15 Embedding systemic change— opportunities and challenges

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Introduction

Data and policy have a symbiotic relationship. Data without policy is just a collection of numbers or information about a given topic or issue. Even if the data analysis demonstrates an incontrovertible statistical link between two factors, such as schools with stronger positive relationships with the Indigenous community in their region and higher Indigenous student school attendance, on its own, that link has limited impact. Without policy action such as adding incentives for school leadership to build relationships with the Indigenous community or supporting Indigenous communities to develop their own schooling options and relationships, it remains just a research finding, important, but ultimately without practical outcome. Policy without data to support its design and implementation is potentially much worse than non-productive. As theorized in the work of Scott (1998) unevidenced policy is policy that is substantially at risk of going disastrously awry. Regardless of the beneficence of the policy intent, without data to evidence its efficacy such policy action is unlikely to produce the intended result.

To return to one of our central concepts, in the Indigenous realm, the connection between data and policy is not always positive. With a significant power imbalance between those determining policy and those who are its subject a long-standing feature of nation state Indigenous policy, value within the data/policy nexus and to whom that value accrues depends on whose purposes the data serve and how and why those data are deployed. The outcome has been, and continues to be, policy prescriptions that reproduce, largely unfettered and unreflexively, the pejorative presumptions of contemporary colonial race relations. As shown in many of the chapters in this book, inclusive of Chapter 1 on Indigenous data governance and policy, Chapter 3 examining data and the Closing the Gap policy framework in Australia, Chapter 7 on the challenge of Indigenous data in Sweden, Chapter 9 on Indigenous policy and data in Mexico and Chapter 12 on the data challenges in Columbia's transitional setting, the result is rarely benign. Other contributions such as Chapter 6 on the Indigenous-led health and data initiatives in Canada and the continuance policy and bureaucratic hindrances, Chapter 8 on the role of data in the contested narratives of victimhood in the Basque Country, Chapter 11 on the clash of values on data that draw on Indigenous knowledge

within US universities and Chapter 14 which explores Indigenous data governance's role in effectuating self-determination despite the legacy of colonialism and epistemic injustice, highlight the centrality of power dynamics and often bitter contestation occurring within the Indigenous Data Sovereignty/policy nexus.

Conversely, chapters included in this collection also provide multiple examples of the value and validity of Indigenous Data Sovereignty and governance in supporting the transformative potential of data. These include Chapter 2, on the contribution of Indigenous Data Sovereignty to Māori aspirations for self-determination, Chapter 4 on the practical implementation of Indigenous Data Sovereignty for Pueblo Peoples, Chapter 5 on the role of the Te Mana Rauaunga Māori Data Sovereignty Network in establishing Māori Data Sovereignty as a legitimate policy discourse, Chapter 10 on the active work of embedding Quechan Indigenous Data Sovereignty practices and Chapter 13 on Kaupapa Māori epidemiology grounded in Māori values, knowledge systems and ontologies. In these examples, data provide the policy evidence for the benefit of those to whom it relates—Indigenous Peoples.

Changing the relationship between policy and data is neither a simple task, nor for the fainthearted. Data and policy infrastructures are large and complicated with many interacting features and processes. The enabling foundations of both are also structural. Achieving actual change, rather than cosmetic tweaks and piecemeal progress, requires a paradigm shift on how Indigenous data and policy, and the connection between them, are understood. Such paradigmatic change will not come easily. Systems, and the people that facilitate and inhabit those systems, resist change, and resist change ferociously when that change is seen as de-privileging their position under the existing paradigm. As articulated by Kuhn (1970: 122) “the normal practice of science is to ‘refine, extend, and articulate a paradigm that is already in existence’”. It is only when the anomalies in the established paradigm become too many to ignore that “scientific revolution”, shifting from the existing dominant paradigm to a new dominant paradigm, can occur. Such revolutions are more than an adjustment in practices or knowledge. Paradigm shifts both require, and result in, nothing less than a permanent change in world view. Thus, in Kuhn's (1970: 112) words, “the scientist's perception of his environment must be re-educated ... the world of his research will seem ... incommensurable with the one he had inhabited before”. This is not an orderly process. Paradigm change must overcome the established interests of the existing dominant paradigm: “the proponents of competing paradigms are always at least slightly at cross purposes” (Kuhn, 1970: 148).

