, link together or not, and how these connections make themselves stable by linking to other actors and networks. These things - actors – persuade, coerce, seduce, resist and compromise each other as they come together to form precarious relationships and assemblages (Fenwick et al, 2011). ANT research enables the examination of dynamic and socially constructed phenomena, where interactions and relationships are traced between these human and non-human objects and processes (Latour, 1987, 1996). A key feature of ANT is that the actors play a central role in the 'translation' of processes, where translation is an effect of the enactment of the phenomenon (Callon, 1986; Burga and Rezania, 2017). These humans, objects and processes are defined as actors by their network, and by their relationships and negotiations in the struggle to achieve resolutions in the conflicts within the phenomenon under examination (Sage et al, 2011).

Actor-networks do not have rigid socially constructed links or identities, instead seeing each actor, actant or entity as in itself an actor-network, who create and are created by translations involving the participation and involvement of other actors (Burga and Rezania, 2017). A focus on the sociomaterial helps to entangle the complex relationships that hold together these assemblages, tracing their durability as well as their weaknesses (Fenwick et al, 2011). The actor-network is performed into existence: 'the agents, their dimensions and what they are and do, all depend on the morphology of the relations in which they are involved' (Callon 1998, p8). Educational analyses have tended to focus on human,

intersubjective, interpretive, discursive and meaning-centred factors, however ANT insists that non-human identities are equivalent in importance to human elements in educational spaces (Fenwick et al, 2011). Key to broader understandings of ANT and its application to questions of learning, knowledge generation and practice include the central concepts of symmetry, translation and stabilisation, enrolment and mobilisation, and fluid and quasi-objects (see table 4 for details)

Table 4. Four central concepts of ANT (adapted from Fenwick and Edwards, 2010)

Concept	Description
Symmetry	Objects, nature, technology and humans all exercise influence in assembling and mobilising the networks that comprise tools, knowledge, institutions, policies and identities
Translation and stabilisation	Micro-negotiations that work to perform networks into existence and maintain them while concealing these dynamic translations
Enrolment and mobilisation	Processes that work to include and exclude actors and actants
Fluid objects and quasi-objects	Objects produced by networks that perform themselves as stable knowledge and bodies

As with other sociomaterial approaches, there is a danger in fixating on theoretical conceptions that trace complex processes in this way, without questioning why these analyses are any more productive in exploring and responding to educational concerns. For some, ANT represents a post-human orientation, where analysis and understanding remain at a systemic level that abstracts, or omits, the person and the personal that are crucial in education. However, this is a post-humanism that refutes anthropomorphic centrality of human beings and human knowledge in defining the world and its relations, finding value in transgressing boundaries and disrupting uniform ideas about what it means to be human (Fenwick et al, 2011). ANT has also been criticised for offering a flat ontology where nothing can be challenged and no intervention formulated, yet other researchers have clearly

demonstrated how ANT can trace very well how powerful assemblages emerge and extend themselves (Fenwick et al, 2011; Bennett, 2010).

Just as ANT has many proponents who both corroborate and contest one another when it comes to certain elements of understanding and application, its ontological underpinnings blur traditional ideas of a dichotomy between objectivism and subjectivism. Many authors remain critical of realists and social constructivists in assuming that materiality, meaning and representation are separate realms (Latour, 1999; Hacking, 2000; Barad, 2007). What is of key importance in ANT is a focus on what texts and other objects *do* rather than what they *mean* – and what they do is always in connection with other human and non-human things (Fenwick and Edwards, 2011).

Power is central to understandings of space and context as produced through networks of sociomaterial relations. For analysing politics and policy in educational research ANT raises important questions about the shifting locus and performance of power, and about 'how and in what forms people, representations and artefacts move, how they are combined, where they get accumulated, and what happens when they are hooked up with other networks already in motion' (Nespor, 2002, p376). As a person and a as a critical constructivist I believe the world in all its meaning and materiality is ultimately seen, experienced and understood through a lens of human consciousness, and I situate ANT within a critical constructivist research paradigm.

One of the early proponents of ANT, Michael Callon, describes four stages of ANT as part of a 'sociology of translation'; problematisation, interessement, enrolment and mobilisation (Callon, 1986). These stages are iterative rather than linear in order, reflecting the complexity of the translations and allowing researchers to show how actor-networks grow via the empirical pursuit of assembling case studies (Fox, 2000). Borrowing from the viewpoint of a process of project accountability, Burga and Rezania, (2017) frame the first stage, problematisation, as where the actors and their relationships are initially defined and established (Sage et al, 2011). Here, a central challenge shared by all actors and known as an obligatory passage point is identified by documenting these connections between actors. Interessement is the stage where the project becomes operational and relationships between actors are dynamic in their enactment of accountability, followed by enrolment, where relationships are translated successfully by the actors through the use of power. At

this stage, the actors enact accountability via 'trials of strength' (Callon, 1986; Sage et al, 2011), where entities call out other entities to account for their actions and use their power to enforce compliance on one another. The final stage, mobilisation, allows the actors to generalise specific relations and occurrences within the project that can be mobilised and translated to other similar projects and phenomena (Callon, 1986). Our concern is with the enactment of widening access/participation policy, and how it is performed into practice within a medical education context. Callon's moments of translation is useful in illuminating the processes of how some networks – such as medicine – become so durable and powerful in education, with far reaching influence across time and space (Fenwick and Edwards, 2011).

As an analytical approach that challenges central assumptions about knowledge, subjectivity, the human and the material ANT continues to be utilised in a variety of disciplines globally in relation to policy including environmental sciences (Holifield, 2009; Rutland and Aylett, 2008), public health (Young et al, 2010; Bilodeau and Potvin, 2018; Law and Singleton, 2014) and education (Rizvi and Lingard, 2010; Koyama, 2011; Mulcahy, 2016). ANT has also been applied within medical education contexts (Bleakley, 2012; Tummons et al, 2017), but I have found no evidence to suggest it has been utilised in the study of policy related to widening access and participation.

When utilised in the study of policy, ANT approaches pay attention to what happens when disparate actors come together to perform policy-related tasks. Here, the people who enact a policy, as well as the non-human policy itself and its attendant forms and documents are granted equal analytical significance (Bartlett and Vavrus, 2018). ANT is used to explain 'the specific materialising processes through which policymaking actually works to animate educational knowledge, identities and practices' (Fenwick and Edwards, 2011), focusing on how phenomena and context come into being, and how they are interrelated (Sobe and Kowalczyk, 2014). This assemblage thinking moves material (often textual) objects from positions of passive artefacts to ones of cultural mediators – leading us to consider how both the human and non-human affect current and future practice (Koyama and Varenne, 2012).

Data sources: Institutional policy, medical school staff and WP medical students

In light of my findings in study One and understanding local policy as a product of and influenced by national policy discourse, the key actor to follow in mapping local WA and WP networks was institutional WA/WP policy as a non-human actor. This meant a total of three data sources informed each of studies Two and Three – University and medical school policy documents linked to WA/WP, as well as staff and student interviews in each context.

My initial research questions, coupled with my understanding and application of ANT as a conceptual framework led me to a more specific aim for studies Two and Three:

- To document the connections among actors in a WA network in the UK (study Two) and a WP network in Australia (study Three) as they are assembled and configured according to Callon's (1986) moments of translation.

ANT is not a unified field or theory, and users of this conceptual framework within educational studies must be committed to the difficulty of ambiguity, non-stability and transgression in fixed methodological approaches (Fenwick et al, 2011). It is a way of looking at multiple enactments of reality rather than perspectives on one underlying reality:

'It raises questions of how we understand observation in research practices and how a research question acts as an obligatory passage point from which multiple openings are enacted. A research question is therefore an aporia, both pointing towards something specific but also opening up multiplicity' (Rimpiläinen 2009, p10)

With this in mind, and by documenting connections between actors as problematised by institutional WA/WP policy-as-actor in the first stage of analysis, I was able to identify an obligatory passage point. This key tenet common to all actors (Callon, 1986) thereby becomes an embedded research question that both guides and is guided by the process of analysis and interpretation in mapping and building the actor-network of WA to/WP in medicine:

- How do students from WA/WP backgrounds achieve and maintain academic excellence?

ANT is a complex framework and was a challenge to get to grips with as a novice researcher, particularly as there are no existing ANT studies to draw upon within WP. When it comes to directly comparing actor networks in separate contexts, to my knowledge there is no literature that explicitly does this. I refrained from attempting this as part of a single study, instead focusing on applying this under-utilised lens in each location to allow for an in-depth exploration at multiple levels and full use of participant data sets. Study Two follows university and medical school WA policy in the UK context, bringing in the staff and student interview data collected at Aberdeen, and study Three follows Curtin institutional WP, utilising staff and student interviews collected within the Australian context. Please see chapters 5 and 6 for more details on methods and data analysis for studies Two and Three.

Methods: Study Four

Studies One, Two and Three all focus on WA/WP policy, albeit in different ways and at different scales. Study One illuminated a broad scale 'macro' understanding of WP at national levels, attending to the horizontal axis of a comparative case study across contexts by comparing policy discourses both within and between the UK and Australia. Studies Two and Three paid attention to the vertical dimensions of this thesis by exploring WA/WP in each separate context but at multiple levels, bringing together several data sources that enabled me to map and build an actor-network of WA/WP policy as process at a 'meso' level. These studies drew upon human and non-human data to explore human and non-human influences in mapping processes of WA to and WP in medicine. This allowed me to bring together policy language, staff perceptions and student experiences to develop a unique understanding of WA/WP policy and practice as a complex network of actors and relationships.

When it came to the final study I wanted to focus explicitly on the experiences of medical students from WP backgrounds in both contexts, and address my final research question as a study separate from staff perceptions of WP in medicine:

1. How is widening participation in medicine interpreted and experienced at a national, institutional and individual level?
    1.1 How are discourses of WP to higher and medical education positioned, both within and between each context?

1.2 How do staff within medical education perceive policy and practice aimed at widening participation in medicine?

1.3 How do medical students from widening participation backgrounds experience the journey into and at medical school?

Whilst studies Two and Three had shed some light on the student's experiences, this was as part of mapping a complex network where their voices were one of many. What was needed was an in-depth understanding of WP as experience, where WP students are centre stage and more time and attention is paid to the rich interview data they shared. I also wanted to attend again to the horizontal dimension of this comparative case study, but this time at the 'micro' scale, bringing together both contexts in one study and exploring similarities and differences between unique and individual experiences in both the UK and Australia. This led me to narrative inquiry as a conceptual lens through which I was able to explore and compare student experiences in much more detail.

Conceptual Framework: Narrative Inquiry

Narrative approaches allow researchers to focus on the study of human experience, looking for the meaning in stories and how people create themselves and reality through experience (Savin-Badin and Major, 2013). They are conveyed in certain social and cultural contexts and are embedded in public narratives (Somers, 1994), often residing in the taken-for-granted background assumptions of everyday life (O'Toole, 2018).

Narrative inquiry is 'the study of experience as story' (Connelly and Clandinin, 2006, p.479), allowing a holistic focus on people, and on the whole and the specific, rather than the fragmented and general (Damgaci and Aydin, 2018; Rea et al, 2017; Reissman, 2010). It is grounded in interpretive hermeneutics and phenomenology (Gregory, 2010), epistemologically respecting the relativity and multiplicity of truth (Josselson, 2011), and is historically situated in social constructionist and constructivist paradigms. Moving beyond these origins, many critical, post-modernist and poststructuralist researchers have adopted this line of inquiry using their own unique philosophical lenses (Savin-Baden and Major, 2013). Narratives are infused with power relations and have the capacity to accomplish things that can be strategic, functional and purposeful (Griffin and May, 2012). Using storytelling within a narrative inquiry framework can be valuable in developing greater

understanding of human experience, illuminating differences and similarities between people's stories (East et al, 2010) and laying bare the complexity and contradictions of life experiences (Clandinin & Connelly, 2000; Creswell, 2013).

Illuminating student narratives is important for understanding how people make sense of their lives in relation to educational experience as well as the ways their narratives are interpreted by others, shaping judgements about access, choice and selection. Certain stories are privileged in policy and practice and exploring WP narratives of experience contributes to the processes of recognition that create possibilities for access to higher education. A critical approach drawing on narrative methodologies focuses on uncovering the processes by which particular narratives of WP are produced, and the effect of this on WP policy, practice and identity formation across different contexts (Burke, 2012).

Narrative approaches have been utilised to explore Indigenous Australian experiences in community settings (Quayle and Sonn, 2019) and in healthcare contexts from the perspective of clinical staff (Foxall et al, 2021) and Indigenous patients and their families (Mbuzi et al, 2017). It has been used to capture the stories of early career doctors in the UK (Scanlan et al, 2018), and in diverse educational settings to illuminate the stories of 'non-traditional' students (Phillion, 2008; James, 2018; Wainwright and Watts, 2019).

Narrative inquiry here aims to understand the meanings of WP student experiences, 'rather than be presented with the theoretical dilution of those meanings' (Trahar, 2013, p.xiv), and because of its holistic, in-depth approach to each participant, it focuses on a small number of participants (James, 2018).

Data sources: Medical students from WP backgrounds

Building narrative as story and experience from a large data set meant first revisiting all of the student interview transcripts and audio files to get a thorough picture of each student's experience of the journey into and at medical school. Of the 23 student interviews (13 at Aberdeen and 10 at Curtin), six stories stood out in terms of depth, reflection and complexity and were selected for narrative inquiry (3 from the UK, 3 from Australia). More detail on the stages of data analysis and interpretation can be found in Study Four, presented in chapter 7.

In the last part of this chapter I consider key tenets associated with quality in qualitative research, and reflect on how I attempted to address these within this thesis.

Quality in qualitative research

As qualitative methods and associated philosophical and paradigmatic standpoints have proliferated in both number and detail, so to have the criteria against which they are judged for quality (Whittemore et al, 2001). Researchers are encouraged to consider a framework of criteria most appropriate for their philosophical stance, research approach and the goals of the study (Savin Baden and Major, 2013). As a novice researcher I explored a variety of such frameworks, settling on Sarah Tracy's eight 'Big-Tent' criteria for excellent qualitative research (Tracy, 2010). As a critical constructivist I found these to be most suitable for quality assessment within a comparative case study of widening access to medicine, a complex, context dependent and politically charged topic. Tracy (2010) highlights the importance of flexibility in application of this framework, and I have adapted the tenets and techniques of each criteria based on the procedural requirements and ultimate aims of this investigation. Please see below (table 5) for a summary of these criteria and a brief summary of how they were applied to ensure quality research within this thesis.

Table 5. Eight 'Big-Tent' criteria for excellent qualitative research (adapted from Tracy, 2010)

Criteria for quality	Means, practices and methods	How criteria were applied within this thesis
Worthy topic	The topic of research is: - Relevant - Timely - Significant - Interesting	Widening access to and participation in medicine has garnered increasing attention in recent decades, calling for increased student diversity and better understanding of the policies and procedures implemented to achieve this (Carrasquillo and Lee-Rey, 2008; Cohen, 2003; Burrow, 1998; Sikakana, 2010).
Rich rigor	The study uses sufficient, abundant, appropriate and complex: - Theoretical constructs - Data and time in the field - Sample(s) - Context(s) - Data collection and analysis processes	Theoretical considerations and data collection and analysis have been clearly delineated. I spent a significant amount of time in the places and spaces that have relevance to this research.
Sincerity	The study is characterised by: - Self-reflexivity - Transparency	I kept detailed diaries, journals and field notes. I considered my personal background and worldview, and how these shaped the approach to this investigation. I made notes on my relationships with participants, my learning experiences, and how these impacted on my development as a researcher.
Credibility	The research is marked by: - Thick description - Triangulation or crystallisation - Multivocality	I provided thick description of methodological considerations and procedures, supported by a comprehensive review of the literature and research problem at hand. Triangulation was achieved through the use of a blended theoretical paradigm, multiple methods and theoretical lenses.
Resonance	The research influences and affects audiences through: - Aesthetic, evocative representation - Naturalistic generalisations - Transferable findings	Displaying facets of the research process and journey using visual representation and avoiding undue jargon aims to assist in broadening reader understanding and ideation.
Significant contribution	The research provides a significant contribution: - Conceptually/theoretically - Practically - Morally - Heuristically	Shedding light on powerful discourses that shape widening access to and participation in medicine, and the experiences of individuals who are the target of such policies. I hope to have sown seeds of empowerment in providing

		a critical perspective and in giving voice to lesser known and marginalised experiences.
Ethical	The research considers: - Procedural ethics - Situation and culturally specific ethics - Relational ethics - Exiting ethics	Procedural ethics were sought at both institutions where data collection involved approaching and interviewing participants. Each process was adapted given the contextual and cultural differences between the UK and Australia, paying particular attention to the long and problematic history of research directed at aboriginal communities. Situational and relational ethics were attended to consistently throughout the data collection process, where I remained acutely aware of both my own and interviewee actions and reactions.
Meaningful coherence	The study: - Achieves what it purports to be about - Uses methods that fit stated goals - Meaningfully interconnects literature, research questions, findings and interpretations with each other	This thesis is structured in a way that adheres to a logical flow of ideas, processes and outcomes.

As previously stated within this thesis, widening participation in medicine is a complex phenomenon, and multiple philosophies and methods attended simultaneously to global, national and local dimensions of case-based research (Bartlett and Vavrus, 2017). In representing data I did so with the overarching goals of this research in mind, namely to explore and compare widening access to medicine from political, processual and experiential perspectives in both the UK and Australia. Critical constructivism meant critiquing environments and interpreting experiences, connecting the object of inquiry to the contexts in which it is embedded (Kincheloe, 2005). When critical constructivists produce knowledge they are not attempting to reduce variables but to maximise them (Knobel, 1999), and I used a range of conceptual lenses that allowed me to explore and connect both vertical (ANT) and horizontal (CDA and narrative inquiry) dimensions within a comparative case study approach. Analysing the data in this way maximised policy and experiential understandings of widening access to medicine, aiming to produce an

interrelated view of certain social, political, cultural and pedagogical dimensions (Kincheloe, 2005).

Ethical considerations meant paying attention to contextual circumstances and asking 'do the means justify the ends?' which prompted constant reflection upon methods, and making ethical decisions about data exposure so as to avoid unjust or unintended consequences (Tracy, 2010). Engaging in reciprocity with my participants was key, where researcher as human instrument should embrace interdependence, and pay heed to what can be learned from Indigenous participants about being in the world (González, 2000). These tasks required extensive learning on my part, both theoretically and practically, about Aboriginal and Torres Strait Islander history and culture, and the ways in which individuals and communities have been disempowered and marginalised by western practices. Appointing an Indigenous Australian, Dr Jonathan Bullen, as an academic supervisor helped to both guide my learning and promote a sensitive process in approaching Aboriginal students, as well present research findings in appropriate and respectful ways.

Many participants shared intimate personal details about difficult moments in their lives with me as part of their journey into medicine, and I worked hard to create and maintain a safe space. Self-reflexivity was key here, and I found my unconscious assumptions and ignorance about other people's worlds were frequently challenged, making me much more self-aware as time went on. Shared reflections within a reciprocal conversation and encouraging participants to expand on unexpected insights taught me much about other ways of being in the world, and vastly improved my abilities as a researcher. I hope that my interpretation and representation of these multiple and varied realities are reflected in thoughtful and respectful ways throughout this thesis, and work to promote rather than further constrain marginalised voices.

Summary

This chapter presented a detailed description of my worldview and the overall research framework and methodological approach I used in addressing the aims and research questions within this thesis. Data collection and analysis methods were described fully within each context, and in terms of myriad data sources. I discussed each of the four empirical studies in light of the aims of this thesis, delineating and justifying the theoretical

frameworks employed in each case. The next four chapters (4-7) present these studies, accompanied by a preface that sets the scene and provides some context for each piece of work. These studies and their findings are then discussed and further explored in relation to one another and the thesis as a whole in Chapter 8. Here, I critically reflect on the research process, consider some of the implications of my findings for policy and practice, and finally make some recommendations for the future of WP in medicine.

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Chapter 4: Study One

Preface

This chapter presents the first study within my thesis, which was published as a journal article in early 2021 and may be cited as follows:

Coyle, M., Sandover, S., Poobalan, A., Bullen, J. and Cleland, J., 2021. Meritocratic and fair? The discourse of UK and Australia's widening participation policies. *Medical Education*, 55(7), pp.825-839.

The paper's content here is as it appears in print, however it has been formatted to be in keeping with the rest of this thesis.

The initial idea for this study was co-developed in discussion with myself, Professor Cleland (JC) and Professor Sandover (SS). Following our initial conversations and a review of the literature, I decided on critical discourse analysis as a framework for analysis of document data. I wrote an initial draft as a chapter, and then JC and I redrafted this into a paper format, with assistance from SS. Dr Poobalan (AP) and Dr Bullen (JB) joined the team later on, and also contributed their knowledge and expertise when it came to refining and editing the paper.

We agreed to submit the study to the journal Medical Education. I formatted and proofed the draft, and submitted the paper via the journal's online portal. All authors approved the final version before submission.

On receiving reviewer and editor comments we discussed these and the paper as a team. I then worked through these systematically and discussed proposed changes with JC, and shared the revised draft with the rest of the team. Small changes and edits suggested by SS, JB and AP were made to the final draft, and I sent this and a letter of response to the editor.

All authors contributed to and approved the final draft for resubmission, as evidenced in authorship attributed within the citation. I reviewed the journal's proof of the paper and approved this for publication on behalf of all authors. The paper was first published online in January 2021.

Study One: Meritocratic and Fair? The discourse of UK and Australia's widening participation policies

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Conflict of interest

The authors have no competing interests to disclose.

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Abstract

Introduction

Globally, people with the academic and personal attributes to successfully study medicine experience disadvantages associated with sociodemographic factors. Governments have attempted to address this issue via macro-level policies aimed at widening participation (WP) to medicine. These policies differ by country, suggesting much can be learned from examining and comparing international policy discourses of WP. Our question was: how are discourses of WP to higher and medical education positioned in the UK and Australia?

Methods

A systematic search strategy was guided by five *a priori* themes inspired by United Nations Sustainability Goals (2015). Seventeen policy documents (UK n=9, Australia n=8) published between 2008 - 2018 were identified. Analysis involved two over-arching, iterative stages: a document analysis then a Foucauldian critical discourse analysis, the latter with the aim of unveiling the power dynamics at play within policy-related discourses.

Results

Discourses of social mobility and individual responsibility within a meritocracy are still paramount in the UK. In contrast, the dominant discourse in Australia is social accountability in achieving equity and workforce diversity, prioritising affirmative action and community values. Similarities between the two countries in terms of WP policy and policy levers have changed over time, linked to the divergence of internal drivers for societal change. Both nations recognise tensions inherent in striving to achieve both local and global goals, but Australia appears to prioritise community values in working towards 'nation building' while in the UK the focus on individuality and meritocracy at times seem at odds with achieving parity for disadvantaged individuals.

Discussion

WP policies and practices are situated and contextual so caution must be taken when extrapolating lessons from one context to another. The history of a country and the nature of marginalisation in that country must be scrutinised when trying to understand what drives WP policy.

Introduction

Across the world, young people with the academic and personal attributes to successfully study medicine and become doctors experience disadvantages associated with sociodemographic factors such as ethnicity, minority group membership and/or low income (Mathers and Parry, 2009). These disadvantages lead to under-participation in medicine and higher education more generally. The reasons for this are often multifaceted, interconnected within a myriad of wider, complex structural and societal issues including: ethnic minority inequalities (Orom et al, 2013), parental education (Esping-Andersen, 2004), personal aspirations (Southgate et al, 2015), educational attainment (Gale and Parker, 2013), family and peer influences and expectations (Howard, 2003).

Governments have attempted to widen participation to education and medicine via macro-level policies, the aim of which is to reduce discrepancies between the rates of participation of different demographic groups of students in higher education generally (Connell-Smith and Hubble, 2018), and medical education specifically (Milburn, 2012a; Cohen and Steinecke, 2006). These widening participation policies are then enacted by universities and medical schools via the development and implementation of widening access (WA) processes and tools (Cleland et al, 2014; Cleland et al, 2015; Nicholson and Cleland, 2015). The precise nature of these WA processes and tools varies across different countries, but include: quota systems (Hay et al, 2016), outreach programs (BMA, 2010; Brown and Garlick, 2006), access courses (Parry et al, 2012; Mathers et al, 2011), particular use of selection tools (Tiffin et al, 2012) and the use of contextual data (Cleland et al, 2014). However, students from certain backgrounds remain under-represented in medicine worldwide (O'Neill et al, 2013; Puddey and Mercer, 2013; Griffin and Hu, 2015; Cleland et al, 2015; Nicholson and Cleland, 2015), suggesting these policies are not wholly effective. Related to this, we know little about how policy translates into practice 'on the ground' (Cleland et al, 2012a; Kumwenda et al, 2018; Tiffin et al, 2012; Fielding et al, 2018). Moreover, the focal groups for initiatives also vary, from racial groups (Parrish et al, 2008; Carrasquillo and Lee-Ray, 2008), indigenous populations such as Aboriginal and Torres Strait Islanders in Australia (Lawson et al, 2007), rural communities (McGrail and Russel, 2016) and lower socio-economic groups (Watson, 2011; Gale and Parker, 2013). This adds complexity

and means assumptions cannot be made that what works in one context, with one focal group, is transferable to other contexts and groups.

Given this diversity of approaches and focal groups, it is important to understand what underpins WP practices across different countries. This means looking at the ways in which different governments and national and regulatory agencies approach widening participation to medicine, as how this is conceptualised at a macro level will have a major impact on the ways in which it is understood, implemented and experienced 'on the ground' (Cleland et al, 2015).

One way of doing this is by analysing how these national-level organisations use language, and the contexts in which language and texts are put to practice (Hodges et al, 2008). Previous research has explored constructions of discourses linked to widening participation (WP) in higher education both within (Stevenson et al, 2010) and between institutions (Graham, 2012; McCaig, 2015), and from the perspectives of the target demographic of WP policies (Archer and Hutchings, 2000). Findings indicate that although WP discourses in the prospectuses of differing higher education institutions demonstrate a shift toward similar discussions of inclusivity (Graham, 2012), analysis of institutional policy discourses show less promising circumstances for WP (McCaig, 2015). Other studies have looked at discourses of widening access to medicine. For example, Alexander et al's recent critical discourse analysis of information on UK medical school websites found that these also echo discourses of meritocracy and deficit, and largely omit discourses of workforce diversity and improved health outcomes, and the strengths that non-traditional students might bring to the profession (Alexander et al, 2017). In contrast, a Canadian study of policy texts on medical school selection identified diversity as an object of value, where social accountability was extolled as the dominant solution to most issues of representation (Razack et al, 2014).

We add to this body of literature and offer a new perspective by focusing on widening participation policy itself, exploring texts to identify discourses produced and reproduced that have power implications in relation to WP to higher education and medicine. Our position in doing so is anchored in the Foucauldian view that action and its drivers (in this case, action related to widening participation to medicine) both reflect and reproduce broader social and historical trends (Graham, 2005). Simply put, a country's position on widening participation will be shaped by its unique social, political and economic

circumstances, and thus much can be learned from examining and comparing international discourses of widening participation to medicine.

Our research question is: how are discourses of widening participation to higher and medical education positioned, both within and between UK and Australian contexts? We explain why we selected these two countries for comparison below. We aim to challenge the current rhetoric of widening participation to medicine via a comparison of related policy produced by organisations within these two countries. Our ultimate objective is to identify and seek explication of the assumptions and underpinnings of widening participation discourses, and how these discourses could be potentially refined, reframed or even dismantled.

Methods

This work is situated within the paradigmatic framework of criticalism, where the goal is to unveil power dynamics within studied phenomena and foster empowerment via description and analysis of these dynamics (Ng et al, 2019).

Comparative contexts

Our focus is two Anglophone countries: UK and Australia. These countries have much shared history and culture and provide good systems for comparison as they share a long tradition of policy borrowing, particularly with respect to social inclusion policy and practices (Gale, 2011). Since the 1950's, the UK and Australia demonstrate similar trajectories in the massification of their higher education systems, with comparable levels of public and private contributions, participation rates, and similar academic structures and quality assurance frameworks (Hackett, 2014). Their governments have recognised the essential role that universities play in the development of and contribution to a global knowledge economy, and the dividends afforded to their nations in becoming international frontrunners in the higher education sector (Wellings, 2015). However, high levels of social disparity in both the UK and Australia mean universities struggle to offer equality of opportunity in a largely meritocratic environment, where entry to higher education is primarily determined by academic success (Wellings, 2015). Both have hierarchically stratified systems, typical of liberal-market systems, where some institutions and courses have higher status than others (Graf, 2013). In both countries the effects of maintaining a

world-class reputation and competing at an international level are regularly at odds with the need for local commitment to inclusion (van der Wende, 2017). Both countries have groups which are under-represented in higher education (Shah et al, 2015) and medicine, groups which are primarily targeted for improving access to the profession (Bowes et al, 2013); Gale and Parker, 2013). However, there are also striking differences between the two countries in terms of more recent political and economic occurrences, as well as in size, population and climate. Australia has major inequities between Aboriginal and Torres Strait Islanders (we recognise this is a contested term but will be used for the purposes of this paper) and other Australians (Deravin et al, 2018), whereas the UK's inequities are based mostly on social class issues which inter-relate with inequality on the basis of ethnic background (Wakeling and Laurison, 2017; Snee and Devine, 2018; Jacob and Klein, 2019).

Whilst the UK was weathering the financial, political and social fallout of the global recession of 2008, Australia was one of the only OECD countries that managed to escape largely unscathed, due to government stimulus spending, its proximity to the booming Chinese economy and the mining boom (Gregory, 2012). In the UK, this global economic crisis gave rise to concerns around public expenditure, inevitably impacting upon the higher education sector, which saw a significant increase in tuition fees for students (MacLeavy, 2011). At the same time, Australian governments were committing to a series of targets as part of Closing the Gap, a strategy aimed at reducing inequalities in Aboriginal and Torres Strait Islanders' life expectancy, mortality, education and employment (Deravin et al, 2018).

Theoretical background

The work of the French philosopher Michel Foucault provides a theoretical framework for critical discourse analysis (CDA). Foucauldian critical discourse analysis 'investigates the rules about the production of knowledge through language and its influence over what we do' (Waitt, 2005). Discourses are written and spoken language, 'practices that systematically form the objects of which they speak', and imply systems of exclusion and distribution of power, reproducing and producing new structures (Foucault, 1972). Discourses can be thought of as the flow of knowledge through time and space, constantly reshaping and enabling social reality (Wodak and Meyer, 2016).

In CDA, texts are interrogated to uncover assumptions implicit within them and locate statements of truth, and institutional relations that embody deeper and more complex systems of discourse (Boyd et al, 2018; Kuper et al, 2013). In a Foucauldian sense, 'truth' is 'a system of ordered procedures for the production, regulation, reproduction and functioning of statements, linked by systems of power which produce it and sustain it'. Foucauldian analysis focuses on identifying these statements of 'truth' to be able to challenge the existing status quo, in an attempt to change the existing political, economic and institutional regime of the production of truth, thereby constituting a new 'politics of truth' (Lorenzini, 2016).

A singular text or document generally lacks the power and influence to alter discourse or taken-for-granted knowledge, but numerous sources circulating more or less at the same time become potent tools and generators of knowledge (Foucault, 1972; Hall, 1997). In other words, over time, and with enough intertextual repetition, certain truths and knowledges achieve dominance or taken-for-granted status (Fairclough, 1992; Rose, 2001).

Put simply, critical discourse analysis (CDA) aims to make transparent the ways in which documents and texts are constituted by diverse and often competing discourses, and to explicate the power dynamics and relationships at play between and within institutions and subjects (Liasidou, 2008). CDA lends itself well to the current study, where the goal was to unveil power dynamics within studied phenomena and inspire empowerment via the description and analysis of these dynamics (Wodak and Meyer, 2016).

CDA is a well-established approach for scrutinising discourses in the field of education and higher education policy (Taylor, 2004; Fairclough, 1993; Mautner, 2012), and has been used in the analysis of educational policies in both UK (Liasidou, 2008; Maslen, 2018) and Australian contexts (Taylor, 2004; Thomas, 2005). Foucauldian CDA has also been used with growing regularity in medical education (Hodges et al, 2014), including explorations into discourses of competency-based frameworks (Boyd et al, 2018), accreditation and curricular standards (Whitehead et al, 2014), and - as mentioned earlier – in respect of medical school selection policies (Razack et al, 2014), and widening access messages on medical school websites (Alexander et al, 2017).

Definitions

In this area of research and practice, the terms 'widening access' and 'widening participation' are used frequently and sometimes interchangeability. However, they mean different things. Nicholson and Cleland (2015) define widening participation (WP) as 'the *policy* that people such as those coming from disadvantaged backgrounds, mature students, students from ethnic and cultural groups and disabled students should be encouraged to take part, and be represented proportionately, within higher education' (p.321). In contrast, widening access (WA) 'emphasises more the equality or fairness of the selection processes that act as a gateway to higher education or medicine' (p.322). Our focus is more widening participation than widening access. Please note this differentiation is not always clear in the documents reviewed.

Search strategy and inclusion criteria

Our focus was contemporary discourses of widening participation to medicine in the UK and Australia, so the document search and selection were limited to the years 2008 – 2018.

Our source of data was policy documents not academic research papers. Policy documents can be considered 'grey literature', literature which is typically not published in academic journals or books and is often excluded from large databases and other mainstream sources (Benzies et al, 2006). Thus, a systematic review of the academic databases (e.g., Scopus) was not appropriate for document identification. Indeed, systematically identifying grey literature is not a straightforward task (Mahood et al, 2013). However, material available outside academic processes can make positive contributions to subsequent inquiry and practice because it is contemporary, and in the case of policy documents, influential in terms of being a statement of the government's (or government agency's) position, intent or action in a specific area.

Our approach to this challenge was as follows. First, we located an official international source of agendas that aim to bring nations together in targeting areas of improvement for their people, drawing on the 2015 United Nations 17 Sustainable Development Goals for 2030 to structure document searching. These goals were designed to tackle global challenges, including issues relating to poverty, inequality, education and health outcomes, and the UN Secretary-General calls on all sectors of society to take action, embedding

needed transitions in the policies, budgets, institutions and regulatory frameworks of governments, cities and local authorities (United Nations, 2015).

The goals and targets relevant to this study were identified (see table 1) and used to develop five *a priori* themes to guide document searching and analysis: access to higher education, access to professional careers, health workforce diversity, improved health outcomes, reducing inequality.

Table 1. Selected United Nations Sustainability Goals and targets

Goals	Targets
Goal 3 – Good health and wellbeing	• Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States
Goal 4 – Quality Education	• By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university • By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations
Goal 10 – Reduced Inequalities	• By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

Second, a systematic search of publicly available documents was conducted using search engines on websites of UK and Australian government pages, regulatory agencies and national organisations linked to higher education and/or health and medicine. Combinations of search terms included: widening access, widening participation, higher education, medical education and medicine. Within the team, we had much knowledge of widening participation and access in Australia and the UK which we drew on to both identify documents and cross-check our corpus. One author (JC) is an internationally recognised researcher and expert in this field, and two are directly implicated in the delivery of participation processes and practices within medicine in Australia (SS, JB). Documents were selected for analysis on the basis that they embodied one or more of the *a priori* themes (see above) in reference to higher and medical education, where sections of each text were

coded against each theme using NVivo qualitative analysis software (QSR International, Doncaster, Victoria, Australia). A total of twenty-nine documents were initially identified for analysis, later reduced to include only those in the higher education field that referred to medical education or medicine as a profession. In terms of health-related texts, we aimed to represent the key organisations pertinent to this study in both the UK and Australia as far as possible. However, we excluded documents that only provided numerical data without discussion of widening participation issues.

The final corpus of texts included policy, guidelines and recommendations from government departments, as well as official, nationally-endorsed non-government organisations, focused on widening participation to medicine and higher education in the UK and Australia. In terms of regulatory authorities, the Australian Health Practitioner Regulatory Agency (AHPRA) is included via its most recent annual report, and the General Medical Council (GMC) is represented via research it commissioned in the form of a research report published in 2012.

Analysis

The first step in analysis was to review documents to ensure their content and context were appropriate to the conceptual underpinnings of the study (Hodder, 1994). This process began by producing a description of each document with the aim of situating the text within the context of the organisation that produced it (Razack et al, 2014), via iterative close reading of the texts and surface interpretation to locate relevant information and establish document parameters, making explicit the context of their production, authors, target audience and original sources of information that contributed to the creation of the text (Bowen, 2009). This stage helped us gain understanding and knowledge of the documents and topic (Corbin and Strauss, 2008) and assisted in determining the authenticity, credibility and representativeness of the corpus of texts (Bowen, 2009).

The above laid the foundations for a Foucauldian critical discourse analysis, where the task was to seek an understanding of the meanings conveyed within the texts, by locating statements of truth and the discourses they serve to legitimise and perpetuate (Razack et al, 2014). In short, analysis focused not only on what the content is but also on what it does; what is included and what is not; what is implied and what is asserted. Foucault did not

define an explicit or unified theoretical approach to CDA, but provided a number of concepts aimed at exploring how knowledge and power is continually contrived and contested within language, to show how different discourses are made possible, arise, change and disappear (Kuper et al, 2013). Given this, we drew on the following steps from an earlier CDA study to guide analysis (Whitehead et al, 2014): (1) (further) familiarisation with the texts; (2) analysis of the assembled archive to identify prominent key words and statements; (3) analysis and interpretation of links between identified discourses and the values of widening access to higher education and medicine; (4) description of the effects and implications of both UK and Australian discourses on the potential to advance policy and practice related to widening participation to medicine.

