“Not on My Watch!” -

A Case Study in the Datafication of Child Welfare in Aotearoa New Zealand.

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Abstract

This thesis is a case study of a policy and technological innovation in the New Zealand child protection system. It explores policy proposals associated with the White Paper for Vulnerable Children. In particular, it examines plans to create a digital information system called the Vulnerable Kids' Information System. Proposals for this new information system included plans to test and trial a ground-breaking predictive risk modelling tool based on an algorithm that would generate a risk score for all newborn children in New Zealand, a risk score that would be used to target interventions to prevent harm before it occurred. Data for this study was obtained from interviews with four elite informants who were members of two panels advising government on the Green Paper for Vulnerable Children (the Frontline Panel & the Scientific Panel), and from an analysis of a sample of ten news media reports associated with the news media controversy about these developments. Drawing on the Foucauldian analytical framework of governmentality, and concepts from actor-network theory, the study explores how the policy issue of vulnerable children was problematised and how this problematisation was connected to the political rationality of social investment. It also traces how policy actors – including ministers, technical experts, ethicists, academics and others – used rhetorical interventions to frame the issue. In spite of the fact that the study intended to trace the development of the Vulnerable Kids' Information System, in the end it was the rise and eventual demise of a predictive risk modelling tool that dominated the data.

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Chapter 1: Introduction

In October 2012 the New Zealand government released a White Paper for Vulnerable Children (New Zealand Government 2012a, 2012b) outlining a programme of reforms to improve the child protection system and the outcomes for children and young people in New Zealand. The White Paper highlighted a number of concerns with child maltreatment rates in Aotearoa New Zealand citing the findings of a 2003 UNICEF Innocenti report (UNICEF, 2003) where Aotearoa New Zealand was ranked, "third worst out of 27 rich nations in terms of child deaths from maltreatment" (New Zealand Government, 2012b, p.59). The White Paper also noted that, "Three-quarters of the children killed between 2002 and 2008 were under five years old at the time of their deaths, and many of them had been abused or neglected for an extended period of time" (New Zealand Government, 2012b, p.59).

The White Paper proposed a series of reforms including the introduction of a Child Protect Line (a single point of contact for the public and frontline professionals to notify concerns about vulnerable children) and community-based Children's Teams that would offer intensive, child-centred family support to vulnerable children and their families. It also proposed two significant technological innovations: the introduction of an information-sharing platform where frontline professionals from different agencies could record and share concerns about children considered to be vulnerable to maltreatment; and the development and trialling of an automated, algorithm-based, predictive risk modelling tool designed to assess the risk of child maltreatment based on data mined from databases held within the benefit, care and youth justice systems. The database became referred to as the Vulnerable Childrens' Information System or more colloquially, as the Vulnerable Kid's Information System (ViKI) and the risk assessment system as the predictive risk modelling (PRM) tool.

The technical innovations proposed in the White Paper were significant new developments in the New Zealand child welfare system and, in relation to the PRM tool, "an extensive literature review found that there are no jurisdictions currently making use of, or that had made use of, automated predictive risk modelling for this purpose" (New Zealand Government, 2012b, p.76). It seemed likely that these proposals, like other sociotechnical innovations, would give rise to controversy and debate. Government-led policies to create child welfare databases in other jurisdictions have proven to be deeply controversial (Featherstone et al., 2012; Keymolen & Broeders, 2013; White et al., 2010) and several UK database initiatives had been terminated as a result (Munro, 2011). The predictive risk modelling tool, in particular, was recognised in the White Paper to be associated with a number of professional and ethical issues including: possible adverse effects on professional decision-making, the potential stigmatisation of parents as 'potential abusers' and undertaking risk assessment without the prior consent of parents or caregivers. This thesis reports on research exploring the development of ViKI and its associated PRM tool, it is a case study in the datafication[1] of child welfare services (Redden et al., 2020). The data collection phase of the study began in 2013 shortly after the innovations were announced by the Fifth National

[1] According to the Southerton (2020), "Datafication refers to the process by which subjects, objects, and practices are transformed into digital data".

Government's Minister for Social Development Paula Bennett, and it ended some two years later when the proposal to run a planned, prospective observational study of the PRM tool on all newborn children in New Zealand was closed down by the incoming Minister for Social Development, Anne Tolley (also part of Fifth National Government).

Research Questions

Sociotechnical innovations such as those proposed in the White Paper for Vulnerable Children are often discussed in the context of an overarching scientific and *instrumental rationality*, or a way of reasoning that purports to be objective and value-free (Feenberg, 2019). And yet, very often, these innovations are value-laden and riven with ethical conundrums. They represent the kind of policy and technological innovations that would benefit from what Flyvbjerg (2012) has called *phronetic social science*: a practice concerned with deliberation about values and interests, with interpreting the direction and desirability of policy and with articulating questions of power, or "who gains and who loses" from innovative developments (p. 33). Flyvbjerg (2006a) contends that the main contribution social science can make to the understanding of innovation is to explore *value-rational questions*. In keeping with this position, the overall purpose of the proposed research project was to explore the development of ViKI and the PRM tool as a case study in public policy and technological innovation. More specifically, it was designed to answer the following value-rational research questions (Flyvbjerg, 2006a):

1. Where are we going with ViKI and the PRM tool?
2. Who gains and who loses, and by which mechanisms of power?
3. Is this development desirable?
4. What, if anything, should we do about it?

Reflections on the Research Rationale

Throughout my professional career as a social worker, and later as a social work educator, I have had a long-standing interest in the application of technologies to social work practice whether in information management systems for client databases or approaches to online learning. This interest led me to become involved as an active member of the Human Services Information Technology Association (HUSITA) whose mission is, "to promote the ethical and effective use of information technology for human betterment" (HUSITA, 2020). One of the goals of HUSITA is, "to advance inquiry and research into the ethics and effectiveness of human service technology" (HUSITA, 2020) and through HUSITA conference presentations and journal publications I have committed myself to that goal.

When the government of Aotearoa New Zealand announced in 2012 its intention to establish a Vulnerable Kids' Information System, one of the components of which was to be a predictive risk modelling tool, my interest was piqued. Especially so, since just a few years previously, a similar information sharing system proposed by the United Kingdom government for child protection services in England proved to be highly controversial and was eventually closed down (see the discussion in chapter three). Not only that but the New Zealand government's proposal for a predictive risk modelling tool was unprecedented, a world first, harnessing a machine learning algorithm that, it

was proposed, could be applied to surveil and score the risk of maltreatment for the whole population of newborn children in Aotearoa New Zealand.

This development offered a unique opportunity to study a policy and technological innovation that was likely to be highly controversial, ethically challenging and, from a political point of view, uncertain of success. I also had a strong interest in actor-network theory (Ballantyne, 2015) and an emerging interest in Michel Foucault's ideas of governmentality as developed by the English governmentality theorists Peter Miller and Nikolas Rose (Ballantyne, 2019). These frameworks (discussed in more detail in chapter four) provide powerful analytical tools with which to trace government policy and technological innovations and both were sensitive to the contingency and uncertainty of government programmes.

Thesis Structure

Following this introductory chapter, the thesis is structured as follows:

Chapter 2 sets the scene for the case study by exploring aspects of the particular social, political and organisational context of the Ministry of Social Development, as well as the preoccupations of the Fifth National Government of New Zealand who led the development from its inception until its closure. This chapter highlights key milestones in the development of ViKI and the PRM tool.

Chapter 3 presents a review of literature in two parts: the first part explores themes from international literature on the use of information technologies in child protection practice; the second discusses national and international literature pertaining to the New Zealand ViKI and the PRM tool.

Chapter 4 introduces and explains the analytical frameworks and concepts used to discuss the development of the case study. It describes and defines the key ideas associated with the Foucauldian governmentality approach and discusses the connections between that framework and the actor-network theory of Latour and Callon.

Chapter 5 introduces the methodological approach adopted for the study and discusses narrative theory, especially the analysis of enthymemes, to reveal hidden assumptions and arguments in the rhetorical statements made by policy actors.

Chapter 6 reports on findings from interviews with four members of two government policy advisory groups on their perceptions of issues associated with the ViKI and the PRM tool.

Chapter 7 presents findings from a narrative analysis of news media articles and uses the identification of enthymemes to uncover and explore rhetoric deployed by key policy actors.

Chapter 8 discusses how the findings from chapter five and six relate to the research questions and uses the analytical frameworks discussed in chapter three to analyse the policy process and outcomes.

Chapter 9 concludes the thesis with reflections on the ViKI and the PRM tool as a case study in the datafication of child welfare services and draws conclusions based on the analysis offered in chapter 8. Ethical issues for the future use of algorithms in social services are also discussed.

Chapter 2: The Case Study Context

This chapter sets the scene for the case study by exploring several key contextual factors influencing the trajectory of the ViKI and the PRM tool. The sections that follow explore: Aotearoa New Zealand as a settler colonial state; the economic and political circumstances surrounding the election of the Fifth National Government of Aotearoa New Zealand; the Fifth National Government's ideological commitment to a social investment approach to social welfare; some of the historical reforms and issues associated with the Child, Youth and Family Service; the introduction of the Green and White papers by Minister Paula Bennett; and the eventual closure of the Ministry of Social Development's plans for a PRM tool by Minister Tolley.

A Settler Colonial State

Aotearoa New Zealand is a constitutional monarchy and a parliamentary democracy based on the UK Westminster system (Hayward, 2015a). However, its origins as a settler colonial state lie in the signing of the Treaty of Waitangi (Te Tiriti o Waitangi) in 1840 between representatives of the British Crown and chieftains from indigenous Māori tribes. The Treaty outlines a number of tenets on which the British and Māori people agreed a political compact including the principles of partnership, participation and protection that underpin the constitutional relationship between Government and Māori. Although the Treaty is often referred to as the founding document of Aotearoa, New Zealand has an uncodified constitution and the Treaty (and the Treaty of Waitangi Act, 1975) is only one of a number of documents that contribute to its constitutional framework (Hayward, 2015b). As Hayward (2015b) puts it, "In formal terms, therefore, the Treaty principles have legal force, but the Treaty itself sits outside the law; the Treaty is considered a founding document in New Zealand's constitution by convention" (p. 134).

Despite the principles established by the Treaty of Waitangi, Aotearoa New Zealand has had a long history of colonial abuses that grew along with the population of colonial settlers including the dispossession of indigenous land, the oppression of Māori culture and language and ongoing institutional racism (Durie, 1998; Hill, 2016; Walker, 2004). The legacy of that colonial past lives on in the widely recognised over-representation of Māori in many negative social indicators including poverty, poor health and educational outcomes (Hyslop & Keddell, 2018). Māori are grossly over-represented in the prison population, the care system and in child protection statistics. Challenges to this colonial legacy and long history of institutional racism did not flow from enlightened governmental actors, but from the post-war phenomenon that would be described as the *Māori Rennaissance* (Walker, 2004): a process whereby Māori mobilised the Treaty of Waitangi and mounted protest movements to revive Māori language and culture, challenge land dispossession and make claims for economic reparations for loss of land and other colonial injustices through the Treaty of Waitangi tribunal.

Within the domain of social work there were also challenges to institutional racism, especially with regard to child protection practice, culminating in the influential Puao Te Ata Tu report (Ministerial Advisory Committee on a Māori Perspective for the Department of Social Welfare, 1988) highlighting racism as a key obstacle to the advancement of Māori people. This report led to the Children, Young Persons and their Families Act, 1989 (recently amended to the Oranga Tamariki Act, 1989), described by

Hyslop and Keddell (2018) as ground-breaking legislation with "a commitment to child and family-centred practice in general and particularly for whānau Māori" (p.4). A commitment that was, according to Hyslop and Keddell (2018), undermined by "the harsh economic climate which accompanied the neoliberal political turn of the 1990s" (p. 4). Instead of the transformational approach anticipated by Puao Te Ata Tu, the failure to adequately resource child protection services, continuing institutional racism and persistent structural inequality meant that over-representation of Māori in child protection services has persisted (Hyslop & Keddell, 2018).

The Fifth National Government of New Zealand

The Fifth National Government of New Zealand was in power throughout the timespan of this study. They held office for three parliamentary terms from November 2008 until their defeat by a Labour-led coalition government in October 2017. The National Party has often been described as a conservative or liberal-conservative party with core values including "individual freedom, the centrality of property rights and private enterprise in the economy, discomfort with social and moral reform, (and) the importance of the family as the fundamental social unit" (James, 2015, p. 221). It has also been described as essentially pragmatic and "the antithesis of radical change" (James, 2015, p. 224).

The Fifth National Government came to power on the heels of the global financial crisis of 2007-2008 and a subsequent recession, both of which were used to legitimise the fiscal policies of the then Minister of Finance, Bill English. English acceded to the role with a commitment to tackle New Zealand's rising national debt and to restrain government spending (English, 2009). As stated in his 2009 budget speech, "Ten years of economic growth and expansive appetites for debt and Government spending have ended. Today we have outlined the challenge to rebalance the economy from debt and consumption to investment and exports" (English, 2009). This macro-economic background was to have profound consequences for the direction of social welfare in Aotearoa New Zealand and, as we will discover in chapter nine, motivated governmental interest in the datafication of child welfare services in several countries (Jørgensen et al., 2021).

Social Policy as Social Investment

The Fifth National Government was committed to a vision of a *social investment* approach to social welfare. This vision differed markedly from European approaches to social investment (Boston & Gill, 2017) that were founded on assumptions about strategic investments in universal provision (Morel et al., 2012). The model espoused by National was characterised by a strong preference for *selectivism* and an emphasis on careful, targeted investments now to reduce the *future financial liability* of the state (Baker & Cooper, 2018). The Aotearoa New Zealand social investment approach was also enabled by a sophisticated technological capability in the form of the *Integrated Data Infrastructure*: a massive research database holding de-identified, longitudinal microdata on the population drawn from a series of linked government databases and surveys (Social Investment Agency, 2017). Baker and Cooper (2018) argued that the distinctive features of the New Zealand approach to social investment included a focus on *fiscal outcomes* rather than *social outcome*s and that government was wed to the "practices and politics of data driven governance" (p.429).

The Fifth National Government's approach to social investment was an overarching political rationality made possible by the contemporary technological affordances of big data, machine learning and predictive risk modelling. These affordances offered government an alluring way to implement their vision of highly targeted, future oriented interventions. Indeed, the critical link between big data, predictive analytics and the social investment approach to policy was described in detail in a paper by the Prime Minister's Chief Science Adviser (Gluckman, 2017).

The Child Youth and Family Service

For several years before the election of the Fifth National Government, the Child Youth and Family Service (CYFS) (a central government child protection agency in Aotearoa New Zealand) had been subject to repeated crises in public confidence generated by media attention to child homicides, a Ministerial review and a series of reforms and restructures (Garlick, 2012). In November 2009, one year after taking office, Minister Bennett (the Minister for Social Development responsible for CYFS) convened an independent *Experts' Forum on Child Abuse* to identify steps to prevent child maltreatment. The report of the Experts' Forum (New Zealand Government, 2009) noted the absence of arrangements for interagency information sharing as a barrier to effective intervention and went on to recommend that, "Government take the necessary steps to allow for data sharing between agencies to happen as a matter of course". The report also noted that all contributors to the forum were "enthusiastic about a system whereby each agency could share data to provide a clearer overall picture", but that, "The Forum did not interpret data sharing to require any expenditure on new IT. It is possible to share data simply by allowing individuals in different agencies to talk to each other" (New Zealand Government, 2009, p. 7). However, as we will discover in chapters six, seven and eight; this may not have been the response that the Minister was seeking. Two years later, Minister Bennett announced the Green Paper for Vulnerable Children (New Zealand Government, 2011b).

The Green Paper and the White Paper for Vulnerable Children

Like other governments based on the UK Westminster model the New Zealand government sometimes makes use of *green papers* and *white papers* as part of the policy development process (Harris & Wilson, 2017). Green papers are issued by the relevant government Ministry in order to consult and invite feedback from the public and other stakeholders on broad policy directions. A green paper usually "contains no commitment to action, it is more a tool of stimulating discussion, but it is often the first step towards changing the law" (Care and Support Reform, 2009). White papers offer more detailed policy proposals including proposals for future legislative change. There is no statutory requirement that a white or green paper is produced before the introduction of a bill, but by doing so a government is often seeking to establish a public mandate for a significant change in policy direction, especially when the proposed change may be controversial.

Of course, such government papers are not just passive invitations for rational collations of different points of view. From a Foucauldian perspective they are considered as active interventions in the public sphere aimed at governing populations by framing, representing and problematising social problems in particular ways (Bacchi &

Go0dwin, 2016; Foucault, 1997; Rose & Miller, 2010); a point discussed in more detail in chapter 8. The White Paper for Vulnerable Children (New Zealand Government, 2012a, 2012b) was preceded by a Green Paper for Vulnerable Children (New Zealand Government, 2011b). In its 32 pages, the Green Paper included 43 questions inviting comment from the public. Stakeholders were invited to comment using several communication channels including mail, email and Facebook. Responses were required to be submitted by the end of February 2012 (six months after the Green Paper was released).

The Green Paper process also involved the establishment of two advisory panels (OECD, 2016): a *Scientific Panel* (Chaired by Sir Peter Gluckman, the government's Chief Science Advisor and including seven people who were academics and/or researchers) and a *Frontline Panel* (Chaired by Murray Edridge, Chief Executive Officer at Barnardos). The roles of the respective panels were described as follows (OECD, 2016), "The role of the Scientific Panel was to provide an academic and research lens over the document…The Frontline Panel provided advice to the drafters of the Green Paper from providers directly working with vulnerable children". Two members from each of these groups agreed to be interviewed for the purposes of this study (see chapter five for the rationale and chapter six for the findings).

The Green Paper generated almost 10,000 responses that were coded and analysed and included in a 166-page *Complete Summary of Submissions* document (New Zealand Government (2012c) which was published in August 2012, six months after the submission date. The *Complete Summary of Submissions* document was published concurrently with the White Paper for Vulnerable Children and, as stated in Volume One of the White Paper, it was considered to be one of the four parts of the White Paper which were described as follows (New Zealand Government, 2012a):

- Volume I contains the Government's plans for getting better outcomes for our most at-risk children.
- Children's Action Plan – setting out actions and timeframes.
- Volume II contains the evidence and the detailed rationale for the plans.
- Summary of Submissions – covering the nearly 10,000 received on the Green Paper for Vulnerable Children.

The White Paper included a series of wide-ranging reforms to the child protection system including plans for an electronic information-sharing platform (ViKI) and the disclosure that the MSD had commissioned a *prototype study* by academic researchers at the University of Auckland to test the viability of a predictive risk modelling tool.

The Evolution and Eventual Closure of the Predictive Risk Modelling Tool

In spite of the consultative function of the Green Paper, and the 43 questions asked, some of which referred to information sharing and monitoring, no direct references were made in the Green Paper to ViKI or the PRM tool. Unsurprisingly, when the White Paper was published, these innovative technological proposals dominated the media debate. The PRM tool, in particular, was considered by some key actors, including individuals who had been involved in the 2009 Experts' Forum on Child

Abuse, to have "come out of left field" (see NEWS_05 in chapter seven). And yet, as we will discuss in chapter eight, there is evidence that the Ministry of Social Development had been working on predictive risk modelling since at least 2010, if not before.

The Fifth National Government's experiment with the development of PRM for child protection had three main phases. The first was known as the *prototype study*. It developed a PRM using a de-identified, retrospective, dataset linking records from two administrative databases: the welfare benefits system and the child protection services system. This study focused only on children under two years of age whose caretakers were in receipt of social welfare benefits (Vaithianathan, 2012; Vaithianathan et al., 2013). It found that 48% of children predicted by the PRM tool to be in the top decile of risk, became substantiated cases in the child protection system by age five.

A follow-up *feasibility study* was undertaken in 2013 by researchers internal to the Ministry of Social Development to consider the technical feasibility and predictive validity of the PRM tool (Ministry of Social Development, 2014a; Wilson et al., 2015). This study was also retrospective but included data on all newborn children in New Zealand examining outcomes up to age five years. It drew on data from five linked administrative databases: the welfare benefits system; the child protection services system; birth information from the Registrar-General of Births, Deaths and Marriages; data on sentences held by the Department of Corrections and Ministry of Health data. The findings from this study, whilst broadly supportive of the PRM tool, were much more cautiously expressed, recognising considerable problems with data linkage and the use of system contact as a proxy for abuse occurrence (Ministry of Social Development, 2014a; Wilson et al., 2015).

Subsequently, in a third and final phase, the MSD proposed to conduct two parallel studies: a *prospective, observational study* that would calculate a risk score and track outcomes for all newborn children in order to further test the accuracy of the PRM; and a *vignette-based user testing trial* to test the influence of PRM data on frontline, social work decision-making (Ministry of Social Development, 2014a). The National government won a third term of office in September 2014 and Minister Anne Tolley was selected to replace Paula Bennett as Minister for Social Development. Within a few weeks of taking office Minister Tolley halted the MSD's plans for the prospective, observational study but permitted the vignette-based user testing trial to proceed. No public announcement was made about this intervention until July 2015, eight months after the decision had been taken and only following renewed media interest in the issue. Minister Tolley released an image of an MSD internal document to the press on which she had scribbled the notes – in relation to the prospective, observational study – "Not on my watch! These are children, not lab rats."

Table 1: Timeline of ViKI and PRM events

Year	Event
2008	*November*: Election of Fifth National Government. Paula Bennett becomes Minister for Social Development.
2009	*November:* Expert Panel on Child Abuse meets and reports
2011	*July:* Green Paper for Vulnerable Children published. Call for public submissions begins. *November*: Re-election of Fifth National Government.
2012	*February***:** Green Paper consultation ends with almost 10,000 responses *July*: White Paper for Vulnerable Children published. Media controversy about PRM starts. *September***:** Predictive Risk Modelling Prototype One study reports
2014	*May*: Research study commences *June*: Key informants interviewed. *September*: Re-election of Fifth National Government. *October*: Anne Tolley takes over as Minister for Social Development and in November stops prospective, observational trial of the PRM tool (although no public statement is made).
2015	*April*: Anne Tolley announces a review of the Child, Youth & Family service *May:* Radio New Zealand broadcast on "MSD urged to adopt predictive tool to identify at risk children". *June:* Radio New Zealand broadcast on "Child abuse or big brother". *July*: Minister Ann Tolley announces closure of prospective, observational trial of the PRM tool (a decision made eight months earlier). Media controversy over closure.

Conclusion

This chapter sets the scene for the case study research signalling important contextual background matters, such as the macro-economic influence of the "great recession", the social investment approach to social policy and the history of crises in the child protection system. The following chapter offers additional background by reviewing the academic literature on the datafication of child welfare and the controversy surrounding predictive risk modelling in child welfare.

Chapter 3: Literature Review

This chapter presents a review of literature in two parts: the first explores themes from the international literature on the use of information systems in child welfare services; the second discusses recent national and international literature pertaining to ViKI and the PRM tool.

Information Systems in Child Welfare Services

The use of information systems to improve the efficiency and effectiveness of public services has been growing in many jurisdictions worldwide (Henman, 2010; Homburg, 2008). Aotearoa New Zealand is no exception to this global shift towards technology-mediated forms of government or e-government (Gauld & Goldfinch, 2006; Gauld, 2003). The Ministry of Social Development (MSD) – the Ministry responsible for the care and protection of vulnerable children and young people at the time of this study – has had a commitment to the use of information systems for some time. As indicated in a 2013-2016 Statement of Intent (Ministry of Social Development, 2013), data sharing and the "Smart use of available intelligence" (p.9) are identified as key components of the future strategic direction of the Ministry. Garlick (2012) also highlighted the commitment of the MSD to using technology in new ways and noted that its Chief Executive, Brendan Boyle, "was previously Chief Executive and Secretary for Internal Affairs and the Government Chief Information Officer. As such he was responsible for providing the government with strategic advice on information and communications technology" (p. 300).

Even before its merger with the MSD in 2006, the Department of Child Youth and Family Services had been an early adopter of computerised systems introducing a client information system in 1991 (Cunningham, 1996) and a computerised Risk Estimation System in 1996 (Smith, 1998). However, apart from articles offering descriptive reviews of system adoption and implementation, and anecdotal accounts of the reluctance of social workers to use these systems (Cunningham, 1996; Smith, 1998), a literature search identified almost no empirical studies on the development or use of child welfare information systems in New Zealand prior to the proposed introduction of the PRM tool. One notable exception to this is Stanley's (2005, 2007) work on risk and decision-making in the New Zealand child protection system. Stanley's research included an analysis of Child Youth and Family social workers' views on the use of the Risk Estimation System and found that many social workers used the system strategically, reporting that they completed the fields to produce a result that would support decisions already made. This finding, that users make strategic use of information systems in ways unanticipated by system designers, is evident in studies of social workers in other jurisdictions including England (Shaw & Clayden, 2009), Finland (Saario et al., 2012) and Australia (Gillingham, 2013).

The world-wide growth of electronic information system use in social work organisations has not been without its critics (see Devlieghere et al., 2019; Hall et al., 2010; Parton, 2009). Devlieghere et al. (2019) connect the rise of technology with managerialism and the drive for accountability using systems to monitor and control the actions and decisions of social workers. The increasing use of electronic databases by governments, and the easy sharing of digital information across agency boundaries, have led to growing concerns about human rights, privacy and the electronic

surveillance of children and families (Devine, 2017; Garrett, 2004; Penna, 2005; Wrennall, 2010). In the UK the use of databases in public services became so extensive that some commentators depicted it as evidence for the rise of the *database state*: a state where governments have a growing investment in establishing centralised databases to monitor and manage population groups (Anderson et al., 2006, 2009). Anderson et al. (2009) argued that the database state fused two different faces of government, the compassionate and the coercive:

> One is the public services agenda, which formalises our social compassion. It speaks of customers and choice, cares for vulnerable children, provides health and education, keeps the streets clean and generally seeks to please. The other is the enforcing state, in constant conflict with those who break laws or ignore regulations. It seeks to exercise coercive control and speaks of enemies, targets, suspects and criminals. (p. 8-9)

'Every Child Matters' and the Trio of English Databases

Prior to the academic and news media controversy triggered by ViKi and the PRM tool, the most significant debate about the use of technology in child welfare was associated with trio of databases introduced by the UK government as part of their *Every Child Matters* policy. These three databases engendered a sustained controversy from the moment they were proposed until their eventual demise. Following the publication of their Green Paper Every Child Matters in 2003, and the publication of the Children Act 2004, the UK New Labour government launched a programme called *Every Child Matters: Change for Children*. This was a pivotal moment for children's services in England and – foreshadowing the rationale for the subsequent Aotearoa New Zealand child protection reforms – signalled an emphasis on *child-centred* services, a need for *early intervention* in the lives of children and families and a push for *information-sharing* and closer integration between child welfare agencies (Parton, 2008a). Within this sweeping programme of child welfare reforms, new technologies were viewed as key enablers to help identify children in need of early intervention; and to support improved communication between child welfare professionals. The Children Act 2004 was considered to be a direct response to the inquiry by Lord Laming into the death of Victoria Climbie (Laming, 2003) and the failings in professional information-sharing identified in his report. However, others argued that the policy shift was influenced by additional, powerful policy drivers. Hall et al. (2010) identified three related influences: the pervasive influence of new public management, a concomitant commitment to harnessing technology to modernise public services and a significant shift towards a more child-centric social policy (see also Jørgensen, et al., 2021, for a recent discussion of the common influence of these factors in child welfare datafication in three countries).

Every Child Matters was a far-reaching programme of reform for child welfare services that embedded several government aspirations (Hall et al., 2010; Parton, 2006, 2008a). Parton (2006) argued that the reforms had a dual agenda: to promote the welfare of *all* children as part of a (European style, universalist) social investment agenda and to protect children at risk. The most significant change in this policy from previous policies was the emphasis on childhood and the child as a central focus for policy concern, both in terms of encouraging child development and protecting children from

harm. Historically, child welfare policy has always presented significant dilemmas and ambiguities for liberal democracies as they attempt to balance a liberal-democratic commitment to the privacy of family life with attempts to govern the family (Parton, 2008b). Earlier child welfare policy often focused on the family and community as a site of intervention and intervened in family life as necessary to support children and protect them from harm. Every Child Matters represented a significant shift because, for the first time, children themselves – rather than families, parents or communities – became the focus of policy concern. Hall et al., (2010) argued that this shift was associated with a newly emergent *social investment* perspective on social policy.

In the UK, the social investment perspective was associated with the work of the sociologist Anthony Giddens: one of the architects of New Labour's 'Third Way' (Giddens, 1998, 2000). New Labour's approach to social investment represented a shift away from both Keynesian economic interventionism, and the neoliberal marketisation of everything. It has been characterised as a move from *repair* to *prepare* with social welfare viewed not as income security for the present, but as investment for the future (Morel el al., 2012). The perspective was linked to what was perceived to be the needs of post-industrial society for a skilled, educated, flexible workforce and the education and development of children as future citizens (Keddell, 2018). The Every Child Matters agenda then was not solely focused on child protection, it was interested in the development of all children, and the development of all children was a concern for the social investment state. Hall et al. (2010) argued that this new policy development was associated with a fundamentally different relationship between the state, the child and parents. Drawing on the work of Dencik (1989) they contended that:

> when sociologists of the family have talked about the family's function in society, it has usually been analysed as a two-sided relationship, and children were seen as part of the family with parents acting as their spokesperson. However, this has gradually been superseded by a new development that he has called an 'eternal triangle', in which the state on one base has a triangular relationship with the parents on another base of the pyramid and children on the third, as well as parents and children having their own separate set of relationships. (p. 399)

In the context of this new policy rationality of child-centred, early interventionism electronic information systems offered the promise of a technological solution (Morozov, 2014) that might enable child welfare professionals to access information about children directly and support the government of families at a distance (Parton, 2012). This new emphasis on a direct relationship between children and the state – unmediated through parents – was reflected in the design of the information systems associated with the Every Child Matters agenda.

The Every Child Matters programme was underpinned by the introduction of three different databases intended to enable early intervention and inter-professional information sharing (Dowty, 2008). The databases were known as *ContactPoint*, the *electronic Common Assessment Framework* and the *Integrated Children's System*. The characteristics of the databases changed over time in response to implementation trials and critical reviews, but in their latter form they can be described as follows.

- *ContactPoint* was a national database or index of all children in England

designed to hold basic contact information about children and their parents and the details of all practitioners from any public agency involved with the child. The system included a facility to *flag* any 'causes for concern' about a child's wellbeing or development.

- *eCAF* was an electronic version of an earlier paper-based Common Assessment Framework (CAF). The CAF was "…a standardised approach to conducting an assessment of a child's additional needs and deciding how those needs should be met" (CWDC, 2007 p. 6). It was assumed that its use would facilitate the development of a "common language" amongst child welfare professionals (Hall et al., 2010, p. 400).

- *The Integrated Children's System* (ICS) was a social services only database consisting of a series of forms for maintaining records on a social worker's work with a child and their family. The ICS was intended to provide a "method of practice and a business process which aims to support practitioners and managers in undertaking the key tasks of assessment planning, intervention and review" (DCSF, 2008, p.1).