Being “at cross purposes” is a relatively benign way of describing the current state of play between advocates of Indigenous Data Sovereignty and those still within the old paradigm of data dependence. While, as shown by the chapters in this book, the pace of the Indigenous data revolution varies by nation state, disrupting the existing Indigenous data and policy paradigm through Indigenous Data Sovereignty and Indigenous data governance remains a mammoth task. Such a shift is more than data agencies, commissioners and users taking a different approach to Indigenous data. It requires a re-ordering of data infrastructure,

prioritizing, mostly for the first time, the data interests of Indigenous Peoples. This re-ordering must be achieved on multiple levels, across the many and varied processes and practices of the complex data and policy infrastructure of the modern nation state. This shift must also be driven by Indigenous Peoples for Indigenous Peoples. It depends on developing and enriching relationships between Indigenous Peoples and external data holders to produce data stewardship that is built on mutual trust and aligned with Indigenous values and priorities. Above all, if lasting change is to be achieved, changes must also be systemic and involve power sharing with Indigenous communities and Native Nations.

Genuine power sharing has long been a barrier to the realization of effective Indigenous policy. Non-Indigenous policy-makers routinely ignore or override the deep and varied forms of local intelligence and networks that exist within Indigenous Nations and communities. The refusal of the State to recognize, respond to and support local knowledge and leadership as valid have been amplified in the Covid-19 global pandemic. In Canada, Australia, Aotearoa New Zealand and the United States, the policy response has been a universal “one size fits all” approach. For Indigenous Peoples this means “top down” policy designed by and for mainstream constituencies. The technology that is developed—such as ICU prioritization algorithms or contact tracing apps—is layered on top of existing structures that reinforce rather than unwind biases and inequities. Set against this, Indigenous communities have demonstrated a remarkable capacity to anticipate and rapidly respond to the needs of their people—from setting up community checkpoints in remote communities to providing online cultural support for grieving families holding solitary funerals to delivering elder and family care packages. Indigenous communities have demonstrated powerful forms of distributed leadership—whether tribal leaders, “aunties” or youth—and a deep capacity to care for each other, empowered by the strength of their connections and knowledge of kin and kin-like relations. Incredibly, they have been able to do so without the timely support of state information and data systems which have routinely neglected to provide accurate, relevant and high-quality data to assist with their on-the-ground responses. The missed opportunity is thus twofold: policy-makers at the “center” fail to recognize and connect with local forms of knowledge to develop more dynamic, granular pandemic planning that works in situ, and communities fail to receive the right data, in the right way, at the right time to increase the success of their response.

Clearly, there are significant challenges to generating systemic change for Indigenous data and policy and there are no easy fixes. Indeed, for some contributors in this book, the substance of Indigenous Data Sovereignty can only be truly realized in contexts where Indigenous sovereignty is prioritized and empowered. However, all contributors agree that a “do nothing” approach is untenable. With the vast majority of Indigenous data in the possession of governments and private corporations, and the rapid development of powerful digital and data surveillance technologies, the risk of data harm and the opportunity costs of not engaging are too high. Thus, in this final chapter, we describe on-the-ground activity, inter and intra nationally, to introduce Indigenous Data Sovereignty into the policy realm.

Operationalizing Indigenous rights in the global open data movement

Internationally, the United Nations Special Rapporteur on the right to privacy has called for member governments to recognize Indigenous Data Sovereignty in the context of big and open data (Cannataci, 2018) and the protection and use of health-related data (Cannataci, 2019). As the availability and use of big and open data accelerates, the expression of Indigenous rights and interests in data reveals flaws in mainstream assumptions of ownership, representation and control in these data communities (Rainie et al., 2019). Open data and big data magnify Indigenous invisibility and bias against Indigenous Peoples in data use and resultant policy. Without Indigenous data governance within open data communities, the current policy paradigm reigns, and data access, use and interpretation, in general, are left to those who claim power, such as nation states. These data hold great promise for Indigenous Peoples for our own social, political and economic development, yet Indigenous Peoples are often erased from the systems that steward these data.

