

# Assessing the potential of NVIVO 14 to support a transparent trustworthy historical legal analysis of New Zealand's Nursing Registration Act (1901)

## INTRODUCTION

Several authors have noted that legal approaches have expanded over the years (Van Hocke, 2011; Ballin, 2020). While doctrinal research remains central and commonly used, historical, socio-legal, comparative, feminist, and transnational methods along with others are increasingly being used to expand the insights gained through legal scholarship (McConville and Chui, 2017). However, criticisms that need to be addressed. Two commonly noted concerns, relate to the lack of transparency of methods and the trustworthiness of findings due to the paucity of detail reported in many studies (Bradley, 1998; Handler, 2018; Bhat, 2020; Marciel lima et al., 2021). Although Van Hocke (2011) has assembled information on various research methods and the types of questions they can address there remains, as noted by Erickson (2016), an absence of methodological detail on how transparent and trustworthy results can be pursued using technology tools such state of the art qualitative software analysis packages NVivo 14 (Lumivero, Denver, CO).

NVivo 14, supports analysis of a wide range of qualitative data sources and is increasingly being used by legal scholars (Hunter et al. 2011). However, a review of the literature, while confirming the increased usage of NVivo and other Computer Assisted Qualitative Data Analysis Software (CAQDAS) packages, lack detail of how the features of the package are used (Mackieson et al. 2019). Within the constraints of this paper, it is not possible to examine how NVivo can be used for all types of legal research, but it is possible to explore the use of NVivo in producing transparent and trustworthy historical legal research.

It is suggested that exploring how the first Nursing Registration Act (1901) came about is particularly timely as this was the start of a global movement that has now resulted in most jurisdictions having nursing regulation (National Council of State Boards of Nursing, 2020). As Leslie et al. (2023) have noted the World Health Organization is currently looking at how health professions regulation may be reformed and updated, and it is postulated that formation of the first nursing act may provide useful insights to how the challenges of today can be informed by lessons from the past. Hence this paper seeks to assess the potential of NVIVO 14 to support a transparent and trustworthy historical legal analysis of New Zealand's Nursing Registration Act (1901) and how this may inform the regulatory reform challenges ahead. Accordingly, this project addresses the research question – "Can NVivo 14 support a transparent and trustworthy

historical legal analysis of the inception and passage of the Nurses Registration Act (1901) in New Zealand.”

## METHOD

Historical Legal research has both advantages and disadvantages and as noted in Table 1 been the subject of both praise and criticism. Accordingly, any research design that seeks to ensure transparency and trustworthiness needs to maximise advantages and mitigate disadvantages via the research design.

Advantages	Disadvantages
<ol style="list-style-type: none"> <li>1. Authoritative evidence reaching back to the medieval time acting as a rich source of authoritative data (Handler, 2018)</li> <li>2. Although reliability and prominence of law reports prior to 1865 is questionable they have from that date forward been professionalized offering deeper contextual insights (Baker, 2000; Ibbetson, 2003, P871).</li> <li>3. The digitization of historical records has increased both the accessibility of source material and has facilitated interdisciplinary research collaboration (Handler, 2018)</li> <li>4. External Historical research does address the social context or circumstances that brought about the statute (Handler, 2018; Gordon, 1975; Bhat, 2020, p206)</li> <li>5. Can bring consistency and coherence to legal judgments through the application of precedent that is derived from a coherent synthesis of past cases (Bhat, 2020)</li> <li>6. Historical research can often compliment the work of other types of legal research such as socio-legal or comparative approaches (Bhat, 2020, p211)</li> </ol>	<ol style="list-style-type: none"> <li>1. Gaining clarity over evidence from the past considering the impact of more recent assumptions (Milsom, 2001; Handler, 2018, p85; Ibbetson, 2003, p871, p875)</li> <li>2. Internal Historical research does not address the social context or circumstances that brought about the statute (Handler, 2018; Gordon, 1975; Ibbetson, 2003, 874)</li> <li>3. Method does not feature strongly in educational curricula (Handler, 2018, p85; Bhat, 2020, p216)</li> <li>4. Early documents are complex to interpret due to lack of methodological clarity, questions over authorship and authenticity, the use of Latin and medieval French, decay of the parchments and the need to translate these accurately (Brand, 2011; Handler, 2018, p87; Ibbetson, 2003; Ibbetson, 2003, p864, p870, p871, p873; Bhat, 2020, p203)</li> <li>5. Lawyers may have selectively chosen the evidence needed to support their case and ignored material that is at variance with their position (Bhat, 2020, p212; Handler, 2018; Ibbetson, 2003, p870)</li> <li>6. The very earliest works focused heavily on issues relating to men and the elite power groups (Ibbetson, 2003)</li> </ol>