The Every Child Matters policy and its implementation provoked wide and intense controversy within Parliament, the House of Lords, the academic literature, professional organisations, civil rights organisations, service user advocacy organisations and the news media. The critique of ContactPoint was vigorous from its inception. Critics argued it was a disproportionate intrusion into the civil liberties and human rights of families and children, that it potentially undermined the confidential nature of the relationship between families and child welfare workers, that it involved significant costs for unproven benefits, that data security (and therefore the safety of children) could not be guaranteed, that the open-ended nature of a professional 'cause for concern' would lead to net-widening, and that increasing access to information about the involvement of specialist services might result in the stigmatisation of children and families within universal services (Garrett, 2005; Hudson, 2005; Munro & Parton, 2007; Munro, 2004; Penna, 2005).

Perhaps because they were focused on children deemed to be at risk rather than universally applied to all children, debates about the CAF and the ICS were less public in nature. They were, however, no less vociferous. Findings from evaluations of the CAF revealed that its prescribed structure fragmented the narrative of the assessment process, that its focus on *needs* rather than *concerns* distorted the assessment process and led to difficulties in interpretation, and that – far from leading to a *common language* – CAF users tended to complete the form strategically (replicating Stanley's (2005) findings) to achieve ends influenced by their own professional interests and values (Peckover et al., 2009; Pithouse et al., 2009; White et al., 2009). Evaluations of the ICS uncovered similar concerns about the disruption of the assessment narrative. In addition, there was widespread concern amongst social workers about the complexity of the electronic form, the inordinate amount of time taken to complete it, its impact on the time available for direct practice with children and families[2], the fragmented and repetitive nature of the forms and its inflexible approach to the management of

[2] Social workers reported spending between 60% and 80% of their available time at their desk inputting data (White et al., 2010)

workflow (Bell et al., 2007; Broadhurst et al., 2010; Peckover et al., 2009; White et al., 2010). There were also broader policy concerns that the Every Child Matters agenda was part of a wider "political project of citizen surveillance" (Penna, 2005); and the emergence in England of a new "preventive surveillance state" (Parton, 2008a) altering fundamentally the relationship between children, families and the state. Whatever the intentions of politicians and policy makers, their ambitious plans for all three of the information systems associated with the Every Child Matters policy was abruptly halted. The UK government set up a Social Work Taskforce in 2009 to consider a number of matters, including growing disquiet with the ICS. The Task Force recommended a fundamental review of the design of the ICS.

In 2010 the incoming UK Coalition Government decommissioned ContactPoint and set up an independent review of the child protection system in England led by Professor Eileen Munro. The final report of the Munro Review argued that the English child protection system had become "a defensive system that puts so much emphasis on procedures and recording that insufficient attention is given to developing and supporting the expertise to work effectively with children, young people and families" (Munro, 2011, p.6). The report considered that centralised prescriptions for the design and use of information technology were deeply implicated in the failings of the child protection system and the review called for the removal of "constraints to local innovation and professional judgment that are created by prescribing or endorsing particular approaches, for example, nationally designed assessment forms, national performance indicators associated with assessment, or nationally prescribed approaches to IT systems" (Munro, 2011, p. 10). So complete was the reversal in the fortunes of these information systems that one academic paper compared the story of the ICS to a Greek tragedy in a paper titled, "When policy o'erleaps itself: The 'tragic tale' of the Integrated Children's System" (White et al., 2010).

ViKI and the PRM tool

It was shortly after the UK decommissioned its child welfare databases, that the Fifth National Government's White Paper for Vulnerable Children (New Zealand Government, 2012a, 2012b) proposed to introduce ViKI and the PRM tool for reasons that were very similar to the rationale for New Labour's Every Child Matters programme: promoting a child-centred focus, early intervention and interprofessional information sharing. What was new in the proposals of the Fifth National Government was the proposed use of predictive analytics to identify children at risk, though this too was an example of *technological solutionism* (Mozorov, 2014). The authors of the White Paper for Vulnerable Children (New Zealand Government, 2012a, 2012b) were aware of the closure of the UK databases. They referred directly to the discontinuation of ContactPoint but argued that:

> This reflected, in part, concerns about the security of the database and questions about the reliability of data entered (not always 'factual', and open to multiple interpretations and misinterpretations). The system also placed significant resource demands on frontline professionals, in both accessing and entering data, and practitioners complained of spending too much time inputting data that was perceived to be of little help in protecting children. (New Zealand Government, 2012b, p. 74)

This account of ContactPoint highlighted technical problems that could conceivably be put right with a different implementation strategy. However, it seriously underplayed the political hue and cry generated by ContactPoint in the UK, and failed to represent the professional, ethical and human rights arguments posited against the system. The White Paper went on to recommend the establishment of an information-sharing platform (ViKI) but one that differed from the UK platform in the following respects: only children who reach a certain threshold of risk would be included (either because they were known to child protection services or identified by the PRM tool); there would be a single centralized system rather than a series of linked local databases (although the PRM tool would use data on linked administrative databases to produce the risk score); privacy would be protected by strict controls around security and access; a "common lexicon" (p. 79) would be agreed to support interprofessional communication (echoing the failed intentions of the eCAF); and children would be able to access their data and have a degree of control over who sees it.

Unlike the information sharing system, the predictive risk modelling tool was a world first and the White Paper recognised that "there are no jurisdictions making use of, automated predictive risk modelling for this purpose" (New Zealand Government, 2012b, p.76). Notwithstanding that it was hailed as an innovative breakthrough in preventive child protection practice (Panattoni et al., 2011), the team developing the PRM prototype acknowledged the ethical issues associated with it: including the undisclosed risk assessment of families by accessing data held on them in a range of public sector administrative databases (Panattoni et al., 2011; Vaithianathan, 2012). The risk of net-widening, labelling and stigmatisation flowing from the high proportion of false positives generated by the PRM tool was also recognised. The PRM prototype development team recommended "a full ethical evaluation" (Vaithianathan, 2012, p. 35) prior to its implementation and this was commissioned by the MSD from an ethicist who was part of the PRM prototype development team (Dare, 2013).

Predictive risk modelling is a statistical method of identifying characteristics that risk-stratify individuals in a population based on the likelihood they will experience a specific outcome or event. The result is a risk score. Consistent with the New Zealand version of the social investment approach, the idea was that families with high-risk scores could be targeted for evidence-based, in-home visiting interventions – like the US Nurse-Family partnership programme (Olds et al., 1997) – that would provide families with support and might reduce the likelihood of maltreatment occurring (Vaithianathan, 2012; Vaithianathan et al. 2013; Wilson et al. 2015). It is important to note that, in this case, the risk score was intended to be an adjunct to professional judgement (even though the authors highlighted that its accuracy was greater than professional judgement or the use of existing actuarial risk assessment tools). Also, there were no plans to compel families to participate in interventions, although they would be offered a service whether they were currently in contact with social services or not. The Aotearoa New Zealand government's experiment with the development of PRM for child protection had three main phases (described in chapter two): the prototype study undertaken by a University of Auckland team of researchers (Vaithianathan, 2012; Vaithianathan et al., 2013); a follow-up feasibility study undertaken by Ministry of Social Development staff (Ministry of Social Development, 2014a; Wilson et al., 2015); and a proposed prospective, observational study that was closed down by the incoming Minister for Social Development in 2014.

The analysis of interviews with advisory group experts who were close to the policy process (presented in chapter six) and investigation of the news media articles associated with the PRM tool (presented in chapter seven) will inform a fuller discussion of the controversy surrounding the PRM tool in chapter eight. The remainder of this chapter offers a summary of the issues from the PRM ethical review (Dare, 2013, 2015) and issues emerging in the academic literature commenting on the Aotearoa New Zealand governments trialling of the PRM.

The Ethical Review: An Exercise in Consequentialism

As noted above, prior to the PRM project being shut down, an ethicist, who was a member of the project team, conducted a detailed ethical review of its proposed operation (Dare, 2013). The review adopted a consequentialist approach to ethical analysis identifying both the costs and benefits associated with the PRM tool. The following ethical issues associated with the introduction of the PRM tool were amongst those identified by Dare (2013): stigmatization, universalism versus selectivism, over and under-identification, and privacy and confidentiality. Stigmatization refers to the burdens associated with being identified as an at-risk individual or group since the act of labelling a family may increase the risk of an adverse outcome occurring. It might also increase pressure on families who are already struggling to cope, exacerbate existing structural inequalities and reduce the willingness of families to engage with service providers (Dare, 2013, 2015; Keddell, 2014a).

Universalism versus selectivism refers to different approaches to social policy, distinguishing between universal approaches that make human services available to whole populations irrespective of need, and selective approaches that use criteria (such as risk scores) to rationalise service provision. The ethical issue here is that approaches that target individuals or families are considered by many commentators to be a more stigmatising ways of accessing services than universal, or open-ended services targeted on deprived neighbourhoods (Danson et al., 2012).

The issue of over-and-under identification refers to the fact that all PRMs make some errors at any threshold for referral. That is, they generate both false positives (identifying families at high-risk who do not go on to have child maltreatment substantiated) and false negatives (where families who were not given a high-risk score do go on to have child maltreatment substantiated). For example, in the prototype study described by Vaithianathan (2012) approximately 48% of children identified as being in the highest risk decile went on to have a substantiated maltreatment finding by age five. However, 52% of children in this decile were false positives. The model demonstrates that it is possible, with varying degrees of accuracy, to predict the likelihood of substantiated maltreatment, but the issue here is whether the rate of false positives is acceptable. There is simply no clear way of deciding an acceptable false positive rate objectively and, as has been argued by Narayanan (2018), child protection decision-makers are likely to have a very different view of an acceptable false positive rate than the families impacted by a referral based on an algorithmic assessment of risk.

Finally, although the prototype and feasibility study used de-identified data, any live version of the PRM tool would be mining administrative records from the whole population in real time, accessing data for which no informed consent had been given,

raising serious concerns about privacy and confidentiality. In spite of identifying all of the issues above, and others, Dare (2013) concluded that:

> The application of predictive risk modelling to child maltreatment does raise significant ethical concerns. Many of these concerns can be significantly mitigated or ameliorated. Remaining concerns may plausibly be regarded as outweighed by the very considerable potential benefits of the Vulnerable Children PRM. (p. 1).

Arguably, these conclusions flow from the explicitly consequentialist approach to ethics adopted by Dare (2013). Consequentialist approaches to ethics tend to foreground the overall societal benefits of a technological innovation with less attention paid to the adverse impacts on relatively powerless groups (Moore, 1999). In an unequal society, the burden of false positive identification, with subsequent labelling and stigmatisation, would fall most heavily on marginalised communities, especially whānau Māori (Keddell, 2014a; Keddell 2019; Stanley & de Froideville, 2020). Consequentialist approaches also tend to assume that powerful state actors and decision-makers who would wield this technology have necessarily benevolent intentions, and that any problems or issues can be mitigated by simple technical or administrative adjustments. However, as Moore (1999) has argued – in a paper titled *Just consequentialism and computing* – there are significant tensions between consequentialist ethical theories that focus on the societal benefits of actions, and deontological theories that stress individual rights and duties. Moore (1999) contends that "consequentialism seems to be insensitive to issues of justice" (p. 66) and warns against the danger of the good driving out the just, "It may be tempting in some situations to focus on the strikingly good consequences of a policy while ignoring injustice. The potential good in (sic) given situation is so good that it seems to justify being unjust" (Moore, 1999, p. 67).

Algorithmic Injustice

As the use of computer algorithms has proliferated across a number of domains, in both private and public sectors, there has been a parallel growth in critical commentaries on issues of algorithmic injustice. Commentators have argued that certain uses of algorithms can increase inequality, threaten privacy and even undermine democracy (Eubanks 2018a, O'Neil, 2017; Pasquale, 2016; Morozov, 2014). One of the promises of algorithmic applications is that they are considered to replace flawed, subjective human judgements with dispassionate, objective assessments of people and situations. Yet the assumed objectivity of algorithms has been identified as a significant part of the problem with their use (Eubanks 2018a, 2018b; O'Neil, 2017; Redden, 2018). In a comprehensive review of algorithmic injustice in child protection, Keddell (2019) highlighted two related sets of issues: those associated with the notion of statistical fairness; and those with broader social justice and human rights concerns. Both sets of issues flow from the ways in which the administrative datasets in child protection are created and the variability, bias and errors they inevitably include (Eubanks, 2018a; Keddell, 2019). In strict data science terms, any attempt to use machine learning to create a computer algorithm to predict a future event should be based on data about the whole population of concern; or a large, randomly selected subsample of that population. However, as both Keddell (2019) and Gillingham (2019) have argued, child protection datasets do not represent the total population of maltreated children, only cases where child abuse has been reported and social workers have made

a decision to substantiate it, yet, "Much child abuse and neglect are never reported, and many families that are reported may be subject to both surveillance and personal biases" (Keddell, 2019, p.6). The issue of *surveillance bias* refers to the evidence that people in poverty are more closely surveilled by authorities and therefore may be more likely to be captured in administrative datasets (Keddell, 2019; Bradt et al., 2015). If this is true, then this bias, and many other sources of bias (Keddell, 2019), are embedded in the historical data on which the algorithm is based. Boyd et al., (2014) argued that, "Racism, sexism and other forms of bigotry and prejudice are still pervasive in contemporary society, but new technologies have a tendency to obscure the ways in which societal biases are baked into algorithmic decision making" (p. 56).

There is also a problem with the nature of the data included in child protection datasets. Data scientists recommend that, when attempting to develop a predictive risk model, that the *outcome variable* – the variable that the model is attempting to predict – is valid, reliable and objective. The idea being that the computer algorithm can search databases to detect other variables – the *predictor variables* – most likely to be associated with the outcome variable and then use this data to predict the risk that the outcome variable will occur in future cases. In a health context both the outcome variable (for example cardiac arrest or stroke) and the predictor variables (for example age, weight, history of smoking, family history, blood pressure and laboratory results of blood tests) tend to be based on objective, observable and measurable factors. However, in the context of child maltreatment the outcome variables can be far more subjective and the predictor variables less about the characteristics of individuals and more about their membership of certain population groups. For example, in the New Zealand prototype study, the outcome variable was *child maltreatment* which the researchers defined as "a substantiated finding of emotional, physical or sexual abuse or neglect by age 5" (Vaithainathan, 2012, p.3). In other words, the outcome variable was a human decision that one of four different categories of maltreatment had occurred. Keddell (2019) discussed the evidence from many sources that decision-making in the child protection field (including decisions to refer, decisions to substantiate maltreatment or decisions to remove children) are profoundly influenced by factors other than the objective facts of the case or identifiable characteristics of the families involved. These other factors include the location of the site office, the values and beliefs of the social worker, the social worker's level of experience, subjective perceptions of risk, available resources and office cultures (Bywaters et al., 2018; Davidson-Arad & Benbenishty, 2016; Fluke et al., 2016, Keddell, 2014b). Keddell (2019) concluded that:

> statistical prediction tools that use decision points from the child protection system as the outcome the tool is trained on will reflect, and lend reification to, the many elements that contribute to system contact that have little to do with child abuse, and more to do with inequalities, individual practitioner values, location, decision making variability and service supply and demand factors. (p. 281)

In addition, the predictor variables derived from child protection databases tend to be based on family members being part of population groups – for example, *people in receipt of welfare benefits*, or *having a caregiver with a care history* (Wilson et al., 2015) – rather than on their own individual characteristics or merits. The use of group-linked data to produce generalisations and profiles about the future behaviour of individuals, such as the probability that they will maltreat their child, is ethically problematic (Vedder, 1999). This practice conflates group risk with personal risk and,

"challenges the right to non-discrimination for individuals, as they are judged based essentially on their statistical similarities to others" (Keddell, 2019, p. 15). Put simply, allocating risk scores on the basis of membership of certain population groups is closely linked to "stereotyping and wrongful discrimination on the basis of stereotypes" (Vedder, 1999, p. 279).

Conclusion

The literature review in this chapter situates this study in the context of prior work on child welfare datafication. It makes particular note of the controversy surrounding the trio of databases associated with the UK government's Every Child Matters initiative, databases that were closed down just prior to the proposals for electronic information-sharing and predictive risk modelling included in the White Paper for Vulnerable Children (New Zealand Government, 2012a; 2012b). It also reviews more recent literature exploring the Aotearoa New Zealand government's proposals, for a population-wide, predictive risk modelling tool to risk score families for the risk of maltreatment, a literature that highlights the assumed benefits, the technical problems and the ethical risks of the tool. Next, before moving to an account of the methodology and finding of this study, the following chapter describes the analytical frameworks deployed to trace the evolution and eventual demise of the PRM tool.

Chapter 4: Analytical Frameworks

Introduction

This chapter describes two related analytical frameworks that inform and underlie this study. The frameworks are, firstly, the *governmentality* thesis introduced by Michel Foucault (1997) and further developed by Nikolas Rose and Peter Miller (Miller & Rose, 1990; Rose & Miller, 2010), and secondly, *actor-network theory* as developed by Bruno Latour (1987), Michel Callon (1986) and colleagues. Governmentality is the primary analytical framework informing the study but some complementary concepts from actor-network theory, with its emphasis on sociotechnical innovation, will also be applied. The governmentality approach is based on Foucault's genealogical analysis of the complex nature of political power and governmental attempts to manage populations in advanced industrial societies (Foucault, 1997). It highlights the ways in which *political rationalities* connect with *technologies of government, forms of knowledge* and expertise to enact *governmental policies and programmes*. It therefore has an excellent fit with a case study of a public policy innovation aimed at harnessing the potential of new technologies and data science to reduce child maltreatment. Actor-network theory is an approach to the analysis of sociotechnical systems that grew out of the sociology of science and technology (Callon, 1986; Latour, 1987). It is an approach designed to study technological innovation and emphasises the ways in which human and nonhuman actors are enrolled in complex, heterogenous, sociotechnical networks (Law, 2009). Although they have differences in emphasis, both governmentality and actor-network theory share common views on the complex, networked nature of power (Matthewman, 2014) and on the uncertainty of success of attempts by actors to assemble effective actor-networks or programmes of government.

Governmentality

The concept of governmentality, first articulated by Foucault (1997), was developed to explain how modern liberal democratic governments attempt to intervene in populations to achieve their desired goals. Importantly, governmentality was considered to be the way political liberalism attempted to resolve a central paradox of the liberal democratic state: how to govern the population without resorting to excessive state intervention.

> Foucault suggests that liberalism is not so much a substantive doctrine of how to govern. Rather, it is an art of governing that arises as a critique of excessive government—a search for a technology of government that can address the recurrent complaint that authorities are governing too much. (Rose et al., p. 84)

At the heart of the concept of governmentality is an attempt to explicate how the modern state governed populations less directly, *governing at a distance*, by harnessing combinations of knowledge, power and technology. Population, as an object of governance, could be rendered knowable and governable by the application of techniques. Governmentality, as Foucault described it, was to be "understood in the broad sense of techniques and procedures for directing human behavior. Government of children, government of souls and consciences, government of a household, of a state, or of oneself" (Foucault 1997, p. 82). Central to governmentality, and historically new forms of political power in liberal democracies (Rose & Miller, 2010), was the

deployment of knowledge and expertise (including, in the context of this study, the claims to expertise of a diverse range of authorities such as paediatricians, social workers, health economists, data scientists and ethicists). As stated by Rose, in an interview with McKinlay (2017), "states could govern only on the basis of the emergence of those authorities who base their claim to manage individual and collective lives on forms of expertise grounded in knowledge" (p. 211). In so far as the concern of these governmental and non-governmental authorities was to "conduct the conduct of others" (McKinlay, 2017, p. 212), and to the extent that they became imbricated with the state apparatus – had powers formalised in legislation and embedded in administrative structures and processes – then they were implicated in governing populations.

For Rose and Miller (2010) governmentality was fundamentally about two interconnected categories: *political rationalities* or ways of thinking about the objects of governance; and *technologies of governance* designed to give effect to political rationalities. Political rationalities "are characterised by three core features: they are moral in the sense that they are normative, they are epistemological in the sense that they articulate and construct certain objects of government, and they are linguistic in the sense that they mobilise the apparatus of language to render reality thinkable" (Cornellison, 2018, p 129).

In the context of this study, and as indicated in chapter two, the Fifth National Government of Aotearoa New Zealand had adopted a social investment approach to policy as an explicit political rationality with a particular style of thinking about the objects of governance characterised by a strong preference for *selectivism* and an emphasis on careful, targeted investments now to reduce the *future financial liability* of the state (Baker & Cooper, 2018). Technologies of governance give effect to political rationalities and can range from established, mundane and simple techniques such as interviews, case records, examinations, and manuals; to newer, emerging technologies of the digital age, including the use of big data and machine learning algorithms. Political rationalities and technologies of governance combine in the form of *programmes of government*, or structured attempts to intervene in the social body in order to tackle recalcitrant social problems or issues, such as offending behaviour or child maltreatment. Programmes of government "do not only express wishes and intentions, but define an implicit knowledge" (Lemke, 1997, cited by Cornellison, 2018, p. 130) and are therefore linked to expertise:

> The programmatic is the realm of designs put forward by philosophers, political economists, physiocrats and philanthropists, government reports, committees of inquiry, White Papers, proposals and counterproposals by organizations of business, labour, finance, charities and professionals, that seek to configure specific locales and relations in ways thought desirable. (Rose & Miller, 2010, p.278)

So, from a governmentality perspective, the New Zealand government's White Paper for Vulnerable Children (New Zealand Government, 2012a, 2012b) proposed a new programme of government, "to address the factors that place children at risk of becoming vulnerable, as well as the factors that protect children from vulnerability" (p.2) and set out, "major changes to the way in which children at risk of, or experiencing, maltreatment are identified and have their needs responded to" (p. 2). In particular, and of concern to this thesis, this new programme of government was

enabled by proposals for new technologies of governance in the form of ViKi and the PRM tool.

In governmentality studies close attention is paid to the way in which language is deployed to constitute the objects of politics, in this sense language can be considered as an *intellectual technology:*

> rendering aspects of existence thinkable and calculable, and amenable to deliberated and planful initiatives: a complex intellectual labour involving not only the invention of new forms of thought, but also the invention of novel procedures of documentation, computation and evaluation. (Miller & Rose 1990, p. 3)

The use of language as an intellectual technology provides a way in which forms of knowledge and expertise become bound up into programmes of government: articulating the scope of a programme, representing problems in particular ways and proposing solutions. As we will discover in chapters six, seven, and eight, the language used to describe a programme of government can become one of the sites of struggle and controversy as different policy actors propose or resist key ideas and alternative ways of framing social issues in terms of, for example, *child vulnerability* or *structural inequality*. However, governmentality theorists do not consider that reality can be reduced to discourse alone, language is only one element amongst other social and material resources deployed to assemble the programme. Borrowing from actor-network theory, intellectual technology is an important resource "in the process of forming networks through persuasion, rhetoric, and intrigue" (Rose et al., 2006, p. 89). The development of *networks of allies* is considered to be one of the main ways by which governing at a distance – another concept borrowed from actor-network theory – is enacted.

Actor-Network Theory

This section highlights several concepts from actor-network theory that complement the analytical tools provided by Foucault's idea of governmentality. As noted above Miller and Rose (1990) make several references to concepts from actor-network theory adapted to their version of governmentality. This section explores the relevance of two actor-network concepts that complement the governmentality framework applied in this study: the concepts are *actor-networks* and *translation*. Actor-network theory is an analytical framework developed in the sociological sub-field of science and technology studies during the 1980s (Latour & Woolgar, 1986; Latour, 1987; Law et al., 1986) where it was used for the exploration of scientific and sociotechnical systems. It is also a social theory of the relationship between society, science and technology (Matthewman, 2011) with a particular focus on how the diverse elements of sociotechnical systems are brought into alignment and held in place or fall apart. It is a relational and process-based social theory, and shares many of the assumptions of Foucault's post-structural perspective with regard to the role of technology in society and the way in which power flows through networks (Matthewman, 2014). Putting a policy and technological innovation – like ViKI and the PRM tool – into place requires a diverse range of factors and actors to be brought into alignment. In order to succeed those who would advance an innovation must negotiate a wide terrain of political, technical, legal, ethical, social, bureaucratic and professional obstacles. Since this

process involves bringing many diverse elements and interests into alignment – policies, people, organisations, databases, protocols, finance, hardware, knowledge, legislation and so on – actor-network theorists have described the process as *heterogeneous engineering* or *heterogeneous construction* (Sismondo, 2010). Sismondo (2010) suggests we may also think of it as *co-construction* since both material and social worlds – the affordances provided by new technologies and the capabilities of people – interact with and shape one another.

There are three fundamental assumptions underpinning ANT that inform the analytical stance of this study. Firstly, the assumption that all entities – whether social, natural or technological – are *relational* in character and derive their nature from these relations. Secondly, that relationships between entities can be described using the metaphor of the actor-network, or *heterogeneous networks* composed of human and nonhuman actors working in association with each other. Thirdly, that heterogeneous actor-networks are brought together, assembled over time and made durable (or not) through a process that can be described by the ANT concept of *translation*, a process that describes the work necessary to bring the actors in a network into alignment. So, ANT offers an analytical orientation that construes the objects of this study – the ViKI and PRM tool – as relational in nature, as embedded in networks of human and nonhuman entities, and as assembled and made durable through a process of translation. The following sections explore the implications of each of these three assumptions for the orientation of the study.

Actor-network theory thrives on the study of innovation, especially controversial technical or scientific innovation. It is during the process of assembling a new actor-network – when the innovation is being debated, negotiated and contested – that ANT studies have most to offer (Venturini, 2009; 2010). Like the governmentality thesis, actor-network theory assumes that the assembly and stabilisation of an actor-network is a process that is uncertain of success, likely to encounter resistance, and requires actors to be persuaded, cajoled or compelled to join the network. This is a process referred to as *translation*:

> By translation we understand all the negotiations, intrigues, calculations, acts of persuasion and violence thanks to which an actor or force takes, or causes to be conferred upon itself, authority to speak or act on behalf of another actor or force. (Callon & Latour, 1981, p. 279)

From an empirical and analytical point of view ANT researchers are interested in how networks are assembled and maintained in place. In how autonomous actors are enrolled in new programmes of activity and prevented from following their own designs. Translation then is about making connections, aligning interests and enrolling actors in new programmes of action (Callon et al., 1986). Within the governmentality perspective *problematisation* is the central activity of government. According to Rose and Miller (2010), "Government is a problematizing activity…The ideals of government are intrinsically linked to the problems around which it circulates, the failings it seeks to rectify, the ills it seeks to cure" (p. 279). For actor-network theory, problematisation is the first step taken in the production of a scientific or technological innovation, "that posits an equivalence between two problems that requires those who wish to solve one to accept a proposed solution for another" (Law et al., 1986, p xvii).

Since translation involves an innovation that proposes a new way of tackling an existing problem, it always, if it is to be put into effect, involves taking a *detour from business as usual*. And, since translation usually involves construing an old problem in a new way – using an algorithm to predict child maltreatment and target interventions, for example – there is always an ambiguity: a promise and a risk associated with the proposed detour. In addition, there are often different interests at play: for example, the interests of the designers and advocates of the PRM tool; the interests of politicians and policy makers; the interests of those directly affected by the innovation and the wider public. A technology like the PRM tool will only be adopted by policy makers and politicians to reach their policy goals to the extent that the detour from business as usual is found to be acceptable and necessary. As we will discover, the promise of the PRM tool to identify families at risk of child maltreatment required government to agree to the surveillance of the whole population of families with newborn children and to accept a high rate of false positive identifications of risk. This was a detour that was to prove acceptable to some political actors, but not to others (see chapter eight and nine)

It is important to note that both the governmentality perspective and actor-network theory, highlight the contingent and inventive nature of actor-networks. There is nothing inevitable or certain about the assembly of new actor-networks or the unfolding of programmes of government. Both process and outcomes depend on relationships within a heterogenous network of actors who could, at any moment, head off in different directions. Both the resistance of humans and the unanticipated effects of technological systems can influence outcomes. In the words of Miller and Rose (1990), "governmentality may be eternally optimistic, but government is a congenitally failing operation" (p.10).

Conclusion

This chapter has argued that the governmentality thesis, and some key ideas from actor-network theory, have a good fit with the purposes of a study focused on analysing a government led child welfare information system as a policy and technological innovation. Governmentality captures well the way in which an overarching political rationality – like social investment – can be made possible by the emergence of new technologies of governance, like big data and predictive risk modelling; and how new forms of knowledge –such as data science – can be harnessed to programmes of government. Concepts from the ANT tradition – such as actor-networks and translation – also help to highlight key aspects of the policy process: how issues are problematised, how actors are enrolled and how the implementation of a policy is likely to include negotiations, trade-offs, and political bargaining. Importantly, for the present study, both governmentality and ANT perspectives highlight the uncertainty of success of any programme of government.

Chapter 5: Methodology

This chapter discusses the methodology for this study and begins by offering a rationale for the use of case study as an overarching design frame. This is followed by a reiteration of the research purpose and research questions and the data collection methods selected (including the approach to data sampling and data analysis). The chapter continues with a discussion of my response to questions raised by the Massey University Human Ethics Committee (MUHEC) and concludes with a recognition of the limitations of the research methodology.

The Case Study Design Frame

For researchers interested in analysing public policy processes, a central methodological concern relates to the nature of the object of study: a relatively complex, unique and unpredictable sequence of events (Fenwick & Edwards, 2011; Hill, 2013). For this reason, studies of policy processes are often case studies using qualitative methods to gain insight into the perceptions of key actors and analyse the rhetoric deployed in political debates and policy documents (Hill, 2013; Miller, 2012). Thomas (2011a) notes that case study is not a methodology or method, but "a design frame that may incorporate a number of methods" (p. 512). The definition of case study offered by Simons (2009) has a strong resonance with the purpose of this study, "an in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution, program or system in a 'real life' context" (p. 21).

Thomas (2011a) developed a classificatory framework or typology to articulate different kinds of case study. The framework synthesises and integrates a number of different case study definitions allowing Thomas (2011a) to clarify key differences between case study types according to their *subject* (the case study itself), *object* (what the study is a case of), *purpose*, *approach* and *process*. Applying the typology to this case study helps to clarify that whilst the case study subject is the ViKi and the PRM tool, the object (or what the case study is a case of) is an instance of a public sector project concerned with the datafication of child welfare services (Church & Fairchild, 2017; Jørgensen et al., 2021; Redden et al., 2020). Identifying the object of the case study is important because it helps to place the case study in context, or as Thomas (2011a) puts it, "The object constitutes…the analytical frame within which the case is viewed and which the case exemplifies" (p. 515) (see chapter nine for a discussion of this case as an example of child welfare datafication). Thomas' (2011a) framework also helps characterise this case study as a key case study with *intrinsic* and *exploratory* purposes, an *illustrative/descriptive* approach and a *diachronic* (unfolding over time) process.

Research Purpose and Questions

In chapter one the purpose of the study was identified as tracing the development of the ViKi and the PRM tool as a case study in the datafication of child welfare services. Chapter one also highlighted the value of a phronetic approach to researching policy and technological innovations: a practice concerned with deliberation over values and interests, with interpreting the direction and desirability of policy and with articulating questions of power, or "who gains and who loses" (p. 33). As indicated in chapter one, this study was framed with Flyvbjerg's (2006a) four value-rational questions in mind:

1. Where are we going with the Vulnerable Kids' Information System?
2. Who gains and who loses, and by which mechanisms of power?
3. Is this development desirable?
4. What, if anything, should we do about it?