We operationalized this as follows. Documents were managed in NVivo qualitative analysis software (QSR International, Doncaster, Victoria, Australia). One research team member (MC) read the full text of each article and coded recurring statements and concepts. A coding framework was established using a data-driven approach, and related concepts were grouped as discursive patterns. The coding framework evolved iteratively and via regular team discussions. Once each text was coded, we examined how, and for what purposes, discursive trends were used to legitimise certain discursive practices related to widening participation to higher education and medicine.

Reflexivity and Positionality

Within qualitative research it is the researcher who is the primary tool of analysis, and so being continuously reflective about how one's experiences shape the interpretations of organisational intentions and statements is essential (Alvesson and Sköldberg, 2000). With this in mind, it is important to note the following. Some of the authors (JC, SS) are well-embedded in the UK and Australia medical education communities, others less so (MC, AP, JB). The first author (MC) has a background in collective advocacy and public health and is a campaigner for social justice. JB is an academic and Aboriginal Australian, who advocates for Aboriginal and Torres Strait Islander health and healthcare education. AP is a medical doctor who trained in India and works in public health education in the UK. JC has a 15-year programme of research examining widening access and selection into medicine in the UK. All authors have 'hands on' experience of medical selection. The authors were continuously reflective about how their differing life courses (e.g., country of origin, life stage), education

and training (one author was a medical doctor, others came from public health and psychology backgrounds) shaped their interpretations of the documents and their positioning in respect to the context and focus of this study. Perspectives differed but all authors shared a strong belief in the importance of addressing inequality and increasing medical student diversity globally through extending knowledge and changing practices.

Ethics

Ethical approval was not required as this study is based on analysis of publicly available documents.

Results

Seventeen documents were selected for analysis, nine from the UK, and eight from Australia (see table 2). The first stage of document analysis produced a table explicating the content analysis of each text. This facilitated an understanding of the immediate historical and/or political context in which each of the documents are situated (see appendix J).

Table 2. UK and Australian documents identified for analysis

	UK (9)	Documents	Australia (8)	Documents
Government	Department for Business Innovation and Skills	Green Paper - Fulfilling our Potential: Teaching Excellence, Social Mobility and Student Choice (Nov 2015) **(Department for Business Innovation and Skills, 2015)**	Department of Health	Annual Report 2017-18 **(Department of Health, 2018)**
NGO's	Panel on Fair Access to the Professions	Unleashing Aspiration: The Final Report of the Panel on Fair Access to the Professions (2009) **(Milburn, 2009)**	Review of Australian Higher Education: Expert Panel (initiated by Australian Government)	Final Report (Dec 2008) **(Bradley et al, 2008)**
			The Panel of the Review of Higher Education Access and Outcomes for Aboriginal and Torres Strait Islander People (Initiated by Australian Government)	Review of Higher Education Access and Outcomes for Aboriginal and Torres Strait Islander People Final Report (July 2012) **(Behrendt et al, 2012)**
	Independent Reviewer on Social mobility & Child Poverty	Fair Access to Professional Careers (May 2012) **(Milburn, 2012a)** University Challenge: How Higher Education can Advance Social Mobility (Oct 2012) **(Milburn, 2012b)**	Australian Medical Association	A Plan for Better Health Care for Regional, Rural, and Remote Australia (2016) **(Australian Medical Association, 2016)**
			National Centre for Student Equity in Higher Education	Informing Policy and Practice III 2016 Student Equity in Higher Education Research Grants Program Projects **(National Centre for Student Equity in Higher Education)** Fair Connection to Professional Careers (Aug 2017) **(Southgate, 2017)**

	The Commission on Widening Access	A Blueprint for Fairness: Final Report of the Commission on Widening Access (March 2016) **(The Commission on Widening Access, 2016)**	Australian Medical Council	Annual Report 2017 **(Australian Medical Council, 2018)**
	Medical Schools Council	Selecting For Excellence Final Report 2014 **(Medical Schools Council, 2014)** Selection Alliance Report 2017 **(Medical Schools Council, 2017)** Indicators of good practice 2018 **(Medical Schools Council, 2018)**		
Regulatory Agencies	General Medical Council(Commissioned research)	Research Report: Identifying best practice in the selection of medical students (2012) **(Cleland et al, 2012)**	Australian Health Practitioners Regulatory Agency	Annual Report 2017-18 **(Australian Health Practitioner Regulation Agency, 2018)**

Foucauldian critical discourse analysis

Two interconnected objects of analysis, examples of statements of truth, and associated dominant and counter discourses are displayed in Table 3 (UK) and Table 4 (Australia).

UK

The discourse of social mobility and emphasis on individual responsibility is repeatedly discussed in UK texts, which caution that failure to improve individual skills will result in people being left stranded both socially and economically (Milburn, 2009). It is the dominant discourse again in the progress report (Milburn, 2012a), produced three years later. In this, the professions are positioned as 'world leaders' (Milburn 2012a, Milburn 2009), enjoying an 'unrivalled reputation for excellence and integrity' (Milburn, 2009), but social mobility and its stagnation in Britain is highlighted: 'birth not worth' (Milburn 2012a, Milburn 2009) has shaped access to professional positions in society.

To combat this stagnation, young people from disadvantaged backgrounds with enough ability and aptitude are positioned as deserving 'a fair crack of the whip' and a 'level playing field' (the latter metaphor mentioned in six of the nine UK documents) in order to fully realise their aspirations, but there is a tension between who is responsible for achieving these changes. Social accountability takes the form of a counter discourse, where the professions can do more in terms of targeted action and addressing barriers (Milburn, 2009) but is ultimately overshadowed by the discourse of social mobility and individual responsibility. Governments are recognised as equalisers of opportunity here (Milburn, 2009), but it is the individual that is attributed responsibility for achieving social mobility - it is 'the job of the citizen to grab those chances' (Milburn, 2009).

The attribution of deficit to disadvantaged groups, which assumes that certain individuals lack certain skills, proficiencies, knowledge, and/or cultural capital, is somewhat at odds with the discourse of individual responsibility, where 'family and social networks can lack the experience and knowledge to help them achieve their aspirations' (Department for Business Innovation and Skills, 2015). The one Scotland-specific text calls out this perceived deficit model, challenging the system to be more accountable when it comes to supporting disadvantaged learners (The Commission on Widening Access, 2016).

When moving beyond widening participation to higher education to the more specific object of widening participation to medicine, the dynamic between familiar discourses shifts, where social mobility and individual responsibility take a back seat to the more dominant discourse of workforce diversity and improving patient care. Milburn (2012a) goes further to call out medicine as lagging behind the other professions, where it 'has made far too little progress and shown far too little interest' in widening participation. 'Medicine has a long way to go when it comes to making access fairer, diversifying its workforce and raising social mobility' (Milburn, 2012a) is cited repeatedly in texts specific to medicine, and legitimises the discourse of workforce diversity as a key motivator for improving access to the profession. In this text, social mobility is somewhat secondary to the importance of enriching the medical profession and better patient care as the end goal of a fairer admissions process, where 'widening participation is about inclusion. It is about diversifying the workforce and not about 'letting people in' (Medical Schools Council, 2018).

The most prestigious of the professions i.e., medicine and law, are accused of not doing enough to broaden access, where they still 'recruit from too narrow a part of the social spectrum' (Milburn, 2012a). Discourses of both social and economic benefits of expanding the professions are referred to regularly, but 'increasing productivity' (Department for Business Innovation and Skills, 2015) appears to take precedence over social benefits. Related to this, widening participation is referred to as 'controversial terrain' and credence is given to the 'deeply polarised' excellence versus equity debate (Milburn 2012b). Inequalities are seen as inevitable in access to a 'high stakes' medical degree and maintaining standards of excellence within a league table culture is repeatedly raised. Changes to admissions processes such as the use of contextual data are described as 'problematic for medical schools' where there are 'concerns that it will be used to disadvantage students who are academically able' (Medical Schools Council, 2014). Concerns about maintaining the quality of higher education and strong university reputations within a competitive global market are a real worry, and reinforce the dominance of discourses of academic excellence and international reputation over those of equity and fairness: universities are frequently positioned as critical to the future of the UK and its economic success, and are challenged on their practices and the changes they need to make, despite calls for all stakeholders to take responsibility for improving access to

higher education, as ‘the blame game has to end’ (Milburn, 2012b). Most of the UK corpus of texts are produced for and by higher education authorities, and so discourses related to health outcomes have less precedence than in the Australian findings (see next section).

Australia

Similar to the UK, Australia lays claim to an international higher education system (Bradley et al, 2008), where remaining competitive in a global market must be a priority for the nation. Fears around Australia losing ground here are given credibility, contributing to a counter discourse of higher education as an economic good in a competitive global market, where the higher education sector ‘faces threats’ to its position amid a decline in quality. This discourse of higher education as an economic good has less dominance in subsequent texts selected for analysis, where higher education’s primacy as a social good begins to emerge in later texts (Behrendt et al, 2012; National Centre for Student Equity in Higher Education, 2017; Southgate, 2017), where the importance of equitable access for all Australians is a priority. Globalism is recognised as having the potential to be destructive because although it ‘can drive a push for diversity’, it can also ‘act to reinforce social division' (Southgate, 2017). ‘Better communication within a ‘competitive collaborative’ institutional setting in which universities compete to provide best practice initiatives in a transparent and collaborative model’ is proposed as a ‘constructive process to achieve equity goals’ (National Centre for Student Equity in Higher Education, 2017). The wider benefits of widening participation to higher education for families and communities are commonly reiterated where universities and other professional bodies are required to respond to community need as part of a ‘whole system effort’. The dominance of this discourse of higher education as a social good in community and nation building is firmly established, overshadowing economic rationale behind healthcare decisions, especially in regional, rural and remote communities (Australian Medical Association, 2016). This notion of shared responsibility in ‘nation building’ is extended to Aboriginal and Torres Strait Islander leaders and communities in the quest to make higher education a ‘natural pathway’ for Aboriginal and Torres Strait Islanders, contributing to ‘growing their own’ in the creation of a new Aboriginal and Torres Strait Islander professional class (Behrendt et al, 2012).

Accountability for institutions and organisations is key, and parity targets, reporting frameworks and mission-based accountability mechanisms are highlighted as ways of

making this happen (Behrendt et al, 2012). In contrast to the UK's dominant discourse of individual responsibility and a bottom-up approach, Australia puts a focus on organisations and higher education providers as being in charge of driving change and 'leading from the top' (Behrendt et al, 2012). Embedding Aboriginal and Torres Strait Islanders perspectives within higher education policy and practice is a big part of nation building and reducing inequalities (Behrendt et al, 2012).

Social mobility takes a back seat in Australia, where workforce diversity becomes the dominant rationale for greater access to higher education for people from disadvantaged groups. For example, 'the Department of Health is committed to reflecting the diversity of the Australian community in its workforce by building an inclusive culture that celebrates differences' (Department of Health, 2018). Closing the Gap targets (CSDH, 2008) that aimed to ameliorate Indigenous disadvantage have clearly had an impact on improving health outcomes. Aboriginal and Torres Strait Islander perspectives contribute to a new focus on increasing participation within the Aboriginal and Torres Strait Islander health workforce, where 'there is growing appreciation of the vital role that all Aboriginal and Torres Strait Islander health workers and registered health practitioners play in their roles as cultural brokers of, and contributors to, health improvements and outcomes in their communities' (Australian Health Practitioners Regulatory Agency, 2018). Workforce diversity is repeatedly and explicitly linked to improving health outcomes for all Australian communities, where stakeholders are urged to collaborate in a climate of accountability to achieve parity in outcomes and access for regional, rural and remote Australians (Australian Medical Council, 2018).

Accountability is also an important feature of Australia's approach to recruitment of medical students, where affirmative action procedures are employed to diversify the medical student population and improve access for students from 'marginalised' backgrounds. In contrast to the UK's deficit-based approach to WA, Australian institutions have implemented strategies to streamline and prioritise rural origin students in a concerted effort to ameliorate the poor health outcomes experienced by rural and remote communities (Australian Medical Association, 2016). Four of the eight Australian texts are produced by health-related organisations, and similar to their positioning of discourses of

higher education, also bring in healthcare as both a social good (dominant discourse) and economic good (counter discourse) when it comes to widening participation to medicine.

The professions are called to account frequently in terms of changing attitudes: they 'need to examine cultural biases, accountability and positions on social diversity' (Southgate, 2017) and recognise the value of non-traditional students in tackling entrenched inequality in access. When it comes to widening participation and widening access to medicine the Australian texts go beyond UK discourses of workforce diversity, academic excellence, and equity, paying heed to the notion of micro-class reproduction of privilege and identifying the stratification of learning opportunities as a form of social reproduction. There is 'nothing natural about the culture of prestigious professions', who have 'particular histories that are classed, gendered and raced' (Southgate, 2017), where it is who you know and having access to 'hot knowledge' (information gleaned from informal social interaction) that determines success in a medical career. The Australian context also explores the impact that travelling such a great social and cultural distance can have on disadvantaged students in accessing medical education, where 'numerous stresses can accumulate into a collective hidden disadvantage, which can unintentionally discriminate against equity students' (National Centre for Student Equity in Higher Education, 2017). This counter discourse of extreme social mobility is dominated by the aforementioned discourse of micro-class reproduction in widening participation to medicine, bringing a more nuanced exploration and critical understanding of the tensions at play within the broader discourse of social mobility identified in UK texts.

Table 3. Foucauldian discourse analysis - UK

Object	Examples of Statements of Truth	Dominant discourses	Counter discourses
WA to Higher Education	'Britain remains too much a closed shop society – the glass ceiling has been raised but not yet broken' (Milburn, 2009) 'society will not flourish unless people see that effort and endeavour are rewarded' (Milburn, 2009) 'Reforms are working…Universities are playing their part as powerful engines of social mobility' (Department for Business Innovation and Skills, 2015) 'There is a very real danger that the Government has under-estimated the extent to which fear of debt is part of the DNA of Britain's least well off families' (Milburn, 2012b) 'The introduction of tuition fees have brought to a head public concern about whether access to university is genuinely meritocratic and fair' (Milburn, 2012b) 'barriers must be broken down to make access to a professional career more genuinely meritocratic' (Milburn, 2012a) 'Government can equalise opportunities but in the end social mobility has to be won through drive and ambition – aspiration has to come from individuals themselves' (Milburn, 2009) 'notions of a State that empowers citizens to realise their own aspirations to progress' (Milburn, 2009) 'Social change is primarily driven from below, not above. Families and communities are the foundation stone' (Milburn, 2012a)	Social mobility and individual responsibility within a meritocracy	Social accountability of the state

	‘Britain needs people with the knowledge and expertise to help us compete at a global level’ (Department for Business Innovation and Skills 2015) ‘Prosperity in an increasingly competitive global market relies on our country developing the potential of all those with aptitude, ability and aspiration’ (Milburn, 2012b) ‘Increasing productivity is one of the country’s main economic challenges’ (Department for Business Innovation and Skills, 2015) ‘Fair access is much more than an altruistic endeavour – avoiding this lost potential is firmly in Scotland’s economic and social interests’ (The Commission on Widening Access, 2016)	Higher education as an economic good in a competitive global market	Higher education as a social good
	‘Innovation and diversity in HE provision is crucial to maintain our international reputation’ (Department for Business Innovation and Skills, 2015) ‘Highly selective universities enjoy global reputations for excellence and compete in a global market for students – they have some of the best outcomes for students but lowest rate of attendees from disadvantaged backgrounds’ (Milburn, 2012b) ‘The debate on universities and social mobility has become deeply polarised between greater equity and those who believe standards will suffer unless excellence, not equity, is the guiding principle’ (Milburn, 2012b)	International reputation and excellence in a knowledge- based economy	Greater equity
	‘we reject the notion of positive discrimination which we believe will create new injustices’ (Milburn, 2009) ‘It is important to help disadvantaged pupils understand their choices because family and social networks can lack the experience and knowledge to help them achieve their aspirations’ (Department for Business Innovation and Skills, 2015) ‘It is time to rebalance the focus from the perceived deficit in the individual to what more the system can do to support disadvantaged learners to succeed’ (The Commission on Widening Access, 2016)	Deficit model	Affirmative action

WA to medicine	‘Medicine has a long way to go when it comes to making access fairer, diversifying its workforce and raising social mobility’ (Milburn, 2012a) ‘Medicine recognises that the skills modern doctors require include far greater understanding of the social and economic backgrounds of the people they serve’ (Milburn, 2012a) ‘In addition to social mobility, a medical profession with access to the widest possible talent pool is essential for producing the best possible doctors’ (Medical Schools Council, 2014) ‘Medical schools can ensure the fairest and most transparent admissions processes that select the best possible candidates from all parts of our society for the benefit of patient care’ (Medical Schools Council, 2014) ‘Widening participation is about inclusion. It is about diversifying and enriching the medical profession and not about ‘letting people in’’(Medical Schools Council, 2018) ‘As well as social mobility, a second rationale for WA to medicine is to improve healthcare provision by ensuring doctors are as representative as possible of the society they serve in order to provide the best possible care’ (Cleland et al, 2012)	Workforce diversity and improving patient care	Social mobility
	‘There is great demand for undergraduate places to read medicine and it is vital that excellence is maintained’ (Milburn, 2012a) ‘Medicine has made far too little progress and shown for too little interest in the issue of fair access’ (Milburn, 2012a) ‘Contextual data is a key element of an admissions process which sets out to be fair to all and which strives for academic excellence’ (Medical Schools Council, 2014) ‘Contextual data is problematic for medical schools as there are often concerns that it will be used to disadvantage students who are academically able’ (Medical Schools Council, 2014)	Academic excellence	Equity and Fairness

	‘Aim to make widening access more fair, transparent, and evidence based’ (Medical Schools Council, 2017) ‘Medicine is a high tariff subject and therefore inequalities in public education impact on it to a greater degree’ (Medical Schools Council, 2018)		

Table 4. Foucauldian discourse analysis - Australia

Object	Statements of Truth	Dominant discourses	Counter discourses
WA to Higher Education	'we must create an outstanding international competitive tertiary education system to meet Australia's future needs' (Bradley et al, 2008) 'For higher education to truly support nation building, all Australians must be able to contribute to and share in its benefits' (Behrendt et al, 2012) 'higher education and training have a critical role to play in improving the socio-economic position of Aboriginal and Torres Strait Islander people, their families and their communities. It also has an important role to play in driving the nation's social and economic development' (Behrendt et al, 2012) 'The case for equity is socially compelling and becoming a strategic imperative for a knowledge based society of the future' (National Centre for Student Equity in Higher Education, 2017) 'Globalism can drive a push for diversity and it can act to reinforce social division' (Southgate, 2017) 'Promoting access to higher education improves prospects for extended families and communities of equity students as others seek to emulate their success' (National Centre for Student Equity in Higher Education, 2017) 'The Panel proposes a collaborative approach be developed involving universities, governments, professional bodies, the business sector and communities working together to improve the lives of Aboriginal and Torres Strait Islander people through HE' (Behrendt et al, 2012) 'Better communication in a 'competitive collaborative' institutional setting in which universities compete to provide best practice initiatives in a transparent and collaborative model, is a constructive process to achieve equity goals' (National Centre for Student Equity in Higher Education, 2017)	Higher Education as a social good in community and nation building	Higher Education as an economic good in a competitive global market

	‘By increasing the numbers of Aboriginal and Torres Strait Islander professionals across different fields, all Australians will benefit from access to more diverse expertise, knowledge and skills’ (Behrendt et al, 2012) ‘The issue of WA and ensuring success for non-traditional students requires a markedly different mindset that recognises the value of these students to the profession, adequate resources, and a will to change’ (Southgate, 2017) ‘Building a class of Aboriginal and Torres Strait Islander professionals who can respond to the needs of their own communities will be vital to meeting Closing the Gap targets’ (Behrendt, 2012) ‘Professions need to examine cultural biases, accountability and positions on social diversity’ (Southgate, 2017)	Workforce diversity	Social mobility
WA to medicine	‘The professions have particular histories that are classed, gendered and raced, and a culture that endures through either complete or incomplete professional socialisation and ‘micro-class reproduction’ (Southgate, 2017) ‘Numerous stresses can accumulate into a collective hidden disadvantage, which can unintentionally discriminate against equity students’ (National Centre for Student Equity in Higher Education, 2017) ‘Should these students have to radically change their dispositions and ways of being in the world to succeed in high-status professions, or should the professions adapt to authentically recognise the myriad strengths that these students bring to the professional table’ (Southgate, 2017)	Micro-class reproduction	Extreme social mobility
	‘Decisions have been driven by economic rationalism without regard to the consequences for local communities and the sustainability of the rural workforce’ (Australian Medical Association, 2016) ‘It is essential that Government policy and resources are tailored and targeted to the unique nature and diverse needs of regional, rural and remote communities’ (Australian Medical Association, 2016)	Healthcare as a social good in community and nation building	Healthcare as an economic good in a competitive global market

	'Now is the time to develop comprehensive plans to for healthcare in regional, rural and remote Australia, and to commit to significant funding increases to bridge the gap between city and country' (Australian Medical Association, 2016)		
	'The AMA recognises that doctors form rural backgrounds are more likely to return to these areas to practice' (Australian Medical Association, 2016) 'The Department of Health his committed to reflecting the diversity of the Australian community in its workforce by building an inclusive culture that celebrates differences' (Department of Health, 2018) 'There is a growing appreciation of the vital role that all Aboriginal and Torres Strait Islander health workers and registered health practitioners play in their roles as cultural brokers of, and contributors to, health improvements and outcomes in their communities' (Australian Health Practitioner Regulation Agency, 2018) 'Increasing recruitment of medical students from a rural background can make a real difference for rural patients' (Australian Medical Association, 2016) 'Medical education and training must be responsive to the community – promoting and protecting the health needs of the Australian community' (Australian Medical Council, 2018) 'It is by closing the circle from community need, through AMC standards and policies, to practitioner education and capability development, that the AMC aims to achieve a positive impact on health outcomes' (Australian Medical Council, 2018)	Workforce diversity for improving health outcomes	N/A
	'The AMA recommends increasing the targeted intake of rural background medical students from 25% to a third of all enrolments' (Australian Medical Association, 2016) 'Universities in the Rural Health Multidisciplinary Training programme have implemented strategies to streamline and priorities rural origin med students' (Department of Health, 2018)	Affirmative action	N/A

Discussion

Main findings

Critical discourse analysis (CDA) allowed us to compare and contrast interpretative insights across the two countries. In the UK, social mobility is the construct and discourse that prevails throughout much of the language of participation. By contrast, in Australia, the dominant discourse is social accountability. Broader discourses of widening participation to higher education in the UK begin and remain fairly rooted in paradoxical notions of individual responsibility and deficit over the ten-year period, but when it comes to medicine, these shift towards those of workforce diversity and better patient outcomes. Initially, Australia appears to share the UK's focus on higher education as an economic good, but rapidly prioritises the social benefits of a more diverse workforce and better access to a medical career for disadvantaged groups.

Earlier studies highlighted that, outside Europe, the clearest comparable set of widening participation and access initiatives to those in the UK were found in Australia (Osborne, 2003; Gallagher et al, 1996). Our analysis shows, however, that similarities between the two countries in terms of policy and policy levers have changed over time, linked to the divergence of internal drivers for societal change.

We suggest that Australia's recent colonial history, the racism and subjugation suffered by Aboriginal and Torres Strait Islanders, and the consequent poor health and social outcomes they experience, brought to the fore the pressing need to address issues of marginalisation. Australia as a nation began to realise its role to play in improving these outcomes as part of a whole system approach and to recognise the importance of Aboriginal and Torres Strait Islander perspectives and contributions, which in turn supports discourses that aim to create parity of access and outcomes in health and education. This gave rise to a collaborative focus on community building, workforce diversity and patient care in a climate of state and institutional accountability. By contrast, in the UK the global economic crisis of 2008 prompted a series of welfare reforms amid growing concerns around skills shortages, the continuing decline in social mobility, and the effect this might have on the UK's participation in a knowledge-based economy (MacLeavy, 2011). However, what emerged was not a climate that aimed to bring stakeholders together within a culture of systemic

accountability, but a new austerity agenda that gave rise to multiple social concerns and conflicts within societies and institutions (Kelsey et al, 2015).

Both nations recognise tensions inherent in striving to achieve both local and global goals, but Australia appears to prioritise community values in working towards 'nation building' while in the UK the focus on individuality and meritocracy at times seem at odds with achieving parity for disadvantaged individuals. Collaboration is key for both countries' institutions and organisations, but with subtle differences. It is the government that is called to action most often to make changes in Australia whereas as in the UK, responsibility is devolved: universities, medical schools and the professions are frequently singled out in terms of what they could and should be doing differently to widen access.

How to achieve widening participation also differs across the two countries. Affirmative action and diversifying the workforce as a key to improving patient outcomes is a priority in Australia. Whilst the link between workforce diversity and better health outcomes is referred to in UK texts, it is not given the same attention as in Australia. Instead, the deficit model of action is the dominant approach to widening participation to medicine in the UK.

Evidence to support claims and legitimise the discourses they perpetuate also differ subtly across the two countries. Organisations in both countries regularly cite quantitative evidence from other official and widely recognised institutions, documents and reports to support their claims, and represent historically-privileged stakeholders in policy genesis and reproduction. However, although the UK documents include some qualitative evidence to support their claims (of deficit), the Australian texts put significant emphasis on the importance of narratives and storytelling in illuminating the voices of marginalised groups. We suggest that this is a means to connect with the lived experiences of Australian individuals and communities and is acknowledgement of the place of storytelling in Aboriginal and Torres Strait Islander groups (Durey et al, 2016).

Comparison with previous literature

This study contributes to a body of work looking at widening participation and access to medicine. Scholars have, for example, looked at policy enactment (Cleland et al, 2015), selection methods (Patterson et al, 2016), graduate entry (Kumwenda et al, 2018), learning environments (Orom et al, 2013), and the implications of social and cultural capital

(Nicholson and Cleland, 2016). We add a new perspective to this body of literature by focusing on widening participation policy itself, exploring policy texts to identify discourses produced and reproduced that have power implications in relation to participation in, and access to, higher education and medicine.

Social mobility is a common theme in UK widening participation to higher education and medicine research (Cleland et al, 2015; Cleland et al, 2012; Gorard et al, 2007; Alexander and Cleland, 2018), challenging the old social order of class and hierarchy with a 'whatever it takes' attitude, linking an economic imperative with the cultural politics of the 'fairness' agenda. Whilst these ideas are progressive, higher education as an economic good dominates 21st century rhetoric and connects being fair and progressive with a meritocratic, competitive discourse of individual responsibility (Gilbert, 2004). In keeping with these wider discourses, the 'level playing field' metaphor for fairness that is repeatedly referred to in the identified UK texts and supposed to benefit 'those at the bottom', is in reality for a no-holds-barred game of all against all (Maslen, 2018).

In line with the policy documents, the 'level playing field' metaphor appears with significantly less regularity and emphasis in the wider Australian literature, where uplifting the quality of schools in low-income neighbourhoods has been a more long-standing theme (Maslen, 2018). Other research examining discourses of Australian policy documents related to inequality and social justice find nation-building as a more important and pertinent rationale than position and reputation in a global market (Kenway, 2013).

The concepts of extreme social mobility and micro-class reproduction that play a part in obstructing fair access to education for marginalised groups have also been highlighted in other literature. Social and cultural risk pepper the road to success and denote the sacrifices and dislocation that may be experienced by individuals and their families and communities (Maslen, 2018; Reay, 1998). Being a success story hides a 'cruel optimism', a concept given to the phenomenon of the holding up of hope as a means of obstructing social and political change, rendering desired outcomes unattainable. This may reinforce the structural inequalities that makes 'the good life' harder to achieve for all, where social mobility exists in a world of universal precarity (Berlant, 2011).

Similar discourses with varying degrees of dominance and interconnectedness have been identified within other platforms and contexts when it comes to widening access to medicine (Alexander et al, 2017; Razack et al, 2014). However, in both studies, the authors question whether the rhetoric in fact contributes to the maintenance of the specific power relations they seek to address, where institutional power and prestige may continue to be reproduced through the same processes that aim to empower other societal groups.

Implications for future research, policy and practice

Although these findings might be interpreted as suggesting that the UK could look to Australian discourses of achieving parity, transferability of practice and policy are limited by their particular cultural and political context. While acknowledging this, there may be important lessons that can be drawn from this international comparison, particularly given the similarities between the UK and Australia in terms of how their education systems are organised (Bowes et al, 2013). Although the dominant discourses of widening participation differ, we suggest that both countries may benefit from reflecting on each other's discourse and practices, as to do so may help unveil new and alternative positions. Shifting from 'not seeing' to 'seeing' in this way may just help with change. Similarly, both countries may wish to reflect on the likely dominance of socially-privileged stakeholders in policy and practice development, as this may help address (or reinforce) inequities, differences and hidden disadvantage within higher education (Archer, 2007) and medicine (Burke, 2012).

This would help fulfil the need to consider deep, structural change to put disadvantaged groups at the core of the design and development of policy and policy-related texts via participatory action research (PAR) approaches.

Following extensive consultation and negotiation between organisations, Australia has recently refreshed its Closing the Gap targets to consider a much broader and more nuanced range of policy ideas more in line with Aboriginal and Torres Strait Islander demands of the government (Markham and Williamson, 2020). However, the new targets remain focused on reducing socio-economic differences and do little to address power imbalances, thereby perpetuating ideas of Aboriginal and Torres Strait Islander deficit (Bond and Singh, 2020). Conceptualising equity and diversity should explicitly consider the historical disempowerment of marginalised groups, deal directly with a redistribution of

power through continued critical reflection on the inclusiveness of policy development, and take into account how this acts upon future discourses of widening participation to medical education (Razack et al, 2014). An effective social justice framework requires a transformative reimagining of widening participation as opposed to the current rhetoric of the 'disadvantaged' becoming more like the advantaged (Gewirtz, 2001; Archer and Hutchings, 2003). Alternatively, or additionally, re-conceptualising widening participation as a 'wicked problem' may be useful. This framework provides 'a means of shifting thinking from erroneous 'simple' solutions to thinking more contextually and receptively' (p.1228), and can be used to explicitly recognise that widening participation is a multi-causal, dynamic social problem, where context and stakeholder views are paramount (Cleland et al, 2018).

Strengths and weaknesses of the study

In using critical discourse analysis to examine and interpret relations of power, the authors of this study are paradoxically implicated in the very same power relations they have attempted to disentangle, and so become an integral constituent of power (Liasidou, 2008). However, the principles of critical discourse analysis call for multiple interpretations, and advocates of this framework acknowledge and consider unproblematic that it is a politically contentious activity (Cleland et al, 2018). In employing this method of analysis, researchers must take an explicit socio-political stance within a post-structural approach to a reality which is contextual and historically specific, and therefore subjected to non-absolutist interpretations. As stated earlier, our positions in respect to WP differ given our respective backgrounds. The composition of research team allowed us to keep a check on selective perception. We provided a clear description of the research process and our rationale for decisions.

The UK and Australia are meaningful comparators because of their shared history and tradition of policy borrowing (Gale, 2011). Our analysis shows, however, that similarities between the two countries in terms of widening participation policy and policy levers have begun to change over time, linked to the divergence of internal drivers for societal change. This indicates the value of longitudinal and follow-up research to assess change, or lack of change. This brings us to our second point. Our analysis focused on policy documents from a 10-year period (2008-2018) but, in doing so, could not assess what influenced these documents or how they may have been interpreted, transmitted and transformed into

policies and guidelines out with this timeframe, and we refrain from making explicit assumptions or conclusions based on this brief timeframe of analysis. These documents can be viewed as a 'snapshot' in time; reflections of and on the past and present situation of widening access to higher education and medicine (Razack et al, 2014). Their relevance at another point in time may be less. For example, the documents used in our analysis were published prior to the onset of the 2020 Covid-19 pandemic, China's investments (and relationship) with Australia dropping and the UK's Brexit from the European Union. The possible impact of these significant events on widening participation will not be known for several years.

Finally, inequality in access to higher education by social background is a global phenomenon. It would be interesting to gain a sense of the trajectory and diversity of policy discourses related to widening participation in countries with different historical, cultural patterns of societal inequalities/levels of inequality, especially those with histories of colonisation.

In conclusion, widening participation policies and hence widening participation and access practices are situated and contextual, bound in time and place. This suggests that the need for caution if extrapolating lessons from one context to another. The history of a country and the nature of marginalisation in that country must be scrutinised when trying to understand what drives widening participation policy – and consider how best to empower marginalised groups and put their perspectives at the core of the design and development of policy and policy-related texts.

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Chapter 5: Study Two

Preface

This chapter presents the second study submitted for publication to *Medical Education* in August 2021 but rejected after peer review. While disappointing, the feedback from this process was useful in later considerations within this body of work (see chapter 6).

As a team my supervisors and I had extensive discussions about how to approach and utilise the participant data that had been collected at each site (see methodology - chapter 3) for more details). After exploring several possible conceptual frameworks I finally settled on Actor-Network Theory as a lens to apply to the data. After preliminary discussions and sharing initial ANT findings with the rest of the team I produced a first draft of the study with significant input from JC. This was shared with the rest of the team, and SS, JB and AP made several suggestions and edits before I formatted and submitted a final draft of the paper to the journal.

Study Two: Following the policy: An actor network theory perspective on widening access to medicine in the UK

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Conflict of interest

The authors have no competing interests to disclose.

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Ethical Approval

Ethical approval for this study was granted by the University of Aberdeen College Ethics Review Board in November 2018.

Abstract

Introduction

Governments around the world have put in place policy to encourage widening access (WA) to medicine, but these policies and their enactment have had mixed success. Addressing calls to bring more conceptual and theoretical frameworks to WA research, we attend to the sociomateriality of WA by using Actor Network Theory (ANT) to trace how things come together to perform policy-related tasks. Our specific aim was to document the connections among actors in a WA network as they are assembled and reconfigured according to Callon's (1986) moments of translation.

Method

Using a case study approach, we collected qualitative data via documents and webpages pertinent to WA (n=3) and interviews with relevant staff and students (n=23). Following an initial inductive thematic analysis, we used Callon's approach to map the network of actors, taking care to treat both the human and non-human of equal significance in analysis and explication of the data. Our main actant was WA to medicine policy.

Results

Using WA policy-as-actor brought four other actors into the story, two human and two non-human – the medical school, the applicant's high schools, the applicants themselves and medical school staff. The policy and medical school represent a powerful relationship that appears to achieve their shared goals of equalising opportunity for WA students, but it is the staff who become key mediators in the ongoing success of WA to medicine. Academic excellence holds firm as an obligatory passage point in the network, remaining a focal challenge for all actors and contributing to a tension between the 'traditional' actor-network of medicine and the new policy and practices of WA.

Discussion

Universities and medical schools are replete with competing priorities that are often in tension with practices aimed at greater inclusion. Opening up medicine to embrace diversity will not happen without the deconstruction of entrenched processes and practices.

Introduction

Despite an overall increase in global higher education participation rates in recent decades (Altbach, 2013; Shah et al, 2015) elite institutions and subjects continue to admit socio-economically privileged students (Reay et al, 2010; Bradley et al, 2008; Ashley et al, 2015; Kirby, 2016; Southgate, 2017). Medicine is one such discipline. Characterised by competitive, high-stakes entry processes, the first hurdle of which is typically high academic achievement (Robb et al, 2007; Wilson et al, 2012), access to medicine poses challenges for students from certain societal groups who underperform on school exit examinations compared to their peers in higher socio-economic groups (Bowes et al, 2013; Gorard et al, 2007; Archer and Leathwood, 2003). The reasons for this under-performance are multi-faceted and complex but include under-resourced schools, schooling that occurs within a culture of low aspiration, parental education, family and peer influences and expectations (Esping-Andersen, 2004; Southgate et al, 2015; Gale and Parker, 2013; Howard, 2003). This fulcrum of academic excellence thus acts as a major barrier to medical education for individuals who otherwise have the appropriate characteristics to become doctors (Mathers and Parry, 2009; Hemsley-Brown, 2015; Garrud and Owen, 2018).

Governments around the world have set legislative policy and provided investment to address the challenge of widening participation (WP) and widening access (WA) to medicine (Milburn, 2012a; Cohen and Steinecke; 2006; Curtis et al, 2012). Yet the continued under-representation of students from lower-socio-economic groups, ethnic and racial backgrounds, indicates that these measures have had, at best, mixed success (O'Neill et al, 2013; Puddey and Mercer, 2013; Griffin and Hu, 2015; BMA, 2009; Cleland et al, 2012, 2015). Clearly existing approaches and/or how they are enacted (Cleland et al, 2015) are not adequate to address the complex sociological issues that may act as barriers to 'getting in' to medical school (Millburn, 2012a).

To date, there has been little explicit acknowledgement in the literature that WA is driven by policies and practices, spaces and places, assumptions and processes, as well as people (see Coyle et al, 2021; and Cleland et al, 2015 for exceptions). Rather, the human has been privileged over the non-human, or material (Fenwick et al, 2011), and particular aspects of

the human have received more attention than others. The WA literature is dominated by peoples' experiences of considering medicine as an option (or not) (Southgate et al, 2015; Greenhalgh et al, 2004; Robb et al, 2007; Alexander et al, 2019), of applying to get into medicine (Laurence et al, 2013; Nicholson and Cleland, 2015; Wouters et al, 2017), and what is it like to be a medical student from a 'non-traditional' background (Beagan, 2001, 2005; Brosnan at al, 2016; Bassett et al, 2018; Brown and Garlick, 2006; Leathwood and O'Connell, 2003; Nicholson and Cleland, 2016; Southgate et al, 2017; van Buuren et al, 2021). On the other hand, there are very few reports of the role of high school or medical school staff in the WA process (see Alexander et al, 2020; Cleland et al, 2015; Razack et al, 2009, 2015 for notable exceptions). In terms of the material, this is usually taken to be the background context against which educational practice (in this case, practice related to widening access to medicine) takes place, culminating in a blindness as to how educational practice is affected by the non-human (Sørensen, 2009), and the relationships between human and non-human (activities, spaces, processes, artifact, etc; (Jensen, 2010, Bennett, 2010, Fenwick et al, 2011). Addressing calls to bring more conceptual and theoretical frameworks to widening access (WA) research (Nicholson and Cleland, 2015), we address this gap in the literature by attending to the sociomateriality of widening access. This lens acknowledges both the importance of the social context in which educational practices are enacted and the complexity of how WA processes and practices are enacted in the social – in this case educational – world.