**Table 1 Identified advantages and disadvantages of Historical Legal Research Methods**

For example, by using credible sources such as the digitized records of Hansard from 1901 the advantages noted at point 1, 2 and 3 can be exploited. Similarly, by considering the media of

the day, advantage 4 can be pursued while mitigating disadvantage 2. Furthermore, by being mindful of the gender of sources, disadvantage 6, can be factored into any analysis.

### **General Principles of Data Selection**

In terms of the research design systematic and comprehensive searches of curated databases as opposed to grey literature was preferred and by documenting search strategies, key word and associated logical operators as well as the dates of the search replication to validate findings would be possible. In this case for example the databases of CINAHL and Scopus (curated social and health sciences sources) and HeinOnline, Westlaw and Jstor (curated legal sources) were searched using the following query [(((“NVivo” OR “Atlas.ti” OR “CAQDAS”) AND (“Legislation” OR “Law\$” OR “Registration” OR “Regulation” OR “Act\$” OR “Bill\$”)) AND (“Nurs\$” OR “Midwif\$”))] on November 1<sup>st</sup> 2023. The titles and abstract of the identified papers were reviewed to ensure relevance to the study. Only papers in English were retrieved and while it could be argued that only recently published work should be considered due to the rapid evolution of the software no limits on date of publication were set due to the paucity of material identified.

### **NVivo Features**

There are a wide range of features and tools that can be used to support transparent and trustworthy qualitative analysis and visualisation of findings. It is not the intention to cover all of these in this section but instead some examples are provided and those used will be reported in the results section. For example, data sources can be imported into the package and any coding that is applied can be subsequently reviewed, challenged, amended, or agreed. Additional features of the documents such as the gender of the author, sources of the material or date of publication can be saved in separate files that can then be used to compare findings based on any of the variables of interest such as gender or by tracking how points evolve over time.

### **Operational Definitions**

According to Aguinis et al. (2018 pp. 84) transparency can be described as “*the degree of detail and disclosure about the specific steps, decisions, and judgement calls made during a scientific study*”. Aguinis et al. (2018) go on to note that they view transparency not in terms of a dichotomous variable but rather as a continuum with multiple opportunities to impact the degree of transparency at various steps and decision points. To this end, this study reflects and records using the memo function available in NVivo all decision points and what actions can be taken to optimise transparency.

Trustworthiness in qualitative studies can be viewed as analogous to rigour in quantitative designs and like quantitative studies trustworthiness is composed of several criteria, credibility, transferability, dependability, and confirmability (Maher et al., 2018).

### ***Thematic Coding***

As this study addresses the contributions of unknown stakeholders and those factors that support the development and passage of legislation as well as the specific content and processes of passage of an Act both inductive and deductive coding was required.

**Inductive thematic coding** was used to organically identify the themes relating to the characteristics of those that supported the creation of the first nursing acts and the feature that stimulated the need for the act in the first place. In this case the theoretical model and processes followed underpinning the process was as described by Tuckett (2005).