Data-Collection Methods

Public policy making is not usually based on observable decisions, made by a particular set of actors, acting together at specific point in time. It is, as Hill, (2013) contends, better thought of as a "web of decisions, taking place over a long period of time" (p. 16). Secondly, public policy making is a political process involving power exercised by key political actors sometimes making, or influencing, policy decisions from behind closed doors (Flyvbjerg, 1998). As it transpired many of the decision in relation to ViKI and the PRM tool were very opaque (see chapter eight), as similar developments have proven to be in other jurisdictions (Jørgensen et al., 2021; Redden et al., 2020; van Zoonen, 2020).

So, how do we trace the development of policy and technological innovations like ViKI and the PRM tool? How do we follow the actors when they may be operating behind closed doors? Ricci (2010) stated that, regarding socio-technical controversies, "During a controversy every actor constantly leaves some traces…made up by the interview transcriptions, official reports, statistical data, operating and normative procedures, and industry analyses and media news". Molloy (2010) argued that key informant interviews are perhaps one of the most valuable sources of data within policy case study research since – depending on whether they are policy makers, policy advisers or policy managers – these stakeholders can offer insights, from their perspective, on the evolution of the policy process. Interviewing key informants, then, is one of the methods selected for this study. Secondly, when public policies are controversial, as is often the case when they involve the introduction of new technologies, then mapping the nature of the controversy and the issues associated with any public debate, can be a useful source of data (Venturini, 2009, 2010). For this reason, the study includes an analysis of news media articles on the proposed introduction of ViKI and the PRM. The two sections that follow will discuss the two data-collection methods selected – key informant interviews and news media analysis – in more detail.

Key Informant Interviews

The use of in-depth, semi-structured interviews are recognised as an appropriate method for gaining insight from key informants who have played a significant role in a process such as a policy development (Bryman, 2012; Molloy, 2010). Using a flexible interview guide (see Appendix 1) can help give the interviewer (and the interviewee) a sense of purpose and direction, whilst, at the same time, allowing the interviewer to be responsive to emerging or unanticipated issues. The interview guide for this study used the four value-rational questions as their starting point but was also influenced by prior findings from the literature on the datafication of child welfare services (see chapter three). Initial draft questions were finalised following consultation with my research supervisors. The interview guide was divided into four sections that explored:

1. The informant's involvement in the policy process,
2. Perceptions of the key influences shaping the development of ViKI,
3. Perceptions of the design of the system,
4. Future challenges and issues arising from system implementation including unintended consequences and ethical issues.

Although, the qualitative interview is a remarkably common method of data collection in social science research, it is not without pitfalls and requires a careful consideration of underpinning theoretical assumptions. Silverman (2011) has described three broad perspectives on the research interview: *positivist*, *emotionalist* and *constructionist*. These three perspectives differ in terms of how they conceptualise the relationship between interviewer and interviewee, and the type of knowledge they assume can be obtained from the interview. The positivist interviewer tends to view the interviewee as a repository of "facts, reflections, opinions, and other traces of experiences" (Holstein & Gubrium, 2011, p. 152), and the interview process (usually in the form of structured interview schedules) aims to obtain data about valid and reliable social facts. An emotionalist interviewer, on the other hand, seeks direct access to the authentic human subject using more open-ended interview techniques to tap into the subjective, lived experience of the interviewee. Finally, a constructionist interviewer considers the interview to be a practical accomplishment: an account co-produced by the interviewer and interviewee that can be considered as a topic for study, rather than as resource or window on reality. From this perspective, as Hammersley and Atkinson (2007, p. 107) put it, "Accounts are not simply representations of the world; they are part of the world they describe". The analytical assumption underpinning this study follows the constructionist perspective and assumes that informants offer partial but important insights into the key actors and influences on the policy processes associated with ViKI and the PRM tool. These narratives are not considered to be windows on reality, but to represent a view from the particular *standpoint* of the interviewee (Haraway, 1988).

Sampling Key Informants.

Purposive sampling is the process of selecting informants and other data in a planned and strategic way to ensure their relevance to the research questions under consideration (Bryman, 2012). There are different types of purposive sampling but the type most suited to the design of this study is what Bryman (2012) describes as *fixed*, and *a priori* generic purposive sampling: clear criteria for the selection of informants were established at the outset of the study and remained the same throughout.

The original intention of this study was to get as close to key policy actors, internal to the Ministry of Social Development (MSD), as possible. Once my research proposal had been approved by the Massey University Human Ethics Committee (MUHEC) a research access application was submitted to the Ministry of Social Development's Research Access Committee (RAC), who act as the formal organisational *gatekeepers* of the MSD (Hammersley & Atkinson, 2007). It was intended that, if access was agreed, the researcher would consult with the National Children's Director of the Children's Action Plan Directorate (the most senior MSD manager in charge of the development), or another senior manager identified by the MSD. The purpose of this consultation was to identify six to nine individuals who met the criterion of being: *someone who has played a significant role in the development and design of the*

Vulnerable Kids' Information System. In January 2014 the Research Access Committee Coordinator responded to my research access application by stating that the committee had reviewed the application and declined access for the following reason:

> The main reason for this decision was that most policy work in this area is still in the thinking and talking stage rather than the written stage. Current thinking won't necessarily reflect final policy. So although you might be able to interview some policy analyst on their current thinking and show how this is similar or different to that reflected in the green paper. This will have no future relevance to the final policies. (C. Smits, personal communication, January 29, 2014)

Given that the rationale for this research was to study policy process in the making, rather than its conclusions (and described as such in the RAC application) this was a disappointing response. The MSD decision to decline access meant that the research could not now include policy insiders as informants. Following further consultations with my research supervisors, an amendment was submitted to the Massey University Human Ethics Committee, which led to a reformulated research design. This new design retained the data collection methods of semi-structured interviews, but the key informants would have to be at one remove from the MSD. To identify key informants who could still offer an informed perspective on ViKI and the PRM tool I decided to move the focus upstream. At the stage before the White Paper the development of the Green Paper was supported by two advisory panels: the *Scientific Panel* (a reference group of independent academic experts and researchers) and the *Frontline Panel* (a reference group of senior managers and executives from child welfare agencies). Membership of these groups was in the public domain and a list is included in OECD (2016). There were seven members of the Scientific Panel and ten members of the Frontline Panel (excluding the Chairpersons). All seventeen members of both groups were invited to participate in the research. Five responded, one declined, and four agreed to be interviewed. Two informants who agreed to be interviewed were members of the Scientific Panel, and two were members of the Frontline Panel. Although the sample size is small this is considered acceptable in a qualitative study of a relatively *elite* group who could offer exceptional insights into aspects of the policy process that would otherwise be hidden from view (Hammersley & Atkinson, 2007).

Analysing Key Informant Interviews.

Once transcripts of the interviews have been made the interview research data will be in textual format and can be checked by participants before being analysed as different kinds of text. There are many different approaches to the analysis of textual data (Gibson & Brown, 2009) but this study adopted a narrative approach. Narrative analyses include a range of approaches that share a *storied form* (Riessman, 2004). There are many different definitions of narrative, but Riessman's (2008) is often cited:

> in everyday oral storytelling, a speaker connects events into a sequence that is consequential for later action and for the meanings that the speaker wants listeners to take away from the story. Events perceived by the speaker as important are selected, organized, connected and evaluated as meaningful for a particular audience. (p.3)

The interviews with the four informants were analysed using a narrative, thematic approach. Thematic narrative analysis is similar to grounded theory but with, according to Riessman (2008), three important differences. Firstly, whilst grounded theory eschews the use of prior theory, thematic narrative analysis does not and, as noted above, the review of literature (in chapter three) shaped the formation of the interview schedule. Secondly, thematic narrative analysts "strive to preserve sequence and the wealth of detail contained in long sequences" (Riessman, 2008, p. 74) rather than fragmenting the data into codified segments. Finally, although overlapping themes between interviews can be identified, thematic narrative analysis adopts a holistic stance to interview data retaining the coherence of each account as a case and identifying the themes within them. This approach provides a strong sense of the particular standpoint of each actor and the plurality of perspectives on government policy development, as well as the commonalities between accounts.

National News Media Reports

When policy actors engage in media discussion of new policy initiatives, they often deploy narrative structures to persuade and reassure the public that the policy makes sense, that it is the best possible course of action and that it resolves some pressing public concern or issue (Czarniawska, 2004, Feldman & Almquist, 2015). Narrative arguments expressed in the public domain, "follow logic and a structure that makes rational sense to people…and they offer methods to communicate the values of a public project and a framework through which these values can be enacted" (Feldman & Almquist, 2015, p. 2). Indeed, narratives are a powerful means by which to influence public opinion and generate public support for a policy stance (Callahan, Dubnick & Olshfski, 2006). At the same time, they also reveal something about the political, ideological and ethical stance of the narrator. Exploring the purpose of rhetorical analysis, Feldman et al., (2004) have stated, "People tell stories in order to convince, and our concern is with the understandings that they are trying to convey through their stories" (p. 152).

Feldman and Almquist (2015) have argued that while explicit narratives can be usefully studied, so to can *implicit* narrative structures: narratives where some of the key components of the argument remain unstated but obvious to the listener or reader. Explicit arguments often take the form of the classical three-part syllogism: a form of logical reasoning that connects two premises (a major and a minor premise) to deduce a conclusion. For example:

1) Major premise: All men are mortal.
2) Minor premise: Socrates is a man.
3) Conclusion: Therefore, Socrates is mortal.

However, there are very some good reasons why a narrator may not want to make explicit all of the premises of an argument:

> First, from the perspective of persuasion, engaging the listener in completing the argument makes the argument more compelling…. If the listener supplies one of the premises, then presumably she or he is more likely to believe it. This may be particularly important in cases where the premise is controversial or questionable. (Feldman & Almquist, 2015, p. 210)

Arguments where one of the premises or the conclusion is implicit, and where the relationship between the premises is not based on logical deduction, but may be more probabilistic or controversial, are called enthymemes. The analysis of these enthymemes, deployed in the rhetoric of policy actors, is central to the analysis of the news media reports sampled in this study.

Sampling News Media Reports.

National news media reports on the ViKI and the PRM tool were identified by conducting key word searches of the database *Newztext*[3] using different combinations of the terms "database" "child*" "abuse*" and "predict*". The search was constrained by limiting it to the two largest circulation newspapers in Aotearoa New Zealand (the *New Zealand Herald* and the *Dominion Post*) and searching for articles appearing during a three-year timescale from the publication of the White Paper in October 2012 until December 2015, shortly after the closure of the proposed, prospective observational study of the PRM was announced. The search identified 85 articles that were reviewed for relevance with 75 being excluded and the remaining ten forming the sample.

Analysing New Media Reports.

The rhetorical approach to narrative analysis has been described in detail (Feldman et al., 2004; Feldman & Almquist, 2015; Knight & Sweeney, 2007) and includes the following steps: a) identify the stories; b) describe the story lines; c) identify the oppositions; d) construct syllogisms and identify which syllogisms have implicit statements (the enthymemes). From the data to be analysed – in this study, news media reports – the analyst should first identify the *stories*. Feldman et al., (2004) distinguish the overall *encompassing narrative* from individual sub-sets within the narrative they refer to as *stories*. The encompassing narrative is "the grand conception that entertains several themes over a period of time" (Feldman et al., 2004, p. 149). Stories, on the other hand, "are instantiations, particular exemplars of the grand conception. They respond to the questions of 'And then what happened?' or 'What do you mean.'" (Feldman et al., 2004, p. 149). According to Feldman et al., (2004), "Stories provide rich data that express movement, interpret ideas, and describe from the storyteller's perspective how things used to be and how they are, as well as how they should be" (p. 150). In this study the encompassing narrative is the news media report (with its theme identified by the title) from beginning to end, and within each news report individual stories were identified. The purpose of the rhetorical analysis of these stories is to surface their underlying logic and the narrator's implicit assumptions.

In identifying stories within the news media, it is important to distinguish the stories from mere *descriptions*, which Feldman et al., (2004) have defined as "a list without a plot". Once the stories are identified analysis can proceed in three steps. Firstly, identifying the *storyline*, the basic point (or points) that the story is being used to make. Secondly, identification of the main *oppositions* (implicit or explicit) within the story: arguments often contrast two differing perspectives and identifying these oppositions can help to tease out the implicit assumptions of the argument (Feldman & Almquist,

[3] https://www.knowledge-basket.co.nz/databases/newztext/search-newztext/

2015). Thirdly, the arguments being made within the story are represented as a *syllogism* or *enthymeme*. In the case of an enthymeme – a syllogism where there is a missing part or where a part is probabilistic rather than logically binding – the analyst infers the missing part and includes it in a complete enthymeme using a notation to distinguish the implicit parts (in the case of this study the implicit statements are identified using capital case). This rhetorical approach to narrative analysis is an interpretive one, involving the analyst in making choices "to include some things and exclude others and to view the world in a particular way when other visions are possible" (Stone, 1988, p. 306). Although, the implicit parts are inferred, giving readers access to the original content, along with the analyst's interpretation, makes the interpretive process more transparent and allows readers to decide whether the inferences made are reasonable or not. The news media findings in chapter seven include web links to the full news media articles.

One final consideration with regard to a rhetorical approach to narrative analysis has been highlighted by Gottweis (2006, 2007) who draws attention to fact that, whilst many commentators consider argumentation to be principally a matter of rationality, classical Aristotelian rhetorical analysis recognises three modes of argumentation: these are *logos*, *ethos* and *pathos*. According to Gottweis (2006), "In the Aristotelian tradition, logos instructs and applies reason, ethos refers to the 'morality' of the speaker, and pathos has the function to move and refers to the passions" (p. 476). As we will discover, all three argumentative strategies were evident in debates about ViKI and the PRM tool. It is important to note that the point in making this distinction is not to privilege logos, or the rational, over other modes of argumentation, but to recognise that, in political debate and policy making, all three are deployed and have a role to play.

Ethical Considerations

In accordance with the Massey University's Code of Ethical Conduct for research involving human participants (Massey University, 2014) a human research ethics application for this study was submitted to the Massey University Human Ethics Committee (MUHEC) and approved in August 2013 (HEC: Southern B Application 13/61). Following, notification from MSD Research Access Committee that access was declined an amended ethics application was submitted to MUHEC. The main amendment was the change in the target group of interview informants from MSD insiders to members of the two advisory panels to the Green Paper: the Scientific Panel and the Frontline Panel.

In response to this amended application the MUHEC had three main questions: firstly, what was the method by which the researcher would gain access to the names and contact details of the member of the two advisory panels; secondly, was it necessary to seek permission from the employing organisations of potential informants; and thirdly, was there potential for the researcher to end up with privileged knowledge from the interviews that may be of professional or commercial benefit in the future. In response to the concerns raised I clarified that the full names and contact details of all members of the two advisory panels was a matter of public record and available on the open internet (OECD, 2016). Secondly, that permission would not need to be sought from employers since the informants were being recruited as individuals with expertise who had served on a government advisory committee, not because

of their current role in a particular organisation. Finally, in relation to the issue of any professional or commercial benefit the researcher might gain from the study, I responded that the answers to the questions posed during the interviews were intended to illuminate policy processes associated with the development of the technological developments recommended in the White Paper. However, although there may be professional and public interest in this data, there was no conceivable way in which the findings could be turned to the commercial advantage of the researcher. Since it was the intention of the researcher to publish the findings and disseminate them widely, any benefits that might be derived from the data and their analysis would be shared with the wider academic and professional community. This amended application was approved by MUHEC in April 2014 (appendix two).

Limitations of the Research

The limitations inherent in this study flow mainly from the use of case study as a research design choice and from the potential for bias in a generic purposive approach to sampling (Bryman, 2012).

Limitations of Case Study Design

The use of case study as a research design frame, the data collection methods of in-depth interviews and news media reports, and a narrative approach to analysis all share commonly recognised limitations with regard to qualitative research with an interpretivist orientation. Case study designs are considered to have limitations on the generalisability of findings, especially in the context of a qualitative, single case study design. However, as both Thomas (2010) and Flyvbjerg (2006a) contend, these assumed limitations are often overstated. Thomas (2010) argues that a more limited everyday generalisation or *abduction* from case study findings is still possible; and Flyvbjerg (2006a) asserts that case studies have the capacity to produce practical, contextual knowledge – or phronesis – from the case narrative. Interpretivist research seeks to, "grasp the subjective meaning of social action" (Bryman, 2012, p.30) and this research design is an interpretivist one involving the analyst in making choices, "to include some things and exclude others and to view the world in a particular way when other visions are possible" (Stone, 1988, p. 306). This is inescapable in the political domain, however, by laying bear the underlying logic and implicit assumptions of political argument, the method of narrative analysis enables the reader to reflect upon and consider alternative points of view. As Feldman et al., (2004) argue, "our analysis is based in the presumption that we live in a social world characterized by multiple interpretations and that as people tell stories these numerous interpretations are manifest in multiple and sometimes conflicting logics" (p. 151).

Limitations of Generic Purposive Sampling.

Generic purposive sampling had a good fit with the design of this study, however, as others have noted (Duke, 2002; Hammersley & Atkinson, 2007) there are often difficulties accessing relatively elite policy actors. The sample of four advisory group members is a small proportion of the total of seventeen Green Paper advisory panel members overall. Also, since this was a self-selected sample there is a possibility of bias in their motivation to be interviewed: it is possible, for example, that the four advisory panel members agreed to be interviewed because

they shared strongly negative or strongly positive views on the advisory panel process. However, this study was not concerned to achieve a representative sample of advisory panel members, but simply to elicit information about the policy process. Although there were only four informants, they each had privileged access to a significant part of the policy process and had been considered by government actors to possess relevant expertise. As MSD outsiders, with some distance from government accountabilities, they were also likely to be able to be more candid than insider informants.

The ten news reports were selected using a clear set of criteria and limiting the sample to the two largest circulation news outlets. However, there may have been significant issues pertinent to the case debated in other newspaper outlets and in other news media, both radio and television. In fact, that proved to be the case in this study and the discussion in chapter eight makes reference to a government video (New Zealand Government, 2011a) and to two Radio New Zealand programmes (Cowie, 2015; Ryan, 2015), but these sources are not included in the detailed narrative analysis.

Conclusion

This chapter has outlined the rationale for adopting a case study design to this study and justified the two methods of data collection of in-depth, semi structured interviews and the analysis of news media reports. Two different forms of narrative analysis – thematic narrative analysis and rhetorical narrative analysis – are explained and justified. Responses to issues raised by the MUHEC were elaborated and the limitations of the study discussed. The next two chapters will discuss findings from the key informant interviews (chapter six) and from the analysis of news media reports (chapter seven).

Chapter 6: Findings - Expert Panel Interviews

This is the first of two chapters presenting the findings of the study. This chapter presents findings from interviews with four expert advisors: two from each of the two government advisory panels convened to advise on the Green Paper: the *Scientific Panel* (a reference group of independent academic and research experts) and the *Frontline Panel* (a reference group of senior managers and executives form child welfare practice agencies). Chapter seven will present findings from an analysis of news media reports where key stakeholders make public statements on the ViKI and the PRM tool. As indicated in chapter five the interviews with the four advisors were analysed using a thematic narrative approach (Riessman, 2008). This approach does not attempt to code themes across interviews but adopts a holistic stance retaining the coherence of each account and identifying the themes within them from the standpoint of the interviewee (Haraway, 1988). By doing so we are able to get a strong sense of the plurality of perspectives on government policy development as well as the commonalities between accounts. Findings from each of the four interviews, with a brief commentary summarising interview themes, are presented below. The interview findings will contribute, along with the news media report findings presented in chapter seven, to the final discussion and analysis offered in chapter eight.

The first two accounts, Simon's story and Christine's story, are based on individual interviews with two members of the Frontline Panel. The second two accounts, Roger's story and Eleanor's story, are from individual interviews with two members of the Scientific Panel. The names of the interviewees have been altered to protect their identity and maintain confidentiality. It is important to note that use of the word *narrative* in the interview section headers, is not intended to suggest that the interviews are works of invention, but to foreground the fact that they are narrative accounts and are treated as such in the analysis. During the interviews the four advisors were asked not only to reflect on past events, but also to offer views on the motivations of policy actors and to speculate about the advantages and disadvantages of the proposed technological developments. They were all perfectly capable of doing so, but understandably, when talking about the likely outcomes of a technological innovation that was still in development, their responses were sometimes uncertain and ambivalent. Since all four interviewees were being asked to reflect on their contribution to government advisory groups (two as senior managers and two as academic researchers) it is not surprising that they had some critical reflections to make about the nature of that process and the impact of their contribution.

Simon's Narrative: "This was the Minister's Legacy Piece".

Simon was a member of the Frontline Panel and a senior manager in a large non-governmental organisation. He set the context for his interview by stating that his organisation considered itself to have a policy and advocacy role, "to be able to represent points of view and advocate for change for vulnerable people". As we will see, that policy level standpoint permeated Simon's story.

Simon stated that the primary purpose of the Green Paper was, of course, to consult the public but added that it was, more specifically, to seek a public mandate for Minister Bennett's concern to respond to the historical issue of child protection failures, especially with regard to abused babies and child homicide. From Simon's point of

view, Minister Bennett was the key policy actor driving the reforms and he considered that her motivation to improve policy was deeply held. He speculated that she may have had an aspiration to make improved child protection policy her political legacy, "Yeah, I mean I think when the White Paper was launched, I think I made a comment to the effect that this was the Minister's legacy piece".

Whilst Simon's view was that the Minister was highly motivated to reform child protection, he also believed that, from the outset, the government's child protection reforms were deliberately framed to focus on the problem of *vulnerable children*, and that this framing was powerfully influenced by a wider governmental, political perspective in the form of the National government's commitment to the social investment approach. Revealing his ambivalence towards this way of framing the policy issue, Simon stated that he had "a great deal of difficulty" with it:

> And the vulnerable children focus was very much it, and while, at a personal level, I have a great deal of difficulty about the tight focusing of vulnerability, and perhaps a lack of understanding of drivers of vulnerability, that was key to the push really.

This idea of framing the issue in relation to vulnerable children was reiterated throughout the interview with Simon. He related the focus on vulnerable children to the motivation of Minister Bennett to prevent serious harm to children and child homicide:

> I mean the Minister feels, I think, a personal affront whenever a baby dies on her watch and good on her for feeling that way, yeah. So, she has a real concern about babies dying, children being abused and injured, neglected, seriously neglected, and so that was one of the lenses.

Simon suggested that a particular *lens* – a way of framing or problematising the issue – was at work not only in how the Green Paper was drafted, but also in how submissions in response to the Green Paper[4] (New Zealand Government, 2012c) were interpreted:

> And, of course, when you get tens of thousands of responses, the analysis of those responses is totally dependent on the lens. And so, the lens that was taken to the analysis of the responses to the Green Paper was one that fitted the particular perspectives of the government of the day.

One "lens" was the Minister's personal concern about vulnerable children and "babies dying", but there were, according to Simon, broader political considerations at work. He referred to the concepts of *market segmentation* and *targeting* as key political emphases and connected those concepts with the National Government's broader ideological positioning. Simon described the government's rationale for market segmentation and targeting in terms of economic considerations in the wake of the "post-global financial crisis" and "tight focusing on expenditure, so we're looking for value for money, we're looking for more for less". He also introduced the idea that the National government had a *pragmatic* approach to policy making and one that focused on managing *symptoms*:

[4] There were almost 10,000 submissions received in response to the Green Paper (New Zealand Government, 2012c)

> And within the resource constraints the government believes that it exists under in this field, then the pragmatic response is to say, "How do we ameliorate the symptoms in the most effective way?" They also have a strong belief in that kind of segmentation of market and delivering a product to a segment of the market which, the whole construct of targeting and closely targeting.

Simon considered that the main purpose of the Green Paper was to achieve a public mandate to prioritise a focus on vulnerable children, so that this mandate would subsequently give legitimacy to the policy recommendations of the White Paper, "Well, the central thesis of the Green Paper that then was translated into the White Paper is, 'Do you believe we should prioritise the needs of vulnerable children over other segments of society?'".

Simon also stated that alternative frames of reference – such as the consideration of "structural issues" – were subtly excluded from the agenda:

> But actually, the question, that kind of using, prioritising our resources to address that societal problem wasn't the question or the answer being sought. The answer being sought was, how do we sort out these families that abuse children?

When the interview turned to Simon's views on the ViKI, Simon stated that one of the "key findings" in inquiries into the death of children concerned the lack of information sharing between professionals involved:

> So, one of the threads then through that is that when the inquiries into children's deaths that have occurred over that period. I mean one of the key things, one of the key findings consistently was everybody had a little bit of the information, and if somebody had put it all together then the vulnerability of this child would be obvious.

For the most part Simon's account was broadly descriptive of his understanding of government policy and its drivers, although he indicated his personal ambivalence towards the focus on vulnerable children, and it is reasonable to infer reservations about the exclusion of structural issues and poverty from the agenda. However, in the passage below, Simon's makes a subtle shift in register towards a more critical stance, telling the interviewer that "the real concern" of government was with "bad people" who have access to children and who need to be sorted out:

> So, if you looked at the Green Paper and the White Paper, the real concern was that there are bad people out there who have access to children, who do things to those children that result in that serious harm, or death. So, we need to sort out the bad people and make sure that they don't have access.

In the context of his broader account, it is clear that the implication was not that these "bad people" were random strangers, but the parents and caregivers of children. The purpose of the information system then, was to identify vulnerable children, by identifying parents and caregivers who might put them at risk.

Moving to the methods which might make this purpose achievable, Simon connects this goal to the broader agenda on the use of government data for social good. He uses

the linguistic device of heteroglossia[5] "quoting" the Minister of Finance in the following passage, to explain the government's stance on the use of data, and highlighting the moral imperative to do so:

> Most recently I've heard our Minister of Finance say, "If we hold the information that allows us to segment our society, then, and to be able to identify those groups that most need support and would be most responsive to support and get the best outcome from that, it would be irresponsible of us not to do so. And that now we have that much data being held, and we have the capacity to do this, then surely we must."

Having offered a coherent outline of the government's rationale for its policy stance, Simon returned to his earlier statement about the absence of a focus on poverty. At this point his narrative shifted into the role he described himself as having when the interview opened, to, "represent points of view and advocate for change for vulnerable people":

> I mean it's interesting, so vulnerable children live in a vacuum. So, the fact that we live in a low wage, low benefit society, and that children who are from families with low incomes, or from whichever source, are vulnerable and more at risk than other children, is not mentioned (laughter)…But that's not one of the questions that the government wants to consider, so they're saying, "Well what are the other things we can do to ameliorate the chances of these children being harmed, being injured?".

When discussing the proposed information sharing system, and, in particular, the PRM tool Simon, once again, revealed his ambivalence towards this new technology describing himself as wearing two "hats":

> I mean I'd say, I'm concerned at one level, it feels quite Orwellian, particularly when you throw predictive risk modelling into it. And so, I'm quite concerned, I guess my civil society kind of approach, my civil liberty approach is kind of going, "Gee, as a young parent I might have raised a few flags, and our kids turned out okay." So, is this a good thing? But then my other hat goes, "We have thirteen children a year die because we didn't know the stuff that we need to know, even though the information was there if someone would just look for it". So, what's the balance in that, what's the balance in that? And we're in this new society, we are in a new society where the, our lives are lived online, it's there.

Exploring his ambivalence further, Simon said he was somewhat reassured when, in policy discussions, it was stated that the predictive risk score would not be used without the oversight of a professional. However, immediately following this remark, he indicated some uncertainty about this assurance. To illustrate this point he drew on an example of the reforms proposed by the government's Welfare Working Group (2011)[6]:

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[5] Heteroglossia is a term theorised by Michael Bhaktin referring to instances when "The speaker as author incorporates the words and voices of others, but the utterance becomes the speaker's own when it is populated with his or her own intentions and accent and is appropriated for the speaker's own purpose." (Given, 2008)

[6] Minister Bennett was also the minister responsible for the Welfare Working Group (2011) that recommended sanctions on beneficiaries for failing to comply with certain requirements: such as having their children immunised or ensuring they attend early childhood education.

> The thing that really concerns me is that the government said, "We're going to incentivize people to engage in this investment process." And what they actually meant is, "We're going to punish people if they don't." So, what I would be concerned about is if this process moved from one of saying, "We're going to actively engage with people in a positive way, to help them overcome the difficulties that might lead to their children being vulnerable through some really proactive, but positive work." To one of, "We will sanction people if they don't engage in this stuff".

When the interview moved on to the subject of issues and obstacles to the implementation of ViKI and the PRM tool, Simon was concerned not only about the impact on the right to privacy of families, but also about the possible unintended consequences of increased technological surveillance that might lead some parents and caregivers to take steps to avoid coming to the attention of the authorities and to "fly under the radar" thus putting some children at greater risk:

> It actually could end up meaning that if you're a sole parent, you're less likely to become part of a permanent blended family in the longer term. Because every time you have an unrelated person moving in with you, somebody from a nice social service agency comes around to see if everything's alright. And you kind of go, "I'm not interested in that." So, there's a bunch of stuff that could emerge from it.

Turning again to his advocacy stance, Simon highlighted the issue of stigma, labelling and the othering of the poor as "bad parents":

> The other one is that it'll still be set up as an "us and them". Us good parents don't have anything to worry about, but those bad parents do, and those bad parents are already the other, because generally they're on benefits and parents of poor children.

Simon ended his account by talking about alternative ways in which the predictive risk modelling tool could be used, for example by using the data in an aggregate way to take into account contextual and community issues, rather than focusing on problem individuals and families. Once again, he indicates uncertainty about the technological innovation recognising that it might be a "good thing" if used in the "right way", a way that offers, "the kind of hand-up that people need" rather than, "…a punitive or sanctioning approach that says you're not good enough".

Summary

Simon offered a detailed policy level account describing the motivation of policy actors, the framing of policy issues and the connection between policy proposals and the National government's broader political and ideological stance: their political rationality of social investment. He made explicit reference to the political framing or problematisation of the issue as one of child vulnerability with a concomitant focus on early intervention, the identification of vulnerable children and the targeting of "bad parents" who might harm them. He also recognised the active exclusion of alternative ways of framing these policy issues in terms of structural issues or poverty.

Minister Paula Bennett was clearly identified as the central policy actor with a passionate commitment to tackle child protection and a key concern to tackle child homicide. For Simon, this was evident from the Green Paper which he considered was used as a policy device to obtain a public mandate for a selective focus on the most vulnerable, as a way to enrol the public in the programme, before the nature of the programme was made explicit. Simon argued that ViKI and the PRM tool were intimately connected to the National government's broader policy agenda and in keeping with their wider welfare reforms. He considered that the key characteristics of this approach, the social investment approach, were seeking value for money; a pragmatic approach to tackling symptoms; a commitment to market segmentation and targeting; and the use of government data for social good.