One sociomaterial framework is Actor-Network Theory (ANT). ANT traces the ways that things come together to form networks via negotiations that occur at points of connection. It follows how human and non-human actors are invited or excluded, link together or not, and how these connections make themselves stable by linking to other actors and networks. These things - actors – persuade, coerce, seduce, resist and compromise each other as they come together to form relationships and assemblages (Fenwick et al, 2011; Sage et al., 2011; Burga and Rezania, 2017; Latour, 1987, 1996). When utilised in the study of policy, ANT approaches pay attention to what happens when disparate actors come together to perform policy-related tasks. Here, the people who enact a policy, as well as the non-human policy itself and its attendant forms and documents are granted equal analytical significance (Bartlett and Vavrus, 2017). This assemblage thinking moves material (often textual) objects

from positions of passive artefacts to ones of cultural mediators – leading us to consider how both the human and non-human affect current and future practice (Koyama and Varenne, 2012).

One of the early proponents of ANT, Michael Callon, describes four stages of ANT as part of a 'sociology of translation': problematisation, interessement, enrolment and mobilisation (Callon, 1986). These stages are iterative rather than linear, reflecting the complexity of the translations and allowing researchers to show how actor-networks grow via the empirical pursuit of assembling case studies (Fox, 2000). The first stage, problematisation, is where the actors and their relationships are initially defined and established (Sage et al, 2011). Interessement is the stage where the project becomes operational and relationships between actors are dynamic in their enactment of accountability, followed by enrolment, where relationships are translated successfully by the actors through the use of power. The final stage, mobilisation, allows the actors to generalise specific relations and occurrences within the project that can be mobilised and translated to other similar projects and phenomena (Callon, 1986). Callon's moments of translation is viewed as useful in illuminating the processes of how some networks become so durable and powerful in education (Fenwick and Edwards, 2011), and hence is an appropriate lens for examining widening access policy and practices.

Our specific aim was to document the connections among actors in a WA network as they are assembled and reconfigured according to Callon's (1986) moments of translation. Our broader objective in doing so was to extend the range of approaches to research in this field because if widening access policy and practices are based on limited models of understanding, they risk inadequately preparing applicants and students for medical education and training, thus perpetuating the issue. Moreover, where theoretical frameworks are lacking, explanations of WA that can be elaborated and refined in future research may not be forthcoming.

Methods

In this case study, our approach aligns most closely with that of Merriam's heuristic case study, one that illuminates understanding of the phenomenon under study to bring new meaning (Merriam, 1988). Following Merriam's guidance, we used the existing literature to

inform our research questions, research design and the case boundaries (see below). We used participant interviews and policy documents (i.e., social and material artifacts) as data sources (Merriam, 1988).

As a method, ANT approaches a phenomenon 'in the making' via micro-level analysis of the places where it comes into being, following the actors and network builders as they attempt to interpret the process of construction (Latour, 1987; Fenwick and Edwards, 2010). One way of doing this is to follow actors or interview subjects that are referred to by a main actant (Latour, 1996). Our main actant was WA to medicine policy. Using policy-as-actor brought four other actors into the story – the medical school, the applicant's high schools, the applicants themselves and medical school staff. The policy itself, and the interviews with both medical school staff and medical students from WA backgrounds, provided rich evidence that enabled us to map and build this actor-network by documenting the connections among actors.

Case boundaries and the 'non-human actors'

Our focus was one UK medical school in one university, at one point in time, specifically when the school added a Gateway to Medicine programme to its other WA approaches. The setting is unpacked further herewith reference to the local, national (Scottish) and UK contexts.

The medical school is one of five medical schools situated in Scotland, out of a total of thirty-three in the UK at the time of data collection. Medicine has been taught there for over 500 years. Like most UK medical schools, it has a long history of highly selective admissions processes based primarily on academic excellence. At any one time, the medical school hosts approximately 850 medical students in total, supported by a large body of academic, administrative, clinical and support staff.

Webpages and associated links to PDF documents detailing the university's policy on widening access to medicine were located on the University and medical school website and collated (see table 1). We identified that the host University had a long-standing commitment to WA to higher education, drawing on Scotland's 'A blueprint for fairness' to form part of its current core institutional values (The commission on widening access, 2016). To support this aim, the University and Medical School engaged with Reach Scotland, a

national (Scotland-wide) project created in 2010 to widen access to Dentistry, Law, Medicine and Veterinary Medicine, professions with low numbers of applicants from areas of socio-economic deprivation and highly competitive and rigorous application processes (The Sutton Trust, 2010). Reach acts at a high school-level: schools with low progression to higher education are eligible for Reach. Within these target schools, pupils who meet certain socio-demographic criteria can be nominated by their teachers to participate in Reach. Reach support includes application support, mock interviews, and UCAT and personal statement workshops, and some financial support if applicants need to travel to take part in Reach activities.

In 2017, the Scottish Government increased its drive to widening access to higher education - that by 2030, students from the 20% most deprived backgrounds should represent 20% of entrants to higher education (Somerville, 2017). As part of this initiative, in addition to continuing to support Reach, funding was provided for the development of pre-medical programmes to support those from less traditional/privileged backgrounds to pursue a career in medicine (Scottish Government, 2012). Following a competitive bidding process in 2017, two of the five Scottish medical schools were awarded funding to set up Gateway programmes, commencing in 2018. As with Reach (see earlier), eligibility for these Gateway programmes was also judged by the admissions criteria which align with Government policy (e.g., attending a low-progression school, living in certain areas; see appendix K), as well as specific academic and non-academic requirements (About the University Clinical Aptitude Test (UCAT) | UCAT Consortium, 2019).

Table 1. Data Sources

Data source	Description	Details/Characteristics	
University policy on WA to medicine	University webpage	www.abdn.ac.uk. 2020. *Widening Access | Institute for Education in Medical and Dental Sciences | The University of Aberdeen*. [online] Available at: <https://www.abdn.ac.uk/iemds/study-here/widening-access-356.php> [Accessed 4 June 2021].	
	University webpage	www.abdn.ac.uk. 2021. *Widening Access | The School of Medicine, Medical Sciences and Nutrition | The University of Aberdeen*. [online] Available at: <https://www.abdn.ac.uk/smmsn/undergraduate/medicine/widening-access.php> [Accessed 4 June 2021].	
	Link to PDF document on university webpage	www.abdn.ac.uk. 2021. *Admissions Policy | The School of Medicine, Medical Sciences and Nutrition | The University of Aberdeen*. [online] Available at: <https://www.abdn.ac.uk/smmsn/undergraduate/medicine/admissions-policy.php#panel571> [Accessed 4 June 2021].	
Medical school staff	One-to-one interviews	Sex	4 (male) 7 (female)
		Age	1 (25-29) 0 (30-34) 1 (35-39) 0 (40-44) 3 (45-49) 1 (50-54) 3 (55-59) 1 (60-64) 1 (65-69)
		Social class background (self-identified)	3 (working class) 8 (middle class)
		Ethnic/cultural background (self-identified)	5 (white Scottish): n=5 5 (white British) 1 (Italian)

Our site of focus was also situated within the UK-wide context of medical education and widening access to medicine. In an earlier study, we reviewed nine key UK policy documents, and identified that 'widening participation to higher education in the UK begin(s) and remain(s) fairly rooted in paradoxical notions of individual responsibility and deficit' but, when it comes to medicine, there is also some reference to workforce diversity and better patient outcomes (Coyle et al, 2021, p10). In other words, the UK's perspective on WA remains grounded in a 'deficit model' with only passing acknowledgement that increasing the diversity among medical students may be beneficial for the medical school environment and professional workforce (Alexander and Cleland, 2018), patient care and healthcare delivery (e.g., Guiton et al. 2007; Morrison and Grbic 2015; Saha et al. 2008; Whitla et al. 2003; Bailey and Willies-Jacobo, 2012; Dowell et al, 2015; Larkins et al, 2015). Notably, while the University policy aims 'to create an outstanding and inclusive educational environment where all students can reach their potential' (Widening Access | Study Here | The University of Aberdeen, 2020), the focus of the Scottish and UK policy documents is admissions: they say little about ongoing retention and progression of WA students once at university.

Collectively, these local, national and UK-wide webpages, documents and policies set the scene, provided sufficient description to allow us to define our two non-human actors, the medical school and applicants' high schools (as per Callon's first stage of problematisation; Callon, 1986) and informed our interview data collection from human actors (see below).

The 'human' actors

Participants and recruitment

Our first human actor was academic and administrative staff members with direct experience and/or interest in the local WA policies and practices. These staff members, when defined as working for the medical school, act in terms of student selection, progression and retention. Our other human actor was medical students from WA (disadvantaged) backgrounds and included Gateway programme (G2M) students, as defined by the specific criteria (see appendix K). See table 1 for a summary and description of data sources.

After obtaining ethical approval, we recruited staff via purposive, snowball sampling (Naderifar et al, 2017). We used purposive sampling (Creswell, 2002) to recruit a diverse group of WA students in terms of gender, age on entry to medical school, year of study (years 1 and 4, to give an understanding of getting in and getting on in medicine [Millburn, 2012a; 2012b]). We specified the WA criteria in our recruitment emails, participant information sheets and other advertisements.

Data collection

We emailed participants a consent form in advance to sign, outlining the voluntary nature of the study and asked for permission for the interview to be recorded. People were informed that their contributions would remain confidential, and no identifiable information about them would be recorded. Participants were asked to complete a short sociodemographic questionnaire. This information was used to start each interview, to build rapport with participants and create a comfortable space for dialogue (Ritchie et al, 2013). Each interview was conducted by MC, in a place convenient for the participant. Interviews continued until participants felt they had sufficiently shared their views. We interviewed 11 staff and 13 students. All of the latter meet some of the 'widening access' criteria (see appendix K).

Data analysis

Interviews were digitally audio-recorded, anonymised through the transcription process and then entered into qualitative data management software (QSR International, Doncaster, Victoria, Australia) to facilitate data coding. In total, there were 947 minutes of interview data and 232 pages of transcribed interview data.

We initially conducted a primary-level thematic framework analysis to determine key themes in our data and to develop a coding framework to be used to code all data. Analysis progressed via regular team meetings in which ongoing coding and comparisons were explored. After the themes emerged, and following further discussions, we extended beyond simple thematic analysis to critically analyse how WA to medicine policy was enacted using Callon's moments of translation as a sensitising lens (Callon, 1986; Burga and Rezania, 2017). We did this by examining both the identified WA to medicine policy documents and interview data, locating the actors, their linkages, goals and the problems or obstacles they faced in achieving these goals. It is important to note here that in embodying

a sociomaterial approach, distinctions between the policy and interview data sources are not hard and fast; the actors and entities to which they refer necessarily entail each other in practice (Mulchay, 2016; Orlikowski and Scott, 2008). We took care to treat both the human and non-human of equal significance in analysis and explication of the data, using Callon's three methodological principles (Callon, 1986: see Table 2). Interessement devices which worked to enable or constrain actor enrolment and network mobilisation were identified and traced. By documenting the connections between actors as problematised by the policy-as-actor, we were able to identify an obligatory passage point, a key tenant common to all actors (Callon, 1986); this was, how do students from widening access backgrounds achieve and maintain academic excellence? This is examined in detail later.

Table 2. Three methodological principles – adapted from Callon (1986)

Three methodological principles	Description
Agnosticism	• Observer remains impartial towards all towards all arguments used by protagonists of controversy • No point of view is privileged and no interpretation is censored – the observer does not judge actors when they speak about themselves or the social environment • Observer does not fix the identity of the implicated actors if this identity is still being negotiated
Generalised symmetry	• To explain conflicting viewpoints and arguments in any controversy in the same terms i.e. by using a vocabulary of translation • Observer must not change repertoires when moving from the technical to the social aspects of the problem studied.
Free association	• Observer must abandon all a priori distinctions between material and social events by rejecting the idea of a definite boundary which separates the two • These divisions are considered conflictual, for they are the result of analysis rather than its point of departure • Observer must follow the actors in order to identify the manner in which these define and associate the different elements by which they build and explain their world

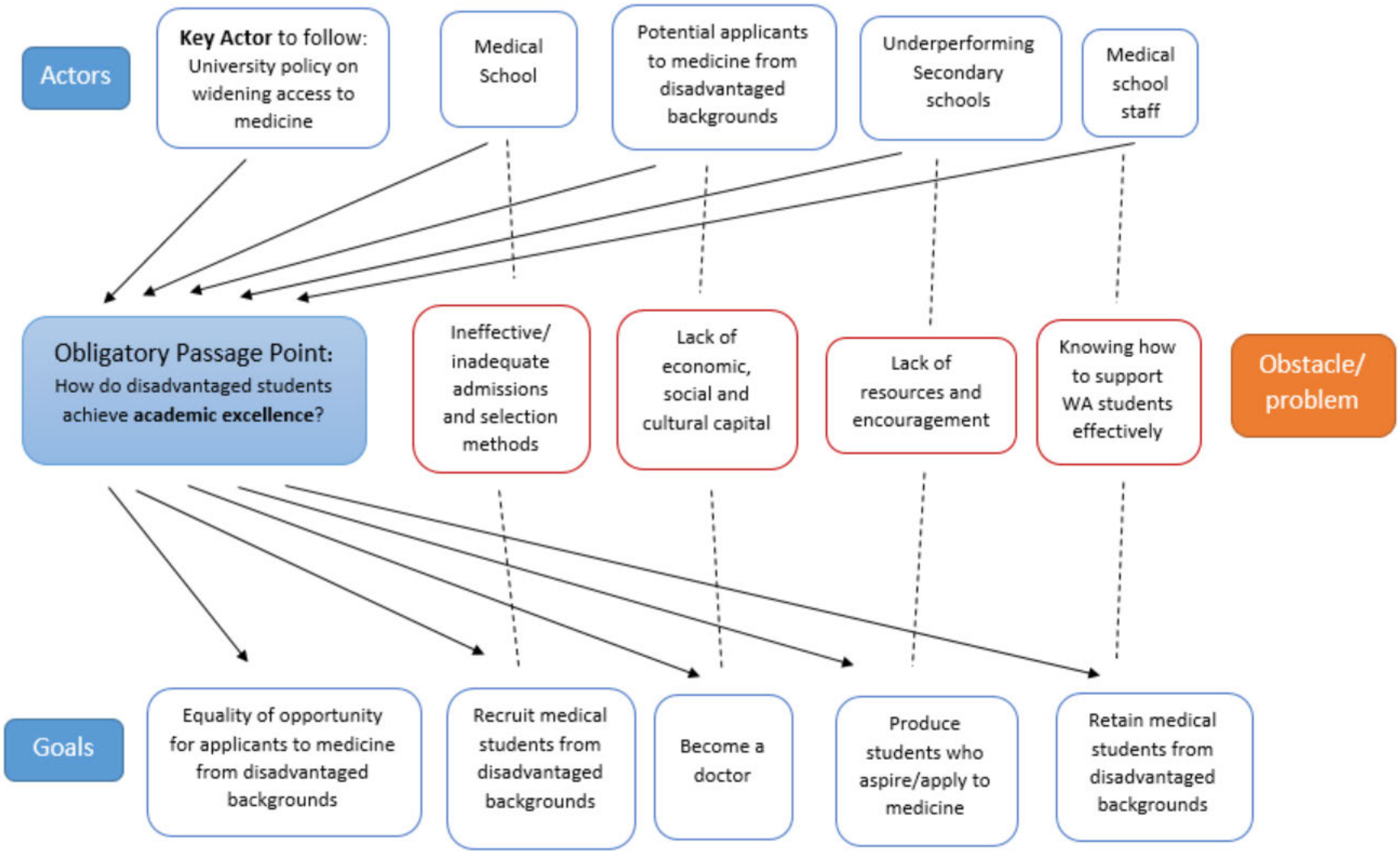
Reflexivity

In following an actor as a focus for study, ANT researchers must attempt 'to understand the paradoxical situations in which they find themselves in conducting field studies and producing accounts, notably in respect of notions of power, orderings and distributions' (McLean and Hassard, 2004, p516). We attempted to address this conundrum by utilising Callon's methodological principles of generalised agnosticism, symmetry and free association when mapping and building the actor-network (see table 2). Additionally, Cleland, MacLeod and Ellaway recently pointed out that case study research is, not assigned to a fixed ontological, epistemological or methodological position' (Cleland et al, 2021) (p447) and researcher(s) must align their methods, philosophical assumptions and particular case study approach. With this in mind, we foregrounded ANT's epistemological and ontological position of considering the world as consisting of networks (Law, 1992) throughout data analysis.

Results

We documented the connections among actors as they are assembled and reconfigured in the spaces that the WA to medicine policy travels through in mapping and building the network according to Callon's (1986) four moments of translation. The policy can be briefly summarised as acknowledging the inequality of available opportunities for some groups of potential applicants; offering support to individuals from these groups (through Reach engagement and/or the pre-medicine Gateway programme); and adjusting admissions criteria for applicants from these groups to acknowledge disadvantage and 'level the playing field' (Milburn, 2009; Milburn, 2012a; 2012b; Coyle, 2021). This policy-as-actor brings four other actors into the story, defining their identities and relationships via an obligatory passage point, and establishing itself as indispensable to the network in this first moment of translation (see figure 1).

Figure 1. Problematisation



1. Problematisation

We defined and established the actors and their relationships, and identified the obligatory passage point, at the stage of data collection (Sage et al, 2011). Figure 1 demonstrates this initial moment of problematisation. It is a network of dynamic movements and detours that must be accepted, as well as alliances and associations that must be forged. The actors cannot attain what they want by themselves, and reaching their goals is threatened by certain obstacles and problems:

' The difficulty that I think we've got is getting the message out to the opinion formers and schools, you know, we've, those choices are made really quite early on, and if we've got a situation where kids see that nobody from my school, nobody from my area, nobody that I've ever heard of, who's like me, has gone to medical school, then we're missing out on some people and it's how you get past the, the head teacher and careers guidance in schools' (Staff Participant 10)

Here, the policy, medical school, secondary schools and disadvantaged students as actors are problematised in relation to some of the obstacles they encounter in achieving their interests and goals in achieving a successful and stable network of WA to medicine. Academic excellence, and how it is achieved and identified as an obligatory passage point early on in the process of mapping and building the network, is identified as the focal challenge:

'So I think the academic grades are a key challenge, at certain, at certain schools, that's why something like gateway to medicine, you know, is great, because the grades are slightly lower' (Staff 6)

Secondary schools are identified as experiencing significant problems when it comes to nurturing aspiration and achievement in disadvantaged students, with the goal of successfully progressing pupils on to competitive courses such as medicine. They appear to lack the necessary resources in terms of time, teaching and subject provision, as well as the appropriate information and individual encouragement often required to support able and interested students in applying to medicine:

'…It is still one of the most competitive subjects to kind of get a place on at university, and lot of the schools that I work with, they don't have much experience in sending pupils on to uni at all, never mind into medicine' (Staff 6)

At this point in their journey, potential medical students from disadvantaged backgrounds are in the process of preparing for and applying to medical school, still a long way from their goal of becoming a doctor. The obstacles they encounter at this stage of the process are centred around an absence of opportunities (see earlier) and support: *'it was just so competitive and there was a sort of stereotype of who would get into medicine' (Student 4)*

Medical school admissions processes are complex, and while dominated by academic excellence, employ other measures such as an admissions or aptitude test, or interview, to also assess personal qualities (Patterson et al, 2016). Although introduced to make admissions processes less dependent on academic excellence, these other selection processes can also act as barriers in the network. For example, when in reference to the UCAT admissions test (About the University Clinical Aptitude Test (UCAT) | UCAT Consortium, 2019):

'it's something that's tricky, and it's something that's quite alien as well, it's very different to kind of a school based exam' (Staff 6) and *'no one was really there to tell me what to do, not that I needed to be spoon fed, but I just had no idea' (Student 5)*

But the obstacle doesn't end there for medical schools. As we shall see later this actor faces further problems in participating in a successful mobilisation of the actor-network.

Of course, some students from disadvantaged backgrounds do successfully negotiate their way through medical admissions process and achieve a place at medical school. The medical school staff as an actor whose goal is the retention of these successful widening access students remain largely silent at this stage in the sociology of translation. Their challenge, namely in how to support these students, becomes evident in later moments of translation.

2. Interessement

How does the University's WA to medicine policy gain the actor's commitment (to enact or operationalise the policy)? Medicine is long established as a high-status profession, where access to a medical degree has traditionally been the preserve of the elite. Links to the

traditional actor-network of medicine as an 'elite' professional course, where entry is heavily dependent on prior academic attainment, are strong and firmly established and so the policy actor must utilise a certain degree of force to interrupt this relationship and translate the medical school's identity. It does this by deploying different, contextual admissions criteria and adapted selection processes (see earlier) as an interessement device which it demands the medical school use to address barriers and equalise opportunity for potential WA applicants (see figure 2):

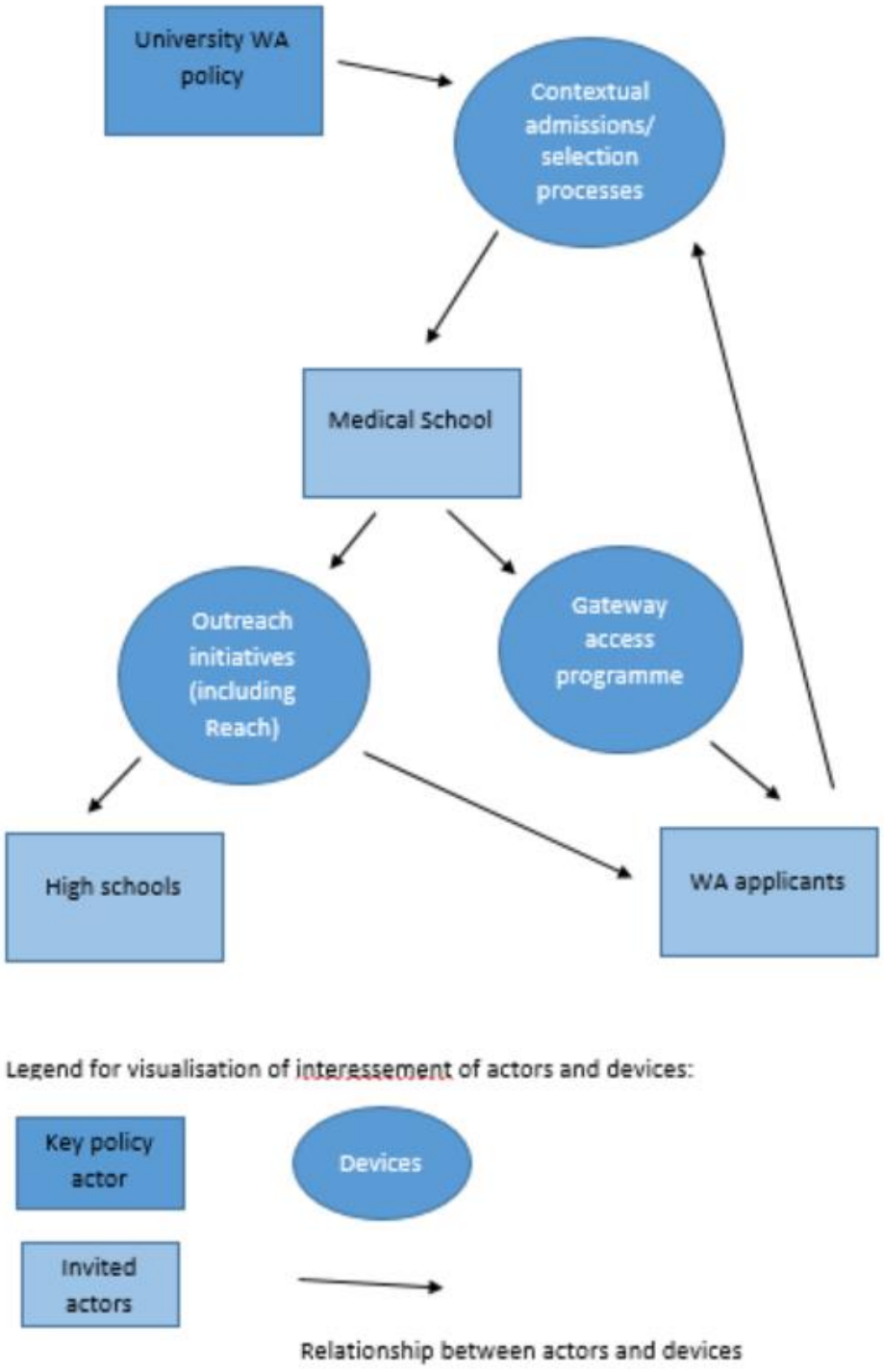
'What we've done in modulating the criteria for the [Gateway] students, was not just by postcode, but by saying you've also been disadvantaged if English isn't your first language, or you've come from care, or you are a carer, or you've come from a background where you've been, had less money than your average person, so you've had, so probably did school meals and things like that' (Staff 2)

However, the path into medical school is not simple or straightforward for the student actors who remain limited by the lack of resources and encouragement available at secondary school. Solicitation becomes seduction in the form of outreach strategies and devices, informed by the policy (see table 1 for details on policy webpages/documents) and implemented by the medical school in the hope of generating interest and applications to medicine from these students:

'I could like experience what life, like as a medical student was like for a day, and a lot of like the events were all basically run by students, so we did meet a lot of students and it was really useful, because they'd give you a lot of like anecdotes, and tell you about what their experience was like, and help you like with applying and stuff, so we had like, they would read through like a personal statements, we'd sent draft and they would like read through them, and like suggest changes or help us' (Student 2)

Underperforming secondary schools are positioned as passive receivers of the widening access policy and the initiatives it generates through the medical school. These schools (one of our non-human actors) are solicited by the medical school to participate in the network via outreach devices specifically designed for Reach schools.

Figure 2. Interessement



4. Enrolment

By virtue of the University policy's explicit requirements and demands, the medical school is automatically enrolled into the network. It becomes a cornerstone of action and accountability, tasked with both managing a new admissions process and developing and

delivering effective outreach and access programmes. It must negotiate with both potential applicants to medicine and with the secondary schools, shouldering much of the responsibility for a successful outcome:

*'It's very easy just to point the finger, or put the rosette on the medical schools, but actually it's a far more complex than that, and we're not very good, for example, of getting the A******* city schools to come in, and, and that's little to do with us, as I understand it, but it's more to do with the organisational structure of the city, of the council, and the education arrangements in the schools, we've also got that wider culture around schools in Scotland, which is quite variable, we know that some schools are under enormous fiscal pressures, we can't do anything about that, but what we can do is try to make our offering as clear and coherent as it can be' (Staff 7)*

Underperforming schools largely resist active enrolment into this actor-network of widening access to medicine. Multiple transactions occur between the medical school, the designated Reach schools and their pupils, but the schools have roles within other actor-networks that demand more of their limited time and resources. Controversy centres on poor institutional communication and a lack of encouragement for aspiring applicants:

'We can be sending stuff out to schools and messages out to schools, but those messages don't get through to the school children, because there's not the right people to pass them on…it's getting the pupils coming through the schools realising it's possible, but also getting the teachers in the schools realising it's possible (Staff 3)

Despite the challenges, some young people from disadvantaged backgrounds do successfully negotiate the complex selection criteria and admissions processes and are translated into active medical school applicants via the Reach initiative and/or the Gateway programme. Many see these opportunities as providing them with an extra advantage that their peers miss out on:

*'A little bit, little bit, because medicine is really hard, and we're like, okay, so we found this back door route [the Gateway Programme] to get in, so maybe we won't be as prepared, but actually we were more prepared, because we'd already lived in A****** for a year, we knew student life, we knew how to look after ourselves, knew where everything was, used to lectures, how that works, so there were a lot of benefits' (Student 3)*

Those Gateway students who then successfully negotiated their way through the admissions process are then further translated, forming new identities as medical students. Equality of opportunity for the disadvantaged applicants, the central goal of the policy, appears to have been achieved because applicants have been successfully enrolled as medical students. The medical school has met its goal of recruitment by adhering to the policy directives and reducing academic requirements, guaranteeing interviews for successful WA applicants who also achieve high enough UKCAT scores. The gateway programme has been successful and even the secondary schools have progressed pupils onto medicine, despite resistance and only partial enrolment into the network. However, widening access to medicine does not end there, the actors must continue to re/negotiate power relations and processes that will strengthen and stabilise the actor-network.

At this point in negotiation, the medical school staff are also further translated, tasked with retaining the newly translated students who have achieved a place at medical school as a result of the widening access policy. They become mediators between the medical school and the students, where they must find ways to support the students beyond what was problematised by the policy in order to maintain the high academic standards of medicine:

'I think they often don't have a very good idea of what it's going to be like, the, they've got quite a rosy view of it, they think it's going to be hard academic work, maybe not realising what hard academic work it is' (Staff 3)

The university policy as determined by the Scottish Funding Council (Implementing COWA recommendations, 2021) laid out clear guidelines for WA admissions, but there is little to say about ongoing retention and progression of WA students, particularly when it comes to medicine. The University's Outcome Agreement makes reference to measures in place to enhance the retention of all disadvantaged and vulnerable students, but ongoing support mechanisms remain underdeveloped: 'Efforts to establish a clear strategy on retention of disadvantaged groups are underway' (University of Aberdeen, 2019). Just how to go about providing this support becomes the key obstacle for staff:

'We tend to talk about them as if they're one cohort, and I think one of the things I've learned is they are, they're so much more diverse, they share some problems perhaps or some challenges, but they're a very diverse group, they're much more diverse than the group

of students that might come from our local independent school...so I, I think the biggest difficulty is I don't know what to expect' (Staff 11)

4. Mobilisation

As we saw during interessement (see figure 2), enrolment and now mobilisation (see figure 3), the secondary schools appear as a weak link this actor-network. Without adequate resources and incentives, they are underprepared when it comes to progressing students onto medicine. Indeed, the majority of students spoke of finding out about Reach and other widening access devices and routes into medicine by chance rather than with support from school:

'My mum's pal found it, I want to say she found it on Facebook, and then she sent it to me, and then I had applied for it myself, but you needed to get your school guidance teacher to refer you, so I had finished school, because I'd done my exams in the May, and I was in 6th year, so I'd finished school, so I had to go back in' (Staff 6)

The staff are aware of this unstable relationship between the policy, the medical school and secondary schools. The initiatives and outreach devices work hard in terms of raising aspirations, seducing the targeted pupils as applicants to medicine, but is this really enough to equalise opportunity for these individuals? It is the medical school staff who try to find a way to negotiate this unstable link in the actor-network of widening access and call the policy directives – who's 'core aim is to increase opportunities for participation through the development, promotion and delivery of flexible and accessible high quality courses and programmes, underpinned by effective welfare, advisory and student support services' (Widening Access | Institute for Education in Medical and Dental Sciences | The University of Aberdeen, 2020; Admissions Policy | The School of Medicine, Medical Sciences and Nutrition | The University of Aberdeen, 2021) - into question. They again become mediators, this time between the medical school and the secondary schools:

'Why aren't we generating an online chemistry course? We could be tailoring a chemistry course, to what we need them to know, in order to be able to do medicine and they could do it as part of that G2M programme, or they could do it as an online summer course' (Staff 2)

'In terms of changes I think certainly there's probably more that we can do around academic requirements, so looking at, you know…do students need to have chemistry, plus two other sciences, is that essential?' (Staff 6)

The marginally reduced academic requirements for WA applicants (AAAAB to AAAB) and the gateway programme act as compensatory mechanisms that aim to account for the disadvantage experienced by these students. However, the obligatory passage point of a highly selective admissions process holds firm, despite queries by both staff and students as to the necessity of academic excellence as the core requirement for a medical career.

Despite this, the newly translated medical students from disadvantaged backgrounds have joined their 'traditional' peers and are one step further to achieving their goal of becoming doctors. Many of the students who successfully negotiated this process experienced a new sense of belonging and were positive about the journey ahead: '*finally I can stop competing*' (Student 12). Getting into medical school has been achieved for these widening access students, but what of getting on? The policy has little to say about this challenge. Until now, the medical school has been central to the operation of the actor-network, but it is the medical school staff that now become key to the ongoing success of widening access (see figure 3 for a visual depiction of enrolment/mobilisation): Retention of the newly translated students centres on knowing how to support them at medical school, making sure they meet the demands of the curriculum. Whilst the characteristics and needs of this group of 'disadvantaged' students are recognised as diverse and complex, there are no specific guidelines or directives in place by the policy or medical school, and staff are generally at a loss how to provide support. There are also fears around specific support being seen as stigmatising these students as deficient, or of creating resentment if such support is seen as an unfair advantage by their 'traditional' peers:

'a real effort has been put in, and I, and I know that they will be supported as they go through, but again I think it's, you know, quite important that they, that they're not supported to the extent that the other students think, well wait a minute, they're getting a special deal' (Staff 10)

The traditional actor-network of medicine appears to be largely retaining its stronghold when it comes to staying in and getting on in medical school, threatening mobilisation of

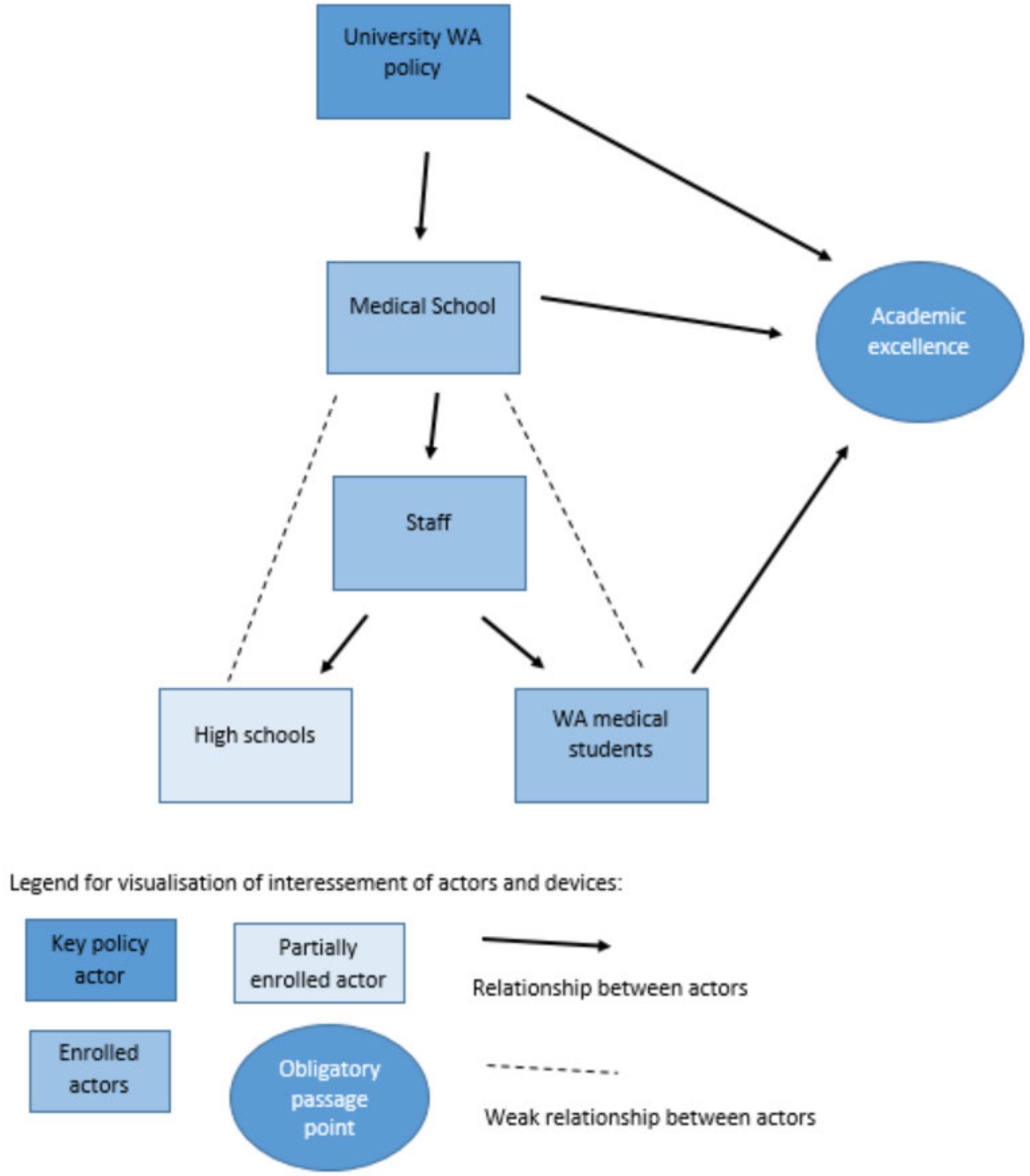
WA to medicine and creating tension between the two networks. The most powerful relationship still lies between the policy and the medical school, who work together to delineate the roles of other actors and deploy devices that will help them achieve their goals. Once the widening access applicants have been successfully translated into medical students, the objective of equalising opportunity, as designated by the policy as key actor, is achieved. Beyond this, it is the staff, in their negotiations with both the students and the medical school, who must shoulder much of the responsibility in the stabilisation and future mobilisation of the network. The student's future at this point is somewhat uncertain, and it seems to be up to them to forge ahead in strengthening their connections with other actors if they are to succeed in becoming doctors. The students recognise that translation is going to be down to them, to their resilience:

'I compare working in a kitchen to medicine a lot, and it's scarily accurate, stressful environment, low staff, expected to do too much for what you're actually able to, working in high intense, people arguing, people fighting and screaming and shouting, like there's a lot of similarities, and I've had all those skills layered on…it's like massive learning curve, so I think I've had all my big learning curves in life, for someone my age to have, so it's made learning curves at uni less, like less a thing' (Student 9).