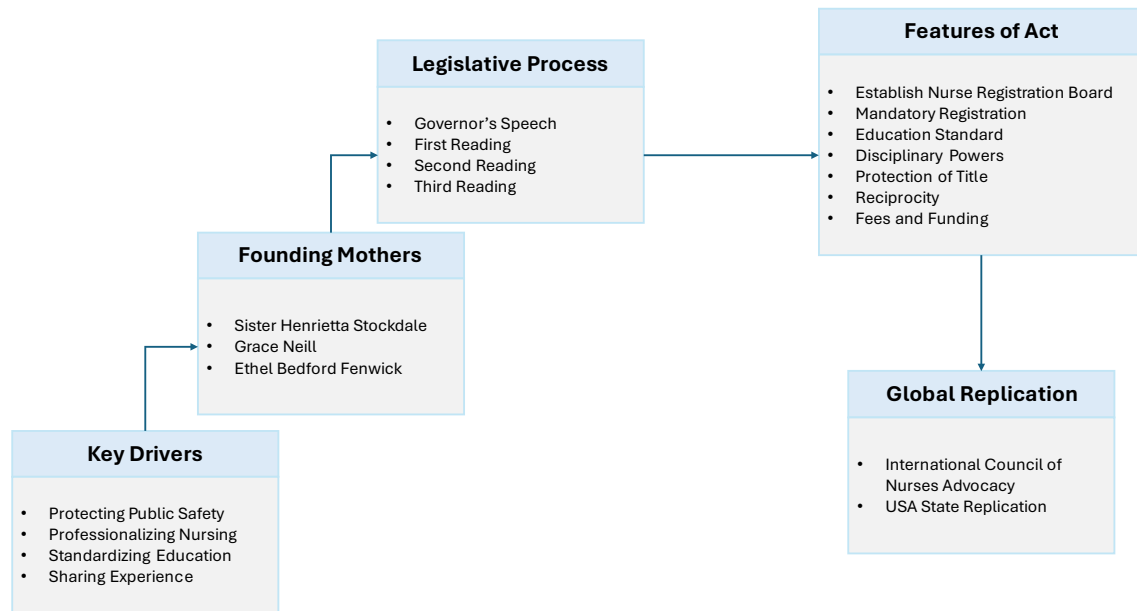
**Deductive thematic coding** was used to identify the content of the nursing act and the legislative process followed to move from inception of the ideas to passage of the act. In this case themes were generated by using the summary headings appearing in the final version of the New Zealand (1901) act, and the standard parliamentary processes of the day from announcement, first through third reading, and passage of the act. These themes were cross-validated with those identified by Adams (2020) in her analysis of the first provincial health professions regulatory acts passed in Canada, USA and the UK.

### ***Limitations***

Historical legal research methods have several limitations. Archival records may be incomplete, biased, or difficult to interpret due to changes in language and context over time (Rowlinson et al., 2014). Researchers must be cautious about inferring causality from historical data and generalizing findings across contexts (Kipping et al., 2014). The volume of potential sources necessitates sampling, which can introduce selection bias (Clark et al., 2021). Moreover, the researcher's own preconceptions and present-day concerns can unduly influence the analysis of past events (Decker et al., 2021). Transparency about these limitations is crucial for the credibility of historical legal research (Suchman and Mertz, 2010). Accordingly, these limitations have been addressed in the design of the study.

## RESULTS

Analysis of the data resulted in identification of five overarching themes, Figure 1, each had a number of sub-themes. The overarching themes are elaborated and in addition there follows a report of NVivo features used to support analysis.



**Figure1: Synopsis of Themes and Sub-Themes from Historical Legal Analysis**

### *Key Drivers*

As the complexity of medicine advanced there was recognition of the need to ensure nurses were equipped with the necessary knowledge skills and attitudes to act in the public interest. While Dickens (1884) painted a rather grim and perhaps exaggerated picture of the ineptitude of nurses in the early part of the 19<sup>th</sup> century with the characters Sarah Gamp and Betsey Prig in his novel *Martin Chuzzlewit*. However, analysis of the report on the Dunedin Hospital Inquiry Commission (1881) along with testimony by legislators during the review of the bill, validated the need to introduce mechanisms to protect the public from poorly performing nurses. This alongside professionalization, driven by the educational reforms introduced by Nightingale with her structured educational system, provided the bases of arguments presented to support the introduction and passage of the act (Helmstadter and Godden, 2011).

New Zealand being part of the then British Empire had access to the experiences of the other colonies and the inclusion of a section on nursing in the Cape Colony's Medical and Pharmacy Act (1891) provided an initial template but also evidence of what worked and what needed

revision in subsequent legislation to correct gaps in the progenitor experience of the Cape Colony such as the need for provisions for reciprocity with other jurisdictions.

### **Founding Mothers**

In the case of New Zealand, the main driving force behind the passage of the act was Grace Neill who was a nurse born in Scotland, well educated, and with a track record of successful public service as noted when she retired:

*“...it must be gratifying to you to learn that, though for the most part it has been quiet, and obstructive, unpublished, your work originated and continued with the noble purpose of living persons and things better than you found them, has borne fruit by which we may know it.”*

George Fowlds  
Minister in Charge of Hospitals and Charitable institutions (1906)

Although the only woman in a senior post in the government of the day, Neill was not alone and through her connection to the International Council of Nurses [ICN], and nursing leadership groups had a network of connections that informed her thinking. Sister Henrietta Stockdale, who played a pivotal role in the inclusion of nursing in the Cape Colony’s Medical and Pharmacy Act (1891) shared her experiences and challenges with Neill, and it may be deduced that the weaknesses experienced in the operation of that Cape Act helped inform the drafting of the New Zealand act as Neill corrected known gaps. Furthermore, Ethel Bedford Fenwick, who became the founding president of ICN and the architect behind the passage of the UK Nurses Act in (1919) was a fervent advocate for nursing legislation and reiterated the key points made by Neill when she addressed ICN sharing her experience of passage of the world’s first nurse registration act. An act that formed the template for other nations.