While Simon recognised potential value in the use of ViKI and the PRM tool he also expressed ambivalence. He was concerned about balancing the loss of privacy for service users against the potential benefits of preventing child maltreatment. He was concerned about whether the main outcome of the technological innovations would be positive, proactive support for poor families; or surveillance and sanctions on a population group who are already disadvantaged. Finally, Simon was concerned that technological surveillance could have unintended consequences including: the labelling and stigmatisation of families, families choosing to avoid contact with the child welfare system thus putting some children at greater risk, and perhaps having a negative impact on family relationship choices.

Christine's Narrative: "Joining up the Dots…That was the Dream".

Like Simon, Christine was also a member of the Frontline Forum convened by the Ministry of Social Development. Christine was a senior manager in child health services and, perhaps for that reason, her account had a strong emphasis on the theme of improving interprofessional collaboration for child protection. Throughout the interview Christine highlighted the value of collaboration or "joining up the dots" between agencies as an important policy goal, linked to the idea of professionals sharing what they know about children:

> How we're joining up the dots within the sector and to me that was, for me the vision behind it is that how, as a country, can we work better together rather than working in our own separate ways…to ensure that children are not being siloed in one area, and somebody knows something here and somebody knows something there and never the twain shall meet. So, it was to me… that was the dream.

Whereas Simon spent considerable time offering an overview of government policy direction and its connection with other macro-level issues, Christine moved directly to the issue of information sharing and information sharing systems:

> I don't think a particular system was talked about until the White Paper was actually presented. I think for me sharing of information has to be high on the agenda if you are looking out for the best outcomes for children...but we must have good process around that and good structure around that and involve whoever the caregiver is of those children if need be, so they are aware of how these things are happening.

The imperative of having safeguards around information sharing was a recurrent theme in Christine's account as was the active involvement of caregivers in the information sharing process. The idea of having an electronic system to facilitate information sharing made sense to Christine:

> I think that that's logical, I think most of us, if you're going to try and join the dots you've got to find a way of doing it, doing it on hard paper is not satisfactory, doing it via communication between two individuals doesn't always work.

Christine was very positive about the prospect of electronic information sharing. However, she was also aware of possible pitfalls. This was evident in another recurrent theme in Christine's account, the issue of different professional paradigms, philosophies and language that might impact on how information was shared:

> I mean this has all been driven through the Ministry of Social Development. But I come out of a health environment which do have some different drivers and that is evident in a lot of the development that's going on now. It's a bit like the social work paradigm and the nurse paradigm are quite different (laughter).

If finding ways to share information across professional boundaries was a key issue for Christine, she signalled a different perspective on the PRM tool, revealing, like Simon, an attitude of deep ambivalence:

> Sharing of information had to be there. We have to do it in a coordinated way and let's find a way in which parameters can be put around that sharing of information. With the predictive modelling, I'm not so convinced about that personally.

Returning to the theme of different professional groups with different professional languages and philosophies, Christine explored the issue of working relationships between nurses and social workers linking this to what she perceived to be different views on who was the client in a family situation, and different perspectives even when working within a common assessment framework:

> When we came to work out how our staff are going to work together, we had a lot of work to do with our staff because they're different philosophical bases. And as social workers they work with the adult as the client, we work with the child as the client, and that straightaway changes the way in which you do your assessment.

Although Christine was positive about the idea of electronic information-sharing she was also clear that information sharing could not be an end in itself, put simply, it was important to be clear about how to move from information to action:

> It's all very well having all the information sitting there in a system but so, so what? What are you going to do with it? How are you going to make it work? How…who's going to be managing and assessing, and where is the lead in looking after that child?

When the interview returned to her views on the predictive risk modelling tool, Christine explained why she thought the Ministry of Social Development (MSD) might have thought this was a good idea:

> they thought within MSD they could see when people hit different departments and they could look at amalgamating all of their systems and see, okay where are the common threads coming through and is there an indication here that you're a solo mother, or you're on a benefit, or you're getting housing, whatever it is that you're collecting information on. Putting that all together and seeing, is there something there that indicates there's something with this child, or this family, they do it from a family perspective probably.

Christine highlighted the limitations on using administrative data to assess risk, she referred to findings from the *Growing Up in New Zealand*[7] longitudinal study on children, "Because some of the indicators that are shown antenatally, they looked at those vulnerability points antenatally and by nine months some of those had gone and others had come in." In other words, according to Christine, the administrative data held by MSD would not be able to take account of these dynamic shifts in real life risk factors which would impact on the accuracy of the administrative databases used by the predictive risk modelling tool. If predictive risk modelling has a role, Christine did not think it could be a dominant one, "I think it's a tool to have back, way back but not as the forefront, in my view. I think ethically we've got to be really careful using that."

Returning to the theme of information sharing, Christine restated her view that she thought "the biggest obstacle would be are we assessing in the same way? So therefore, sharing and understanding what we're sharing, because we all come from quite different philosophical bases." In spite of this reservation, she went on to offer an example of how electronic information sharing might work in practice:

> So, if my child, or if a child goes into the emergency department at hospital and they, all they see is a child in front of them, they may see a child that's got a bruise on its arm, or it's fallen over and it's very explainable, not a problem, everything seems fine. If they could access notes that perhaps the GP has, that perhaps the Plunket nurse has taken and in there there's some concern, or there's been some discussion about domestic violence, there's been some discussion about alcohol and drugs as part of that assessment. That might then ensure that the assessment done when they reach that point is a bit more thorough.

However, revealing her sensitivity to the risks around electronic information sharing, Christine reiterated the need for tight parameters to govern data security, and adherence to the information privacy principles of the Privacy Act (1993):[8]

> But we've got to make sure we've got the right parameters around that, that we are looking after client information in a safe, secure way. We're only sharing it

[7] Growing Up in New Zealand: http://www.growingup.co.nz/

[8] Christine did not refer to the Privacy Act (1993) directly, but it seems safe to assume she was referring to information privacy principle ten that, "agencies must use personal information for the same purpose for which they collected that information". However, in this context, it is important to note that principle ten also states that, "Other uses are occasionally permitted (for example because this is necessary to enforce the law, or the use is directly related to the purpose for which the agency got the information)".

> for the purposes for which it was intended for the best outcomes for that child. Let's get some really good parameters around that.

Christine constantly referred to the delicate balancing act required for effective, interprofessional electronic information sharing. She valued the "immediacy" of an electronic record, but highlighted the need for knowledge and skill, insisting that professionals have, "got to know how to access it, you've got to have the right security to be able to do all of those things." When asked to reflect on possible unintended consequences of the electronic information system Christine immediately identified the possibility of the false positive identification of risk, "Oh that it picks up children that shouldn't be picked up, absolutely." The key to avoiding that outcome, Christine emphasized, was having highly skilled staff to interpret the information, "…so it comes back to education and training of staff in behind that so that they're understanding what it is that they are seeing and then being able to assess that correctly."

Christine associated the risk of false positives, and the subsequent labelling of families, with the use of the predictive risk modelling tool. She framed this concern in a way that highlighted the potential harm this might cause to the working relationship between professionals and the families with whom they were working:

> On information and then the feeling of those families, well what is the feeling of those families? They've been labelled straightaway and I think that's something we've got to get out of our system is that labelling of families. Because families in high need communities know pretty early on that they're being targeted or labelled in some way. So, we've got to be careful that we don't do that and then that in itself can create a risk for that family.

Asked to expand on what the risk of labelling might entail, like Simon, Christine identified the risk that the families might deliberately evade contact with the system and go "underground", putting some children at greater risk:

> Mmm…and then they'll go underground, and something happens further down the track and I don't know, you've just got to be aware of the labelling and often as soon as there is any sort of insinuation then people think, "Well there was something in there and I'm always looking, I'm always looking, is there something there or not?"

From an ethical perspective, informed consent was one of the most important issues for Christine, "So, I'm a great believer in just being really transparent about every interaction that happens. What you're doing with that information? Why are you doing it? Where are you going with it?"

Anticipating the possible public controversy around the introduction of the information system, Christine argued for the value of transparency not only in relation to families known to the system but also with the wider public:

> I think the best is to be really up front with the public straight off that there is a database, for want of a better word that's what it is, that will collect information on children that may, through no fault of their own, or maybe their family at that point in time, because of their own resilience factors need extra support and help.

Overall, although highly sceptical of the value of the PRM tool, Christine was positive about the potential for electronic information sharing and its role in early intervention. However, she also highlighted a degree of uncertainty over implementation by adding that this was possible, only "if we can get it right":

> And it's making sure that we're all on the same page around how we're sharing that information, and I think that that's the challenge with this but if we can get it right, it would only support parents in their parenting role with children, because to me I see them getting in supports earlier. Getting in extra support when it is identified.

Summary

Christine's account was very focused on the practicalities of interprofessional collaboration and the potential value of the electronic information sharing system. She was, however, much more guarded about the value of the PRM tool. For Christine electronic information sharing has the potential to provide access to "immediate" information that unlocks interprofessional collaboration and enhances outcomes for children. She was however conscious that effective electronic information sharing needs good processes and protocols to keep data secure and ensure that users adhere to information privacy principles. She considered that effective information sharing might be impeded by the different professional paradigms, philosophies and language of different professional groups. She recognised that this can impact on shared assessment processes even when an agreed, common assessment framework has been established. Christine also recognised that while information sharing was necessary it was not sufficient. There was also a need for clarity about the pathway from information to action including a shared understanding of who is responsible for taking what action.

With regard to the predictive risk modelling tool, Christine was concerned it may not be able to deliver the promise the MSD considered that it would. If used at all, Christine thought, it ought to be kept in the background and not be allowed to drive professional decision-making. Christine's main concerns with the predictive risk modelling tool were: that it can't take account of dynamic changes in family risk and resilience; it can lead to false positives and the labelling of families; that the latter might drive some families to avoid contact with the system putting some children at risk; and that the labelling of families may have a negative impact on working relationship between professionals and families. In general, she was of the view that ensuring the best use of any information systems required staff who were well educated and trained; and that there is a need for fairness and transparency to ensure the informed consent of families and the support of the public.

Roger's Narrative: "Now This is Where You Have the Paradigm Clash".

Roger is a senior academic researcher and was a member of the Scientific Panel established to offer advice on the shaping of the Green Paper. Roger set the scene for his interview by making clear his stance on policy making and his role in advice giving to government. There was, he said, a correct way to generate knowledge on which to base policy, which was to follow a structured scientific process moving from systematic reviews of evidence, to pilot studies, to randomised control trials. However, he argued, the New Zealand government do not generate knowledge in this way. He described a

"paradigm clash" between his own "modern prevention science" stance, and the position adopted by government and other stakeholders in the policy making process:

> Now that's just a basic, modern prevention science process to developing policy, which everybody ought to know and ought to be able to do at least to some extent. Now this is where you have the paradigm clash. The government, the staff in government agencies do not do this model. This is not the way they generate knowledge. They generate knowledge the way in which it was done in the White Paper and thence the Green Paper.

Roger contrasted the "modern prevention science process" with his experience of the government's "consultancy process" approach where, as he described, a policy analyst generates knowledge by consulting stakeholders in meetings, "People write up various things on the whiteboard, and then the analyst, the policy analyst writes up a report giving her, in this case it is her, impressions of what is said and what needs to be done." In that context, Roger argued, "research knowledge is just simply treated as one part of a discourse, which can be modified enough and changed by other parts of the discourse". As a result, in his view, "what went into the White and Green Papers, had very little resemblance to what you would advocate to prevent child abuse, neglect, and all the other issues of vulnerability".

Roger elaborated his narrative about the "paradigm clash" by using a practical illustration. He used an example of his involvement in researching a form of home visiting as an intervention to tackle child maltreatment and described the government response to his study, "We did a pilot study and then we did a randomised trial and so forth. And I thought that would impress everybody. It doesn't, it's just seen as a sort of embarrassment." Using heteroglossia he described how government policy advisors rejected this evidence-based approach, "And they said, 'Oh no, we know better ways of evaluating this than randomised trials, everybody knows that's out of date.'" Returning to what he perceived to be the government's preferred modus operandi he offered the following detailed description:

> The rules of the game are fairly clear. There are people who you call stakeholders, right. And you invite them to Wellington for a day, and they sit down, and they have a talk. Then they get put into groups and then they make various recommendations about the questions. Like one of the questions would be, "What are the best methods for preventing child abuse?" And then the groups all come back and said, "Well our group took this from a Māori perspective, and we thought that…" "And our group…" All of this is written up on the board, indiscriminately. The policy analyst then writes a report that can, that weaves the threads together into a coherent whole. The fact of the matter however, is that that model is never tested against the reality of the evidence, ever.

Given Roger's strongly critical view of what he argues to be the government's preferred policy making process, it is not surprising that, when asked about the influence of his contribution to the final Green Paper and White Paper, he stated that it:

> Was relatively small. I was very disappointed. I mean I had expected to see something about…do something a lot more with Family Start and evaluate it. I expected them to set up some pilot study ideas and evaluate them, which they

didn't do.

Turning to the idea of the children's information system, Roger was clear that, in the Scientific Panel, "it wasn't discussed really at all. The information system, as far as I can recall, was written as an addendum to the conceptual ideas of the Green Paper and the White Paper". At this point, as a possible explanation for the emergence of the information system as a policy option, Roger offered an aside on the theme of the politics of the policy making process:

> Now what's not clear in any of this to me ever, is the extent to which the shape of these policies is dictated by the policy maker's awareness of what the Minister wants. Now, I'm not saying that the Minister tells them to do it, it's a much more subtle model than that. It's a model in which they're aware that this is what the Minister would like, and they focus on the bits that the Minister would like and she's put in her speech, rather than an evidence-based thing.

Returning to the theme of the information system Roger highlighted the interest of the Ministry of Social Development (MSD) in making use of the data in its administrative systems and referred to the study of predictive risk modelling using administrative data by Vaithianathan (2012). Roger speculated that the MSD wanted to use this data as an "alternative to research" but highlighted the problem of using data based on administrative decisions that might include systematic biases, including bias that might have led to the overrepresentation of Māori in the systems:

> So, I think they saw the development of these databases as providing an alternative to research and a way of evaluating things. As I keep on pointing out to them, that while the, her analysis was good, the data quality was probably quite poor.

Roger was of the view that using administrative data for programme evaluation purposes without doing validation studies was possible but problematic. However, when asked directly about the use of this data to predict future child maltreatment in particular families he reacted strongly saying, "Be careful, be careful. I had this out with an MSD official who came and told me all of this." Roger went on to highlight the likelihood of universal screening being likely to lead to significant numbers of false positives and the risk of labelling children and families:

> And so, anyway, this MSD official, who shall remain nameless, told me very proudly, "Oh yes," he said, "we can get 50% prediction of repeat abuse and that's better than mammography." I said, listen, in mammography you are treating a patient and giving her advice about a therapeutic intervention to help her. If you are going to walk up to a family and say, "You're a lot of child abusers and we're going to fix you up," that's totally different.

Roger considered that using the tool for the purposes of triage, to assess risk and gauge the level of intervention and support required in families who were already known to social workers, could be helpful, but differentiated using the tool in this way from prediction, "That's not predicting that they're going to do it, it's reacting to their level of risk."

Turning to the information sharing aspect of the system Roger was very sceptical of the idea that better electronic information sharing could prevent child homicide:

> That's a silly argument. The argument that they had information that they weren't sharing, because if you actually look at the families who kill their kids, the Kahuis and everything, there's probably at any one time in this country about five to six thousand of them that bad. Only ten will kill their kids. Now which ten, no one ever knows.

Returning to discuss the problems and issues with the design of the information system, Roger identified several, all of which were associated with the PRM tool. Firstly, there was the risk of labelling that derives from false positives; secondly, the errors and biases inherent in the administrative databases; thirdly, being clear about the kinds of services or responses to make depending on the level of risk identified. Roger was also concerned to point out the opportunity cost of investing in expensive information systems:

> There's only so much cash to go round. Now do you develop a flash data system, or do you say, "Look, we really don't need a flash data system, what we need is good policy and we should be invested in developing good policy, and the data system can wait."

Roger returned to the issue of distinguishing the identification of risk from the ability to predict future harm:

> Well I think the first, the most risky, one is the false belief that we can predict child abuse. Saying that someone's got a 50% chance of abusing their child, isn't predicting child abuse. It's describing risk.

Roger discussed the problems inherent in staff who were not trained to understand statistical analyses using the outputs of this analysis to decide on interventions. His account made it clear that he perceived a strong risk of risk scores being interpreted in a discriminatory manner:

> The big ethical issue is if someone who doesn't understand the difference between risk and certainty, starts to treat people and families in a discriminatory way that implied that they are abusers, villains, undesirables. The aim of the system should be to say these are the families that need help, not the families that need watching. And that's the risk. Unless you train your staff to say, "No, this doesn't mean they need watching, they need help".

Finally, Roger was not convinced that the PRM tool could or should be used by practitioners to inform interventions with families, though he could see other uses:

> You've got a population of people using this system for whom at-risk statistics, numbers, are not their natural vocabulary. And they are being asked to use that in complex ways to handle the lives of people who are a very difficult population. I'm not sure that it's very suitable for practitioner use. I can say yes for analyst use and for making decisions, and perhaps also for when there are groups of people brought together with an analyst to say, "Here's what the data…" But just chucking all this complex data to people who are not

statisticians and not numerically minded to interpret, it has a high risk, I think.

Summary

The recurring theme of Roger's narrative focused on what he referred to as a "paradigm clash" between what he termed a "modern prevention science process" (a rational, positivist, evidence-based approach to knowledge generation and policy making) and what he presented as the New Zealand government's commitment to a "consultancy process". He characterised the latter as a process whereby a government policy analyst generated knowledge by meeting with key stakeholders and writing a report based on that meeting or series of meetings. In that context, research evidence was given no particular weight, but considered as "one part of a discourse".

Roger also considered that, in terms of policy making, there were subtle political influences on the policy-making process whereby the recommendations of policy analysts are influenced by "what the Minister wants", leading to a lack of independence, the system running on its own knowledge and alternative sources of evidence being ignored or excluded.

When asked about ViKI and the PRM tool, Roger focused on the latter. He was of the view that the quality of data contained in government administrative databases is likely to be quite poor, and to include errors and biases inherent in the administrative decision-making processes. Because of poor data quality and systematic bias, he believed that risk assessments based on that data should be used with care. Roger considered that the PRM tool might be of value to assess the level of risk in families *known* to social workers and to gauge the best level of intervention required. However, he was careful to point out that assessing risk is not the same as predicting harm and it is dangerous to consider that it is. Roger also highlighted that the idea that electronic information sharing could lead to a reduction in child homicides was fundamentally flawed. It is, he considered, impossible to predict which of the number of high-risk families might go on to seriously harm a child.

In addition, he identified several problem and issues associated with the predictive risk modelling tool including the risk of inappropriate labelling; the likelihood of errors and biases inherent in administrative database; a lack of clarity about the connection between the level of risk identified and the kinds of services and responses required; the opportunity cost of investment in expensive databases systems. Roger thought the PRM tool may have value if used by skilled analysts to inform decision making about population groups but giving the data to practitioners to work with individuals and families was, in Roger's view, very risky and may lead to discriminatory practices.

Eleanor's Narrative: "For me it's about joining up the Information with the Intervention".

Along with Roger, Eleanor was involved in the Scientific Panel established by government to offer advice on the shaping of the Green Paper. Eleanor was also a senior academic researcher and began her account by referring back to the earlier 2009 Experts' Forum on Child Abuse in which she was involved. She stated that the 2009 meeting was a "precursor to being involved in anything with the Green Paper" and that it was, "a really useful meeting...But what was really good about that and I think was

really useful, was it was multidisciplinary, and we had people from Starship[9] and, you know, paediatricians".

At no point did Eleanor make an explicit statement that the later Scientific Panel was less helpful, but its membership consisted of researchers and academic staff and included no paediatricians (although a consultant paediatrician was included in the Frontline Panel). Eleanor elaborated on the value of a multidisciplinary group of advisors and explained what she felt to be the particular value of "…hearing from the paediatricians around what actually happens at the coalface" and the insights they could bring:

> what do you do to actually galvanise the systems, bring the systems together to work with this family? And I think they gave some really good clues on how you could then work with vulnerable children, like through a system approach and a multidisciplinary team. And I felt that was really useful…

Eleanor went on to give an example from her experience of practical ways in which interactions between practitioners and families might be improved to empower families and to protect children. The example she offered was of the introduction of a protocol:

> to have a way of asking families when they come in for other medical reasons, what's happening for their child and what's happening for them, in terms of violence against partners, and to actually ensure that all workers knew how to ask those questions and in a good way.

This protocol was in use in Starship and at the 2009 meeting, "it got down to the real nuts and bolts of how you do this in an empowering way." Having offered this practical "nuts and bolts" example, Eleanor continued by juxtaposing this approach with what Minister Bennett wanted:

> The other thing that came out of that meeting was Paula Bennett came and, I think it was a two-day meeting, and we had to report to her, and she was really convinced that what we needed was an information system that could find vulnerable children. Like she just, that was what she wanted. She wanted to be able to locate these people…This was the end of 2009. So, she was really clear that that's what she wanted. She wanted to be able to identify who was vulnerable.

Eleanor went on to explain the difference between the "nuts and bolts" intervention-oriented approach of the paediatricians at Starship and Minister Bennett's determination to develop systems that could do risk assessments and identify families and children at risk:

> But she said, "We need to have risk systems that do risk assessments and management of that, and we need to find these people." And what we were trying to say to her, "But that's only finding them, and actually getting data, but how are you actually going to then intervene?" And that's why I was giving the

[9] Starship Hospital is a national centre of excellence in paediatric health care in Aotearoa New Zealand.

> example of Starship, because as soon as they identified, they had a whole process that could come in behind because they had services and supports, and we tried to explain that to her.

Eleanor's reflection on the 2009 group draws into opposition the idea of using systems to identify vulnerable children and more practice-oriented processes that offer a clear pathway from contact with service providers to forms of intervention. Having set up this background, and this opposition, she moved on to discuss her involvement in the Scientific Panel and here her account established another opposition, this time between the promotion of wellbeing and child surveillance:

> They were interested about thriving and how can you create wellbeing, but they hadn't joined up those big picture ideas with actually how you do the interventions. So, actually I just think it's, you have all these ideas but it's trying to get… 'cause I think there's a lot of surveillance, so that's one driver, and then there's the we want children to thrive within their families and whānau, and we want to achieve wellbeing. But I think actually those ideals are quite contradictory at times, because it takes a lot of resource to do the wellbeing piece.

Eleanor described the debate on these issues inside the Scientific Panel and referred to contributions from people who were involved with the Whānau Ora initiative. She contrasted the surveillance and risk perspective associated with the information system, with a more, "developmental perspective, which is about thriving and wellbeing and achieving their aspirational goals, and every child in the whānau needs to be looked after". This latter perspective, Eleanor argued, would be a more universalist approach:

> but if you take a stance which is around surveillance, you won't get families engaging and whānau engaging…So it's like the debates were really there around the table. Do you have a risk system which is just identifying who's at risk? Or do you have a universal system which says every child should have access to supports? And I don't think they've worked that out.

Asked to explore the tensions for government between a universalist approach and more targeted interventions on high-risk families, Eleanor argued that the key problem for government was funding the universal option. In a related point, she also highlighted, as did Simon in the Frontline Panel, the way in which poverty and inequality were subtly erased from the agenda of the group:

> *Eleanor*: But we weren't allowed to use, the word *poverty* was reframed. Words like *inequality* were reframed…called 'lacking material resources' or something.
>
> *Interviewer:* How did that happen?
>
> *Eleanor:* I think it was just, you could tell. You could tell that when you said poverty, words changed in the document, nothing much was, but you could…
>
> *Interviewer:* Subtle?
>
> *Eleanor:* Yeah, it was very subtle.

When the interview moved on to discuss the information system itself Eleanor introduced another opposition, this time between the idea of electronic information sharing and *genuine* interprofessional communication and planning, or, "professionals around the table talking to each other about intervention":

> So, they might have, they have ways of joining up, sorting out the information system so professionals are joined up, share information. I still don't think they've got professionals around the table talking to each other about intervention. I think that's where it falls down.

Eleanor returned to her earlier theme about the distinction between identification and intervention, this time connecting identification to assessment and arguing that some of her own research had shown evidence of "over-assessment, and over-collection of information" to the detriment of actually intervening to effect positive change. For Eleanor, gathering information for its own sake was futile:

> So, I think the danger is, is that you have an information system at the core. It satisfies our need to know that professionals are sharing information, that they can assess, that they can assess risk, that they can measure risk, and we can tick it off and say, "We know how to find those people"…But what is the intervention?

Referring to findings from her own research on information systems, and echoing the comments by Christine, Eleanor went on to highlight problems created when different professionals use a shared information system without sharing a common lexicon, "unless you have people putting in the same information, using the same concepts and the same terms, it's useless."

Moving on to discuss the PRM tool Eleanor expressed several reservations about its predictive ability and referred to the risk *number* produced by the model, "But you can't guarantee that "cause you give someone a number that they will have the same outcome as the person sitting next to them". She elaborated on the problem with the individualised risk focus of the predictive risk modelling tool, contrasting this with contextual factors (such as poverty) that the tool could not pick up:

> What we're finding in our study is that contextual risk is not measured and is not taken into account by services. So, the fact that people live in impoverished environments, don't have good access to support networks, because everyone in their support networks is poor or living with violence or whatever, doesn't take into account cultural identity, whether those networks are there. So, it's a very narrow measure.

She also highlighted, as did Christine, the problem with dynamic changes occurring over time:

> So, that's the concern about a predictive model. And you can't get a predictive model, because you can't, like you can't, you can measure somebody right now, but you can't control their inputs over time. And you can't control what those inputs are going to create in terms of outputs. You just can't.

To make the most of an information system, she argued, professionals need to engage with each other and to realise that the families captured in the data are complex, dynamic and subject to change. She considered that there is a danger that an emphasis on information system technology will detract from the human element and undermine the intentions of the system designers:

> So, if information sharing is just a technical system where you input data, and then in your office you get on the computer and you pull out that data, it's not going to work, because what we're dealing, we're not dealing with inanimate objects….We're dealing with human beings, we're dealing with rapid change in these families, we're dealing with transient families, we're dealing with complex communities. So there has to be a big human element.

From an ethical point of view, Eleanor was very concerned about informed consent to information and the right of people to access the information that is held on them:

> I think the ethical issues are around how those, do those people understand what that information is used for? What information is collected, the purpose of it, can they change their information? Can they get their file, can they see their file, can they see what's been recorded about them, what words are being used? Is it a strength assessment or is it risk? All of those things are huge ethical issues.

Eleanor concluded be emphasising, once again, the problem of recording information without leading to effective interventions:

> For me it's about joining up the information with the intervention. That's what I want to see evidence of. I want to see that if information's being collected on people, I want to see some real substantive change to their outcomes. I want to see them getting better services. I mean one of the things we're seeing in our study is that volume of services, engagement with professionals makes no difference to outcomes, which is very scary.

Summary

Throughout Eleanor's account her preoccupation, and the main theme to which she constantly returned, was the distinction – or narrative opposition – between information collection for its own sake and effective intervention planning. As she indicated this position flowed from her own research findings into information systems that identified an over-emphasis on information collection and assessment at the expense of intervention planning. Eleanor contrasted her involvement with the earlier 2009 Experts' Forum on Child Abuse, with the Scientific Panel for the Green Paper, arguing that the former was useful because it was multidisciplinary and included paediatricians who offered insights into, "what actually happens at the coalface". Eleanor identified an opposition between the views of the 2009 Experts' Forum on Child Abuse which had an emphasis on practical intervention planning, and the views of Minister Paula Bennett who, as early as 2009, was convinced that what was needed was an information system that could identify vulnerable children.

This opposition was mirrored by another within the thinking of the Scientific Panel: the opposition between a universalist, developmental perspective on child wellbeing, and a more selective, targeted focus on establishing systems for risk assessment and

child surveillance. Eleanor argued that government policy makers de-emphasised universal child wellbeing solutions (perhaps because they were more expensive) and reframed any mention of structural issues such as poverty and inequality.

Eleanor considered that it was possible to connect child welfare professionals using an electronic information system but did not believe this would necessarily lead to effective interprofessional communication or intervention planning. In that sense, she believed, the information system might provide false reassurance. Like Christine, she was also of the view that electronic interprofessional information sharing is problematic because different professions do not share a common lexicon and may use the same terms and concepts in different ways, leading to differences in interpretation.

Eleanor was deeply sceptical about the role of the PRM tool because of its focus on individual risk factors rather than taking account of contextual risks such as poverty, environmental disadvantage, family violence and poor social networks. She also concurred with Christine that the predictive risk modelling tool cannot account for dynamic changes in risk and resilience factors over time. For Eleanor, the PRM tool carried the risk that a focus on information systems and risk assessment would detract from the human, relationship focused, complex and dynamic nature of professional work with families. Finally, her main ethical concern lay in the surveillance of population groups without consent and the extent to which this technical development might over-ride the human rights of families to privacy.

Conclusion

Although the number of informants in this study is small, their closeness to the policy process and their role as elite expert advisors to government makes their insights into an otherwise opaque process very illuminating. Their relative independence from government also makes it possible for them to adopt a more critical perspective than a civil servant might have been able to adopt. Whilst each informant had a unique standpoint on the policy process there were several cross-cutting themes including: the key role and influence of Minister Bennett, an awareness of the ways in which the policy discourse was actively steered by governmental actors, and a deep ambivalence about the ethics of the proposed technologies, especially the PRM tool. The next chapter explores many of the same issues but in the context of the public, news media controversy about ViKI and the PRM tool.

Chapter 7: Findings: News Media Articles

This chapter presents findings from a sample of news media articles that discuss ViKI and/or the predictive risk modelling tool. As described in chapter five, the analysis takes a narrative methodological approach, used, in this instance, to analyse stories told and arguments made about a technological and policy innovation in the child protection field. Because of the rhetorical nature of public media accounts – stories told by policy actors who seek to influence and persuade public opinion – a rhetorical narrative analysis technique was applied to identify both the explicit and implicit premises of the narrator's arguments.

The application of this technique to news media reports results in the identification of stories, storylines, narrative oppositions, syllogisms and enthymemes to tease out the implicit inferences in public rhetoric (see chapter five for a discussion of the method). Table 2 lists the ten news media articles sampled using the sampling approach described in chapter five. Links to the complete online articles are provided for reference in the table below. A brief description of each article is included in Appendix 3. Inclusion of the links to the complete article is to help the reader assess the validity of the analyst's interpretation of the implicit premises in the enthymemes (expressed in capital letters).