Better communication and a willingness to adapt appear to be key in stabilising the actor-network. It is early days for widening access to medicine, power relations are uneven and contested and the obligatory passage point remains, but staff are hopeful for the future and open to facilitating change:

'I think this will play out over a period of time, as our proportion of widening access students, hopefully it continues to increase, it will shape the attitudes we have towards how we deliver education, how we plan it, how we support students, how we value them and that unconscious, or perhaps conscious bias that we sometimes have into medical school being an accessible or seemingly inaccessible to people from the very diverse backgrounds' (Staff 7)

Figure 3. Enrolment/mobilisation



Discussion

Summary of main findings and implications

To the best of our knowledge, this is the first study to use ANT to examine widening access (WA) policy enactment. In following institutional WA policy-as-actor, four actors, or allies (two non-human and two human), were identified as key to the enactment of WA to

medicine: the medical school, secondary schools, medical school staff and potential medicine applicants from WA backgrounds.

In enacting WA to medicine by equalising opportunity for disadvantaged applicants, university policy and the medical school have operationalised processes and devices that aimed to address the perceived deficits of these individuals. Although this approach appears to make admissions fairer, framing WA applicants as disadvantaged individuals who must be mobilised into a traditional network of medicine does nothing to challenge the traditional actor-network of medicine and the elitism it perpetuates. Moreover, academic excellence holds firm as an obligatory passage point in mapping and building the network, a focal challenge around which all actors must work to negotiate their relationships in overcoming obstacles and meeting goals. This contributes to a tension between the 'traditional' actor-network of medicine and the new policy and practices of WA.

The medical school and WA applicants were successfully enrolled and translated as active entities via contextual admissions and outreach strategies, including the new Gateway programme, whilst the secondary schools - lacking in appropriate resources - were positioned as passive receivers of WA policy and initiatives. In the network mobilisation, the policy and medical school represent a powerful relationship that appears to achieve their shared goals of equalising opportunity and recruiting medical students from disadvantaged backgrounds. However, it is the staff who become key to the ongoing success of WA to medicine, becoming mediators in the relationship between the medical school, the secondary schools and the newly translated medical students, whom they must find ways of supporting in their long-term goal of becoming doctors.

The policy and medical school, and indeed the WA applicants have worked hard at 'getting ready' and 'getting in' to medicine (Millburn, 2012a; 2012b) – even secondary schools have passively played their part. But what of 'staying in' and 'getting on'? (Millburn, 2012b) The policy has little to say on the translation of WA medical students into doctors – here staff and WA students must muddle through. By limiting WA policy enactment only at the point of admissions without looking to the future, failing to focus on outcomes that challenge the profession and the 'traditional' actor-network of medicine it protects: there can be no room for transformation.

Comparison with previous literature

As per earlier studies, our findings echo social mobility and the paradoxical notions of individual responsibility and deficit, with a firm focus on equality of opportunity rather than diversifying the profession as the end goal of WA policy enactment (Coyle et al, 2021; Alexander et al, 2017). There remains, in the UK at least, fears that WA threatens the traditional network of medicine at national and local levels (Cleland et al, 2015). These fears centre on diversity coming at the expense of academic excellence (i.e., diversity and academic excellence are not compatible), and gave credence to the pervasive equity versus excellence debate (Milburn, 2012a; Razack et al, 2014; 2015; Alexander et al, 2017). Similar discussions are ongoing in other contexts. For example, Bullen and Flavell (2017) critique the application of Western 'quality indicators' in embedding Indigenous knowledges in Australian university courses. We echo long-standing calls to position non-traditional medical students as having desirable qualities and experiences that will ultimately benefit patient care and better educate their peers (Giroux, 2010; Habermas, 1990; Nicholson and Cleland, 2015).

Implications for future practice, policy and research

It is clear that there are ongoing political tensions between drivers for WA, the competitive landscape of neoliberal university education in the UK (Alexander and Cleland, 2018) and the need for universities to maintain a reputation of excellence in a globally recognised knowledge economy (Fairclough, 1993; Molesworth et al, 2011). In other words, universities and the staff within them work in system(s) replete with competing priorities that are often in tension with practices aimed at greater inclusion (Alexander and Cleland, 2018). We suggest a move towards providing funding and prestige for courses that prioritise selection and training of a diverse group of medical students who will meet the needs of an underserved health service (NHS Improvement 2016; Alexander and Cleland, 2018). Additionally, placing more focus on understanding how institutional staff members engage with students from marginalised backgrounds may develop staff capacity to provide appropriate and effective support in contextually relevant ways (Bullen et al, 2021).

Interestingly, the medical profession is somewhat ignored in enactment of policy in our actor-network of WA to medicine. This appears somewhat at odds with UK policy directives and guidelines on WA to medicine that promote workforce diversity and better patient care,

albeit to a limited extent, (Coyle et al, 2021). Shifting position from being a 'silent actor' to placing more onus and responsibility on the medical profession for playing its part in widening access to medicine requires a reimagining of the traditional actor-network of medicine, one which might promote different kinds of excellence (e.g., Razack et al, 2015). Similarly, patients and societal leaders are not part of the network of WA to medicine in the context under study. Given that what holds in one context will not hold in another (Schrewe et al, 2018), these actors may not be silent elsewhere. Thus, we appeal for similar, comparative studies from medical schools situated in different socio-cultural-historical places.

Strengths and limitations

ANT creates a relatively under-utilised space for asking certain methodological, analytic and political questions about processes and phenomena (Michael, 2017). It marks a certain set of sensibilities that facilitate explorative and experimental ways of attuning to the world (Mol, 2010), decentring of the human as an all-important actor (Fenwick and Edwards, 2010).

By thinking with theory (Jackson and Mazzei, 2012), rather than searching the data for truth and meaning, we attempted to delineate and understand how whatever is under study works and who it works for (Deleuze, 1995). Nevertheless, no theory is perfect. The viability of ANT approaches, particularly that of Callon's sociology of translation, have been questioned. Critiques call out Callon's ideas as a fixed model which can distort the complexity it was intended to liberate (Fenwick and Edwards, 2011). However, we argue that in tracing what things do and how they come to be enacted ANT enables exploration of assumed categories and structures in education, some of which exert significant power across time and space. Conceptualising WA to medicine as an actor-network illuminates these processes, asking important questions about 'what happens when they are hooked up with other networks already in motion' (Nespor, 2002, p376). In short, by separating policy-as-text from policy-as-enactment (Ball, 1994; Cleland et al, 2015), ANT allowed us to pay attention to the particulars at play, allowing us to enable analysis of how power flows in policy (l'Anson and Allan, 2006; Rizvi, 2006).

Some researchers argue that without sociological critique of unequal structures, ANT sensibilities leave us with nothing but images of interconnection and flow (Quinn, 2013; Noys, 2010). This may be the case but a new perspective on an old problem may help those involved in widening access to medicine in any context to think differently about how to manage persistent tensions by rendering visible 'the complex material circulations acting to manufacture inequalities' and open up 'possible points and political practices for interference and change' (Edwards and Fenwick, 2015).

By taking a case study approach and limiting our focus to one bounded site we were able to take an in-depth and novel approach to understanding how WA to medicine works in practice. ANT allowed us to trace the policy and actors through moments of translation, mapping their relationships with each other as they mobilise into an active network. We were able to illuminate the tensions and controversies at play, as well as develop a greater understanding of what appears to work in practice. These and the specific relations among actors can be generalised for use in future projects (Callon, 1986) where a 'packaging of methods' can be mobilised or translated to similar sites and contexts (Burga and Rezania, 2017).

Conclusion

Well-established assumptions such as the requirement for academic excellence and what kind of person is suitable for medicine reinforce inequalities and misrecognitions in access to medical education are now questioned by many (as evidenced by the many studies referenced in this paper), but the slow pace of change, in the UK at least, indicates that powerful actors are reproducing WA practices in ways that support and favour their own interests. Opening up medicine to embrace diversity will not happen without the deconstruction of entrenched processes and practices.

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Chapter 6: Study Three

Preface

This chapter presents the second of two studies that use Actor-Network Theory (ANT), this time as a conceptual lens in analysing data collected within the Australian context. After sharing initial ideas and reflections on data collected at the Australian medical school with my supervisory team, I followed the ANT process of mapping and building a network of WP in medicine in this context. I shared this with the team and incorporated their suggestions and edits into the final write up of this study.

This is not presented as a stand-alone study as to do so would involve a lot of repetition of context, methods and some aspects of the discussion and introduction. Thus, instead, I present a very short orientation introduction, and a methods section that refers back to Chapter 5 other than describing the participants. I then present the findings in their entirety, and a standard discussion.

At this point in data analysis and following reviewer comments in response to the UK ANT study (study Two), what became clear as a key strength is the comparative nature of this thesis. Bringing these two studies together by comparing actor-networks in two contexts highlights this strength, and the uniqueness of this international comparative case study design. The results of both ANT studies are compared and contrasted in Chapter 8 of this work, where I summarise findings and further discuss these chapters in relation to each other and the thesis as a whole.

Study Three: Following the policy: An actor network theory perspective on widening participation in medicine in Australia

Introduction

Australian medical schools have made changes to their selection processes that aim to directly increase applications from candidates who represent underserved communities and who are more likely to work in these areas of need (Wilson et al, 2012; Puddey et al, 2017). In response to the World Health Organisation's policy recommendations for targeted admissions to increase numbers of health professionals in rural and remote areas (WHO, 2010), Australian federal government policy introduced affirmative action and accreditation programs which provide intake quotas for medical students from Indigenous and rural backgrounds (McKimm, 2010; Hay et al, 2016; AMC 2019). These strategies aim to reflect a proportional representation of Aboriginal and Torres Strait Islanders relative to the Australian population (2.4%) within each cohort (Lawson, 2007), and involve a financial incentive to medical schools of reaching a minimum 25% enrolment of rural students each year (Hay et al, 2016).

Methods

ANT and Callon's sociology of translation, and how these apply to the focus of this thesis are outlined in Chapter 5, p 173 - 175.

Case boundaries and the 'non-human actors'

Our focus was one Australian medical school in one university, at one point in time, specifically following the enrolment of its fourth cohort of medical students in 2020. The Medical School is one of three in Western Australia, out of a total of 21 in all Australian states. A relatively new addition to universities offering medical education and training in Australia, the school's five year undergraduate MBBS (Bachelor of Medicine, Bachelor of Surgery) degree was granted accreditation by the Australian Medical Council in October 2016, and enrolled its inaugural cohort of sixty students in 2017, with numbers steadily increasing each year.

Webpages and associated links to PDF documents detailing the universities policy on widening access to higher education and medicine were located on the University and

medical school website and collated (see table 1). The host University is guided by a 2017-2022 Strategic Plan, which includes an operational framework for progressing student diversity, equity and inclusion, as well as targeted initiatives to support the access, participation and success of people from disadvantaged backgrounds (University Access and Participation Plan, 2021). This plan draws on State and Federal equity legislation and policy, including the Higher Education Support Act (Australian Government, 2003) which provides funding to universities via the Higher Education Participation and Partnerships Program (HEPPP). This program provides funding to universities to implement strategies that improve access to and retention/completion in undergraduate study for individuals form rural, regional and remote areas (RRR), low socio-economic status (LSES), or equity backgrounds and Indigenous people (Australian Government, 2003). These strategies include partnerships and collaboration with primary and high schools, Government departments, industry and community organisations, and other higher education providers (University Access and Participation Plan, 2021). See appendix L for WP pathway criteria (adapted from university webpages).

Table 1. Data Sources, policy documents and interviewees

Data source	Description	Details/Characteristics	
University policy and guidance documents/webpages	University Access and Participation Plan	*University Access and Participation Plan*. 2021 [PDF] Perth: Curtin University. Available at: <https://about.curtin.edu.au/wp-content/uploads/sites/5/2021/06/2021AccessAndParticipationPlan-1.pdf> [Accessed 24 July 2021].	
	University Diversity and Equity Policy	*Diversity and Equity Policy*. 2020 [PDF] Perth: Curtin University. Available at: <https://about.curtin.edu.au/wp-content/uploads/sites/5/2021/01/Diversity_and_Equity_Policy.pdf> [Accessed 24 July 2021].	
	Admissions Guide: Bachelor of Medicine, Bachelor of Surgery	*Admissions guide: Bachelor of medicine, bachelor of surgery*. 2021 [PDF] Perth: Curtin University. Available at: <https://study.curtin.edu.au/wp-content/uploads/sites/3/2021/05/4817HS_Medicine-Admissions-Guide-2021_PROOF4.pdf> [Accessed 17 August 2021].	
Medical school staff	One-to-one interviews (n=11)	Sex	3 (male) 8 (female)
		Age	From 27-69, with most participants falling with in the 50-59 age band
		Social class background (self-identified)	1 (working class) 4 (lower middle class) 6 (middle class)
		Ethnic/cultural background (self-identified)	11 white Australian and/or British/European
		Clinical background	6 (yes) 5 (no)
		Length of time in current role (years)	Ranged from 6 months to 4 years
		Role	Admissions and teaching support administrative and managerial staff

			Faculty – included those involved in Admissions, curriculum oversight and course tutors Included junior and senior staff
Medical students from WA backgrounds	One-to-one interviews (n=13)	Sex	4 (Male) 9 (Female)
		Age	All but one of 13 was aged between 18-21
		Social class background (self-identified)	7 (working class) 4 (lower/middle class) 1 (left blank)
		Ethnic/cultural background (self-identified)	5 (white Australian) 2 (Asian) 2 (Indigenous Australian) 1 (other)
		Widening participation pathway	7 (rural) 2 (Indigenous) 1 (equity)
		Medical school year	All in years 1-4

All access and participation initiatives, and associated HEPPP expenditure, are overseen by the University's Diversity and Equity Unit (University Access and Participation Plan, 2021). This unit is also responsible for the University's Diversity and Equity policy and strategies (Diversity and Equity Policy, 2020), including a commitment to 'advancing reconciliation and contributing to an Australian society that values and respects Aboriginal and Torres Strait Islander culture and heritage' via a Reconciliation Action Plan (University Reconciliation Plan, 2018) and guided by the Indigenous Australian Governance Framework (Indigenous Governance Policy, 2021).

When it comes to WP in medicine, the University and medical school draw on this and other nation-wide policy, legislation and accreditation standards that target disadvantaged and marginalised groups for entry to medicine. In 2005, the Australian Indigenous Doctors' Association established clear targets and strategies aimed at increasing the number of Indigenous people in the medical workforce (Minniecon and Kong, 2005), and in 2006 the Australian Medical Council (AMC) aimed to privilege the voice of Aboriginal and Torres Strait Islander people by centrally locating culturally responsive education, care and services in its assessment and accreditation of medical schools (AMC, 2006). More recently, the AMC has launched its own Innovate Reconciliation Plan (AMC, 2019) aiming to strengthen its relationships with Aboriginal and Torres Strait Islanders by recognising the importance of self-determination in achieving better health outcomes for Indigenous peoples. Guided by these accreditation and equity and participation policies and procedures, the medical school makes places available to applicants of Aboriginal and Torres Strait Islander descent. Indigenous Australians can apply for medicine through the Centre for Aboriginal Studies (CAS) based at the University, as well as through the Indigenous Pre-medicine Enabling course, and must obtain a Confirmation of Aboriginality prior to commencing their studies.

In response to vast shortages in nation-wide rural medical workforces at the turn of the century, the Australian Government implemented national policies and strategies aimed at increasing the supply of rural doctors (Mason, 2013). As well as establishing Rural Clinical Schools and Schools of Rural Health to increase training opportunities in these areas, the Government also provides a financial incentive to medical schools to enrol a minimum of 25% of students who come from a rural background (McGrail et al, 2011; Playford and Cheong, 2012; Hay et al, 2016; O'Sullivan et al, 2018). In response to these strategies and

incentives, the medical school allocates approximately a quarter of places to Western Australian applicants from a rural background. As well as prioritising places for students from rural and indigenous backgrounds, there also exists an equity entry pathway for applicants who have experienced long term educational disadvantage and financial hardship. The University's medical degree is primarily aimed at Western Australian school leavers, and for these special entry pathways the school awards additional weighting in the admissions process in recognition of the disadvantage experienced by people form these groups in accessing higher education (see appendix L for a full description of special entry pathway criteria).

In 2020 the medical school also began offering Bonded Medical Places (BMP) in line with the Federal Government's BMP scheme. This scheme provides approximately 28% of Commonwealth Supported Places in university medical programs across Australia in return for student commitment to work in regional, rural and remote areas for a set period on completing their training (Admissions Guide: Bachelor of medicine, Bachelor of surgery, 2021).

Our site of focus was also situated within the Australian-wide context of medical education and widening participation to medicine, and this study follows on from a critical discourse analysis of national-level policy on WP to higher education and medicine (Coyle et al, 2021).

Collectively, these local, and Australian webpages, documents and policies set the scene, provided sufficient description to allow us to define our two non-human actors, the medical school and applicants' high schools (as per Callon's first stage of problematisation; Callon, 1986) and informed our interview data collection from human actors (see below).

The 'human' actors

Participants and recruitment

Participants and recruitment reflected that of Study Two (chapter 5, p178), however in this case medical students from WP (disadvantaged) backgrounds included rural, equity and Indigenous entry pathway students from all year groups. See table 1 for a summary and description of data sources.

Data collection

Data collection reflected that of Study Two (chapter 5, p179). Due to the ongoing Covid-19 pandemic, some interviews were conducted either by telephone or using Zoom video call software. We interviewed 11 staff and 10 students (see table 1 for participant details). All of the latter meet some of the 'widening participation' criteria (see appendix L).

Data analysis

Data analysis reflected that of Study Two (chapter 5, p 179 - 180). As in Study Two, we were able to identify an obligatory passage point, a key tenant common to all actors (Callon, 1986); this was, how do students from widening participation backgrounds achieve and maintain academic excellence? This is examined in detail later.

Table 2. Three methodological principles (adapted from Callon, 1986)

Three methodological principles	Description
Agnosticism	• Observer remains impartial towards all towards all arguments used by protagonists of controversy • No point of view is privileged and no interpretation is censored – the observer does not judge actors when they speak about themselves or the social environment • Observer does not fix the identity of the implicated actors if this identity is still being negotiated
Generalised symmetry	• To explain conflicting viewpoints and arguments in any controversy in the same terms i.e. by using a vocabulary of translation • Observer must not change repertoires when moving from the technical to the social aspects of the problem studied.
Free association	• Observer must abandon all a priori distinctions between material and social events by rejecting the idea of a definite boundary which separates the two • These divisions are considered conflictual, for they are the result of analysis rather than its point of departure • Observer must follow the actors in order to identify the manner in which these define and associate the different elements by which they build and explain their world

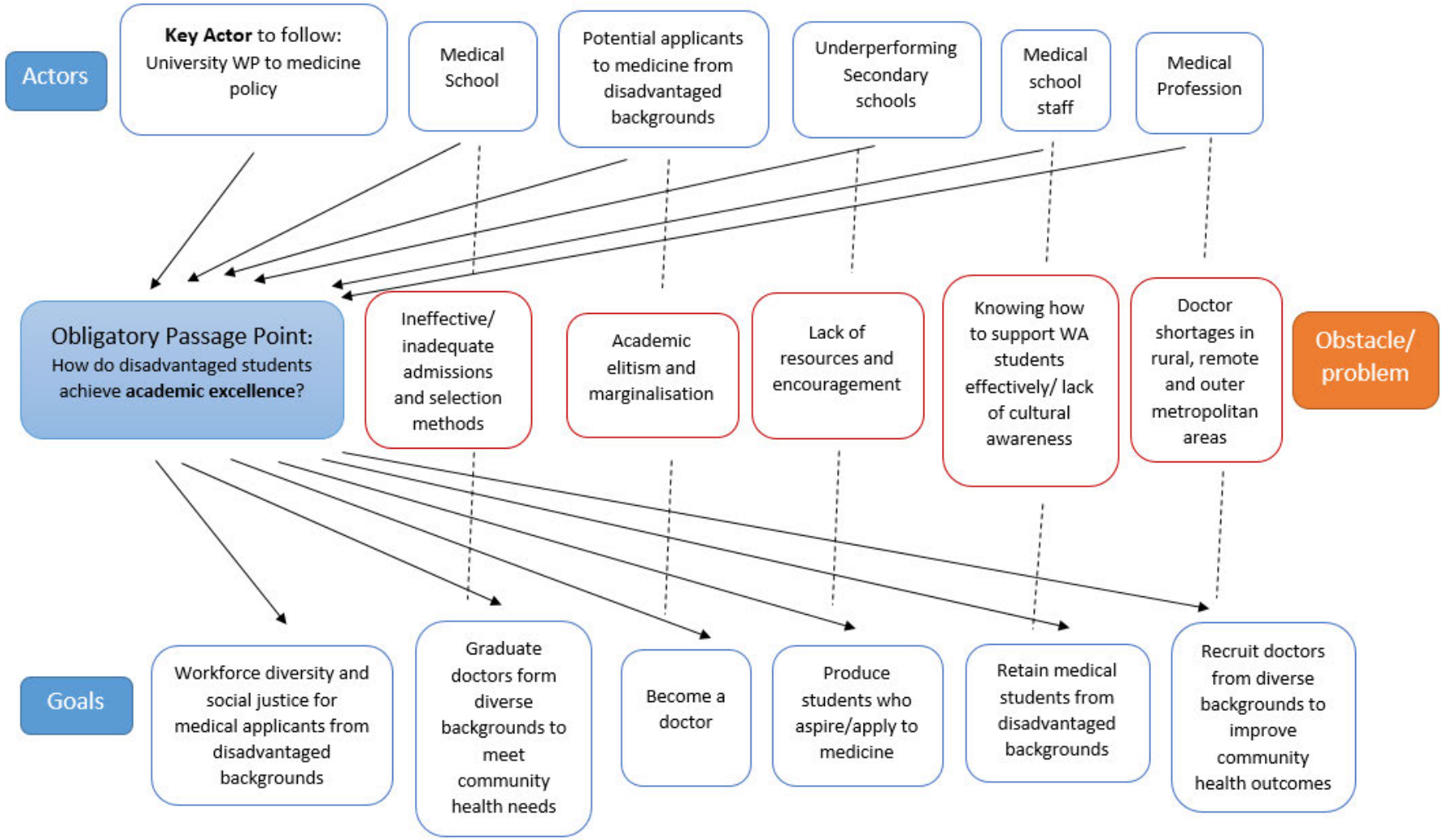
Reflexivity

Please see chapter 5, p 181.

Results

We documented the connections among actors as they are assembled and reconfigured in the spaces that the WP to medicine policy travels through in mapping and building the network according to Callon's (1986) four moments of translation. Here, the policy is represented by three key documents; the University Access and Participation Plan, Diversity and Equity Policy, and the medical school admissions guide. The first two documents draw on social justice objectives of fostering diversity, equity and inclusion within the university environment, and detail how to support students from LSES, RRR and Indigenous backgrounds at four key stages of the student lifecycle (University Access and Participation Plan, 2021). The admissions guide also recognises the 'historic and current disadvantage' experienced by these marginalised groups by providing adjusted admissions pathways, but the in-text focus is largely centred on the complex issues facing the Western Australian healthcare system and workforce, where the university is 'committed to producing graduates who are better equipped to meet community needs'. This policy-as-actor brings five other actors into the story, defining their identities and relationships via an obligatory passage point, and establishing itself as indispensable to the network in this first moment of translation (see figure 1).

Figure 1. Problematisation



1. Problematisation

The actors, and the obstacles or problems they encounter in achieving their goals were defined and established during data collection and set the stage for further moments of translation (see figures 2 and 3). Medicine is a competitive degree demanding high academic scores, and so actors must work together in tackling a central challenge they all share; how do students from disadvantaged backgrounds achieve academic excellence? Building a successful network of WP to medicine requires a series of negotiations at certain points of connection, a task frequently threatened by various obstacles:

'we're probably coming up short on a resource, or a team, that actually is present in those country areas that can actually, like realistically help the students navigate through the whole application pathway, help them with, you know, tutoring, help them pay for things, because at the moment there's a lot of false information out there, and there's a lot of low aspirations in terms of, well the teacher doesn't think I can do it, so I won't bother' (staff participant 2)

High schools appear to perform poorly when it comes to effectively supporting potential medical applicants in achieving their goal of becoming doctors, not only when it comes to basic teaching and subject provision, but also the broader requirements that have become core to a successful application. Environments largely devoid of the necessary resources and encouragement do little to nurture aspiration; *'when I told them I wanted to do medicine, they told me my marks weren't good enough'*, and, as was the case for this student, the schools often fall short of their goal of producing students who are well prepared for applying to medicine:

'the little niche skills that medical schools look for, you know, like the way that someone answers a question, or the way that they approach the UMAT exam, so yeah, that sort of thing was hard for me to sort of comprehend that you know, yeah I went to a bad school, and had bad marks, but it wasn't just about the marks' (student 6 – rural)

Applicants to medicine are aware of a pervasive lack of opportunity and a dominance of academic elitism in medicine that contributes to experiences of marginalisation for individuals from disadvantaged backgrounds, holding people back from achieving their full potential:

'that's that elitism or that club going no, this is reserved for us you know. I feel like we were always just overlooked, that's my experience at school, it was just, you know, not even considered, so it was like, well what if I want to be a doctor, because I feel like I have the ability, and I do have the ability, because I'm doing it now' (student 3 – Indigenous)

The medical school as actor is inevitably shaped by the goal of the university's WP to higher education and medicine policy, namely a two pronged approach of social justice and workforce diversity. The medical school employs a complex array of admissions and selection methods that aim to reduce the unfair academic advantage historically afforded to more privileged applicants, however these can also act as a barrier by inadvertently causing more disparity:

'they were telling us you don't need to study for UMAT, right, because it's just like testing, testing your capabilities right, your natural capabilities, but the thing is you've got to study for UMAT, you've got to understand what it's about and I feel it was quite naïve of them to tell, tell us we didn't need to study, because in [the city], you get offered all these workshops on UMAT and stuff' (student 8 – rural)

Whilst drawing on the social justice objective of improving opportunity, the medical school leans heavily on the goal of workforce diversity as is evidenced by its mission statement. In addition to 'a strong emphasis on primary care' it aims to 'position graduates well for rural and remote practice, as well as outer metropolitan locations, where there is a shortage of doctors'. This is a goal shared by the medical profession, an important actor that quickly establishes itself as a key player in WP to medicine:

'one of the driving forces behind this is to get more medical professionals in these, in these communities, and people, you know, the idea behind these admissions routes is to educate people from these communities, in the hope they will return to these communities and practice as medical practitioners' (staff participant 11)

The profession immediately forms a strong link to the medical school, exerting significant influence in the development of an actor-network of WP to medicine. However, problems with disrupting the prevailing traditional actor-network of medicine, one of historical privilege and exclusivity, are clear:

'there is a bit of a disparity between the requirements of the profession, the sort of elitism of the profession as opposed to, you know, the reality for some students, so yeah, it's a really, it's a tricky one' (staff participant 4)

The medical school staff as actor are yet to play an active part in the network, evident in later moments of translation. Of course, some applicants from disadvantaged backgrounds to navigate their way into medical school, where it will be the staff who work hard to facilitate the successful retention of these newly translated medical students.

2. Interessement

At this stage of actor-network operationalisation, the WP to medicine policy works to bring disparate actors together to form policy-related tasks in a dynamic series of relationships (see figure 2). As previously mentioned, the traditional actor-network of medicine as a high-status, high-stakes profession is long established, and WP to medicine will have to work hard to form an effective actor-network that can both disrupt and co-exist as part of access to this 'elite' profession. Achieving academic excellence remains a focal challenge, but the policy uses certain forces to interrupt and alter the long-standing relationship between the traditional network, the profession and the medical school. In line with the University's social justice objectives, it does this by prioritising places for historically marginalised groups who have experienced long term disadvantage, deploying ATAR adjustment schemes as part of alternative entry pathways that aim to equalise opportunity for these individuals. The policy also works in tandem with the profession, where these two actors link together in utilising interessement device of affirmative action procedures, further translating the medical school's identity in the pursuit of workforce diversity and community healthcare needs. Affirmative action and its associated financial incentives for training rurally located practitioners has an explicit impact on the changing influence and objectives of the medical school, and for applicants from rural backgrounds, where a quarter of all admissions are allocated to Western Australians from this group:

'there's a huge investment going on nationally, to try and encourage doctors to stay in rural environments, and ultimately practice in rural environments, and so I think being seen to make a contribution to that, is going to be very important politically, and I think the medical school needs to keep emphasising that we are doing it, we are preferentially selecting

students on the basis that rurality will predict a return to rurality, and then we have to show it, in the years to come, that it is actually happening' (Staff participant 1)

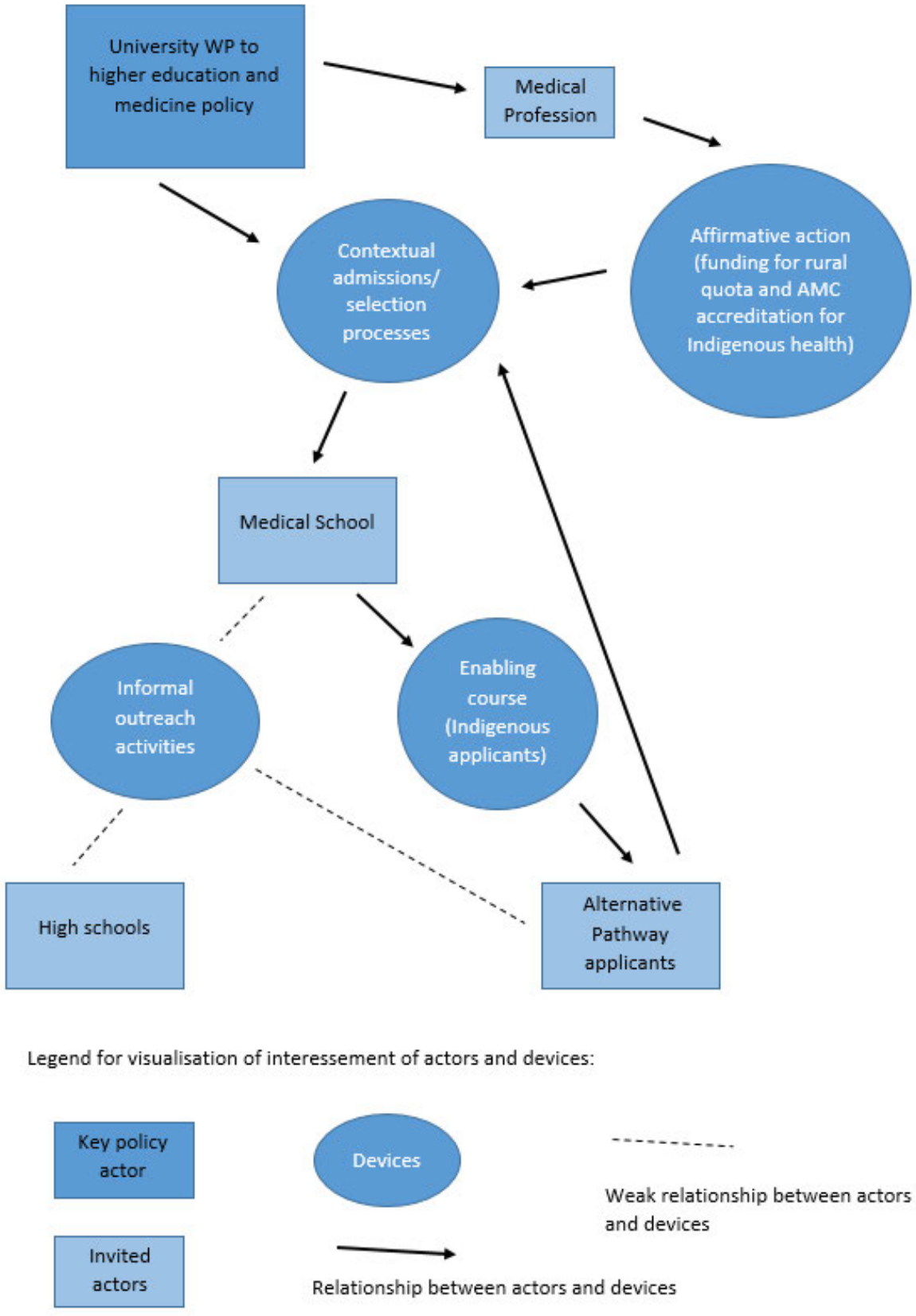
However, despite pre-access directives laid out in the University's Access and Participation Plan, partnerships with schools and communities are as yet somewhat casual and scarce, partly due to the infancy of the medical school. This weak solicitation via informal outreach activities perpetuates an unstable relationship between high schools - whose role as actors is passive and underdeveloped - and the medical school, obscuring the path into medicine for many students form WP backgrounds:

'I didn't realise you needed interviews, I didn't realise you had to do UMAT, all this, just to enter a course, I thought it was like an ATAR, get in, so I think I did find it quite difficult in that sense, and I didn't realise at that age that it was a thing to actually apply to multiple med schools' (student 8 – rural)

AMC accreditation (see methods, p213) forms part of affirmative action procedures aimed at ameliorating poor health and education outcomes for Indigenous Australians. Indigenous students must apply for medicine through CAS (Centre for Aboriginal Studies), and are exempt from the standard admissions procedures i.e. having an ATAR score or sitting the UCAT ANZ. The University also provides a persuasive interessement device in the form of an Indigenous Pre-medicine and Health Sciences Enabling Course, an access program that aims to assist Indigenous Australians in negotiating a path to medical education:

'I was really lucky, I had a really good, I don't even remember what, she was just a teacher at school, but she was more culturally aware, and she like went out of her way to be like, just remember you've got these indigenous pathways as well, like we can talk to the universities' (student 5 – Indigenous)

Figure 2. Interessement



3. Enrolment

Thanks to Government led directives aimed at improving healthcare outcomes (see methods), the medical profession is actively enrolled into the network, working alongside the University WP to medicine policy to enrol the medical school. Here, the medical school becomes accountable to both the University's social justice objectives and the profession's desire to ameliorate doctor shortages in underserved communities by diversifying the workforce (see figure 3 for enrolment/mobilisation). The alternative pathways it provides for equity, rural and Indigenous applicants have their genesis in the University's Access and Participation Plan, receiving additional weighting in admissions processes in light of long term disadvantage and marginalisation experienced by these groups. However, it is the financial incentive for allocating 25% of places to rural applicants, and the CAS pathway and enabling course for Indigenous applicants (linked to AMC accreditation) that exert more power in building this actor-network of WP to medicine:

'[Indigenous health] was going to be the driver for the medical school, and they'll try and keep us on track with what we said that we were going to do, but I don't necessarily know, think that they know how it's actually transacted… but it comes down to funding, government funding,' (staff participant 5)

The medical school as actor is replete with competing priorities and responsibilities as it tries to maintain a balancing act between social justice and workforce diversity objectives. Weak relationships and transactions via informal outreach strategies mean underperforming high schools are largely excluded from active participation in the network, despite University WP policy calls to attract students from marginalised groups by building strong partnerships with underserved schools and communities.