Recognizing the critical relationship between data and policy for Indigenous self-determination and the need to protect and control Indigenous data within open data communities, the CARE Principles for Indigenous data governance (Collective benefit, Authority to control, Responsibility, Ethics) provide external data stakeholders with guidance on stewardship responsibilities for Indigenous data (RDA IG, 2019). The CARE Principles complement mainstream principles focused on data attributes by centering people and purpose in data policies and practices. For example, the FAIR scientific data principles (Findable, Accessible, Interoperable, Reusable) seek to transform data for machine readability and other secondary use applications within open science (Wilkinson et al., 2016). Engagement with Indigenous data requires enacting FAIR with CARE. As Indigenous and mainstream data practitioners advance standards and practices for data reuse via mechanisms that align with the FAIR Principles, implementing the CARE Principles expands that work by addressing historical and current power imbalances through the creation of policies and practices for Indigenous data that are grounded in Indigenous worldviews (Carroll et al., forthcoming).

Equitable data, data practices and policies necessitate a CARE-full process. Operationalizing the CARE Principles requires policy and practice actions by data stakeholders guided by Indigenous Peoples that impact activities across the data lifecycle, both before and after making data FAIR. Currently, a number of projects are underway to identify and create tools for a CARE-full process across research, government and foundation data environments (Carroll et al., forthcoming). These tools include Indigenous data standards; artificial intelligence protocols; metadata that adhere provenance, transparency and accountability to data throughout data lifecycles; tribal and institutional guidelines; tribal codes and research review boards; data access protocols and more. Additionally, collaborators at the Global Indigenous Data Alliance (gida-global.org) and the Research Data Alliance International Indigenous Data Sovereignty Interest Group (rd-alliance.org) are developing CARE criteria for operationalizing each principle. The

criteria will provide guidance on the CARE Principles in action for policy and practice.

Implementing CARE with FAIR leads to data that reflect Indigenous realities, and shifts power differentials, ultimately rendering data to inform policies that affirm Indigenous rights to self-determination. Internally, for Indigenous Nations these data become useful for governance, decision-making, and meeting the needs of the community. Externally, the Indigenous leadership and governance in data governance alters the existing data and policy paradigm by leading with Indigenous values, goals and control.

Data about the research that produces the data

In Australia and Aotearoa New Zealand, as in most other developed nations, policy-makers frequently proclaim evidence-based policy making as at the heart of policy planning. Defined by Banks (2018: 1) as “an approach to policymaking that makes systematic provision for evidence and analysis”, the evidence for evidence-based policy making is largely drawn from publicly funded research. Government-supported entities in both nation states administer a broad range of grant programs. While a small number of programs are Indigenous researcher specific, most Indigenous-related research is undertaken via the mainstream programs grants.

Knowing the breadth and impact of a field of research is a prerequisite of a robust evidence base for evidence-based policy making. But although the primary research data collection mechanism, the Australian and New Zealand Standard Research Classification (ANZSRC) states its purpose as to ensure research statistics “are useful to governments, educational institutions ... community groups and private individuals in Australia and New Zealand” (ANZSRC, 2019a) this purpose is not deliverable for Indigenous research because of coding linked lack of measurability. Aligned to the OECDs Fields of Science 2007, the ANZSRC has three measures: (1) type of activity (i.e., applied research); (2) field of research (FoR) which categorizes by area (i.e., history); and (3) socio-economic objective (SEO code) which classifies by intended purpose (i.e., economic development). The most commonly used classification, FoR Codes, are divided into 22 broad discipline divisions, each represented by a two-digit code (e.g., 21—History and Archaeology). Each division contains a set of groups which share similar methodology, represented by a four-digit code (e.g., 2101—Archaeology). Under each group is a set of fields represented by a six-digit code (e.g., 210103—Archaeology of Asia, Africa and the Americas). Indigenous-related research is coded at the six-digit level.