Table 2: News Media Sample

Code	Article	Word count
NEWS_01	Trevett, C. (2012, October 11). Govt database to track 30,000 at-risk kids. *New Zealand Herald*. Retrieved from https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10839604	1,982
NEWS_02	Collins, S. (2012, October 13). Economists maths aim to forecast which children will be abused. *New Zealand Herald*. Retrieved from https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10840235	512
NEWS_03	APNZ (2012, October 14). NZ has 'underlying current of violence towards children': Paula Bennett. *New Zealand Herald*. Retrieved from https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10840459	332
NEWS_04	Misa, T. (2012, October 15). Tapu Misa: Child abuse plan shows a lack of vision. *New Zealand Herald*. Retrieved from https://www.nzherald.co.nz/opinion/news/article.cfm?c_id=466&objectid=10840503	752
NEWS_05	New Zealand Herald (2012, October 20). Predicting trouble: Child abuse database raises eyebrows. *New Zealand Herald*. Retrieved from https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10841709	2,493
NEWS_06	Dare, T. (2012, October 25). Abuse prediction tool to vital to ignore. *New Zealand Herald*. Retrieved from https://www.nzherald.co.nz/opinion/news/article.cfm?c_id=466&objectid=10842621	772
NEWS_07	Collins, S. (2015, May 21). CYF in child abuse predictor trials. *New Zealand Herald*. Retrieved from https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11452090	656
NEWS_08	Jones, N. (2015, July 30). Anne Tolley scraps 'lab rat' study on children. *New Zealand Herald*. Retrieved from	740

	https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11489293	
NEWS_09	Dominion Post. (2015, July 30). Editorial: Children not to be 'lab rats' in fight against abuse. *Dominion Post*. Retrieved from https://www.stuff.co.nz/dominion-post/comment/70701730/editorial-children-not-to-be-lab-rats-in-fight-against-abuse	489
NEWS_10	Dare, T. (2015, August 3). Anne Tolley's 'lab rats' call inflammatory political rhetoric. *Dominion Post*. Retrieved from https://www.stuff.co.nz/national/politics/opinion/70773764/anne-tolleys-lab-rats-call-inflammatory-political-rhetoric	752
		9,480

The first six news articles were published between October 11th and October 25th 2012, and the last four between May 21st and August 3rd 2015. The articles varied in length from 332 to 2,493 words and the complete dataset included 9,480 words. The dataset included only those articles from the two largest circulation news media: the New Zealand Herald (n=8 articles) and the Dominion Post (n=2 articles).

The findings below are arranged into two parts. The first relates to those articles published in October 2012 that respond to the government's announcement about the White Paper for Vulnerable Children (New Zealand Government, 2012a, 2012b), principally featuring arguments made by Minister Paula Bennett, and the response of a range of different experts and policy actors. The second part discusses four articles published between May and August 2015 that delineate issues with the PRM tool and the closure of the planned, prospective observational study by the incoming Minister Anne Tolley.

The 2012 News Media Articles

NEWS_01 Trevett, C. (2012, Oct 11). Govt Database to Track 30,000 At-Risk Kids.

Most of this article presents the views of Minister Bennett and, following analysis of the data, three significant stories were identified:

- Story 1.1: Poverty is not an excuse
- Story 1.2: The database is critical and being intrusive is justified
- Story 1.3: Children will not be stigmatized.

Story 1.1: Poverty is not an Excuse.

Storyline. This is a story about Minister Paula Bennett rejecting claims by spokespeople from two opposition parties who stated that poverty is the most significant factor in child abuse and implied that the government's White Paper fails to address this issue.

Oppositions.

- poverty associated with child abuse/poverty not associated with child abuse
- finding excuses for child abuse/holding people responsible for child abuse.

Enthymeme 1.1.1. Poverty is the most significant factor in child abuse. The government's White Paper does not address child poverty. THEREFORE, THE

GOVERNMENT'S WHITE PAPER WILL NOT BE ABLE TO PREVENT CHILD ABUSE.

Enthymeme 1.1.2. It is morally wrong to use poverty as an excuse for child abuse. LABOUR AND THE GREENS USE POVERTY AS AN EXCUSE FOR CHILD ABUSE. THEREFORE, LABOUR AND THE GREENS ARE MORALLY WRONG.

Commentary on Story 1.1. Enthymeme 1.1.1 above represents the arguments of the two opposition spokespeople as presented by the journalist. Although the concluding premise is implicit the argument is clear that since the government's White Paper "does not address child poverty" and "poverty was the most significant factor in child abuse" then the White Paper will be ineffective.

Minster Bennett's riposte, represented in Enthymeme 1.1.2, only makes the major premise explicit, but is a clear attempt to rebut the political critique of the opposition parties by shifting the argument from an empirical claim that poverty is a significant factor in child abuse – a relatively uncontroversial claim supported by several empirical studies (for example Berger & Waldfogel, 2011; Bywaters, Brady, Sparks, & Bos, 2014; Cancian, Shook Slack & Yang, 2013; Fein & Lee, 2003; Shook & Testa, 1997) – to a moral claim.

In doing so, from a narrative perspective, Minister Bennett makes a rhetorical shift from *logos* to *ethos*[10], de-emphasising the logical and empirical claim being made by the opposition MPs, and foregrounding a moral and ethical argument about using poverty as an excuse for child maltreatment. There is here also an appeal to emotion, or the use of *pathos*, calling on readers to reject arguments that might place children in harms way. As Gottweis (2006) puts it, "Emotions belong to the repertoire of rhetoric, and emotional display and the language of passion may very well coexist with argumentative and ethical discourse." (p. 474)

Story 1.2: The Database is Critical and Being Intrusive is Justified.

Storyline. The database will allow child-care professionals to share information that will prevent child harm and child homicide. We need to re-balance concerns about privacy with the need to protect children from harm.

Oppositions.
- sharing information/ failing to share information
- preventing child harm and homicide/failing to prevent child harm and homicide;
- being intrusive/protecting the right to privacy
- putting the pieces together/not putting the pieces together

Enthymeme 1.2.1. In cases like Nia Glassie's different agencies held a little piece of information but did not share it. If agencies shared information it could have helped prevent the death of Nia Glassie. THEREFORE, THE GOVERNMENT'S PLANS FOR AN INFORMATION SHARING DATABASE COULD PREVENT CHILD HOMICIDE.

[10] See the discussion of the three modes of argumentation – logos, ethos and pathos – in chapter five.

Enthymeme 1.2.2. Some people consider the database to be intrusive into the privacy of families. However, by enabling better information sharing, the database might help to prevent child homicides. THEREFORE, THE ENDS JUSTIFIES THE MEANS, BEING INTRUSIVE IS JUSTIFIED.

Commentary on Story 1.2. There are two different arguments embedded in this story represented in enthymemes 1.2.1 and 1.2.2 both of which have implicit conclusions. Combined, the two arguments are essentially justifications for the information sharing database and for the predictive risk modelling tool. Justification for information sharing is linked to the case of Nia Glassie where it is argued, that her death might have been prevented had professionals shared information, therefore an electronic information system could prevent child homicides. Secondly, enthymeme 1.2.2 effectively heads off any arguments about breaches of privacy, by entailing that the benefit of preventing of child homicide outweighs the burden of the loss of privacy. This last comment about *sacrificing* privacy echoes the Minister's comments in the video associated with the Green Paper. In that video she asked viewers directly, "…what you would give up so that vulnerable children come first. Are you willing for all children to be tracked at birth for example?" (New Zealand Government, July 2011a).

The case of "our lovely Nia Glassie" is explicitly referred to in the news media article and the article includes an image of her. From a narrative point of view the case of Nia Glassie is used as an *exemplar* (Feldman & Skolberg, 2002) to represent all children who are maltreated. Once again, the Minister's rhetoric uses pathos (Gottweis, 2007) to mobilise public concern. Indeed, in this argument Minister Bennett moves clearly from logos to pathos as the foundation of her argument, appealing to the emotional sensibilities of the media reading public and pushing aside doubts they might have about the new technology. The Minister's rhetorical choices resonate with the point made by Gottweis that, "as uncertainty becomes more pronounced in many policy fields, it might be useful to reconsider pathos and emotion not as a 'force' on its own, as a 'fact' of political life', but as being intrinsically linked to the everyday practice of policy making, as a rhetorical device that takes considerable impact in many policy areas and is a key element of policy argumentation". (Gottweis, 2006, p. 475)

Story 1.3: Children Will not be Stigmatized.

Storyline. This is a story explaining that, although some children who end up in the database may turn out not to be at risk, the database would not be used to stigmatise them.

***Oppositions*.**
- stigmatision / non-stigmatisation
- automatic responses / professional discretion

Syllogism 1.3.1. The automatic predictive risk modelling tool may identify some children as being at risk who turn out not to be at risk. However, no response will be activated unless a professional decides to do so. Therefore, children will not be stigmatised or worked with unnecessarily.

Commentary on* Story *1.3. Although it is not explicit in the extract above, or in the article, this argument is clearly a reference to the predictive risk modelling tool and

arguments that, because it generates a significant number of false positives, it may lead to the labelling and stigmatisation of families. Minister Bennett's argument is expressed as a syllogism, rather than an enthymeme, because each of the premises is explicit. The issue here is firstly, that the Minister refers to the stigmatisation of *children* rather than the stigmatisation of *parents or caregivers*, and the argument seems to be that because there is a human interpreting the findings before action is taken then no stigmatisation will result. And yet the point being made by other policy actors who are concerned with the predictive risk modelling tool, is that it is the knowledge that human actors have of the risk score that may lead to the labelling and stigmatization of parents and carers. Policy makers may assume that keeping a human in the decision-making loop will avert poor outcomes by allowing human judgement to override an inaccurate risk prediction, yet relatively little is known about how machine learning algorithms affect human decision making, and some studies suggest, "that people struggle to interpret machine learning models and to incorporate algorithmic predictions into their decisions, often leading machine learning systems to generate unexpected and unfair outcomes". (Green & Chen, 2019, p. 3).

NEWS_02 Collins, S. (2012, October 13). Economists Maths Aim to Forecast Which Children Will be Abused

Analysis identified two main stories in this article:

- Story 2.1: The predictive strength of mammograms and
- Story 2.2: Rushing into using the method without careful testing.

Story 2.1: The Predictive Strength of Mammograms.

Storyline. This is a story about the predictive risk modelling tool designed to predict the likelihood of child maltreatment. It tells us that, even although the predictions made are not certain, its predictive strength is as good as that of mammograms.

Oppositions.

- prediction/uncertainty
- being on benefits/not being on benefits
- substantiated maltreatment/ no substantiated maltreatment
- false positives/false negatives

Enthymeme 2.1.1. The predictions based on the predictive risk modelling tool are not certain but are similar to the predictive strength of mammograms.
MAMMOGRAMS ARE AN ACCEPTED TECHNOLOGY USED TO PREVENT SERIOUS RISK OF HARM. THEREFORE, THE PREDICTIVE RISK MODELLING TOOL SHOULD BE INTRODUCED TO PREVENT SERIOUS RISK OF HARM.

Commentary on Story 2.1. This story presents the views of Associate Professor Rhema Vaithianathan, one of the original architects of the PRM. The persuasive strength of the enthymeme deployed in her argument lies in keeping the minor premise and the conclusion implicit and using an analogy designed to compare the usefulness of a familiar technology with this new technology. The story relies on the readers familiarity with mammography as a well-established and accepted technology. The use of an analogy with medical technology may also provide the PRM tool with a reassuring scientific gloss. What the argument does not highlight is the continuing debate about the

harms and benefits of mammography in the medical world (Løberg, et al., 2015), or the difference between a medical imaging technology that tries to capture evidence of a currently exiting physical condition and one that attempts to risk score a possible future event based on administrative data that is open to a significant degree of interpretation.

Story 2.2: Rushing into Using the Method Without Careful Testing.

Storyline. This is a story about a child development expert – Professor David Fergusson – who warns against introducing the predictive risk modelling tool without careful testing.

Oppositions.
- risking labelling and stigma/avoiding labelling and stigma
- careful testing/mass roll out without careful testing

Enthymeme 2.2.1. BEING WRONGLY IDENTIFIED AS A POTENTIAL CHILD ABUSER LABELS AND STIGMATISES PEOPLE. THE PREDICTIVE RISK MODELLING TOOL INCLUDES A HIGH RATE OF FALSE POSITIVES. Therefore, the predictive risk modelling tool will label and stigmatise a lot of people.

***Enthymeme 2.2.2*.** THE CORRECT WAY TO IMPLEMENT NEW INTERVENTIONS THAT HAVE RISKS IS TO CONDUCT PILOT STUDIES AND RANDOMISED CONTROL TRIALS. The predictive risk modelling tool is a new intervention that is associated with significant risks. Therefore, the method should be carefully tested with pilot studies and randomized control trials before being widely implemented.

Commentary on Story 2.2. This story presents the views of Professor David Fergusson as a counterpoint to those of Associate Professor Rhema Vaithianathan. Fergusson's arguments are presented to highlight the risks of social workers labelling and stigmatizing carers as "child abusers". The argument is not that this will be inevitable, or will outweigh any benefits, but that caution should be exercised in the use of unproven technologies such as the predictive risk modelling tool and that a more rigorous, evidence-based approach – using randomised control trials – should be adopted.

NEWS_03: APNZ (2012, October 14). NZ Has 'Underlying Current of Violence Towards Children': Paula Bennett

Analysis identified one main story in this article:
- Story 3.1: It is "too simplistic" to blame poverty for New Zealand's child abuse rates.

Story 3.1: It Is "Too Simplistic" to Blame Poverty for New Zealand's Child Abuse Rates.

Storyline. This is a story where Minister Bennett explains that reducing explanations for child maltreatment to poverty is too simplistic.

Oppositions.

- simple explanations of child maltreatment/complex explanations of child maltreatment
- poverty as one factor/ over 100 different factors.

Enthymeme 3.1.1. Child maltreatment is a complex problem involving over 100 different factors, one of which may be poverty. Jacinda Ardern (Labour) and Metiria Turei (Green Party) argue that poverty is the most significant factor in child maltreatment. THEREFORE, THE ARGUMENTS PROPOSED BY JACINDA ARDERN AND METIRIA TUREI ARE TOO SIMPLISTIC.

Commentary on Story 3.1. This story appears to be another intervention to tackle the criticism from opposition parties. This time the argument accepts that poverty may be a factor in child abuse but argues that child maltreatment is multifactorial. It is not clear what the, "…list of a hundred different factors" consists of, but this may be a reference to the 132 factors used by the predictive risk modelling tool (Vaithianathan, Maloney, Putnam-Hornstein & Jiang, 2013). The purpose of the story is to counter the critique from the political opposition and support the position that focusing on poverty is not a solution to child maltreatment.

NEWS_04: Misa, T. (2012, October 15). Tapu Misa: Child Abuse Plan Shows a Lack of Vision.

Two significant stories were identified during analysis:

- Story 4.1: Downplaying the role of poverty and
- Story 4.2: Targeting misses the mark.

Story 4.1: Downplaying the Role of Poverty.

Storyline. This is a story about how the government's White Paper downplays a well-established association between poverty, inequality and child maltreatment.

Oppositions.

- acknowledging the association between poverty and child maltreatment/ downplaying the association between poverty and inequality.

Enthymeme 4.1.1. It is not possible to tackle child maltreatment effectively without acknowledging its strong association with poverty and inequality. The government's White Paper downplays the association between poverty and inequality. THEREFORE, THE GOVERNMENTS WHITE PAPER CANNOT EFFECTIVELY TACKLE CHILD MALTREATMENT.

Commentary on Story 4.1. As enthymeme 4.1.1 illustrates, the main argument in this story effectively reiterates, with more detailed evidence, the argument in enthymeme 1.1.1 that child maltreatment cannot be tackled without tackling poverty and that the government is wrong to downplay poverty.

Story 4.2: Targeting Misses the Mark.

Storyline. This is a story about how targeting services on particular population groups can have unintended side-effects: making the services stigmatised, negatively impacting uptake and demeaning service users.

Oppositions.

- universal services/targeted services
- social cohesion/social stigma
- inclusion/humiliation.

Enthymeme 4.2.1. Targeting services on vulnerable people can have unintended consequences such as creating a 'poverty trap', stigmatising services and humiliating service users. The government's plans for children's services propose targeting services on vulnerable children. THEREFORE, THE GOVERNMENT'S PROPOSALS RISK CREATING A 'POVERTY TRAP', STIGMATISING SERVICES AND HUMILIATING SERVICE USERS.

Enthymeme 4.2.2. Providing universal services is more effective because they avoid the unintended effects of targeting and have the additional benefits of building community and promoting social cohesion. THE GOVERNMENT'S PROPOSALS DO NOT PROVIDE UNIVERSAL SERVICES. THEREFORE, THE GOVERNMENT'S PROPOSALS MISS AN OPPORTUNITY TO BUILD COMMUNITY AND PROMOTE SOCIAL COHESION.

Commentary on Story 4.2. The two enthymemes in this story both contain implicit conclusions that offer strong criticism of the government's plans to target services on the most vulnerable. The first argues that targeting services on population groups can have unintended consequences associated with stigmatisation. The second enthymeme addresses the opportunity cost of not offering universal services that have additional benefits of building community and promoting social cohesion. This story therefore highlights the underlying problems with a political rationality based on selectivist social investment, contrasting it with an alternative political rationality founded on universalism and wellbeing.

NEWS_05: New Zealand Herald (2012, October 20). Predicting Trouble: Child Abuse Database Raises Eyebrows

Analysis identified five distinct stories in this article:

- Story 5.1: Raising alarm in surprising quarters
- Story 5.2: The danger of a revolution
- Story 5.3: A new database may not even be necessary
- Story 5.4: Enormous amounts of stress
- Story 5.5: Doing more harm than good.

Story 5.1: Raising Alarm in Surprising Quarters.

Storyline. Dr. Patrick Kelly (head of New Zealand's main child abuse unit and member of a 2009 Experts' Forum on Child Abuse), is surprised and alarmed at the government's plans for a new "predictive risk model" untried anywhere in the world.

Oppositions.

- alarm/acceptance
- sceptical experts/convinced experts

Enthymeme 5.1.1. WHEN PEOPLE REGARDED AS EXPERTS IN THEIR FIELD ARE SURPRISED OR ALARMED AT PROPOSED GOVERNMENT POLICY CHANGES IT INDICATES THAT SOMETHING IS WRONG. Dr Patrick Kelly (an acknowledged child protection expert) is surprised and alarmed at government's plans for a revolutionary new "predictive risk model". THEREFORE, SOMETHING IS WRONG WITH THE PROPOSED GOVERNMENT POLICY.

Commentary on Story 5.1. This first story in the article sets the scene and grabs the reader's attention by establishing that a child protection expert, working at a widely recognised and respected centre for expertise in child protection, who contributed to a government advisory group on child protection, is "alarmed" about a proposed government policy to introduce an "untried" technology. The story also implies that people with expertise in child protection have not been consulted or involved in decision making about an important policy issue.

Story 5.2: The Danger of a Revolution.

Storyline. This is a story about how revolutionary changes can carry risks and disrupt existing practices.

Oppositions.

- evolutionary change/revolutionary change

Enthymeme 5.2.1. Introducing untested revolutionary change is uncertain of success and can disrupt existing practices. The government's proposed new "predictive risk model" is an untested and revolutionary change. THEREFORE, THE PREDICTIVE RISK MODEL IS UNCERTAIN OF SUCCESS AND MAY DISRUPT EXISTING PRACTICES.

Commentary on Story 5.2. Having established the credentials of the source in the earlier part of the article the journalist uses quotations from Kelly to highlight the riskiness and uncertainty of the proposed policy and technological change. This argument also implies its opposite, that slower, more evolutionary change might be less risky and disruptive.

Story 5.3: A New Database May Not Even Be Necessary.

Storyline. Improved data sharing is important but does not require an expensive electronic database.

Oppositions.

- talking to each other/ sharing information on a database
- spending money on an expensive database/not spending money on an expensive database

Enthymeme 5.3.1. It is possible to encourage interprofessional information sharing without investing public funds in expensive information technology. THE GOVERNMENT PLANS TO INVEST IN AN EXPENSIVE INFORMATION TECHNOLOGY SYSTEM. THEREFORE, THE GOVERNMENT PROPOSES TO WASTE PUBLIC FUNDS.

Commentary on Story 5.3. The conclusion, implied in this story, is that, since the same outcomes can be achieved using simpler less technological approaches to information sharing, the government is wasting public funds.

Story 5.4: Enormous Amounts of Stress.

Storyline. This is a story about how relying on a computer model undermines professional judgement and can lead to stress on families that might create risks for children.

Oppositions.

- supporting professional judgement/undermining professional judgement.
- inducing stress in families/ not inducing stress in families
- creating risks for children/ not creating risks for children

Enthymeme 5.4.1. Relying on a computer model can creates lots of false negatives and false positives. The uncertainty created by false positives and false negatives can undermine professional judgement and create unnecessary stress that leads to risk for children. THEREFORE, THE INTRODUCTION OF THE PREDICTIVE RISK MODELLING TOOL WILL UNDERMINE PROFESSIONAL JUDGEMENT AND CREATE STRESS ON FAMILIES THAT LEADS TO RISKS FOR CHILDREN.

Commentary on Story 5.4. Citing the CEO of the professional association of social workers, this story highlights the PRM tool and the issue of false positives and negatives with two main points included in the conclusion: that the PRM will undermine the professional judgement of social workers and, since many predicted high-risk families will be false positives, interventions may induce unnecessary stress by labelling and stigmatising families leading to increased risks for children.

Story 5.5: Doing More Harm Than Good.

Storyline. This is a story about the harm that might be caused to the high proportion of families who will be identified as high risk by the predictive risk modelling tool but would not go on to harm their children.

Oppositions.

- doing harm/doing good
- knowing that an intervention will work/not knowing that an intervention will work.

Enthymeme 5.5.1. Intervening with families who have been falsely identified as being likely to maltreat their children can only be justified if no harm will result from the intervention. The government does not know whether harm will result from these

interventions. THEREFORE, THE GOVERNMENT'S PROPOSALS TO INTERVENE IS NOT JUSTIFIED.

Commentary on Story 5.5. This story reinforces the previous story 5.2 in highlighting the riskiness and "experimental" nature of the PRM.

NEWS_06: Dare, T. (2012, October 25). Abuse Prediction Tool Too Vital To Ignore. New Zealand Herald.

There are a number of points made in the article but all of these points form the basis for a single story best described using the title of the article.

Story 6.1: Abuse Prediction Tool too Vital to Ignore.

Storyline. This is a story about how the concerns that critics have of the implementation of the PRM tool should be set aside.

Oppositions.

- accepting the criticisms of the PRM / rejecting the criticisms of the PRM
- implementing the PRM/ not implementing the PRM

Enthymeme 6.1.1. A number of people have been critical of the government's plans to introduce a predictive risk modelling tool for child maltreatment. These objections are either ill-founded or describe issues that are possible to manage. THEREFORE, THE GOVERNMENT'S PROPOSALS TO INTRODUCE THE PRM TOOL SHOULD NOT BE REJECTED

Commentary on Story 6.1. As an opinion editorial by one of the Auckland University team who developed the PRM tool this article represents a significant intervention in the public debate about the PRM. The author identifies several objections to the tool – that social workers already use risk assessment tools, that the PRM will lead social workers to rely more on computers than their own judgement, that the tool is linked to efficiency savings and will lead to lower spending on child maltreatment, that social workers can share information without the need for a database and that being identified as an at-risk family might increase stress and the risk of abuse. These objections are dismissed as either ill-founded or manageable and the implied assumption is that the government should not be persuaded from its plans to implement the PRM. Many of the argument made here are repeated in detail in the full ethical review of the PRM tool written by Dare (2013).

The 2015 News Media Articles: Responses to News of Testing the Predictive Risk Modelling Tool

The flurry of articles in the news media during 2012, in response to the publication of the White Paper (New Zealand Government, 2012a, 2012b), focused mostly on ViKI and, in particular, on the PRM tool. However, between 2012 and 2015 the media debate fell silent only to be reopened by a news article on a proposed trial of the PRM tool by the Ministry of Social Development using historical case studies. As discussed in chapter two, there had been a change of Minister in October 2014 and the new Minister, Anne Tolley, called a halt to the plans of MSD officials to conduct a population wide,

prospective, observational study of the PRM on all newborn children. However, the Minister did give approval for a more limited trial of the PRMs influence on social workers decision making using historical cases. This intervention did not become public knowledge until eight months after the decision was made in the form of a press release reported by the media in July 2015 (see NEWS_8). So, the news media article NEWS_07 was an intervention by the MSD describing their intention to conduct what was officially referred to as the *vignette-based, user testing trial* but without making any mention of the fact that the Minister had cancelled a population wide *prospective, observational* trial (see chapter two for the sequence of events).

NEWS_07: Collins, S. (2015, May 21). CYF In Child Abuse Predictor Trials

Analysis identified two main stories:

- Story 7.1: Evaluating the PRM's use as a screening tool on professional decision-making
- Story 7.2: Proactive use of the PRM.

Story 7.1: Evaluating the PRM tool's use to Support Professional Decision-Making on Cases Notified to CYF.

Storyline. This is a story that describes how the MSD plan to evaluate the PRM by comparing how two groups of social workers make decisions about historical cases: both groups will make decisions about historical cases but only one will have access to PRM data and have been trained in its use.

Oppositions.

- making decisions with training and access to PRM data/ making decisions with no training or access how to PRM data
- better decision-making/worse decision-making.

Enthymeme 7.1.1. TRAINING SOCIAL WORKERS IN HOW TO USE THE PRM MAY LEAD TO BETTER DECISION-MAKING AND AVOID UNINTENDED OUTCOMES. MSD and CYF plan to evaluate the effect of training social workers in how to use the PRM to screen notifies cases. THEREFORE, MSD AND CYF WILL BE ABLE TO DISCOVER IF THEY CAN PREVENT UNINTENDED OUTCOMES.

Commentary on Story 7.1. This story highlights a cautious and considered approach to testing the PRM tool, and its effects on the decision making of social workers, using historical cases. The story also signals that what is being sought is ministerial approval to use the tool to support decision making on "…'live' calls to the centre", in other words, where cases have been notified to the CYF call centre using PRM to triage notification rather than to surveil the population. As we will discover, Anne Tolley, the new Minister for Social Development, had intervened to halt a proposed population wide, prospective, observational study of the PRM tool eight months before this article was published, but this is not yet public knowledge.

Story 7.2: Advocating the Proactive Use of the PRM as a Population Wide Screening Tool.

Storyline. The expert who developed the predictive risk modelling tool hopes it will be used to proactively identify at-risk children in the population at large.

Opposites.

- Proactive use of PRM on the total population/reactive use of PRM with children reported to CYF
- reactive use of the PRM in New Zealand/proactive use of the PRM in the USA.

Enthymeme 7.2.1. Proactive use of the predictive risk modelling tool, developed in New Zealand, can help to identify at-risk children in the population before they have been abused. Unlike Pittsburgh in the USA, the New Zealand government are not trialling proactive use of the PRM. THEREFORE, THE NEW ZEALAND GOVERNMENT WILL NOT ACHIEVE THE REAL BENEFITS OF A TECHNOLOGY DEVELOPED BY NEW ZEALAND EXPERTS.

Commentary on Story 7.2. In this story, Rhema Vaithianathan, one of the chief architects of the tool and a spokesperson for the PRM, appears to be reacting to a change in direction for the PRM from a tool that would risk assess all newborn children, to one that would only be used on children who had been notified to CYF. She is advocating strongly for the population wide use of the tool and comparing the position of the New Zealand government unfavourably to the state of Pittsburgh in the USA where her ideas about proactive use of the PRM are being trialled[11].

NEWS_08: Jones, N. (2015, July 30). Anne Tolley Scraps 'Lab Rat' Study On Children.

Analysis identified four main stories in this article:

Story 8.1: Not on my watch, children are not lab rats.
Story 8.2: Testing the predictive modelling tool with historical data
Story 8.3: Population wide use of the PRM will never fly
Story 8.4: Minister Bennett was unaware of the proposal

Story 8.1: Not on My Watch, Children Are Not Lab Rats.

Storyline. This is a story about how the incoming Minister for Social Development stopped a planned observational study to test the predictive risk modelling tool that would have seen the model applied to predict the risk of maltreatment of all newborn children in New Zealand and then monitor whether or not those predicted to be at high risk went on to be abused.

Oppositions.

- Treating children as children/treating children as ‘lab rats’
- observing harm occur and doing nothing/intervening to protect children from harm

[11] In fact, Allegheny County, in the state of Pittsburgh, was using a version of the PRM tool to assist the decision-making of child protection call screeners. However, this implementation was also proving to be highly controversial as one report, in a normally tech friendly news outlet, highlighted that, “Human choices, biases, and discretion are built into the system in several ways.” (Eubanks, 2018a).

- being a responsible minister/ not being a responsible minister.

Enthymeme 8.1.1. A RESPONSIBLE MINISTER FOR SOCIAL DEVELOPMENT ENSURES THAT THEIR OFFICIALS DON'T TAKE ACTIONS THAT ARE UNETHICAL AND NOT IN THE PUBLIC INTEREST. Minister Tolley acted to prevent an unethical proposal by MSD officials. THEREFORE, MINISTER TOLLEY IS A RESPONSIBLE MINISTER FOR SOCIAL DEVELOPMENT.

Commentary on Story 8.1. Just two months after Dorothy Adams announced an MSD trial using historical case studies Minister Tolley makes a dramatic announcement that she intervened to stop a proposed observational study on all New Zealand newborns. The rhetoric deployed here is all about *ethos*, demonstrating the ethical character of the new Minister who intervened to halt a potentially unethical action by her Ministry officials. What is most curious about this dramatic public announcement is that it refers to a decision made some eight months previously, at which point, no announcement was made.

Story 8.2: Testing the Predictive Risk Modelling Tool with Historical Data.

Storyline. The predictive risk modelling tool will be tested, but only with historical cases.

Oppositions.
- Testing with historical data/ testing with live data.

Enthymeme 8.2.1. TESTING THE PREDICTIVE RISK MODELLING TOOL WITH HISTORICAL DATA IS MORE ETHICAL AND SAFER THAN TESTING IT WITH LIVE DATA. The MSD are testing the predictive risk modelling tool with historical data. THEREFORE, THE MSD IS MORE ETHICAL AND SAFE.

Commentary on Story 8.2. This second story ties back into the stories of the previous article where the trial on how the PRM influences professional decision-making using historical data was announced. However, it remains unclear why no reference was made to the closure of the population wide, prospective, observational study either at the time the decision was made, or when MSD made the announcement about the study with historical cases in May (see News_07 above).

Story 8.3: Population Wide Use of the PRM Will Never Fly.

Storyline. Using the predictive risk modelling tool to assess the risk of individual families who are not already known to Child, Youth and Family is not feasible and will not be implemented

Oppositions.
- Using the PRM to assess risk in the whole population /Using the PRM to assess risk in children notified to CYF.
- Social workers approaching families not known to CYF / social workers focussing on work with families known to CYF

***Enthymeme* 8.3.1**. POLICIES THAT LEAD TO UNNECESSARY STATE INTERVENTION IN PRIVATE FAMILY LIFE SHOULD NOT BE ADOPTED. Using the PRM to screen the whole population of newborn children will lead to unnecessary state intervention in private family life. THEREFORE, THE PRM SHOULD NOT BE USED TO SCREEN THE WHOLE POPULATION OF NEWBORN CHILDREN.

***Commentary on Story 8.3*.** Although Minister Tolley has argued that the main reason for the closure of the proposed observational study was based on the ethics of the proposal, in this story she reveals another reason: a discomfort with social workers, as agents of the state, "out in the community with clipboards knocking on people's doors [based on predicted risk]". This seems like a stance that is closer to the National party's traditional support of the family as the fundamental family unit (see chapter two) and dislike of state intervention in family life and may indicate a significant shift from former Minister Bennett's commitment to the use of the PRM to target vulnerable children as part of the wider data-driven commitment to selective social investment. This story also suggests a possible new role for the PRM as a tool to assist decision-making at the point of notification.