However, many applicants do successfully negotiate the complex admissions process and enter into medical school via an alternative pathway. New identities and a sense of belonging are built as they are translated into medical students, becoming active members of the medicine community, forming new relationships with the medical school, each other, and the medical school staff:

'I always chat with our tutors, its very community based…the staff they do care about us, they made such a big effort to, you know, get to know us, support us' (student 8 – rural)

'they were very good at being like this is not competitive any more, like, it's competitive to get into, but now that you're here, you're here, and you have to help each other' (student 5 - Indigenous)

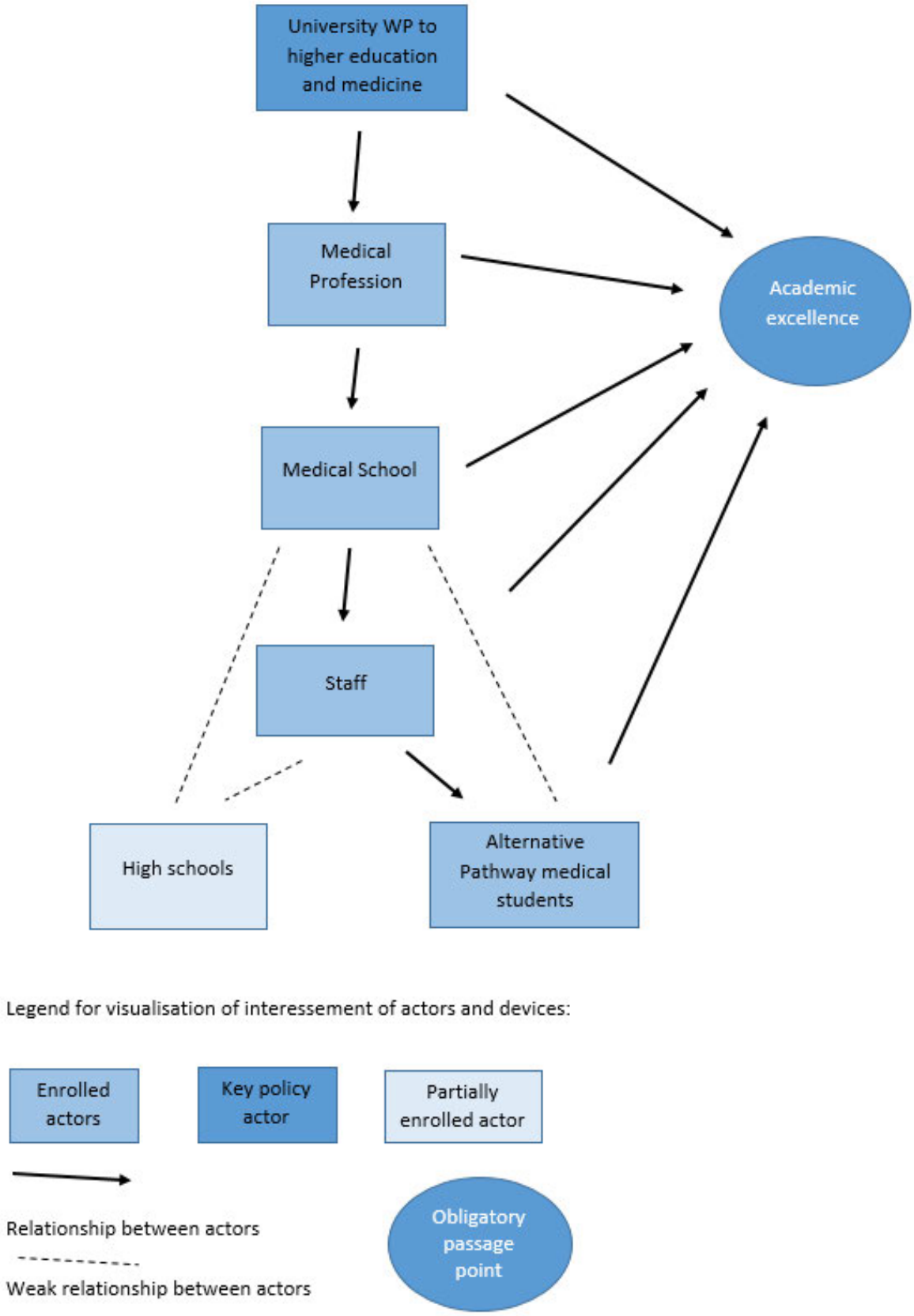
Rural quotas have been met and some Indigenous students have navigated their way through the CAS application route, securing the financial and political targets of the medical school, and strengthening its relationship with both the University WP policy and the profession. Both the medical school and the profession are now a step closer to achieving their shared goal of respectively recruiting and graduating doctors from diverse backgrounds, but the future success of WP and the alternative pathway medical students remains uncertain:

'I'm not sure if they're all successful, time will tell as the university, as the medical school progresses, as to the outcomes for these groups, yeah, there's certainly some signs that the admissions process is good at recruiting people, whether it's, whether the school and the curriculum can retain those people is a different, yeah, concept altogether.' (staff participant 11)

The medical school staff are key actors at this moment of translation, becoming actively enrolled into the network with the goal of retaining the newly translated alternative pathway medical students. They become mediators in the relationship between the medical school and the students, trying to establish how best to support the students in appropriate ways. The University's Access and Participation Plan explicitly refers to the importance of retaining rural, equity and Indigenous students 'by facilitating an inclusive and supportive learning environment, and targeted academic support programs'. However, how to go about this within the medical school is unclear, and staff feel underprepared for the task, where lack of cultural awareness and competence centres around many of their fears when it comes to teaching and support:

'it all sounds a bit negative, and when, and when you're teaching about rural, Indigenous health, it's like, you know, there's these like really bad figures, and if you were sort of hearing that information about your own group, it must feel uncomfortable, and sometimes I guess I feel uncomfortable.' (staff participant 9)

Figure 3. Enrolment/mobilisation



4. Mobilisation

As a relatively new institution it will take time and resources for the medical school to nurture and build strong and stable relationships with underserved schools and communities. The medical school staff are aware of the weak relationship between the medical school and struggling high schools, and of the complex journey ahead for alternative pathway students, becoming vital mediators in mobilisation of WP to medicine (see figure 3). The obligatory passage point of academic excellence remains a central tenet when it comes to getting in and staying in in medicine. Rural and equity pathway applicants receive up to a maximum of five additional adjustment points to their ATAR, and Indigenous students who undertake the enabling course must successfully pass all units. Both staff and students frequently criticised the heavily skewed focus on ATAR scores and other preparatory measures as part of an outdated and elitism system that negates fair access and limits tangible progress when it comes to WP to medicine:

'it's very elite based, and you, like you've got to look at that because of the fact that they look at certain marks, and certain qualities in interviews and all these sorts of things, and you know, it's very hard to determine if that's because that's what the medics, the medical school is looking for, or if that's because those qualities are gained from living in the city and going to certain schools' (student 6 – rural)

'what we should be saying is, we're not so interested in the ATAR, but how did you get on in these subjects, these are the ones that are going to make a better understanding of things' (staff participant 10)

In attempting to address healthcare deficits in underserved communities the personal, professional and educational needs of a changing workforce risk being overlooked. Staff frequently expressed concern over enrolling medical students from disadvantaged backgrounds who might be unprepared or unsuited to the demands of a medical degree:

'there are others who you think, have they been selected just for numbers, are they actually going to survive as doctors, you really wonder the road that they're heading for, is it a road to failure, I'm fearful for those students.' (staff participant 3)

Medical students from disadvantaged backgrounds are far from a homogenous group, as is evidenced by clearly defined access pathways. Staff are of course aware of this, but how to provide the best support and work alongside the medical school in terms of retaining and ultimately graduating a diverse cohort of doctors proves unclear:

'this is the level that we need you to be at, as a minimum, these are the things that you need to get there, and giving them the opportunities, making more clinical skills opportunities available for students, making more workshops available… but make it available to everybody, not, not just a group which makes the group feel inferior' (staff participant 3)

Staff feel ill-informed and poorly equipped, and sometimes divided in opinion over what this support should look like, particularly when it comes to knowing how to support Indigenous medical students:

'we started off by offering those indigenous students a particular support group, right at the beginning and that then led to them asking for a, a small special PBL group for themselves, and it did include a few other students, but it included all the Indigenous students in the year, and that had a few problems associated with it, it created a little bit of dissent amongst the other students, because they were given a bit of an advantage, they were given a tutor who was very supportive and they were also in a much smaller environment, but I think it helped them quite considerably' (staff participant 7)

The University's Diversity and Equity Policy pays attention to the principles of 'Right, Opportunity, Recognition and Inclusion', particularly for Aboriginal and Torres Strait Islanders, and stipulates that University members will 'foster a culture that embraces equity', 'communicate in ways that are inclusive' and 'support the needs of students based on diversity grounds, provided that this does not result in unjustifiable hardship for the university'. But what of the unjustifiable hardships these students experience? The traditional actor-network of medicine is undeniably linked to a long history of Western privilege and bureaucracy, a world often at odds with Indigenous cultures and values:

'it was sort of discussions about space, having a more Aboriginal space in the medical school and I just, I sometimes kind of think actually, I was reading about the history and the past, and I'm thinking, yeah, you might feel like you need your own space, and that I didn't, I think

that it is perhaps, I don't think we always understand what people might want, and that actually it could well be justified for that group' (staff participant 9)

The picture is somewhat different for medical students from rural backgrounds. A relatively large cohort by virtue of affirmative action policy led by the needs of the profession, there is a sense of comfort and confidence in numbers. These students, as well as their Indigenous peers and the medical school staff, are acutely aware of the strengths students from WP backgrounds can bring to the profession:

'I think definitely like in terms of like academic stuff, the people from the traditional backgrounds have an advantage there, but in terms of like communicating with people and connecting with people, which I think is what [the medical school], their main aim is about, I think we rural kids definitely have an advantage there, because, you know, being, coming from a rural town, you meet like different people, from all walks of life, you learn things as you grow up there, so we have an advantage there, with communication and all that, yeah' (student 2 – rural)

'if you are from a background that enables you to communicate with someone more appropriately, better, and then the medicine is going to be better, so it's not necessarily about do you know the medicine the best, because there's a lot of people out there who know medicine very well, but it doesn't translate into better health with the patient.' (staff participant 4)

Enrolling a minimum of 25% of rural background medical students is based on the premise that rural origin students will return to these areas to practice, but whether that will ring true in future remains to be seen:

'I think I want to go back for like the lifestyle choice, I mean, another thing is that I am looking at, you know, how far I want to go in my career, and I know that if I move back to the country, I might not necessarily have the same career opportunities, as what I might have if I were to stay in the city' (student 6 – rural)

Funding for a rural quota is just one of several strategies aimed at increasing numbers of doctors in rural areas, and yet staff are somewhat sceptical as to the effectiveness of existing methods, calling for new approaches:

'the real carrot here is that we need programmes, on graduation which provide grads with distinctly better options if they go and work rurally for a few years… there has to be a benefit, a tangible benefit of going country, going rural and it's not in dollars, because these, the income potential is there for the future, the money is not the motivator, but the training and the opportunities are' (staff participant 6)

Equity, or LSES students have also been invited into the network, but little attention is paid to this pathway by staff. With a strong footing in the social justice objectives of the University's access and participation plan, the admissions guide also makes reference to the communities these student's schools are in as being 'the target areas for increasing the supply of general medical practitioners' (Admissions Guide: Bachelor of medicine, bachelor of surgery, 2021). However, with no financial incentive or accreditation directive, this group is overlooked in favour of more pressing priorities for the medical school.

It is clear that the power lies in the relationship between the medical profession and the medical school, where the end goal of workforce diversity for meeting community need win out over the noble but somewhat side-lined social justice aims of equal opportunity and fair representation. Government-led directives and incentives, endorsed by the medical profession, have made WP to medicine a target driven and politically charged exercise:

'a lot of the funding that we get, is attached to the amount of rural students that we get, so it's really important yeah, when I'm out speaking to students, or devising where we're going to go and speak to students, that we, we target those, those rural students' (staff participant 2)

Uneven power relations exist between the students from vastly different pathways and the medical school, moulded by profession and policy-led requirements that continue to exert the most control over the future of WP to medicine. The staff shoulder much of the responsibility for ensuring the success of WP to medicine, continually re/negotiating relationships between the other actors at points of connection, but they remain cautiously optimistic:

'If we can succeed, I think we will suddenly draw a different group of students, and that'll be a real positive, we will become the university of choice for that, that style of student, and they're the sort of students that are going to want to go back rural, they're the sort of

students that are going to want to go back to their people, we will actually do what we were set up to do, I think we've got a long way before we're going to succeed though.' (staff participant 3)

Discussion

Summary of main findings and implications

In following institutional WP policy-as-actor, five actors, or allies (three non-human and two human), were identified as key to the enactment of WP to medicine: the medical school, medical profession, high schools, medical school staff and potential medicine applicants from WP backgrounds.

The University WP to medicine policy - shaped by Government-led directives aimed at fair access to higher education and community healthcare needs – works in tandem with the medical profession in the development and initial implementation of WP to medicine. Alternative entry pathways aim to make access to a medical degree fairer for disadvantaged students, but it is affirmative action procedures that exert the most power in this emerging network. Political and financial influences mean the medical school becomes a focus of action and accountability to both social justice and workforce diversity aims, and whilst these objectives appear to share a similar path, they are in fact replete with competing priorities. This has a direct impact on the responsibilities of the staff, and the experiences of students who enter medicine via these alternative pathways.

As under resourced institutions, struggling high schools have a demonstrable lack of agency within WP to medicine. As actors they have yet to build effective relationships with a young medical school still establishing itself as part of a local and national health and education system. The medical school staff are making some inroads here, becoming key mediators in mobilisation of WP to medicine, but their main concern lies in student retention. A pervasive lack of skills, training and confidence appears to plague staff in knowing how to support an increasingly diverse student cohort. Fears around cultural safety and competence, and how best to create a positive learning environment are key issues for both staff and students, and there is a sense of trailblazing and having to be comfortable with the uncomfortable for both human actors. However, staff and students are vehemently attuned

to the strengths that a more diverse cohort of students will bring to the medical school, the profession and to community healthcare outcomes.

Academic excellence remains as a bastion of the traditional actor-network of medicine, one of competition and prestige. Staff are frustrated with the consistent focus on ATAR scores, challenging what they perceive as an elitist and outdated approach to selecting the best doctors – particularly those best placed to work in underserved communities. Current approaches still work from a position of deficit – of making 'them' like 'us', but if the profession wants a more diverse workforce then it must consider the needs of these future medical practitioners, as well as the communities it aims to serve. There is still a long way to go in terms of developing a sustainable and well-supported diverse workforce. Retention of these historically disadvantaged medical students promises to be an ongoing challenge for staff, who need more support and direction themselves. Social accountability means systemic structural changes are required within the profession itself, and in the way in which medical education and training is informed, developed and implemented.

Comparison with previous literature

This research highlights the complex set of challenges faced in enacting WP policy into practice in Australian contexts. The prioritisation of diversifying the medical workforce within a climate of social accountability, at least in terms of community healthcare, aligns with previous findings (Coyle et al, 2021). Institutions and the staff within them work in a multifaceted system replete with competing priorities that are often in tension with practices aimed at greater inclusion (Alexander and Cleland, 2018; Southgate, 2017; Cleland et al, 2015). A Canadian study found tensions between the meritocratic ideals of medicine and inclusive access, and a need to address the balance of power among key actors (Razack et al, 2015). Concerns in the literature frequently centre around fears that increasing numbers of students form diverse and disadvantaged backgrounds will lead to a decline in academic standards (Milburn, 2012; Razack et al, 2014; 2015; McKay and Devlin, 2016; Alexander et al, 2017). However, similar to our findings, the focus on and need for exceptionally high ATAR scores for high status degrees is lambasted for putting these professions out of reach for many disadvantaged students (Lamb et al, 2015; Southgate et al, 2017). The disparity in high school achievement between these students and their more privileged counterparts has much more to do with quality of high school education than an

individual's potential to be an excellent doctor (Naylor and James, 2015; Southgate et al, 2017), where ATARs are more indicative of socioeconomic status than it is of a student's academic potential' (Gale, 2012).

In research from Australia, Bullen and Flavell (2017) critique the application of Western 'quality indicators' in embedding Indigenous knowledges in Australian university courses. They argue that a lack of institutional understanding perpetuates one narrow view of the world and apply a 'cultural interface' framework to consider how Indigenous studies can challenge the current limits of the academy's ideas of 'quality' (Bullen and Flavell, 2017). This need to transform policy and practice to reflect more nuanced concepts of 'excellence' is echoed in the Canadian literature on medical school selection (Razack et al, 2015), calling for a reconceptualisation of the notion of merit in medicine if it is to have relevance to the societies it serves and challenging diversity as a 'problem' to be accommodated within current constructs of the medical meritocracy (Razack and Philibert, 2019, Razack et al, 2019).

Inequalities in pre-university education are evident in schools, where inequitable practices, processes and 'deficit' assumptions often begin and continue throughout schooling and the tertiary education system (Southgate et al, 2017). In Australian contexts, students from low socioeconomic, indigenous and remote backgrounds are up to four years behind high socioeconomic groups in literacy and numeracy skills (Cobbold, 2017). School culture can have a significant impact on student aspiration to certain careers (Archer and Leathwood, 2003; Gorard et al, 2006; Reay et al, 2001; Slack, 2003). Discouragement by teachers and a lack of resources and expectations are commonly cited as a barrier to getting into medical school (Basset et al, 2018, McHarg et al, 2007; Medical Schools Council 2014, Robb et al, 2007; Southgate et al, 2015).

As is particularly evident in the experiences of Indigenous medical students in our study, these difficulties are linked to the complexities and challenges of extreme social mobility, where medical schools can be unwelcoming to diverse students (Beagan, 2005; Greenhalgh et al, 2004; Orom et al, 2013; Southgate et al, 2017) and systems are lacking in providing appropriate support services (BMA Medical Student Committee, 2015). Resilience was a commonly cited strength in students from diverse backgrounds by both human actors in our research. It has been extolled as key in overcoming these and other barriers to medicine for

non-traditional students (Cleland and Medhi, 2015; Jardine, 2012) and there are calls for it to be considered as part of selection and recruitment. Diverse students are also seen to have a better understanding of diverse populations in (Guiton et al. 2007; Morrison and Grbic 2015; Saha et al. 2008; Whitla et al. 2003) and are more likely to choose to work in more deprived areas and specialties (Bailey and Willies-Jacobo, 2012; Dowell et al, 2015; Larkins et al, 2015).

We continue to endorse the view that medical students possess desirable traits and experiences that will ultimately benefit patient care and better educate their peers (Giroux, 2010; Habermas, 1990; Nicholson and Cleland, 2015).

Implications for future practice, policy and research

Linked to government-led directives, the medical profession plays a defining role in current approaches to WP to medicine in Australia, where affirmative action and accreditation is key to diversifying the workforce and improving patient outcomes (Coyle et al, 2021). Funding for rural quota enrolments at medical schools are just one of several methods aimed at increasing the number of medical practitioners working rurally in Australia, in an attempt to address significant workforce shortages and poorer health outcomes in these areas (Hay et al, 2016; Fuller et al, 2021). Whilst there are some signs of success, there is still work to be done in creating sustainable and attractive rural clinical training pipeline programs, and more research is needed exploring the transitions and choices medical students make in postgraduate education and training (Greenhill et al, 2015; Playford et al, 2012; O'Sullivan et al, 2018).

The profession also has a way to go in terms of being socially accountable to Aboriginal and Torres Strait Islanders, and Indigenous Australians remain significantly under-represented in the health workforce yet over-represented amongst the poor and disadvantaged (Taylor et al, 2019; Lai et al, 2018). Indigenous health outcomes are significantly poorer than those of non-Indigneous Australians, yet research into these disparities tends to focus more broadly on disadvantaged groups, providing only partial understanding of the complex mechanisms at play in Australia's healthcare system (Durey and Thompson, 2012). Critical approaches that shed more light on institutional racism, and on stakeholders who currently have the power to improve or perpetuate heath inequities are required. Australia's healthcare

system is dominated by white Anglo-Australian culture, and current health policies and practices deliver standardised care that may work to further compromise Indigenous health (Durey and Thompson, 2012). Research shows that a robust Indigenous workforce and better patient outcomes for Aboriginal and Torres Strait Islanders are more likely when a health service has strong leadership, an inclusive and enabling culture, reciprocal learning strategies, and support structures appropriate for Indigenous staff (Taylor et al, 2020). Medical education for a diverse workforce should pay heed to these practical insights, supporting staff members to engage effectively and appropriately with students from marginalised backgrounds (Bullen et al, 2021), and helping staff to be well-informed and aware of the sociocultural incongruities between disadvantaged students and the historically elitist institutions in which they study (Devlin and Mckay, 2018).

Strengths and limitations

Please refer to the discussion section in chapter 5, p195.

Conclusion

Current approaches to WP in medicine in Australia still work from a position of deficit – of making 'them' like 'us' - but if the profession wants a more diverse workforce, then it must consider the needs of these future medical practitioners, as well as the communities it aims to serve. There is still a long way to go in terms of developing a sustainable and well-supported diverse workforce. Retention of historically disadvantaged medical students promises to be an ongoing challenge for staff, who need more support and direction themselves. Social accountability means systemic structural changes are required within the profession itself, and in the way in which medical education and training is informed, developed and implemented. Truly transformative reorientation of WP policy and practice should focus on finding new ways of engaging those in more privileged positions in universities and medical schools in these debates.

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Chapter 7: Study Four

Preface

This chapter is the fourth and final study in my thesis. I compare and contrast WP student experiences within and between both contexts, and further delineate and discuss the findings of this study in relation to this thesis as a whole in Chapter 8.

For this final empirical study I wanted to focus on students. As key stakeholders when it comes to WA and WP in medicine, I was interested in exploring and illuminating WP student experiences more fully. After reflecting on the data and initial thematic analysis of interviews, JC suggested narrative inquiry as a useful conceptual framework with which to approach the data. Following iterative discussions with all members of my supervisory team I produced a first draft of this chapter and shared it with the team. Some key suggestions and additions were proposed by SS, AP and JB, and I rewrote a second and final draft alongside some further edits by JC.

Study Four: Inclusion in an exclusive world? Narratives of WP to medicine in the UK and Australia

Introduction

Individuals from disadvantaged backgrounds are historically under-represented in medicine due to multiple intersecting factors such as personal and parental educational attainment (Esping-Andersen, 2004; Gale and Parker, 2013), ethnic minority inequalities (Orom et al, 2013; Anderson et al, 2020), marginalisation of indigenous peoples (Curtis et al, 2012; Anderson and Lavallee, 2007), and family and peer influences (Howard, 2003; Southgate et al, 2015), all of which often co-exist with a lower socio-economic status (Bradley et al, 2008; Griffin and Hu, 2015; Puddey and Mercer, 2013; Greenhalgh et al, 2004; Mathers and Parry, 2009; Gore et al, 2018).

Increasing medical student diversity has been called for in many countries and contexts (Cohen, 2003; Cohen and Steinecke, 2006; Carrasiquillo and Lee-Ray, 2008; Sikakana, 2010; Hay et al, 2016). Driven by contextually relevant aims linked to social mobility, fair representation and health workforce diversity (Dearing, 1997; Southgate, 2017; Pepler and Martell, 2019), recent policy and practice have centred on increasing the participation of such underrepresented groups in medicine via widening access (WA) initiatives (Milburn, 2012a; Cleland et al, 2014; Coyle et al, 2021).

However, despite attempts aimed at encouraging applicants from historically disadvantaged backgrounds into the medical profession, representation of certain groups remains poor (Seyan, 2004; Alexander and Cleland, 2018, Southgate et al, 2017). Just as the specific drivers for widening participation differ by context, so too do the under-represented groups; generally speaking, it is those from lower socioeconomic (BMA, 2009; Southgate and Bennett, 2014), ethnic minority groups (Lett et al, 2019), rural and remote (McKimm et al, 2010; Hay et al, 2016) and indigenous backgrounds (Sadler et al, 2017; Prideux, 2009).

Existing research into the effectiveness of widening access (WA) to and widening participation (WP) in medicine has frequently centred on student perceptions of medicine and the admissions process (Gore et al, 2018; Southgate et al, 2015; Greenhalgh et al; 2004; Alexander et al, 2019), attending to the question of 'getting ready' for university and medical school, or 'getting in' by negotiating the often complex and competitive admissions

process (Boursicot and Roberts, 2009; Robb et al, 2007; Wilson et al, 2012). However, what of 'staying in'? (Milburn, 2012b). Medicine is a lengthy degree that requires significant commitment in terms of time, learning, and personal and financial resources (Seabrook, 2004; Callender and Jackson, 2008; Cleland et al, 2012), and yet few contemporary studies have focused explicitly on the lived experiences of medical students from WP backgrounds. What research does exist on this topic has tended to draw on homogenous and/or larger groups of medical students to thematically investigate experiences of WP in medicine in one medical school or country (Beagan, 2001, 2005; Mathers and Parry, 2009, Brosnan et al, 2016; Nicholson and Cleland, 2016; Bassett et al, 2018). Little attention has been paid to foregrounding the individual and diverse journeys of students from disadvantaged backgrounds in comparative contexts. Just as no student is the same, there is no 'one size fits all' in knowing how to encourage and support these students in staying in and getting on in medicine (Cleland et al, 2018; Milburn, 2012a; 2012b). Focusing on a small number of unique experiences both within and between international contexts may illuminate new perspectives on what works and what doesn't for WP medical students. Moreover, context is key to the understanding and development of better processes and practices within medical education (Bates and Ellaway, 2016), and comparing experiences within different environments may illuminate taken for granted assumptions that exist in particular political and geographical locations.

Our goal in this paper is to understand more about the lived experiences of medical students from disadvantaged and marginalised backgrounds. We focus on individual stories of the journey into and time at medical school in the UK and Australia. These two countries share similar policies and practices linked to inclusion in higher education and medicine, but also have notable differences shaped by population demographics, political, economic and geographical occurrences (Coyle et al, 2021).

Our overarching research question was: How do medical students from WA backgrounds in the UK and Australia experience the journey into and at medical school? Utilising a narrative inquiry approach we focus on stories as data (Elliot, 2005; Reissman, 2008), to give voice and meaning to individual experiences (Bruner, 1986, 1990; Polkinghorne, 1995), and shedding light on how existing systems and structures within medical education work to support and/or discourage these students on their path to becoming doctors. Our ultimate

objective is to enable readers to experience something of these students' lives (James, 2018) that might lead them to look at WP from a new perspective or open up new research approaches, 'producing knowledge that deepens, enhances and enlightens our understanding of human experiences' (James, 2014, p.64).

Methods

This study draws on a critical constructivist paradigm, underpinned by an interpretivist framework (please refer to chapter 3, p76 for more details).

Comparative contexts

Since the process of colonisation began in the late 1700's, medical practice in Australia has been closely linked to the British practice of medicine (Pascoe, 2019). In fact, until the Australian Medical Association (AMA) was formed in 1962, Australian doctors were represented by the British Medical Association (Keleher, 2016). Until the 1980's Australian medical curricula closely resembled that of the UK despite vast differences in geography, climate and population demographics (Worley and Murray, 2011). The two countries also share similar policies and practices linked to the trajectories of their higher education systems (Hackett, 2014), where access to higher education is largely dependent on academic success within a meritocratic system (Wellings, 2015). High levels of social disparities linked to socio-economic status exist in both nations, intersecting with inequality on the basis of class and ethnic background in the UK (Snee and Devine, 2018; Jacob and Klein, 2019) and major inequities between Aboriginal and Torres Strait Islanders and other Australians (Deravin et al, 2018; Yashadhana et al, 2021).

Study design

This research is situated within a broader comparative case study which attends to both international and local dimensions of case-based research (Bartlett and Vavrus, 2017), and where including more than one locus of study allows us to distinguish phenomenon from context (Geertz, 1973).

Narrative Inquiry

Narrative inquiry is 'the study of experience as story' (Connelly and Clandinin, 2006, p.479), allowing a holistic focus on people, and on the whole and the specific, rather than the

fragmented and general (Damgaci and Aydin, 2018; Rea et al, 2017; Reissman, 2010). Narrative approaches are grounded in interpretive hermeneutics and phenomenology (Gregory, 2010) and epistemologically respect the relativity and multiplicity of truth (Josselson, 2011). Rather than theorise, narrative analysis aims to shed light on people's lives and experiences (James, 2018), adding colour and emotion when painting a complex picture of the issue in focus (Benson, 2014; Speedy, 2011). Using storytelling within a narrative inquiry framework can be valuable in developing greater understanding of human experience, illuminating differences and similarities between people's experiences (East et al, 2010) and laying bare the complexity and contradictions of life experiences (Clandinin & Connelly, 2000; Creswell, 2013).

Sampling and recruitment

This study was conducted at two sites – one long-established medical school in Scotland, UK (first taking medical students more than 500 years ago), and one new medical school in Western Australia (first intake of medical students in 2017). In both, the participant target group was medical students from WA/WP backgrounds.

In the UK context, applicants are WA if they meet at least one of the following criteria: Residents in SIMD20 (quintile 1) postcode areas; from a low-progression high school (called 'Reach' Schools) anywhere in Scotland; care experienced; a young carer; estranged - i.e. living without a family support network; eligible for free school meals; a refugee or asylum seeker; resident in an area considered to be Remote & Rural (5-8 on the 8 fold Urban Rural Classification). The UK school has long offered a standard entry medical degree and established a pre-medicine access route to pupils from a WA background via a one-year 'Gateway2Medicine' (G2M) programme in 2017.

WP is more complex in Australia. The Australian medical school offers standard entry plus three alternative entry pathways into medicine: Rural, Indigenous, and equity. Each of these is explained briefly. In response to government strategies and incentives aimed at increasing the supply of rural doctors, the medical school allocates approximately 25% of places to Western Australian applicants from a rural background (Hay et al, 2016; O'Sullivan et al, 2018). Rurality is defined by having spent at least ten years cumulatively or five years consecutively residing in an area with an Australian Statistical Geography Standard

remoteness category (ASGS) RA 2-5 since the commencement of primary school (Year 1 onwards). Indigenous Australians can apply for medicine through the Centre for Aboriginal Studies (CAS) based at the University, as well as through the Indigenous Pre-medicine Enabling course, and must obtain a Confirmation of Aboriginality prior to commencing their studies. Equity places are awarded to Western Australian school leavers from schools which under-perform compared to the average (assessed via the Index of Community and Socio-Educational Advantage (ICSEA). Equity places are also available for applicants who are classified as experiencing financial hardship as defined in the medical school's public-facing admissions guide (Admissions Guide: Bachelor of medicine, bachelor of surgery, 2021).

A purposive (Creswell, 2002) sampling technique was used to recruit a diverse group of students in terms of gender and WP status across all year groups (1-3) at the Australian medical school, and years 1 and 4 in the UK context. Due to the large numbers of medical students in the UK context we selected these year groups to maximise exploration of diverse experiences by including students who were new to medical school (including G2M graduates, see p247) and those who had moved into their clinical training years. Recruitment emails, leaflets and posters were distributed to all students inviting those who self-identified with the above criteria to consider taking part in the study. Students who expressed an interest were sent a participant information sheet outlining the aims and objectives of the project. A total of 23 participants (13 from the UK medical school, and 10 from Australia) took part in interviews.

Data collection

After informed consent was obtained, participants were asked to complete a short sociodemographic questionnaire. This information was used to start each interview, to build rapport with participants and create a comfortable space for dialogue (Ritchie et al, 2013). Each interview was conducted by MC, in a place convenient for the participant – usually a meeting room on campus. Attending to the relational dimension of this research and the co-creation of narrative, the lead researcher (MC) shared information about her background and motivation for this project with participants both before and during interviews where appropriate, remaining present and reflexive as opposed to an objective or 'disembodied recorder of someone else's experience' (Clandinin and Connelly, 2000, p.81). Interviews were semi-structured and conversational, including broad questions such as: 'Can you tell

me about your journey into medical school?' 'How do you feel as a medical student from a WP background?' Interviews continued until participants felt they had sufficiently shared their views. All interviews were digitally recorded and professionally transcribed verbatim.

Data analysis

The interviews were anonymised through the transcription process and then entered into qualitative data management software (QSR International, Doncaster, Victoria, Australia) to facilitate data coding. In both contexts, university WA/WP policies and practices involve key actors who are implicated in the journey these students take when it comes to getting into and staying in medical school; high schools, medical school staff, other medical students, the medical schools, and the medical profession. Each narrative was read several times, and passages coded that were significant in relation to the student's positive and negative experiences of communication, connection, and support with the key actors as listed above. People give meaning to their lives through story (Bruner, 1990) and stories, or narratives, can therefore be used to comprehend lived experiences (Savin-Baden and Van Nierkerk, 2007; Fontana and Frey, 2008). Particular attention was therefore paid to statements about self-experience ('I statements'), and descriptions of others in relation to self (Josselson, 2011).

Narrative inquiry aims to understand the meanings of people's experiences, 'rather than be presented with the theoretical dilution of those meanings' (Trahar, 2013, p.xiv), and because of its holistic, in-depth approach to each participant, it tends to focus on a small number of participants (James, 2018). Thus, of the 23 interviews, data immersion indicated six stories that stood out in terms of depth, reflection and complexity, and were selected for narrative inquiry (3 from the UK, 3 from Australia). Pseudonyms given to the final group of participants were based on the names of characters from the Mighty Morphin Power Rangers, a favourite childhood TV show of the lead researcher, where young friends come together and 'morph' into powerful superheroes able to fight intergalactic injustices. The implication of fighting injustice seemed particularly apt in the context of WA and WP in medicine, as will be seen in the data. These names were: Kim, Jason, Trina, Zack, Billie and Thomasin. This second stage of analysis eschewed computer software, instead focusing on manual, immersive analysis of a small number of interview transcripts and their companion audio files.

Chase's five analytical lenses (see table 1) guided a holistic analysis that focused on the content and meanings of each story (Chase, 2008), drawing on a relational and social understanding of the stories in context. People tell stories, they do not tell narratives (Frank, 2000), and so the researcher must recast data, lending 'narrative coherence to non-narrative data in order to bring out or highlight meanings in relation to the research issue in focus' (Benson, 2014, p.163). Hence, data analysis was a creative and iterative process of organising and piecing together threads both within and between stories, deciding what was significant, and linking facets of experience together (Josselson, 2011).

After each participant's story was recreated as a narrative construction (Barone, 2007), cross-case analysis was performed to allow for discovery of patterns of meaning across each narrative interview text. Narrative researchers 'use analysis to arrive at themes that illuminate the content and hold within or across stories' (Ellis, 2004, p. 196), where inquiry paradoxically uncovers common ground by expressing individual differences (Jones, 2004). Themes, or threads, inevitably arose during this study. These and their protagonists are presented in the findings.

Rigour and reflexivity

Central to qualitative work within a constructivist paradigm is the idea of trustworthiness as opposed to positivistic ideas of validity, reliability and generalisability (Lincoln and Guba, 1985). Here, validity depends on group consensus and is 'a function of intersubjective judgements' (Polkingthorne, 2007). The research team consisted of four members who all contributed to the design and analysis of this study, thus providing investigator triangulation (Creswell, 2009; Houghton et al, 2013). Data were collected by the first author (MC) and the interpretation and thematic analysis of narratives were shared and discussed at team meetings (Polkingthorne, 1995). Peer validation was achieved by all team members contributing to the development and refinement of the final plot in the narrative (Loh, 2013), and the original transcripts were frequently referred to, ensuring that the resulting narrative was fully grounded in participants' descriptions of their experiences (Mbuzi, 2017). Direct quotes from participants are frequently used within findings to evidence their stories and perspectives (Houghton et al, 2013; Maxwell, 2009).

Verisimilitude (Creswell, 2013; Connelly and Clandinin, 1990) and utility (Reissman, 2008; Hammersley, 2004) ask the questions; does this study resonate and seem plausible, and is it useful for the community? (Loh, 2013). All authors have 'hands on' experience of medical selection, and two (JC, SS) are imbedded within the medical education community. JB is an academic and Aboriginal Australian who advocates for Indigenous health and health care education, and AP is a medical doctor who trained in India and a leader in public health education in the UK. The first author (MC) has a background in collective advocacy and public health and was a first-in-family (FIF) student at university. Perspectives differed, but all authors share a common belief in addressing inequality and increasing medical student diversity and remained continuously reflective about how their personal and professional experiences shaped interpretations of the data.

Table 1. Five interconnected analytical lenses to guide narrative inquiry (adapted from Chase, 2008)

Analytic Lens	Description
1. Narrative is a distinct form of discourse highlighting the uniqueness of each human action and event	Narrative is retrospective meaning making, where the narrator as protagonist expresses emotions, thoughts and interpretations of their past experiences
2. Narratives are verbal action, communicating the what, how and where of the narrator's experience	Narrative research highlights the versions of self, reality and experience that the storyteller experiences, treating credibility and believability as something the storyteller accomplishes
3. Stories are enabled and constrained by a range of social resources and circumstances	Self and reality are constructed within the narrator's community, local setting, and cultural and historical location. This lens attends to the similarities and differences across narratives, whilst respecting every instance of narrative as particular
4. Narratives are socially situated, interactive performances between participant and researcher	A narrator's story is flexible, variable and shaped in part by a particular audience. Here, a narrative arises and is a joint production of narrator and listener in an interview setting
5. The researcher is also narrator as they develop interpretations and presentations about narratives they study	The first four lenses also apply to researcher as narrator; they develop meaning and order from the studied narratives, developing their own voice as they reconstruct others' voices and realities; they narrate 'results' within the social resources and circumstances embedded in their disciplines and culture, and write or perform this work for particular audiences.

Results

The six interviews selected for narrative analysis lasted between 45 and 100 minutes (representing 400 minutes of data in total). Participant characteristics and backgrounds are

briefly described in table 2. All of the students were aged 19-21, apart from Jason. Exploration of participant experiences and relationships with key actors, both within and between contexts, led to four main threads, or community narratives, giving important insights into cultures and contexts of WA/WP in medicine.

A road less travelled: 'I expected more people like me to be there'

Billie and Zack, both students from rural/remote backgrounds, discuss how place and space shaped their journeys. Zack, who grew up and went to high school in a deprived area in the very north of Scotland was well supported by teachers at school; *'obviously wanting to do medicine, I got a lot of attention'*. This required extensive commitment in terms of time and travel to the nearest city; *'I would say I went about 8 different times, for 8 different events, all taking days off, but I knew I wanted to do it'.* Zack believes this support, as well as his 'non-traditional' background played a major part in getting into medicine:

'*ASPIRENorth [this initiative works with young people across the North of Scotland providing impartial information, advice and guidance about progression routes into higher education] talked me through all their, basically how it works getting into uni and they said it's a points system, and they said we're going to be brutal, you're gay, so that's a point, you're from [remote town], that's a point, you're from a family with no academic background, another point*'

Billie enjoyed a rural childhood living on a farm in Western Australia *'where I could do whatever I wanted, whenever I wanted',* but her schooling *'was just not that good of an education'.* Moving to a city school at 14 was hard for her; *'I wasn't a boarder, completely, but I also wasn't like completely a day girl, because I hadn't grown up in [the city]'.* However, going to 'a really good school' gave her the academic and preparational support she needed for medicine, describing herself as *'very, very lucky'* because her educational opportunities set her apart from her contemporaries in the country:

'I went back and I was like, I'm so jealous that you guys are still up here, and like it's the best place in the world, and they're like, it's good if you can get out'

Table 2. Participant information and background story

Participant (Pseudonym)	Context	WA background (UK)/ Alternative WP Pathway (Aus)	Background story
Trina	UK	Reach school	Trina is a female fourth year medical student who immigrated to Scotland with her family from India at the age of 9 and subsequently grew up/went to a reach school in a deprived area of Glasgow. She didn't know that she wanted to do medicine until a Pupil Support Assistant (PSA) teacher suggested she attend an outreach course as she was getting good grades. She 'ended up really enjoying it' and decided to apply, moving away to another city to study medicine.
Zack	UK	Reach school	Zack is a 'working-class' male fourth-year student who identifies as gay and is from a remote/rural town and Reach school in the far north of Scotland. He a supportive PSA teacher and good experiences with several WP initiatives and contacts from the medicals school, including ASPIRENorth - a charity aimed at getting school leavers form the Highlands into higher education. He had extensive work experience thanks to WP which he enjoyed, and growing up he experienced a lot of illness within his family.
Tom	UK	G2M	Tom comes from a Muslim family and grew up locally to the university and medical school, where he studied physiology for a year before applying to and being accepted into the first cohort of the G2M programme. He always wanted to study medicine, but personal problems in 5th year of high school held him back from applying as his grades had suffered too much, and his school were not used to preparing students for medicine. Tom supports his family financially and feels his main challenge is the financial burden of medicine.
Kim	Australia	Indigenous	Kim is a second-year female Indigenous student who spent most of her formative years in the city and entered medicine directly from high school. She has a supportive family and the 'good foundation' of a private high school education and a 'more culturally aware' teacher, which led to a 'series of events' leading to studying medicine. Supportive friends and teachers 'pushed' her to achieve higher ATAR scores as it became evident she had the academic ability.