Relegation of Indigenous research to the six-digit level poses severe barriers to measurability. The first is that Indigenous research is currently classified as a field subset within other research disciplines such as education or health. Subsumed within mainstream discipline (two-digit) and groups (four-digit), Indigenous research is presented therefore as a type of health or education research, not as its own broad discipline. More damagingly, ANZSRC data is only analyzed and

reported at the two-digit division and four-digit group level. This means that Indigenous research is neither counted nor countable, making it invisible. There are therefore, no “useful statistics” generated to indicate the level of Indigenous research activity or output in Australia or Aotearoa. Even from a raw fiscal outlook, this data gap is deeply problematic. Public monies expended on Indigenous research are substantial. Yet, there is no capability for measuring the location or outcomes of that expenditure and whether this investment is value for money for taxpayers, government or, more importantly, for Indigenous Peoples.

The lack of data on the breadth or depth of Indigenous research also has Indigenous Data Sovereignty and policy implications. Indigenous Peoples, in Australia and Aotearoa, increasingly look to research to inform nation rebuilding and development programs. Yet the current system does not have the analytical functionality to support Indigenous ambitions. Without visibility, the conduct and outcomes of Indigenous research are neither accountable to the People/s who are its subject or knowledge base nor amenable to Indigenous data governance protocols. From an Indigenous policy perspective, the implications are even more dire. The nation state relies on research to support its Indigenous policy platform yet, the current system has little capacity to track what Indigenous research is being done, in which academic, public or private settings, and less capacity to identify research gaps.

In 2019, the ANZSRC was formally reviewed by the Australian Bureau of Statistics (ABS) and Statistics New Zealand, the Australian Research Council (ARC) and the New Zealand Ministry of Business, Innovation and Employment. The aim was to ensure that the ANZSRC reflected current research practice and was sufficiently robust to allow for long-term data analysis. A special consideration was Aboriginal and Torres Strait Islander, Māori and Pacific Peoples studies (ANZSRC, 2019a). Wide public consultations were undertaken and for the first time Indigenous researchers and peak bodies were explicitly included (ANZSRC, 2019c).

The Maïam nayri Wingara and the Te Mana Raraunga Indigenous Data Sovereignty networks, based in Australia and Aotearoa, respectively, were prominent in advocating for broadscale change within the ANZSRC (ANZSRC, 2019c). The *Consultation Draft: Indigenous Research, Australian and New Zealand Standard Research Classification Review 2019* (ANZSRC, 2019b) came to a range of conclusions. Acknowledging the growth in the field, the report stated that current classifications significantly under-represented the breadth and scope of Aboriginal and Torres Strait Islander, Māori and Pacific Peoples research. The report recognized under-representation results in an impeding of: the ability of government and others to report and analyze data; the ability of Indigenous Peoples and communities to identify and access research and data; and the ability to measure the funding and participation of Indigenous Peoples in research and development and the ability to measure the influence of research on Indigenous well-being and development.

The ANZSRC review is now completed and the new Classification released (ARC 2020). But despite some resistance from within the higher education system the revised code will include a new FoR and SEO Indigenous research

division (two-digit). This division will position Indigenous research, for the first time in Aotearoa or Australia, as its own knowledge domain based on its shared methodologies and approaches. This domain will also recognize the diversity of Aboriginal and Torres Strait Islander, Māori and Pacific Peoples research. The result of this systemic change will be widespread, probably in ways not yet fully realized. At a minimum, it will make Indigenous research visible and therefore measurable and analyzable. The recognition of Indigenous research as its own knowledge domain will also alter how Indigenous data and other research outputs are understood. Most critically, over time, being able to measure and analyze Indigenous research scope and output will reshape the Indigenous data that is produced and available as evidence for use in policy making.