Story 8.4 Minister Bennett Was Unaware of the Proposal

Storyline. Minister Bennett, the former Minister for Social Development, was not aware of the proposed observational trial, so she cannot be held responsible for it.

Oppositions.

- Being aware of an unethical proposal/not being aware of an unethical proposal

Enthymeme 8.4.1. IF MINISTER BENNET WAS AWARE OF THIS PROPOSAL SHE MUST HAVE SUPPORTED IT. Minister Bennett was not aware of this proposal. THEREFORE, WE CANNOT ASSUME THAT SHE SUPPORTED IT.

***Commentary on Story 8.4*.** This story suggests that the journalist is aware that there has been a shift in policy direction and has attempted to check whether the former Minister for Social Development was aware, and therefore responsible for, the proposed observational trial, a claim that is denied by a government spokesperson.

NEWS_09: Dominion Post (2015, July 30). Editorial: Children Not To Be 'Lab Rats' In Fight Against Abuse

Analysis identified two stories in this article:

- 9.1 No sane politician could have done otherwise
- 9.2 Sensible reforms

Story 9.1: No Sane Politician Could Have Done Otherwise

Storyline. MSD officials appear to have proposed a study that would identify children at high-risk of maltreatment, but not intervene.

Oppositions.

- identifying children at high risk of harm and doing nothing/intervening to protect children from harm

Enthymeme 9.1.1. Conducting an observational study that would not intervene if children were identified as being at high risk of abuse is unethical. MSD officials proposed such a study. THEREFORE, MSD OFFICIALS ARE UNETHICAL.

Commentary on Story 9.1. This story makes a strong case that the actions proposed by MSD officials were irresponsible and that the intervention by Minister Tolley helped to avert the irresponsible decision making of her officials. Yet the story also makes it clear that the proposal was submitted to the Minster for approval prior to ethical clearance, that is its content would still have been subject to ethical review. The editorial makes no mention of the delay in revealing this news.

Story 9.2 Sensible Reforms

Storyline. Intervening to prevent child maltreatment is difficult and requires a careful balancing act, Minister Tolley's proposed legislative reforms are sensible, but the MSDs proposed use of the PRM tool is not.

Oppositions.

- Achieving the correct balance between intervening to protect children and breaching people's rights/ Not achieving the correct balance between intervening to protect children and breaching people's rights.
- Sensible reforms/ irresponsible reforms.

Enthymeme 9.2.1. Tackling child abuse and neglect is a difficult domain and sensible reforms require a careful balancing act between the rights of parents and children. MINISTER TOLLEY'S PROPOSED LEGISLATIVE REFORMS ACHIEVE THIS BALANCE. THEREFORE, MINISTER TOLLEY IS A SENSIBLE MINISTER.

Enthymeme 9.2.2. Tackling child abuse and neglect is a difficult domain and sensible reforms require a careful balancing act between the rights of parents and children. THE MSD OFFICAL'S PROPOSED OBSERVATIONAL STUDY DOES NOT ACHIEVE THIS BALANCE. THEREFORE, THE MSD OFFICAL'S ARE NOT SENSIBLE.

Commentary on Story 9.2. In this story the editorial makes a direct contrast between legislative reforms proposed by Minister Tolley that are difficult but, according to the author, necessary and acceptable[12]; and the proposed prospective, observational study that is attributed to MSD officials who are described as irresponsible. The rhetoric deployed in this story is clearly linked to ethos contrasting the character and actions of Minister Tolley favourably against those of her officials.

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[12] The "sensible reforms" referred to were part of Minister Tolley's own plans to modernise child protection services in Aotearoa New Zealand (Modernising Child, Youth and Family Expert Panel, 2015). Reforms that would eventually lead to a renewed organisational crisis and allegations of institution racism in relation to dramatic threefold increase in the number of court orders to remove unborn children at birth (Sachdeva & Reid, 201).

NEWS_10: Dare, T. (2015, August 4). Anne Tolley's 'Lab Rats' Call Inflammatory Political Rhetoric.

Analysis of this article identified two stories:

- Story 10.1: Science collided with politics, and politics won
- Story 10.2: Rhetoric won the day.

Story 10.1: Science Collided with Politics, and Politics Won

Storyline. A Minister closes down a proposed research study for political reasons.

Oppositions.

- Producing evidence for effective social policy / acting politically

Enthymeme 10.1.1. WHEN POLITICIANS INTERVENE TO PREVENT SCIENTIFIC STUDIES FOR NO GOOD REASON, WE SHOULD FEEL UNEASY. Minister Tolley intervened to prevent a scientific study for no good reason. Therefore, we should feel uneasy.

Commentary on story 10.1. As one of the original team that developed the prototype, and the author of its ethical review, Professor Dare is a policy actor with an obvious interest in the PRM tool. Although Minister Tolley positioned herself as an ethical actor in enthymeme's 8.1.1 and 8.3.1, this story is intended to position Minister Tolley as a *political* actor intervening to close down a 'scientific study' for political reasons. Although, what those political reasons might be, is not made clear. As we will argue in chapter eight, contrasting politics with science is not straightforward since there is a complex relationship between science and policy making, especially when, "science is being applied to systems that are complex, non-linear and dynamic." (Gluckman, 2011, p. 6)

Story10.2: Rhetoric Won the Day

Storyline. People should be concerned that inflammatory political rhetoric and misleading statements can close down important research.

Oppositions.

- political rhetoric/a research-driven approach
- inflammatory views/considered views
- misleading information/accurate information

Enthymeme 10.2.1. A GENUINE RESEARCH-DRIVEN APPROACH TO SOCIAL POLICY MAKING NEEDS POLICY ACTORS, LIKE THE OPPOSITION AND THE MEDIA, TO CHALLENGE MISLEADING INFORMATION AND POLITICAL RHETORIC USED BY GOVERNMENT. Policy actors failed to challenge Minister Tolley. Therefore, we should be worried that New Zealand policy will not be effective.

Commentary on story 10.2. In the arguments above, and in other points made in the article, Tim Dare makes a strong case that the intervention of Minister Tolley was a political decision justified with misleading information – that children were at risk of being treated like "lab rats" – and political rhetoric. The fact that neither the opposition party, or the media, challenged the political nature of the decision is noted by Dare as a concern for the future of evidence-informed policy making. However, as we will discuss further in chapter eight, this story is itself a rhetorical intervention by a policy actor with a vested interest in the PRM tool.

Tabular Summary of Enthymemes and Syllogisms

Appendix 4 includes a table (table three) tabulating all 24 stories, and 29 enthymemes and syllogisms identified in the ten news media articles included in the sample. It also identifies the policy actors making the arguments, summarises their attitude towards the PRM tool – pro, anti, cautious or neutral – and identifies the broad issues presented in the arguments. Although there were many individuals quoted in the news media reports most of these quotes made individual points rather than narrative arguments. In the six news media reports published in 2012 there were nine different policy actors making arguments about ViKI and the PRM tool: three politicians (Jacinda Ardern MP, Metiria Turei MP and Minister Bennett), three academic experts (Rhema Vaithianathan, University of Auckland; David Fergusson, University of Otago; and Tim Dare, University of Auckland), one paediatrician (Patrick Kelly, Starship Hospital), the CEO of the professional association of social workers (Lucy Sandford-Reed, ANZASW) and one journalist[13] (Tapu Misa, New Zealand Herald). The only policy actors who were arguing in support of ViKI and the PRM tool were Minister Bennett and the two academics associated with the development of the prototype (Rhema Vaithianathan and Tim Dare). Professor David Fergusson (University of Otago) was cautious and the remaining five commentators were negative.

The commentators making arguments in the four news media articles sampled from 2015 included an MSD official, the incoming MSD Minister Tolley, a spokesperson for Minister Bennett, Rhema Vaithianathan, Tim Dare and a Dominion Post editor. This time only the two academics associated with the development of the prototype, PRM tool were arguing in support of the PRM tool, others were either anti or cautious.

Conclusion

This chapter used a rhetorical narrative analysis to analyse and make visible the arguments used in the news media to debate the White Paper for Vulnerable Children, ViKI and the PRM tool. The majority of these arguments focused on the risks and benefits associated with the PRM tool. The following chapter uses the findings from the key informant interviews and news media analysis – in combination with reference to official documents on the White Paper for Vulnerable Children (New Zealand Government 2012a, 2012b) and other media sources – to discuss the findings of this study and answer its four research questions.

[13] Of course, journalists were critical in selecting content and shaping each one of the news media reports but this op-ed report was a series of arguments attributed to a freelance journalist.

Chapter 8: Discussion

For Flyvbjerg (2006b), the fundamental objective of social science is to understand values and interests and how they relate to praxis or practical action; and the key to investigating values and interests is to ask the four value-rational questions noted below. These value-rational or phronetic questions become particularly pertinent for the analysis of a policy that involves the application of an innovative technological development since technologies – such as ViKI and the PRM tool – are usually framed in terms of an *instrumental rationality* (Feenberg, 2019). Reflections on *techne* (technical knowledge) must be balanced by a discussion informed by *phronesis* (practical wisdom), and instrumental rationality balanced with democratic rationality[14] (Feenberg, 2019). The four value-rational questions used to structure the discussion of findings in this chapter are:

1. Where are we going with ViKI and the PRM tool?
2. Who gains and who loses, and by which mechanisms of power?
3. Is this development desirable?
4. What, if anything, should we do about it?

With reference to the "we" in the questions above, Flyvbjerg (2006b) notes that:

> Social scientists following this approach realise there is no global and unified 'we' in relation to which the four questions can be given a final answer. What is a 'gain' or a 'loss' often depends, crucially, on perspective: My gain may be your loss. (p. 40)

In the present context relevant actors include government Ministers, Ministry of Social Development officials, professional and academic experts, journalists, service users – especially whānau Māori – and all parents of newborn children in Aotearoa New Zealand. Each of these actors has different degrees and types of influence and power, different stances towards ViKI and the PRM and shifting relationships and alignments with each other. The governmentality thesis, and actor-network theory, propose that for innovative technologies like ViKI and the PRM to be adopted autonomous actors need to be aligned and assembled into a durable network and that this involves a process of translation including "negotiations, intrigues, calculations, acts of persuasion" (Callon & Latour, 1981, p. 279). Although many of the processes associated with ViKI and the PRM tool occurred in settings and between people that were not directly accessible to this researcher, traces of the processes (Ricci, 2010) are clearly evident in the interviews with key informants (chapter six) and in news media stories (chapter seven). In addition to data from the interview and news media analyses, this chapter also, where appropriate, draws on references to government policy documents and other news media sources, especially two Radio New Zealand programmes broadcast in 2015 (Cowie, 2015; Ryan, 2015).

[14] Feenberg (2019) contrasts instrumental rationality with democratic rationality, "…the one oriented toward efficiency and control, the other toward public information and deliberation." (p. 238)

Where are we Going with the Vulnerable Kids' Information System and the PRM Tool?

Since the development of the PRM tool is now part of social policy history, and ViKI rolled out as a much more modest information system for children's teams (Dudding, 2016), it is clear that, from the standpoint of government's original aspirations, we did not get very far with either system. Yet this was a development that, when announced in the White Paper for Vulnerable Children (New Zealand Government, 2012a, 2012b), was strongly supported by politicians, policy makers and academic experts as a solution that would enable major improvements to the child protection system in Aotearoa New Zealand. So where *were* we going with ViKI and the PRM tool before the change of Minister and the eventual closure of the PRM project? To answer this question, we will consider what the data reveal about the overarching political rationality (Cornellison, 2018) informing this development, how this rationality shaped the way in which the issue was problematized (Rose & Miller, 2010), and how ViKI and the PRM tool came to be represented as offering a natural, rational, and efficient technological solution (Morozov, 2014).

Social Investment as an Overarching Political Rationality

As argued in chapters two and four, to fully understand the form that this technological and policy innovation took, it must be situated in the context of the *political rationality* of social investment as espoused by the Fifth National Government. This perspective was clearly reflected in Simon's (Frontline Panel: Interviewee #1) interview where he identifies the social investment policy as an overarching framework motivating the targeted, selective approach advocated by government. It is also worth noting that Simon attributed an ethical 'if we can, then we must' rationale to the comments made by Bill English, then Minister of Finance, about the need to use the data held by government for 'social good' (an argument we will return to below).

Even though Eleanor (Scientific Panel: Interviewee #2) does not make an explicit reference to the social investment approach she was quite clear about the opposition between two different perspectives debated in the Scientific Panel which she characterised as an opposition between an approach based on the information system and "surveillance and risk"; and another based on "thriving and wellbeing" and "…a universal system which says every child should have access to supports". The language of the Green Paper (New Zealand Government, 2011b) referred to "…how we ensure every child thrives, belongs and achieves", but, as we will see, the White Paper characterised the issues quite differently. The news media article by Tapu Misa (NEWS_04) included the same *narrative opposition* (Feldman and Almquist, 2015) identified by Eleanor (Scientific panel: Interviewee #2) and argued strongly against the government's targeted approach that risked stigmatising and humiliating service users, and in favour of universal services that "build a sense of community and contribute to social cohesion" (enthymemes 4.1.1, 4.2.1 and 4.2.1). Of course, what is playing out here is a battle of ideas and competing policy perspectives for problematising the issues (Bacchi & Godwin, 2016). Drawing on the work of Gilbert et al. (2011) and Križ and Skivenes (2013), Keddell (2014a) distinguished two broad policy orientations in the field of child and family policy: a family-focused c*hild welfare* orientation and an individual *child protection* orientation, "Child welfare orientations contain an assumption of state responsibility for broad-ranging social well-being, linked to a

universalist social democratic ideal, while child protection orientations can be related to the individually targeted, investigation and punishment-driven models of residualist, neo-liberal approaches" (p. 3). Keddell (2014a) concluded that the child welfare orientation of the Fifth National Government could be best characterised as an individual child protection orientation with an emphasis on selectivity and targeting, and that the PRM tool was being used to achieve those ends.

Problematising Child Maltreatment as Child Vulnerability

According to Bacchi and Goodwin (2016) "what we propose to do about something indicates what we think needs to change and hence what we think the "problem" is" (p.16). If the problem is framed as one of identifying vulnerable children at risk of future harm, then predictive risk modelling technology seems like a natural solution. But how did the concerns of the Green Paper (New Zealand Government, 2011b) with ensuring "every child thrives, belongs and achieves" (New Zealand Government, 2011b) become translated into the focus of the White Paper (New Zealand Government, 2012b) on "vulnerable children who have been abused or maltreated" (p.6)? Simon (Frontline Panel: Interviewee #1) was very clear on the purpose of the Green Paper:

> Well, the central thesis of the Green Paper that then was translated into the White Paper is, "Do you believe we should prioritise the needs of vulnerable children over other segments of society?" So that was basically the central thesis of the approach and so that came through the White Paper.

Whilst the issue was problematised in both papers as a problem of *vulnerable* children (the word was used in the title of both) there was a considerable shift in the meaning of child vulnerability between the Green and the White papers, a shift that concerned how vulnerability was defined, and a shift that was closely related to the capabilities of the PRM tool. If the Green Paper "promoted an idea of vulnerability that incorporated structural, institutional, socio-cultural, economic, relational and individual aspects" (Stanley & de Froideville , 2020, p.6); the White Paper that followed it, "depicted a substantively narrowed concept of vulnerability" (Stanley & de Froideville, 2020, p. 6-7). As discussed in chapter four, one important aspect of governmentality is the idea of language as an *intellectual technology* that "provides a mechanism for rendering reality amenable to certain kinds of action" (Miller & Rose, 1990, p. 7). In a social policy context, language allows social problems to be framed in particular ways, in ways that do not simply represent social problems but brings them into being, offering categories of things that matter (and conversely those that do not) and shaping the way solutions are proposed (Bacchi and Goodwin, 2016). Numbers too, in addition to language, quite literally enumerate the things that count, "Every number, therefore, is an assertion about similarities and differences. No number is innocent, for it is impossible to count without making judgements about categorisation. Every number is a political claim about 'where to draw the line'" (Stone, 2012, p. 188). We can see this process at work in the different ways in which the term *child vulnerability* is put to use in the Green Paper and the White Paper and the number of children considered to be vulnerable.

The word *vulnerable* appears over 200 times in the Green Paper, but it did not define vulnerable children except to say that "Vulnerability is difficult to measure and describe" (p. 4). And yet, although the Green Paper considered that vulnerability was

difficult to measure, and that children passed in and out of vulnerability at different points in time, it included the statement that:

> While most children are vulnerable at some point of their lives, New Zealand researchers[15] suggest that at any one time 15 per cent of children (or 163,000 children aged under 18 years) are particularly vulnerable. That is, without significant support and intervention, they will not thrive, belong or achieve. (p.6)

The White Paper offered an extensive discussion of child vulnerability, but rather than using the more universalist language of "how we ensure every child thrives, belongs and achieves" (New Zealand Government, 2011b), the register shifts to selectivism as it "focuses on vulnerable children who have been abused or maltreated, and those at the greatest risk of maltreatment, along with the adults who are endangering them" (p.6). It proposed the following definition of vulnerable children:

> Vulnerable children are children who are at significant risk of harm to their wellbeing now and into the future as a consequence of the environment in which they are being raised and, in some cases, due to their own complex needs. (New Zealand Government, 2012a p.6)

Despite the fact that the definition mentions the social environment of the child. The emphasis is clearly on "the risks emanating from immediate (family) environments or children's personal complexities" (Stanley & de Froideville, 2020, p.13). This line of thought is echoed in the comments of Simon (Frontline Panel: Interviewee #1) who worried that "the real concern" of government was with "bad people" who have access to children and who need to be sorted out; and in Roger's remarks (Scientific Panel: Interviewee #1) that the PRM tool might be used to "treat people and families in a discriminatory way that implied that they are abusers, villains, undesirables". These perceptions, about the primary focus on parents and parenting, are supported by a statement made by Minister Bennett in a Cabinet Paper that set out the implications of the White Paper:

> While many risk factors, or confluence of factors, play an important role in vulnerability and resilience, the most important factors are parental behaviour, action and failure to act. (Bennett 2012, p.3)

This way of framing the problem detracts attention from "the vulnerabilities of parents that may have led to abusive behaviour, or to the structural, relational, community or personal causes of those vulnerabilities" (Keddell, 2018. p. 99).

The logic of vulnerability in the White Paper is then linked to the identification of children at risk of maltreatment (as well as those already known to services and considered to be at risk of further maltreatment). This new definition of vulnerability led to a new estimation of the numbers involved:

> It is estimated that across both target groups there will be around 20,000–30,000 children and families who will need to be worked with intensively each year.

[15] The Green Paper does not cite the source of this research and quite different rates, based on the New Zealand General Social Survey, are included in a later paper by Statistics New Zealand (New Zealand Government, 2012d)

> Close to half of the children and/or their caregivers are expected to identify as Māori…Note that these estimates draw on numbers generated by risk modelling work detailed in the following chapter. (New Zealand Government, 2012b, p. 69)

So, who counts as vulnerable shifts from 163,000 children who would not "thrive, belong or achieve" without "significant support" (New Zealand Government, 2011b, p.6); to an estimated 20,000 to 30,000 children who are at risk of maltreatment (New Zealand Government 2012a, p.5). The White Paper (New Zealand Government, 2012a, 2012b) redefines, quite literally, what counts as child vulnerability and the PRM tool plays a significant role in shaping that definition by generating the numbers of children assumed to be at risk of maltreatment. Where we *were* going with ViKI and the PRM tool was then clearly linked to the selectivist orientation of the Fifth National Government's political rationality of social investment, which – translated into the context of child protection – was expressed as a programme of government to identify children at risk of maltreatment made possible by ViKI and the PRM tool as technologies of governance (Rose & Miller, 2010).

Who Gains and Who Loses, and by Which Mechanisms of Power?

This second value-rational question assumes that in any new development there are those who will benefit and those who may be burdened, and that the gains and the losses may not be distributed equally. There is seldom a single unifying perspective on a policy or technological development, no 'God's eye' view from which we can deduce the absolute truth, there are only situated knowledges and partial perspectives (Haraway, 1988). Minister Bennett and her MSD officials, along with some policy advisors and academic experts, were strong advocates of ViKI and the PRM tool believing that vulnerable children would gain, and that a significant proportion of child maltreatment – and perhaps even child homicide – could be prevented (see enthymemes 1.2.1, 2.1.1, 6.1.1, and 7.2.1). From a governmental perspective, if the logic of social investment paid off, the government might also gain by savings in terms of its future fiscal liability (Baker and Cooper, 2018). And, if Simon's (Frontline Panel: Interviewee #1) view was correct, perhaps Minister Bennett might have gained in terms of a political legacy. From the perspective of the supporters of this development, it was openly acknowledged that there were ethical issues and risks associated with it (New Zealand Government, 2012b; Vaithianathan, 2012; Dare, 2013), but considered that some risks could be managed (Dare, 2013) and that, in order to achieve the benefits, *sacrifices* were necessary, there were necessary burdens that must be borne (enthymeme 1.2.2).

When Minister Bennett asked the New Zealand public "what you would give up so that vulnerable children come first" (New Zealand Government, 2011a), and referred to "the trade-offs and sacrifices we're prepared to make" (New Zealand Government, 2011b) she was – without making direct mention of it – referring to the loss of privacy and the right to informed consent for sharing personal data held in official databases. She was also referring indirectly to the risk that some families may be labelled and stigmatised by unnecessary intervention as a result of the false positives produced by the PRM. It is also clear from Minister Bennett's intervention in the news media (especially NEWS_01), that she was firmly of the view that the benefits of ViKI and the PRM outweighed the risks and legitimised the sacrifices required, "So, for the small

risk of it being seen as being a bit intrusive, for those kids, yeah let's get intrusive" (enthymeme 1.2.2).

In terms of those who might have lost had the development proceeded, the section below considers the impact on whānau Māori. The sections that follow assess how power was deployed to maintain the policy framing, government's preference for forms of expertise conducive to the social investment approach and the work done to keep the use of public data out of the public eye.

The Impact on Whānau Māori.

In chapter two we noted that the over-representation of Māori in the child protection system is a legacy of Aotearoa New Zealand's status as a settler colonial state (Keddel & Hyslop, 2019; Hyslop & Keddell, 2019). We also noted above that almost half of the families identified as high risk by the PRM tool were anticipated to identify as Māori (New Zealand Government, 2012b). Therefore the harms associated with the PRM tool – false positives, labelling and stigmatisation – were widely recognised to fall disproportionately on Māori. In that sense, this policy and the PRM tool, in the context of a settler colonial state, were always likely to further amplify discriminatory processes that were already embedded in administrative databases (Keddell, 2019). This point, that the administrative databases on which the PRM tool was developed were based on subjective judgements and riven with bias – both surveillance and personal bias[16] (Keddell, 2019) – was highlighted by Roger (Scientific Panel: Interviewee #1) to critique the use of the PRM tool to identify high risk families, "As I keep on pointing out to them, that while her analysis was good, the data quality was probably quite poor."

Stanley and de Froideville (2020) argued that, for Māori, "Their experience of 'risk factors', built and sustained through colonizing structures and institutional interventions will inevitably be further energised through the 'evidence' collated on the ViKI" (p. 17). Linking the practices of individualised risk assessment to colonisation, Stanley and de Froideville (2020) stated that:

> In a settler state, where prevailing practices ensure that Māori suffer structural, institutional and socio-cultural harms, these approaches will increase state interventions towards Māori. Their 'risk factors' will be marked out in the real or proportional increases in those placed into care, processed through the courts or incarcerated. (p.17)

Therefore, whānau Māori would have stood to lose more from this development than any other social group, a clear case of data discrimination against an indigenous people (Keddell, 2019; Stanley & de Froideville, 2020). This is an issue of data justice (Redden, 2020) that we will consider in greater detail in the final and concluding chapter.

[16] See the discussion of surveillance bias in chapter three.

The Work Done to Resist Alternative Ways of Framing the Policy Problem

Minister Bennett was very clear in her intentions to divert the framing of the problem of child maltreatment away from the issue of child and family poverty and towards the responsibilities of parents. In her Ministerial introduction to the White Paper, she stated:

> Though I acknowledge the pressure that financial hardship puts on families, that is never an excuse to neglect, beat, or abuse children. Most people in such circumstances do not abuse their children, and I cannot tolerate it being used as a justification to do so. (New Zealand Government, 2012a, p.2)

Evidence from the interview data discussed in chapter six indicates that members of the Green Paper advisory panels were conscious that the policy problem was actively framed in particular ways and alternative framings discouraged. According to Simon (Frontline Panel: Interviewee #1), questions about tackling inequality or disadvantage were not on the agenda because, "The answer being sought was, how do we sort out these families that abuse children?". Eleanor (Scientific Panel: Interviewee #2) described a similar process, "But we weren't allowed to use…the word 'poverty'….was reframed. Words like 'inequality' were reframed…called 'lacking material resources' or something." And, as discussed in chapter six, Roger (Scientific Panel: Interviewee #1) was highly sceptical of the whole policy-making process, and what he considered to be the undue influence of the Minister on her officials. So, in Green Paper advisory panel meetings with government officials, there is evidence that preferred ways of framing the problem subtly influenced deliberations. In effect, the expertise of at least some members of the Frontline Panel and the Scientific Panel seems to have been ignored in favour of other sources of expertise, more conducive to the assumptions of the social investment agenda, as we will consider below.

Evidence from analysis of news media in chapter seven revealed public and explicit interventions on the part of the Minister, and other actors, to maintain the focus on the risks presented by the families of vulnerable children rather than on structural factors. In particular – echoing her comments in the introduction to the White Paper – in NEWS_01 Minister Bennett actively resisted the connections made by opposition MPs between child maltreatment and child poverty (enthymeme 1.1.1). She made a positive rhetorical intervention to shift the ground from a statement of empirical fact that there is a strong association between poverty and a range of negative health and social outcomes – including child maltreatment – to a moral and ethical argument that people should not use poverty to justify child maltreatment (enthymeme 1.1.2) and anyway, she argued, reducing child maltreatment to poverty is too simplistic (enthymeme 3.1.1). This is active policy work and a good example of the use of power to supress certain issues and keep them off the political agenda, or what Bachrach and Baratz (1970) referred to as the power of *non-decision making* and the *mobilisation of bias* to privilege some groups in relation to others.

Expertise and Forms of Knowledge

Following Foucault (1980), Flyvbjerg (2006a) argued that knowledge and power are inseparable from each other, "power produces knowledge, and knowledge produces power" (p. 376). In addition, from a governmentality perspective, in liberal

democracies, “government is inherently bound to the authority of expertise” (Rose, 1993, p. 291) and traffic travels in both directions: that is, government seeks to enrol experts in attempts to tackle social problems and experts attempt to enrol government in adopting their solutions so they can access resources. From a poststructural frame of reference *expert knowledge* is not considered as a set of true statements about an objective reality out there, but as an intervention that plays a critical role in shaping and making reality. In this view expert knowledge is “a form of political practice” (Bacchi & Goodwin, 2016, p. 15). Expertise frames policy problems and offers policy solutions in ways that are acceptable to the political rationality of governmental elites: “Power determines what counts as knowledge, what kind of interpretation attains authority as the dominant interpretation. Power procures the knowledge which supports its purposes, while it ignores or suppresses that knowledge which does not serve it” (Flyvbjerg, 2003, p. 319).

In terms of our question with regard to who gains and who loses, when the predictive risk modelling tool was advanced in the White Paper as a solution to the problem of child maltreatment it was evident that social work as a *form of knowledge* lost out to other forms of expertise. Social work and social workers, with their avowed commitment to social justice, tackling social inequality and a relational approach to practice may not offer a form of knowledge (Philp, 1979) that has a good fit with the direction of travel sought by some political elites (Gupta, 2015; Hyslop, 2017). As was evident in the news media reports (NEWS_02, NEWS_06, NEWS_7 & NEWS_10) and in the literature review (Vaithianathan, 2012, Vaithianathan et al., 2013; Dare, 2013; Dare, 2015), two of the most prominent expert supporters of the PRM were both part of the original University of Auckland team commissioned by the MSD to develop the PRM prototype. Rhema Vaithianathan was a health economist who had undertaken work on predictive risk modelling in the context of health systems (Panattoni et al., 2011), and Tim Dare was a professor of philosophy employed as an ethicist for the PRM prototype project (Dare, 2013, 2015). Notably, a University of Auckland social work academic – Irene De Hann – was also part of the original PRM team. In NEWS_05, in 2012, she argued that the PRM tool could help focus resources on “at-risk families before any abuse occurs”, but by 2014, perhaps reflecting the deep ambivalence many policy actors felt about the PRM tool, she published an article with a colleague calling the PRM into question and arguing that “If used to identify individual families it could easily serve to reinforce forensically oriented child protection practice, stigmatising and labelling families as well as overwhelming service responses” (de Hann & Connolly, 2014).

As a health economist Vaithianathan brought a form of expertise that was committed to the economic evaluation of programmes of intervention “from the perspective of efficiency – maximising the benefits from available resources (or ensuring benefits gained exceed benefits forgone)” (Kernick, 2003, p. 147). Dare (2013) adopted an explicitly consequentialist approach to his ethical evaluation, an approach that focused on an ethical assessment of the costs and benefits of using the PRM tool. Both were applying their expertise to a technology using a third form of expertise, data science, or more particularly, predictive risk modelling, a form of expertise with the alluring promise of improved efficiencies in service delivery to cash strapped governmental actors (Stats NZ, 2018; Veale & Brass, 2019). An instrumental form of rationality (Feenberg, 2019) – assuming objectivity and valuing efficiency and control – was very evident in these forms of knowledge.

Actor-network theory includes the concept of a *spokesperson* who speaks on behalf of technological entities that cannot speak for themselves (Ritzer, 2004). In this sense the PRM tool was given agency in the news media debate through the advocacy of members of its original development team. Acting as a spokesperson for the PRM tool, Vaithianathan, in NEWS_02, deployed rhetoric to naturalise the PRM tool, comparing its capability to the "the predictive strength of mammograms" (Enthymeme 2.1.1), an accepted and familiar technology. Later, in response to the controversy of the PRM in the news media debate, Dare published an op-ed (NEWS_06) defending the PRM against its critics (enthymeme 6.1.1) arguing that objections identified were either ill-founded or possible to manage (an argument he would later elaborate in the ethical review of the PRM) (Dare, 2013). Later, after the prospective observational study had been quietly dropped by the incoming Minister Tolley, Vaithianathan intervened to restart the debate in NEWS_07, arguing that by not making proactive use of the PRM, government was failing to realise the benefits of a technology developed locally (enthymeme 7.2.1). Then, when the new Minister made the belated public announcement that the prospective observational study was halted (enthymeme 8.1.1 and 8.3.1), Dare published another op-ed (NEWS_10) arguing that Minister Tolley had used "inflammatory political rhetoric" (enthymeme 10.2.1) and that citizens should feel uneasy about the fact that "Science collided with politics and politics won" (enthymeme 10.1.1). In Dare's own rhetorical intervention, political rhetoric is placed in opposition to science. Yet, as argued at the beginning of this section, from a poststructural perspective, expert knowledge is "a form of political practice" (Bacchi & Goodwin, 2016, p. 15). But you do not need to be a postructuralist to recognise that there is a problem with assuming, as Dare does, a direct relationship between science and policy making. Peter Gluckman, the former Chief Science Advisor to the New Zealand Prime Minister – and Chairperson of the Green Paper, Scientific Panel – argued that, "A purely technocratic model of policy formation is not appropriate in that knowledge is not, and cannot be, the sole determinant of how policy is developed" (Gluckman, 2011, p.3).