			She had a very difficult time when it came to being accepted onto the course due to issues with obtaining her Confirmation of Aboriginality certificate.
Jason	Australia	Indigenous	Jason is a third-year male Indigenous student in his late 20s, who came to medicine via the pre-med access programme and has strong links to the university's Centre for Aboriginal Studies (CAS), where he found a lot of support and encouragement in getting in to medical school. He moved around a lot in his formative years and comes from an unstable and troubled family background. He 'had such a bad school experience, and a warped perception of what university was' and so only came across the pre-med course years later thanks to working in hospitality on campus.
Billie	Australia	Rural	Billie is a female third year student from a rural background. Like many rural students she had to board and move away from home to the city in order to get a good enough high school education to prepare her for medicine. She enjoyed growing up the country and found the move to the city very difficult. Her sister's long term health problems exposed her to the medical world from a young age.

Zack and Billie describe two very different accounts of rurality, highlighting the impact of local and national WP policies and practices that respond to demands of academic excellence in medicine. In Australia it was necessary for Billie to move away from the country to access an education that would sufficiently prepare her for entry to medicine. For Zack, remote living in Scotland was explicitly tied to disadvantage in terms of schooling and opportunity and this was reflected in extensive travelling for outreach experiences.

For Trina who lived in a deprived area of a major UK City, attending a low-progression school meant travelling to multiple schools to access requisite subjects. Teachers did what they could, but it was difficult to find the support she needed for medicine in terms of academia, work experience and finances*; 'it would be things said by chance, or by luck, that's got me this far'.* She planned on staying near home for medical school *'because it saves money on rent and it was what my parents wanted'* but accepted the place she was offered further afield.

Thomasin always wanted to study medicine, but difficulties at home during a key high school year affected her grades and held her back from applying directly from school (as is standard in the UK, where most medical programmes are undergraduate). She chose to study physiology instead. She would have liked more support from high school in preparing for medicine and nearly missed out on place on G2M later: '*I only heard about it by chance, I was going to delete the email, and I just happened to click on it',* but at the same time *'if I had come straight from school, it would have been a lot harder, because it's such a big jump'.* Now, after a year of studying physiology and then transferring to, and successfully completing, G2M, she's '*slightly older…I know how to prepare for uni exams'.* Thomasin had a protracted journey into medical school and being able to stay at home was important to her financially and emotionally: *'my family is here, I can stay at home and I know the city'.* She would not have had the opportunity to study medicine without G2M, which was a positive experience:

'I think it really prepared me for medicine, because they went through some really similar stuff that we went through in our first semester…it was good, it was really like hands on, and we got to see the medical school, talk to some of the lecturers, practice some clinical skills'

Zack sees where he grew up as *'a bit backwards'* where people *'don't like change, they don't like to see people doing well, quite a toxic environment, so I don't like going home much'.* He feels '*very different*' at medical school, but sees this as a positive, where his peers *'looked to have friends from different places and different backgrounds, and that's where I fitted in'*. Trina also felt different at medical school, but describes moving cities and her transition into medicine as complex and challenging:

'I expected more people like me to be there, but then, and I was very naïve to that to begin with, like even the way I spoke, and like knowing that very few people came from backgrounds like me, made me a little bit uncomfortable…socially it was a bit strange, and I don't know if that's because I'm in [new city], where you know, there's not a lot of ethnic minorities'.

Misrecognition and microaggression: 'Is it my responsibility to correct them?'

Feelings and experiences of difference and displacement were apparent in the stories told by Kim, Jason and Trina. In the Australian context, some everyday occurrences for non-Indigenous people were experienced as uncomfortable and othering for Jason:

'the first day we started med, they said oh put your hand up if your parents are doctors, you know, and I reckon 90% of the cohort put their hands up, and the Indigenous students sat there like this[…]and that automatically put a divide between us and them, you know'

He feels at a loss for how to talk about his mixed heritage and how being *'fair skinned*' brings confronting challenges as an Indigenous student, and he struggles to feel comfortable in the world of medicine; *'I can exist in it, but I'm just not cut from that cloth*'. Kim had similar experiences as a mixed heritage Indigenous person and feels caught between asserting her connection to culture as an Aboriginal Australian and being defensive about *'racist stereotypes'* that are pervasive in white Australian culture:

'I feel like I always have to make it aware before I start situations like even at the beginning, like when we had our first like Indigenous PBL, it's like, just so everyone is aware, like I'm Aboriginal, because otherwise people just say stuff…like, if I didn't say that, would you say something racist anyway, like, and like somethings aren't meant to be racist, but are racist and then you're like, is it my responsibility to correct them?'

Trina had similar experiences as an ethnic minority student from a deprived background once she started medicine. She says she *'wasn't like as aware of things, of how different I was'* until she moved away to a smaller Scottish city, where experiences of microaggression and implicit bias became evident in medical school:

'one of the residents was like in a bad mood with me, but you know, it's just normal for that person to go in a bad mood, and the staff was like, oh no, no, I don't think it's because you're, I don't think it's because you're brown, because she's really good with another person who's also brown'

Trina says she forgets sometimes that she's different, *'but you need to be aware of it, because you are going to get discriminated for it'*. She describes racism as *'always in the background happening somewhere'* and as something *'you can't angry about, but you know, it's like having to remember the skin you're in, whereas that's not a normal thing to do'*. Acceptance of and compliance with the prevailing social and cultural norms of the medical and wider world seems to be part 'staying in' and 'getting on' in medicine.

Being (un)heard in medicine: 'she gave me that, yeah, you can do it, and we'll get you there'

Whilst Kim is aware of the hurdles she faces as an Indigenous medical student, she likes going to a rurally focused medical school because *'it makes me feel more at home, I feel more comfortable around people from a rural background… a lot of things I do are in rural areas'*. She found that the medical school and staff *'were very good at being like this is not competitive anymore…now that you're here, you have to help each other'*. Kim *'made friends easily'* at university, and feels empowered as part of a new community that is open to change:

'I like that it's a new medical school, I feel like we're heard in terms of general students, like revision and changing of the course and stuff like that, like it's, even second year has changed a lot from last year's second year'

Although glad to be a part of shaping the future of medical education and improving things for those that will come after her, Kim feels it can be an unwelcoming world for Indigenous

students; *'there's no representation whatsoever, and it's fallen to us students to find each other and like build those connections'.*

Kim was worried about failing exams and wanted revision sessions specifically for the small cohort of Indigenous students in the medical school; *'and they're like no, it's like an unfair advantage, we don't want to spoon feed you'.* She and Jason felt that additional support mechanisms tailored to the personal and academic needs of Indigenous medical students were urgently called for, as well as better communication and collaboration within and between university institutions, particularly between the medical school and the centre for Aboriginal Studies (CAS). Jason *'find[s] it difficult to exist full time in a non-Indigenous world'* and feels strongly about the lack of tailored support for Indigenous medical students:

'I brought up that a lot of this curriculum preaches equity over equality, you know, and giving the underprivileged ones a higher box to stand on, well where is that, what, what can you show me, what hard evidence or whatever can you show me that equity is being, you know, helping us out here'

Jason also thinks there needs to be more of an Indigenous influence in the curriculum, and similarly to Kim feels *'there needs to be a bit more of a bridge'* between the medical school and CAS (Centre for Aboriginal Studies), and he had a very positive experience on the pre-med programme with a particular staff member:

'she gave me that, yeah, you can do it, and we'll get you there, but before you do, we do that, do you need any help, do you need housing help, do you need, you know, and that combination was just, you know, invaluable… I felt extremely supported, like she had my back as well as everyone else's, you know, didn't ever look at any one of us like we couldn't aim for the top, regardless of where we came from'

Peer support at medical school was important to Trina, who over time built closer friendships with students from her cultural background. She feels that shared family experiences and similar interests made a lot of things easier; *'some of like the problems that come with cultural barriers, they understand'* and she knows that she's *'not the only one going through stuff like this'*. When it came to work commitments locally, Trina was glad of practical adjustments in attending a clinical placement in another city, and also felt well

supported by her regent at medical school; *'she told me she can be my elective supervisor as well, which is so handy'.*

Whilst there was *'a lot of uncertainty'* as one of the first students to go through the programme, Thomasin feels *'there was a lot of support in G2M'*, and like Trina she had positive experiences of peer support at medical school: *'we were given 'parents', so people from the year above, it's actually been really helpful…when it comes to exam time they can give you tips on, make sure you revise this, make sure you revise that'*. Thomasin's family are Muslim, and she sometimes joins other medical students from Muslim backgrounds for academic support:

'they kind of have their own society, and they do like weekly revision sessions, where everyone is welcome, not just Muslims, and I found that quite helpful, it's good because you can maybe relate to them a bit more'

Continuity of support was a big part of Billie's positive experiences at medical school. The death of a close family member during her second year was a very difficult time for her, but she decided not to take a break from her studies as she experienced *'heaps and heaps of help'* within her cohort and *'didn't want to not be with them'*. A major source of support also came from a clinical skills tutor, a palliative care physician who had also lost a family member during medical school; *'so she kind of got it, and I talked to her like probably like after class like once a week'.* This sense of mutual understanding was invaluable to Billie, and she ended up having the same staff member as a tutor in subsequent semesters, playing a big part in her wanting to stay in medicine.

Zack had mixed experiences of personal support at medical school, also dealing with long-term illness in his family. During some difficult periods he felt that university student support services could have done more. However, the medical school explored practical adaptations to his medical degree that would allow him to prioritise caring for his family member in the future:

'what they would do is, they would message [other university] actually and say, can you take an extra medical student from us and let him do his last year there…or they said we'd give you a year off, and you can go down and look after her, whatever you chose'.

Peer relationships and support, especially among students who share similar backgrounds and experiences, were key to a culturally safe experience for Kim, Jason, Trina and Thomasin.

Medicine as a vocation: 'I'd do the apprenticeship'

The experiences and challenges brought about by family illness were a big part of wanting to become a doctor for Zack; *'if anything it's just made me a bit more compassionate, a bit more understanding for people in similar situations, so I, I put down that exposure to medicine is the reason I've gone into it'.* For Billie, her sibling's long term serious health problems meant her family *'were kind of in and out of hospital quite a bit, so I had a lot of exposure to the medical field…, so I kind of want to go back and do that'*. This gave her a unique insight into the medical world from an early age and was the main motivation for her decision to study medicine; *'I don't really remember wanting to do anything else'*. Returning to life in the country and wanting to practice medicine there is also tied to her positive childhood memories:

'I feel like there's a lot you can gain from having like a really good community, and people don't stay unless they have faith in the health care system, so I want to kind of like, kind of give back in that way'

Both Zack and Billie saw their contact with the medical profession from the perspective of familial illness as providing them with a beneficial skill set, and a sense of medicine as a vocation. They both found parts of existing practices within medical selection and education to be at odds with what they deemed important qualities of future doctors. For example, Billie described the experience of a multiple mini interview for admissions as: *'I feel like you can pretend to be someone you're not, for 8 minutes'* and she felt she missed out the opportunity of an immersive interview where she could really get across her motivations for medicine; *'I just don't feel like it really picks up people who want to be there for the right reasons'.*

Zack felt very unprepared for medicine because of his schooling, but what shocked him most were the OSCE's (clinical exams); *'I didn't realise a big part of my degree was going to be acting'*. He wondered why he was being taught how to interact with patients; *'isn't it common sense? But then as time went on, I realised, and I don't mean this offensively, but*

some people don't have communication skills'. He describes himself as a practical person *'I always said if medicine was offered as an apprenticeship, I'd do the apprenticeship, because it's more hands on'.*

The idea of needing to learn empathy and communication skills was also at odds with Kim's and Jason's experiences, who both felt these were innate characteristics fundamental to medicine and being a good doctor. For Kim, the key to good medicine is about connection:

'talking to Indigenous patients, you've got to give a part of yourself, introduce yourself, so that you're not like an authority, like intimidating figure, and you need to be approachable right, and that's just yeah, it's just human nature, so I don't know how people don't get it, but like people don't, and that's okay, so yeah, it might make me a better doctor'.

Jason sees the difficulties he has had in overcoming his experiences *'of not having money, experiencing parental abandonment, and domestic violence households and substance abuse'* as something he can use in a positive way in medicine:

'I think I'll be able to connect with patients, who come in, especially Indigenous patients, because there's such a large number of them, and say yeah, you know, I understand what you're going through'.

Following her G2M experience, Thomasin feels *'a bit more prepared, so I guess we know what's coming, and that gives us an advantage'.* However, she feels that studying medicine *'is a little bit harder at the same time'* because she has to work alongside her degree and help her parents financially: *'that's the thing that I don't have to fall back on, is maybe financial stability, if this doesn't work out in five years' time'.* Part of Thomasin's motivation for medicine is linked to a pragmatic, practical approach towards economic security and stability for herself and her family. Having *'wasted'* two years financially, Thomasin worries about being able to fund all of her degree as *'there's only so much funding that I can get from SAAS (Student Awards Agency Scotland)'*, especially if she fails a year of medicine and has to repeat:

'there is more to lose as in kind of this is your only chance to have like a really good job, with good pay as well, and pay is important to me...I want to be a bit more comfortable'.

Discussion

Summary of main findings

Exploring diverse experiences of WA to and WP to medicine and comparing and contrasting these stories using narrative inquiry illuminated participant journeys in detail and facilitated understanding of how these experiences are 'narratively composed, embodied in people and expressed in practice' (Clandinin and Connelly, 2000, p. 124). A hitherto underutilised framework of analysis in WP, this narrative inquiry laid bare diverse stories of access to and participation in medical school, adding to our understanding of how the journey into medicine is experienced by students from disadvantaged and marginalised backgrounds in the UK and Australia.

Mobility, both literally and figuratively, played a major role in participant journeys into medicine. Participants had complex relationships with their backgrounds, and experiences of social and cultural mobility and identity renegotiation featured significantly in their stories. In both countries, experiences of misrecognition and microaggression were pervasive in student narratives of participation in medicine. Individual behaviours and institutional practices rooted in racism, classism and ignorance frequently reinforced feelings of being unwelcome in a culturally unsafe environment. Participant stories highlight that diversity and inclusion agendas have yet to make a tangible impact in an elitist world that continues to be dominated by white, middle-class norms. Indeed, 'we need to stop kidding ourselves that our current actions and structures are fair and sufficient to address inequality of privilege' (Cleland and Razack, 2021).

In both countries, positive peer group experiences engendered a dual sense of belonging – to both the world of medicine and to other students in familiar circumstances. Continuity of support via a long-standing relationship with a particular staff member, or ongoing practical support when coping with the demands of clinical training was key to staying in medicine for participants in both the UK and Australia. Emotional support, as well as person-centred approaches tailored to specific needs went a long way to establish a sense of security and stability in developing a new identity as a medical student.

Comparison with previous literature

Our research echo similar findings elsewhere in the literature on student experiences of WA to and WP in medicine, lending further credibility to the narratives of storied lives illuminated in this study. Disadvantage for non-traditional students during both the application and undergraduate stages of medicine was evident in other UK (Nicholson & Cleland, 2016; Bassett et al, 2018; Mathers and Parry, 2009) and Australian studies (Brosnan at al, 2016; Griffin and Hu, 2015). In Canada, selection processes were found to be harbouring a significant hidden curriculum of privilege linked to contextual factors that in attempting to be diverse and inclusive, do so from a 'white gaze' (Razack et al, 2015). Canadian medical students experienced feelings of alienation in terms of class, race, and gender at medical school (Beagan, 2001, 2005), and in the USA residents from minority backgrounds experienced frequent episodes of microaggressions and bias within clinical environments (Osseo-Asare et al, 2018). A recent review of UK research suggests WP medical students experience social isolation and seek connection with peers from similar backgrounds (Krstić et al, 2021).

Implications for future research, policy and practice

This narrative inquiry suggests a need for practical and academic support tailored to the specific needs of medical applicants and students from disadvantaged and marginalised backgrounds. Powerful stakeholders must be aware that obligations to WP go beyond entry to medical school, and effectively prepare staff members and support mechanisms in contextually relevant ways (Krstić et al, 2021). Contextually relevant processes and practices are fundamental to effective medical education and training, and new approaches should make space for diverse cultural knowledges and lived educational experiences (Tesar and Arndt, 2017). Institutions need to move past notions of cultural awareness towards implementation of cultural safety and competence among non-Indigenous practitioners and staff members (Curtis et al, 2019; Clifford et al, 2015) and foster learner-centred, inclusive relationships between staff and WP students (O'Shea, 2018; Bullen et al, 2021).

Our previous research in this area found WA and WP policy discourses broadly driven by social mobility (UK) and social accountability (Australia). However the current findings suggest governments and institutions in both countries approach WP medical students from

a deficit perspective (Coyle et al, 2021) and do not acknowledge the experiences of participants (Bennet and Lumb, 2019). Foregrounding the strengths that these diverse students can bring to the medical profession, moulded by their complex backgrounds and experiences, can work towards a reimagining of WA and WP, and might reshape selection, recruitment and education when it comes to the future of medicine. Razack et al (2015) call on policymakers to explicitly recognise the power dynamics at play between the profession and marginalised groups, suggesting a multi-pronged, transformative mode of promoting different kinds of excellence.

Future approaches to WP should seek to transform higher and medical education, engaging with methodologies that are social, messy and complex (Lumb et al, 2020) in creating dialectical spaces of ethical, inclusive and participatory meaning-making for the benefit of public good and social justice (Burke, 2012). Participatory action research (PAR) puts marginalised individuals and communities at the centre of these initiatives for change (Reason and Bradbury, 2001) and may facilitate inclusive, transformative medical education and a diverse, sustainable and workforce. National and institutional level policy needs to be put to practice in more socially accountable ways, foregrounding community context and prioritising public health needs. For example, a rural background may set a good precedent for returning to these areas to practice, but the profession needs to take responsibility for improving rural health outcomes, making rural and remote medicine a more attractive and viable option for graduates in both the UK (Dowell et al, 2015) and Australia (Hay et al, 2016; Worley and Murray, 2011).

Strengths and limitations

To the best of our knowledge, this narrative inquiry is the first time this methodology has been applied in the study of WP to medicine. Our aim was to capture detail within the storied meaning of a small number of individual experiences as opposed to a larger number of participants common in thematic approaches (Scanlan et al, 2018). This research was conducted at two medical schools in the UK and Australia, reflecting a small number of experiences in these specific contexts which while historically linked differ in respect of more recent political and economic occurrences: Individuals' experiences in other cultures and contexts will inevitably be different (Mbuzi et al, 2017). However, bringing an internationally comparative dimension to this area of research enabled illumination of

contextually located process, practices and experiences that might otherwise be taken for granted or remain unexplored.

There is a danger in writing about those who have been 'othered', and a need for qualitative researchers to be aware of their own power when conducting research to 'help' the other (Fine, 2003). In some unavoidable ways, this interpretation colludes in structures of domination, and it is the responsibility of the researcher to be up front about moral and ethical stance in the process of construction (Hunter 2010; Liamputtong and Ezzy, 2005). We attempted this by being transparent about our backgrounds and motivations for this work and providing clear methodology and interpretation that foregrounds the voices of participants as much as possible whilst protecting their identities in disseminating their experiences.

Conclusion

WP medical students experience complex and challenging journeys into medicine and we have yet to understand how they carry the long term impact of historical disadvantage and marginalisation into their future careers. Contextually relevant processes and practices should foreground learner-centred support and play to WP student strengths, engaging all stakeholders in prioritising both student retention and community health needs. Transformative medical education should rethink existing support structures, consider admission and selection processes that promote different kinds of excellence, and embrace diversity and inclusion in more socially accountable ways.

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Chapter 8: Discussion

Introduction

In line with a thesis with publication format, each of the four empirical studies within this thesis present individual discussions (see chapters 4-6). In contrast, this chapter offers a general discussion of the thesis as a whole, presenting key findings and contributions to the literature in relation to the overarching research aims. I then share critical reflections of the research design and process and consider the possible implications of the thesis findings on policy and practice. Finally, I make some key recommendations for future research and practice and close the chapter with some concluding remarks.

An international comparison provided a unique perspective, and historical similarities coupled with significant differences between the UK and Australia made for useful cross-context systems of comparison. I had the unique opportunity to spend a significant amount of time in institutional settings within both contexts, participating in and learning about the medical education community where possible and appropriate. In doing so I realised that achieving a better understanding of WP policy and its impact on practice meant first looking upwards and outwards at the large-scale systems and structures that work to construct and perpetuate the policy itself. Being positioned on an international stage was an ideal vantage point from which to explore how similarities and differences in WP policy and practice are shaped by a country's social, cultural, political and economic circumstances. I was interested in how WP in medicine is communicated at national (macro), interpreted at institutional (meso), and experienced at individual (micro) levels, and this formed the core aims of this comparative exploration of WP in medicine in the UK and Australia, which were:

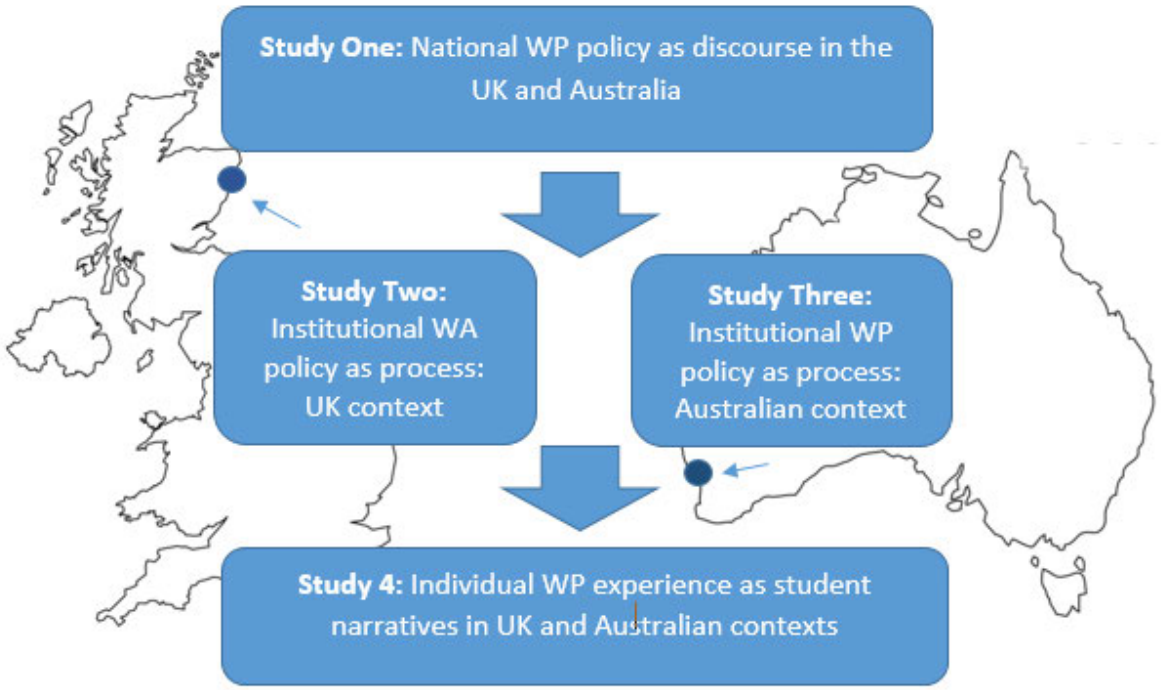
1. To develop a critical understanding of WP in medicine both within and between each context
2. To explore meaningful changes in the policies and practices of WP in medicine

The journey of this doctoral research began with the desire to expand knowledge about how WP to medicine is interpreted and experienced by the people who live it on a day-to-day basis. I wanted to know how medical school staff perceive WP policy and practice, and how WP students experience life into and at medical school and the systems and structures that

are in place to support them. This was the genesis of my research question(s) which aimed to address these gaps as identified in the literature. Using a comparative case study research design, I addressed my aims and research questions using qualitative approaches. Study One was successfully published in Medical Education, and there are plans to publish further papers based on findings from studies Two – Four. In brief, I reiterate these studies here (see figure 11 for a visual representation of studies One - Four):

- Study One (*Meritocratic and Fair?*). Guided by a priori themes based on the United Nations Sustainability Goals (2015), this cross-context exploration of national level policy documents examines how discourses of WP to higher and medical education are positioned, both within and between UK and Australian contexts.
- Studies Two (UK) and Three (Australia) - (*Following the Policy*). These studies use Actor-Network Theory (ANT) to attend to the sociomateriality of WP by documenting the connections between key human and non-human actors. Using institutional policy and admissions documents, as well as interviews with medical school staff and WP students, each study explores how institutional WP to medicine policy is enacted at locations in both the UK and Australia.
- Study Four (*Inclusion in an Exclusive World?*). This study focuses on the storied experiences of the journey into and at medical school for students from WP backgrounds in both the UK and Australia. It explores student's relationships with key actors (identified in studies Two and Three), finding shared meaning in their positive and negative experiences of communication, connection and support.

Figure 11. Visual representation of studies One - Four



Summary of main findings and key contributions to the literature

As previously mentioned, this body of work began with an exploration of the language used in national WP policy discourses. This meant stepping outside institutional case study settings to look at the bigger picture. How was WP talked about by government and by other nationally recognised UK and Australian organisations, and what might this mean for medicine in these contexts? These wider discourses will have an impact upon localised WP policy, and so my next step was to explore how institutional policy is enacted on the ground at a location in each country.

By following university and medical school WP policy as an actor, I was able to map and build a network of WP to medicine in each context. This highlighted key actors at play in both a UK and Australian setting, the strength and weaknesses of the relationships between them, and the tensions inherent between the 'traditional' actor-network of medicine and new policies and practices of WP. Competing priorities were evident, and the focal challenge centred on how best to support WP medical students achieve their goal of becoming doctors. Approaching this conundrum meant understanding more about WP students and their journeys into medicine. This required digging deeper into their experiences, bringing audiences closer to the storied lives of these students. The objective was to develop a

nuanced understanding of WP to medicine as lived experience, shedding light on the complex nature of this phenomenon and exploring opportunities for change and transformation.

National WP policy discourses in the UK and Australia: social mobility or social accountability?

An initial literature review highlighted a diverse set of approaches and focal groups when it comes to WP to medicine, evidently shaped by the different contexts and countries in which they operate. Understanding what underpins WP practices in each country meant examining the ways in which their governments and national and regulatory organisations use language to legitimise and perpetuate WP to medicine, as how it is conceptualised at a macro level will have a major impact on the ways it is understood, implemented and experienced 'on the ground' (Cleland et al, 2015). A critical approach to discourse analysis unveiled tensions between local and global goals of WP in the UK and Australia, and the power dynamics at play within and between institutions and the targets of their policies (Coyle et al, 2021).

Discourses of social mobility and individual responsibility dominate policy language within the UK higher education landscape, where international reputation within a competitive knowledge-based economy is a priority for institutions. Amidst fear of losing its position as a global frontrunner, the UK texts champion fair access to higher education for disadvantaged young people who have the ability to succeed. WA to medicine is predominantly influenced by its position in the higher education landscape, however the dominant discourses of social mobility and individual responsibility hold less traction when it comes to medicine. Workforce diversity and patient care come to the fore, and the medical profession is singled out for its failure to widen access to disadvantaged groups - 'Medicine has a long way to go when it comes to making access fairer, diversifying the workforce and raising social mobility' (Milburn, 2012a) is repeatedly cited in medicine-specific texts. However, equitable access is problematic - as a prestigious profession medicine has a high value within a competitive global market, where academic excellence and institutional reputation remain paramount to the UK's stronghold as a leader in the field. Conflicting drivers muddy the rationale for WP in medicine – social justice aims frame access arguments, but there is little in the way of concrete information or a tangible agenda that links WP to improving patient care.

The picture changes when it comes to Australia, where discourses of WP chiefly operate within a climate of social accountability – particularly for participation in medicine. Higher education as a social rather than economic good comes to dominates policy language, where the potentially destructive effects of globalism are recognised alongside its benefits in terms of WP. WP in medicine in Australia is heavily influenced by health-related institutional policy discourses as opposed to higher education settings, where affirmative action procedures contrast sharply with the UK's deficit approach. Social mobility is overshadowed by workforce diversity - rural origin students are streamlined and prioritised for entry to medicine, and emphasis is placed on extending the Indigenous health workforce. Better patient care as an outcome of WP is a distinct driver for improving access to the profession, where there is a clear link between rationale and desired outcomes of WP – Australia's healthcare priorities include supplying more rural doctors and improving the health outcomes of Aboriginal and Torres Strait Islanders. Excellence versus equity is not the concern here – Australian discourses of WP in medicine highlight the challenges of extreme social mobility for disadvantaged and marginalised students, whilst also recognising their strengths they might bring to the profession amid the subterfuge of a micro-class reproduction of privilege.

To the best of my knowledge this is the first study that explores contemporary discourses of WP to higher and medical education at an international level and compares findings between the UK and Australia. It adds a new perspective to a body of literature which includes studies examining policy influence on the discourses of higher education institutions in the UK (Graham, 2012; Bowl and Hughes, 2013) and discourses of Australian policy linked to inequality in secondary education (Kenway, 2013), as well as critical discourse analyses specific to WP in medicine in the UK (Alexander et al, 2017) and Canada (Razack et al, 2012, 2014, 2015).

Institutional WP policy enactment at medical schools in the UK and Australia: Competing priorities and key mediators

Understanding how WP in medicine operates at both the global and local means paying attention to how WP is culturally produced at multiple levels and across different contexts. Key to a comparative case study approach is the study of flows of influence, ideas and actions, exploring the cultural politics of policy as it plays out at multiple scales (Bartlett and

Vavrus, 2017). Attending to the vertical dimension of this research meant focusing on policy networks and policy mobility i.e. the ways that policy travels through assemblages of actors in fragments rather than as coherent packages (Ball, 2016), using analytical tools that show how people, objects and discourses are connected through policy (Bartlett and Vavrus, 2017). Actor-Network Theory (ANT) provided one such tool with which to map and build networks of WA to and WP in medicine using a sociomaterial approach, treating both the people who enact policy (human) and the policy texts and institutional actors (non-human) with equal analytical significance.

In studies Two and Three I followed local institutional WA/WP policy as a main actant in documenting connections and mapping networks of WA/WP in medicine. In the UK context this brought four actors into the network; staff and WA medical students, and high schools and the medical school itself. In the Australian context the same four actors were enrolled into the network, with the addition of the medical profession. It is worth reiterating here that although WA and WP are used somewhat interchangeably throughout this thesis and within the broader field, when following policy-as-actor there are clear differences in terminology between the UK and Australian contexts under study. WA is almost exclusively used in the UK institutional policy documents, whereas WP dominates the language within the Australian context. I do not profess to generalise this observation to other institutions in each country, but it makes for some interesting broader reflections as part of understanding and comparing WA and WP on an international scale.

In the UK context, the institutional policy and medical school represent a powerful relationship that appears to achieve their shared goals of equalising opportunity for WA students in line with social justice aims of fair access. High schools, lacking in appropriate resources, play a somewhat passive role, but the policy, medical school and WA applicants have worked hard at 'getting ready' and 'getting in' to medicine. However, in terms of 'staying in' and 'getting on' (Millburn, 2012a) the policy has little to say on the translation of WA medical students into doctors. WA policy enactment appears limited at the point of admissions without looking ahead to outcomes that challenge the profession and the 'traditional' actor-network of medicine it protects.

In Australia, policy drivers aimed at workforce diversity as well as fair access mean the medical profession exerts significant influence on the network of WP in medicine.

Affirmative action exerts the most power in this emerging network, and political and financial influences mean the medical school is accountable to both social justice and workforce diversity aims, being pulled in different directions due to multiple and competing priorities linked to markedly different entry pathways. In prioritising community need and improving patient outcomes in underserved areas, the profession risks negating the needs of its changing and diverse workforce. In both contexts it is the staff who become key mediators in the ongoing success of WP in medicine but who feel uncertain and unprepared in how best to support WP students, meaning WA/WP networks may fall short of retaining let alone graduating diverse doctors.

Academic excellence holds firm as an obligatory passage point in both UK and Australian networks, remaining a focal challenge for all actors and contributing to a tension between the 'traditional' actor-network of medicine and the new policy and practices of WA and WP. Universities and medical schools in both contexts are replete with competing priorities that are often in tension with practices aimed at greater inclusion - opening up medicine to embrace diversity will not happen without the deconstruction of entrenched processes and practices. Transformation requires a reimagining of the traditional actor-network of medicine, one which might promote different kinds of excellence (Razack et al, 2015).

With the exceptions of Cleland et al's (2015) study of WA policy enactment in UK medical schools, and our critical discourse analysis of UK and Australia's WP policies (Coyle et al, 2021), there is a dearth of literature that goes beyond the human to examine how policies and practices, spaces and places, assumptions and processes also drive WA and WP. These studies address this gap amid calls to bring more conceptual and theoretical frameworks to WA and WP research in medicine (Nicholson and Cleland, 2015). As far as I am aware these are the only studies that use ANT as a sociomaterial approach to examine WA and WP policy enactment.

WP medical student experiences in the UK and Australia: Mobility, misrecognition and medicine as a vocation

Studies One to Three explored WP in medicine policy and process at macro and meso levels both within and between each context. Uncovering (inter)national discourses of WP followed by mapping networks of institutional WP in medicine policy led me to what is

arguably the core focus of this research – the medical students from WP backgrounds who are the target of these policies and processes. A significant finding was a lack of knowledge and skills in how to support these students once in medical school, and as experts by experience they are best placed to share insights about 'getting in' and 'staying in' medicine. Narrative inquiry allowed for an in-depth perspective on their experiences, shedding light on how systems and structures work to help or hinder journeys into medicine. Focusing on a small number of students and their relationships with key actors identified in studies Two and Three provided a framework with which to explore and compare stories of WP in medicine within and between each country.

Study Four demonstrated how mobility related to place and space played a significant part in journeys into medicine in both countries, particularly for students from a rural and/or remote background. For a rural student from Australia, 'getting ready' meant relocating to the city for an adequate high school education, whereas in the UK outreach provided experiences and assistance in addition to teaching and support at a remote Scottish high school. The picture was similar for a UK student from an underperforming inner-city school who attended several local schools to access the subjects necessary for medicine - multiple and established initiatives delivered by or in tandem with UK higher education institutions work hard to equalise opportunity for disadvantaged students and support them in 'getting in' to medicine. High schools in both contexts lack the information and resources to support aspiring medical students, but preparation for medicine in Australia means leaving a rural life behind to access an adequate education, despite affirmative action procedures that admit 25% of rural origin students within each cohort. Medicine has yet a way to go before becoming a better signposted and well-trodden path for 'non-traditional' students.

In both locations the stories of students from ethnic minority backgrounds highlighted comparable experiences of misrecognition and microaggression. Individual behaviours and institutional practices rooted in classism, racism and ignorance frequently reinforced feelings of marginalisation in an often culturally unsafe environment. Diversity and inclusion agendas appear to be ignored or misunderstood - medical schools and the staff are concerned about giving WP students an unfair advantage over their peers by 'spoon-feeding' them, as seen in the experiences of Australian Indigenous students. Medical school selection and indeed teaching remains dominated by a 'white gaze' (Razack et al, 2015) - in

confronting elitist processes and practices ‘we need to stop kidding ourselves that our current actions and structures are fair and sufficient to address inequality of privilege’ (Cleland and Razack, 2021) if we are to avoid a micro class reproduction of privilege.

Key to success and ‘staying in’ medical school were building strong friendships and sharing positive peer group experiences in both personal and academic life. Students from similar backgrounds found comfort and safety with each other, and shared experiences created a sense of belonging and increasing confidence in the new world of medicine. Also central to many of the stories told by WP students was the importance of connection and continuity of support with key staff members, particularly when struggling with personal and family issues. Emotional support as well as person-centred practical help tailored to specific needs went a long way to establish a sense of security and stability in developing a new identity as a medical student. However, these experiences are not commonplace or uniform – staff themselves need better support and training and clear directives when it comes to effectively supporting WP students. In both the UK and Australia poor communication between separate centres and schools within universities is having a negative effect on student learning and support. Yet, despite the many challenges, WP students have a strong sense of self-belief and determination in becoming doctors, recognising the adaptive skills and strengths they can bring to the profession.

Narrative inquiry is an underutilised tool within the medical education sphere, and to the best of my knowledge this is the first application of this methodology in the study of WP in medicine. Exploring student journeys of WP as narrative allowed for a more complex and in-depth look into the myriad pitfalls and springboards that litter the road to medicine. Bringing together experiences from two distinct but comparable contexts enabled an alternative perspective on localised processes and experiences that might otherwise remain underexplored.