Data for tribal governance

Policy doesn't just emanate from the state or its institutions, but also from tribal nations whose authority and responsibility to plan and care for the collective well-being of their communities pre-dates colonial structures and regulations. Neither is data-driven policy foreign to tribal nations. Since time immemorial, Indigenous Peoples have drawn on the data all around them to inform decision-making for survival. Like all other nation states, modern tribal governments are actively engaged in the policy world. Policy action at the tribal level can take many forms, from official resolutions and agreements to visiting elders and recording oral histories. Accurate and relevant data are critical to effective tribal governance. These include data on everything from tribal citizens to lands, resources and cultural ways of knowing, doing and being. As tribal nations continue to rebuild their governance structures, they are also reclaiming processes of “doing data” by them for them.

Tribal population data is one area in which tribal nations in the United States are challenging existing settler-colonial data systems and carving their own path toward data for tribal governance. Demographic methods to count, classify and measure populations have long served the settler-colonial state (Kertzer & Arel, 2002; Rowse, 2017). The enumeration of American Indians and Alaska Natives (AIANs) in the US official statistics system, through instruments like the US Census and national surveys, is directly tied to millions of dollars in federal funding on which AIAN communities depend. Yet, tribal nations have little control over those data. Moreover, national statistics on AIANs have a long history of being incomplete due to census undercounts, misclassification and problematic tribal identifiers. Given these limitations, there is a growing movement among tribal nations to challenge official statistics by developing their own systems of tribal demography.

Tribal nations are strengthening their data capability and fighting back against hundreds of years of data dependence so that they no longer rely on the colonizer's data about their citizens. One area of development is the tribal census, which is becoming a priority for tribal nations because effective governance requires data that speak to the size, characteristics, conditions and realities of one's

citizenry. Examples include the Ho-Chunk Nation Census in 2015, the “K’awaika YOU Count!” Laguna Pueblo Census in 2016, and the Sault Ste. Marie Tribe of Chippewa Indians’ Census collected in 2014 and 2019. Another emerging area of tribal demography involves efforts to evaluate the sustainability of tribal nations in the United States amidst colonial blood quantum standards that have controlled the boundaries of tribal belonging for decades. It must be underscored that minimum blood quantum is not a traditional means of conferring tribal citizenship; it was introduced by the federal government to hasten Indigenous assimilation (Snipp, 1992). Results from a large multi-tribal research project reveal that the most common metric to qualify for tribal citizenship is one-quarter tribal blood, meaning individuals must have at least one “full-blooded” grandparent (Rodriguez-Lonebear, forthcoming).

Tribal nations are urgently realizing that demographic realities, like high rates of intermarriage and urbanization, combined with strict blood quantum minimums, effectively threaten the future of their nations. In response, tribal nations are pursuing critical data for governance. By using their tribal citizenship data to project the future size of their tribal populations under different citizenship criteria, tribal nations are exploring how to develop citizenship policies that future proof their nations. The Minnesota Chippewa Tribe embarked on a tribal population projections initiative in 2015, which has since become the model for other tribal nations. Most recently, the Northern Cheyenne Nation is engaged in a tribal demography research project in which they have found significant differences in the size and composition of their tribal population when comparing tribal citizenship records to those of the US Census. They have also conducted population projections comparing the demographic outcomes of different citizenship criteria, which they are currently considering as they evaluate a new tribal citizenship policy. This is what tribally controlled, future-focused, and data-driven policy looks like in action.

Conclusion

Data are a resource with a tangible and rapidly increasing policy-related value. The centrality of data to Indigenous policy has been discussed across many of its multiple dimensions in this edited collection. All authors are actively engaged in asserting Indigenous data rights through Indigenous Data Sovereignty scholarship and data advocacy. But the Indigenous data/policy nexus is complex and complicated. As shown in the chapters, the recognition and acceptance of Indigenous demands, nationally and internationally, for the right to control the collection, use, ownership and application of our data remains limited and highly contested. Yet, these data rights are foundational to the realization of Indigenous social, political and economic rights and nation rebuilding with policy, whether emerging from nation states or Tribal and First Nations, the intervening mechanism. Good Indigenous policy is reliant on good Indigenous data, and both must be conceptualized through the lens of Indigenous rights, needs, and aspirations.