Datafication Hidden from View

Van Zoonen (2020) has noted the growing interest in the use of big data by government in many jurisdictions and argued "This transition to data-driven social policy, captured by the term "digital welfare state," almost completely takes place out of political and social view, and escapes democratic decision making". This lack of public engagement in the policy process of datafication, the absence of a democratic rationality (Feenberg, 2019), was very evident in relation to ViKI and the PRM tool. From its beginnings in 2009/2010 till the announcement of its closure in 2015 plans for the PRM tool were often hidden from view and carefully managed in public media. Several key documents were only released following Official Information Act requests from journalists (for example, Ministry of Social Development, 2014b) others were released quietly to the MSD website in 2015 (Cowie, 2015) a considerable time after their internal MSD publication dates (for example, Dare, 2013 and Ministry of Social Development, 2014a) and only when the interests of investigative journalists had been piqued.

Since the end goal of the PRM tool trials was to establish proactive, population wide screening and risk scoring of all newborn children in Aotearoa New Zealand (Ministry

of Social Development, 2014), and since it was recognised that there would be a considerable number of false positives with the risk of subsequent labelling and stigmatisation (Dare,2013), all future parents and caregivers stood to be burdened by this policy. However, it is not possible for the public to exercise any power or influence over a policy development if there is no process for consultation or deliberation. It is a very curious feature of this policy development that although government issued a Green Paper (New Zealand Government, 2011b) with a consultation period of six months at no point was the most controversial aspect of the eventual policy revealed. ViKI, and the PRM tool, were conspicuous by their absence from the Green Paper process. Nonetheless, the evidence suggests that government had predictive risk modelling in mind even at the point of publication of the Green Paper. There are at least three sources of evidence to support this view. Firstly, from our expert interviews, Eleanor (Scientific Panel: Interviewee #2) stated that, at the end of 2009, two years before the publication of the Green Paper, Minister Bennett was "really convinced that what we needed was an information system that could find vulnerable children. Like she just, that was what she wanted. She wanted to be able to locate these people". Secondly, the publication of the Green Paper was accompanied by a short, public information video in which Minister Bennett, accompanied by a child actor, appeals to the public and states:

> We've written a Green Paper on children, it deals with uncomfortable issues, it poses some pretty hard questions. It asks you what you would give up so that vulnerable children come first. Are you willing for all children to be tracked at birth for example? (New Zealand Government, 2011, 1:04),

This is first public reference to the PRM tool, although the text of the Green Paper asks no questions and makes no reference to such a technology. Finally, several years later, in a Radio New Zealand programme investigating the use of the PRM tool, Dorothy Adams, a senior official from the Ministry of Social Development, stated that "We had Rhema [Vaithianathan] and her team do their work in 2010…around then" (Ryan, 2015, 19:16). It therefore seems highly likely that predictive risk modelling was under active consideration since at least 2010 if not before, and yet the public consultation made no reference to this development. It is unsurprising then, that when the White Paper (New Zealand Government, 2012b) announced the development of ViKI and the PRM, it prompted a heated debate in the news media and one nationally recognised expert in child protection – and former member of the 2009 Expert Forum on Child Abuse – Patrick Kelly could describe himself as being, "…kind of blindsided", and that the predictive model came, "completely out of left field" (enthymemes 5.1.1 and 5.2.1).

As discussed in chapter seven, the news media debate in the New Zealand Herald and the Dominion Post fell silent from the point of Tim Dare's op-ed in October 2012 only to reopen in May 2015 (NEWS_07) with an announcement by Dorothy Adams (MSD, Acting Deputy Chief Executive) about plans for a cautious, vignette-based user testing trial to test the influence of the PRM tool on social workers' decision making to help triage notifications (enthymemes 7.1.1 and 7.1.1). This article included a challenge from Rhema Vaithianathan that the government were not making use of the PRM tool in a proactive way, as it was intended to be used (enthymeme 7.2.1). Then, in July 2015 (NEWS_08) – two months later – Minister Tolley makes the dramatic announcement that, shortly after taking up office in November 2015 she took her officials to task calling a halt to plans for a proposed, prospective observational study on all newborn

children. Minister Tolley considered the plans to be unethical (enthymeme 8.1.1) and argued they would lead to unnecessary state intervention in private family life (enthymeme 8.3.1). However, she did approve a trial of the PRM tool on historical notifications, a plan that was, she argued, more ethical and safe (enthymeme 8.2.1).

It seems puzzling that the MSD would announce its intention to run the vignette, based trials to test the influence of the PRM tool on social workers decision making in May 2015 without announcing that Minister Tolley had halted the population wide prospective, observational trial – as alleged by Vaithaianathan (enthymeme 7.2.1) – eight months before. In this case we really seem to be in the territory of the negotiations, intrigues, calculations, and acts of persuasion described by Callon & Latour (1981). It is possible that both the announcement of the triage trial (NEWS_07) and the announcement of the closure of the prospective observational study (NEWS_08) were prompted by two Radio New Zealand investigative journalists and two news programmes: one broadcast on the 12th May titled, *MSD urged to adopt predictive tool to identify at risk children* (Ryan, 2015); and the second broadcast on 21st June titled *Child abuse or Big Brother?* (Cowie, 2015). The radio journalist Kathryn Ryan (2015, 00:00) opens the first programme with the question, "Well why is the Social Development Ministry stopping short of fully implementing a predictive risk assessment tool that can identify children at risk of abuse?", then, referring to comments made by Vaithianathan:

> she says MSD has chosen not to implement the tool proactively as it is meant to be used. Rather it may apply it retrospectively only once a notification of suspected abuse has been made by a member of the public, and only once another trial is conducted. She's frustrated with the pace and says delays are unethical. (Ryan, 2015, 00:38)

In effect, Rhema Vaithianathan appears to have broken the news of the halting of the prospective, observational study in order to challenge the decision by the MSD. She also implies that not using the PRM tool proactively on the whole population, "as it was meant to be used" is unethical (echoing the doctrine of *negative responsibility* used by Bill English in relation to the broader goals of social investment). The journalist also interviews Dorothy Adams (General Manager, Insights, MSD) who stated that:

> So, at this stage, Rhema's right, we're not using the predictive modelling in a proactive way. That's not to the say that we've taken the decision that we'll never do that, we just don't feel that we are ready to do that. (Ryan, 2015, 18:37)

Later in the interview, Adams repeats "so what we're saying is we haven't taken proactive use off the table at all. What we're saying is we don't know enough yet, we believe, to start implementing a proactive model at this point in time" (Ryan, 2015, 27:10). It seems reasonable to assume that this interview may have triggered NEWS_07 where Dorothy Adams announced the vignette-based, user testing trial presented as a cautious and considered approach to testing the PRM tool to triage notifications to the CYF call centre (enthymeme 7.1.1). One month later, the media debate is intensified by another RNZ investigative journalist (Cowie, 2015) who broadcasts a programme on the PRM tool titled *Child Abuse or Big Brother?* This programme interviews a number of supporters and detractors of the PRM tool including Patrick Kelly, Emily Keddell, Rhema Vaithianathan, Tim Dare and Dorothy Adams. In this programme there is an

exchange between the journalist and Dorothy Adams (replicated in full in Appendix 5) that unovers a number of issues with regard to the lack of transparency of the development of the PRM including a statement from the journalist that "In the three years since the research began, the Ministry's been fairly cagy about its progress. Uploading the research documents quietly onto its website only after I requested them in May" (Cowie, 2015, 21:32).

So, in the press release and radio programmes during May and June 2015 the MSD acknowledged that proactive use of the PRM tool was delayed, but at no point is there a statement that it was removed as an option. Then, in July 2015, as noted in the analysis of NEWS_8, Minister Tolley announced that, whilst the vignette-based user testing trial was proceeding, she had halted the prospective, predictive risk modelling tool for ethical reasons and made it clear that a PRM tool to screen the whole population, "will never fly". This timeline is also reflected in an MSD (2015) document titled, *Predictive modelling: Frequently asked questions*. The document stated that in November 2014, "The Minister considered the ethical risks of undertaking a prospective observational study unacceptably high and instructed that all work on the study should stop." Also, in an internal report to the Minister released to a journalist under the Official Information Act the report (published in December 2014 and drafted by Dorothy Adams) stated that:

> Given your considerable concerns around the ethics of the proposed prospective observational study, all work to test the value the Vulnerable Children's PM might add to the early identification of potentially vulnerable children has been halted. We will discuss with other agencies whether there are other options for testing that do not raise the ethical risks associated with particular study. (Ministry of Social Development, 2014b, p.2)

It may be that the reference to "other options" was what Dorothy Adams had in mind when referring to not taking, "proactive use off the table." (Cowie, 2015). Clearly, Minister Tolley had a different point of view on that matter.

Is this Development Desirable?

Latour (2013) characterises the lifecycle of any sociotechnical project as occurring over time and consisting of programmes and anti-programmes recognising that the process of sociotechnical innovation can be controversial and replete with advances and setbacks, proponents and opponents.

> In other words, technological invention never proceeds in a straight line; rather, it zigzags between a multitude of compromises…these continual maneuvers, which define invention, trace the front line between "friends" and "enemies," those who had to be held onto or fought against every time.

Latour's (2013) characterisation of the progress of technological innovation is useful in highlighting the temporal and dynamic nature of innovation and the "continual maneuvers" that are part and parcel of the process. This process was very evident in the evolution of ViKI and the PRM tool as they were subject to a series of trials, reviews and the cut and thrust of policy debate. As the debate unfolded, the desirability of ViKI was perceived very differently from the PRM tool. These developments are therefore discussed separately below.

The Desirability of Electronic Information Sharing

The White Paper for Vulnerable Children (New Zealand, 2012b) identified professional information sharing as a challenge to effective child protection practice in Aotearoa New Zealand and argued that the introduction of a new information-sharing platform – or ViKI – would support:

- the earlier and more systematic identification of children at risk of abuse or re-abuse
- more efficient and comprehensive assessments of needs
- greater clarity about who is taking responsibility for children's safety and wellbeing
- ongoing tracking and monitoring of outcomes for vulnerable children. (New Zealand, 2012b, p. 74)

When Minister Bennett intervened in the news media (NEWS_01) to argue for the benefits of the database she went even further, linking the database to the death of Nia Glassie. The rhetorical point is illustrated well in enthymeme 1.2.1 which included the implicit claim that the Government's plans for an information sharing database could have prevented Nia's death and could prevent future child homicide. In NEWS_01 Minister Bennett was cited as saying:

> If you look at those high-profile cases that have gone through the coroner ... our lovely Nia Glassie, a whole lot of people held a small piece of information. No one put the pieces together. [The database] is going to put the pieces together. So, for the small risk of it being seen as being a bit intrusive, for those kids, yeah let's get intrusive

Underlying the oft-repeated rationale for professional information sharing is the *jigsaw metaphor*, or the idea that:

> professionals do not have 'all' the 'pieces' to establish a 'full' picture of a child's life on their own; rather, the jigsaw is assembled through the working together of relevant professionals who each bring to the table their own 'piece' or 'pieces' in order to complete the picture. (Thompson, 2013, p. 191)

This rationale was evident in the interviews with the two senior agency managers interviewed. Simon (Frontline Panel: Interviewee #1) highlighted findings from inquiries into the deaths of children, stating that, "I mean one of the key things, one of the key findings consistently was everybody had a little bit of the information, and if somebody had put it all together then the vulnerability of this child would be obvious." Christine (Frontline Panel Interviewee #2) was also clear that, "I think for me sharing of information has to be high on the agenda if you are looking out for the best outcomes for children". However, Christine was also clear that there needed to be safeguards and protocols around use of an electronic information sharing system and that issues of privacy and the informed consent of parents and caregivers was critical.

Both Roger (Scientific Panel: Interviewee #1) and Eleanor (Scientific Panel: Interviewee #2) were more sceptical about the impact of electronic information sharing.

Eleanor was concerned that different professional cultures, philosophies and language may present an obstacle to effective information sharing, and pointed out that information sharing should not be an end in itself, it must lead to action, "It's all very well having all the information sitting there in a system but so, so what? What are you going to do with it? How are you going to make it work?". She contrasted the idea of electronic information sharing with genuine interprofessional communication and planning, or, as she put it, "professionals around the table talking to each other about intervention". Like Christine (Frontline Panel Interviewee #2), Eleanor (Scientific Panel: Interviewee #2) also highlighted problems created when different professionals use a shared information system without sharing a common lexicon, "unless you have people putting in the same information, using the same concepts and the same terms, it's useless." Eleanor also considered that an electronic information system may lead to over assessment and was also concerned about the need to secure the informed consent of families and caregivers.

Roger's (Scientific Panel: Interviewee #1) interview focused more on the PRM than electronic information sharing but he did highlight the opportunity cost of investing in "a flash data system" and argued strongly against the idea that child homicide could be prevented by information sharing:

> That's a silly argument. The argument that they had information that they weren't sharing, because if you actually look at the families who kill their kids, the Kahui's and everything, there's probably at any one time in this country about five to six thousand of them that bad. Only ten will kill their kids. Now which ten, no one ever knows.

Minister Bennett's argument that the database might prevent child homicides, like that of Nia Glassie, is a clear use of pathos (Gottweis, 2006, 2007) or an emotional appeal to promote the benefits of the database over the risks associated with the loss of privacy and the intrusion of the state into family life. In fact, in NEWS_01 the two points are closely linked and she argues that precisely because the database could prevent child homicide then being intrusive is justified (enthymeme 1.2.2).

In spite of the appeal of the idea of professional information sharing for child protection purposes in many jurisdictions there is no clear evidence of its efficacy and many concerns about its unintended consequences. Discussing the dangers of professional information sharing, and referring to the changes associated with the English databases, Munro (2007) concluded that:

> There is a lack of evidence that professional monitoring and screening, using an agenda set by the government, will do better in improving outcomes for children than a good professional network that listens and responds to the worries of children and parents.

This last point resonates with the points made by Eleanor (Scientific Panel: Interviewee #2) above, and with the argument advanced by Patrick Kelly, in NEWS_5. Kelly, a former member of the 2009 Expert Advisory Group, argues that interprofessional information sharing can be achieved without investing in an expensive database (enthymeme 5.3.1). Referring to the findings of the 2009 Expert Advisory Group (referred to in chapter two) he argued that "The forum did not interpret data sharing to require any expenditure on new IT. It is possible to share data simply by

allowing individuals in different agencies to talk to each other." In a similar vein, Eleanor (Scientific Panel: Interviewee #2) repeatedly contrasted the false reassurance provided by an electronic information system with the lived reality of effective, interprofessional communication:

> So, they might have, they have ways of joining up, sorting out the information system so professionals are joined up, share information. I still don't think they've got professionals around the table talking to each other about intervention. I think that's where it falls down.

As Thomson (2013) has argued, the problem with the information sharing issue is the assumption that "information is something that can be perfected, and that all professionals in their organisations need to do is get better at it" (Thomson, 2013, p. 197). However, Thomson's (2013) study of interprofessional information sharing in child protection practice suggests that real word information sharing practices are considerably more complex, contextual and nuanced than the jigsaw metaphor implies:

> understanding what information is, and how it works, requires a significantly more complex set of ideas than is currently offered through the broadly objectivist assumptions within policy dis- courses; context, sense-making and translation, all matter in determining what gets said, remains unspoken, what is passed on, how information is understood and the priority given at any point in time. It is only by understanding these factors that multi-agency information practices, particularly at the stage of referral, can be improved. (p. 197)

So, although Minister Bennet, and the two Frontline Panel informants were positive about the desirability of ViKI; serious reservations were expressed by both Scientific Panel informants and Patrick Kelly from Starship Hospital.

The Desirability of the Predictive Risk Modelling Tool

Whilst the findings of this study include some discussion about the desirability or otherwise of an electronic information sharing system, the debate about the predictive risk modelling tool was much more vigorous and extensive. This is not surprising given the untested nature of the tool and the ethical risks that even the designers of the tool and the MSD recognised to be associated with its implementation (Vaithianathan 2012, Dare 2013, Ministry of Social Development, 2014a). The issue here was whether the benefits to be derived from its use outweighed the burdens. As indicated in chapter three, Tim Dare, the ethicist associated with the development of the PRM tool, was of the view that, "The application of predictive risk modelling to child maltreatment does raise significant ethical concerns" but that, "Many of these concerns can be significantly mitigated or ameliorated", and "Remaining concerns may plausibly be regarded as outweighed by the very considerable potential benefits of the Vulnerable Children PRM" (Dare 2013, p. 1).

Amongst interviewees there was considerable ambivalence about the use of predictive risk modelling. Christine (Frontline Panel: Interviewee #2), was strongly supportive of electronic information sharing, but much more cautious about the use of PRM, "I think it's a tool to have back, way back but not as the forefront, in my view. I think ethically we've got to be really careful using that." Simon (Frontline Panel: Interviewee #1) also suggested deep ambivalence describing himself as wearing, "two

hats" since, "it feels quite Orwellian, particularly when you throw predictive risk modelling into it". Roger (Scientific Panel: Interviewee #1) considered that the PRM tool may have value if used by skilled analysts to inform decision making about population groups but that giving the data to practitioners to work with individuals and families was risky and may lead to discriminatory practices. Eleanor (Scientific Panel: Interviewee #2) was also highly sceptical about the role of predictive risk modelling because of its emphasis on individual risk factors rather than contextual factors such as poverty. She was also concerned about the extent to which the implementation of PRM would override the human rights of families to privacy.

In the news media reports PRM was highly controversial, and many arguments were deployed by a range of actors to persuade readers of the benefits and burdens of the tool. Minister Bennett appears as the main advocate for the PRM tool. In NEWS_01 she promotes the tool by suggesting it might prevent child homicide (enthymeme 1.2.1) and, anticipating criticism, argued that since social workers made the ultimate decisions "children" would not be stigmatised (enthymeme 1.3.1). Two members of the team who designed the PRM – Rhema Vaithianathan and Tim Dare – also emerged as strong advocates in the news media reports. In particular, in order to naturalise the PRM tool, Vaithianathan compared it to mammography an accepted technology used to prevent serious risk of harm (enthymeme 2.1.1); Dare also intervened in an opinion editorial where he critiqued a number of opponents of the introduction off the PRM and argued that the tool was "too vital to ignore" (enthymeme 6.1.1).

Patrick Kelly was amongst the foremost critics of the tool in the news media, arguing that the public should pay attention to the alarm felt by people like himself (enthymeme 5.1.1), regarded as experts in child protection, about the introduction of a revolutionary new system (enthymeme 5.2.1), that came, "completely out of left field" and made him feel, "profoundly sceptical". The Chief Executive of the Aotearoa New Zealand Association of Social Workers also joined the debate, highlighting the risk that the PRM tool would undermine professional judgement and create stress on families that might increase risks to children (enthymeme 5.4.1). Kelly also points to the issue of labelling and stigmatisation associated with being identified as high risk especially when the PRM was associated with a high proportion of false positives (enthymeme 5.5.1). This issue was also one of the arguments made by Professor David Fergusson who pointed to the risk associated with being identified as a "potential child abuser" (enthymeme 2.2.1). He was also of the view that, because of the significant risks associated with the system, that it should only be operationalised after carefully constructed pilot studies and randomised control trials (enthymeme 2.2.2).

Of course, the debate about the desirability of the PRM tool, as a proactive, population wide screening tool was effectively over when Minister Tolley delivered a complete reversal of its fortunes and declared "Not on my watch! These are children, not lab rats." (NEWS_08). Only the possible use of the PRM tool to support social work decision making to triage notifications remained, but as we shall see, this option too would encounter the dictum of Miller and Rose (1990), that, "governmentality may be eternally optimistic, but government is a congenitally failing operation" (p.10).

What, if Anything, Should we do About it?

Notwithstanding that the original focus of this study was directed at ViKI and the PRM tool, in the end it was the PRM tool's role in early identification that became the primary focus of controversy and debate. ViKI's purpose as an information sharing platform was commented on but receded into the background only later to be "quietly rolled out" (Dudding, 2016) as a more modest information sharing tool for professionals working in local Children's Teams. In this section the question of what, if anything, should be done about the PRM tool will be addressed. This is a question that make most sense in the context of a development that is currently underway. As a value-rational question the "should" implies that there ought to be deliberation about the new development and that decisions about implementation ought to be founded on explicit values. Indeed, in a paper on the use of science to inform public policy, former Chief Science Advisor to the New Zealand Prime Minister, Peter Gluckman (2011), argued that there is a complex relationship between science and policy making especially when, "science is being applied to systems that are complex, non-linear and dynamic" (p. 6). In these contexts – and the use of data science to predict child maltreatment is a good example, "science almost never produces absolute answers, but serves to elucidate interactions and reduce uncertainties. Precision is not the outcome, rather an assessment of probabilities" (p. 7). Gluckman recommends the adoption of a co-production model of policy making in these contexts:

> in which policy makers, expert advisors and society negotiate to set policy goals and regulatory decisions that are agreed to be scientifically justifiable (in terms, say, of the information available and the levels of future risk that are tolerable) as well as socially and politically acceptable. (Gluckman, 2011, p. 8)

From the evidence of this study, what actually happened was not a deliberative process of policy co-production, nor was it one where citizens were viewed in terms of their wellbeing *and* their agency as responsible political actors (as advocated by Bromell, 2018). Instead planning and deliberation about the PRM both in terms of its trialling and then in terms of its closure, happened out of public view and at the behest of the Ministers involved. The public were made aware long after key decisions were taken and only in response to the activities of investigative journalists and Official Information Act requests. The vignette-based user testing trial study proceeded, and results were reported in Rea and Erasmus (2017). The report concluded that "The overall findings of the Enhancing Intake Decision-Making Project suggest that using statistical risk model information, in the form of a 'Background Risk Indicator', has the potential to improve care and protection intake decisions." (Rea & Erasmus, 2017, p.9). However, the level of improvement noted – around 6 percentage points – was very slight. Perhaps for that reason, the PRM tool was not implemented as a population surveillance tool or as a tool to triage notifications. In 2018, Statistics NZ published an *Algorithm Assessment Report* to take stock of algorithmic use by government agencies. Oranga Tamariki participated in this study and the report declared that "Oranga Tamariki does not currently deploy any operational algorithms for use in operational decision-making" (Statistics NZ, 2018, p. 14).

Conclusion

This chapter used data from the findings of the study – both interview findings and the analysis of new media – along with official documents and additional radio news reports, to trace the development of ViKI and the PRM tool. In particular, it followed the development of the PRM tool from the point of its inception, before the Green Paper, until its eventual demise at the behest of incoming Minister Tolley. The chapter included evidence of the negotiations, intrigues, calculations and acts of persuasion anticipated by actor network theory and applied the governmentality framework to illuminate the connection between social investment as a political rationality, data science as a form of knowledge and ViKI and the PRM tool as technologies of governance. The final chapter will conclude with a summary of these findings and place them in the context of the wider international debate about the datafication of child welfare and the emerging movement for data justice.

Chapter 9: Conclusion

This study of the Aotearoa New Zealand Vulnerable Kids' Information System became, for the most part, a study of the PRM tool, a study of the first attempt by any government in the world to test and trial a machine learning algorithm to risk score every newborn child's risk of maltreatment, identify those with the highest score and intervene to attempt to prevent harm. In the end, the PRM tool never got past the research and development stage and was closed down before it had completed its technical trials of strength (Latour, 1988), an action that reflected a failure to keep powerful political actors enrolled in support of the programme.

The governmentality thesis of Foucault (1997), as developed by the English governmentality theorists (Miller & Rose, 1990; Rose & Miller, 2010), proved vital in tracing the connections between the overarching political rationality of social investment, the White Paper's programme of government focused on vulnerable children, and the technologies of governance represented by ViKI and the PRM tool. These were new technologies whose capabilities were intended to give effect to the Fifth National Government's version of social investment with its emphasis on data driven governance to reduce future fiscal costs (Baker & Cooper, 2018). The PRM tool was considered to be a particularly significant technology of governance that promised to render the population of vulnerable children calculable enabling government at a distance and the pre-emptive regulation of family life (Miller & Rose, 1990; Rose & Miller, 2010). The concepts of translation (Callon & Latour, 1981) and problematisation (Rose & Miller, 2010) – along with the notion of language as an intellectual technology (Miller & Rose 1990) – helped to identify the work done by the Green Paper and the White Paper in framing vulnerable children and their families as a policy problem (the work of the Green Paper) and then narrowing the definition to children vulnerable to maltreatment (the work of the White Paper). These ideas, along with the rhetorical approach to narrative analysis (Feldman & Almquist, 2015), helped to make visible the policy work done by a range of actors to maintain the focus on targeted interventions on individual families identified by the PRM tool, and to resist alternative framings – and alternative political rationalities – focused on poverty reduction, promoting wellbeing and non-stigmatising, universal services.

The PRM prototype was developed by, amongst others, a health economist and an ethicist using forms of knowledge – health economics, consequentialist ethics and data science – that emphasised an instrumental rationality (Feenberg, 2019), using data science to promote efficiency and consequentialist ethics to strike a balance between societal costs and benefits. These were not social work forms of knowledge (Philp, 1979), or the forms of knowledge espoused by the Expert's Forum on Child Abuse (New Zealand Government, 2009) or the Green Paper Advisory Panels (OECD, 2016); but they dovetailed well with the Fifth National Government's political rationality of social investment and, as Flyvbjerg (2003) argued, "Power procures the knowledge which supports its purposes, while it ignores or suppresses that knowledge which does not serve it" (p. 319). Considered in this way the PRM tools calculation of risk of maltreatment was also a calculation of future liability and the proposed intervention – based on the US Family Nurse Partnership[17] scheme – a targeted investment in the

[17] It was not raised as an issue in the findings, however, the assumption that the US Family Nurse Partnership would have been an efficacious intervention in the context of Aotearoa New Zealand may have been flawed. A UK randomised control trial found no significant benefits because, "Unlike women

present to prevent future costs to the state. The actors who developed the prototype PRM proved to be amongst its most proactive spokespersons (Ritzer, 2004), actively intervening in news media – and in the academic literature – to promote its benefits, deflect criticism, and directly challenge government when its position moved from being pro-programme to anti-programme (Latour, 2013). They also advanced, the ethical argument that, "if we can, then we must": an argument that highlighted the benefits of the PRM tool in terms of capturing children at risk in its net, whilst working hard to minimise the burdens of the PRM tool. These burdens included the loss of privacy and informed consent, a high proportion of false positives, the likelihood of labelling and stigmatisation, the potential damage to client and practitioner relationships, data discrimination flowing from the bias baked into the databases and the subsequent disproportionate burden on the poor and whānau Māori. In spite of an extensive ethical review recognising these burdens (Dare, 2013), government seemed set to continue trialling the PRM tool. As argued in chapter three, "consequentialism seems to be insensitive to issues of justice" (Moore, 1999, p. 66).

When Minister Tolley closed down the prospective, observational study the reason given was that she did not accept the idea that it might identify children who were predicted to be at risk but take no action, even although that is a normal part of observational studies when the intervention is unproven. However, in another comment to the press, she revealed another reason:

> Where it goes from there is another big ethical question. Because God knows, do we really want people with clipboards knocking on people's doors and saying 'hello, I'm from the Government, I'm here to help because your children are going to end up in prison?' I just can't see that happening. (Kirk, 2015)

What may be evident here is the contradiction that lay at the heart of the PRM tool project for the traditional values of a liberal-conservative party. The National Party was traditionally uncomfortable with social and moral reform, valued the family as the fundamental social unit and was the "the antithesis of radical change" (James, 2015, p. 224). If Minister Bennett accepted the advice of data science experts that to achieve a reduction in child maltreatment it was necessary to take a detour from business as usual by using the PRM tool to surveil the whole population, then clearly Minister Tolley did not share that view[18]. For Foucault (1997) the challenge to liberal governments lay in finding ways to govern populations without governing too much, for Minister Tolley the proactive use of the PRM tool may indeed have seemed to be governing too much. There may well have been other motivations for the decision, including the potential impact on the middle-class voter base of the National Party (James, 2015) and concerns about the resources required to provide additional provision for the support of families, half of whom were likely to be false positives (Pierse, 2014). Had the proposal been to

in the US settings in which the intervention originated, teenage mothers in England can access many statutory supportive health and social services…" Robling, et al. (2016, p. 152).

[18] Not that Minister Tolley was against reforming the child protection service. In fact, she announced a complete restructure of the Child Youth and Family Service in April 2015 to be led by yet another panel of "independent experts" (New Zealand Government, 2015).

surveil only the families of beneficiaries – the sample used in the retrospective, PRM prototype study (Vaithianathan, 2012) – the outcome may well have been different[19].

Social work and the datafication of social welfare

In chapter five I argued that, whilst the subject of this case study was the Vulnerable Kids' Information System and the PRM tool, its object (Thomas; 2011a) – what the case study is a case of – is an instance of a public sector project aimed at the datafication of child welfare services. Projects similar, but different, to ViKI and the PRM tool are increasingly reported in the international academic literature (Church & Fairchild, 2017; Jørgensen et al., 2021; Redden, 2020; Redden, Dencik & Warne, 2020; Teixeira & Boyas, 2017). These studies all have particular local features some of which were not the case in Aotearoa New Zealand – such as the involvement of commercial actors (Xantura, 2019) – but there are also striking similarities that raise common concerns about data justice and deliberative democracy. For example, Redden, Dencik and Warne (2020) state that "The lack of information publicly available about the systems makes it often near impossible to know how data systems are developed, implemented and used which in turn limits public debate and civil society involvement" (p.2). A study by Jørgensen et al., (2021) compared child welfare datafication initiatives in Aotearoa New Zealand, the United Kingdom and Denmark and found several common themes: the child, rather than the family, was the central concern of the state; there was an emphasis on risky individuals and families rather than structural inequalities; a backdrop of economic constraint and austerity was perceived to drive the need for efficiencies; child welfare datafication was influenced by broader government-wide datafication initiatives (such as the social investment strategy in Aotearoa New Zealand); and key actors (such as social workers and people with lived experience of child welfare) were excluded from deliberations about the developments.

Although the Fifth National Government's trialling of predictive analytics was halted, and the current and Sixth Labour Government appears to be committed to tacking child poverty and addressing issues of wellbeing[20], it is highly likely that the global shifts towards datafication will emerge in some other shape or form within child welfare or other social welfare services in Aotearoa New Zealand. Social work as a profession is committed to social justice but in the age of datafication, social justice has a new object of concern. Big data, machine learning and predictive analytics are increasingly implicated in decisions affecting the lives of poor and marginalised people (Eubanks, 2018b; Redden, 2018). There is a new and emerging data justice agenda (Dencik et al., 2019) associated with the datafication of social welfare: an agenda that includes issues such as data discrimination (Favaretto et al. 2019), data ethics (Richterich,2018), algorithmic governance (Katzenbach & Ulbricht, 2019), design justice (Costanza-Chock, 20020) and indigenous data rights (Kukatai & Taylor, 2016).