Critical reflections on the design and research process

This section considers the overall design and research process of this work, reflecting on my experiences, some general strengths and limitations, and how these relate to Sarah Tracy’s (2010) eight ‘Big Tent’ criteria for excellent qualitative research (see methodology (chapter

3, p111-112 for a table and detailed description). Each study presented in this thesis contains its own specific critical reflections, so these will not be reiterated here.

International two-centred case study

Explicit comparison has been underutilised in case study research, where a critical theoretical stance and attention to power and inequality are central to a comparative approach (Bartlett and Vavrus, 2017). The comparative aspect of this research is what is most unique about this work, and most significant in its contribution to the wider literature. Having the opportunity to conduct research in both the UK and Australia foregrounded the sociocultural aspects of looking at policy as practice, paying careful attention to policy formation and implementation as cultural and social processes. This experience as a researcher allowed me an eye-opening critical perspective when comparing and contrasting different contexts but was not without its challenges. From the beginning I felt like somewhat of a curious outsider. As a non-medic from a public/mental health and collective advocacy background I was new to medical education, and like many postgraduate students I frequently struggled with imposter syndrome. I had never been to Australia before beginning my PhD programme and knew far less about its policies and practices linked to higher education and healthcare. I relocated to Perth in May 2019 with a limited amount of time to get to grips with a new context - finding and setting up a home, building personal and professional relationships and adapting to a very different climate was no small feat. I was aware that being British and having Aberdeen as my 'home' institution would irrefutably shape the research process and outcomes, but similar to my 'outsider' position in the UK, I did my best to become an active part of the medical education community in both locations. Key conversations with new colleagues and at conferences, observing inreach activities at Aberdeen Medical School, participating in the Three Minute Thesis competition at Curtin, and attending Rural Immersion Week in Narrogin with Curtin Medial School (where students spend up to a week staying in and learning about rural communities in Western Australia) were crucial moments of learning for me. Likewise, volunteering as an interviewer for MMI's brought me into direct contact with medical school applicants and other members of the university and medical communities in both Aberdeen and Perth.

I was also keenly aware I knew very little about Aboriginal and Torres Strait Islanders before embarking on my doctorate, and this became all the more evident once I arrived in

Australia. Developing my knowledge was essential, not only for a broader understanding of policy and practice related to fair access and participation, but also when it came to exploring the experiences of individuals and communities. Awareness of my position in relation to a problematic history of western ways of knowing and research being done 'to' and 'on' rather than 'with' and 'by' Indigenous people was an initial step (Martin and Mirraboopa, 2003; Dudgeon, 2008; Kendall et al, 2011). The process of obtaining ethical approval to work with Indigenous Australians and an On Country trip to Pinjarra provided opportunities to learn about the local history of Aboriginal culture and the devastating impact of colonisation on communities. However, I had – and still have - much to learn about the historical marginalisation of Indigenous people, and it took some time to recognise and challenge my own ignorance and impatience when it came to wanting to hurry along my research. Below is a diary extract following a talk I attended at Curtin University by Dr Marilyn Metta about her experience with an Indigenous women's group in Fitzroy Crossing, Western Australia:

' Trying to step away from my thoughts and feelings as a Westerner – a white Brit no doubt – has been very interesting. Seeing my irritability and impatience with the 'cumbersome' process of ethics for example – wanting to tick boxes, get it done. Having conversations with Jon and [other university staff] have been so useful and inspiring – reminding me why I am doing what I am doing. DON'T RUSH THINGS!!' (Reflective journal, 8/11/2019)

Reflecting on my thoughts and actions in this way and taking detailed notes following interviews and experiences all contributed to rich rigour, resonance and sincerity in terms of the quality of the work (Ortlipp, 2008). Extensive time and effort spent in the field, and honesty and transparency about my background, biases, goals and personal foibles all played a role as part of a reflexive research process and shaped the outcomes, implications and ideas for future research (more information on researcher context can be found in the introductory chapter of this thesis, p17 - 18).

Part of a lengthy research process across two continents also resulted in the accumulation of a large supervisory team based in several international locations. Whilst at times challenging in terms of maintaining regular and effective communication with all team members, I was lucky to have the input of multiple supervisors, each with expertise that was essential in improving and refining this thesis. I was the first and only postgraduate student

at Curtin Medical School, and part of the second cohort of students in the newly formed Aberdeen/Curtin Alliance programme. The first cohort were yet to graduate, and so there was a real sense of figuring things out as we went along and muddling through enrolment and administrative requirements. Through this process I made great friends with Alliance students in other disciplines and schools at both Curtin and Aberdeen and was warmly welcomed and supported as a fellow member of staff at Curtin Medical School.

Methodology

I began this research journey wanting to focus on the experiences of medical students who are the target of WP policies and practices. However, I recognised that these experiences are inextricably embedded within broader systems and structures, and so it took time to build up to workable research questions that would contribute to a more comprehensive understanding of WP in medicine. Combining national level policy documents, institutional WP policy texts, and interviews with both staff and students allowed for triangulation of up to four data sources in two comparative contexts, lending credibility, multiple dimensions and meaningful coherence to the research as a whole (Creswell, 2013; Patton, 2002; Bogdan and Biklen, 2007). I considered other stakeholders as data sources, for example members of medical selection committees and other 'traditional' medical students, but constraints on time, access and resources constrained these possibilities. In addition, by limiting my 'human' data sources to medical school staff and WP students I was able to focus more keenly on what I believe are key players in explicating the processes and experiences of WP in medicine.

As well as multiple data sources I also considered alternative data collection methods. Focus groups, whilst clearly unsuitable for an in-depth understanding of medical student journeys into medicine, were a possibility for medical school staff. This method provides a researcher with information about how a group thinks about a topic, documenting a range of ideas and opinions and highlighting inconsistencies of beliefs between members of a community (Creswell, 2013). In practice this was to prove a challenge – diverse members of a medical school staff community with multiple responsibilities and commitments are rarely available to participate simultaneously. WP can also be a sensitive topic and the hierarchical structure of higher educational communities may lead to some viewpoints remaining unexpressed. Individual interviews were therefore the best approach, and to aid thick description and

dependability I took detailed post-interview field notes to supplement the data (Lincoln and Guba, 1985). This allowed me to reflect upon more rich and contextual data as part of data analysis and interpretation, as well as modifying later collection procedures as part of an iterative process.

This comparative case study paid explicit attention to the horizontal and vertical dimensions of research – i.e., across two different locations and at three different scales in both the UK and Australia (see figure 6, p81). Tracing the transversal axis within comparative research can add an extra dimension by exploring how a phenomenon has changed over time (Bartlett and Vavrus, 2017). A longitudinal approach to this study was considered in both policy document analysis and student interviews. In Foucauldian discourse analysis, both contextual and historical factors are important considerations (Hodges et al, 2008), however the range and volume of documents produced in relation to WP over the last century in each country was extensive. Limiting comparative analysis to the preceding ten years was manageable for this project and provided a snapshot of recent developments in WP to higher education and medicine (Coyle et al, 2021). When it came to WP student interviews, my initial plan was to conduct follow-up interviews up to one year later, but time restraints linked to travel and contextual factors meant this was not possible and I decided to focus on WP experiences at one point in time.

In addition to multiple data sources and collection methods, a significant strength of this thesis is its grounding in theory and use of conceptual lenses (Bordage, 2009). Taking a critical constructivist stance enabled me to explore how power operates to regulate discursive practices (Lemke, 1995), expose processes that promote social and educational advantage and disadvantage (Brosio, 2000) and illuminate individual 'truths' via the interpretation of marginalised experiences (Kinchloe, 2005). Within this paradigmatic framework I drew on critical discourse analysis, actor-network theory and narrative inquiry as sensitising lenses through which to view data from hitherto under-theorised perspectives and in response to calls to bring more conceptual and theoretical frameworks to WA and WP research (Nicholson and Cleland, 2015). Alternative forms of discourse analyses were considered for study One, and several conceptual lenses were explored in light of both staff and student interview data (see appendix M for a table of theoretical lenses considered for studies Two and Three). Ultimately, ANT provided a unique way of viewing WA to and WP in

medicine as a sociomaterial network of processes and relationships but it was not without its challenges as I had to get to grips with a very new and different way of thinking about this research and phenomenon.

Covid 19

Finally, it is impossible to ignore the inevitable impact of a global pandemic on the research process, and on the lives of everyone around me. A lengthy national lockdown was imposed in March 2020 just as my interview data collection was beginning to take place in Australia. After the initial disruption began to settle I was able to move to online interviews with the majority of staff members and some of the students. There was a lot of fear and uncertainty however, and people's personal and professional lives suddenly became very unpredictable. Moving to online teaching was a huge task for everyone at the medical school, and many people were feeling the effects of unexpected stress and isolation. Screen fatigue was a struggle for many participants, and connection issues were a common problem in those early days. It was an advantage being in Western Australia – Perth is one of the most isolated cities in the world, and life returned to relative normality after the initial lockdown. We were able to return to campus in July 2020 and my interviews were able to resume face to face, and conversations about the pandemic and its impact on student's lives became an additional feature of interviews. I made the decision to stay in Australia until my data collection was complete in October 2020 and I spent just shy of 18 months instead of the planned one year in Perth. Coming home to the UK was a culture shock, both because I had been away so long and because home was now a very different place. I was not yet used to social restrictions and face masks and catching Covid being a daily worry. My life in Aberdeen was very isolated and working from home was to be the norm for the rest of my PhD journey. Repeated lockdowns meant I could rarely leave the city, and I worried constantly about my aging parents living in London. Like many people, this all took a toll on my mental health, and amid delays to the research process I was able to take advantage of extensions granted to my PhD programme.

I still miss those impromptu conversations with colleagues, and inspirational moments at conferences and events that are so often unplanned. I'm sure my thesis would look very different had the pandemic not happened – I might have made different choices and come to different conclusions. Despite the struggles the experience has been a major learning

curve, and there have been unexpected benefits too. Thanks to video call software becoming a normalised form of communication I am now far better connected to friends, colleagues and family members who live in other parts of the world, and there is sense of us all going through something together. I am now far more resilient and self-sufficient than I used to be and feel all the more grateful for the opportunities I had as part of this research programme. For now it feels like were are coming through the worst of it – in the UK at least – and I look forward to taking full advantage of opportunities that might come my way in the future.

Implications for policy and practice

Context is Key

Taking a comparative case study approach from an international standpoint is perhaps the standout feature of this thesis, providing both UK and Australian contexts with an opportunity to reflect on the influence of national and local stakeholders in policy and practice development. It explicitly foregrounds the importance of culture and context in exploring and deciphering the phenomenon of WP in medicine, where reflecting on policy, process and experience may help unveil new and alternative perspectives (Coyle et al, 2021).

An understanding of culture in this way emphasises the importance of examining processes of a phenomenon in distinct settings and in relation to systems of power and inequality (Bartlett and Varus 2017). Culture is an active, productive process of sense-making - 'culture does not do things to people; rather, people do things, and one important thing they do is make meaning' (Anderson-Levitt, 2012, p.444). Both culture and context are a critical component of learning, assessment and evaluation, bridging the intersection between education and care provision in medicine (Ward and Diug, 2021). However, context remains an underutilised tool of analysis within medical education (Bates and Ellaway, 2016), and is largely obscured as a defining factor within WP in medicine research (see Cleland et al, 2015 and Coyle et al, 2021 for notable exceptions). Context matters - it is fluid and allows a sense of place 'which includes a consciousness of its links with the wider world, which integrates in a positive way the global and the local' (Massey, 1991, p.28). Importantly, the history and nature of marginalisation in a country must be explicitly considered in considering how best

to empower disadvantaged groups within WP agendas, and I reiterate here the need for caution in extrapolating lessons from one context to another; policies, practices and experiences in other cultures and contexts will inevitably be different (Mbuzi et al, 2017). However, moving from 'not seeing' to 'seeing' may help facilitate change by illuminating factors that might otherwise remain taken for granted or unexplored.

Widening access or widening participation?

As highlighted within the introduction of this thesis, WA and WP are often used interchangeably within this thesis, and within wider literature and practice - see p 16 for a reminder of Nicholson and Cleland's (2015) definition of these terms.

As previously mentioned, in study Two WA is almost exclusively used in the UK institutional policy documents, whereas WP dominates the language within the Australian context in study Three. This warranted a linguistic definition of these words, i.e. access (noun); *the method or possibility of getting near to a place or person*, or *the right or opportunity to use or look at something*, and participation (noun); *the fact that you take part or become involved in something*, or *the act of taking part in an event or activity* (Vale et al, 1996). Reflecting on these definitions with our first study of policy discourse (Coyle et al, 2021) in mind further illuminates the importance of language and how it shapes the way we think and talk about widening access and participation.

Further to study One, emphasis one 'access' is evident in study Two. In both terminology and findings, it is a common discourse in the UK context where the focus is on 'getting ready' and 'getting in' to medicine in terms of equalising opportunity for disadvantaged students in selection and admission procedures (Milburn, 2012a; Milburn 2012b; Cleland et al, 2012). In study Three, 'participation' is the language used in the Australian context, where 'getting ready' has less traction, and 'getting in' and 'getting on' have a stronger impact on the process of WP – the medical school must admit a more diverse cohort of students in response to mandates based on workforce and community need. Despite Australia's socially accountable aims of fair representation and affirmative action policies, and the UK's well-developed initiatives that work hard at fair access and getting students over the line and into university, both contexts appear to be falling short of adequately supporting students when it comes to 'staying in' medical school. Medicine is a lengthy and

expensive degree that is high-risk and draws heavily on personal resources for many disadvantaged and marginalised students. Retention is the key to progression and indeed 'getting on' in WP, and research and practice should focus on measures that will effectively prepare WP students for a medical career.

The need for a whole system approach

'Widening participation in' rather than 'widening access to' is perhaps the preferred, or more accurate terminology for describing the aims of the policies, practices and philosophies of this field, and one I have come to use most frequently within this thesis. An early WP study made calls to eschew top-down policy implementation framed as student access and adjustment to higher education in favour of participation as a radical rethink aimed at cultural change for the needs of a diverse student population, where 'institutions are required not only to recruit, but also to retain and certify the student group. Few would be comfortable with a policy that allowed access only to follow it with failure' (MacDonald and Stratta, 2001, p.257). This holds true more than twenty years later, and yet knowledge about how to facilitate the retention and progression of WP students remains opaque in higher education and medicine.

In study One, a 'level playing field' is a frequently cited metaphor and meritocratic ideal proffered as a way for disadvantaged individuals to fully realise their aspirations within a neoliberal marketplace in the UK, but there is inherent tension as to who is responsible for achieving these changes. Organisational accountability is somewhat diluted by the emphasis on individual responsibility when it comes to mobility, despite the attribution of deficit to people from disadvantaged backgrounds when it comes to the knowledge, skills and capital needed to prosper in higher education and medicine (Coyle et al, 2021). In Australian texts, widening participation is framed as 'a whole system effort', key to community and nation building, where universities and other professional bodies are called on to take responsibility for driving WP policy and practice within a collaborative environment.

The findings of this thesis indicate that in both UK and Australian contexts, WP students are still framed within discourses of deficit which in turn misframes WP as a set of activities focused on changing individual attitudes towards a set of hegemonic values imposed from a position of privilege to be 'included', with little attention to the entrenched historical and

intergenerational social and cultural inequalities that persist for 'non-traditional' groups (Burke, 2020). This both privileges certain identities and values legitimised by institutions and places the responsibility of facilitating WP on staff who themselves are often marginalised by institutionalised hierarchies, obscuring the ways that educational structures, cultures and practices tend to be reproductive of inequalities rather than transformative for social justice (Burke, 2012). Higher education needs to be repositioned as a vehicle for social justice with the potential to become inclusive, redistributive and equitable as part of an ongoing, cyclical, iterative and dynamic process that requires deep forms of critical reflexivity within and between powerful organisations and institutions (Burke, 2020).

Findings here and elsewhere indicate that, whilst individual educators can make a difference, WP must go beyond the individual person or institution and be addressed at wider and deeper levels. Addressing structural inequalities asks what institutions can do to make themselves more inclusive and navigable for all students, as well as staff and the wider community (Naylor and Mifsud, 2019), shifting responsibility for change away from individual students and localised WP programmes to all actors within the institution (Devlin and McKay, 2014). However, tasking higher education providers with mediating the tension between the need for continuing investment in teaching and research, and diverting resources to support students from under-represented backgrounds may be a problematic strategy given the persistence of the excellence versus equity debate (Reed et al, 2015; Shah et al, 2011; Whiteford et al, 2013). There is no one solution - WP in medicine is a complex and wicked problem, requiring multi-level and multifaceted responses amid a culture of collaboration (Cleland et al, 2018; Apampa et al, 2019), and should for example include both Indigenous knowledges (Bond et al, 2019) and public health leaders (Stansfield et al, 2020) as part of a whole system approach to improving community health outcomes. Attending to structural inequalities and the redistribution of resources and opportunities means a political reframing of equity through the representation of hitherto marginalised voices, perspectives and experiences.

Recommendations for future research and practice

A whole system approach to WP means shifting from solely individual or institutional responsibility in redressing disadvantage and inequality to methodologies and practices that bring people together across 'communities of praxis' (Burke, 2020). Transformative praxis-oriented approaches require explicit connections between research and practice and demand methodologies that address issues of inclusion and exclusion within research design, breaking down hierarchical barriers between research, theory and practice (Burke, 2012). The ways that WP is constructed in policy and practice has major implications for inclusion and participation, and all stakeholders need to have access to the tools and resources available through research that enable the complexity of WP-related issues to be exposed at social, economic, cultural and discursive levels. Razack and Philibert (2019) explored diversity, equity and inclusion in clinical learning environments and found engagement with all stakeholders, particularly vulnerable learners, to be key to developing best practice in the design of policies and processes. Challenging deep-rooted inequalities means engaging with critical, feminist and post-structural theories as a way of questioning these inequalities in terms of redistribution and recognition, providing opportunities for collaborative research that engages academics, practitioners, policy-makers and students together through research designs and processes that are sensitive to issues of power (Burke, 2012).

In taking a critical constructivist stance towards the research presented in this thesis I have attempted to illuminate how powerful discourses and relationships shape and are shaped by policy directives and localised processes of WP to medicine. Disrupting the status-quo means integrating macro, meso and micro levels of analysis and understanding, creating a space where institutions and individuals at all levels work together within a climate of effective communication, transparency and collaboration. Participatory Action Research (PAR) connects research, practice and experience with policy directives, combining action and reflection with the participation of myriad stakeholders who seek practical solutions, allowing transformation of those stakeholders and their communities as a result of the research process (Reason and Bradbury, 2001). Community-based participatory action research has been useful in organisational and education contexts, aiming to develop equitable and sustainable relationships within an intersubjective space, where stakeholders

are required to meet in the middle (Vivona and Wolfgram, 2021; Dierckx et al, 2021; Kemmis, 2006). PAR approaches may be particularly relevant within WP for shifting existing research paradigms towards prioritising Indigenous voices and ways of knowing through the co-creation of knowledge with Indigenous communities (Peltier, 2018), and can foster more patient-centred research via collaborative partnerships between patients, carers, clinicians and academics (Witteman et al, 2018).

Narratives of WP medical students exposed experiences of feeling 'othered' and unsafe in higher education and medical school settings, particularly for Indigenous Australian and ethnic minority students. Staff appear poorly trained and unprepared in terms of facilitating an inclusive environment, and cultural competence approaches are criticised for reflecting embedded ethnocentrism, perpetuating entrenched biases, and failing to recognise the multiple and diverse expressions of Indigenous identity and lived experience (Carey, 2015; Berger and Miller, 2021). Instead, the concept of cultural safety as a tool can have a significant impact on the way policy, practices and services are developed at an institutional level within health and education fields (Brascoupé and Waters, 2009). However there is still much to be done before cultural safety becomes the norm in universities (Rochecouste et al, 2014). More powerful stakeholders must take responsibility for the retention and progression of Indigenous and other marginalised student groups in both higher education and medicine. There needs to be explicit acknowledgement of the role both institutions and individuals can play in improving educators' capacity to engage effectively and appropriately with Indigenous students across both Indigenous and non-Indigenous-specific curriculum contexts (Bullen et al, 2021).

Bringing to light diverse narratives of WP as experienced by historically disadvantaged students in medicine foregrounded the complexity of individual identities and differential experiences of marginalisation. Further research should continue to explore WP student experiences in more depth – better understanding of the effects of intersectional disadvantage within and between equity groups may encourage structural change and create support systems sufficient to lead to higher education completion (Grant-Smith et al, 2020). Adopting an intersectionality framework within medicine scrutinises how medical institutions constrain or enable the critique of power structures, and challenges individuals working and learning within those spaces to analyse their own privileges, practices and

pedagogy to advance social justice (Sharma, 2019; Kingsley et al, 2021). Recognition of systemic, intersecting inequities in professional medical culture begins by examining exclusion and discrimination in medical education, training and workplace experiences (Samra and Hankivsky, 2021). Few studies have examined the role of implicit and explicit bias on the lack of diversity in healthcare, and how they operate through medical culture (Marcelin et al, 2019), but intersectionality and reflexivity skills training can make medical students and doctors aware of how their own values and experiences shape their professional identities and approaches to patient care (Muntinga et al, 2016; McLean, 2012; Bochatay et al, 2021).

Historically elite networks such as medicine should be encouraged to question taken-for-granted assumptions that reinforce inequalities and misrecognitions in access to medical education. Rather than looking at ways to bring diverse students into alignment with their more traditional peers, they should focus instead on subjecting themselves to change and transformation in a climate of social accountability (Gewirtz, 2001; Archer and Leathwood, 2003). Redistributing agency and power in WP should put the student at the centre of medical education development and strengthen their relationships with other actors, acknowledging the complexities of their identities and the need for a nuanced approach to support. Razack et al (2015) call on policymakers to explicitly recognise the power dynamics at play between the profession and marginalised groups, suggesting a multi-pronged, transformative mode of promoting different kinds of excellence.

Little is known about WP medical students once they achieve their goal of becoming doctors. How do they experience the transition into the medical profession and what postgraduate training opportunities do they undertake? What about those who leave medicine before graduation or in their early foundational years – why and how does this happen? There is a growing body of work that centres on the evaluation of WP programmes and initiatives at the point of access and participation, but what about progression? Future research should centre on longitudinal studies that continue to follow WP student journeys into professional practice.

Concluding remarks

Social mobility based on educational attainment is mired by assumptions of deficit and reproductive of an oppressive class system of privilege. However, social justice aims point to diversity and fair representation in education, including the opportunity to become a doctor for students from 'non-traditional' backgrounds. Outstanding academic achievement remains a core component of access and participation, where medicine clings to meritocratic and elitist ideals, and has yet to embrace the idea of different kinds of excellence. More Indigenous doctors are essential for better patient care for marginalised communities in Australia, and PAR research approaches might be useful here, but the workforce argument for other under-represented groups is less understood. Notions of a rural or urban identity are less clear in terms of what this means for better medicine in underserved areas in both the UK and Australia, and similar to equity/low SES and indeed standard entry students - they are not limited in their choices of post graduate training and employment.

Current seeing of WA and WP in medicine as one phenomenon borne out of an enmeshment of rationales and as yet opaque outcomes impedes effective progress. It is much more complex than that, and significantly determined by contextually relevant circumstances. National and institutional level polices need to make explicit the links between the drivers for WA to and WP in medicine and desired outcomes if we are to better understand how and why we arrive at the successes we hope for, and the results we get. This will only happen with explicit recognition of context, better understandings of process and experience, and the equal engagement of all stakeholders.

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Appendices

Appendix A: Staff interview guide

Exploring widening access to medicine in the UK and Australia

Interview guide – staff/stakeholders

Initial comments

- Thank you for volunteering for this study
- You have been asked because your point of view is important
- You must be busy and I appreciate your time
- Despite being recorded, I would like to assure you that the discussion will be anonymous

Introductions

- Researcher introduces themselves
- Revisit information sheet
- Any questions before we start?

Questions - general

- Can you tell me a bit about yourself and your role?
- Can you describe your key responsibilities and/or interests in relation to medicine and medical education?

About WA policy and practice

- Are you aware of the universities position/policy on WA/WP to higher education?
- What are your thoughts on WA, particularly to medicine?
- Are you aware of any WA/WP to medicine initiatives at the university? What are your thoughts on these?
- What do you believe are the purposes of such initiatives? How do the initiatives attempt to address any issues perceived to disadvantage WA/WP students?
- How do you think WA/WP to medicine works in practice at the university? Do you think WA/WP policy/guidance translates well into practice? Why?

About students

- The key focus of this research is how medical students from widening access backgrounds experience the journey into and at medical school. Do you have any initial thoughts on that?
- From your perspective, do particular types of students seem to fit in more easily/feel like they belong?
- In your opinion, are there any particular/additional challenges or barriers that medical students from WA/WP backgrounds experience once they get in to medical school and begin their studies? Have you got any thoughts on how to address these?

- What can you tell me about the support in place for medical students? Is there specific/extra support for WA students? Is it adequate in your opinion?
    - both official and unofficial
    - health, financial, academic etc.
- From your perspective, are there any changes you would like to see when it comes to WA/WP to medicine?

Closing questions

- Of all the things we've discussed today, what would you say are the most important issues?
- Is there anything you would like to add in relation to what we've been talking about?

Conclusion

- Thank you for participating
- Administer personal details questionnaires

Appendix B: Student interview guide

Exploring widening access to medicine in Australia and the UK

Interview guide – students

Initial comments

- Thank you for volunteering for this study
- You have been asked because your story is important
- You must be busy and I appreciate your time
- Despite being recorded, I would like to assure you that the discussion will be anonymous

Introductions

- Researcher introduces themselves
- Revisit information sheet
- Any questions before we start?

Questions

- Can you tell me a bit about yourself? (what you were doing before med school, why this university, family etc.)
- Can you tell me about your journey into medical school?
    - Why did you decide to enter medicine?
- What did you think/expect that medical school would be like before you started? Has it been what you expected? How? Why?
- How do you feel as a medical student from a WA/WP background? Can you tell me about your experiences so far?
- Are you aware of any support systems in place for medical students, particularly those from WA backgrounds? Can you tell me anything about these?
    - Health, financial, academic etc.
    - Official and unofficial
- Can you tell me a bit about your wider support system outside medical school?
    - Family, friends, partner, community, religion
- How do your friends and family feel about you going into medicine?
- How do you balance school and personal life?
- If you could transform the journey into and at medical school, so that it worked better for you and other students, what changes would you make?
- Is there anything I haven't asked that you would like to add, in relation to the things we have been discussing?

Conclusion

- Thank you for participating
- Administer personal details questionnaires

Appendix C: Consent form

CONSENT TO PARTICIPATE

Research Supervisors: *Professor Jennifer Cleland**,** University of Aberdeen, and Professor Sally Sandover, Curtin University*
Researcher: *Maeve Coyle*

Please initial the following as appropriate:

☐ I have read and understood the information sheet on the above study and have had the opportunity to discuss the details with the researchers and ask questions.

☐ My participation in the project is entirely voluntary

☐ I am free to withdraw from the project at any time without any disadvantage

☐ I have the right to decline to answer any interview question(s) that I do not wish to answer

☐ The recordings will be kept in accordance with research governance policies and any raw data will be retained in secure storage

☐ The results of the project may be published but my anonymity will be preserved

☐ I agree to take part in this study

Name of participant: ……

Signature of participant: …… Date: ……..

I confirm that I have explained the nature and purpose of the studies to be undertaken to the participant named above.

Name of Researcher: ……

Signature of Researcher: …… Date: ……..

Appendix D: Staff participant information sheet

Exploring widening access to medicine in the UK and Australia

INFORMATION SHEET

We would like to invite you to take part in a research project.

Background
Widening access (WA) policy and practice within medical education is aimed at encouraging and supporting potential students from non-traditional backgrounds into the profession. However, certain groups of people remain under-represented in medicine worldwide. For those applicants from WA backgrounds who do successfully navigate their way through the selection process, little is known about how they experience medical school.

What is the purpose of this study?
This study aims to achieve an in-depth, qualitative understanding of widening access to medicine at centres in the both the UK and Australia.

Participants
Relevant stakeholders and staff members who have experience and/or interest in the policies and practices of widening access to medical education.

What will be expected of me?
We invite you to take part in a face-to-face or telephone interview, which will last for approximately 30 minutes. The interview questions are semi-structured and will ask about your viewpoints around the policies, practices and student experiences of WA to medicine. You will also be asked to complete a short 'personal details questionnaire' at the end so we can define the characteristics of our participants.

What are the possible disadvantages or risks of taking part?
We do not anticipate there being any potential harm or discomfort or any benefit to participants.

Are there any possible benefits?
The information you give us will contribute useful research to the discussion around widening access to medicine, with a view to encouraging and supporting meaningful changes in the philosophies, policies and practices of WA.

Do I have to take part?
No, taking part is voluntary. If you would prefer not to take part you do not have to give a reason. If you take part but later change your mind you can withdraw at any time. There will be no disadvantage to you if you withdraw or decide not to take part.

What happens to any information that you obtain?

The discussions will be audiotaped and uploaded to data management software. During this process, all participants will be assigned a false name to ensure anonymity and the tapes will be kept in accordance with research governance policies. The recordings and transcripts will be kept securely in a locked filing cabinet. We will also collect anonymous information about your demographic characteristics. These questionnaires will also be kept in a locked filing cabinet. Only the research team will have access to this data.

Any verbatim quotations that are used in written reports will have false names assigned to them and we will not use any quotes that might identify the speaker in any written reports.

The University complies with the Data Protection Act and all information will be treated with the strictest confidence. Only those involved directly with the study will have access to the information you have provided.

What if participants have any questions?

If you have any questions about our project, either now or in the future, please feel free to contact:

Maeve Coyle

Telephone +447787575419

Email r03mc18@abdn.ac.uk

Professor Jennifer Cleland

Tel: 44 (0) 1224 437257

Email: jen.cleland@abdn.ac.uk

Appendix E: Student participant information sheet

Exploring widening access to medicine in the UK and Australia

INFORMATION SHEET (STUDENTS)

We would like to invite you to take part in a research project.

Background
Widening access (WA) policy and practice within medical education is aimed at encouraging and supporting potential students from non-traditional backgrounds into the profession. However, certain groups of people remain under-represented in medicine worldwide. For those applicants from WA backgrounds who do successfully navigate their way through the selection process, little is known about how they experience medical school.

What is the purpose of this study?
This study aims to achieve an in-depth, qualitative understanding of widening access to medicine at centres in the both the UK and Australia.

Participants
First year medical students who self-identify as being from a WA, or non-traditional background.

What will be expected of me?
We invite you to take part in a face-to-face interview, which will last for approximately 1 hour. The interview questions are open-ended and will ask about your journey into medical school, and your experiences and feelings around this topic. You will also be asked to complete a short 'personal details questionnaire' at the end so we can define the characteristics of our participants. We would also like to interview you again in a similar way, approximately 1 year from now.

What are the possible disadvantages or risks of taking part?
We do not anticipate there being any potential harm or discomfort or any benefit to participants.

Are there any possible benefits?
The information you give us will contribute useful research to the discussion around widening access to medicine, with a view to encouraging and supporting meaningful changes in the philosophies, policies and practices of WA.

Do I have to take part?

No, taking part is voluntary. If you would prefer not to take part you do not have to give a reason. If you take part but later change your mind you can withdraw at any time. There will be no disadvantage to you if you withdraw or decide not to take part.

What happens to any information that you obtain?
The discussions will be audiotaped and uploaded to data management software. During this process, all participants will be assigned a false name to ensure anonymity and the tapes will be kept in accordance with research governance policies. The recordings and transcripts will be kept securely in a locked filing cabinet. We will also collect anonymous information about your demographic characteristics. These questionnaires will also be kept in a locked filing cabinet. Only the research team will have access to this data.

Any verbatim quotations that are used in written reports will have false names assigned to them and we will not use any quotes that might identify the speaker in any written reports.

The University complies with the Data Protection Act and all information will be treated with the strictest confidence. Only those involved directly with the study will have access to the information you have provided.

What if participants have any questions?
If you have any questions about our project, either now or in the future, please feel free to contact:

Maeve Coyle
Telephone +447787575419
Email r03mc18@abdn.ac.uk

Professor Jennifer Cleland
Tel: 44 (0) 1224 437257
Email: jen.cleland@abdn.ac.uk

Appendix F: Staff questionnaire

Staff personal details questionnaire

To help us define the characteristics of our sample of participants, please answer the following questions. This is an anonymous questionnaire, so please do not write your name anywhere on the questionnaire. Answer in the spaces provided, or tick the appropriate boxes. If you prefer not to answer a question just leave it blank.

1. What is your role?

2. How long have you held this role?

3. Please can you state and/or describe your self-identified ethnic/cultural background

4. Please can you state and/or describe your self-identified social class background

5. Please can you tell us how old you are

6. Are you: (please tick as necessary)

Male	
Female	

Thank you for taking the time to complete this questionnaire

Appendix G: Student questionnaire

Exploring widening access to medicine in the UK and Australia

Personal details questionnaire

To help us define the characteristics of our sample of participants, please answer the following questions. This is an anonymous questionnaire, so please do not write your name anywhere on the questionnaire. Answer in the spaces provided, or tick the appropriate boxes. If you prefer not to answer a question just leave it blank.

1. Please briefly state and/or describe how you self-identify as a student from a widening access background (for example rural and remote, equity, indigenous, care leaver etc.)

2. Please can you state and/or describe your self-identified ethnic/cultural background

3. Please can you state and/or describe your self-identified social class background

4. Please can you tell us how old you are

5. Are you: (please tick as necessary)

Male	
Female	

Thank you for taking the time to complete this questionnaire

Appendix H: Curtin approval

Research Office at Curtin
GPO Box U1987
Perth Western Australia 6845
Telephone +61 8 9266 7863
Facsimile +61 8 9266 3793
Web research.curtin.edu.au

17-Dec-2019
Name: Sally Sandover
Department/School: Curtin Medical School
Email: Sally.Sandover@curtin.edu.au

Dear Sally Sandover

RE: Ethics approval

Approval number: HRE2019-0833

Thank you for submitting your application to the Human Research Ethics Office for the project

Exploring widening access to medicine in the UK and Australia: An international comparison.

Your application was reviewed by the Curtin University Human Research Ethics Committee at their meeting on **03-Dec-2019**.

The review outcome is: **Approved**.

Your proposal meets the requirements described in National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research (2007).*

Approval is granted for a period of one year from **17-Dec-2019** to **17-Dec-2020**. Continuation of approval will be granted on an annual basis following submission of an annual report.

Personnel authorised to work on this project:
Name Role
Sandover, Sally CI
Coyle, Maeve Student

Standard conditions of approval
1. Research must be conducted according to the approved proposal

2. Report in a timely manner anything that might warrant review of ethical approval of the project including:
   - proposed changes to the approved proposal or conduct of the study
   - unanticipated problems that might affect continued ethical acceptability of the project
   - major deviations from the approved proposal and/or regulatory guidelines
   - serious adverse events

3. Amendments to the proposal must be approved by the Human Research Ethics Office before they are implemented (except where an amendment is undertaken to eliminate an immediate risk to participants)

4. An annual progress report must be submitted to the Human Research Ethics Office on or before the anniversary of approval and a completion report submitted on completion of the project

5. Personnel working on this project must be adequately qualified by education, training and experience for their role, or supervised

6. Personnel must disclose any actual or potential conflicts of interest, including any financial or other interest or affiliation,that bears on this project
7. Changes to personnel working on this project must be reported to the Human Research 7. Ethics Office

8. Data and primary materials must be retained and stored in accordance with the Western Australian University Sector Disposal Authority (WAUSDA) and the Curtin University Research Data and Primary Materials policy

9. Where practicable, results of the research should be made available to the research participants in a timely and clear manner

10. Unless prohibited by contractual obligations, results of the research should be disseminated in a manner that will allow public scrutiny; the Human Research Ethics Office must be informed of any constraints on publication

11. Ethics approval is dependent upon ongoing compliance of the research with the Australian Code for the Responsible Conduct of Research,the National Statement on Ethical Conduct in Human Research, applicable legal requirements, and with Curtin University policies, procedures and governance requirements

12. The Human Research Ethics Office may conduct audits on a portion of approved projects.

Special Conditions of Approval
This letter constitutes ethical approval only. This project may not proceed until you have met all of the Curtin University research governance requirements.

Should you have any queries regarding consideration of your project, please contact the Ethics Support Officer for your faculty or the Ethics Office at hrec@curtin.edu.au or on 9266 2784.

Yours sincerely

Associate Professor Sharyn Burns

Chair, Human Research Ethics Committee

Appendix I: Aberdeen approval

-----Original Message-----
From: do-not-reply@abdn.ac.uk <do-not-reply@abdn.ac.uk>
Sent: 26 November 2018 01:07
To: Cleland, Jennifer <jen.cleland@abdn.ac.uk>
Subject: Application Exploring widening access to medicine in the UK and Australia (CERB/2018/10/1661): Approved

Application No. CERB/2018/10/1661
Title: Exploring widening access to medicine in the UK and Australia Authors Maeve Coyle

Dear Maeve,

Thank you for submitting the revisions to your application. These have now been considered by myself and the administrator/myself and the reviewers, and we find them satisfactory. I am happy to grant ethical approval for this project on behalf of the committee. [there is a grammatical error that should be corrected in external communications - see below; no need to submit amendments]

https://w3.abdn.ac.uk//clsm/cerb/Admin/ApplicationAdmin.aspx?AppID=1661&LockID=ADVnPSoMZbho68nqMg%2fSarOpI%2fns8Pjk7bY887NAWu4%3d

Kind regards,
Charles Harrington
Deputy Chair CERB

COMMENTS:

[No further comments recorded by reviewers]

In the student information sheet and other amended documents, you should make changes in punctuation in several cases where the following text is included. "...refer to those who: normally wwww; do xxxx; do yyyy; and do zzzz." (colon after who rather than semi-colon ahead of a list of examples).