These three women shared several key features. They were all assertive, well-educated, and had been successful nurses holding key leadership positions. They were well connected locally, nationally, and internationally, and had a track record of achievement through building alliances and advocacy.

### **Legislative Process**

Although the act started life as the hospital nursing registration bill, apart from the slight change of the name to reflect more inclusive coverage, debate on recognition of those already successfully practicing and the need to ensure rural institutions could provide education, the legislation swiftly passed through all stages of scrutiny. Accordingly, the NZ Nursing Registration Act (1901) became the first standalone nursing act. An act that was replicated in several US States and other jurisdictions in the coming years.

### ***Thematic Content of Act***

The NZ Act (1901) not only established a nurses registration board but also made nurse registration mandatory and protected the title of “registered nurse” making it an offence for anyone who was not registered to use the title. The act also set out the standards for education needed to be eligible for registration as well as addressing the issue of discipline and how the board could raise fees for its work.

### ***Global Replication***

The passage of the first NZ Nursing Registration Act (1901) provided a template and impetus for the passage of further acts initially in the United States. Other women, active in ICN pursued legislation and the advancement of the nursing profession in their own Jurisdictions and included Lavinia Dock, Adelaide Nutting, and Isabel Hampton Robb and as a result acts in North Carolina, New York, New Jersey and Virginia all passed in 1903 as part of a movement that has now spread around the world (Mason, et al. 2011).

### ***NVivo Features Used***

The constraints of this essay do not permit a detailed exploration of the features used. Accordingly, a brief synopsis is offered. A key feature of NVivo is the ability to import and organize a wide range of digital sources, such as primary and secondary sources. This allowed the creation of a comprehensive database of relevant materials, ensuring that all pertinent information was included in the analysis and available for subsequent audit.

NVivo's coding tools also enabled systematic categorisation and tagging of specific sections of text, making it easier to identify themes, patterns, and relationships within the data. The software's memo and annotation features supported notes and reflections, promoting a transparent and reflexive approach to the analysis. NVivo's query tools, such as text searches coding comparisons and matrix queries, helped interrogation of the data and test emerging hypotheses, enhancing the trustworthiness of the findings.

Furthermore, NVivo's visualization features, such as word clouds, cluster analyses, and concept maps, provide a means to represent the data graphically, making it easier to communicate complex ideas and relationships. Finally, NVivo's ability to generate detailed reports and audit trails helps ensure transparency and reproducibility in the research process.

## CONCLUSION & FUTURE WORK

This study demonstrates that NVivo 14 can effectively support a transparent and trustworthy historical legal analysis. The software's features, such as the ability to import and organize diverse digital sources, systematic coding tools, memo and annotation functions, query tools, and visualization capabilities, collectively contribute to a comprehensive and rigorous analysis of historical data.

The findings reveal five overarching themes: key drivers, founding mothers, legislative process, features of the act, and global replication. These themes provide valuable insights into the factors that led to the creation of the world's first standalone nursing act and its subsequent influence on the global nursing profession. The study highlights the critical roles played by pioneering nurses, such as Grace Neill, in advocating for the professionalization of nursing and the establishment of educational and regulatory standards.

The use of NVivo 14 in this study demonstrates its potential for enhancing the transparency and trustworthiness of historical legal research. By documenting the research process, including data selection, coding, and analysis, future researchers can more easily audit and replicate the study, thus increasing its credibility and dependability.

Future research could build upon this study by applying similar methods to analyse the development of nursing legislation in other jurisdictions or exploring the evolution of nursing regulation over time. Additionally, researchers could investigate the potential of NVivo and other CAQDAS packages to support transparent and trustworthy analyses in other areas of legal scholarship, such as comparative law or socio-legal studies.

In conclusion, this project underscores the value of using advanced qualitative data analysis software, like NVivo 14, to conduct rigorous and transparent historical legal research. As the nursing profession continues to evolve and face new challenges, understanding its regulatory roots and the factors that have shaped its development will remain essential for informing future policy and practice.

**[2994 words including table and figure]**



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