References

- ARC. (2020). *Revised Australian and New Zealand Standard Research Classification (ANZSRC 2020)* <https://www.arc.gov.au/news-publications/media/network-messages/revised-australian-and-new-zealand-standard-research-classification-anzsrc-2020>.
- ANZSRC. (2019a). *Discussion Paper: Australian and New Zealand Standard Research Classification Review 2019*. Australian Bureau of Statistics, Stats NZ, Tatauranga Aotearoa, Australian Research Council, Ministry of Business, Innovation & Employment, Hikina Whatatutuki, Canberra and Auckland.
- ANZSRC. (2019b). *Consultation Draft: Indigenous Research, Australian and New Zealand Standard Research Classification Review 2019*. Australian Bureau of Statistics, Stats NZ, Tatauranga Aotearoa, Australian Research Council, Ministry of Business, Innovation & Employment, Hikina Whatatutuki, Canberra and Auckland.
- ANZSRC. (2019c). *Submission 160 Maiam nayri Wingara Indigenous Sovereignty Collective (Australia) and the Te Mana Raraunga Māori Data Sovereignty Network submission to ANZSRC Review2019*. ANZSRC.
- Banks, G. (2018). Whatever happened to evidence base policy making. *The Mandarin*. <https://www.themandarin.com.au/102083-whatever-happened-to-evidence-based-policy-making/>.
- Cannataci, J. (2018). *Report of the Special Rapporteur on the Right to Privacy*, October 17, A/73/45712. Retrieved from <https://www.ohchr.org>.
- Cannataci, J. (2019). *Mandate of the United Nations Special Rapporteur on the Right to Privacy—Task Force on Privacy and the Protection of Health-Related Data*. Retrieved from https://www.ohchr.org/Documents/Issues/Privacy/SR_Privacy/DraftRecommendationProtectionUseHealthRelatedData.pdf.
- Carroll, S.R., Hudson, M. et al. (forthcoming). CARE principles for the governance of indigenous data. Under review at the *Data Science Journal*.
- Kertzer, D. I., & Arel, D. (2002). *Census and identity: The politics of race, ethnicity, and language in national censuses*. Cambridge, UK: Cambridge University Press.
- Kuhn, T.S. (1970). *The Structure of Scientific Revolutions*, 2nd Edition. University of Chicago.
- Rainie, S.C., Kukutai, T., Walter, M., Figueroa-Rodriguez, O.L., Walker, J., & Axelsson, P. (2019). Issues in open data: indigenous data sovereignty. In T. Davies, S. Walker, M. Rubinstein, & F. Perini (Eds.), *The State of Open Data: Histories and Horizons* (pp. 300–319). African Minds and International Development Research Centre, Cape Town and Ottawa.
- Research Data Alliance International Indigenous Data Sovereignty Interest Group. (September 2019). *CARE Principles for Indigenous Data Governance*. The Global Indigenous Data Alliance. GIDA-global.org.
- Rodriguez-Lonebear, D. (Forthcoming). The blood line: racialized boundary making and citizenship among native nations. Revise and resubmit at the *Sociology of Race and Ethnicity*.
- Rowse, Tim. (2017). The Statistical Table as Colonial Knowledge. *Itinerario* 41(1):51–73.
- Scott, J.C. (1998). *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven, CT: Yale University Press
- Snipp, C. Matthew. 1992. “Sociological Perspectives on American Indians.” *Annual Review of Sociology* 18:351–71.
- Wilkinson, M., Dumontier, M., Aalbersberg, I. et al. (2016). The FAIR guiding principles for scientific data management and stewardship. *Scientific Data*, March 15, 2016. doi:10.1038/sdata.2016.18.