Appendix J: Content analysis of UK and Australian documents

UK						
Document/Date	**Author**	**Target Audience**	**Type/sources of information**	**Purpose**	**Context**	**Selected sections of text**
Unleashing Aspiration: The Final Report of the Panel on Fair Access to the Professions (2009)	NGO - Panel on Fair Access to the Professions (18 representatives from a range of professions)	Government and the professions	Analysis and evidence gathering from a wide range of sources, followed by formulation of 88 recommendations	Recommendations for action by professionals, government and others – primarily about forming new partnerships for action, with little or no cost to government (given fiscal context)	2008 economic recession Government's white paper – New Opportunities (2009), set out proposals aimed at an economic upturn and ensuring all members of society have a fair chance to benefit. The report also established the Panel on Fair Access to the Professions	Foreword by the Chair (p5-8) Chapter 6.3: Widening participation further (p93)
Research Report: Identifying best practice in the selection of medical students (2012)	Regulatory Agency - General Medical Council (Commissioned research)	GMC, medical schools, Medical Schools Council, departments of health	Modified systematic review of selection literature, realist review of WA literature, website survey, interviews with Admissions Deans, typology evidence assessment	Defines, analyses and critiques evidence on and approaches to selection and WA to medicine, making recommendations for future policy and actions	Commissioned by GMC to examine evidence on selection methods and WA initiatives at medical schools Conceptually underpinned by GMC's Tomorrow's Doctors report (2009) and Good Medical Practice, and the Schwartz report - Fair admissions to higher education: Recommendations for good practice (2004)	Executive summary (p3) Introduction (p6-8) Chapter 7. The effectiveness of widening access initiatives used by medical schools to promote fair access (p49-82)
Fair Access to Professional	NGO - Independent	Government, the professions,	Team took evidence from wide range of	Stocktake of progress since Unleashing	Builds on Unleashing Aspiration report and the	Foreword and summary (p1-7)

Careers (May 2012)	Reviewer on Social mobility & Child Poverty	employers, Ofsted, universities, statutory regulators, trade unions	sources and organisations, including; desk work, call for evidence, b-live survey, evidence hearings, bilateral evidence	Aspiration (2009), restating case for fair access to professions and why it matters	work of the Panel on Fair Access to the Professions (2009). Change in Government in intervening years, but social mobility 'remained a core social policy point', emphasised in the Government's social mobility strategy document 'Opening Doors, Breaking Barriers: A strategy for Social Mobility (2011)	Introduction (9-11) Chapter 4: Progress in the medical profession (p43-49)
University Challenge: How Higher Education can Advance Social Mobility (Oct 2012)	NGO - Independent Reviewer on Social mobility & Child Poverty	Universities, schools, government, careers services	Team took evidence from wide range of sources and organisations, including; desk work, call for evidence, university deep dives, roundtable discussions, survey, bilateral evidence	The aim of this report is to suggest how universities can become part of a wider national effort to advance social mobility, and makes several recommendations, particularly for government	Significant rise in tuition fees under Coalition Government in 2012. Graduates will only have to pay back student loan once they research minimum earning threshold, but proportion of young people applying to university fell for the first time since 2006, especially from those living in most disadvantaged areas	Foreword and summary (1-9) Introduction (11-17)
Selecting For Excellence Final Report 2014	NGO - Medical Schools Council	Medical schools, Health Education England and equivalent bodies in the devolved administrations, Association of UK University Hospitals,	Gathered information from wide array of sources, seeking out best practice and analysing data to establish what works from access programs	Sets out plans for future policy development in selection for medicine and makes several recommendations for target audience	Criticisms towards WA to medicine in Fair Access to Professional Careers report (2012) led to summit on what medical schools will do in response	Introduction (p1-2) Executive summary (p4-5) Chapter 2. Widening participation (p35-50)

		General Medical Council, Royal Colleges, UCAS, Higher Education Statistics Agency	in medicine and elsewhere Took an evidence based view of policy development and commissioned research around selection		GMC became aware of major diversity in selection methods and commissioned the review – Identifying best practice in the selection of medical students (2012)	Appendix A: Supporting widening participation in medical schools: Best practice indicators (p71-74). Research and Engagement (p75)
Green Paper - Fulfilling our Potential: Teaching Excellence, Social Mobility and Student Choice(Nov 2015)	UK Government - Department for Business Innovation and Skills	Higher education stakeholders including statutory and quasi-statutory bodies, higher education providers, students and employers	Consultation contains proposals 'to reshape the higher education landscape to have students at its heart', including plans to drive social mobility via increasing higher education participation by disadvantaged and under-represented groups Invites views and responses from everyone with an interest in higher education	Core aims are to raise teaching standards, provide greater focus on graduate employability, widen participation in higher education, and open up the sector to new high-quality entrants	The cap on student numbers was lifted in 2015 Government's productivity plan - Fixing the Foundations: Creating a more prosperous nation (2015) – aims to improve skills UK Commission for Employability and Skills (UKCES) surveys demonstrate skills shortages and a need for divisive action to rebalance the economy Nation Student Survey (NSS) gives insight into course and teaching quality Research Excellence Framework (REF) already receives significant recognition and funding,	Foreword (p8-9) Introduction and executive summary (p10-17) Annex A: Equality analysis (p80-87)

					and the new Teaching Excellence Framework (TEF) aims to do the same for teaching. The new Office for Students (OfS), based on 2011 reforms, aims to put students at heart of the system. Equality Act 2010 means the Department for Business Innovation and Skills (BIS) is legally obliged to give due regard to equality issues when making policy decisions	
A Blueprint for Fairness: Final Report of the Commission on Widening Access (March 2016)	NGO - The Commission on Widening Access (Scotland)	Scottish government, commissioner for fair access universities, Scottish funding council, local authorities, schools	Issued a Call for Evidence (June 2015), reviewed existing evidence, commissioned a literature review on barriers to fair access, held consultation events and meetings, held expert groups, took presentations from key stakeholders including students, care leavers, experts and practitioners	Proposes 34 recommendations for a system-wide plan aiming to support Scotland to achieve the goal of equal access for those from deprived backgrounds or with care experience	In the 2014-15 Programme for Government the Scottish Government set out its ambition 'that every child, irrespective of social background, should have an equal chance of accessing higher education.' – The Commission on Widening Access was established to advise Ministers on the steps necessary to achieve this	Chair's foreword (p2-5) Executive summary (6-19) Agenda for the future (p68-73)
Selection Alliance Report 2017	NGO - Medical Schools Council Selection Alliance	Medical School Council and UK medical schools	The Selecting For Excellence Final Report (2014) supplied the template for this (first) report from the	An update on the Medical Schools Council's work in selection and widening participation reporting on progress on the	Since Selecting for Excellence report (2014) new policy drivers have influenced Selection Alliance's work;	Introduction (p3-6) Chapter 2: Data monitoring Research into

			Medical Schools Council Selection Alliance, citing new developments in widening participation and new policy drivers	implementation of recommendations	qualification reform, 1,500 new UK medical school places, shortage specialities, a changing regulatory environment (TEF), and health and disability	widening participation (p25)
Indicators of good practice in contextual admissions 2018	NGO - Medical Schools Council Selection Alliance	Government, Medical Schools Council, universities and medical Schools	Information based on the understanding of current effective measures as a result of work by the Selection Alliance	Aims to provide an approach to and indicators of what might work best when a medical school considers its approach to contextual admissions	Fair Access to Profession Careers (2012) report, Selecting for Excellence Final Report (2014), establishment of MSC Selection Alliance and its work on contextual admissions all formed the basis of this report	Entire report (p1-11)
Australia						
Document/Date	**Author**	**Target Audience**	**Type/sources of information**	**Purpose**	**Context**	**Selected sections of text**
Final Report (2008)	Review of Australian Higher Education: Expert Panel (Bradley Review) - initiated by Australian Government	Australian Government, Australian Education International, higher education providers, higher education financing system	National consultations, stakeholder meetings, received 450 responses and submissions from individuals, organisations and institutions	To set targets and recommend major reforms to the structure, financing and regulatory frameworks for higher education	The Commonwealth, state and territory governments agreed to work together to halve the proportion of Australians aged between 20 and 64 years without qualifications at the certificate III level and above between 2009 and 2020 – nearly 6.5 million people. This report is one of the activities underway to set the policy framework to address this target	Executive summary (xi-xvii)

Review of Higher Education Access and Outcomes for Aboriginal and Torres Strait Islander People Final Report (2012)	The Panel of the Review of Higher Education Access and Outcomes for Aboriginal and Torres Strait Islander People (Initiated by Australian Government)	Governments, higher education sector – especially universities, schools employers, professional organisations, research agencies, vocational education and training sectors, Aboriginal and Torres Strait Islander communities	Consultation process with the sector - every public university in Australia, Notre Dame in Broome. Met with and received submissions from vice chancellors, senior university representatives and Aboriginal and Torres Strait Islander students, graduates and staff	To provide evidence and make recommendations to the Australian Government on higher education access and outcomes for Aboriginal and Torres Strait Islander people	Follows on from Bradley Review (2008) by proposing measures that address the significant gap between Aboriginal and Torres Strait Islander and non-Indigenous Australians' higher education outcomes. Closing the Gap agenda - Government commitment to address Aboriginal and Torres Strait Islander disadvantage and improve lives across six areas relating to health, early childhood development, education and economic participation	Ministerial Foreword Executive summary (p9-16) Introduction (p1-2) Context (p3-10) What are we trying to achieve? (p11-14)
A Plan for Better Health Care for Regional, Rural, and Remote Australia (2016)	Australian Medical Association	The Commonwealth, Government	Policy and research reports	Sets out main challenges facing health care in regional, rural and remote Australia, and what actions are needed by the Government in addressing these	Cites current issues as context; closure and downgrading of rural hospitals seriously affecting future delivery of healthcare in rural areas, distribution of doctors skewed heavily towards major cities, significant infrastructure limitations in rural areas	Entire report (p1-8)
Fair Connection to Professional Careers: Understanding	National Centre for Student Equity in Higher Education	Government, policymakers, communities, schools, all relevant	First section examines ten research reports, funded in 2016 by the NCSEHE, which	To collate and promote research that continues contributes to an evidence base and	Third publication of the series 'Informing Policy and Practice'. $1.4 million made available by the	Foreword (p4) Preface (p5-10)

social difference and disadvantage, institutional dynamics and technological opportunities (2017)		stakeholders linked to higher education	collectively form policy and practice to maximise the access, transition and successful completion of university by students from disadvantaged backgrounds. Second section introduces overviews of Equity Fellows Program	inform discussions how student equity policy and programs should be developed	NCSEHE for 34 research projects undertaken by Australian universities and other research organisations, demonstrating how to improve participation and success in higher education	
		Government, policymakers, communities, schools, higher education sectors, professions	Sociological, qualitative and statistical research findings from 2016 Equity Fellowship project (2016)	To explore the complex social and educational factors implicated in the underrepresentation of non-traditional students in high-status professions.	Cites both the Bradley Review (2008) and two UK documents (included in this analysis) - Unleashing Aspiration (2009), and Fair Access to Professional Careers (2012) – as key foundations in the production of this report.	Key findings (p6) Chapter 1: About the Fellowship and this report (p7-8) Chapter 2: Research on fair connection to high status professions (p9-18) Chapter 5: Views from the National Consultation (p43-53)
Annual Report 2017-18	Australian Health Practitioners Regulatory Agency (AHPRA)	Government, National Boards, stakeholders in Australia's health sector	Performance data for all National Boards on accreditation, registration, notifications, legal	Provide information on delivery of core regulatory functions in order to protect the public, administer	2017 saw the development and launch of a shared commitment between Aboriginal and Torres Strait Islander	The National Boards: Protecting the public:

			services, compliance, and financial statements	national law, endure registrants are qualified, work with stakeholders, uphold professional standards, identify and respond to risk, and use appropriate regulatory force	health leaders, AHPRA, the National Boards and accreditation authorities. The National Scheme Aboriginal and Torres Strait Islander strategy statement of intent is a commitment to achieve equity in health outcomes between Indigenous and non-Indigenous Australians to close the gap by 2031	Aboriginal and Torres Strait Islander Health Practice Board of Australia in 2017-18 (p14) Medical Board of Australia in 2017-18 (p16-17) Registration (p37) Community and engagement (p66-67)
Annual Report 2017-18	Australian Government: Department of Health	Government and relevant stakeholders	Evidence based policy, targeted programs and best practice regulation	Reporting on and setting outcomes for health systems, policy, access and support services, regulation, aged care and sport and recreation outcomes	Report prepared in accordance with section 46 of the Public Governance, Performance and Accountability Act 2013 for presentation to parliament. It contains information specific to the Department required under other legislation including the National Health Act 1953 and Human Services (Medicare) Act 1973 Department assisted the Government in developing the $550 million Stronger Rural Health Strategy in 2017-18	Secretary's review (p4-9) Chief Medical Officer's report (p11) Outcome 2: Health access and support services – Program 2.3: Health workforce (p48-50) Part 3: Management & Accountability – Part 3.2: People (p146)

Annual Report 2018	Australian Medical Council (AMC)	Government, community, relevant stakeholders in Australia's health system and services including the Medical Board of Australia and Australian Health Practitioner Agency, Health Professions Accreditation Collaborative Forum, Council of Presidents of Medical Colleges, Leaders in Indigenous Medical Education	Supported by the work of standing committees, expert panels and working parties in monitoring, advising and overseeing the operation of the AMC and its functions	Provided financial statements for the AMC, information on AMC's corporate governance arrangements, performance in carrying out its functions, and important events and activities in 2017-18	Development of a more visible and effective strategy for engagement with Indigenous Australians – leading to the creation of an Aboriginal, Torres Strait Islander and Maori Health Statement that recognises Indigenous peoples as First Nations peoples, and includes First Nations people's perspectives in the work of the AMC	From the President (p2) From the CEO (p3) Strategic priorities (p9) Promoting Aboriginal, Torres strait islander and Maori health (p3) 2017-18 highlights (p11-12)

Appendix K: University WA initiative criteria for medicine (adapted from University of Aberdeen webpages, Feb 2021)

Initiative	Description	Criteria
Reach	The Reach Programme provides information, advice and guidance on applying for professional degrees. The project supports S4-6 pupils to make informed choices about university study.	Resident in a SIMD20 (Quintile 1) or SIMD40 (Quintile 2) postcode area according to the Scottish Index of Multiple Deprivation Care experienced A young carer - i.e. you look after a relative with a disability, illness, or addiction Estranged - i.e. living without a family support network Eligible for free school meals A refugee or asylum seeker Resident in an area considered to be Remote & Rural (5-8 on the 8 fold Urban Rural Classification).
Gateway 2 Medicine	G2M course comprises elements of the University of Aberdeen's longstanding Certificate in Pre-medical Studies **and** the HNC/HND in Applied Sciences provided by North East Scotland College (NESCOL). Course delivery and student support will be shared by NESCOL and by University of Aberdeen and supports your learning with: small-group learning a dedictated G2M tutor who will work alongside and support you throughout the course paid work experience Up to £2000 bursary to support your studies	Academic Entry Criteria: A minimum of 4 Highers at AABB over one or two sittings (over S4-S6). This must include any two sciences from Chemistry, Maths, Biology/Human Biology and Physics or; National Certificate Level 6 Applied Sciences Group award, to be achieved with 18 credits plus a science Higher at grade A achieved over one academic session and accompanied by a suitable reference from course tutor. Eligibility Criteria: Applicant is resident in an area with a postcode which falls within the lowest 20% of the Scottish index of multiple deprivation (SIMD) or; Applicant is a young person who is care experienced (young person in care/care leaver) OR - meets a minimum of three from the below list: Applicant comes from one of Scotland's REACH schools First generation applicant to higher education

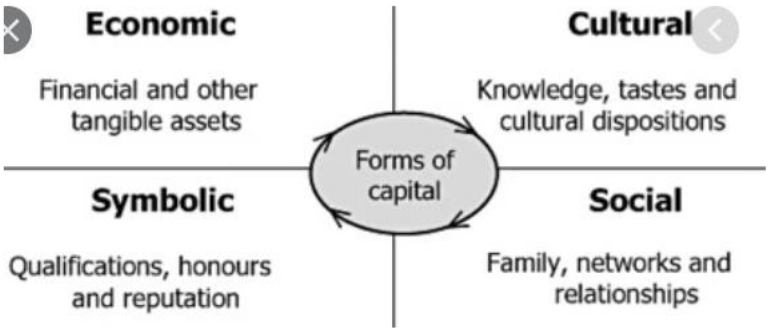
	Work Experience: NHS Grampian has committed to support our G2M programme by guaranteeing Healthcare Support Worker-level paid employment. Progression to Medicine: Students are **guaranteed** a place on year 1 of the University of Aberdeen medicine programme (MBChB) providing they: fulfil the academic criteria to be awarded the Cert HE in Pre-Medical Studies perform satisfactorily at the MBChB Multiple Mini Interviews (MMIs)	Applicant is a young person who is formally classed as a carer Applicant eligible for free school meals at any point in secondary education Applicant lives in an area that is considered to be (4) Remote Small Town (5) Very Remote Small Town, (7) Remote Rural, (8) Very Remote Rural as classified by the Scottish Goverment 8 fold Urban Rural Classification (URC) Applicant is estranged from their family Applicant is eligible for the Educational Maintenance Award Applicant can provide verifiable independent evidence (e.g. from School Head Teacher) of severe sustained financial hardship that is not reflected in current SIMD categorisation Prior to secondary school, the applicant was not schooled in English (e.g. the applicant did not speak English when starting secondary school).

Appendix L: University special entry (WP) pathway criteria for medicine (adapted from Curtin University webpages, May 2021)

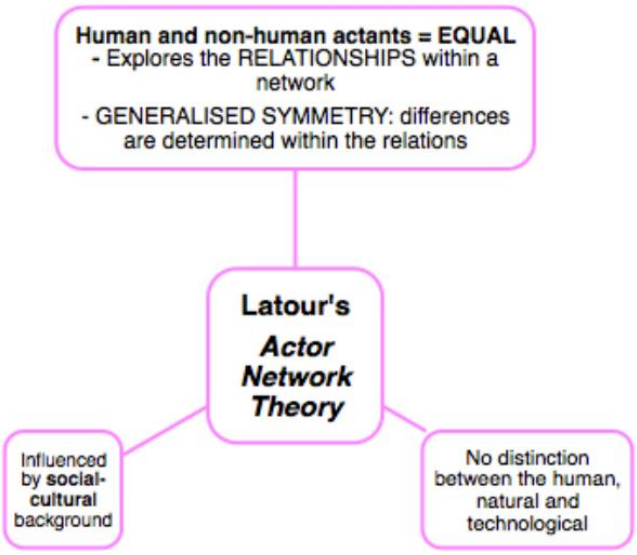
Special entry pathway	Description	Criteria
Rural	Up to 25 per cent of places are allocated to Western Australian applicants from a rural background. Applicants who meet the Rural entry criteria will only compete for places with other eligible rural applicants. **Adjustment Schemes** Applicants eligible for a Rural place will receive up to a maximum of five additional adjustment points to their ATAR, course weighted average or Notional ATAR, through CMS (Medicine)'s Rural adjustment scheme or Curtin's StepUp bonus scheme (applicable to Western Australian school leavers only). Rural applicants will only be eligible to receive adjustment points from one scheme. The maximum adjusted ATAR will be 99.95 **Proof of Origin** Applicants will be required to submit documentation confirming their proof of rural background origin, to be completed by a recognised member of their community, confirming the applicant meets the criteria for this scheme.	Rural applicants are those who, as of 31 December prior to the admission year, have spent at least 10 years cumulatively or any five years consecutively in an area with an Australian Statistical Geography Standard remoteness category (ASGS) RA 2-5 since the commencement of primary school (Year 1 onwards). The time frame is based on the location of an applicant's primary residence. To be classified as a rural student, applicants must be Western Australian school leavers, Curtin course switchers or graduates.
Equity	Applicants who meet the Equity entry criteria will only compete for places with other eligible Equity applicants. **Adjustment Schemes** Applicants eligible for an Equity place will receive up to a maximum of five additional adjustment points to their ATAR, through either Curtin's StepUp Bonus Scheme or the CMS (Medicine)'s Equity adjustment scheme.	Equity places are available to Western Australian school leavers who are completing or have completed their entire year 12 study in a school with an Index of Community and Socio-Educational Advantage (ICSEA) score of 1,000 and below averaged over the last three years. These schools are usually located in communities that have a high concentration of students from disadvantaged backgrounds with limited numbers of students accessing higher

	Equity applicants will only be eligible to receive adjustment points from one scheme.	education. These communities are also the target areas for increasing the supply of general medical practitioners. Equity places are also available for Western Australian school leavers who are classified as experiencing financial hardship (they are receiving Youth Allowance, or their parent or guardian is receiving a Commonwealth Income Support or Commonwealth Means tested Assistance Payment).
Aboriginal and Torres Strait Islander	Places are available to applicants of Aboriginal and Torres Strait Islander descent. Applying directly to CMS (Medicine), and applicants using the Indigenous Pre-medicine and Health Sciences Enabling Course as an entry pathway	Applicants are not required to submit a TISC application or sit the UCAT ANZ. Those applicants using the Indigenous Pre-medicine and Health Sciences Enabling Course as an entry pathway are required to successfully pass all units in the course. All applicants will be required to obtain a Confirmation of Aboriginality prior to application.

Appendix M: Theoretical lenses considered

Theory/concept	Description/main ideas
Bourdieu Capital Theory **Key reference:** Bourdieu, P., 1984. *Forms of capital: General Sociology, Volume 3: Lectures at the Collège de France 1983 - 84*, Polity Press.	• Cultural and material factors contribute to educational achievement • Uses the concepts of types of capital to explain why the 'middle class' are more successful in higher education – their abilities/interests are more valued and rewarded in the current system • Bourdieu's theories and concepts are gaining popularity in medical education and in the literature on WA to medicine • However, some view Bourdieu's emphasis on the embodied nature of capital, with its subjugation of personal agency, as a means of understanding perpetuating embedded social inequalities rather than providing support for social change • Forms of capital are interrelated and combine to contribute to socio-cultural disadvantage for underrepresented groups – contributes to social stratification and micro-class reproduction of privilege 
Intersectionality **Key reference:** Hankivsky, O. and Jordan-Zachery, J.S. eds., 2019. *The Palgrave handbook of intersectionality in public policy*. Basingstoke: Palgrave Macmillan.	• Analytical framework for understanding how aspects of a person's social and political identities combine to create different modes of discrimination and privilege. Examples of these aspects include gender, caste, sex, race, class, sexuality, religion, disability, physical appearance, and height • Intersectionality identifies multiple factors of advantage and disadvantage. These intersecting and overlapping social identities may be both empowering and oppressing • A qualitative analytic framework developed in the late 20th century that identifies how interlocking systems of power affect those who are most marginalized in society and takes these relationships into account when working to promote social and political equity • Intersectionality opposes analytical systems that treat each oppressive factor in isolation

	
Actor Network Theory **Key reference:** Fenwick, T. and Edwards, R., 2010. *Actor-network theory in education*. London: Routledge Taylor & Francis Group.	• Everything in social and natural worlds exists in constantly shifting relationships • Objects, ideas processes etc equally involved and have equal agency in creating social situations as humans – both non-human and human 'actors' • ANT holds that social forces do not exist in themselves, and therefore cannot be used to explain social phenomena. Instead, strictly empirical analysis should be undertaken to 'describe' rather than 'explain' social activity. • Material-semiotic approach – maps relations between things and concepts simultaneously • Actors come together to create temporary networks creating assemblages of relations forming a collective – an 'actant' • Constructivist approach – initially developed in the field of science and technology studies • Can be used in study of policy/comparative case study as part of a vertical comparison along scales • Used to explain the specific materialising processes through which policymaking actually works to animate educational knowledge, identities and practices • Aim is to map and build the network by documenting connections between actors – several questions can be helpful to frame this: what spaces do policies travel through on the way from one place to another? Who is it that is active in those spaces and who moves between them? How is space/are spaces reconfigured as policies move through it/them and how are policies changed as they move?



Activity Theory

Key reference:
Bakhurst, D., 2009. Reflections on activity theory. *Educational review*, *61*(2), pp.197-210.

- Also known as Socio-Cultural Activity Theory (CHAT)
- Originated in early 20th century Russia as a way of understanding human action and human learning – taking into account not just the individual but also their social and cultural context
- Has been used as a post hoc way of elaborating the findings of an initial inductive thematic analysis by implementing a top-down analysis using the principles of third generation AT. This looks at how different activity systems interact with each other and is called activity systems analysis
- Using social theory in this way can add depth to results, pulling together seeming disparate themes into a more cohesive, explanatory framework – e.g identification of competing activities and contradictions that arise when they clash. Important aspects of each activity could conflict with aspects of the other activity, forcing subjects to negotiate a solution when faced with two activities simultaneously.
- Tensions can arise within or between systems and negotiating these contradictions and conflicts is part of moving forward and harnessing the creative potential of AT to facilitate social change
- Creating something entirely new from resolving tensions and contradictions is called expansive learning

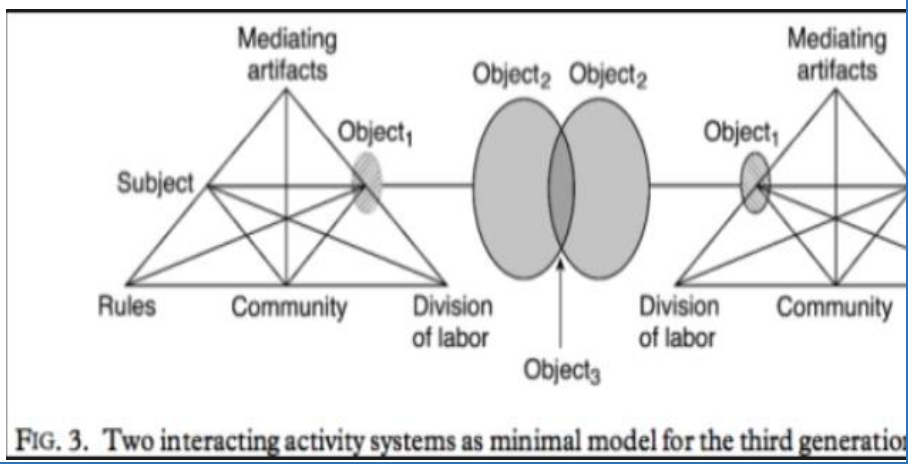
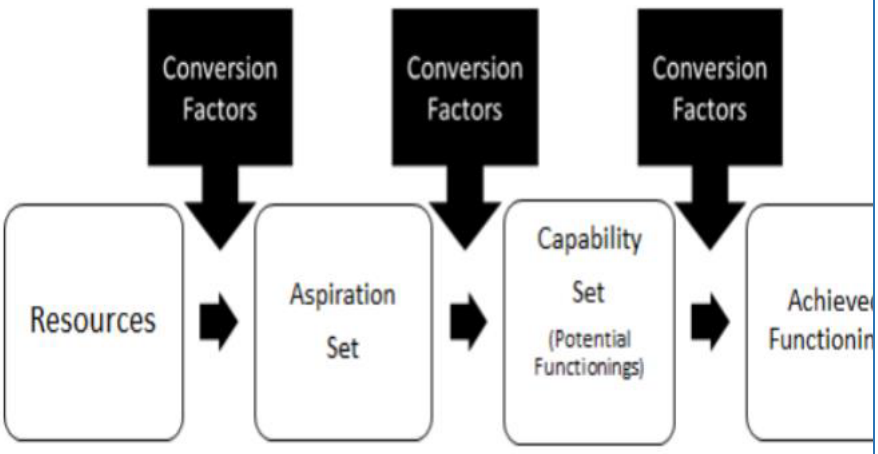
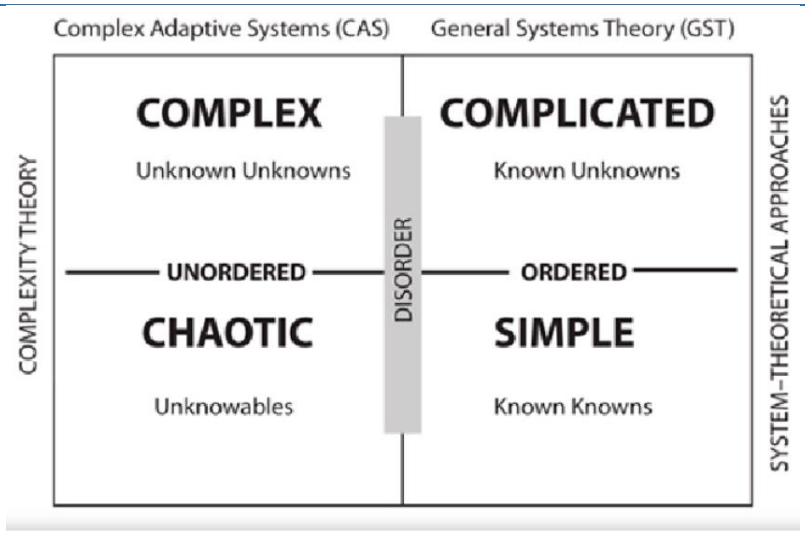
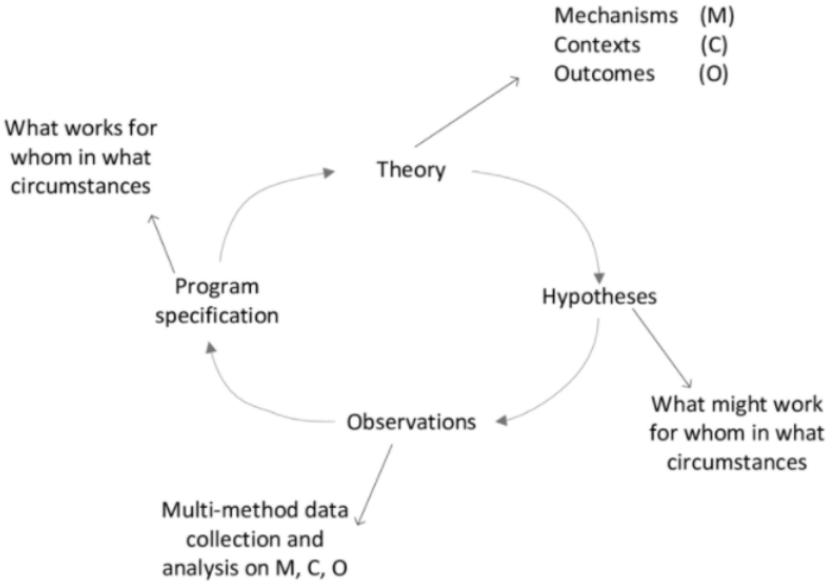


FIG. 3. Two interacting activity systems as minimal model for the third generatio

Capability approach **Key reference:** Walker, M. and Unterhalter, E., 2007. *Amartya Sen's capability approach and social justice in education*. Springer.	• Approach to assessing wellbeing-has its origins in economic and human development work • Developed as a framework of equality metrics by Sen and later Nussbaum • Can ask how higher education contributes to forming a society that is free, fair and equal in how it provides individuals to realise their full potential to choose and lead a good life • There has been increasing recognition within general education that the capability approach offers a theoretical and practical framework to both implement and evaluate educational interventions that are designed to increase social justice – Widening participation in these terms is understood as widening capability • Potential for the capability approach to also offer medical education a creative way for changing and evaluating curricula • The capability approach in education emphasises the teacher facilitating students to achieve their potential by recognising their aspirations and challenging the constraining factors to achieving their aspirations. The process and core concepts of the capability approach (modified after Hart 2012) : 
Complexity/ wicked problems **Key reference:** Waddock, S., Meszoely, G.M., Waddell, S. and Dentoni, D., 2015. The complexity of wicked problems in large scale change. *Journal of Organizational*	• Complexity is concerned with complex systems and problems that are are dynamic, unpredictable and multi-dimensional, consisting of a collection of interconnected relationships and parts. Unlike traditional 'cause and effect' or linear thinking, complexity theory is characterized by non- linearity. • Complexity theory can have wide application in health and education systems – it can inform clinical practice and model decision making • Requires shifting in focus from discrete phenomena and activities to interactions and connections between them • Key issue is how is transformational learning achieved by applying a conceptual framework through which complex situations, systems and contexts can be better understood

Change Management.	 • 'Wicked problems' are one way of looking at/applying a theoretical framework of complexity • They are complex in nature, have innumerable causes associated with multiple social environments and actors with unpredictable behaviour and outcomes, and are difficult to define or even resolve. • Frameworks of complexity theory and wicked problems can help medical educators consider selection and widening access to medicine through fresh eyes to guide future policy and practice. • A lens of 'Wickedity' can frame the key issues in this area, and then address steps that education stakeholders might take to respond to and act on these issues. **Characteristics of Wicked Problems** ❑ Cannot be exhaustively formulated ❑ Every formulation is a statement of a solution ❑ No stopping rule ❑ No true or false ❑ No exhaustive list of operations ❑ Many explanations for the same problem ❑ Every problem is a symptom of another problem ❑ No immediate or ultimate test ❑ One-shot solutions ❑ Every problem is essentially unique ❑ Problem solver has no right to be wrong
Realist Enquiry/ Evaluation **Key reference:**	• Seeks to establish what works, for whom, in what circumstances, in what respects, to what extent, and why • Grounded in realism – acknowledges the existence of an external social reality and the influence of reality on human behaviour

Dalkin, S.M., Greenhalgh, J., Jones, D., Cunningham, B. and Lhussier, M., 2015. What's in a mechanism? Development of a key concept in realist evaluation. *Implementation science*, *10*(1), pp.1-7.	• Context is important in terms of understanding outcome – mediated by mechanisms • Mechanisms are the underlying entities, processes or social structures that operate in particular contexts to generate outcomes of interest • Certain contexts in the social word trigger mechanisms to generate outcomes: context + mechanism = outcome • Social programmes change the resources or opportunities available to participants and therefore change the contexts for participants – and so mechanisms can be identified by asking what about a programme generates change. • Realist evaluation begins by adopting or formulating a 'middle-range' theory about a programme or phenomenon based on existing evidence, literature and policy, formulating 'hypotheses' about the phenomenon, gathering data to test this, and further developing theory 

Activity log

Date/Location	Title	Provider/Host	Attended/Presented
11th-13th April 2018 Melbourne, Australia	2nd International selection in health professions conference	Monash University	Attended
26th and 27th April 2018 Edinburgh	8th International Scottish medical education conference	NHS Education for Scotland	Attended
24th and 25th August 2018 Basel, Switzerland	Rogano 2018	Maastricht University, Netherlands	Presented – 'Research Dilemma'
22nd October – 25th October 2018, Toronto, Canada	Qualitative Atelier: An Introduction	University of Toronto Faculty of Medicine	Attended
13th November 2018 UCL London	Med Ed PhD student get together	UCL (Kath Woolf)	Presented – 'My PhD research and background'
14th November 2018 Quakers Friends House, London	RME Why Methodology Matters	ASME (Friends House, Euston, London)	Attended
20th November 2018, Suttie Centre, University of Aberdeen	MMI selector Training	University of Aberdeen	Attended
29th & 30th November 2018, University of Aberdeen	SMMSN PGR Conference, Winter 2018	University of Aberdeen	Presented – 'International Research Challenges' Winner of 1st year session
6th December 2018, CHERI, UoA	CPD session and team building	CHERI	Attended
14th, 17th and 19th December 2018, 21st January and 6th & 7th February 2019, Suttie Centre, University of Aberdeen	MMI interviews	University of Aberdeen	Interviewer (medical applicants to UoA)
7th February 2019	Talk by Prof Rona Patey – 'MBChB at	University of Aberdeen	Attended

	the University of Aberdeen. What's next?'		
22nd February 2019, University of Aberdeen	1st year Viva examination for Milestone 1	University of Aberdeen	Presented/discussed my work and research plan
5th June 2019	Year 3 medical student session on placements briefing	Curtin University	Attended
7th July 2019, Perth	Talk by Prof Sally Sandover to year 12 high school students interested in/applying for medicine to Curtin	Perth Modern High School	Attended
August 16th 2019	Webinar with 2018 Research Fellow Maria Raciti - During 2018/19, the NCSEHE has supported Associate Professor Maria Raciti to conduct a Research Fellowship project examining the relationships between perceived risk and university participation for low socioeconomic status (SES) students.	National Centre for Student Equity in Higher Education	Attended
August – September 2019	3 Minute Thesis competition – Doctors: Why Diversity Matters	Curtin University	Presented - Finalist
25th September 2019	One day On Country trip to Pinjarra with staff from the Office of the Elder in Residence -to learn more about the concept of Indigenous Cultural Competency	Curtin University	Attended

25th November 2019	Seminar - Thesis by publication and hybrid thesis	Curtin University	Attended
11th December 2019	Seminar – Turbocharge your writing	Curtin University – Hugh Kearns	Attended
11th December 2019	The seven secrets of highly successful research students	Curtin University – Hugh Kearns	Attended
16th December 2019	How to design a dynamic powerpoint presentation for maximum impact	Curtin University – Alexandra Ruiz-Gomez	Attended
21st and 22nd January 2020	Multiple Mini Interviews	Curtin University	Interviewer
10th – 14th February 2020	Course 'Qualitative Research: Design, Analysis and Representation'	University of Melbourne	Attended
10th – 13th March 2020	Rural immersion week – Narrogin	Curtin/Notre Dame	Attended/supervised as an academic
11 May 2020	Mark Liveris Seminar	Curtin	Presented
7-9th September 2020	AMEE annual conference	Online	Presented
25th-27th November 2020	Aberdeen PGR SMMSN winter conference – Milestone 3	Online	Presented
1st-3rd December 2020	ACSPRI biennial social science methodology conference	Online	Presented