[19] Eubanks (2018b) recognised that the use of predictive tools tends to begin with disadvantaged and marginalised populations least able to resist or refuse their use. See also Redden (2018) on the harm that data do.

[20] Moore (2019) suggests that the difference in approach may not be as marked as it seems since the Labour government are still interested in collecting data to help them with 'investing for social wellbeing' (p.142).

That social workers ought to be digitally literate is widely accepted (Taylor, 2017; Young et al., 2018; Zgoda, & Shane, 2018) as is the idea that there are ethical challenges in the use of technology by social workers (McAuliffe & Nipperess, 2017; Reamer, 2018) especially in relation to the use of social media (Boddy & Dominelli, 2017; Cooner et al., 2020). However, the idea of data justice is only beginning to emerge in the social work literature. McNutt (2019) has signalled that data justice concerns the impact of datafication on poor and marginalised communities and "extends the social work profession's traditional concerns for the disadvantaged, the downtrodden, and the dispossessed" (p. 285); and Goldkind et al. (2018) have called for "data justice…to be integrated in human services professional development, social work education and practice" (p. 177).

However, the data justice movement is proliferating outside of social work circles, and there are several progressive initiatives – inside computer science, data science and digital activism – that are inspired by ideas that also inform social work practice: including the idea of anti-oppressive design (Green, 2020; Smyth & Dimond, 2014) and the "nothing about us without us" movement (Costanza-Chok, 2020). Social workers, and social work researchers, do not need to become data scientists to engage with data justice issues, but they do need to have a grasp of the potential and limitations of data science and a commitment to submitting initiatives to open, democratic scrutiny from an anti-oppressive perspective. Working in partnership with data scientists who are committed to social justice would be a good place for social workers to start. As Green (2020) argues, from the standpoint of a data scientist committed to social justice, "The task of data science is not to eradicate social challenges on their own, but to act as thoughtful and productive partners in broad coalitions and social movements striving for a just society" (p. 39).

Concluding Remarks

Completing this case study affirmed several of the research design choices made. Foucault's governmentality framework, blended with concepts from actor-network theory, proved to be immensely helpful in providing the analytical tools to track the rise and fall of the PRM tool. The use of a narrative approach to data analysis, especially the analysis of enthymemes, was invaluable in "making politics visible" (Bacchi, 2012). The study also affirmed the value of Feenberg's (2019) distinction between instrumental and democratic rationalities, and Winner's (1980) contention that technologies have politics. The case study is a contribution to growing international interest in the datafication of child welfare and social welfare services more broadly (Jørgensen et al., 2021; Redden, 202; and Redden, Dencik & Warne, 2020). It also contributes to emerging concerns about data justice especially the impact of datafication on the poor and the marginalised.

Many of the problems and issues with datafication are well known, research efforts must turn to finding solutions. We need to know and learn from the impact of current data justice initiatives globally, initiatives like the Data Justice Lab[21] and the Design Justice Network[22]. From the perspective of a settler colonial state, we need to consider

[21] https://datajusticelab.org/

[22] https://designjustice.org/

how to amplify the work of organisations like Te Mana Raraunga on establishing principles of Māori Data sovereignty.[23] We also need research to define the role of social workers in data justice advocacy and to identify the implications for social work education and professional development. The emphasis here is not on the digital literacy of social workers, or on their understanding of the ethical issues associated with technology use (important as these are). In the domain of data justice the concern for social workers is with their capability to promote the "empowerment and liberation" (IFSW, 2014) of the digitally dispossessed.

[23] https://www.temanararaunga.maori.nz/nga-rauemi

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Appendix 1: Interview Guide

List of self-instructions

1. Explain the purpose and nature of the study to the informant, telling how s/he came to be selected.
2. Assure the informant that their identity will be made confidential in any written report associated with the study, and that her/his responses will be held in strictest confidence.
3. Explain that the interview is intended to be informal and conversational in nature.
4. During the interview the informant should feel free to interrupt, seek clarification or criticise a line of questioning and so on.
5. Tell the informant something about your self – background, training, interest in the area of enquiry and so on.
6. Ask for permission to record the session and explain what will happen to the recordings.

Topics to be included

The interview is intended to be conversational in style, allowing participants to offer a narrative account of their involvement in the policy process and to comment on the development of the Vulnerable Kids' Information System. The precise phrasing of the questions and the order in which they are asked is not important, but ensure that information is gathered in relation to each of the topics below.

Part 1: Background to your involvement in the policy process

1. Can you tell me how you came to be involved in the Frontline Panel/Scientific Panel for the Green Paper?

2. In what ways did the work of the Frontline Panel/Scientific Panel influence the eventual content of the Green Paper?

3. Can you see the influence of the work of the Frontline Panel/Scientific Panel on the White Paper? If so, in what way? If not, why not?

Part 2: Significant influences on the development of the ViKI

1. As you know I'm interested in hearing your views on the Vulnerable Kids' Information System (ViKI) and the policy that underpins it. As someone who contributed to the development of the Green Paper can you tell me how the proposals for ViKI connect with the issues raised by the Frontline Panel/Scientific Panel?

2. What do you think were most significant influences that led to the White Paper proposals for ViKI? By a 'significant influence' I mean anything that 'made a difference'.

3. If we take each influence in turn can you tell something about what each one contributed to shaping the White Paper proposals for ViKI?

4. In the development of policy processes different influences sometimes combine so shape policy outcomes. Did the influences you identified combine in any way to shape the development of ViKI? If so, how did they combine?

Part 3: The design of the system

Turning now to ViKI itself

1. How would you describe the overall purpose of ViKI?

2. The White Paper described ViKI as comprising of two component parts:
    a. An *Information-Sharing Platform* where frontline professionals from different agencies can record and share concerns about children
    b. A *Predictive Risk Modelling Tool* designed to assess the risk of child maltreatment.

3. Considering these two different parts of the system: Why do you think the *Information-Sharing Platform* has been proposed?

4. How would you describe the main purpose of the *Information-Sharing Platform*?

5. Considering these two different parts of the system: Why do you think the *Predictive Risk Modelling Tool* has been proposed?

6. How would you describe the main purpose of the *Predictive Risk Modelling Tool?*

7. How do you think these two different parts of ViKI will work together to achieve the overall purpose of ViKI?

Part 4: Future challenges and issues

I'd like to turn now to the future development of system and the challenges that you think lie ahead.

1. What obstacles might block the successful implementation of the system? (for example, obstacles might include social, political, technical, economic or legal factors)

2. How should these obstacles be responded to?

3. In your view, are there particular limitations inherent in the current design of the system?

4. How could those limitations be addressed?

5. What unintended consequences might emerge as a result of the introduction of the proposed system?

6. If these unintended consequences are undesirable, how should they be responded to?

7. What do you consider to be the main ethical issues associated with the implementation of the system?

8. How should these ethical issues be responded to?

9. I'd like to end by asking you to tell me something about what you think are the lessons that might be learned from the development of this system, or from your knowledge of the development of similar systems.

10. Are there any other comments you would like to make about ViKI?

Thank you very much for giving me your time today.

Appendix 2: Massey University Human Ethics Committee Approval Letter

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

4 June 2014

Neil Ballantyne
Director
Learning Designs
PO Box 11409
Manners Street Central
WELLINGTON 6142

Dear Neil

Re: HEC: Southern B Application – 13/61
The vulnerable children's information system: A case study of a policy and technological innovation in the New Zealand child protection system

Thank you for your letter dated 24 March 2014 outlining the changes you wish to make to the above application.

The document was considered by the Massey University Human Ethics Committee: Southern B at their meeting held on 10 April 2014. The amendment has now been approved and noted.

If the nature, content, location, procedures or personnel of your approved application change, please advise the Secretary of the Committee. If over time, more than one request to change the application is received, the Chair may request a new application.

Yours sincerely

J. O'Neill

Prof John O'Neill, Acting Chair
Massey University Human Ethics Committee: Southern B

cc Dr Kieran O'Donoghue
School of Health & Social Services
PN371

Dr Michael Dale
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Appendix 3: News Media Article Descriptions

NEWS_01 Trevett, C. (2012, Oct 11). Govt Database to Track 30,000 At-Risk Kids.

At almost 2,000 words in length, NEWS_01 is the second most substantial of the six articles reviewed and the first to comment on the newly released White Paper. The journalist Claire Trevett (the New Zealand Herald's deputy political editor) cites comments made by seven different actors including: Minister Paula Bennett, Jacinda Ardern (then Labour's social development spokeswoman), Metiria Turei (Green Party co-leader), Liz Gibbs (Chief Executive of Save the Children), Barbara Lambourn (Unicef's national advocacy manager), Deborah Morris-Travers (Manager of Every Child Counts) and Rhema Vaithianathan (the Associate Professor from the University of Auckland who led the team that designed the prototype predictive risk modelling tool).

NEWS_02 Collins, S. (2012, October 13). Economists Maths aim to Forecast Which Children will be Abused.

NEWS_02 is 512 words in length and in it Simon Collins (the New Zealand Herald social issues editor) counterposes two expert views on the use of the predictive risk modelling tool: the views of Rhema Vaithianathan (the Associate Professor from the University of Auckland who led the team that designed the predictive risk modelling tool); and the views of Professor David Fergusson (Director of the Christchurch Health and Development Study at the University of Otago). Whilst Vaithianathan argues for the value of the predictive risk modelling tool and advocates its introduction within the year, Fergusson recommends a more cautious and considered approach to avoid unintended consequences.

NEWS_03: APNZ (2012, October 14). NZ Has 'Underlying Current of Violence Towards Children': Paula Bennett.

In this short (332 words) article, attributed to Associated Press New Zealand (APNZ), Minister Bennet reiterates some facts about the proposed database and advances another argument – three days after the previous argument – directed at the perspective of opposition ministers Jacinda Ardern (Labour) and Metiria Turei (Greens) that, "poverty was the most significant factor in child abuse".

NEWS_04: Misa, T. (2012, October 15). Tapu Misa: Child Abuse Plan Shows a Lack of Vision.

This article is a 752-word opinion editorial by the freelance journalist Tapu Misa. Analysis identified two main stories one of which critiques the "Government's apparent determination to downplay the role of poverty" and the other focusing on the folly of offering services targeted at particular population groups like vulnerable children, rather than on universal services. To support her arguments Misa refers to several sources: Minister Bennett, an "OECD report" (Berger & Waldfogel, 2011), Barbara Lambourn of Unicef, the Child Poverty Action Group (2012), the "Expert Advisory Group", the "UK's 2010 Marmot Review", "Stephen Kidd, an expatriate Kiwi and social policy specialist working in Britain" and Nobel Prize-winning economist Amartya Sen.

NEWS_05: New Zealand Herald (2012, October 20). Predicting Trouble: Child Abuse Database Raises Eyebrows

The fifth article in the sample from 2012 is, at 2,493 words long, the longest by far and was written by Simon Collins nine days after the release of the White Paper. The angle of the article, highlighted in its title, is about the "surprise and alarm" of several key policy actors with the main protagonist being Dr. Patrick Kelly who is described as "head of the country's main child abuse unit at Auckland's Starship Children's Hospital" and is identified as having been part of a 2009 Experts' Forum on Child Abuse. The article includes comments from a number of "critics" including Lucy Sandford-Reed (Chief Executive of the Aotearoa New Zealand Association of Social Workers), Professor Eileen Munro (a UK academic who led a review of England's child protection system for the British Government) and Dr. Barry Blundell (senior lecturer in computing at Auckland University of Technology). It also includes a number of commentators identified as "the defence": Dr. Emma Davies (Auckland University of Technology), Garry Collin (Chair of Family Law at the Law Society), Dr. Ian Hyslop (Lecturer at UNITEC), Dr. Irene de Haan (Lecturer at the University of Auckland and also a member of the PRM development group), Jacinda Ardern (Labour Party welfare spokeswoman), Metiria Turei (Greens co-leader) and Dr. Cindy Kiro (Former Children's Commissioner). The comments included from "the defence" tend to be very brief statements arguing that sharing information is, generally speaking, a good thing. Kiro and De Haan both make explicit reference to the potential benefits of the predictive risk modelling tool with De Haan arguing that it could help focus resources on "at-risk families before any abuse occurs."

NEWS_06: Dare, T. (2012, October 25). Abuse Prediction Tool too Vital to Ignore. New Zealand Herald

The last of the 2012 articles is a 772-word opinion editorial by Tim Dare, an Associate Professor of Philosophy at the University of Auckland and the ethicist who was part of the team that developed the prototype PRM tool. The article argues that the benefits of the predictive risk modelling tool considerably outweigh any concerns about its implementation.

NEWS_07: Collins, S. (2015, May 21). CYF in Child Abuse Predictor Trials

The first of the 2015 articles is a 656-word article by Simon Collins of the NZ Herald. The article is, in essence, an announcement by the MSD that the predictive risk modelling tool will be subject to a trial using historical case records held by the Child, Youth and Family's Auckland call-centre. The article includes statements in support of this cautious trial of the predictive risk modelling tool by Dorothy Adams (MSD Acting Deputy Chief Executive). And, in contrast, it includes arguments for a more proactive, trial of the PRM tool on the whole population made by the AUT University health economist Rhema Vaithianathan (who was on the team who developed the prototype PRM tool). The article also makes brief references to two more cautious, academic voices: the Australian researcher Philip Gillingham who published an article critiquing the data on which the model was based, and David Fergusson Professor at the University of Otago who welcomes the predictive power of the PRM but warns that, "…it needed much more careful research to fine-tune it".

NEWS_08: Jones, N. (2015, July 30). Anne Tolley Scraps 'Lab Rat' Study on Children

This 740-word article is by Nicholas Jones a New Zealand Herald political reporter. It announces that Anne Tolley (the new Minister for Social Development)[24] had stopped a prospective, observational study to test the efficacy of the predictive risk modelling tool proposed by the Ministry for Social Development. The story includes the dramatic statement that "infants would not be treated as 'lab rats' under her watch". It is noted that "Ms Tolley said the papers came to her late last year as the incoming Minister" yet there is no explanation as to why the news waited eight months before its release. The story includes an image of an official document describing the study where the Minister has written "Not on my watch!".

NEWS_09: Dominion Post (2015, July 30). Editorial: Children not to be 'Lab Rats' in Fight Against Abuse

This 488-word editorial appeared in the Dominion Post. It replicates most of the information in NEWS_08, with a difference, there is a stronger focus on the idea that the prospective, observational study entailed knowing children were being abused and not intervening. Other "sensible" reforms sponsored by Minister Tolley are contrasted with the "irresponsible" use of PRM tool.

News_10: Dare, T. (2015, August 4). Anne Tolley's 'Lab Rats' Call Inflammatory Political Rhetoric

In this 732-word opinion editorial, published in the Dominion Post, Tim Dare, Associate Professor of Philosophy at the University of Auckland and the ethicist who was part of the original PRM prototype team, argues that the intervention by Minister Tolley to close down the proposed, observational study of the PRM was an example of politics trumping the pursuit of evidence-based policy making.

[24] Anne Tolley replaced Paula Bennett as the Minister for Social Development following the general election in September 2014. The election saw the continuation of the National led government (in power since 2008). Anne Tolley was formerly Minister of Police and Minister of Corrections. Paula Bennett moved into the role of Minister of State Services.

Appendix 4 Actors, Attitudes, Enthymemes, Syllogisms and the Issues Explored

Table 3: Actors, Attitudes, Enthymemes, Syllogisms and Issues Explored

NEWS ITEM	STORY	POLICY ACTOR	ATTITUDE TO PRM	ENTHYMEMES AND SYLLOGISMS	KEY ISSUES
2012					
NEWS_01	Story 1.1: Poverty is not an excuse	*Opposition MPs Jacinda Ardern and Metiria Turei*	*Anti*	***Enthymeme 1.1.1.*** Poverty is the most significant factor in child abuse. The government's White Paper does not address child poverty. THEREFORE, THE GOVERNMENT'S WHITE PAPER WILL NOT BE ABLE TO PREVENT CHILD ABUSE.	***Poverty***
		Minister Bennett	*Pro*	***Enthymeme 1.1.2***. It is morally wrong to use poverty as an excuse for child abuse. LABOUR AND THE GREENS USE POVERTY AS AN EXCUSE FOR CHILD ABUSE. THEREFORE, LABOUR AND THE GREENS ARE MORALLY WRONG.	***Poverty***
	Story 1.2: The database is critical and being intrusive is justified	*Minister Bennett*	*Pro*	***Enthymeme 1.2.1.*** In cases like Nia Glassie's different agencies held a little piece of information but did not share it. If agencies shared information it could have helped prevent the death of Nia Glassie. THEREFORE, THE GOVERNMENT'S PLANS FOR AN INFORMATION SHARING DATABASE COULD PREVENT CHILD HOMICIDE.	***Information sharing***
		Minister Bennett	*Pro*	***Enthymeme 1.2.2.*** Some people consider the database to be intrusive into the privacy of families. However, by enabling better information sharing, the database might help to prevent child homicides. THEREFORE, THE ENDS JUSTIFIES THE MEANS, BEING INTRUSIVE IS JUSTIFIED.	***Privacy***
	Story 1.3: Children will not be stigmatized.	*Minister Bennett*	*Pro*	***Syllogism 1.3.1***. The automatic predictive risk modelling tool may identify some children as being at risk who turn out not to be at risk. However, no response will be activated unless a professional decides to do so. Therefore, children will not be stigmatised or worked with unnecessarily.	***Stigma***
NEWS_02	Story 2.1: The predictive strength of mammograms	*Rhema Vaithianathan (University of Auckland)*	*Pro*	***Enthymeme 2.1.1***. The predictions based on the predictive risk modelling tool are not certain but are similar to the predictive strength of mammograms. MAMMOGRAMS ARE AN ACCEPTED TECHNOLOGY USED TO PREVENT SERIOUS RISK OF HARM. THEREFORE, THE PREDICTIVE RISK MODELLING TOOL SHOULD BE INTRODUCED TO PREVENT SERIOUS RISK OF HARM	***Benefits and risks***
	Story 2.2: Rushing into using the	*David Fergusson*	*Cautious*	***Enthymeme 2.2.1***. BEING WRONGLY IDENTIFIED AS A POTENTIAL CHILD ABUSER LABELS AND STIGMATISES PEOPLE. THE PREDICTIVE RISK MODELLING TOOL INCLUDES A HIGH RATE OF FALSE POSITIVES.	***Stigma***

	method without careful testing.	*(University of Otago)*		Therefore, the predictive risk modelling tool will label and stigmatise a lot of people.	
		David Fergusson (University of Otago)	*Cautious*	***Enthymeme 2.2.2.*** THE CORRECT WAY TO IMPLEMENT NEW INTERVENTIONS THAT HAVE RISKS IS TO CONDUCT PILOT STUDIES AND RANDOMISED CONTROL TRIALS. The predictive risk modelling tool is a new intervention that is associated with significant risks. Therefore, the method should be carefully tested with pilot studies and randomized control trials before being widely implemented.	***Benefits and risks***
NEWS_03	Story 3.1: It is "too simplistic" to blame poverty for New Zealand's child abuse rates.	*Minister Bennett*	*Pro*	***Enthymeme 3.1.1***. Child maltreatment is a complex problem involving over 100 different factors, one of which may be poverty. Jacinda Ardern (Labour) and Metiria Turei (Green Party) argue that poverty is the most significant factor in child maltreatment. THEREFORE, THE ARGUMENTS PROPOSED BY JACINDA ARDERN AND METIRIA TUREI ARE TOO SIMPLISTIC.	***Poverty***
NEWS_04	Story 4.1: Downplaying the role of poverty	*Tapu Misa: (Journalist)*	*Anti*	***Enthymeme 4.1.1***. It is not possible to tackle child maltreatment effectively without acknowledging its strong association with poverty and inequality. The government's White Paper downplays the association between poverty and inequality. THEREFORE, THE GOVERNMENTS WHITE PAPER CANNOT EFFECTIVELY TACKLE CHILD MALTREATMENT.	***Poverty***
	Story 4.2: Targeting misses the mark	*Tapu Misa: (Journalist)*	*Anti*	***Enthymeme 4.2.1.*** Targeting services on vulnerable people can have unintended consequences such as creating a 'poverty trap', stigmatising services and humiliating service users. The government's plans for children's services propose targeting services on vulnerable children. THEREFORE, THE GOVERNMENT'S PROPOSALS RISK CREATING A 'POVERTY TRAP', STIGMATISING SERVICES AND HUMILIATING SERVICE USERS.	***Stigma Targeting***
		Tapu Misa: (Journalist)	*Anti*	***Enthymeme 4.2.2.*** Providing universal services is more effective because they avoid the unintended effects of targeting and have the additional benefits of building community and promoting social cohesion. THE GOVERNMENT'S PROPOSALS DO NOT PROVIDE UNIVERSAL SERVICES. THEREFORE, THE GOVERNMENT'S PROPOSALS MISS AN OPPORTUNITY TO BUILD COMMUNITY AND PROMOTE SOCIAL COHESION.	***Universal services***
NEWS_5	Story 5.1: Raising alarm in surprising quarters	*Patrick Kelly (Starship Hospital)*	*Anti*	***Enthymeme 5.1.1.*** WHEN PEOPLE REGARDED AS EXPERTS IN THEIR FIELD ARE SURPRISED OR ALARMED AT PROPOSED GOVERNMENT POLICY CHANGES IT INDICATES THAT SOMETHING IS WRONG. Dr Patrick Kelly (an acknowledged child protection expert) is surprised and alarmed at government's plans for a revolutionary new "predictive risk model". THEREFORE, SOMETHING IS WRONG WITH THE PROPOSED GOVERNMENT POLICY.	***Transparency Benefits and risks***

	Story 5.2: The danger of a revolution	*Patrick Kelly (Starship Hospital)*	*Anti*	***Enthymeme 5.2.1.*** Introducing untested revolutionary change is uncertain of success and can disrupt existing practices. The government's proposed new "predictive risk model" is an untested and revolutionary change. THEREFORE, THE PREDICTIVE RISK MODEL IS UNCERTAIN OF SUCCESS AND MAY DISRUPT EXISTING PRACTICES.	***Benefits and risks***
	Story 5.3: A new database may not even be necessary	*Patrick Kelly (Starship Hospital)*	*Anti*	***Enthymeme 5.3.1***. It is possible to encourage interprofessional information sharing without investing public funds in expensive information technology. THE GOVERNMENT PLANS TO INVEST IN AN EXPENSIVE INFORMATION TECHNOLOGY SYSTEM. THEREFORE, THE GOVERNMENT PROPOSES TO WASTE PUBLIC FUNDS.	***Information sharing***
	Story 5.4: Enormous amounts of stress	*Lucy Sandford-Reed (ANZASW)*	*Anti*	***Enthymeme 5.4.1.*** Relying on a computer model can creates lots of false negatives and false positives. The uncertainty created by false positives and false negatives can undermine professional judgement and create unnecessary stress that leads to risk for children. THEREFORE, THE INTRODUCTION OF THE PREDICTIVE RISK MODELLING TOOL WILL UNDERMINE PROFESSIONAL JUDGEMENT AND CREATE STRESS THAT LEADS TO RISKS FOR CHILDREN.	***Professional judgement Benefits and risks.***
	Story 5.5: Doing more harm than good.	*Patrick Kelly (Starship Hospital)*	*Anti*	***Enthymeme 5.5.1***. Intervening with families who have been falsely identified as being likely to maltreat their children can only be justified if no harm will result from the intervention. The government does not know whether harm will result from these interventions. THEREFORE, THE GOVERNMENT'S PROPOSALS TO INTERVENE IS NOT JUSTIFIED.	***Benefits and risks***
NEWS_6	Story 6.1: Abuse prediction tool too vital to ignore	*Tim Dare (University of Auckland)*	*Pro*	***Enthymeme 6.1.1***. A number of people have been critical of the government's plans to introduce a predictive risk modelling tool for child maltreatment. These objections are either ill-founded or describe issues that are possible to manage. THEREFORE, THE GOVERNMENT'S PROPOSALS TO INTRODUCE THE PRM TOOL SHOULD NOT BE REJECTED	***Benefits and risks***
2015					
NEWS_7	Story 7.1: Evaluating the PRM's use to support professional decision-making on cases notified to CYF	*Dorothy Adams (MSD)*	*Cautious*	***Enthymeme 7.1.1.*** TRAINING SOCIAL WORKERS IN HOW TO USE THE PRM MAY LEAD TO BETTER DECISION-MAKING AND AVOID UNINTENDED OUTCOMES. MSD and CYF plan to evaluate the effect of training social workers in how to use the PRM to screen notified cases. THEREFORE, MSD AND CYF WILL BE ABLE TO DISCOVER IF THEY CAN PREVENT UNINTENDED OUTCOMES.	***Benefits and risks Precautionary approach***
	Story 7.2: Advocating the	*Rhema Vaithianathan*	*Pro*	***Enthymeme 7.2.1.*** Proactive use of the predictive risk modelling tool, developed in New Zealand, can help to identify at-risk children in the population before they have	***Benefits and risks***

	proactive use of the PRM as a population wide screening tool	*(University of Auckland)*		been abused. Unlike Pittsburgh in the USA, the New Zealand government are not trialling proactive use of the PRM. THEREFORE, THE NEW ZEALAND GOVERNMENT WILL NOT ACHIEVE THE REAL BENEFITS OF A TECHNOLOGY DEVELOPED BY NEW ZEALAND EXPERTS.	
NEWS_8	Story 8.1: Not on my watch, children are not lab rats.	*Minister Tolley*	*Anti*	***Enthymeme 8.1.1***. A RESPONSIBLE MINISTER FOR SOCIAL DEVELOPMENT ENSURES THAT THEIR OFFICIALS DON'T TAKE ACTIONS THAT ARE UNETHICAL AND NOT IN THE PUBLIC INTEREST. Minister Tolley acted to prevent an unethical proposal by MSD officials. THEREFORE, MINISTER TOLLEY IS A RESPONSIBLE MINISTER FOR SOCIAL DEVELOPMENT.	***Benefits and risks*** ***Ethics***
	Story 8.2: Testing the predictive modelling tool with historical data.	*Minister Tolley*	*Cautious*	***Enthymeme 8.2.1***. TESTING THE PREDICTIVE RISK MODELLING TOOL WITH HISTORICAL DATA IS MORE ETHICAL AND SAFER THAN TESTING IT WITH LIVE DATA. The MSD are testing the predictive risk modelling tool with historical data. THEREFORE, THE MSD IS MORE ETHICAL AND SAFE	***Benefits and risks*** ***Ethics***
	Story 8.3: Population wide use of the PRM will never fly.	*Minister Tolley*	*Anti*	***Enthymeme* 8.3.1**. POLICIES THAT LEAD TO UNNECESSARY STATE INTERVENTION IN PRIVATE FAMILY LIFE SHOULD NOT BE ADOPTED. Using the PRM to screen the whole population of newborn children will lead to unnecessary state intervention in private family life. THEREFORE, THE PRM SHOULD NOT BE USED TO SCREEN THE WHOLE POPULATION OF NEWBORN CHILDREN	***Benefits and risks*** ***Ethics***
	Story 8.4 Minister Bennett was unaware of the proposal	*Spokesperson for Minister Bennett*	*Neutral*	***Enthymeme 8.4.1.*** IF MINISTER BENNET WAS AWARE OF THIS PROPOSAL SHE MUST HAVE SUPPORTED IT. Minister Bennett was not aware of this proposal. THEREFORE, WE CANNOT ASSUME THAT SHE SUPPORTED IT.	***Minister Bennett***
	Story 9.1: No sane politician could have done otherwise	*Dominion Post Editor*	*Anti*	***Enthymeme 9.1.1.*** Conducting an observational study that would not intervene if children were identified as being at high risk of abuse is unethical. MSD officials proposed such a study. THEREFORE, MSD OFFICIALS ARE UNETHICAL.	***Benefits and risks*** ***Ethics***
NEWS_9	Story 9.2 Sensible reforms	*Dominion Post Editor*	*Anti*	***Enthymeme 9.2.1.*** Tackling child abuse and neglect is a difficult domain and sensible reforms require a careful balancing act between the rights of parents and children. MINISTER TOLLEY'S PROPOSED LEGISLATIVE REFORMS ACHIEVE THIS BALANCE. THEREFORE, MINISTER TOLLEY IS A SENSIBLE MINISTER.	***Benefits and risks*** ***Ethics***

	Story 9.2 Sensible reforms	*Dominion Post Editor*	Anti	**Enthymeme 9.2.2**. Tackling child abuse and neglect is a difficult domain and sensible reforms require a careful balancing act between the rights of parents and children. THE MSD OFFICAL'S PROPOSED OBSERVATIONAL STUDY DOES NOT ACHIEVE THIS BALANCE. THEREFORE, THE MSD OFFICAL'S ARE NOT SENSIBLE.	***Benefits and risks*** ***Ethics***
NEWS_10	Story 10.1: Science collided with politics, and politics won	*Tim Dare (University of Auckland)*	*Pro*	***Enthymeme 10.1.1.*** WHEN POLITICIANS INTERVENE TO PREVENT SCIENTIFIC STUDIES FOR NO GOOD REASON, WE SHOULD FEEL UNEASY. Minister Tolley intervened to prevent a scientific study for no good reason. Therefore, we should feel uneasy.	***Benefits and risks*** ***Politics***
	Story 10.2: Rhetoric won the day	*Tim Dare (University of Auckland)*	*Pro*	***Enthymeme 10.2.1***. A GENUINE RESEARCH-DRIVEN APPROACH TO SOCIAL POLICY MAKING NEEDS POLICY ACTORS, LIKE THE OPPOSITION AND THE MEDIA, TO CHALLENGE MISLEADING INFORMATION AND POLITICAL RHETORIC USED BY GOVERNMENT. Policy actors failed to challenge Minister Tolley. Therefore, we should be worried that New Zealand policy will not be effective.	***Evidence informed policy***

Appendix 5: Extract from Radio New Zealand programme

Extract from transcript of: Cowie, T. (2015, June 21). Child abuse or Big Brother? [Radio broadcast]. Radio New Zealand [21:32]

https://www.rnz.co.nz/national/programmes/insight/audio/201758628/insight-for-21-june-2015-child-abuse-or-big-brother

Teresa Cowie: In the three years since the research began, the Ministry's been fairly cagy about its progress. Uploading the research documents quietly onto its website only after I requested them in May.

Dorothy Adams: We are trying to be as transparent as we can. We'll happily do radio interviews, we are publishing everything we're doing, so that, and some of it is very technical but, so that if people want to interact with it and understand what we're doing they can.

Teresa Cowie: Documents…there was really an announcement that they were put on your website and a couple of academics I've spoken to have said that they have been wondering where is this research, it's been going on for four/five years.

Dorothy Adams: And they didn't know about it?

Teresa Cowie: They were saying it didn't feel like there was a real flow of information, so have you been holding back…

Dorothy Adams: Look, I'll be honest, we were…

Teresa Cowie: …have you been worried about the public perception of it?

Dorothy Adams: No. Look, we were slow to release them, I know that. But we did let a very wide group of people know that we have released them, but no we are definitely trying to be transparent in what we're doing, yep.